

May 8, 2020

Ms. Elizabeth A. Hamilton
Project Manager
U.S. Army Corps of Engineers, Mobile District
P.O. Box 2288
Mobile, Alabama 36628
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Subject: NextEra Energy Pipeline Holdings (Lowman), Inc.
Lowman Pipeline Project
Pre-Construction Notification - File #SAM-2019-00914-ES

Dear Ms. Hamilton,

NextEra Energy Pipeline Holdings (Lowman), Inc. proposes to construct a new 53.75-mile-long, 16-inch diameter, intrastate natural gas pipeline in Choctaw and Washington Counties, Alabama, referred to as the Lowman Pipeline Project (Project). Construction of the Project will have temporary impacts on wetlands and waterbodies within the project corridor and will also result in the permanent conversion of various scrub shrub and forested wetlands that are considered potential jurisdictional waters (PJWs) of the U.S. As such, the PJWs impacted by the Project are subject to regulation by the U.S. Army Corps of Engineers, Mobile District (USACE-SAM), under Section 404 of the Clean Water Act.

In addition, the Project poses the potential to affect historic properties and protected species within areas considered to be USACE-jurisdictional and therefore warrants federal review pursuant to Section 106 of the National Historic Preservation Act (NHPA), Appendix C of 33 Code of Federal Regulations [CFR] Part 325, and Section 7 of the Endangered Species Act (ESA). Pursuant to the requirements for notification to the USACE-SAM District Engineer, a Pre-Construction Notification (PCN) is required. Therefore, at the request of Lowman, and acting as its authorized agent, Edge Engineering and Science, LLC (EDGE) has prepared a permit application, provided as Attachment 1. Following a pre-application meeting with the USACE-SAM on December 17, 2019, the Project was assigned File # SAM-2019-00914-ES.

In general, the enclosed PCN includes a brief description of the Project, including succinct descriptions of the proposed construction methodologies, summaries of each of the environmental studies and proposed unavoidable resource impacts. EDGE has also prepared a detailed Alternatives Analysis describing the various route iterations that that were reviewed, including the "No Action Alternative". Each route alternative was assessed against their ability to meet the purpose of the Project, while minimizing environmental impacts. All PCN attachments are listed below:

- + Attachment 1: ENG Form 4345;
- + Attachment 2: Project Vicinity Map;
- + Attachment 3: Aerial Photo-based Impacts Maps;
- + Attachment 4: USGS Topographic Impacts Maps;
- + Attachment 5: HDD Plans/Profiles;
- + Attachment 6: HDD Contingency Plan;
- + Attachment 7: Construction Typical Drawings;
- + Attachment 8: Wetland and Waterbody Impacts Tables (Impacts Tables);
- + Attachment 9: *A Wetland Delineation and Waterbody Survey Report* (included on CD only);
- + Attachment 10: U.S. Fish and Wildlife Service Consultation;
- + Attachment 11: Landowner Address Labels (Privileged and Confidential); and
- + Attachment 12: Route Alternatives.

Based on the information provided herein, Lowman and EDGE request authorization to proceed from your office. Should you need additional information to assist with your review, please contact me at (303) 594-5617 or wagrammer@edge-es.com. You may also contact Lowman's Environmental Project Manager Raymond Loving at (346) 234-5636 or by email at Raymond.Loving@nexteraenergy.com.

Sincerely,



Andrew Grammer
Sr. Environmental Consultant
Edge Engineering and Science, LLC
Authorized Project Agent of NextEra Energy Pipeline Holdings (Lowman), Inc.

PROJECT DESCRIPTION

Lowman proposes to construct, operate, and maintain a new 16-inch-diameter, 53.75-mile-long natural gas pipeline in Choctaw and Washington Counties, Alabama (see Attachments 2, 3, and 4). In addition to the pipeline, the Project will include the construction of one new compressor station, three meter stations, and a launcher/receiver facility. The purpose of the Lowman Pipeline Project will be to receive natural gas at interconnects with Mid-continent Express and GulfSouth pipelines and will deliver gas to the PowerSouth Lowman Power Plant. The Project will support the natural gas conversion of the existing coal-fired PowerSouth Lowman Power Plant.

Lowman proposes to utilize an 85-foot-wide temporary construction right-of-way (ROW) with some additional temporary workspace (ATWS) at road crossings, stream crossings, and other areas where needed. Following construction, Lowman will maintain a 30-foot-wide permanent easement except in areas between workspaces associated with horizontal directional drill (HDD) entry and exit points. Construction is currently scheduled to begin on March 1, 2021 with an anticipated in-service date of December 2021.

General Pipeline Construction Methods

In general, the proposed pipeline will be constructed in accordance with applicable federal, state, and local regulations, permits, and approvals. During typical pipeline construction, the construction spread (crew and equipment) will proceed along the temporary construction ROW in one continuous operation. Construction will employ a combination of methods including the open-cut, HDD, and conventional bore techniques using bulldozers, track-hoes, conventional bore, and HDD equipment. Typically, within streams, the pipeline will be buried with a minimum of 3 feet of cover. Once the pipeline has been installed, the trench will be backfilled using spoils excavated from the trench (Attachment 7). Following construction, Lowman will restore land surface contours as closely as is practicable to pre-construction conditions, restoring site hydrology. Temporary construction ROW will be allowed to revegetate to pre-existing conditions. The entire process will be coordinated in a manner intended to minimize total time a given tract of land is disturbed, exposed to erosion, and temporarily precluded from normal use.

Standard locations for ATWS will include HDD crossings, conventional bore crossings (e.g., minor roads), some stream crossings, and abrupt points of intersect. Access roads necessary to construct the Project will consist of a combination of existing public and private roads. Existing roads and the maintained permanent easement will be used for routine operations and maintenance of the pipeline.

Following construction, Lowman will restore land surface contours to pre-construction conditions, restoring site hydrology. Fifteen feet of the permanent easement will be maintained yearly in an herbaceous state with the remaining fifteen feet maintained every 3 years except in HDDs where no line of sight is cleared. The temporary construction ROW will be allowed to revegetate to pre-existing conditions. The entire process will be coordinated in a manner intended to minimize the total time a given tract of land is disturbed, exposed to erosion, and temporarily precluded from normal use.

ENVIRONMENTAL RESOURCE ASSESSMENTS

Between November 2019 and April 2020, on behalf of Lowman, EDGE's professional subcontractor Environmental Solutions & Innovations, Inc. (ESI) completed the required biological surveys, including wetland delineation and waterbody surveys and a general habitat assessment for federally protected

species. In addition, EDGE contracted with professional cultural resources management firm, SEARCH, Inc. (SEARCH), to complete the required cultural resources field surveys and reporting. Descriptions of the completed studies are provided below.

Wetlands and Waterbodies

The wetland delineation and waterbody surveys were completed within a 300-foot-wide survey corridor along the proposed pipeline route. All fieldwork was conducted in accordance with the methods described in the USACE's 1987 *Wetlands Delineation Manual* (USACE 1987) and the USACE's *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region* (Version 2.0) (USACE 2010). The results of the surveys are provided in the enclosed report titled *A Wetland Delineation and Waterbody Survey Report* provided as Attachment 9.

Wetland Impacts

Maps of proposed wetland impacts are provided in Attachments 3 and 4 and are quantified in the enclosed Impacts Table provided as Attachment 8a. The Project will result in conversion of palustrine forested (PFO) and palustrine shrub-scrub (PSS) wetlands to palustrine emergent (PEM) wetlands. In addition, PEM wetlands will be temporarily impacted during construction. One PFO wetland will be permanently impacted due to the need for a new permanent access road (AR-01.4) to the proposed compressor station. The construction corridor will be reduced to 75 feet wide through all wetlands to reduce impacts (Attachments 3 and 4). Lowman proposes the use of the HDD crossing method to avoid approximately 5.07-acres of wetland impacts along the proposed route.

Wetland Mitigation

Federal mitigation requirements are outlined in the *Compensatory Mitigation for Losses of Aquatic Resources* that were jointly developed and issued by the USACE (33 CFR Part 332) and the U.S. Environmental Protection Agency (40 CFR Part 230) on April 10, 2008. Lowman proposes to purchase credits from the Alabama River Mitigation Bank (ARMB) for unavoidable impacts of PFO wetlands. Upon approval by the USACE, Mobile District, Lowman will execute a contract and purchase the requisite credits from the ARMB (see Attachment 8a).

Waterbody Impacts

Maps of the proposed waterbody impacts are provided in Attachments 4 and 5 and quantified in the enclosed Impacts Table provided as Attachment 8b. Following construction, Lowman will restore contours as closely as practicable to pre-construction conditions and reseed the stream banks with a native seed mix similar to the surrounding species. Lowman proposes to avoid direct impacts to large perennial streams by using the HDD construction method at larger stream crossings, including Okatuppa Creek, Souwilpa Creek, Turkey Creek, Santa Bogue Creek, Elias Creek, Tauler Creek, and Bogueloosa Creek. Plans and profiles for the proposed HDDs are provided as Attachment 5. An HDD Contingency Plan is provided as Attachment 6.

Waterbody Mitigation

Lowman proposes no formal compensatory mitigation for impacts to waterbodies. However, following construction, Lowman will stabilize and restore all waterbodies, to the extent possible, to pre-construction contours. Routine operational maintenance at waterbodies will be limited to annual clearing of vegetation within a 15-foot-wide corridor centered along the pipeline. Lowman will conduct routine inspections of waterbody crossings to ensure restoration and revegetation are progressing as planned.

Avoidance and Minimization Measures

This section describes the avoidance and minimization measures Lowman will implement during construction and operation of the Project. The temporary construction ROW has been reduced to 75 feet within wetlands, and the use of the HDD construction method will be used to avoid seven major streams and approximately 5.07 acres of wetland impacts. By adhering to proper avoidance and minimization measures, the least damaging and most practicable alternative is being permitted. To minimize wetland impacts during pipeline construction, Lowman will utilize the following measures where possible:

- + Where feasible, Lowman has designed the route to avoid PFO wetlands.
- + Construction equipment operating within the temporary construction ROW will be limited to that necessary for clearing, excavation, pipe installation, backfilling, and restoration. All non-essential equipment will use upland access roads to the extent practicable.
- + Equipment operating within saturated wetlands will operate from construction mats.
- + Temporary erosion and sediment control measures will be installed in accordance with applicable state laws.
- + In some areas of temporary impacts, wetland vegetation may be cut at ground level, leaving existing root systems in place to promote re-growth. Where conditions allow, these areas will be graded and top soiled. Stumps will be removed from the trench line and the working side of the temporary construction ROW if stump retention presents a safety concern.
- + Trenches through wetlands will not be constructed or backfilled in such a manner as to drain waters of the U.S. (e.g., backfilling with extensive gravel layers, creating a French drain effect).

In addition, Lowman will develop a Construction Best Management Practices Plan (CBMPP) for the entire Project. The CBMPP will comply with the Alabama Department of Environmental Management’s (ADEM) requirement for a General Permit in accordance with the National Pollutant Discharge Elimination System. The plan will be submitted for approval by the ADEM prior to construction.

Project Areas Pending Wetland and Waterbody Survey Completion

Table 1 below provides a list of locations along the proposed pipeline route where surveys have not yet been completed due to pending landowner permissions. Once available, these areas will be surveyed and all PJW impacts and mitigation calculations will be evaluated, then EDGE will submit an amendment to the PCN on behalf of Lowman.

TABLE 1.
Outstanding Wetland and Waterbody Survey Areas

Begin Milepost	End Milepost	Total Mileage
1.83	2.27	0.43
3.47	3.72	0.25
21.52	21.66	0.14
25.00	25.27	0.27
26.28	27.38	1.10
27.77	28.72	0.95
29.36	29.59	0.23
30.30	30.57	0.27
Total		3.64 miles

Protected Species

In accordance with Section 7 of the ESA, EDGE's professional biologists completed a desktop review of the Project area to determine if the proposed pipeline construction activities might jeopardize the continued existence of federally protected species or adversely modify designated critical habitats. EDGE initiated this work by submitting an online request using the U.S. Fish and Wildlife Service's (USFWS's) online Information for Planning and Consultation (IPaC) System. The IPaC Resource List generated for the Project area included 6 federally protected species (USFWS 2019a). Table 2 identifies the federally protected species in Choctaw and Washington Counties including the common and scientific names, federal status, and recommended effect determinations. Federally designated critical habitat locations were also reviewed, and no designated critical habitat occurs in areas affected by the Project. In addition, a general habitat assessment was performed, concurrent with the wetland delineation and waterbody surveys described above.

Birds

The wood stork (*Mycteria americana*) is federally listed as a threatened species and is known to inhabit the lower Tombigbee River drainage. EDGE plans to survey for wood stork habitat (nesting) and potential occupancy coinciding with wetland/waterbody and mussel habitat surveys (see discussion, below).

Reptiles

The gopher tortoise (*Gopherus polyphemus*) is known to occur in Washington and Choctaw counties, Alabama. The species is designated as federally threatened under ESA within this portion of their range and are protected under state regulation. Based upon a desktop review of the Project area, EDGE anticipates that potential suitable habitat for the tortoise may be crossed and plans to conduct pedestrian surveys to evaluate suitable habitat and presence/probable absence of burrows. If burrows are found during surveys, measurements of the width, height, and condition of the burrow will be recorded and mapped, and a subsequent occupancy survey will be conducted to estimate population size and density to determine if translocation or implementation of on-site construction Best Management Practices are necessary.

The southern black pinesnake (*Pituophis melanoleucus lodingi*; SBP) is federally threatened and occupies similar upland habitats as the gopher tortoise. Based on EDGE's experience, we do not anticipate targeted species efforts for SBP, rather it will be evaluated in conjunction with gopher tortoise field survey efforts. Surveys will be conducted in land cover types and soil associations that are known to support the life history requirements of the SBP and gopher tortoise. Surveys will occur during the active season for tortoises, generally from March to October.

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surveys to evaluate suitable habitat and presence/probable absence of burrows. If burrows are found during surveys, measurements of the width, height, and condition of the burrow will be recorded and mapped, and a subsequent occupancy survey will be conducted to estimate population size and density to determine if translocation or implementation of on-site construction Best Management Practices are necessary.

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TABLE 2.
Federally Listed Species in Choctaw and Washington Counties, Alabama

Common Name	Scientific Name	Listing Status	Habitat Description	Potential for Occurrence
Birds				
Wood stork	<i>Mycteria americana</i>	Threatened	Breeding occurs in fresh and brackish forested wetlands. Storks nest in trees above standing water in cypress swamps and oaks in flooded inpoundments. Storks forage in swamps, ponds, and marshes with water depths 4-12 inches.	Known to occur in the lower Tombigbee River drainage crossed by the Project.
Reptiles				
Gopher tortoise	<i>Gopherus polyphemus</i>	Threatened	Dry, deep sandy soils where the overhead canopy is open. Longleaf pine-scrub oak wiregrass sand hills that are fequently burned.	Suitable soils located within open longleaf pine-scrub oak wiregrass sand hills may exist in the vicinity of the Project area.
Black pine snake	<i>Pituophis melanoleucus lodingi</i>	Threatened	Xeric, fire-maintained longleaf pine forest with sandy, well-drained soils; usually on hilltops, ridges, and toward tops of slopes. Potential to occur in dry, periodically burned pine or mixed pine-scrub oak forest with abundant groundcover vegetation.	Suitable longleaf pine forest with suitable soils, which could provide habitat, are likely to exist in the vicinity of the Project area.
Fish				
Atlantic sturgeon	<i>Acipenser oxyrhynchus oxyrhynchus</i>	Endangered	Inhabits shallow waters of the continental shelf and coastal brackish waters; spawns in large river systems and hatches in freshwater systems. Preferred substrates consist of rock, coble, and gravel.	No suitable habitat exists within or immediately adjacent to the Project area.
Mollusks				

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Common Name	Scientific Name	Listing Status	Habitat Description	Potential for Occurrence
Inflated heelsplitter	<i>Potamilus inflatus</i>	Threatened	Sand, mud, silt, and sandy-gravel substrates in slow to moderate freshwater currents.	The Tombigbee River drainage in Alabama is known to support the species.
Southern clubshell	<i>Pleurobema decisum</i>	Endangered	Highly oxygenated streams with sand and gravel substrate in shoals of large rivers to small streams. May be found in sand and gravel in the center of a stream or in sand along the margins of the stream	The Tombigbee River drainage in Alabama is known to support the species.

Mollusks

The Tombigbee River drainage in Alabama is known to support multiple federally listed freshwater mussels. Those mussel species listed as potentially occurring in Choctaw and Washington counties, including the inflated heelsplitter (*Potamilus inflatus*) and southern clubshell (*Pleurobema decisum*) are predominantly based on known occurrences in the upper Tombigbee River drainage. EDGE anticipates conducting aquatic habitat assessment/surveys at nine perennial waterbodies/tributaries traversed by the Project in Choctaw (Bogueloosa Creek, Buck Creek, Okatuppa Creek, Souwilpa Creek, Black Creek, Turkey Creek) and Washington (Santa Bogue Creek, Elias Creek, Tauler Creek) Counties. Mussel habitat surveys can also evaluate/supplement other aquatic species concerns including fishes, invertebrates, snails, and herptofauna that may be raised during the Project review process.

Bald Eagles and Migratory Birds

Lowman also recognizes the Bald and Golden Eagle Protection Act as well as the Migratory Bird Treaty Act. No bald eagles or nests were observed during surveys. However, in the event that bald eagles or active nests are encountered, construction will comply with the guidelines set forth in the USFWS's 2007 *National Bald Eagle Management Guidelines*.

Lowman is familiar with the requirements under the MBTA. Lowman has designed the Project to minimize impacts on forested vegetation to the extent practicable; however, tree removal will be necessary for construction of the Project. To the extent practicable, tree removal will be conducted outside the migratory bird nesting season (April 15 through August 1).

Biological Assessment

During Lowman's pre-application meeting with the USACE-SAM on December 17, 2019, it was discussed that gopher tortoise, black pine snake, Alabama heelsplitter, and southern clubshell have the potential to occur within the proposed Project area. Because of known gopher tortoise burrows and the high potential for suitable habitat to occur along the proposed pipeline route, formal consultation with the USFWS for effects to species would be required. Lowman intends to file a draft applicant-prepared Biological Assessment (BA) in June 2020 with species evaluations.

Species-specific Surveys

On October 16, 2019, EDGE submitted the results generated by the USFWS IPaC System to the USFWS Alabama Ecological Services Field Office in a formal request for Project consultation (see Attachment 10). On December 5, 2019, the USFWS on December 5, 2019 verified the IPaC System results and supported EDGE's proposal to conduct species-specific surveys for gopher tortoise along the proposed pipeline route and for freshwater mussels at nine perennial waterbodies traversed by the Project; however, mussels were anecdotally observed in two additional streams during subsequent surveys (for wetlands). Thus, 11 streams will be surveyed. Species-specific surveys for gopher tortoise and mussels are anticipated to occur in May 2020. Results will be presented in the BA.

Cultural Resources

In compliance with Section 106 of the NHPA, as amended, and Appendix C of 33 CFR Part 325, Lowman contracted EDGE to manage the requisite agency consultations and oversee field surveys to determine if the proposed Project activities would affect historic properties. EDGE subcontracted SEARCH to complete the required desktop research, field surveys, and reporting. A brief summary of the cultural resources investigations completed to date is provided below. A draft survey report will be submitted to the USACE-SAM upon completion.

On October 30, 2019, SEARCH initiated Section 106 consultation with the USACE-SAM and submitted its proposed scope of work for review. On November 8, 2020, USACE concurred with the proposed field methodologies. Copies of all agency consultations held to date will be included as an appendix to the draft survey report.

Between October 2019 and April 2020, SEARCH conducted Phase I cultural resources field surveys. The Phase I survey areas established for the Project were defined in consultation with the USACE-SAM to include 100-foot buffers of PJWs. Based on a desktop review of the study corridor, SEARCH identified 117 water crossings (WCs) survey areas that are considered encompass PJWs. EDGE subsequently provided SEARCH with the 800 PJWs identified by the environmental survey team. An additional 258 survey areas were created to encompass the water crossings defined by biologists (WCBs) that did not already fall within the previously defined WC survey areas. Of the 258 WCB survey areas, 74 were designated for field survey based on a consideration of slope, landform, topography, and soils. Lowman also directed SEARCH to identify and survey 52 additional high probability areas (HPAs) along the pipeline route that were considered likely to contain archaeological sites. Lowman further directed SEARCH to conduct pedestrian surveys of 45.29 miles of the temporary and permanent access roads established for the Project. The Phase I survey within each WC, WCB, and HPA was typically confined to a 300-foot-wide survey corridor. Where applicable, Lowman, as instructed by USACE-SAM, directed SEARCH to conduct survey outside the study corridor or other Project boundaries to provide preliminary archaeological site boundaries.

The scope of the Phase I survey covers a total of 501.51 acres within 117 WCs, 74 WCBs, and 52 HPAs, plus 45.29 mi of access roads, as summarized in Table 3 below. As result of work completed to date, SEARCH has documented 57 cultural resources, including 31 archaeological sites recommended as not eligible for inclusion in the NRHP, 25 archaeological sites whose NRHP status is indeterminate and that are recommended for avoidance or Phase II testing, and one historic cemetery that is not eligible for inclusion in the NRHP but will require avoidance. A draft survey report will be submitted to the USACE-SAM upon completion.

Project Areas Pending Cultural Resources Survey Completion

Table 3 below provides an overview of the completed survey coverage and planned surveys that have not yet been completed due to pending landowner permissions. Once available, all planned areas will be surveyed and the results will be presented in an addendum to the Phase I survey report, to be provided as an attachment to a future PCN amendment. The survey efforts are ongoing pending landowner permissions.

TABLE 3.
Overview of Cultural Resources Survey Completion Status

Survey Area Type	Survey Complete		Survey Incomplete		Survey Complete (excluded from Project; no longer planned)	
	Number	Size	Number	Size	Number	Size
WCs	104	180.96 ac	4	9.03 ac	9	10.59 ac
WCBs ¹	66	140.90 ac	8	11.91 ac	0	0.00 ac
HPAs ²	46	143.51 ac	4	N/A	2	4.61 ac
Total	216	465.37 ac	16	20.94 ac	11	15.20 ac
Access Roads	62	36.34 mi	16	7.92 mi	4	1.03 mi

¹ The count and acreage of the water crossings identified during the environmental survey only include those that are not collocated with water crossings identified during desktop review or associated with excessive slope or inundation.

² Original HPA count was 50. Four of the 50 were replaced by a walkover inspection of the abandoned ATN rail bed (which is 90% complete pending landowner permissions), and two HPAs were added at proposed compressor station sites for a total of 52.

ALTERNATIVES

The Project is designed to allow for natural gas conversion of the existing coal-fired PowerSouth Lowman Power Plant. Beginning in the early phases of route selection, Lowman evaluated alternatives to the final, proposed alignment of the pipeline. The alternatives were assessed against their ability to meet the purpose of the Project, while minimizing environmental impacts. Attachment 12 of this PCN includes a map showing the route alternatives considered in the following sections.

No Action Alternative

Under the No Action Alternative, Lowman would not construct the Project. The No Action Alternative would not provide infrastructure required to transport natural gas to PowerSouth’s Lowman Power Plant. Without pipeline transportation capacity to the power plant, PowerSouth would not be able to power the electric generation units planned for conversion from coal to natural gas, resulting in sustained emissions from the coal-powered units. The No Action Alternative would retain the existing condition, would not result in any Project-related environmental impacts or benefits. It is speculative to predict the actions and potential effects that could be taken by another proponent in response to the No Action Alternative. Since the No Action Alternative would not achieve the Project purpose of providing natural gas transportation capacity to facilitate conversion of coal-fired electric generators at the PowerSouth Lowman Power Plant, the No Action Alternative was not carried forward for detailed evaluation.

Modification of Existing Infrastructure

No other natural gas pipeline infrastructure exists in the Project area that could be modified to supply the natural gas volumes necessary to meet future PowerSouth Lowman Power Plant needs. For this reason, an alternative to modify existing pipeline infrastructure was not carried forward for the detailed evaluations.

Route Alternatives

Lowman's route selection for the pipeline involved consideration of environmental, engineering, constructability, economic, and landowner factors. Once Lowman established the basic pipeline features (i.e., the beginning and end points) based on a feasible interconnect location Mid-continent Express and Gulf South delivery point at the PowerSouth Lowman Power Plant, Lowman began the process of route selection and refinement. Although this route alternatives analysis is specific to the pipeline placement within Waters of the United States, the crossings of which are regulated by the USACE-SAM, Lowman evaluated alternatives for the Project pipeline route as a whole.

During the initial Project constraints analysis and routing process, Lowman conducted a Geographic Information System (GIS)-based routing analysis to develop and assess pipeline routes based on multiple publicly available and purchased datasets. Datasets utilized during the Project routing analysis included various data comprising, but not limited to, engineering (e.g., existing pipelines, railroads, karst features, powerlines, etc.), environmental (e.g., critical habitat, fault lines, state parks, national forests, brownfields, national registry of historic places, etc.), and land use factors (e.g., fee owned federal lands, federal easements, dams, airports, cemeteries, schools, mining, tribal lands, and military installations, etc.). Existing infrastructure (e.g., utility lines and roadways) datasets were identified as preferred areas so that routing followed existing infrastructure to the extent possible to minimize creation of new rights-of-way. Public lands and resource management areas were avoided where feasible. The GIS-based routing analysis was meant to optimize engineering and construction considerations (e.g., provide the shortest distance between pipeline origin and terminus) while minimizing potential conflict with other features considered in the analysis. Attachment 12 depicts two route alternatives considered by Lowman during the route selection process.

Route Alternative 1

During the routing process, Lowman assessed route alignments connecting the Mid-continent Express and GulfSouth pipelines with the PowerSouth Lowman Power Plant. Lowman initially evaluated an alignment to the east of the Lowman's preferred route that traversed through Choctaw, Clarke, and Washington Counties, Alabama. This route, referred to as Alternative 1, was approximately 2.25 miles shorter than Lowman's preferred route; however, the alignment crossed the Tombigbee River at two locations. The Tombigbee River is considered a navigable waterway under Section 10 of the Rivers and Harbors Act of 1899, and as such is subject to additional regulation by the USACE-SAM for any work performed below the Ordinary High Water elevation. In addition, Alternative 1 crossed four (4) Resource Management Area (RMA) tracts managed by the Alabama Department of Conservation and Natural Resources. Lowman's evaluation criteria, as described above, identified the Tombigbee River as a feature to be avoided due to its Section 10 status. Since no sufficient route variations for Alternative 1 could be identified for avoidance of the Tombigbee River, this route was eliminated from further consideration.

Route Alternative 2

Route Alternative 2 was initially assessed due to Alternative 1 being eliminated due to multiple crossings of a Section 10 waterbody, and potential RMA impacts. The alignment was located west of Alternative 1,

and east of the Lowman’s preferred route, in Choctaw and Washington Counties. Table 4, below, compares desktop data run for Alternative 2 and Lowman’s preferred route alignment.

Route Alternative 2 is approximately 1.1 mile shorter than Lowman’s preferred route; however, only approximately 6% of the overall route could be collocated with existing facilities. Lowman’s preferred route has an overall corridor collocation of approximately 17%. Based upon National Wetlands Inventory data, Route Alternative 2 would cross approximately 3.3 miles of freshwater forested wetlands comprised of 33 individual wetlands, while the preferred route crosses approximately 2.6 miles of freshwater forested wetlands comprised of 32 individual wetlands. Based on National Hydrography Dataset data, Alternative 2 would cross 66 individual streams or rivers as compared to 48 streams/rivers crossed by Lowman’s preferred route. Finally, Alternative 2 crosses one (1) RMA for a total crossing length of 0.01-mile as well as being routed through a residential neighborhood near Needham, Alabama in Choctaw County. Based upon Lowman’s side-by-side evaluation of the two routes, the preferred route was selected due to: maximized collocation, less anticipated waterbody and forested wetland crossings, no impacts to RMAs, and no residential neighborhood crossings. For these reasons, Alternative 2 was eliminated from further consideration.

TABLE 4.
Desktop Comparison of Alternative 2 and Preferred Route

Resource/Constraint	Alternative 2	Preferred Route
Length (miles)	50.2	51.3
Streams/Rivers ¹	66	48
Freshwater Forested Wetlands ²	33	32
Collocation	6%	17%
Resource Management Areas	1	0

¹ Based upon National Hydrography Dataset.

² Based upon National Wetlands Inventory dataset.

Route Alternative 2 is approximately 1.1 mile shorter than Lowman’s preferred route; however, only approximately 6% of the overall route could be collocated with existing facilities. Lowman’s preferred route has an overall corridor collocation of approximately 17%. Based upon National Wetlands Inventory data, Route Alternative 2 would cross approximately 3.3 miles of freshwater forested wetlands comprised of 33 individual wetlands, while the preferred route crosses approximately 2.6 miles of freshwater forested wetlands comprised of 32 individual wetlands. Based on National Hydrography Dataset data, Alternative 2 would cross 66 individual streams or rivers as compared to 48 streams/rivers crossed by Lowman’s preferred route. Finally, Alternative 2 crosses one (1) RMA for a total crossing length of 0.01-mile as well as being routed through a residential neighborhood near Needham, Alabama in Choctaw County. Based upon Lowman’s side-by-side evaluation of the two routes, the preferred route was selected due to: maximized collocation, less anticipated waterbody and forested wetland crossings, no impacts to RMAs, and no residential neighborhood crossings. For these reasons, Alternative 2 was eliminated from further consideration.

Minor Route Variations

Upon selection of the preferred Project route, Lowman conducted an in-depth evaluation of the alignment to refine it for constructability, workspace configurations, landowner concerns, and biological and cultural

survey results. The preferred route was modified based upon these considerations, and the result is the final route alignment included in this application.

LITERATURE CITED

- U.S. Army Corps of Engineers (USACE). 1987. *Corps of Engineers Wetland Delineation Manual*. Technical Report Y-87-1, U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS.
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- U.S. Fish and Wildlife Service (USFWS). 2007. National Bald Eagle Management Guidelines. Available at: <https://www.fws.gov/southdakotafieldoffice/NationalBaldEagleManagementGuidelines.pdf>. Accessed November 2019.
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Attachment 1

ENG Form 4345

U.S. Army Corps of Engineers (USACE)
APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT

33 CFR 325. The proponent agency is CECW-CO-R.

Form Approved -
OMB No. 0710-0003
Expires: 02-28-2022

The public reporting burden for this collection of information, OMB Control Number 0710-0003, is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR APPLICATION TO THE ABOVE EMAIL.

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned. System of Record Notice (SORN). The information received is entered into our permit tracking database and a SORN has been completed (SORN #A1145b) and may be accessed at the following website: <http://dpcld.defense.gov/Privacy/SORNSIndex/DOD-wide-SORN-Article-View/Article/570115/a1145b-ce.aspx>

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE
--------------------	----------------------	------------------	------------------------------

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME First - Kathy Middle - Last - Salvador Company - NextEra Energy Pipeline Holdings (Lowman), Inc. E-mail Address - Kathy.Salvador@nexteraenergy.com	8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required) First - William Middle - Andrew Last - Grammer Company - Edge Engineering and Science, LLC (EDGE) E-mail Address - wagrammer@edge-es.com
6. APPLICANT'S ADDRESS: Address- 700 Universe Blvd. City - Juno State - Florida Zip - 33408 Country - USA	9. AGENT'S ADDRESS: Address- 16285 Park Ten Place, Suite 400 City - Houston State - Texas Zip - 77084 Country - USA
7. APPLICANT'S PHONE NOs. w/AREA CODE a. Residence b. Business c. Fax 561-691-7054	10. AGENTS PHONE NOs. w/AREA CODE a. Residence b. Business c. Fax

STATEMENT OF AUTHORIZATION

11. I hereby authorize, W. Andrew Grammer to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

Kathy Salvador

Digitally signed by Kathy Salvador
DN: cn=Kathy Salvador, o=Florida Ports & Logistics, ou=Governmental Services, email=kathy.salvador@fl ports, c=US
Date: 2020.05.08 14:52:05 -0400

2020-05-08

SIGNATURE OF APPLICANT

DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions) Lowman Pipeline Project	14. PROJECT STREET ADDRESS (if applicable) Address N/A
13. NAME OF WATERBODY, IF KNOWN (if applicable) See Attachments 2, 3, and 4	15. LOCATION OF PROJECT Latitude: \pm N 32.057720° Longitude: \pm W -88.969954° City - State- Alabama Zip-
16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions) State Tax Parcel ID Municipality Section - Township - Range -	

17. DIRECTIONS TO THE SITE

See Attachments 2, 3, and 4

18. Nature of Activity (Description of project, include all features)

NextEra Energy Pipeline Holdings (Lowman), Inc. (Lowman), proposes to construct a new 53.75-mile-long, 16-inch diameter natural gas pipeline in Choctaw and Washington Counties, Alabama, referred to as the Lowman Pipeline Project (see Attachments 2, 3, and 4). In addition to the pipeline, the Project will include the construction of one new compressor station, four meter stations, and a launcher/receiver facility.

Lowman proposes to utilize a 85-foot-wide temporary construction ROW with some additional temporary workspace (ATWS) at road crossings, stream crossings, and other areas where needed. Following construction, Lowman will maintain a 30-foot-wide permanent easement. Construction is currently scheduled to begin on March 1, 2021. The anticipated in-service date is January 2022.

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

The purpose of the Lowman Pipeline Project will be to receive natural gas at an interconnect with Mid-Continent Express and Gulf South pipelines and deliver gas to the PowerSouth Lowman Power Plant. The Project will allow for natural gas conversion of the existing coal-fired PowerSouth Lowman Power Plant.

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

See Attachment 8 (Impacts Tables)

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type	Type	Type
Amount in Cubic Yards	Amount in Cubic Yards	Amount in Cubic Yards
N/A		

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres See Attachment 8 (Impacts Tables)

or

Linear Feet

23. Description of Avoidance, Minimization, and Compensation (see instructions)

See application cover letter - "Wetland Mitigation" and "Avoidance and Minimization Measures".

24. Is Any Portion of the Work Already Complete? Yes No IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).

a. Address-

City - State - Zip -

b. Address-

City - State - Zip -

c. Address-

City - State - Zip -

d. Address-

City - State - Zip -

e. Address-

City - State - Zip -

26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL *	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED

* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

Kathy Salvador
2020-05-08
W. Andrew Grammer
2020-05-08

SIGNATURE OF APPLICANT

DATE

SIGNATURE OF AGENT

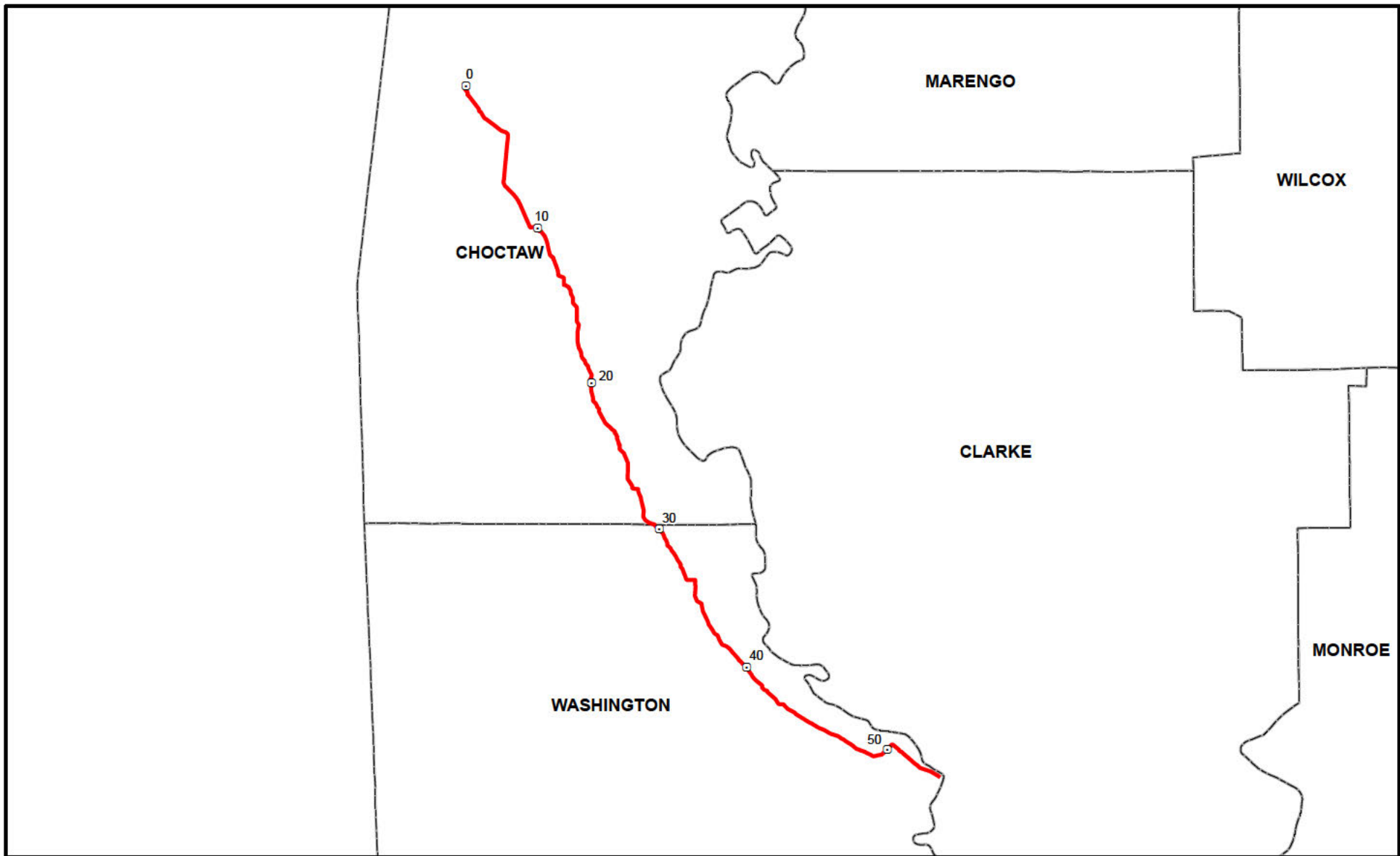
DATE

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

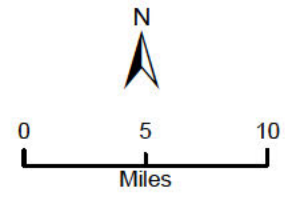
Attachment 2

Project Vicinity Map



Legend

- Milepost
- Proposed Pipeline
- County Boundary



Scale: 1:500,000

Attachment 2
Project Vicinity Map

Attachment 3

Aerial Photo-based Impacts Maps

Pages 21 through 185 redacted for the following reasons:

(b)(7)f, Aerial photos with preliminary locattions/data plots noted.

Attachment 4

USGS Topographic Impacts Maps

Pages 187 through 264 redacted for the following reasons:

(b)(7)f, Preliminary sites/data plots noted on maps.

Attachment 5

HDD Plans/Profiles

Pages 266 through 273 redacted for the following reasons:

(b)(7)f, Preliminary sites/plots/data noted on plans.

Attachment 6

HDD Contingency Plan



Lowman Pipeline Project

Horizontal Directional Drill Contingency Plan

REVISED MAY 2020

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APPENDICES

APPENDIX A – MATERIAL SAFETY DATA SHEETS

ACRONYMS

ADEM	Alabama Department of Environmental Management
CI	Chief Inspector
CM	Construction Manager
EI	Environmental Inspector
HDD	Horizontal Directional Drilling
IR	Inadvertent Return
Project or Lowman Project	Lowman Pipeline Project
PC	Permit Coordinator

1.0 INTRODUCTION

Horizontal Directional Drilling (“HDD”) is a trenchless excavation method that is accomplished in three phases. The first phase consists of drilling a small diameter pilot hole along a designed directional path. The second phase consists of enlarging the pilot hole to a diameter suitable for installation of the pipe. The third phase consists of pulling the pipe into the enlarged hole. HDD is accomplished using a specialized horizontal drilling rig with ancillary tools and equipment. A properly executed HDD crossing will allow for the pipeline to be installed in a minimally invasive manner.

The HDD method is proposed for NextEra Energy Resources’ (NextEra) Lowman Pipeline Project (Project) at multiple locations in Choctaw and Washington Counties, Alabama.

The inadvertent return (“IR”) of drilling lubricant is a potential concern when HDD methods are utilized. The HDD procedure for these crossings will utilize bentonite for drilling lubricant. In general, IRs can occur because of existing rock fractures, low density soils, or unconsolidated geology. There is a potential for inadvertent returns to directly impact surface and ground waters via existing or enhanced fracture zones or if there is a release upland which flows over ground into wetlands or streams.

The purpose of this HDD Contingency Plan is to:

- Minimize the potential for an IR associated with HDD activities
- Provide for the timely detection of an IR.
- Protect areas that are considered environmentally sensitive (streams, wetlands, other biological resources, cultural resources).
- Provide an organized, timely, and “minimum-impact” response in the event of an IR.
- Provide that all appropriate notifications are made to the appropriate regulatory agencies, and that documentation is completed.
- Provide an alternative crossing method if the HDD is deemed unsuccessful.

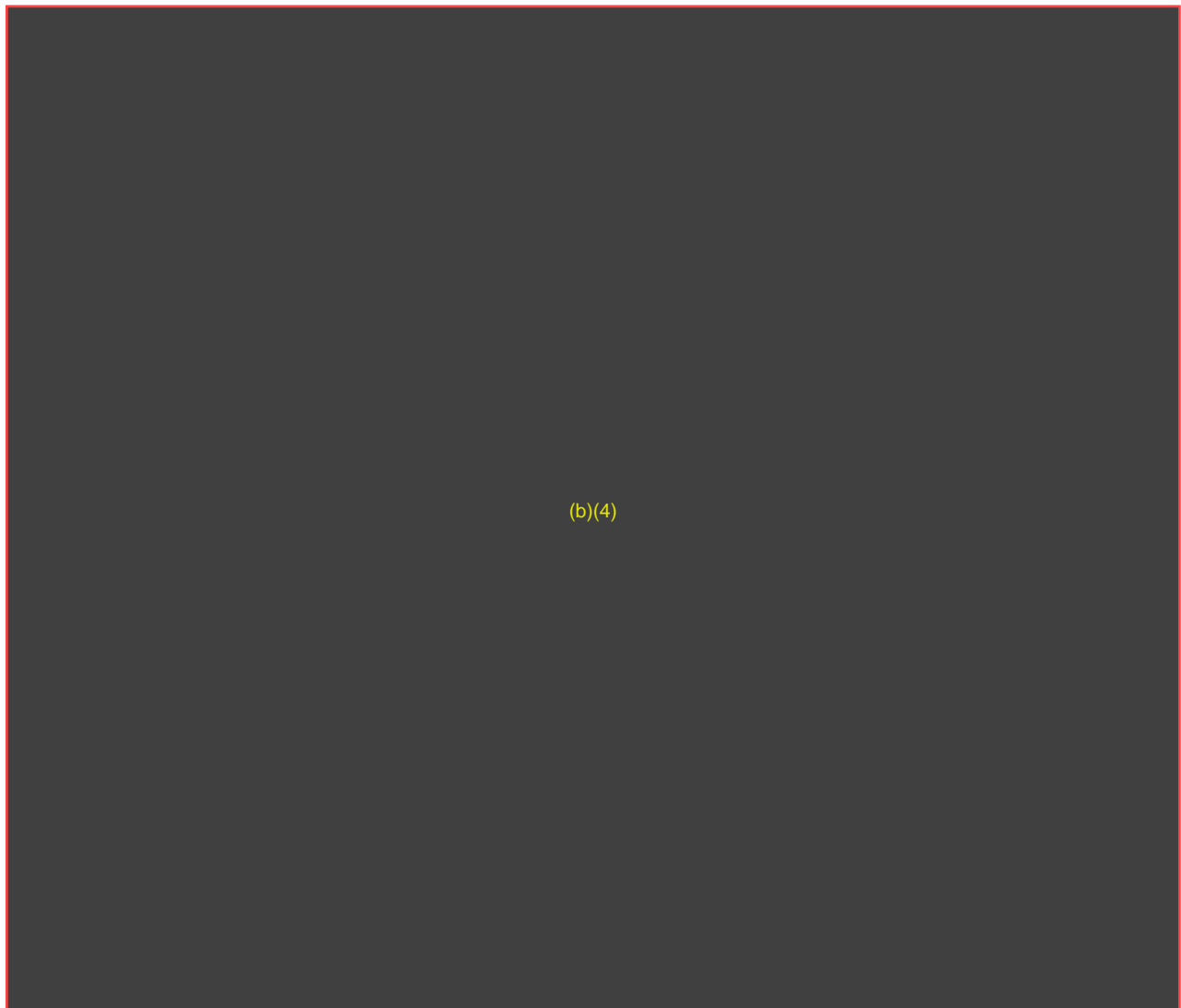
Table 1 - Proposed HDD Locations

Crossing Name	Pipeline Diameter (inches)	Approximate Entry Milepost	Approximate Exit Milepost	Total Length (feet)	Subsurface Material
Project Component Name					
Bogueloosa Creek	16	5.9	6.4	2763	**Geotechnical Bores Pending
S2037 (Okatuppa Creek)	16	16.6	16.9	1313	Sandy Elastic Silt
S2091 (Souwilpa Creek)	16	19.1	19.4	1500	Elastic Silt with Sand
S1065 (Turkey Creek)	16	22	22.5	2517	Fat Clay/Silty Sand/Silt

S1040 (Santa Bogue Creek)	16	32.7	32.9	1000	Sand/Sandy Elastic Silt
S2028 (Elias Creek)	16	35.6	35.8	1110	Sandy Elastic Silt/Silty Clayey Sand
Tauler Creek	16	39.7	40	1627	Silty Clayey Sand/Elastic Silt/Fat Clay/Sandy Elastic Silt
Railroad/Lowman Pond	16	53.4	53.8	2450	Sandy Fat Clay/Silty Sand

2.0 PERSONNEL AND RESPONSIBILITIES

The actions in this HDD Plan are to be implemented by the following personnel:

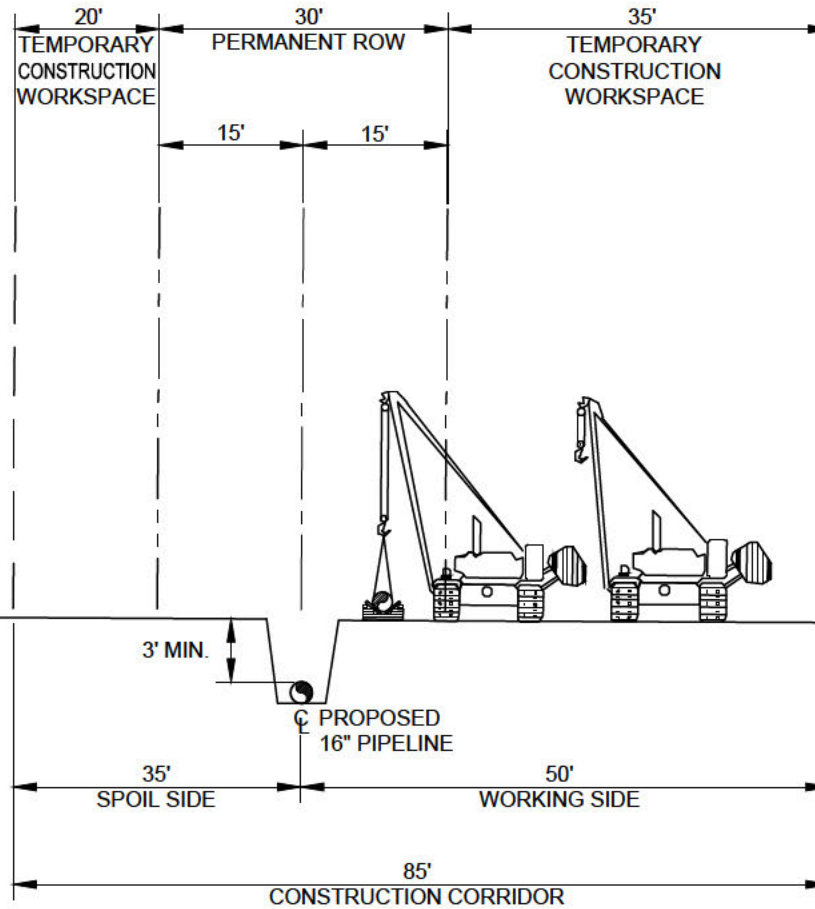


(b)(4)

(b)(4)

Attachment 7

Construction Typical Drawings



**TYPICAL CONSTRUCTION RIGHT-OF-WAY
STANDARD WORK CORRIDOR**



ISSUED 30% DATE: 04/24/2020 - NOT FOR CONSTRUCTION -				
B	ISSUED 30%	RJB	04/24/20	MAL 04/24/20
A	ISSUED FOR 30% REVIEW	RJB	04/09/20	MAL 04/09/20
REV	DESCRIPTION	CHK	DATE	APP DATE

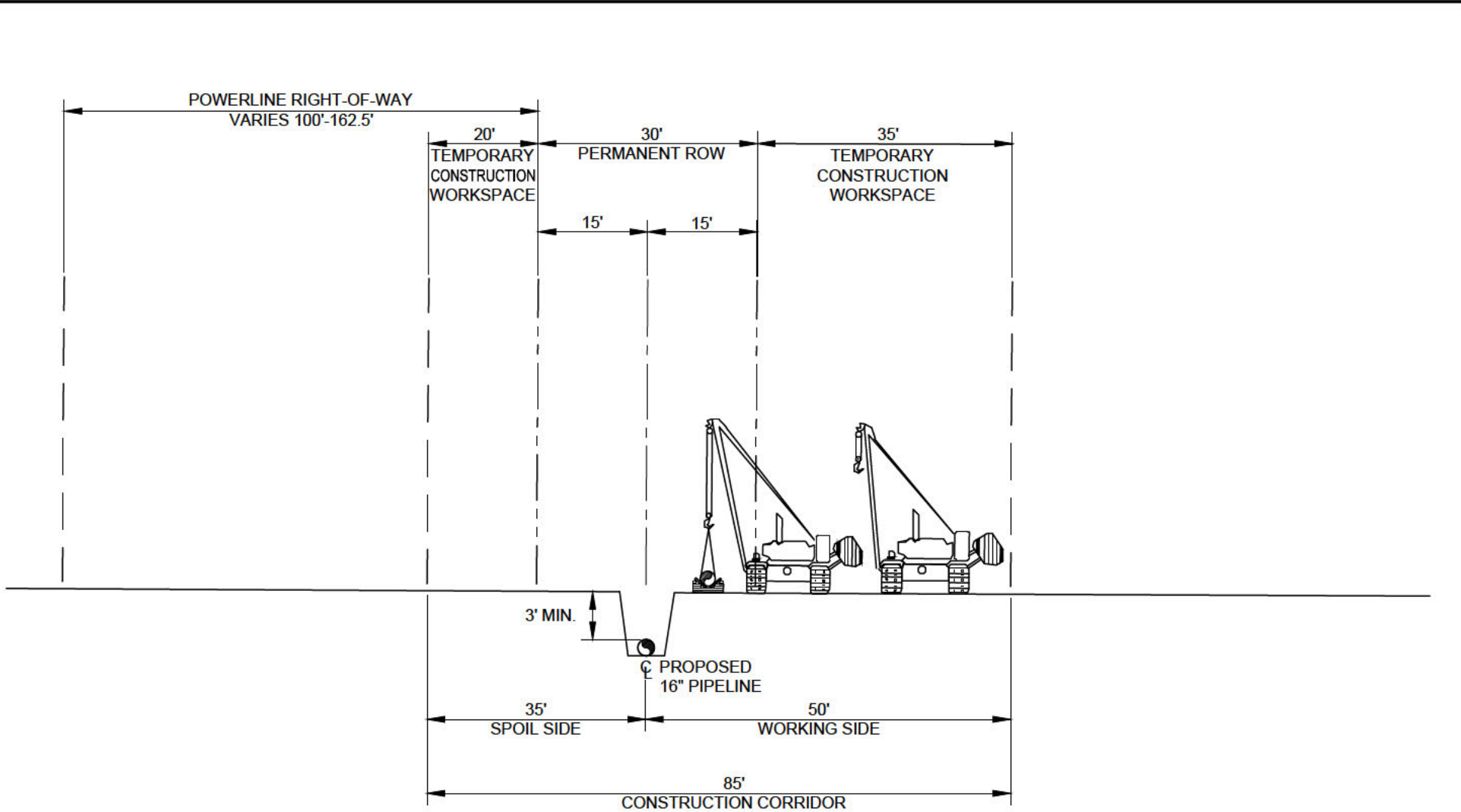
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DESIGNED BY	HGA	10/31/19
CHECKED BY	HGA	04/03/20
APPROVED BY	HGA	04/03/20
HGA JOB NO.	8.A19015	
PLOT SCALE	1:1	
MODEL ID		

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 FIRM # AL CA-4334-E

NEXTERA ENERGY TYPICAL ROW CONFIGURATION LOWMAN PIPELINE PROJECT WASHINGTON AND CHOCTAW COUNTIES, ALABAMA		
SCALE NTS	DRAWING NUMBER 4719-G-TYP WC-1	REV B

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TYPICAL CONSTRUCTION RIGHT-OF-WAY
STANDARD WORK CORRIDOR
CO-LOCATED WITH POWERLINES



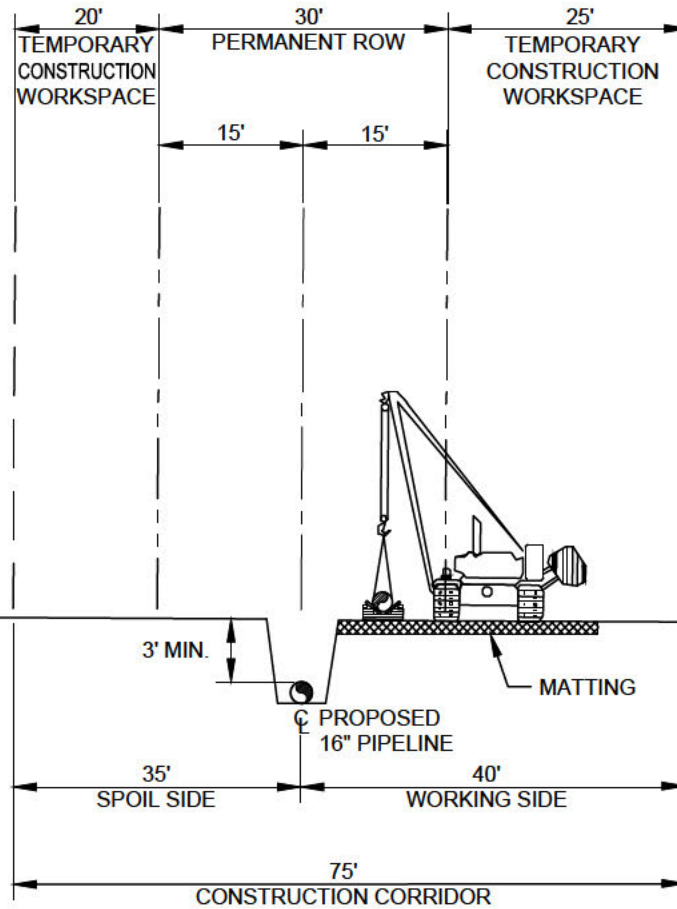
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REV	DESCRIPTION	CHK	DATE	APP	DATE

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PRESTON, JON



TYPICAL CONSTRUCTION RIGHT-OF-WAY
STANDARD WORK CORRIDOR
WETLAND CROSSING



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- NOT FOR CONSTRUCTION -					
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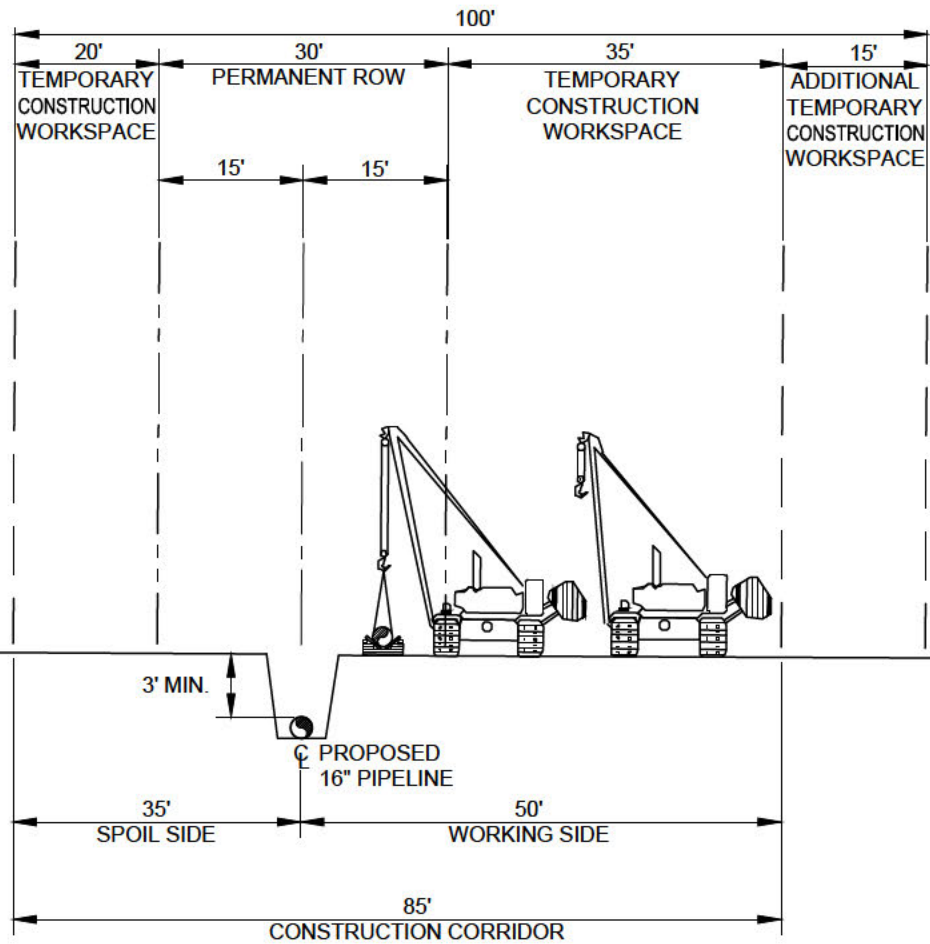
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MODEL ID		

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NEXTERA ENERGY TYPICAL ROW CONFIGURATION LOWMAN PIPELINE PROJECT WASHINGTON AND CHOCTAW COUNTIES, ALABAMA		
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PRESTON, JON



TYPICAL CONSTRUCTION RIGHT-OF-WAY
STANDARD WORK CORRIDOR
TOPSOIL SEGREGATION



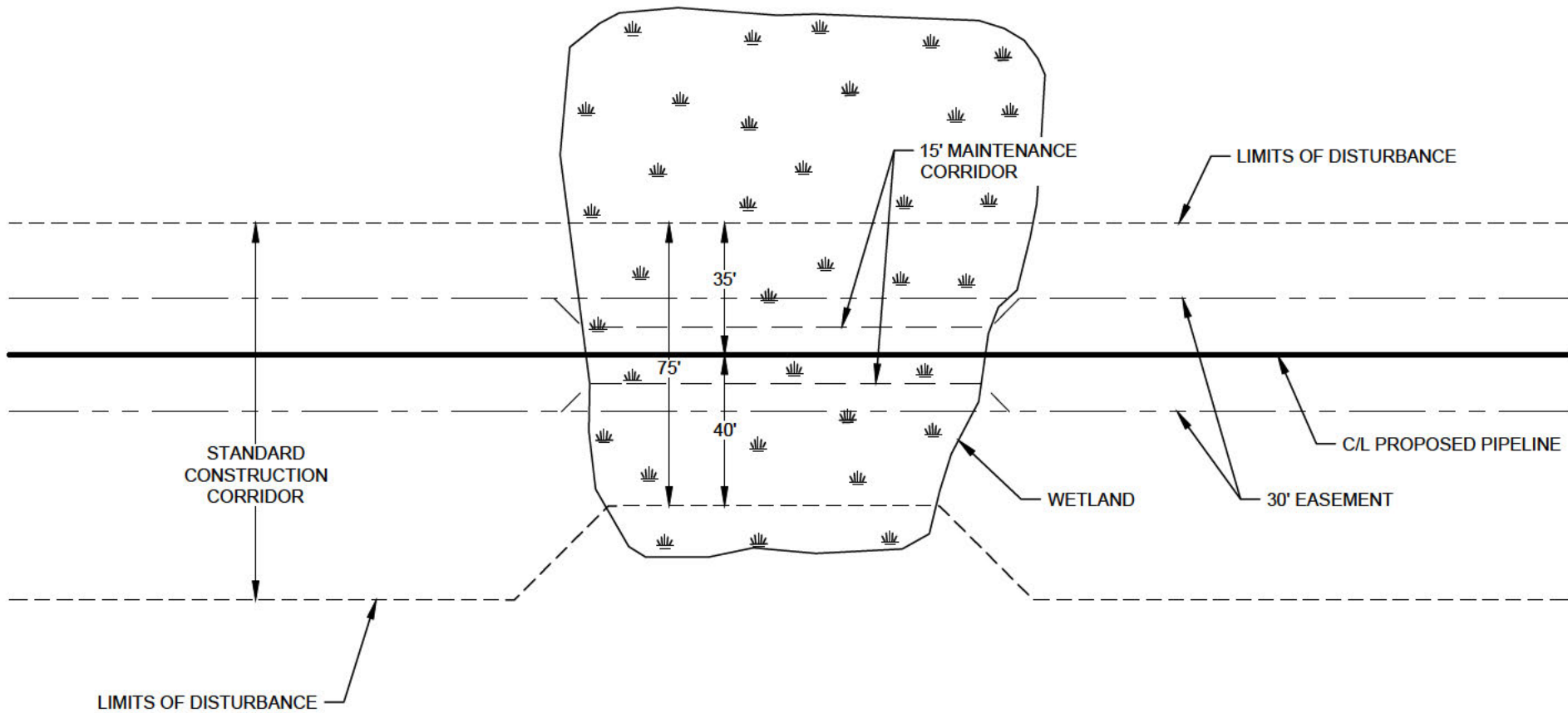
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REV	DESCRIPTION	CHK	DATE	APP	DATE

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<p align="center">NEXTERA ENERGY TYPICAL ROW CONFIGURATION LOWMAN PIPELINE PROJECT WASHINGTON AND CHOCTAW COUNTIES, ALABAMA</p>		
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TYPICAL CONSTRUCTION RIGHT-OF-WAY
STANDARD WORK CORRIDOR
WETLAND CROSSING



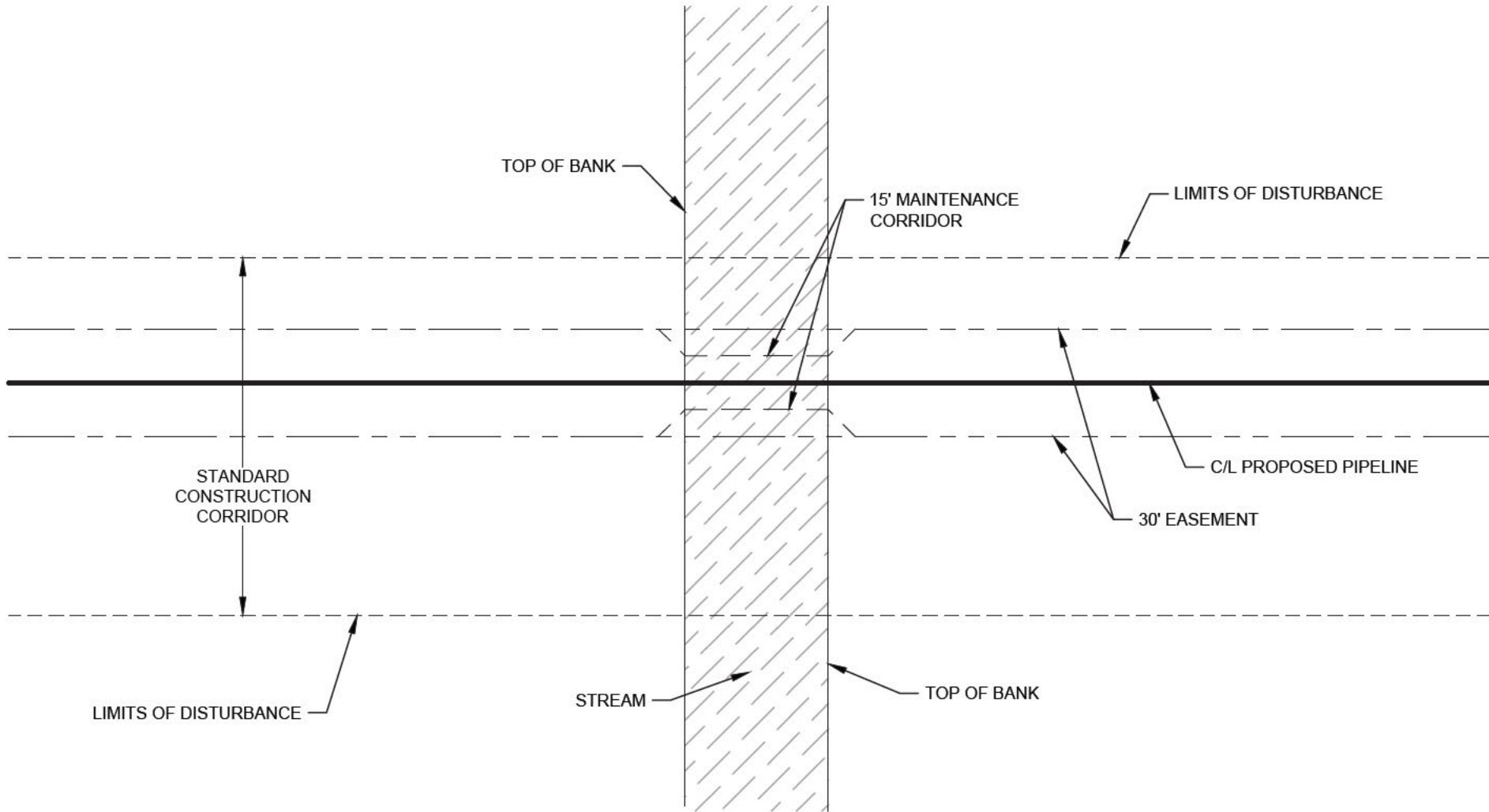
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REV	DESCRIPTION	CHK	DATE	APP	DATE

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CHECKED BY	HGA	04/22/20
APPROVED BY	HGA	04/22/20
HGA JOB NO.	8.A19015	
PLOT SCALE	1:1	
MODEL ID		

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NEXTERA ENERGY TYPICAL ROW CONFIGURATION LOWMAN PIPELINE PROJECT WASHINGTON AND CHOCTAW COUNTIES, ALABAMA		
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NTS	4719-G-TYP WC-5	A

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TYPICAL CONSTRUCTION RIGHT-OF-WAY
 STANDARD WORK CORRIDOR
 STREAM CROSSING



ISSUED 30% DATE: 04/22/2020 - NOT FOR CONSTRUCTION -					
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REV	DESCRIPTION	CHK	DATE	APP	DATE

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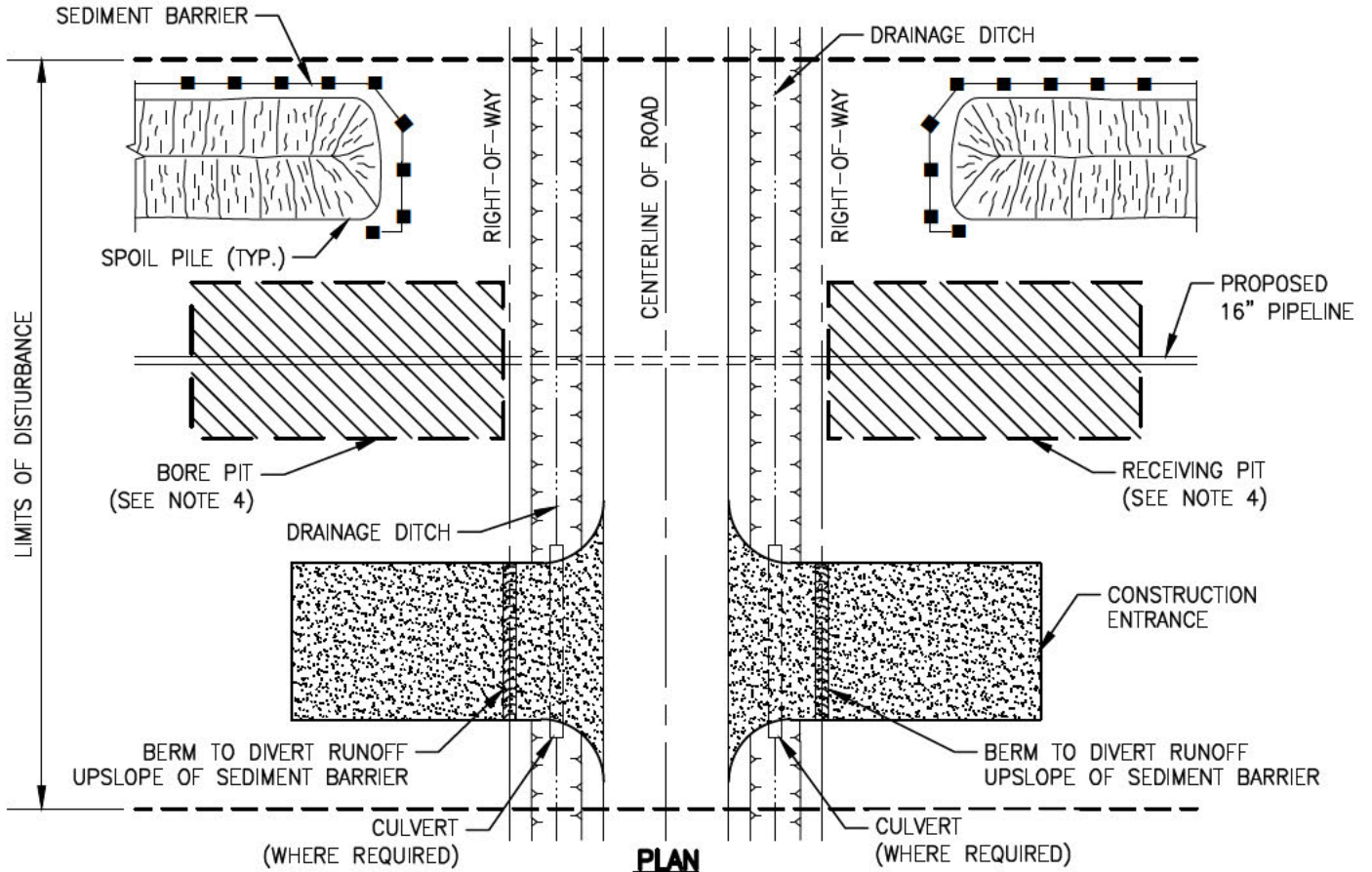
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 LOWMAN PIPELINE PROJECT
 WASHINGTON AND
 CHOCTAW COUNTIES, ALABAMA

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 PRESTON, JON

BORED ROAD CROSSING

TEMPORARY EROSION CONTROL MEASURES



PLAN

NOT TO SCALE

NOTES:

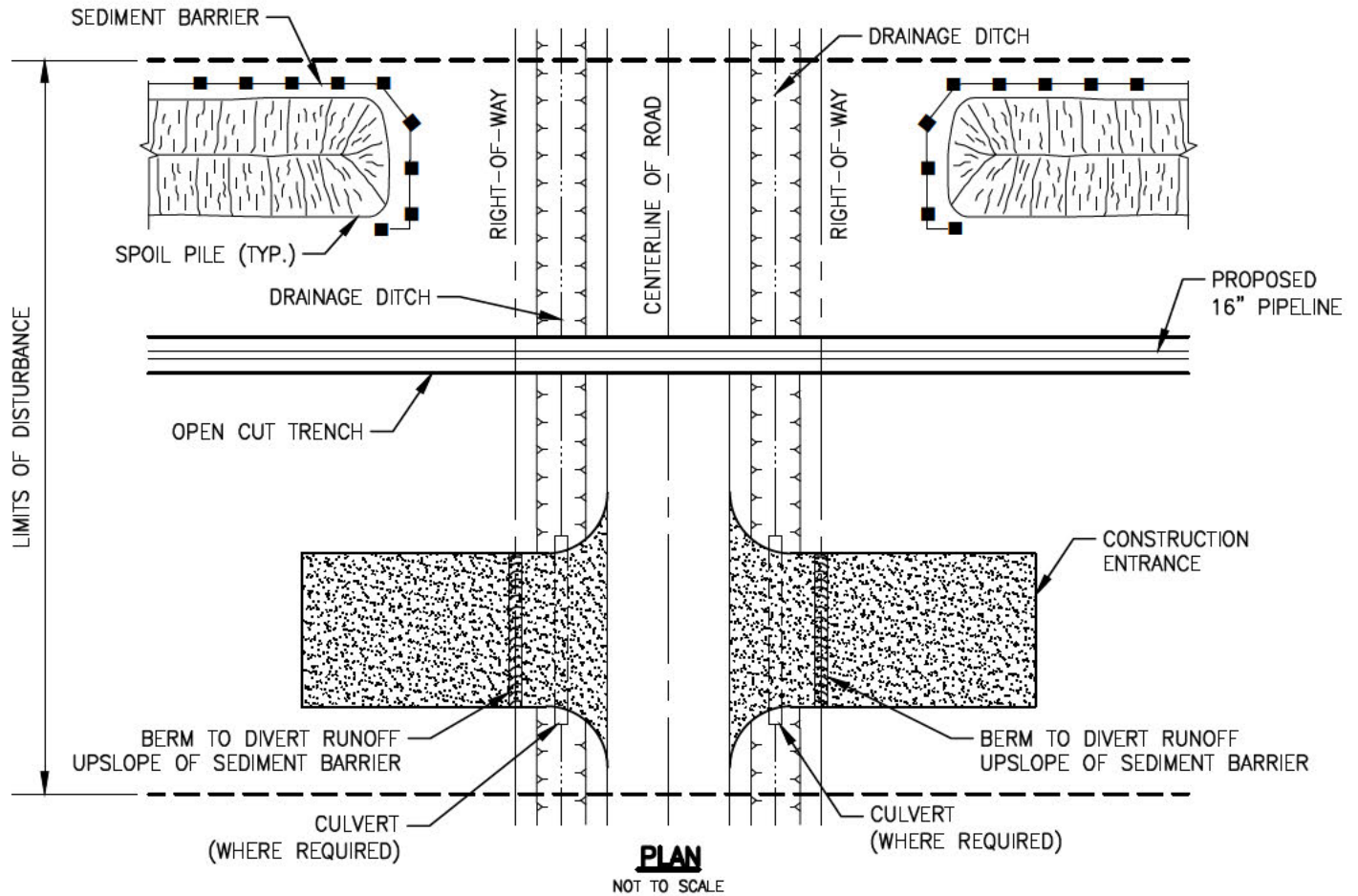
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2. PROTECTION FOR SPOIL PILES SHALL BE INSTALLED ONLY WHERE SEDIMENT BARRIERS ACROSS THE ENTIRE DISTURBED AREA ARE NOT REQUIRED.
3. SEDIMENT BARRIERS SHALL REMAIN IN PLACE UNTIL REVEGETATION IS ESTABLISHED.
4. WATER REMOVED FROM BORE PIT AND RECEIVING PIT SHALL BE FILTERED THROUGH A DEWATERING STRUCTURE OR FILTER BAG.
5. IF WELL POINTING IS REQUIRED PRIOR TO EXCAVATING BORE PITS, CONTRACTOR SHALL CONSULT WITH COMPANY'S ENVIRONMENTAL INSPECTOR PRIOR TO COMMENCEMENT OF WORK IN ORDER TO DETERMINE PROPER DEWATERING LOCATION.
6. CULVERTS TO BE SIZED AND PLACED WHERE REQUIRED TO MAINTAIN WATER FLOW.
7. CONTRACTOR SHALL BE REQUIRED TO KEEP THE ROAD CLEAN OF DEBRIS AT ALL TIMES.
8. CONTRACTOR MAY ELECT TO UTILIZE SHEET PILING IN ORDER TO STABILIZE BORE PITS.
9. DEPENDING ON TOPOGRAPHY AND STATE REQUIREMENTS, SEDIMENT BARRIER MAY BE REQUIRED ACROSS THE ENTIRE CONSTRUCTION RIGHT OF WAY AT THE EDGE OF ROAD. IN ADDITION TO THIS DETAIL, REFER TO THE ENVIRONMENTAL ALIGNMENT DRAWINGS FOR PLACEMENT OF SEDIMENT BARRIERS.

<p>ISSUED 30%</p> <p>DATE: <u>04/24/2020</u></p> <p>- NOT FOR CONSTRUCTION -</p>					<p>DRAWN BY: HGA 01/30/20</p> <p>DESIGNED BY: HGA 01/30/20</p> <p>CHECKED BY: MEH 04/03/20</p> <p>APPROVED BY: HGA 04/03/20</p> <p>HGA JOB NO. 8.A19015</p>			<p>NEXTERA ENERGY</p> <p>BORED ROAD CROSSING DETAIL</p> <p>LOWMAN PIPELINE PROJECT</p> <p>WASHINGTON & CHOCTAW COUNTIES, ALABAMA</p>	
B	ISSUED 30%	RJB	04/24/20	MAL	04/24/20	PLOT SCALE: 1:1		<p>www.hga-llc.com One Metroplex Drive, Suite 100 Birmingham, AL 35209 T 205-970-4977 FIRM # AL CA-4334-E</p>	
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OPEN CUT ROAD CROSSING


TEMPORARY EROSION CONTROL MEASURES



PLAN
NOT TO SCALE

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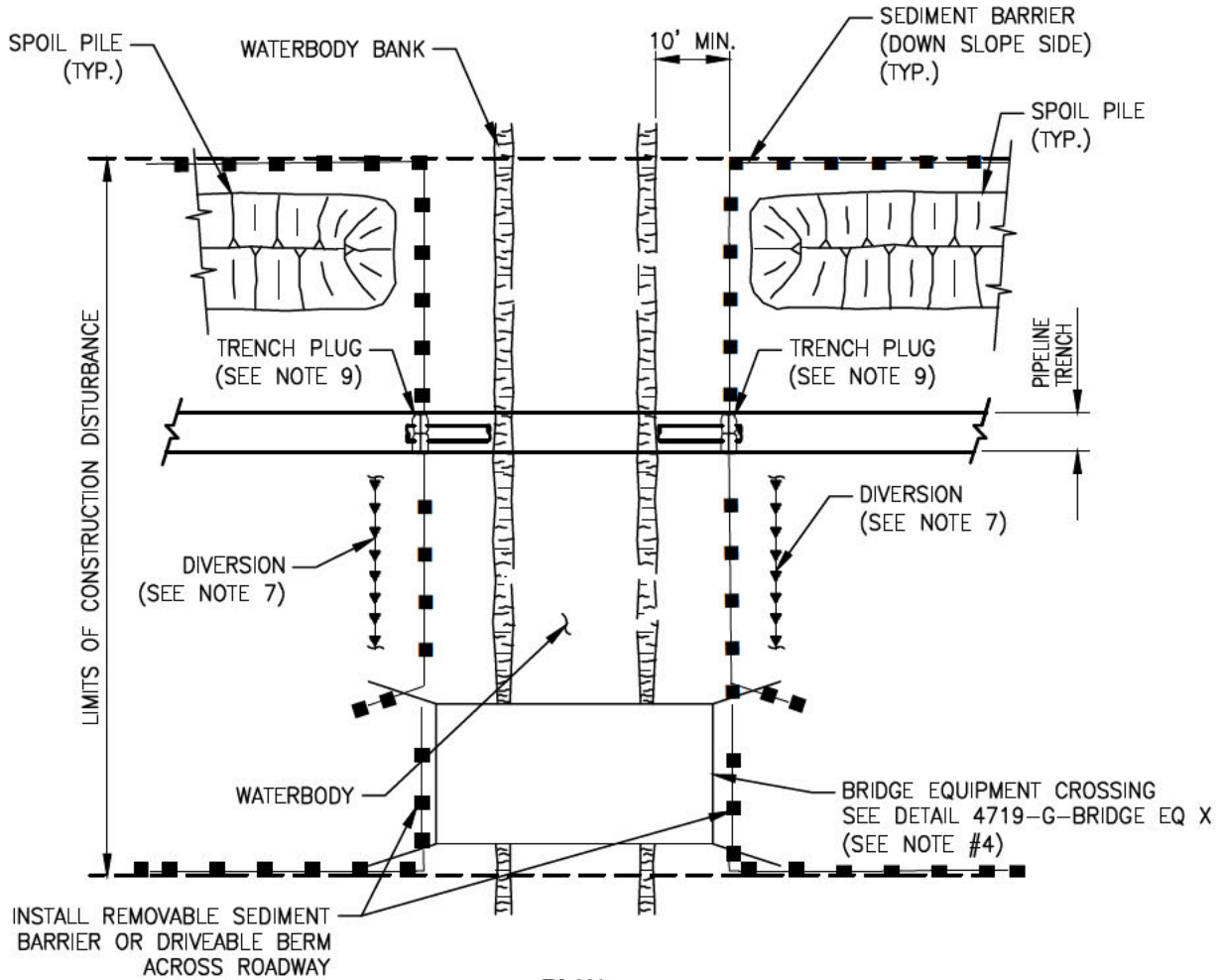
1. SEDIMENT BARRIER SHALL BE INSTALLED AT THE BASE OF SLOPES ADJACENT TO ROAD CROSSINGS WHERE VEGETATION IS DISTURBED TO INTERCEPT SURFACE RUNOFF.
2. PROTECTION FOR SPOIL PILES SHALL BE INSTALLED ONLY WHERE SEDIMENT BARRIERS ACROSS THE ENTIRE DISTURBED AREA ARE NOT REQUIRED.
3. SEDIMENT BARRIERS SHALL REMAIN IN PLACE UNTIL REVEGETATION IS ESTABLISHED.
4. CULVERTS TO BE SIZED AND PLACED WHERE REQUIRED TO MAINTAIN WATER FLOW.
5. CONTRACTOR SHALL BE REQUIRED TO KEEP THE ROAD CLEAN OF DEBRIS AT ALL TIMES.
6. CONTRACTOR MAY ELECT TO UTILIZE WELL-POINTS IN ORDER TO REDUCE THE WATER TABLE PRIOR TO COMMENCING EXCAVATION.
7. DEPENDING ON TOPOGRAPHY AND STATE REQUIREMENTS, SEDIMENT BARRIER MAY BE REQUIRED ACROSS THE ENTIRE CONSTRUCTION RIGHT OF WAY AT THE EDGE OF ROAD. IN ADDITION TO THIS DETAIL, REFER TO THE ENVIRONMENTAL ALIGNMENT DRAWINGS FOR PLACEMENT OF SEDIMENT BARRIERS.

<p style="text-align: center;">ISSUED 30%</p> <p>DATE: 04/24/2020</p> <p style="text-align: center;">- NOT FOR CONSTRUCTION -</p>					<p>DRAWN BY: HGA 01/30/20</p> <p>DESIGNED BY: HGA 01/30/20</p> <p>CHECKED BY: MEH 04/03/20</p> <p>APPROVED BY: HGA 04/03/20</p> <p>HGA JOB NO. 8.A19015</p>	 <p>www.hga-llc.com One Metroplex Drive, Suite 100 Birmingham, AL 35209 T 205-970-4977 FIRM # AL CA-4334-E</p>	<p style="text-align: center;">NEXTERA ENERGY</p> <p style="text-align: center;">OPEN CUT ROAD CROSSING DETAIL</p> <p style="text-align: center;">LOWMAN PIPELINE PROJECT</p> <p style="text-align: center;">WASHINGTON & CHOCTAW COUNTIES, ALABAMA</p>		
B	ISSUED 30%	RJB	04/24/20	MAL	04/24/20		PLOT SCALE: 1:1	SCALE: N.T.S.	DRAWING NUMBER: 4719-G-OPEN CUT RX
A	ISSUED FOR 30% REVIEW	RJB	04/09/20	MAL	04/09/20	MODEL ID:			
REV	DESCRIPTION	CHK	DATE	APP	DATE				

4/22/2020 3:47 PM
PRESTON, JON

DRY MINOR WATERBODY CROSSING

TEMPORARY EROSION CONTROL MEASURE




PLAN

NOT TO SCALE

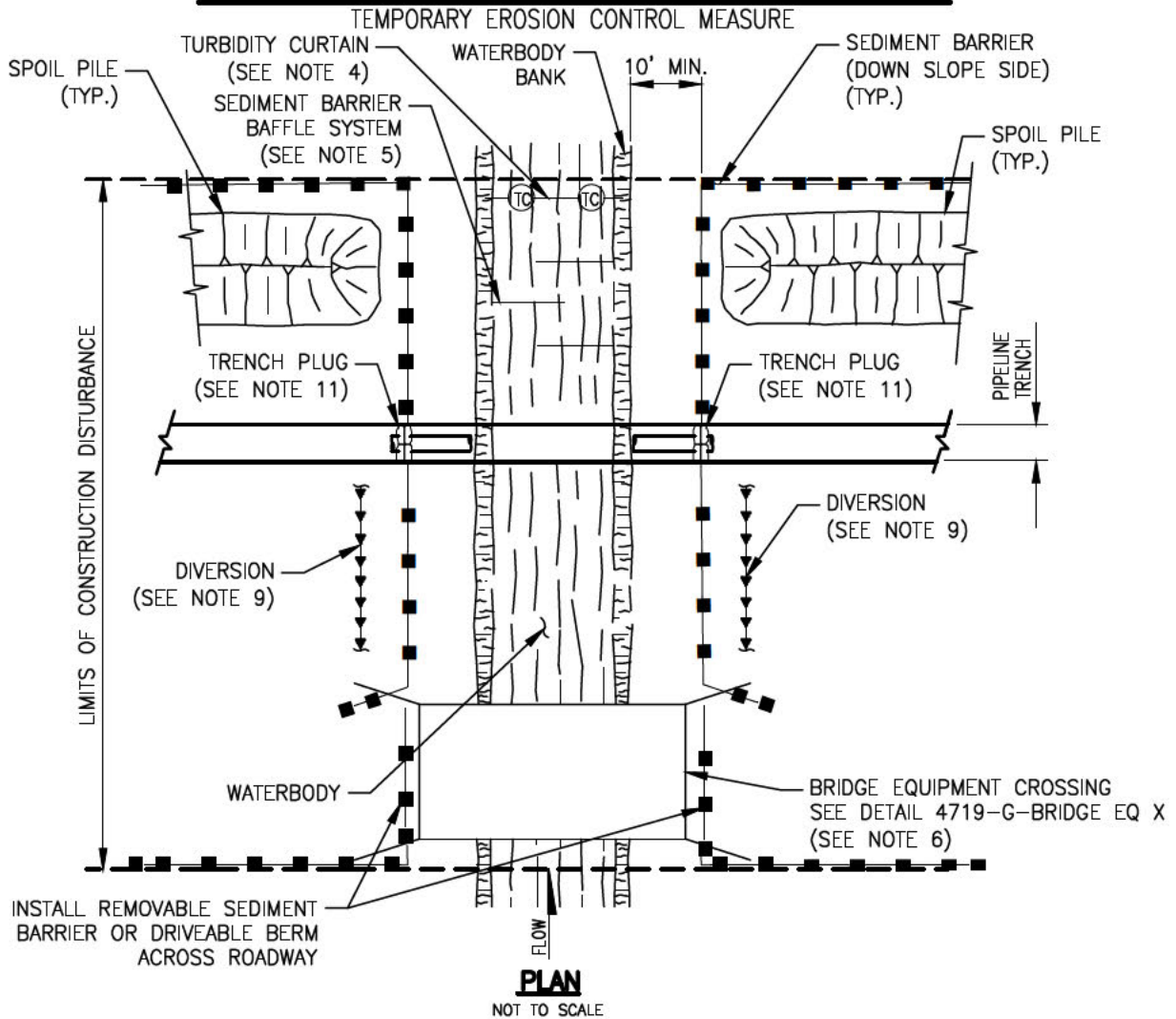
NOTES:

1. THIS METHOD APPLIES TO MINOR WATERBODY CROSSINGS THAT ARE DRY (NO FLOW) AT TIME OF CROSSING, AS DESCRIBED IN SECTION V.7. OF WETLAND AND WATERBODY CONSTRUCTION AND MITIGATION PROCEDURES.
2. SEDIMENT BARRIERS SHALL BE INSTALLED AS DEPICTED AND ALONG DOWN GRADIENT SIDES OF WORK AREAS AND STAGING AREAS SUCH THAT NO HEAVILY SILT LADEN WATER ENTERS THE WATERBODY OR LEAVES THE CONSTRUCTION RIGHT OF WAY.
3. HARD DITCH PLUGS MUST REMAIN IN PLACE AT CONVENIENT LOCATIONS TO SEPARATE MAINLINE DITCH FROM THE WATERBODY CROSSING UNTIL THE WATERBODY IS INSTALLED AND BACKFILLED.
4. EQUIPMENT OPERATING IN THE WATERBODY SHALL BE LIMITED TO THAT NEEDED TO PERFORM CONSTRUCTION. IF OTHER TYPES OF EQUIPMENT MUST CROSS THE WATERBODY, CONTRACTOR SHALL PROVIDE AND USE A BRIDGE EQUIPMENT CROSSING (4719-G-BRIDGE EQ X).
5. STAGING AREA(S) FOR WATERBODY CROSSING(S), WHEN REQUIRED, SHALL BE LOCATED AT LEAST 50 FEET FROM WATER'S EDGE AND SHALL BE OF A MINIMUM SIZE NEEDED FOR CONVENIENT PREPARATION.
6. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED DAILY AND REPAIRED IF NECESSARY.
7. INSTALL DIVERSION TRENCHES AT THE BASE OF ALL SLOPES ADJACENT TO THE WATERBODY.
8. CHEMICALS, FUELS AND LUBRICATING OILS SHALL NOT BE STORED AND EQUIPMENT SHALL NOT BE REFUELED WITHIN 100 FEET OF THE WATERBODY.
9. INSTALL TRENCH PLUGS ON BOTH SIDES OF THE WATERBODY TO KEEP ANY ACCUMULATED TRENCH WATER OUT OF THE WATERBODY.
10. CONTRACTOR SHALL POSTPONE GRADING OF RIGHT-OF-WAY IMMEDIATELY ADJACENT TO WATERBODY UNTIL STAGING AREA IS PREPARED AND WORK IN THE WATERBODY IS READY TO COMMENCE.
11. EXCEPT FOR BLASTING AND OTHER ROCK BREAKING MEASURES, COMPLETE IN STREAM CONSTRUCTION ACTIVITIES (INCLUDING TRENCHING, PIPE INSTALLATION, BACKFILL, AND RESTORATION OF THE STREAM BED CONTOURS) WITHIN 24 HOURS. STREAM BANKS AND UNCONSOLIDATED STREAM BEDS MAY REQUIRE ADDITIONAL RESTORATION AFTER THIS PERIOD.

<p style="text-align: center;">ISSUED 30%</p> <p>DATE: <u>04/24/2020</u></p> <p style="text-align: center;">- NOT FOR CONSTRUCTION -</p>					DRAWN BY: HGA 04/03/20 DESIGNED BY: HGA 04/03/20 CHECKED BY: MEH 04/03/20 APPROVED BY: HGA 04/03/20 HGA JOB NO. 8.A19015	 <p>www.hga-llc.com One Metroplex Drive, Suite 100 Birmingham, AL 35209 T 205-970-4977 FIRM # AL CA-4334-E</p>	<p style="text-align: center;">NEXTERA ENERGY</p> <p style="text-align: center;">DRY MINOR WATERBODY CROSSING DETAIL</p> <p style="text-align: center;">LOWMAN PIPELINE PROJECT</p> <p style="text-align: center;">WASHINGTON & CHOCTAW COUNTIES, ALABAMA</p>		
					PLOT SCALE: 1:1 MODEL ID:				
B	ISSUED 30%	RJB	04/24/20	MAL	04/24/20				
A	ISSUED FOR 30% REVIEW	RJB	04/09/20	MAL	04/09/20				
REV	DESCRIPTION	CHK	DATE	APP	DATE				

4/22/2020 3:44 PM PRESTON, JON

WET MINOR WATERBODY CROSSING



NOTES:

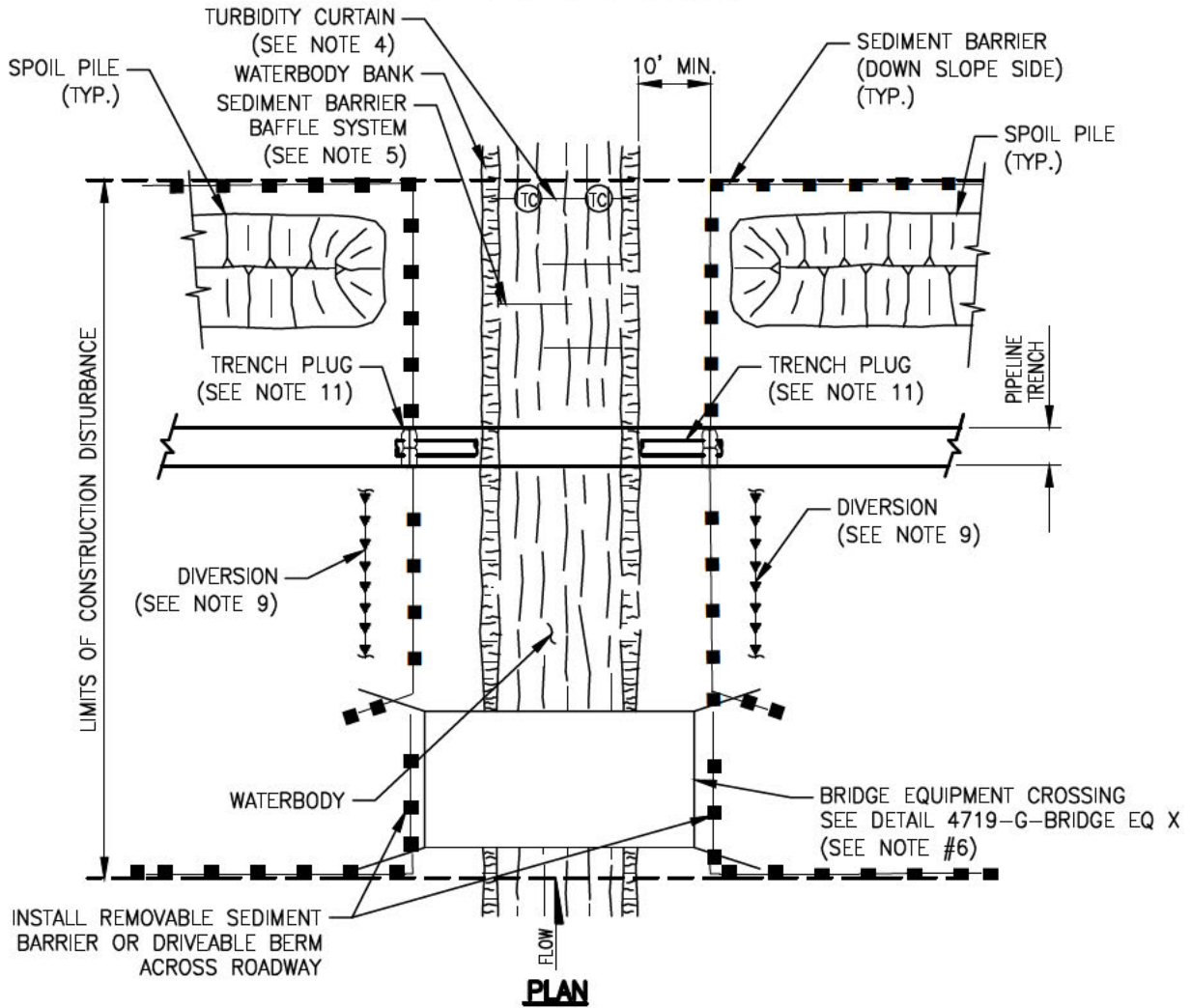
1. THIS METHOD APPLIES TO MINOR WATERBODY CROSSINGS THAT ARE DEFINED AS WATERBODIES THAT ARE LESS THAN OR EQUAL TO 10 FEET AT WATERS EDGE AT THE TIME OF CROSSING.
2. SEDIMENT BARRIERS SHALL BE INSTALLED AS DEPICTED AND ALONG DOWN GRADIENT SIDES OF WORK AREAS AND STAGING AREAS SUCH THAT NO HEAVILY SILT LADEN WATER ENTERS THE WATERBODY OR LEAVES THE CONSTRUCTION RIGHT OF WAY.
3. HARD DITCH PLUGS MUST REMAIN IN PLACE AT CONVENIENT LOCATIONS TO SEPARATE MAINLINE DITCH FROM THE WATERBODY CROSSING UNTIL THE WATERBODY IS INSTALLED AND BACKFILLED.
4. INSTALL TURBIDITY CURTAINS DOWNSTREAM OF CROSSING AT EDGE OF WORK CORRIDOR IF STREAM FLOW IS CONDUCIVE TO SUCH AN INSTALLATION.
5. IF FLOW OF WATERBODY IS SUCH THAT TURBIDITY CURTAIN CAN NOT BE INSTALLED, THEN INSTALL DOWNSTREAM SEDIMENT BARRIER BAFFLE SYSTEM AS DEPICTED.
6. EQUIPMENT OPERATING IN THE WATERBODY SHALL BE LIMITED TO THAT NEEDED TO PERFORM CONSTRUCTION. IF OTHER TYPES OF EQUIPMENT MUST CROSS THE WATERBODY, CONTRACTOR SHALL PROVIDE AND USE A BRIDGE EQUIPMENT CROSSING (4719-G-BRIDGE EQ X).
7. STAGING AREA(S) FOR WATERBODY CROSSING(S), WHEN REQUIRED, SHALL BE LOCATED AT LEAST 50 FEET FROM WATER'S EDGE AND SHALL BE OF A MINIMUM SIZE NEEDED FOR CONVENIENT PREPARATION.
8. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED DAILY AND REPAIRED IF NECESSARY.
9. INSTALL DIVERSION TRENCHES AT THE BASE OF ALL SLOPES ADJACENT TO THE WATERBODY.
10. CHEMICALS, FUELS AND LUBRICATING OILS SHALL NOT BE STORED AND EQUIPMENT SHALL NOT BE REFUELED WITHIN 100 FEET OF THE WATERBODY.
11. INSTALL TRENCH PLUGS ON BOTH SIDES OF THE WATERBODY TO PREVENT DIVERSION OF WATER INTO UPLAND PORTIONS OF THE PIPELINE TRENCH AND TO KEEP ANY ACCUMULATED TRENCH WATER OUT OF THE WATERBODY.
12. CONTRACTOR SHALL POSTPONE GRADING OF RIGHT-OF-WAY IMMEDIATELY ADJACENT TO WATERBODY UNTIL STAGING AREA IS PREPARED AND WORK IN THE WATERBODY IS READY TO COMMENCE.
13. EXCEPT FOR BLASTING AND OTHER ROCK BREAKING MEASURES, COMPLETE IN STREAM CONSTRUCTION ACTIVITIES (INCLUDING TRENCHING, PIPE INSTALLATION, BACKFILL, AND RESTORATION OF THE STREAM BED CONTOURS) WITHIN 24 HOURS. STREAM BANKS AND UNCONSOLIDATED STREAM BEDS MAY REQUIRE ADDITIONAL RESTORATION AFTER THIS PERIOD.

<p>ISSUED 30%</p> <p>DATE: <u>04/22/2020</u></p> <p>- NOT FOR CONSTRUCTION -</p>					<p>DRAWN BY: HGA 04/21/20</p> <p>DESIGNED BY: HGA 04/21/20</p> <p>CHECKED BY: MEH 04/22/20</p> <p>APPROVED BY: HGA 04/22/20</p> <p>HGA JOB NO. 8.A19015</p> <p>PLOT SCALE: 1:1</p>		<p>www.hga-llc.com One Metroplex Drive, Suite 100 Birmingham, AL 35209 T 205-970-4977 FIRM # AL CA-4334-E</p>		<p>NEXTERA ENERGY</p> <p>WET MINOR WATERBODY CROSSING DETAIL</p> <p>LOWMAN PIPELINE PROJECT</p> <p>WASHINGTON & CHOCTAW COUNTIES, ALABAMA</p>		
A	ISSUED FOR 30% REVIEW	RJB	04/22/20	MAL	04/22/20	MODEL ID			SCALE	DRAWING NUMBER	REV
REV	DESCRIPTION	CHK	DATE	APP	DATE		N.T.S.	4719-G-WET MINOR X	A		

4/22/2020 4:39 PM
BENZ, ROGER

WET INTERMEDIATE WATERBODY CROSSING

TEMPORARY EROSION CONTROL MEASURE
(APPLIES TO WATERBODIES GREATER THAN 10' WIDE BUT LESS THAN 100' WIDE
AT WATERS EDGE AT TIME OF CROSSING)




PLAN

NOT TO SCALE

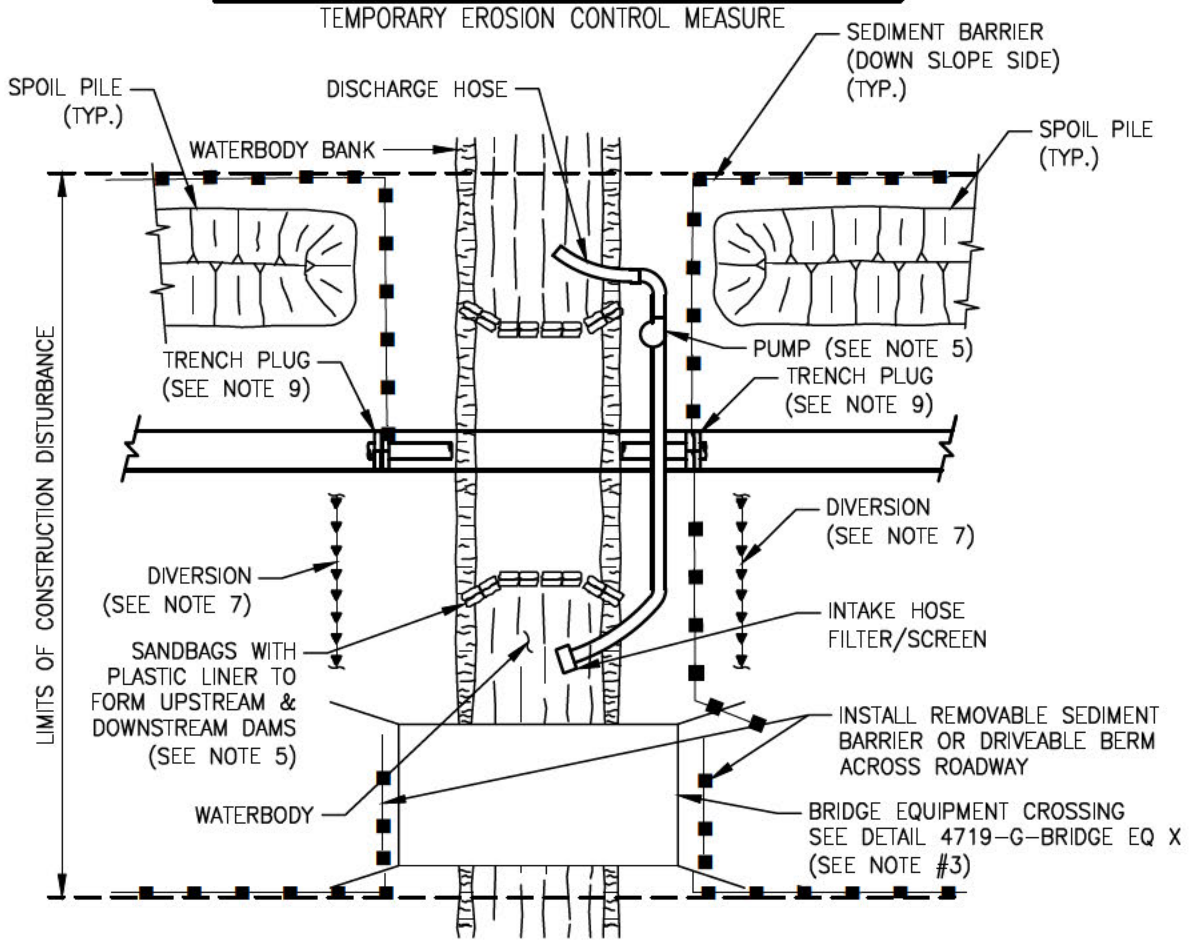
NOTES:

1. THIS METHOD APPLIES TO INTERMEDIATE WATERBODY CROSSINGS THAT ARE DEFINED AS WATERBODIES THAT ARE GREATER THAN 10 FEET WIDE BUT LESS THAN OR EQUAL TO 100 FEET WIDE AT THE WATERS EDGE AT THE TIME OF CONSTRUCTION.
2. SEDIMENT BARRIERS SHALL BE INSTALLED AS DEPICTED AND ALONG DOWN GRADIENT SIDES OF WORK AREAS AND STAGING AREAS SUCH THAT NO HEAVILY SILT LADEN WATER ENTERS THE WATERBODY OR LEAVES THE CONSTRUCTION RIGHT OF WAY.
3. HARD DITCH PLUGS MUST REMAIN IN PLACE AT CONVENIENT LOCATIONS TO SEPARATE MAINLINE DITCH FROM THE WATERBODY CROSSING UNTIL THE WATERBODY IS INSTALLED AND BACKFILLED.
4. INSTALL TURBIDITY CURTAINS DOWNSTREAM OF CROSSING AT EDGE OF WORK CORRIDOR IF STREAM FLOW IS CONDUCIVE TO SUCH AN INSTALLATION.
5. IF FLOW OF WATERBODY IS SUCH THAT TURBIDITY CURTAIN CAN NOT BE INSTALLED, THEN INSTALL DOWNSTREAM SEDIMENT BARRIER BAFFLE SYSTEM AS DEPICTED.
6. EQUIPMENT OPERATING IN THE WATERBODY SHALL BE LIMITED TO THAT NEEDED TO PERFORM CONSTRUCTION. IF OTHER TYPES OF EQUIPMENT MUST CROSS THE WATERBODY, CONTRACTOR SHALL PROVIDE AND USE A BRIDGE EQUIPMENT CROSSING (4719-G-BRIDGE EQ X).
7. STAGING AREA(S) FOR WATERBODY CROSSING(S), WHEN REQUIRED, SHALL BE LOCATED AT LEAST 50 FEET FROM WATER'S EDGE AND SHALL BE OF A MINIMUM SIZE NEEDED FOR CONVENIENT PREPARATION.
8. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED DAILY AND REPAIRED IF NECESSARY.
9. INSTALL DIVERSION TRENCHES AT THE BASE OF ALL SLOPES ADJACENT TO THE WATERBODY.
10. CHEMICALS, FUELS AND LUBRICATING OILS SHALL NOT BE STORED AND EQUIPMENT SHALL NOT BE REFUELED WITHIN 100 FEET OF THE WATERBODY.
11. INSTALL TRENCH PLUGS ON BOTH SIDES OF THE WATERBODY TO PREVENT DIVERSION OF WATER INTO UPLAND PORTIONS OF THE PIPELINE TRENCH AND TO KEEP ANY ACCUMULATED TRENCH WATER OUT OF THE WATERBODY.
12. CONTRACTOR SHALL POSTPONE GRADING OF RIGHT-OF-WAY ADJACENT TO WATERBODY UNTIL STAGING AREA IS PREPARED AND WORK IN THE WATERBODY IS READY TO COMMENCE.
13. COMPLETE IN STREAM CONSTRUCTION ACTIVITIES (NOT INCLUDING BLASTING AND OTHER ROCK BREAKING MEASURES) WITHIN 24 HOURS, UNLESS SITE SPECIFIC CONDITIONS MAKE COMPLETION WITHIN 48 HOURS INFEASIBLE.

<p style="text-align: center;">ISSUED 30%</p> <p>DATE: <u>04/24/2020</u></p> <p style="text-align: center;">- NOT FOR CONSTRUCTION -</p>					DRAWN BY: HGA 04/03/20 DESIGNED BY: HGA 04/03/20 CHECKED BY: MEH 04/03/20 APPROVED BY: HGA 04/03/20 HGA JOB NO. 8.A19015	 <p>www.hga-llc.com One Metroplex Drive, Suite 100 Birmingham, AL 35209 T 205-970-4977 FIRM # AL CA-4334-E</p>	NEXTERA ENERGY WET INTERMEDIATE WATERBODY CROSSING DETAIL LOWMAN PIPELINE PROJECT WASHINGTON & CHOCTAW COUNTIES, ALABAMA		
					B ISSUED 30% RJB 04/24/20 MAL 04/24/20 A ISSUED FOR 30% REVIEW RJB 04/09/20 MAL 04/09/20 REV DESCRIPTION CHK DATE APP DATE		PLOT SCALE: 1:1 MODEL ID:	SCALE: N.T.S. DRAWING NUMBER: 4719-G-WET INT WB X REV: B	

4/22/2020 3:54 PM PRESTON JON

DAM AND PUMP CROSSING



PLAN

NOT TO SCALE

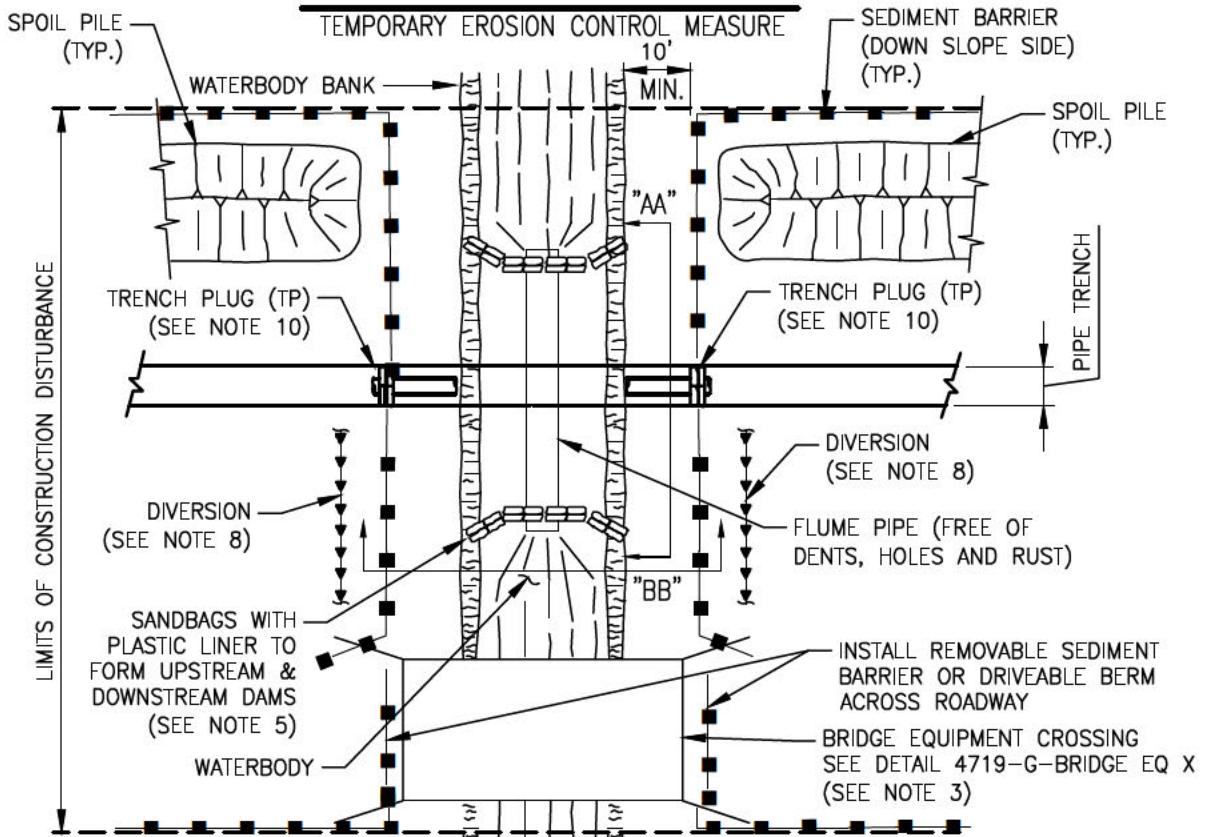
NOTES:

1. SEDIMENT BARRIERS SHALL BE INSTALLED AS DEPICTED AND ALONG DOWN GRADIENT SIDES OF WORK AREAS AND STAGING AREAS SUCH THAT NO HEAVY SILT LADEN WATER ENTERS THE WATERBODY OR LEAVES THE CONSTRUCTION RIGHT-OF-WAY.
2. HARD DITCH PLUGS MUST REMAIN IN PLACE AT CONVENIENT LOCATIONS TO SEPARATE MAINLINE DITCH FROM THE WATERBODY CROSSING UNTIL THE WATERBODY CROSSING IS INSTALLED AND BACKFILLED.
3. EQUIPMENT OPERATING IN THE WATERBODY SHALL BE LIMITED TO THAT NEEDED TO PERFORM CONSTRUCTION. IF OTHER TYPES OF EQUIPMENT MUST CROSS THE WATERBODY, CONTRACTOR SHALL PROVIDE AND USE A BRIDGE EQUIPMENT CROSSING (4719-G-BRIDGE EQ X).
4. STAGING AREA(S) FOR WATERBODY CROSSING(S), WHEN REQUIRED, SHALL BE LOCATED AT LEAST 50 FEET FROM WATER'S EDGE AND SHALL BE OF A MINIMUM SIZE NEEDED FOR CONVENIENT PREPARATION.
5. IMPLEMENTATION OF THE DAM-AND-PUMP CROSSING METHOD MUST MEET THE FOLLOWING PERFORMANCE CRITERIA:
 - (A) USE SUFFICIENT PUMPS, INCLUDING ON-SITE BACKUP PUMPS, TO MAINTAIN DOWNSTREAM FLOWS.
 - (B) CONSTRUCT DAMS WITH MATERIALS THAT PREVENT SEDIMENT AND OTHER POLLUTANTS FROM ENTERING THE WATERBODY (E.G., SANDBAGS OR CLEAN GRAVEL WITH PLASTIC LINER).
 - (C) SCREEN PUMP INTAKES;
 - (D) PREVENT STREAMBED SCOUR AT PUMP DISCHARGE.
 - (E) MONITOR THE DAM AND PUMPS TO ENSURE PROPER OPERATION THROUGHOUT THE WATERBODY CROSSING.
6. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED DAILY AND REPAIRED IF NECESSARY.
7. INSTALL DIVERSION TRENCHES AT THE BASE OF ALL SLOPES ADJACENT TO THE WATERBODY.
8. CHEMICALS, FUELS AND LUBRICATING OILS SHALL NOT BE STORED AND EQUIPMENT SHALL NOT BE REFUELED WITHIN 100 FEET OF THE WATERBODY.
9. INSTALL TRENCH PLUGS ON BOTH SIDES OF THE WATERBODY TO PREVENT DIVERSION OF WATER INTO UPLAND PORTIONS OF THE PIPELINE TRENCH AND TO KEEP ANY ACCUMULATED TRENCH WATER OUT OF THE WATERBODY.
10. CONTRACTOR SHALL POSTPONE GRADING OF RIGHT-OF-WAY ADJACENT TO WATERBODY UNTIL STAGING AREA IS PREPARED AND WORK IN THE WATERBODY IS READY TO COMMENCE.

<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <p style="margin: 0;">ISSUED 30%</p> <p style="margin: 0;">DATE: <u>04/24/2020</u></p> <p style="margin: 0;">- NOT FOR CONSTRUCTION -</p> </div>											<p style="font-size: small; margin-top: 5px;">www.hga-llc.com One Metroplex Drive, Suite 100 Birmingham, AL 35209 T 205-970-4977 FIRM # AL CA-4334-E</p>	<p style="margin: 0;">NEXTERA ENERGY</p> <p style="margin: 0;">DAM AND PUMP CROSSING DETAIL</p> <p style="margin: 0;">LOWMAN PIPELINE PROJECT</p> <p style="margin: 0;">WASHINGTON & CHOCTAW COUNTIES, ALABAMA</p>
B	ISSUED 30%	RJB	04/24/20	MAL	04/24/20	PLOT SCALE	1:1					
A	ISSUED FOR 30% REVIEW	RJB	04/09/20	MAL	04/09/20	MODEL ID						
REV	DESCRIPTION	CHK	DATE	APP	DATE							
		SCALE	DRAWING NUMBER		REV							
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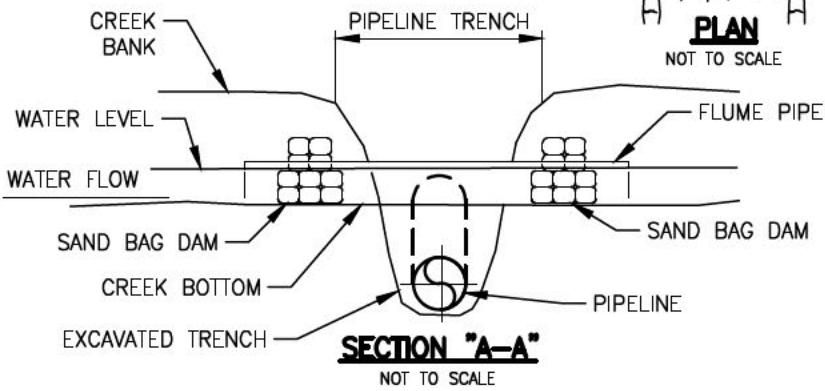
4/22/2020 3:42 PM PRESTON, JON

FLUME CROSSING



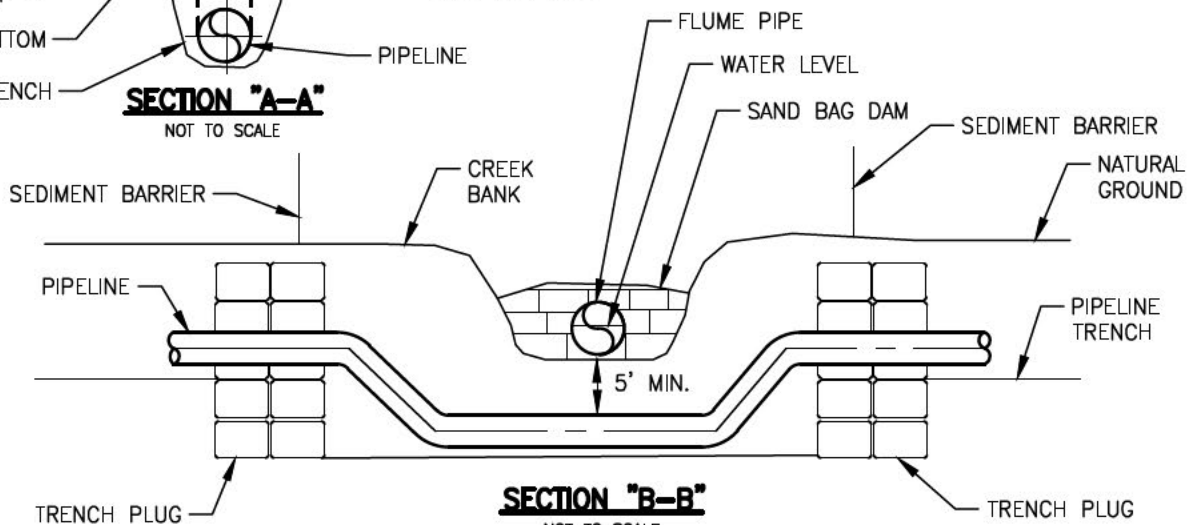
PLAN

NOT TO SCALE



SECTION "A-A"

NOT TO SCALE



SECTION "B-B"

NOT TO SCALE

ISSUED 30%

DATE: 04/22/2020

- NOT FOR CONSTRUCTION -

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DESIGNED BY	HGA	04/21/20
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APPROVED BY	HGA	04/22/20
HGA JOB NO.	8.A19015	
PLOT SCALE	1:1	
MODEL ID		



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NEXTERA ENERGY
FLUME CROSSING DETAIL
LOWMAN PIPELINE PROJECT
WASHINGTON & CHOCTAW COUNTIES, ALABAMA

SCALE	DRAWING NUMBER	REV
N.T.S.	4719-G-FLUME X-1	A

A	ISSUED FOR 30% REVIEW	RJB	04/22/20	MAL	04/22/20
REV	DESCRIPTION	CHK	DATE	APP	DATE

4/22/2020 4:40 PM
BENZ, ROGER

FLUME CROSSING

TEMPORARY EROSION CONTROL MEASURE

NOTES:

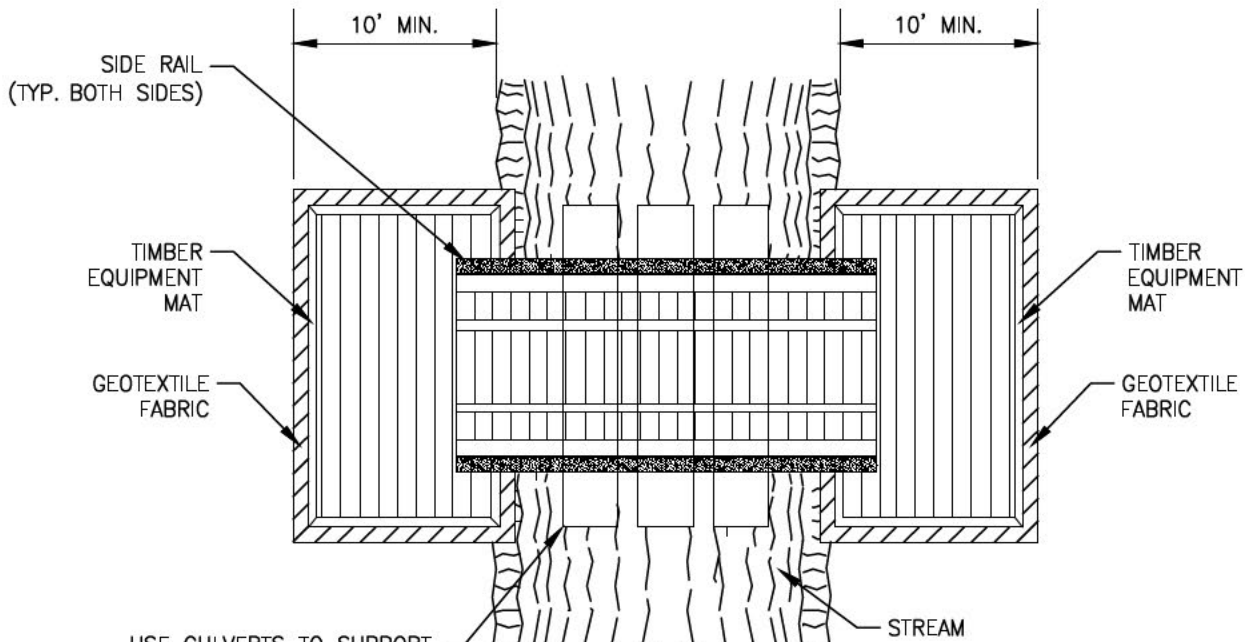
1. SEDIMENT BARRIERS SHALL BE INSTALLED AS DEPICTED AND ALONG DOWN GRADIENT SIDES OF WORK AREAS AND STAGING AREAS SUCH THAT NO HEAVY SILT LADEN WATER ENTERS THE WATERBODY OR LEAVES THE CONSTRUCTION RIGHT-OF-WAY.
2. HARD DITCH PLUGS MUST REMAIN IN PLACE AT CONVENIENT LOCATIONS TO SEPARATE MAINLINE DITCH FROM THE WATERBODY CROSSING UNTIL THE WATERBODY CROSSING IS INSTALLED AND BACKFILLED.
3. EQUIPMENT OPERATING IN THE WATERBODY SHALL BE LIMITED TO THAT NEEDED TO PERFORM CONSTRUCTION. IF OTHER TYPES OF EQUIPMENT MUST CROSS THE WATERBODY, CONTRACTOR SHALL PROVIDE AND USE A BRIDGE EQUIPMENT CROSSING (4719-G-BRIDGE EQ X).
4. STAGING AREA(S) FOR WATERBODY CROSSING(S), WHEN REQUIRED, SHALL BE LOCATED AT LEAST 50 FEET FROM WATER'S EDGE AND SHALL BE OF A MINIMUM SIZE NEEDED FOR CONVENIENT PREPARATION.
5. FLUME CROSSING METHOD REQUIREMENTS INCLUDE:
 - (A) INSTALL FLUME PIPE(S) AFTER BLASTING (IF NECESSARY), BUT BEFORE ANY TRENCHING.
 - (B) USE SAND BAG OR SAND BAG AND PLASTIC SHEETING DIVERSION STRUCTURE OR EQUIVALENT TO DEVELOP AN EFFECTIVE SEAL AND TO DIVERT STREAM FLOW THROUGH THE FLUME PIPE (SOME MODIFICATIONS TO THE STREAM BOTTOM MAY BE REQUIRED TO ACHIEVE AN EFFECTIVE SEAL).
 - (C) PROPERLY ALIGN FLUME PIPE(S) TO PREVENT BANK EROSION AND STREAM BED SCOUR.
 - (D) DO NOT REMOVE FLUME PIPE DURING TRENCHING, PIPE LAYING OR BACKFILLING ACTIVITIES, OR INITIAL STREAM BED RESTORATION EFFORTS.
 - (E) REMOVE ALL FLUME PIPES AND DAMS THAT ARE NOT ALSO PART OF THE EQUIPMENT BRIDGE AS SOON AS FINAL CLEANUP OF THE STREAM BED AND BANK IS COMPLETE.
6. THE FLUME PIPE MUST BE SIZED TO PREVENT IMPEDIMENT OF THE UPSTREAM FLOW AND TO MAINTAIN ADEQUATE FLOW RATES TO PROTECT AQUATIC LIFE, AND PREVENT THE INTERRUPTION OF EXISTING DOWNSTREAM USES.
7. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED DAILY AND REPAIRED IF NECESSARY.
8. INSTALL DIVERSION TRENCHES AT THE BASE OF ALL SLOPES ADJACENT TO THE WATERBODY.
9. CHEMICALS, FUELS AND LUBRICATING OILS SHALL NOT BE STORED AND EQUIPMENT SHALL NOT BE REFUELED WITHIN 100 FEET OF THE WATERBODY.
10. INSTALL TRENCH PLUGS ON BOTH SIDES OF THE WATERBODY TO PREVENT DIVERSION OF WATER INTO UPLAND PORTIONS OF THE PIPELINE TRENCH AND TO KEEP ANY ACCUMULATED TRENCH WATER OUT OF THE WATERBODY.
11. CONTRACTOR SHALL POSTPONE GRADING OF RIGHT-OF-WAY ADJACENT TO WATERBODY UNTIL STAGING AREA IS PREPARED AND WORK IN THE WATERBODY IS READY TO COMMENCE.

<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <p>ISSUED 30%</p> <p>DATE: <u>04/22/2020</u></p> <p>- NOT FOR CONSTRUCTION -</p> </div>					DRAWN BY HGA 04/21/20		NEXTERA ENERGY FLUME CROSSING DETAIL LOWMAN PIPELINE PROJECT WASHINGTON & CHOCTAW COUNTIES, ALABAMA			
					DESIGNED BY HGA 04/21/20		www.hga-llc.com One Metroplex Drive, Suite 100 Birmingham, AL 35209 T 205-970-4977 FIRM # AL CA-4334-E	SCALE	DRAWING NUMBER	REV
					CHECKED BY MEH 04/22/20			N.T.S.	4719-G-FLUME X-2	A
					APPROVED BY HGA 04/22/20					
					HGA JOB NO. 8.A19015					
					PLOT SCALE 1:1					
A	ISSUED FOR 30% REVIEW	RJB	04/22/20	MAL	04/22/20					
REV	DESCRIPTION	CHK	DATE	APP	DATE					

4/22/2020 3:18 PM PRESTON, JON

BRIDGE EQUIPMENT CROSSING

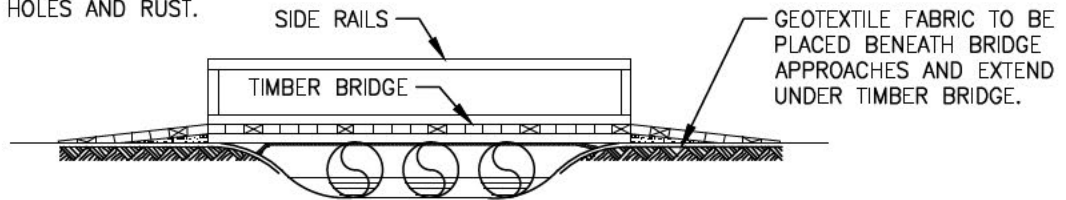
TEMPORARY EROSION CONTROL MEASURE
UNLESS OTHERWISE INDICATED ON PLAN, CROSSING SHALL
BE REMOVED AFTER CONSTRUCTION IS COMPLETED.



PLAN

NOT TO SCALE

USE CULVERTS TO SUPPORT
TIMBER BRIDGE. CULVERT TO
CONSIST OF CLEAN USED PIPE
FREE OF DENTS, HOLES AND RUST.



PROFILE

NOT TO SCALE

NOTES:

1. TIMBER BRIDGES SHALL BE ADEQUATELY ANCHORED AT BOTH ENDS.
2. PERIODICALLY CHECK BRIDGE INSTALLATION AND REMOVE BUILD-UP OF SEDIMENT OR DEBRIS ON BRIDGE.
3. BRIDGE APPROACHES SHALL BE TIMBER EQUIPMENT MATS.
4. MATERIALS PLACED ALONG STREAM CHANNEL SHALL BE COMPLETELY REMOVED DURING FINAL CLEAN-UP. REMOVAL OF THIS STRUCTURE IS NOT CONTINGENT UPON ESTABLISHMENT OF PERMANENT VEGETATION.
5. CULVERTS SHALL BE USED TO SUPPORT THE TIMBER BRIDGE TO PREVENT SETTLEMENT OF THE BRIDGE, IF THE GEOMETRY OF THE STREAM ALLOWS FOR SUCH INSTALLATION. THE TIMBER BRIDGE AND GEOTEXTILE FABRIC SHALL REMAIN ABOVE THE WATER SURFACE ELEVATION AT ALL TIMES.
6. SIDE RAILS SHALL BE INSTALLED ON BOTH SIDES OF THE BRIDGE EQUIPMENT CROSSING IN ORDER TO PREVENT SEDIMENT FROM ENTERING THE WATERBODY. SIDE RAILS TO BE CONSTRUCTED OF PLYWOOD NAILED TO THE OUTER EDGES OF THE TIMBER EQUIPMENT MATS.
7. TIMBER EQUIPMENT MATS SHALL EXTEND A MINIMUM OF 10 FEET OUTSIDE OF THE WATERBODY OR WETLAND BOUNDARIES.
8. WHERE CONSTRUCTION ROADWAY SLOPES TOWARD STREAM, A DIVERSION TERRACE SHALL BE INSTALLED TO PREVENT RUNOFF FROM ENTERING EQUIPMENT CROSSING. DIVERSION TERRACE SHALL BE NOT LESS THAT 50 FEET FROM WATERBODY BANK TOP.

ISSUED 30%

DATE: 04/24/2020

- NOT FOR CONSTRUCTION -

DRAWN BY	HGA	04/03/20
DESIGNED BY	HGA	04/03/20
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NEXTERA ENERGY
BRIDGE EQUIPMENT CROSSING DETAIL
LOWMAN PIPELINE PROJECT
WASHINGTON & CHOCTAW COUNTIES, ALABAMA

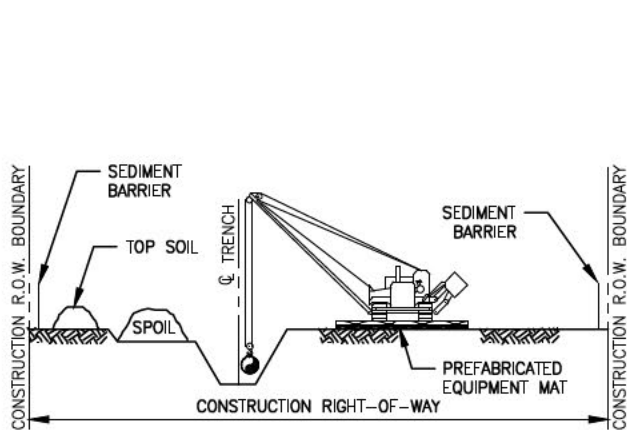
B	ISSUED 30%	RJB	04/24/20	MAL	04/24/20
A	ISSUED FOR 30% REVIEW	RJB	04/09/20	MAL	04/09/20
REV	DESCRIPTION	CHK	DATE	APP	DATE

SCALE	DRAWING NUMBER	REV
N.T.S.	4719-G-BR DGE EQ X	B

4/22/2020 3:40 PM
PRESTON, JON

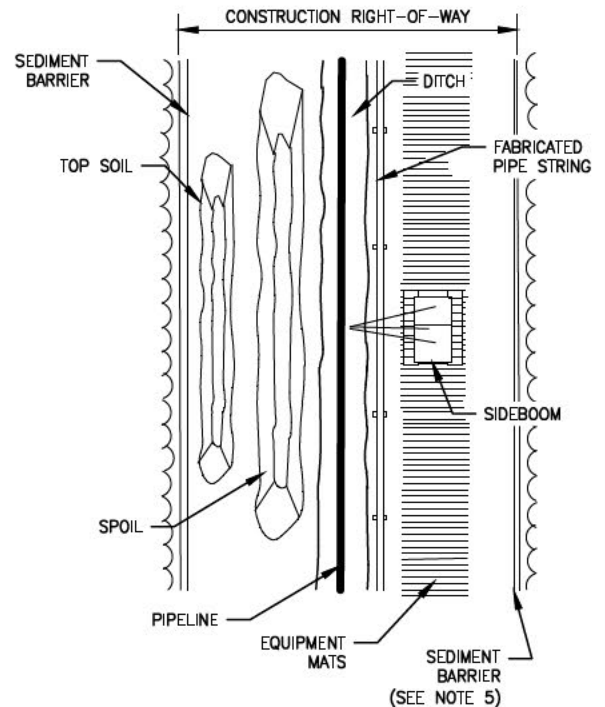
TYPE I "DRY WETLAND" CROSSING

TEMPORARY EROSION CONTROL MEASURE



CROSS SECTION

NOT TO SCALE




PLAN VIEW

NOT TO SCALE

CONSTRUCTION PROCEDURE NOTES:

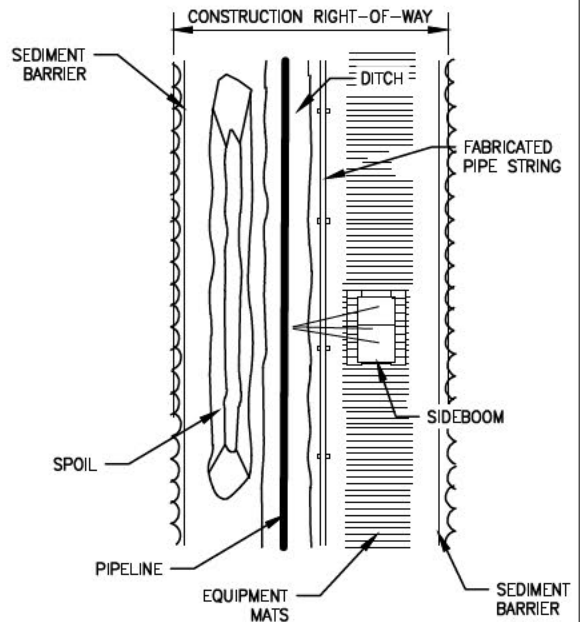
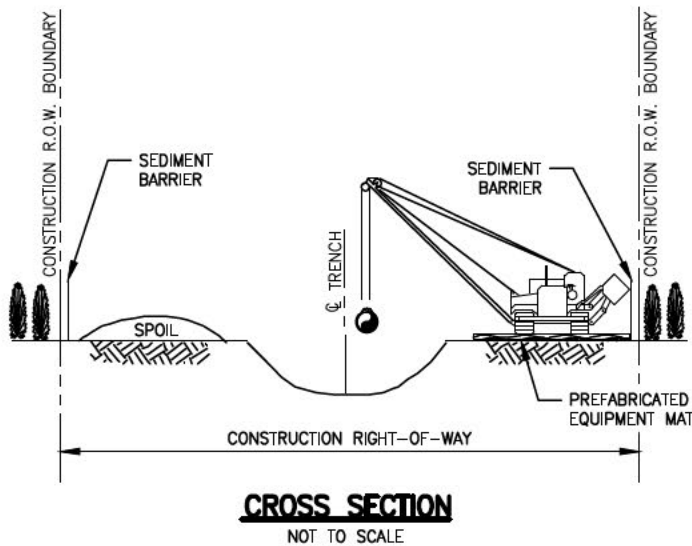
1. FLAG WETLAND BOUNDARIES AND INSTALL BOUNDARY SIGNS PRIOR TO CLEARING.
2. NO OVERNIGHT PARKING OR REFUELING OF MOBILE EQUIPMENT IS ALLOWED WITHIN 100 FEET OF WETLAND. PLACE "NO FUELING" SIGN POSTS 100 FEET BACK FROM WETLAND BOUNDARY. REFUEL STATIONARY EQUIPMENT AS PER SPCC PLAN.
3. INSTALL TEMPORARY SLOPE BREAKERS UPSLOPE OF WETLAND BOUNDARIES AS SHOWN ON DRAWINGS AND SPECIFICATIONS.
4. INSTALL PREFABRICATED EQUIPMENT MATS THROUGH ENTIRE WETLAND AREA ON THE WORKING SIDE OF THE CONSTRUCTION CORRIDOR.
5. AVOID ADJACENT WETLANDS. INSTALL SEDIMENT BARRIERS AT OUTER BOUNDARIES OF THE WETLAND. INSTALL SEDIMENT BARRIERS ALONG THE EDGE OF THE SPOIL SIDE OF THE CONSTRUCTION CORRIDOR THROUGH THE WETLAND AND ALONG THE DOWN SLOPE EDGE OF THE WETLAND. IF THE DOWN SLOPE EDGE OF THE WETLAND IS THE SPOIL SIDE, THEN SEDIMENT BARRIERS ARE NOT REQUIRED ON THE WORKING SIDE OF THE CORRIDOR UNLESS EQUIPMENT TRAVERSING THROUGH THE WETLAND CAUSES SPOIL AND SEDIMENT TO EXIT THE CONSTRUCTION CORRIDOR.
6. LIMIT PULLING OF TREE STUMPS AND GRADING ACTIVITIES TO DIRECTLY OVER THE TRENCH LINE. DO NOT GRADE OR REMOVE STUMPS OR ROOT SYSTEMS FROM THE REST OF THE RIGHT-OF-WAY IN WETLANDS UNLESS THE CHIEF INSPECTOR AND COMPANY ENVIRONMENTAL INSPECTOR DETERMINE THAT SAFETY-RELATED CONSTRUCTION CONSTRAINTS REQUIRE REMOVAL OF TREE STUMPS FROM UNDER THE WORKING SIDE OF THE RIGHT-OF-WAY.
7. CONDUCT TRENCH LINE TOPSOIL STRIPPING (IF TOPSOIL IS NOT SATURATED). SALVAGE TOPSOIL TO ACTUAL DEPTH OR A MAXIMUM DEPTH OF 12 INCHES, AS DETERMINED BY THE COMPANY ENVIRONMENTAL INSPECTOR. SEGREGATED TOPSOIL PILE MAY BE LOCATED ON SPOIL SIDE, AS REQUIRED.
8. LEAVE HARD PLUGS AT THE EDGES OF WETLAND UNTIL JUST PRIOR TO TRENCHING.
9. TRENCHING THROUGH WETLANDS MAY PROCEED WHEN THE PIPE SECTION IS FABRICATED AND READY TO LAY. ONCE TRENCHING COMMENCES, CONSTRUCTION THROUGH THE WETLAND IS TO PROCEED CONTINUOUSLY UNTIL THE CROSSING IS COMPLETED, BACKFILLED AND RESTORED IN ORDER TO MINIMIZE THE LENGTH OF TIME THE TRENCH IS OPEN.
10. PIPE SECTION MAY BE FABRICATED WITHIN THE WETLAND ADJACENT TO PIPE TRENCH, OR IN STAGING AREA OUTSIDE THE WETLAND AND WALKED IN. NO CONCRETE COATING ACTIVITY WITHIN 100 FEET OF WETLAND BOUNDARY UNLESS APPROVED BY COMPANY ENVIRONMENTAL INSPECTOR.
11. LOWER-IN PIPE. PRIOR TO BACK FILLING TRENCH, INSTALL TRENCH PLUGS IN ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS.
12. RESTORE GRADE TO NEAR PRE-CONSTRUCTION TOPOGRAPHY, REPLACE TOPSOIL AND INSTALL PERMANENT EROSION CONTROL.
13. REMOVE PREFABRICATED MATS FROM WETLANDS UPON COMPLETION.
14. SEED DISTURBED WETLANDS AREA AS DETERMINED BY THE ENVIRONMENTAL INSPECTOR AND AS SHOWN ON DRAWINGS.

ISSUED 30%					DRAWN BY: HGA 04/03/20 DESIGNED BY: HGA 04/03/20 CHECKED BY: MEH 04/03/20 APPROVED BY: HGA 04/03/20 HGA JOB NO. 8.A19015	 <small>www.hga-llc.com One Metroplex Drive, Suite 100 Birmingham, AL 35209 T 205-970-4977 FIRM # AL CA-4334-E</small>	NEXTERA ENERGY TYPE I "DRY WETLAND" CROSSING DETAIL LOWMAN PIPELINE PROJECT WASHINGTON & CHOCTAW COUNTIES, ALABAMA		
DATE: <u>04/24/2020</u> - NOT FOR CONSTRUCTION -					PLOT SCALE: 1:1 MODEL ID:		SCALE: N.T.S. DRAWING NUMBER: 4719-G-DRY WETLAND X REV: B		
B	ISSUED 30%	RJB	04/24/20	MAL	04/24/20				
A	ISSUED FOR 30% REVIEW	RJB	04/09/20	MAL	04/09/20				
REV	DESCRIPTION	CHK	DATE	APP	DATE				

4/22/2020 3:45 PM PRESTON JON


TYPE I "SATURATED WETLAND" CROSSING

TEMPORARY EROSION CONTROL MEASURE



CONSTRUCTION PROCEDURE NOTES:

1. FLAG WETLAND BOUNDARIES AND INSTALL BOUNDARY SIGNS PRIOR TO CLEARING.
2. NO OVERNIGHT PARKING OR REFUELING OF MOBILE EQUIPMENT IS ALLOWED WITHIN 100 FEET OF WETLAND. PLACE "NO FUELING" SIGN POSTS 100 FEET BACK FROM WETLAND BOUNDARY. REFUEL STATIONARY EQUIPMENT AS PER SPCC PLAN.
3. INSTALL TEMPORARY SLOPE BREAKERS UPSLOPE OF WETLAND BOUNDARIES AS SHOWN ON DRAWINGS AND SPECIFICATIONS.
4. INSTALL PREFABRICATED EQUIPMENT MATS THROUGH ENTIRE WETLAND AREA ON THE WORKING SIDE OF THE CONSTRUCTION CORRIDOR.
5. AVOID ADJACENT WETLANDS. INSTALL SEDIMENT BARRIERS AT OUTER BOUNDARIES OF WETLAND AND ALONG BOTH WETLAND EDGES.
6. LIMIT PULLING OF TREE STUMPS AND GRADING ACTIVITIES TO DIRECTLY OVER THE TRENCH LINE. DO NOT GRADE OR REMOVE STUMPS OR ROOT SYSTEMS FROM THE REST OF THE RIGHT-OF-WAY IN WETLANDS UNLESS THE CHIEF INSPECTOR AND COMPANY ENVIRONMENTAL INSPECTOR DETERMINE THAT SAFETY-RELATED CONSTRUCTION CONSTRAINTS REQUIRE REMOVAL OF TREE STUMPS FROM UNDER THE WORKING SIDE OF THE RIGHT-OF-WAY.
7. TOPSOIL STRIPPING SHALL NOT BE REQUIRED IN SATURATED SOIL CONDITIONS.
8. LEAVE HARD PLUGS AT THE EDGES OF WETLAND UNTIL JUST PRIOR TO TRENCHING.
9. TRENCHING THROUGH WETLANDS MAY PROCEED WHEN THE PIPE SECTION IS FABRICATED AND READY TO LAY. ONCE TRENCHING COMMENCES, CONSTRUCTION THROUGH THE WETLAND IS TO PROCEED CONTINUOUSLY UNTIL THE CROSSING IS COMPLETED, BACKFILLED AND RESTORED IN ORDER TO MINIMIZE THE LENGTH OF TIME THE TRENCH IS OPEN.
10. PIPE SECTION MAY BE FABRICATED WITHIN THE WETLAND ADJACENT TO PIPE TRENCH, OR IN STAGING AREA OUTSIDE THE WETLAND AND WALKED IN. NO CONCRETE COATING ACTIVITY WITHIN 100 FEET OF WETLAND BOUNDARY UNLESS APPROVED BY COMPANY ENVIRONMENTAL INSPECTOR.
11. LOWER-IN PIPE. PRIOR TO BACK FILLING TRENCH, INSTALL TRENCH PLUGS IN ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS.
12. RESTORE GRADE TO NEAR PRE-CONSTRUCTION TOPOGRAPHY AND INSTALL PERMANENT EROSION CONTROL.
13. REMOVE PREFABRICATED MATS FROM WETLANDS UPON COMPLETION.
14. SEED DISTURBED WETLANDS AREA AS DETERMINED BY THE ENVIRONMENTAL INSPECTOR AND AS SHOWN ON DRAWINGS.

<p style="text-align: center;">ISSUED 30% DATE: <u>04/22/2020</u> - NOT FOR CONSTRUCTION -</p>					<p>DRAWN BY: HGA 04/21/20 DESIGNED BY: HGA 04/21/20 CHECKED BY: MEH 04/22/20 APPROVED BY: HGA 04/22/20 HGA JOB NO. 8.A19015 PLOT SCALE 1:1</p>			 www.hga-llc.com One Metroplex Drive, Suite 100 Birmingham, AL 35209 T 205-970-4977 FIRM # AL CA-4334-E			<p style="text-align: center;">NEXTERA ENERGY TYPE I "SATURATED WETLAND" CROSSING DETAIL LOWMAN PIPELINE PROJECT WASHINGTON & CHOCTAW COUNTIES, ALABAMA</p>		
A	ISSUED FOR 30% REVIEW	RJB	04/22/20	MAL	04/22/20	MODEL ID	SCALE				DRAWING NUMBER	REV	
REV	DESCRIPTION	CHK	DATE	APP	DATE		N.T.S.	4719-G-SATURATED WETLAND X	A				

4/22/2020 3:21 PM PRESTON JON

Attachment 8

Wetland and Waterbody Impacts Table

Attachment 8b Waterbodies Impacts Table
Lowman Pipeline Project
NextEra Energy Pipeline Holdings (Lowman), Inc.

S1289	0.00	Ephemeral	(b)(7)f	Unnamed Trib. to Long Creek	Open Cut	60	2.5	0.003	Non-PCN	Crossing distance >500-ft.	1
S2047	0.31	Perennial		Unnamed Trib. to Long Creek	Open Cut	105	3.5	0.008	Non-PCN		2
S2049	0.36	Intermittent		Unnamed Trib. to Long Creek	Open Cut	92	2	0.004	Non-PCN		2
S2050	0.41	Ephemeral		Unnamed Trib. to Long Creek	Open Cut	142	1.5	0.005	Non-PCN		2
S2119	0.52	Ephemeral		Unnamed Trib. to Long Creek	Open Cut	40	1	0.001	Non-PCN		2
S2057	0.85	Intermittent		Unnamed Trib. to Long Creek	Open Cut	134	2	0.006	Non-PCN		3
S2056	0.98	Perennial		Unnamed Trib. to Long Creek	Open Cut	95	4	0.009	Non-PCN		3
S2058	1.61	Perennial		Unnamed Trib. to Long Creek	Open Cut	94	4	0.009	Non-PCN		4
S2059	1.72	Ephemeral		Unnamed Trib. to Long Creek	Open Cut	99	2	0.005	Non-PCN		5
S2111	2.35	Intermittent		Unnamed Trib. to Church Branch	Open Cut	96	2	0.004	Non-PCN		6
S2112	2.49	Intermittent		Church Branch	Open Cut	77	2	0.004	Non-PCN		6
S2190	3.99	Intermittent		Unnamed Trib. to Bogueloosa Creek	Open Cut	332	2.5	0.019	Non-PCN		9
S2189	4.05	Perennial		Unnamed Trib. to Bogueloosa Creek	Open Cut	312	2.5	0.018	Non-PCN		10
S1287	4.10	Ephemeral		Unnamed Trib. to Bogueloosa Creek	Open Cut	42	2	0.002	Non-PCN		10
P1008	4.18	Pond		Unnamed Pond	Open Cut	N/A		0.265	Non-PCN		10
S2188	4.21	Intermittent		Unnamed Trib. to Bogueloosa Creek	Open Cut	137	1.5	0.005	Non-PCN		10
S2187	4.23	Intermittent		Unnamed Trib. to Bogueloosa Creek	Open Cut	94	1.5	0.003	Non-PCN		10
S2184	4.45	Perennial		Unnamed Trib. to Bogueloosa Creek	Open Cut	856	2.5	0.049	PCN		11
P2101	4.58	Pond		Unnamed Pond	Open Cut	N/A		0.403	Non-PCN		11
S2183	4.58	Perennial		Unnamed Trib. to Bogueloosa Creek	Open Cut	32	3	0.002	Non-PCN		11
S2182	4.85	Intermittent		Unnamed Trib. to Church Branch	Open Cut	171	1.5	0.006	Non-PCN		12
S2181	4.92	Perennial		Church Branch	Open Cut	109	7	0.117	Non-PCN		12
S2180	4.93	Ephemeral		Unnamed Trib. to Church Branch	Open Cut	113	2	0.005	Non-PCN		12
S2179	5.00	Perennial	Unnamed Trib. to Church Branch	Open Cut	101	1.5	0.003	Non-PCN	12		
S2178	5.11	Perennial	Unnamed Trib. to Church Branch	Open Cut	90	2.5	0.005	Non-PCN	12		
S2177	5.43	Perennial	Unnamed Trib. to Bogueloosa Creek	Open Cut	371	5	0.043	Non-PCN	13		
S1285	5.43	Intermittent	Unnamed Trib. to Bogueloosa Creek	Open Cut	31	1.5	0.001	Non-PCN	13		
S2175	5.63	Perennial	Unnamed Trib. to Bogueloosa Creek	Open Cut	221	2.5	0.013	Non-PCN	13		
S2173	5.77	Perennial	Unnamed Trib. to Bogueloosa Creek	Open Cut	85	5	0.010	Non-PCN	14		
S2174	5.78	Intermittent	Unnamed Trib. to Bogueloosa Creek	Open Cut	70	1.5	0.002	Non-PCN	14		
S2172	5.87	Intermittent	Unnamed Trib. to Bogueloosa Creek	Open Cut	58	2	0.003	Non-PCN	14		
S2196	6.43	Perennial	Unnamed Trib. to Bogueloosa Creek	Open Cut	101	5	0.012	Non-PCN	15		
S1280	6.99	Ephemeral	Unnamed Trib. to Bogueloosa Creek	Open Cut	13	3	0.001	Non-PCN	17		
S1279	7.48	Perennial	Unnamed Trib. to Bogueloosa Creek	Open Cut	70	12	0.963	Non-PCN	18		
S1284	7.53	Intermittent	Unnamed Trib. to Bogueloosa Creek	Open Cut	49	3	0.003	Non-PCN	18		
S1274B	7.67	Perennial	Unnamed Trib. to Bogueloosa Creek	Open Cut	70	10	0.032	Non-PCN	19		
S1276	7.90	Ephemeral	Unnamed Trib. to Bogueloosa Creek	Open Cut	163	2.5	0.009	Non-PCN	19		
S1278	8.00	Intermittent	Unnamed Trib. to Bogueloosa Creek	Open Cut	186	15	0.117	Non-PCN	19		
S1273	8.02	Perennial	Unnamed Trib. to Bogueloosa Creek	Open Cut	84	3	0.006	Non-PCN	19		
S1269	8.27	Ephemeral	Unnamed Trib. to Bogueloosa Creek	Open Cut	61	1.5	0.002	Non-PCN	20		
S1288	8.66	Perennial	Unnamed Trib. to Bogueloosa Creek	Open Cut	117	4	0.011	Non-PCN	20		
S1270	8.92	Perennial	Buck Creek	Open Cut	140	20	0.278	Non-PCN	21		
S1271	9.20	Perennial	Unnamed Trib. to Bogueloosa Creek	Open Cut	76	5	0.009	Non-PCN	22		
S2214	9.57	Perennial	Unnamed Trib. to Rock Branch	Open Cut	260	2	0.012	Non-PCN	22		
S2213	9.63	Intermittent	Unnamed Trib. to Rock Branch	Open Cut	14	2	0.001	Non-PCN	23		

Attachment 8b Waterbodies Impacts Table
Lowman Pipeline Project
NextEra Energy Pipeline Holdings (Lowman), Inc.

S2211	9.65	Ephemeral	(b)(7)f	Unnamed Trib. to Rock Branch	Open Cut	110	2	0.005	Non-PCN	23
S2210	9.74	Intermittent		Unnamed Trib. to Rock Branch	Open Cut	92	2	0.004	Non-PCN	23
S1312	9.86	Intermittent		Unnamed Trib. to Rock Branch	Open Cut	119	2	0.005	Non-PCN	23
S2200	9.96	Perennial		Unnamed Trib. to Rock Branch	Open Cut	93	3	0.006	Non-PCN	23
S2201	9.98	Perennial		Rock Branch	Open Cut	123	10	0.149	Non-PCN	23
S2208	10.39	Perennial		Unnamed Trib. to Rock Branch	Open Cut	90	1.5	0.003	Non-PCN	24
S2209	10.39	Intermittent		Unnamed Trib. to Rock Branch	Open Cut	15	1.5	0.001	Non-PCN	24
S2145	10.56	Ephemeral		Unnamed Trib. to Bogueloosa Creek	Open Cut	10	1	0.000	Non-PCN	25
S2144	10.70	Ephemeral		Unnamed Trib. to Bogueloosa Creek	Open Cut	171	1	0.004	Non-PCN	25
S2143	10.71	Intermittent		Unnamed Trib. to Bogueloosa Creek	Open Cut	105	2	0.005	Non-PCN	25
S2140	10.72	Perennial		Unnamed Trib. to Bogueloosa Creek	Open Cut	89	2.5	0.005	Non-PCN	25
S2139	10.87	Intermittent		Unnamed Trib. to Bogueloosa Creek	Open Cut	77	2	0.004	Non-PCN	25
S2138	10.90	Intermittent		Unnamed Trib. to Bogueloosa Creek	Open Cut	143	2	0.007	Non-PCN	25
S2132	10.99	Intermittent		Unnamed Trib. to Bogueloosa Creek	Open Cut	53	1.5	0.002	Non-PCN	26
S2131	10.99	Intermittent		Unnamed Trib. to Bogueloosa Creek	Open Cut	84	3	0.006	Non-PCN	26
S2130	11.12	Intermittent		Unnamed Trib. to Bogueloosa Creek	Open Cut	86	1.5	0.003	Non-PCN	26
S2128	11.23	Intermittent		Unnamed Trib. to Bogueloosa Creek	Open Cut	45	2.5	0.003	Non-PCN	26
S2127	11.26	Intermittent		Unnamed Trib. to Bogueloosa Creek	Open Cut	36	2.5	0.002	Non-PCN	26
S2125	11.56	Ephemeral		Unnamed Trib. to Bogueloosa Creek	Open Cut	47	2.5	0.003	Non-PCN	27
S2124	11.56	Ephemeral		Unnamed Trib. to Bogueloosa Creek	Open Cut	89	2.5	0.005	Non-PCN	27
S1114	12.81	Ephemeral		Unnamed Trib. to Mill Branch	Open Cut	93	1	0.002	Non-PCN	30
S1112	13.03	Intermittent		Unnamed Trib. to Mill Branch	Open Cut	223	3.5	0.018	Non-PCN	30
S1111	13.22	Perennial		Unnamed Trib. to Mill Branch	Open Cut	92	3	0.006	Non-PCN	31
S1110	13.39	Intermittent		Unnamed Trib. to Mill Branch	Open Cut	92	3	0.006	Non-PCN	31
S1109	13.67	Ephemeral		Unnamed Trib. to Golden Horn Branch	Open Cut	34	2	0.002	Non-PCN	32
S1108	13.67	Ephemeral		Unnamed Trib. to Golden Horn Branch	Open Cut	90	4	0.008	Non-PCN	32
S1116	14.22	Perennial		Golden Horn Branch	Open Cut	98	5.5	0.067	Non-PCN	33
S1118	14.41	Intermittent		Unnamed Trib. to Golden Horn Branch	Open Cut	105	2	0.005	Non-PCN	33
S1117	14.46	Intermittent		Unnamed Trib. to Golden Horn Branch	Open Cut	83	2	0.004	Non-PCN	33
S1124	14.46	Intermittent		Unnamed Trib. to Golden Horn Branch	Open Cut	25	2.5	0.001	Non-PCN	33
S1127	14.49	Intermittent		Unnamed Trib. to Golden Horn Branch	Open Cut	87	1.5	0.003	Non-PCN	33
S1121	14.66	Ephemeral		Unnamed Trib. to Golden Horn Branch	Open Cut	26	0.25	0.000	Non-PCN	34
S1120	14.66	Perennial		Unnamed Trib. to Golden Horn Branch	Open Cut	83	2	0.004	Non-PCN	34
S1119	14.78	Intermittent		Unnamed Trib. to Golden Horn Branch	Open Cut	88	1.5	0.003	Non-PCN	34
S1143	14.85	Perennial		Golden Horn Branch	Open Cut	166	6	0.276	Non-PCN	34
S1146	14.88	Intermittent		Unnamed Trib. to Golden Horn Branch	Open Cut	19	2.5	0.001	Non-PCN	34
S1145	14.90	Intermittent		Unnamed Trib. to Golden Horn Branch	Open Cut	92	4	0.008	Non-PCN	34
S1138	14.95	Intermittent		Unnamed Trib. to Golden Horn Branch	Open Cut	105	2	0.005	Non-PCN	35
S1140	14.96	Ephemeral		Unnamed Trib. to Golden Horn Branch	Open Cut	46	1	0.001	Non-PCN	35
S1134	15.08	Perennial		Unnamed Trib. to Golden Horn Branch	Open Cut	113	3	0.008	Non-PCN	35
S1135	15.11	Intermittent		Unnamed Trib. to Golden Horn Branch	Open Cut	93	2	0.004	Non-PCN	35
S1132	15.19	Intermittent		Unnamed Trib. to Golden Horn Branch	Open Cut	111	3	0.008	Non-PCN	35
S1131	15.29	Intermittent		Unnamed Trib. to Golden Horn Branch	Open Cut	62	1.5	0.002	Non-PCN	35
S1130	15.30	Intermittent		Unnamed Trib. to Golden Horn Branch	Open Cut	93	3	0.006	Non-PCN	35
S1129	15.38	Intermittent		Unnamed Trib. to Golden Horn Branch	Open Cut	121	2	0.006	Non-PCN	35
S1128	15.40	Ephemeral	Unnamed Trib. to Golden Horn Branch	Open Cut	101	3.5	0.008	Non-PCN	36	
S2123	15.57	Intermittent	Unnamed Trib. to Golden Horn Branch	Open Cut	80	2.5	0.005	Non-PCN	36	

Attachment 8b Waterbodies Impacts Table
Lowman Pipeline Project
NextEra Energy Pipeline Holdings (Lowman), Inc.

S2122	15.72	Intermittent	(b)(7)f	Unnamed Trib. to Golden Horn Branch	Open Cut	160	1.5	0.005	Non-PCN	36
S2121	15.85	Intermittent		Unnamed Trib. to Golden Horn Branch	Open Cut	123	3	0.008	Non-PCN	37
S2116	16.29	Perennial		Golden Horn Branch	Open Cut	272	8	0.295	Non-PCN	38
S2108	17.64	Intermittent		Unnamed Trib. to Okatuppa Creek	Open Cut	145	5	0.017	Non-PCN	41
S2110	17.65	Intermittent		Unnamed Trib. to Okatuppa Creek	Open Cut	76	3.5	0.006	Non-PCN	41
S1266	18.16	Perennial		Unnamed Trib. to Souwilpa Creek	Open Cut	123	4.5	0.013	Non-PCN	42
S2086	18.29	Perennial		Unnamed Trib. to Souwilpa Creek	Open Cut	121	4	0.011	Non-PCN	42
S2084	18.54	Ephemeral		Unnamed Trib. to Souwilpa Creek	Open Cut	41	1.5	0.001	Non-PCN	43
S2083	18.55	Perennial		Unnamed Trib. to Souwilpa Creek	Open Cut	119	6	0.016	Non-PCN	43
S2087	18.72	Ephemeral		Unnamed Trib. to Souwilpa Creek	Open Cut	60	2	0.003	Non-PCN	43
S2155	18.92	Perennial		Unnamed Trib. to Souwilpa Creek	Open Cut	101	2	0.005	Non-PCN	44
S2158	19.07	Ephemeral		Unnamed Trib. to Souwilpa Creek	Open Cut	89	2	0.004	Non-PCN	44
S2091	19.17	Perennial		Souwilpa Creek	Open Cut	30	62	1.516	Non-PCN	44
S2092	19.42	Intermittent		Unnamed Trib. to Souwilpa Creek	Open Cut	3	1.5	0.000	Non-PCN	45
S2093	19.43	Ephemeral		Unnamed Trib. to Souwilpa Creek	Open Cut	40	1	0.001	Non-PCN	45
S2094	19.46	Ephemeral		Unnamed Trib. to Souwilpa Creek	Open Cut	99	1	0.002	Non-PCN	45
S2096	19.58	Ephemeral		Unnamed Trib. to Souwilpa Creek	Open Cut	106	2.5	0.006	Non-PCN	45
S2097	19.58	Ephemeral		Unnamed Trib. to Souwilpa Creek	Open Cut	39	2.5	0.002	Non-PCN	45
S2095	19.62	Ephemeral		Unnamed Trib. to Souwilpa Creek	Open Cut	28	2.5	0.002	Non-PCN	45
S2098	19.67	Intermittent		Unnamed Trib. to Souwilpa Creek	Open Cut	93	2.5	0.005	Non-PCN	45
S2100	19.82	Perennial		Unnamed Trib. to Souwilpa Creek	Open Cut	214	4	0.020	Non-PCN	46
S2106	20.06	Intermittent		Unnamed Trib. to McNish Branch	Open Cut	87	3	0.006	Non-PCN	46
S2107	20.13	Intermittent		Unnamed Trib. to McNish Branch	Open Cut	161	2.5	0.009	Non-PCN	46
S1106B	20.40	Intermittent		Unnamed Trib. to McNish Branch	Open Cut	155	3	0.011	Non-PCN	47
S1106	20.44	Intermittent		Unnamed Trib. to McNish Branch	Open Cut	6	3	0.000	Non-PCN	47
S1103	20.64	Perennial		Unnamed Trib. to McNish Branch	Open Cut	81	3.5	0.007	Non-PCN	48
S2082B	20.97	Perennial		Unnamed Trib. to McNish Branch	Open Cut	80	5	0.009	Non-PCN	48
S2082	20.97	Perennial		Unnamed Trib. to McNish Branch	Open Cut	77	5	0.009	Non-PCN	48
S2081	21.01	Intermittent		Unnamed Trib. to McNish Branch	Open Cut	72	3	0.005	Non-PCN	48
S2080	21.04	Ephemeral		Unnamed Trib. to McNish Branch	Open Cut	83	2	0.004	Non-PCN	48
S2079	21.17	Intermittent		Unnamed Trib. to McNish Branch	Open Cut	79	2	0.004	Non-PCN	49
S2077	21.35	Intermittent		Unnamed Trib. to McNish Branch	Open Cut	96	2.5	0.006	Non-PCN	49
S1090	21.86	Intermittent		Unnamed Trib. to Black Creek	Open Cut	231	2.25	0.012	Non-PCN	50
S1160	21.93	Intermittent		Unnamed Trib. to Black Creek	Open Cut	86	1	0.002	Non-PCN	50
S1068	22.66	Ephemeral		Unnamed Trib. to Turkey Creek	Open Cut	96	2.5	0.006	Non-PCN	52
S1072	22.69	Ephemeral		Unnamed Trib. to Turkey Creek	Open Cut	52	1	0.001	Non-PCN	52
S1069	22.70	Perennial		Unnamed Trib. to Turkey Creek	Open Cut	249	4	0.023	Non-PCN	52
S1070	22.73	Ephemeral		Unnamed Trib. to Turkey Creek	Open Cut	48	1	0.001	Non-PCN	52
S1073	22.81	Intermittent		Unnamed Trib. to Turkey Creek	Open Cut	104	2.5	0.006	Non-PCN	53
S1074	22.86	Ephemeral		Unnamed Trib. to Turkey Creek	Open Cut	33	2.5	0.002	Non-PCN	53
S1075	22.90	Intermittent		Unnamed Trib. to Turkey Creek	Open Cut	65	3	0.004	Non-PCN	53
S1078	23.01	Ephemeral		Unnamed Trib. to Turkey Creek	Open Cut	122	1.5	0.004	Non-PCN	53
S1079	23.03	Perennial		Unnamed Trib. to Turkey Creek	Open Cut	94	3	0.006	Non-PCN	53
S1081	23.21	Intermittent		Unnamed Trib. to Turkey Creek	Open Cut	24	3	0.002	Non-PCN	53
S1082	23.26	Perennial		Unnamed Trib. to Turkey Creek	Open Cut	96	3	0.007	Non-PCN	54
S1085	23.65	Perennial		Unnamed Trib. to Turkey Creek	Open Cut	63	7	0.235	Non-PCN	54
P1003	23.65	Pond		Unnamed Pond	Open Cut	N/A		0.162	Non-PCN	54

Attachment 8b Waterbodies Impacts Table
Lowman Pipeline Project
NextEra Energy Pipeline Holdings (Lowman), Inc.

S1262	24.56	Intermittent	(b)(7)f	Unnamed Trib. to Thompson Creek	Open Cut	125	3	0.009	Non-PCN	56
S1263	24.71	Perennial		Unnamed Trib. to Thompson Creek	Open Cut	130	7.5	0.105	Non-PCN	57
S2063	25.29	Intermittent		Unnamed Trib. to Sea Warrior Creek	Open Cut	132	2	0.006	Non-PCN	58
S2064	25.33	Intermittent		Unnamed Trib. to Sea Warrior Creek	Open Cut	74	2	0.003	Non-PCN	58
S2060	25.34	Perennial		Unnamed Trib. to Sea Warrior Creek	Open Cut	94	4	0.009	Non-PCN	58
S2074	25.50	Ephemeral		Unnamed Trib. to Sea Warrior Creek	Open Cut	92	1.5	0.003	Non-PCN	59
S2073	25.65	Intermittent		Unnamed Trib. to Sea Warrior Creek	Open Cut	223	2	0.010	Non-PCN	59
S2072	25.68	Intermittent		Unnamed Trib. to Sea Warrior Creek	Open Cut	108	1.5	0.004	Non-PCN	59
S2069	25.79	Perennial		Unnamed Trib. to Sea Warrior Creek	Open Cut	280	4	0.026	Non-PCN	59
S2071	25.80	Ephemeral		Unnamed Trib. to Sea Warrior Creek	Open Cut	28	1.5	0.001	Non-PCN	59
S2070	25.85	Ephemeral		Unnamed Trib. to Sea Warrior Creek	Open Cut	9	1.5	0.000	Non-PCN	59
S2068	25.92	Intermittent		Unnamed Trib. to Sea Warrior Creek	Open Cut	110	1.5	0.004	Non-PCN	60
S2067	26.12	Perennial		Unnamed Trib. to Sea Warrior Creek	Open Cut	114	3.5	0.009	Non-PCN	60
S2054	27.56	Perennial		Unnamed Trib. to Sea Warrior Creek	Open Cut	79	5	0.009	Non-PCN	63
S2053	27.70	Intermittent		Unnamed Trib. to Sea Warrior Creek	Open Cut	53	2	0.002	Non-PCN	63
P2002	27.70	Pond		Unnamed Pond	Open Cut	N/A		0.061	Non-PCN	63
S2052	29.20	Ephemeral		Unnamed Trib. to Sea Warrior Creek	Open Cut	176	1	0.004	Non-PCN	67
S2051	29.29	Ephemeral		Unnamed Trib. to Sea Warrior Creek	Open Cut	241	1	0.006	Non-PCN	67
S1062B	30.86	Intermittent		Unnamed Trib. to Caney Creek	Open Cut	97	3	0.007	Non-PCN	71
S1061	30.93	Perennial		Unnamed Trib. to Caney Creek	Open Cut	130	5	0.015	Non-PCN	71
S1060	30.97	Perennial		Unnamed Trib. to Caney Creek	Open Cut	121	3	0.008	Non-PCN	71
S1056	32.04	Ephemeral		Unnamed Trib. to Santa Bogue Creek	Open Cut	6	1	0.000	Non-PCN	73
S1054	32.13	Perennial		Unnamed Trib. to Santa Bogue Creek	Open Cut	497	10	0.496	Non-PCN	74
S1297	32.20	Perennial		Unnamed Trib. to Santa Bogue Creek	Open Cut	18	6.5	0.029	Non-PCN	74
S1296	32.22	Intermittent		Unnamed Trib. to Santa Bogue Creek	Open Cut	93	3	0.006	Non-PCN	74
S1291	32.26	Intermittent		Unnamed Trib. to Santa Bogue Creek	Open Cut	109	1.5	0.004	Non-PCN	74
S1290	32.29	Intermittent		Unnamed Trib. to Santa Bogue Creek	Open Cut	97	2.5	0.006	Non-PCN	74
S1295	32.39	Intermittent		Unnamed Trib. to Santa Bogue Creek	Open Cut	51	1.5	0.002	Non-PCN	74
S1294	32.39	Intermittent	Unnamed Trib. to Santa Bogue Creek	Open Cut	150	1.5	0.005	Non-PCN	74	
S1038	32.50	Perennial	Unnamed Trib. to Santa Bogue Creek	Open Cut	120	3	0.008	Non-PCN	74	
S1042	33.00	Intermittent	Unnamed Trib. to Santa Bogue Creek	Open Cut	26	2.5	0.002	Non-PCN	76	
S1044	33.29	Ephemeral	Unnamed Trib. to Santa Bogue Creek	Open Cut	32	1.5	0.001	Non-PCN	76	
S1046	33.43	Ephemeral	Unnamed Trib. to Santa Bogue Creek	Open Cut	87	2.5	0.005	Non-PCN	76	
S1047	33.48	Perennial	Unnamed Trib. to Santa Bogue Creek	Open Cut	107	3.5	0.067	Non-PCN	76	
S1049	33.50	Ephemeral	Unnamed Trib. to Santa Bogue Creek	Open Cut	35	2.5	0.002	Non-PCN	77	
S1048	33.50	Ephemeral	Unnamed Trib. to Santa Bogue Creek	Open Cut	187	2.5	0.011	Non-PCN	77	
S1050	33.51	Ephemeral	Unnamed Trib. to Santa Bogue Creek	Open Cut	27	1	0.001	Non-PCN	77	
S1051	33.57	Ephemeral	Unnamed Trib. to Santa Bogue Creek	Open Cut	101	2.5	0.006	Non-PCN	77	
S1052	33.61	Intermittent	Unnamed Trib. to Santa Bogue Creek	Open Cut	90	2.5	0.005	Non-PCN	77	
S1053	33.65	Perennial	Unnamed Trib. to Santa Bogue Creek	Open Cut	94	2.5	0.005	Non-PCN	77	
S2046	33.75	Intermittent	Unnamed Trib. to Santa Bogue Creek	Open Cut	135	3	0.009	Non-PCN	77	
S2045	33.83	Ephemeral	Unnamed Trib. to Santa Bogue Creek	Open Cut	102	2	0.005	Non-PCN	77	
S2044	34.25	Intermittent	Unnamed Trib. to Santa Bogue Creek	Open Cut	119	4	0.011	Non-PCN	78	
S2042	34.59	Intermittent	Unnamed Trib. to Elias Creek	Open Cut	92	2.5	0.005	Non-PCN	79	
S2026	34.95	Perennial	Unnamed Trib. to Elias Creek	Open Cut	87	2	0.004	Non-PCN	80	
S2027	35.46	Intermittent	Unnamed Trib. to Elias Creek	Open Cut	96	2.5	0.006	Non-PCN	81	
S2028	35.75	Perennial	Elias Creek	Open Cut	65	18	0.578	Non-PCN	82	

Attachment 8b Waterbodies Impacts Table
Lowman Pipeline Project
NextEra Energy Pipeline Holdings (Lowman), Inc.

Feature ID	Approx. MP	Type	Latitude	Longitude	Name	Crossing Method	Stream Length (ft.)	Stream Width (ft.)	Impact Acres	PCN or Non-PCN	Reason for PCN	Attachment 3 Page Number
S2029	36.14	Ephemeral	(b)(7)f		Unnamed Trib. to Elias Creek	Open Cut	155	1.5	0.005	Non-PCN		83
S2030	36.18	Ephemeral			Unnamed Trib. to Elias Creek	Open Cut	27	2.5	0.002	Non-PCN		83
S2032	36.36	Perennial			Unnamed Trib. to Elias Creek	Open Cut	130	5	0.015	Non-PCN		83
S1030	36.43	Intermittent			Unnamed Trib. to Elias Creek	Open Cut	90	3.75	0.008	Non-PCN		83
S1029	36.55	Intermittent			Unnamed Trib. to Elias Creek	Open Cut	96	2.5	0.006	Non-PCN		84
S1028	36.84	Perennial			Unnamed Trib. to Elias Creek	Open Cut	118	25	0.411	Non-PCN		84
S1018	37.99	Perennial			Unnamed Trib. to Elias Creek	Open Cut	25	4	0.002	Non-PCN		87
S1015	38.17	Intermittent			Unnamed Trib. to Elias Creek	Open Cut	102	2.5	0.006	Non-PCN		87
S1014	38.46	Perennial			Unnamed Trib. to Elias Creek	Open Cut	92	3	0.006	Non-PCN		88
S1013	38.50	Perennial			Unnamed Trib. to Elias Creek	Open Cut	105	3.5	0.008	Non-PCN		88
S1010	38.65	Intermittent			Unnamed Trib. to Elias Creek	Open Cut	10	2	0.000	Non-PCN		88
S1011	39.11	Intermittent			Unnamed Trib. to Tauler Creek	Open Cut	130	3.5	0.010	Non-PCN		90
S1012	39.28	Intermittent			Unnamed Trib. to Tauler Creek	Open Cut	148	2.5	0.008	Non-PCN		90
S2133	39.38	Ephemeral			Unnamed Trib. to Tauler Creek	Open Cut	100	1.5	0.003	Non-PCN		90
S2023	40.09	Ephemeral			Unnamed Trib. to Tauler Creek	Open Cut	90	2	0.004	Non-PCN		92
S2025	40.18	Ephemeral			Unnamed Trib. to Tauler Creek	Open Cut	162	2.5	0.009	Non-PCN		92
S2024	40.22	Intermittent			Unnamed Trib. to Tauler Creek	Open Cut	48	3.5	0.004	Non-PCN		92
S2024B	40.24	Intermittent			Unnamed Trib. to Tauler Creek	Open Cut	118	2.5	0.007	Non-PCN		92
S1036	40.79	Ephemeral			Unnamed Trib. to Folsoms Creek	Open Cut	86	2.5	0.005	Non-PCN		93
S1034	41.08	Ephemeral			Unnamed Trib. to Folsoms Creek	Open Cut	161	2.5	0.009	Non-PCN		94
S2038	41.36	Ephemeral			Unnamed Trib. to Folsoms Creek	Open Cut	256	2	0.012	Non-PCN		95
S2037B	41.52	Ephemeral			Unnamed Trib. to Folsoms Creek	Open Cut	199	2	0.009	Non-PCN		95
S2036	41.74	Perennial			Unnamed Trib. to Folsoms Creek	Open Cut	106	12	0.141	Non-PCN		96
S2035	41.99	Ephemeral			Unnamed Trib. to Folsoms Creek	Open Cut	92	1.5	0.003	Non-PCN		96
S2040	42.15	Ephemeral			Unnamed Trib. to Folsoms Creek	Open Cut	109	1.5	0.004	Non-PCN		96
S2041	42.29	Perennial			Folsoms Creek	Open Cut	101	3.5	0.008	Non-PCN		97
S1025	43.05	Perennial			Unnamed Trib. to Tombigbee River	Open Cut	105	4	0.010	Non-PCN		98
S1024	43.11	Intermittent			Unnamed Trib. to Tombigbee River	Open Cut	69	3.5	0.006	Non-PCN		99
S1023	43.29	Perennial			Unnamed Trib. to Tombigbee River	Open Cut	90	3	0.006	Non-PCN		99
S1022	43.38	Intermittent			Unnamed Trib. to Tombigbee River	Open Cut	50	3.5	0.004	Non-PCN		99
S1020	43.38	Perennial			Unnamed Trib. to Tombigbee River	Open Cut	113	3.5	0.009	Non-PCN		99
S1009	43.66	Intermittent			Unnamed Trib. to Smiths Creek	Open Cut	79	2.5	0.005	Non-PCN		100
S2021	44.12	Intermittent			Unnamed Trib. to Smiths Creek	Open Cut	60	3	0.004	Non-PCN		101
S2022B	44.14	Intermittent			Unnamed Trib. to Smiths Creek	Open Cut	103	2	0.005	Non-PCN		101
S2168	44.34	Intermittent			Unnamed Trib. to Smiths Creek	Open Cut	99	2.5	0.006	Non-PCN		101
S2167	44.40	Intermittent			Unnamed Trib. to Smiths Creek	Open Cut	83	3	0.006	Non-PCN		102
S1005	44.91	Perennial			Smiths Creek	Open Cut	163	6.5	0.176	Non-PCN		103
S1008	44.95	Ephemeral			Unnamed Trib. to Smiths Creek	Open Cut	94	1.5	0.003	Non-PCN		103
S2161	45.10	Ephemeral			Unnamed Trib. to Smiths Creek	Open Cut	88	2	0.004	Non-PCN		103
S2162	45.10	Ephemeral			Unnamed Trib. to Smiths Creek	Open Cut	82	2	0.004	Non-PCN		103
S2164	45.15	Intermittent			Unnamed Trib. to Smiths Creek	Open Cut	111	2	0.005	Non-PCN		103
S2166	45.69	Perennial			Unnamed Trib. to Smiths Creek	Open Cut	50	3.5	0.004	Non-PCN		152
S2019	45.77	Perennial			Unnamed Trib. to Smiths Creek	Open Cut	153	3	0.011	Non-PCN		105
S2017	45.94	Perennial			Unnamed Trib. to Smiths Creek	Open Cut	97	4	0.009	Non-PCN		105
S2018	45.94	Ephemeral			Unnamed Trib. to Smiths Creek	Open Cut	21	1.5	0.001	Non-PCN		105
S2016	45.96	Ephemeral			Unnamed Trib. to Smiths Creek	Open Cut	220	1.5	0.008	Non-PCN		105
S2222	48.04	Ephemeral			Unnamed Trib. to Tombigbee River	Open Cut	99	1.5	0.003	Non-PCN		110

Attachment 8b Waterbodies Impacts Table
Lowman Pipeline Project
NextEra Energy Pipeline Holdings (Lowman), Inc.

Feature ID	Approx. MP	Type	Latitude	Longitude	Name	Crossing Method	Stream Length (ft.)	Stream Width (ft.)	Impact Acres	PCN or Non-PCN	Reason for PCN	Attachment 3 Page Number		
S2033	48.04	Perennial			Unnamed Trib. to Tombigbee River	Open Cut	88	3	0.006	Non-PCN		110		
S2034	48.06	Ephemeral			Unnamed Trib. to Tombigbee River	Open Cut	48	2	0.002	Non-PCN		110		
S2013	48.51	Perennial			Unnamed Trib. to Tombigbee River	Open Cut	110	5	0.013	Non-PCN		111		
S2014	48.59	Intermittent			Unnamed Trib. to Tombigbee River	Open Cut	154	1.5	0.005	Non-PCN		111		
S2014B	48.60	Intermittent			Unnamed Trib. to Tombigbee River	Open Cut	83	1.5	0.003	Non-PCN		111		
S2015	48.79	Perennial			Unnamed Trib. to Tombigbee River	Open Cut	62	1.5	0.002	Non-PCN		112		
S1003	49.08	Perennial			Unnamed Trib. to Tombigbee River	Open Cut	97	2.5	0.006	Non-PCN		112		
S1004	49.09	Perennial			Unnamed Trib. to Tombigbee River	Open Cut	51	2	0.002	Non-PCN		112		
S1261	50.88	Intermittent			Unnamed Trib. to Tombigbee River	Open Cut	345	3	0.024	Non-PCN		117		
S2002	51.38	Perennial			Unnamed Trib. to Tombigbee River	Open Cut	82	4.5	0.008	Non-PCN		118		
S1107	52.10	Perennial			Unnamed Trib. to Tombigbee River	Open Cut	377	15	1.095	Non-PCN		119		
S2004	53.13	Ephemeral			Unnamed Trib. to Tombigbee River	Open Cut	89	2	0.004	Non-PCN		122		
Access Roads														
S2120	AR-00.6	Perennial			(b)(7)f		Unnamed Trib. to Long Creek	Open Cut	32	4	0.003	Non-PCN		125
S2216	AR-01.4	Perennial	Unnamed Trib. to Long Creek	Open Cut			33	2.5	0.002	Non-PCN		126		
S2215	AR-01.4	Perennial	Unnamed Trib. to Long Creek	Open Cut			31	2.5	0.002	Non-PCN		126		
S2219	AR-09.5	Perennial	Rock Branch	Open Cut			38	15	0.017	Non-PCN		132		
S2218	AR-09.5	Intermittent	Unnamed Trib. to Rock Branch	Open Cut			31	1.5	0.001	Non-PCN		132		
S2217	AR-09.5	Ephemeral	Unnamed Trib. to Rock Branch	Open Cut			35	1.5	0.001	Non-PCN		23		
S1310	AR-16.2	Perennial	Unnamed Trib. to Golden Horn Branch	Open Cut			57	3	0.004	Non-PCN		37		
S1317	AR-16.2	Perennial	Golden Horn Branch	Open Cut			44	13	0.023	Non-PCN		37		
S1311	AR-16.2	Perennial	Unnamed Trib. to Golden Horn Branch	Open Cut			31	2.5	0.002	Non-PCN		37		
S2109	AR-17.3	Intermittent	Unnamed Trib. to Okatuppa Creek	Open Cut			145	3.5	0.012	Non-PCN		40		
S2148	AR-17.3	Ephemeral	Unnamed Trib. to Okatuppa Creek	Open Cut			60	2	0.003	Non-PCN		136		
S2149	AR-17.3	Intermittent	Unnamed Trib. to Okatuppa Creek	Open Cut			32	3	0.002	Non-PCN		136		
S2150	AR-17.3	Ephemeral	Unnamed Trib. to Okatuppa Creek	Open Cut			282	1	0.006	Non-PCN		136		
S2088	AR-18.5-EX	Intermittent	Unnamed Trib. to Souwilpa Creek	Open Cut			40	1.5	0.001	Non-PCN		43		
S2075	AR-21.4-EX	Perennial	McNish Branch	Open Cut			129	8	0.425	Non-PCN		50		
S2223	AR-31.7	Perennial	Unnamed Trib. to Santa Bogue Creek	Open Cut			33	3.5	0.003	Non-PCN		73		
S2224	AR-31.7	Perennial	Unnamed Trib. to Santa Bogue Creek	Open Cut			40	3.5	0.003	Non-PCN		74		
S2225	AR-31.7	Perennial	Unnamed Trib. to Santa Bogue Creek	Open Cut			63	12	0.032	Non-PCN		74		
S2226	AR-31.7	Ephemeral	Unnamed Trib. to Santa Bogue Creek	Open Cut			37	2.5	0.002	Non-PCN		74		
S2227	AR-31.7	Ephemeral	Unnamed Trib. to Santa Bogue Creek	Open Cut			13	1	0.000	Non-PCN		74		
S1302	AR-32.5	Perennial	Unnamed Trib. to Santa Bogue Creek	Open Cut			34	4	0.003	Non-PCN		74		
S1303	AR-32.8	Perennial	Unnamed Trib. to Santa Bogue Creek	Open Cut			107	10	0.036	Non-PCN		75		
S1304	AR-32.8	Perennial	Unnamed Trib. to Santa Bogue Creek	Open Cut			26	3	0.002	Non-PCN		75		
S1306	AR-33.1	Intermittent	Unnamed Trib. to Santa Bogue Creek	Open Cut			49	3	0.003	Non-PCN		75		
S1307	AR-33.1	Intermittent	Unnamed Trib. to Santa Bogue Creek	Open Cut			25	2	0.001	Non-PCN		75		
S1305	AR-33.1	Perennial	Unnamed Trib. to Santa Bogue Creek	Open Cut			47	6	0.018	Non-PCN		76		
S2236	AR-35.1-EX	Intermittent	Unnamed Trib. to Elias Creek	Open Cut			37	2.5	0.002	Non-PCN		81		
S2232	AR-36.5	Intermittent	Unnamed Trib. to Elias Creek	Open Cut			31	2.5	0.002	Non-PCN		140		
S2233	AR-36.5	Perennial	Unnamed Trib. to Elias Creek	Open Cut			125	2.5	0.007	Non-PCN		140		
S2234	AR-36.5	Perennial	Unnamed Trib. to Elias Creek	Open Cut			32	2.5	0.002	Non-PCN		139		
S2235	AR-36.5	Perennial	Unnamed Trib. to Elias Creek	Open Cut			24	2.5	0.001	Non-PCN		139		
S2231	AR-36.5-EX	Perennial	Unnamed Trib. to Elias Creek	Open Cut			48	20	0.031	Non-PCN		138		
S1157	AR-37.5	Intermittent	Unnamed Trib. to Elias Creek	Open Cut	29	1.5	0.001	Non-PCN		142				

Attachment 8b Waterbodies Impacts Table
Lowman Pipeline Project
NextEra Energy Pipeline Holdings (Lowman), Inc.

Feature ID	Approx. MP	Type	Latitude	Longitude	Name	Crossing Method	Stream Length (ft.)	Stream Width (ft.)	Impact Acres	PCN or Non-PCN	Reason for PCN	Attachment 3 Page Number
S1158	AR-37.5	Intermittent	(b)(7)f		Unnamed Trib. to Elias Creek	Open Cut	23	1.5	0.001	Non-PCN		142
P1007	AR-37.5	Pond			Unnamed Pond	Open Cut	N/A		0.392	Non-PCN		142
S2136	AR-39.5	Intermittent			Unnamed Trib. to Tauler Creek	Open Cut	27	3	0.002	Non-PCN		143
S2135	AR-39.5	Perennial			Unnamed Trib. to Tauler Creek	Open Cut	54	5	0.006	Non-PCN		143
S2134	AR-39.5	Perennial			Unnamed Trib. to Tauler Creek	Open Cut	22	3	0.002	Non-PCN		143
S1154	AR-40.6	Intermittent			Unnamed Trib. to Folsoms Creek	Open Cut	30	2.5	0.002	Non-PCN		94
S1155	AR-40.6	Perennial			Unnamed Trib. to Folsoms Creek	Open Cut	30	3.5	0.002	Non-PCN		148
S1156	AR-40.6	Intermittent			Unnamed Trib. to Folsoms Creek	Open Cut	31	4.5	0.003	Non-PCN		148
S1152	AR-40.6	Ephemeral			Unnamed Trib. to Folsoms Creek	Open Cut	117	0.75	0.002	Non-PCN		148
S1153	AR-40.6	Perennial			Folsoms Creek	Open Cut	75	9	0.043	Non-PCN		148
S1151	AR-40.6	Intermittent			Unnamed Trib. to Tauler Creek	Open Cut	31	3	0.002	Non-PCN		147
S1150	AR-41.5	Intermittent			Unnamed Trib. to Folsoms Creek	Open Cut	35	2.5	0.002	Non-PCN		150
P2004	AR-41.5	Pond			Unnamed Pond	Open Cut	0		0.010	Non-PCN		150
S2137	AR-41.5	Perennial			Folsoms Creek	Open Cut	52	20	0.028	Non-PCN		150
S1148	AR-47.1	Ephemeral			Gaines Creek	Open Cut	46	1	0.001	Non-PCN		108
S2171	AR-51.1	Intermittent			Unnamed Trib. to Tombigbee River	Open Cut	523	1.5	0.018	PCN	Crossing distance >500-ft.	157
S2169	AR-51.1	Perennial			Unnamed Trib. to Tombigbee River	Open Cut	165	3	0.011	Non-PCN		157
S2170	AR-51.1	Perennial			Unnamed Trib. to Tombigbee River	Open Cut	30	3.5	0.002	Non-PCN		157

Attachment 9

A Wetland Delineation and Waterbody Survey Report

Wetland Delineation and Waterbody Survey Report

Lowman Pipeline Project Choctaw and Washington Counties, Alabama

May 2020

Prepared for:



Prepared by:



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Appendix C	Field Data Sheets
Appendix D	Environmental Survey Photographs

1.0 INTRODUCTION

On behalf of NextEra Energy Pipeline Holdings (Lowman), Inc., Edge Engineering and Science, LLC's (EDGE's) professional subcontractor Innovative Environmental Solutions, Inc. (ESI) conducted a wetland delineation and waterbody survey for a new 53.75-mile-long, 16-inch diameter natural gas pipeline in Choctaw and Washington Counties, Alabama, referred to as the Lowman Pipeline Project (Project). The Project Vicinity Maps, enclosed as Figure 1 and Figure 2, show the Project Area on the 7.5-minute United States Geological Survey (USGS) topographic quadrangles. This report describes the methodology and results of the wetland delineation and waterbody survey which were conducted in November 2019 through April 2020.

2.0 METHODS

2.1 Map and Database Review

The following information sources were consulted prior to and during the field delineation to assist identification of potential wetlands and waterbodies within the Project Area:

- 7.5-minute series, 1: 24,000 Prestwick, Land, Toxey, Silas, Coffeerville Lock and Dam, Bladon Springs, Bigbee, Saint Stephens, and Jackson USGS topographic quadrangles for Choctaw and Washington Counties, Alabama (USGS 2020);
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) digital map for the State of Alabama (USFWS 2020);
- U.S. Department of Agriculture - Natural Resources Conservation Service (NRCS) - Soil Survey Geographic (SSURGO) Database and soil survey maps for Choctaw and Washington Counties, Alabama (NRCS 2003, 2020a); and
- 2019 aerial photography data.

2.2 Field Survey

From November 2019 to April 2020, ESI conducted a wetland delineation and waterbody survey of the Lowman Pipeline route generally based on a 300-foot-wide survey corridor. The proposed Project originates approximately 9 miles west of Butler, Alabama in Choctaw County at latitude: (b)(7)f and terminates at the existing PowerSouth Plant located in Washington County at latitude 31.491971°, longitude -87.909813°.

2.2.1 Wetland Delineation

As required under Section 404 of the Clean Water Act, wetlands were delineated using the routine method described in the U.S. Army Corps of Engineers (USACE) *1987 Wetlands Delineation Manual* (1987 Manual; USACE 1987) and the *USACE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0)* (Regional Supplement, USACE 2010). Wetland types and boundaries were determined through initial review of the NWI digital map, followed by field work

involving the examination of three parameters: vegetation, soils, and hydrology. Delineation criteria and indicators for each of these parameters are outlined in the 1987 Manual and the Regional Supplement. The Regional Supplement presents wetland indicators, delineation guidance, and other information that is specific to the Atlantic and Gulf Coast Plain Region. Wetlands and waterbodies were classified according to the system used for the USFWS's NWI and described in *Wetlands and Deepwater Habitats of the United States* (Cowardin *et al.* 1979).

For this wetland delineation, multiple data points were strategically positioned for adequate coverage across the Project Area. Data points were recorded with a EOS – Arrow Gold global positioning system (GPS) with sub-meter accuracy. Tables containing wetland and waterbody name, location, type, size, watershed name, and watershed hydrologic unit code can be found in Appendices A and B, respectively. All wetland data was recorded on field data sheets contained in Appendix C. Representative photographs were captured at each data point location and are included in Appendix D.

Vegetation Evaluation

In accordance with the procedure set forth in the 1987 Manual and Regional Supplement, the hydrophytic status of vegetation communities was determined through an iterative process involving identification of dominant species and, if necessary, sequential calculation of a "Prevalence Index".

To provide a complete assessment of resident plant communities at each sampling station, most or all species in each vegetation stratum (i.e., Forested, Saplings and Shrubs, Herbaceous, and Woody Vines) were initially identified and recorded. Subsequently, to identify the dominant species in each stratum, the 50/20 rule was applied. The 50/20 rule states that “dominant species are the most abundant plant species (when ranked in descending order of abundance and cumulatively totaled) that immediately exceed 50 percent of the total dominance measure for the stratum, plus any additional species comprising 20 percent or more of the total dominance measure for the stratum.” The dominance measure used in this delineation is absolute percent cover. Data drawn from discrete sampling points were supplemented, where appropriate, by data drawn from general observations over a wider area.

Individual plant species names were verified using the *2016 National Wetland Plant List* (Lichvar *et al.* 2016) and their regional wetland indicator status determined. Species are classified as Obligate Wetland if they almost always occur in wetlands (>99 percent of the time), Facultative Wetland if they usually occur in wetlands (67-99 percent of the time), Facultative if they are equally likely to occur in wetlands or non-wetlands (34-66 percent of the time), Facultative Upland if they usually occur in non-wetlands (67-99 percent of the time), and Obligate Upland if they almost always occur in non-wetlands (>99 percent of the time). A no indicator status is recorded for those species for which insufficient information is available to determine an indicator status.

Soil Profile Evaluation

Hydric soils are defined as soils that are “saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part” (NRCS 2020b). The anaerobic conditions created by repeated or prolonged saturation or flooding, results in permanent changes in soil color and chemistry which are used to differentiate hydric from non-hydric soils.

In areas where the absence of inundation or heavy saturation allowed, one or more soil pits were excavated at each data point to a depth of at least 14 inches to reveal soil profiles and to determine whether positive indicators of hydric (wetland) soils were present. Hydric soil indicators relate to color, structure, organic content, and the presence of reducing conditions. Color characteristics (hue, value, and chroma) were recorded using Munsell® Charts (Munsell 2009).

Hydrology Evaluation

Land is characterized as having wetland hydrology when, under normal circumstances, the surface is either inundated or the upper portion of the soil is saturated at a sufficient frequency and duration to create anaerobic conditions. Hydrological conditions are further defined in the 1987 Manual as occurring when an area “is inundated either permanently or periodically at mean water depths less than or equal to 6.6 feet, or the soil is saturated to the surface at some time during the growing season of the prevalent vegetation.” Hydrology is controlled by such factors as seasonal and long-term rainfall patterns, local geology, topography, soil type, local water table conditions, and drainage.

During the field survey, wetland hydrology was determined by observation of positive indicators such as saturated soils, standing surface water, algal mat, aquatic fauna, high water table, iron deposits, sparsely vegetated concave surface, geomorphic position, water-stained leaves, and surface soil cracks.

2.2.2 Waterbody Survey

With respect to the linear waterbodies located within the Project Area, physical and biological data were recorded, including water channel width or Ordinary High Water Mark and flow classification (i.e., perennial, intermittent, or ephemeral [including ditches]) using methods provided by the USACE (USACE 2005). The location, linear configuration, and various dimensions of each waterbody were recorded using the same EOS – Arrow Gold GPS that was used for the wetland delineation with sub-meter accuracy.

3.0 RESULTS

3.1 NWI Classification

An aerial photo-based map depicting each Project Area overlain with the NWI and NHD data is included as Figure 3. A PFO1A classification was given to palustrine forested (PFO) wetlands within the Project area; palustrine scrub shrub (PSS) wetlands were given a classification of PSS1C, and palustrine emergent (PEM) wetlands were given a classification of PEM1A. Further classifications for waterbodies in the Project Area consisted of perennial, intermittent, and ephemeral waterbodies, and ponds.

3.2 SSURGO Database

According to the 2020 SSURGO database, the Project crosses the map units described in Table 3-1. Mapped soils are shown on Figure 3.

Table 3-1: Soils Mapped within the Project Area

Soil Unit ID	Description
AaA	Annemaine fine sandy loam, 0 to 2 percent slopes, rarely flooded
AcD	Annemaine-Cahaba complex, 5 to 12 percent slopes, occasionally flooded
ArF	Arundel-Cantuche complex, 15 to 35 percent slopes
ArF	Arundel-Cantuche complex, 25 to 60 percent slopes, stony
ArG	Arundel-Cantuche complex, 25 to 60 percent slopes, stony
AwE	Arundel-Williamsville complex, 15 to 35 percent slopes
BaA	Bama fine sandy loam, 0 to 2 percent slopes
BaB	Bama fine sandy loam, 2 to 5 percent slopes
BaC	Bama fine sandy loam, 5 to 8 percent slopes
BbA	Bibb-luka complex, 0 to 1 percent slopes, frequently flooded
BiA	Bibb-luka complex, 0 to 2 percent slopes, frequently flooded
BJK	Bibb, Johnston and Kinston soils, 0 to 1 percent slopes, frequently flooded
BnB	Blanton loamy fine sand, 0 to 5 percent slopes
BnC	Blanton loamy fine sand, 5 to 8 percent slopes
BnE2	Boykin-Luverne-Smithdale complex, 15 to 35 percent slopes
BrF	Brantley-Okeelala complex, 35 to 60 percent slopes
BsF	Boykin-Luverne-Smithdale complex, 15 to 35 percent slopes
ByB	Brantley-Okeelala complex, 2 to 5 percent slopes
ByD2	Brantley-Okeelala complex, 5 to 15 percent slopes, eroded
ByF2	Brantley-Okeelala complex, 15 to 35 percent slopes, eroded
ByG	Brantley-Okeelala complex, 35 to 60 percent slopes
CaA	Cahaba sandy loam, 0 to 2 percent slopes, rarely flooded
DSA	Daleville and Smithton soils, 0 to 1 percent slopes, occasionally flooded
FrA	Freest fine sandy loam, 0 to 2 percent slopes
GrB	Gritney fine sandy loam, 2 to 5 percent slopes
IhA	Izagora fine sandy loam, 0 to 2 percent slopes, rarely flooded
IzA	Izagora fine sandy loam, 0 to 2 percent slopes, rarely flooded
LdC2	Lauderdale-Arundel complex, 2 to 10 percent slopes, stony, eroded
LdD2	Lauderdale-Arundel complex, 2 to 10 percent slopes, stony, eroded
LeA	Leeper silty clay loam, 0 to 1 percent slopes, frequently flooded
LnB	Luverne sandy loam, 1 to 5 percent slopes
LnD2	Luverne sandy loam, 5 to 15 percent slopes, eroded
LuA	Lucedale sandy loam, 0 to 2 percent slopes
MaA	Malbis fine sandy loam, 0 to 2 percent slopes
MaB	Malbis fine sandy loam, 2 to 5 percent slopes
MbC	Maubila-Olla-Rattlesnake Forks complex, 2 to 8 percent slopes
MbF2	Maubila-Olla-Rattlesnake Forks complex, 8 to 35 percent slopes, moderately eroded
McC	McLaurin fine sandy loam, 5 to 8 percent slopes
MdA	McCrary-Deerford complex, 0 to 2 percent slopes, occasionally flooded
MW	Miscellaneous water
OKA	Ochlockonee, Kinston, and luka soils, 0 to 1 percent slopes, frequently flooded

Table 3-1: Soils Mapped within the Project Area

P sD	Prim-Suggsville-Hannon complex, 2 to 10 percent slopes
P sF	Prim-Suggsville-Hannon complex, 10 to 40 percent slopes
R bD2	Rayburn silt loam, 5 to 15 percent slopes, eroded
R nE	Rattlesnake Forks-Blanton complex, 8 to 25 percent slopes
R pD2	Rayburn silt loam, 5 to 15 percent slopes, eroded
R rA	Riverview fine sandy loam, 0 to 2 percent slopes, occasionally flooded
R uB	Rutan sandy loam, 2 to 5 percent slopes
R uD	Rutan sandy loam, 5 to 15 percent slopes
S aA	Savannah silt loam, 0 to 2 percent slopes
S aB	Savannah silt loam, 2 to 5 percent slopes
S mB	Smithdale sandy loam, 2 to 5 percent slopes
S mD	Smithdale fine sandy loam, 5 to 15 percent slopes
S mD	Smithdale loamy fine sand, 5 to 15 percent slopes
S tD2	Sumter-Maytag complex, 8 to 15 percent slopes, eroded
U t	Urban land-anthropogenic udorthents complex, 0 to 8 percent slopes, industrial
U uB	Urbo-Mooreville-Una complex, 0 to 3 percent slopes, frequently flooded
W	Water
W aB	Wadley loamy fine sand, 1 to 5 percent slopes
W mC	Williamsville fine sandy loam, 2 to 8 percent slopes

3.3 Wetlands and Waterbodies Field Survey

All field-delineated wetlands and waterbodies are depicted on the Waters of the U.S. Map provided as Figure 4. Tables summarizing the wetlands and waterbodies delineated during field surveys are presented in Appendices A and B, respectively. Acreages of the delineated features identified within the Project Area do not represent acreages that will be impacted during Project construction and operation.

3.3.1 Wetlands

In total, 341 wetlands were identified (Figure 4; Appendices A and C). Combined, all wetlands subsume 202.16 acres (7.2%) of the total Project Area, including 63.10 acres (2.3%) of PEM wetlands, 16.14 acres (0.5%) of PSS wetlands, and 122.92 acres (4.4%) of PFO wetlands. Detailed descriptions of each wetland identified during the field survey are provided in Appendix C.

Vegetation

Table 3-2 lists the representative taxa encountered within the Project Area by vegetation stratum and includes the common and scientific names of each. More detailed information, including percent cover and the wetland indicator status for these species, is included within the data sheets located in Appendix C of this report. Representative photographs of the Project Area are included in Appendix D.

Table 3-2: Representative Taxa Identified within the Project Area

Vegetation Stratum	Common Species Name	Scientific Species Name
Forested	Water Oak, Laurel Oak, Willow Oak, White Oak, Southern Red Oak, Red Maple, Sweetbay Magnolia, Loblolly Pine	<i>Quercus nigra</i> , <i>Quercus laurifolia</i> , <i>Quercus phellos</i> , <i>Quercus alba</i> , <i>Quercus falcata</i> , <i>Acer rubrum</i> , <i>Magnolia virginiana</i> , <i>Pinus taeda</i>
Sapling and Shrub	American Holly, Yaupon Holly, Florida Anise, Loblolly Pine, Red cedar	<i>Illex opaca</i> , <i>Illex vomitoria</i> , <i>Illicium floridanum</i> , <i>Pinus taeda</i> , <i>Juniperus virginiana</i>
Herbaceous	Giant Cane, Cogon Grass, Old World Climbing Fern, Red Clover, Lesser Trefoil.	<i>Arundinaria gigantea</i> , <i>Imperata cylindrica</i> , <i>Lygodium microphyllum</i> , <i>Trifolium pretense</i> , <i>Trifolium dubium</i>
Woody Vines	Grape, American Wisteria, Trumpet Vine, Poison Ivy	<i>Vitis spp.</i> , <i>Wisteria frutescens</i> , <i>Campsis radicans</i> , <i>Toxicodendron radicans</i>

Soils

Subsurface soil profiles obtained within the Project Area were generally consistent with the SSURGO Database and NRCS county soil survey reference materials (NRCS 2003, 2020a). Soil matrices typically ranged from sand to sandy clay and most often exhibited matrix hues of 5Y and 5YR. Redox features were commonly observed in the 2.5YR and 5YR hues (Munsell 2009).

Hydrology

Wetland hydrological indicators noted in the field most commonly included standing surface water, high water table, saturated soils, geomorphic position, drainage patterns, and FAC-Neutral Test.

3.3.2 Waterbodies

In total, 459 waterbodies were recorded and are depicted on Figure 4 and listed in Appendix B. No Section 10 waterbodies were located within the Project Area.

4.0 CONCLUSIONS

As shown in Figure 4, ESI recorded the following features:

- 130 PEM wetlands,
- 46 PSS wetlands,
- 165 PFO wetlands,
- 137 perennial waterbodies,
- 175 intermittent waterbodies,
- 134 ephemeral waterbodies, and
- 13 ponds

The Project Area associated with the proposed Project is located primarily within an existing pipeline ROW. As mentioned in Section 3.3 above, acreages of the delineated features identified associated within the Project Area do not represent actual acreages that will be impacted during Project construction and operation.

5.0 REFERENCES

5.1 Persons Performing the Wetlands/Waterbody Delineation

ESI's field survey crew responsible for completing the wetland and waterbody delineation for the proposed Lowman Pipeline Project included (b)(6)

(b)(6)

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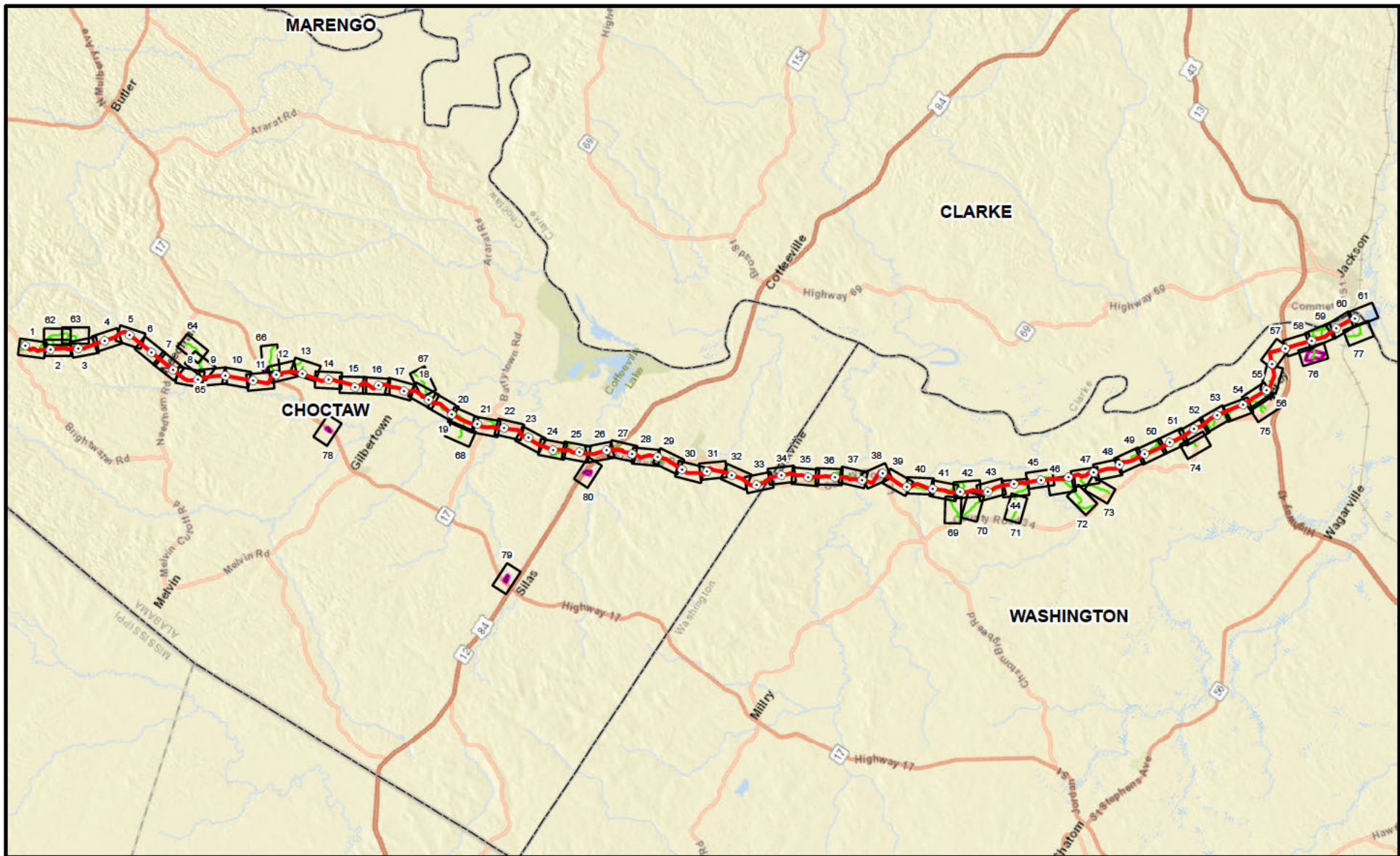
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Figures



Figure 1
Project Vicinity Map



Legend

- Milepost
- Proposed Pipeline
- Access Road
- Pipe Yard
- Figure 4 Page Number
- County Boundary

Scale: 1:315,000

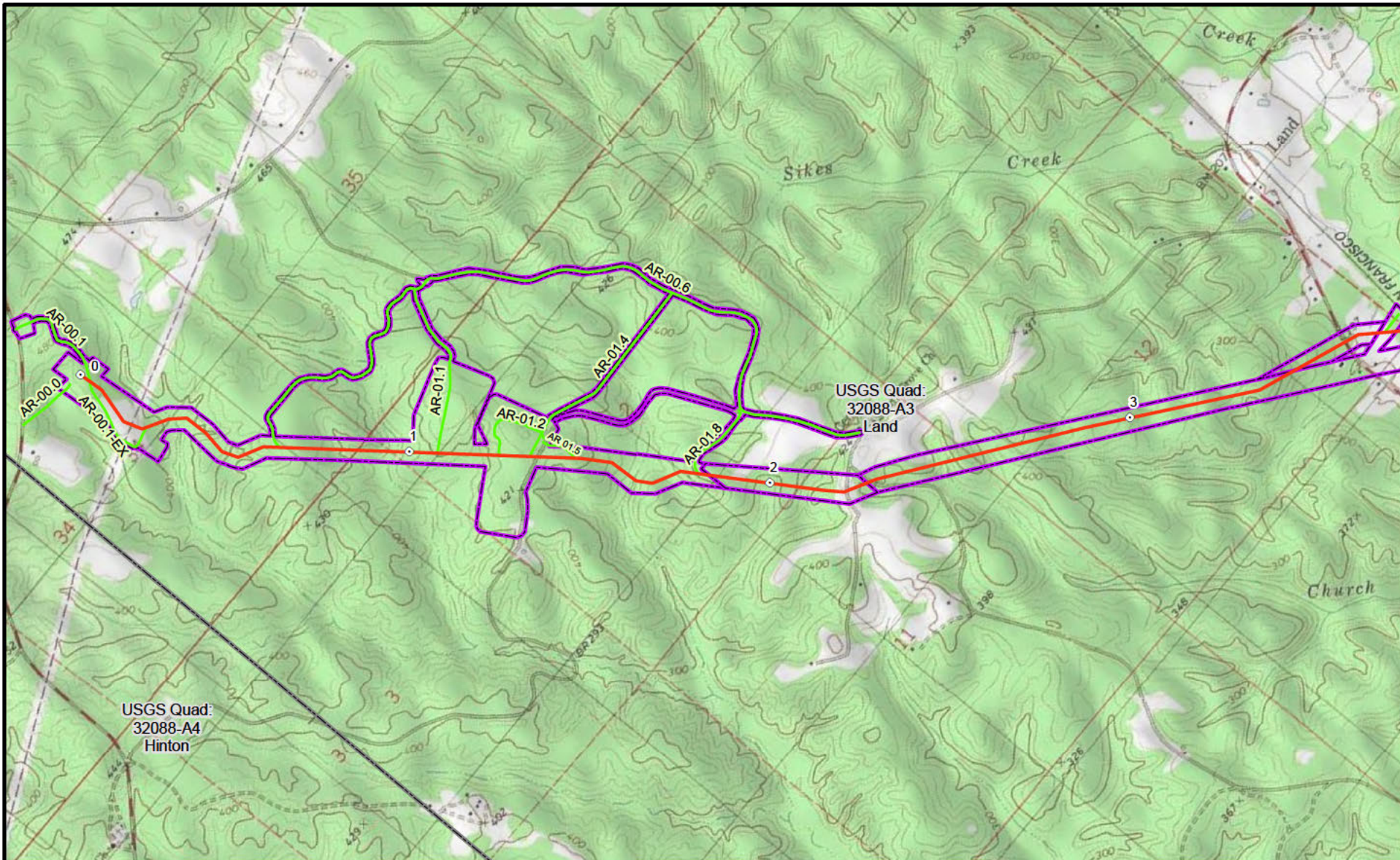



NextEra Energy Pipeline Holdings (Lowman), Inc.
Lowman Pipeline Project

Figure 1
 Project Vicinity Map
 Choctaw and Washington Counties, Alabama

Figure 2

USGS Topographic Site Maps



Legend

- Milepost
- Proposed Pipeline
- Access Road
- Pipe Yard
- Survey Area
- USGS Quadrangle

North arrow pointing up.

Scale bar: 0, 1,000, 2,000 Feet

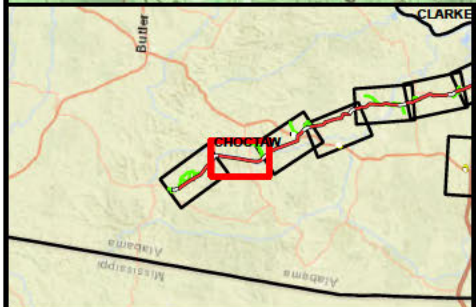
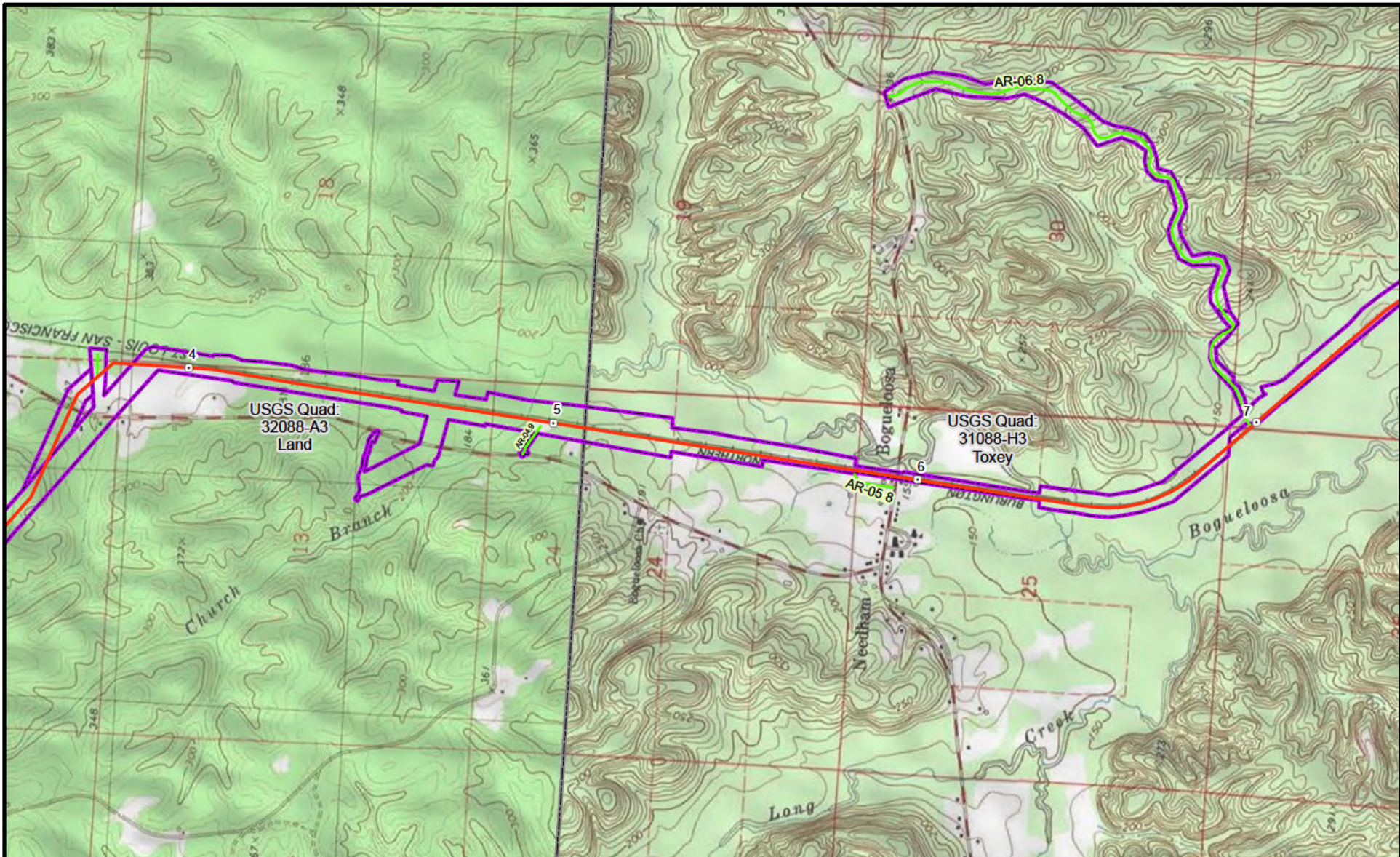
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Lowman Pipeline Project

Figure 2
 USGS Topographic Site Maps
 Choctaw and Washington Counties, Alabama



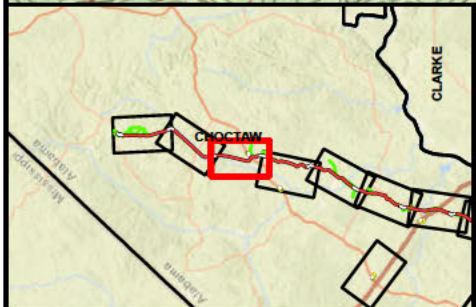
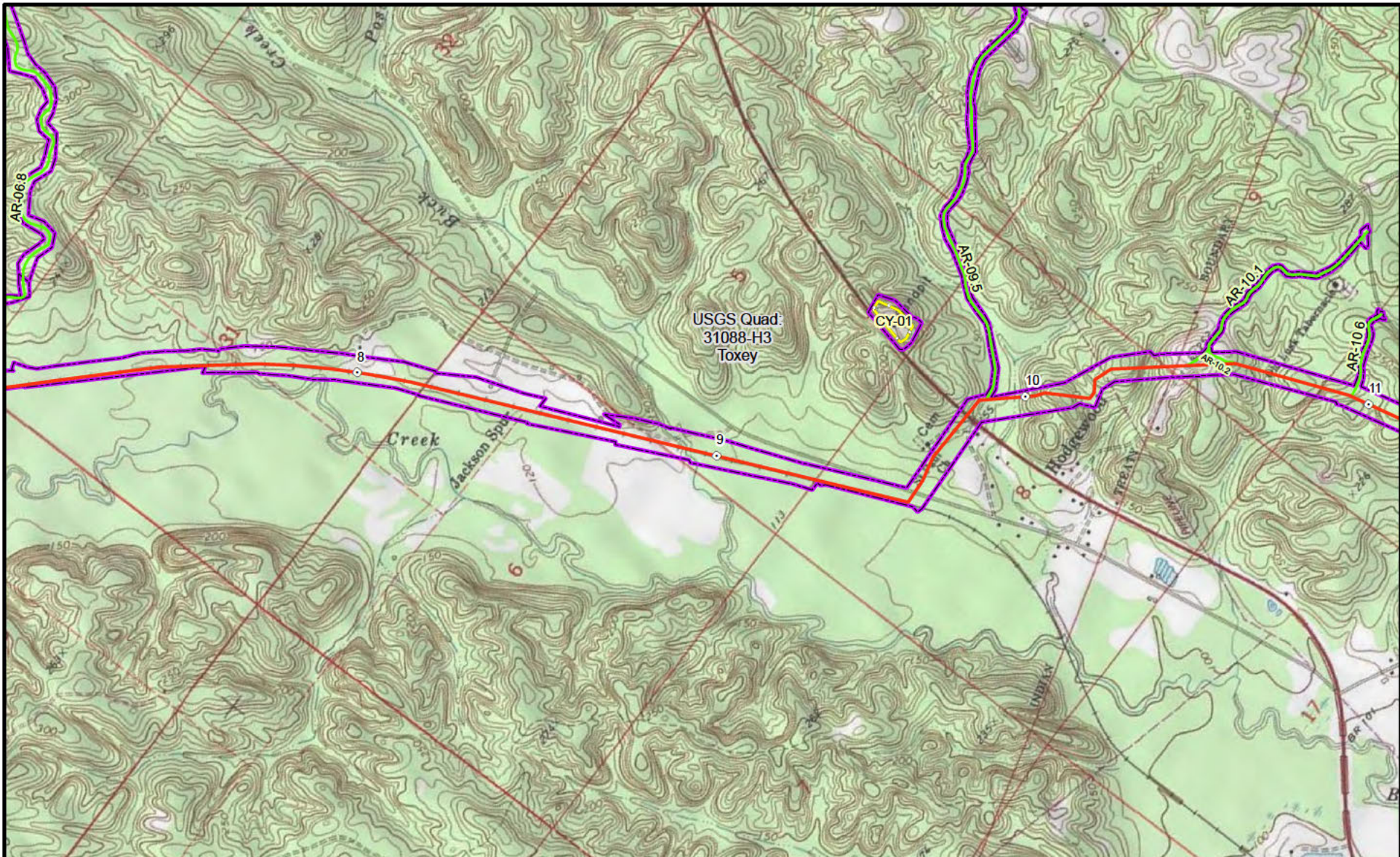
Legend

- Milepost
- Proposed Pipeline
- Access Road
- Pipe Yard
- Survey Area
- USGS Quadrangle

Scale: 1:24,000 Page 2 of 16

NextEra Energy Pipeline Holdings (Lowman), Inc.
Lowman Pipeline Project

Figure 2
 USGS Topographic Site Maps
 Choctaw and Washington Counties, Alabama



Legend

- Milepost
- Proposed Pipeline
- Access Road
- Pipe Yard
- Survey Area
- USGS Quadrangle

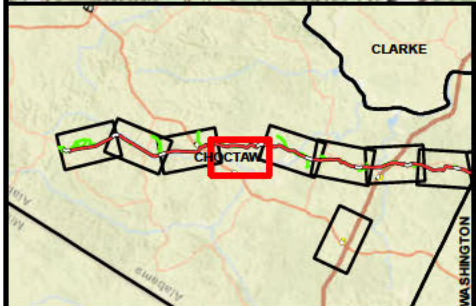
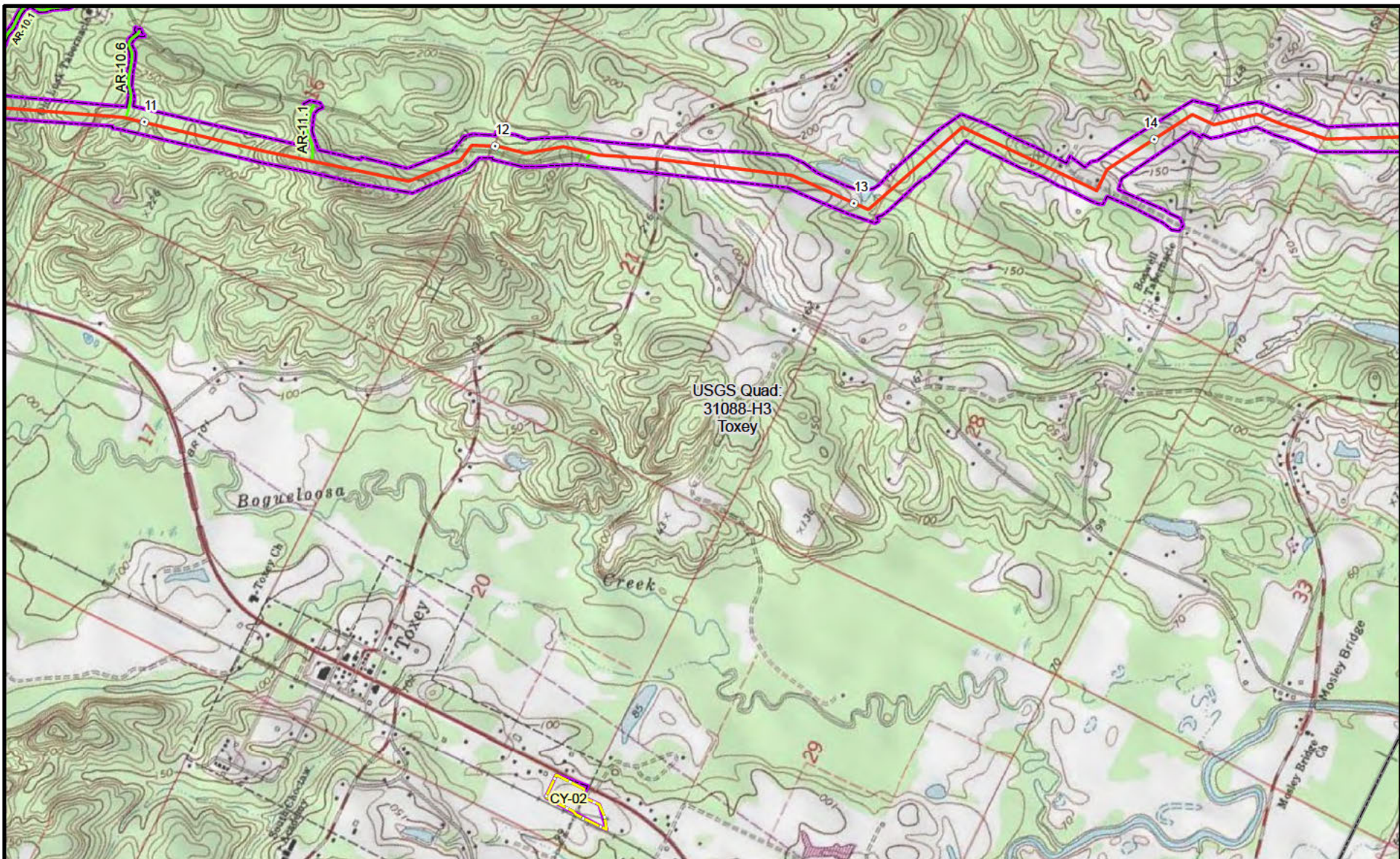
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Lowman Pipeline Project

Figure 2
 USGS Topographic Site Maps
 Choctaw and Washington Counties, Alabama



Legend

- Milepost
- Proposed Pipeline
- Access Road
- Pipe Yard
- Survey Area
- USGS Quadrangle

North arrow pointing up.

Scale bar: 0, 1,000, 2,000 Feet

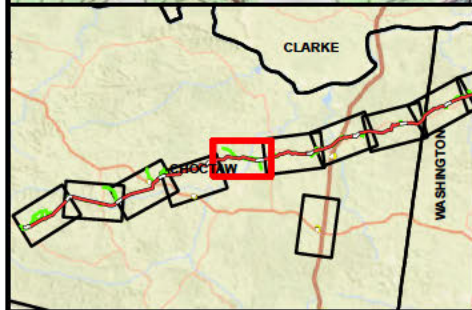
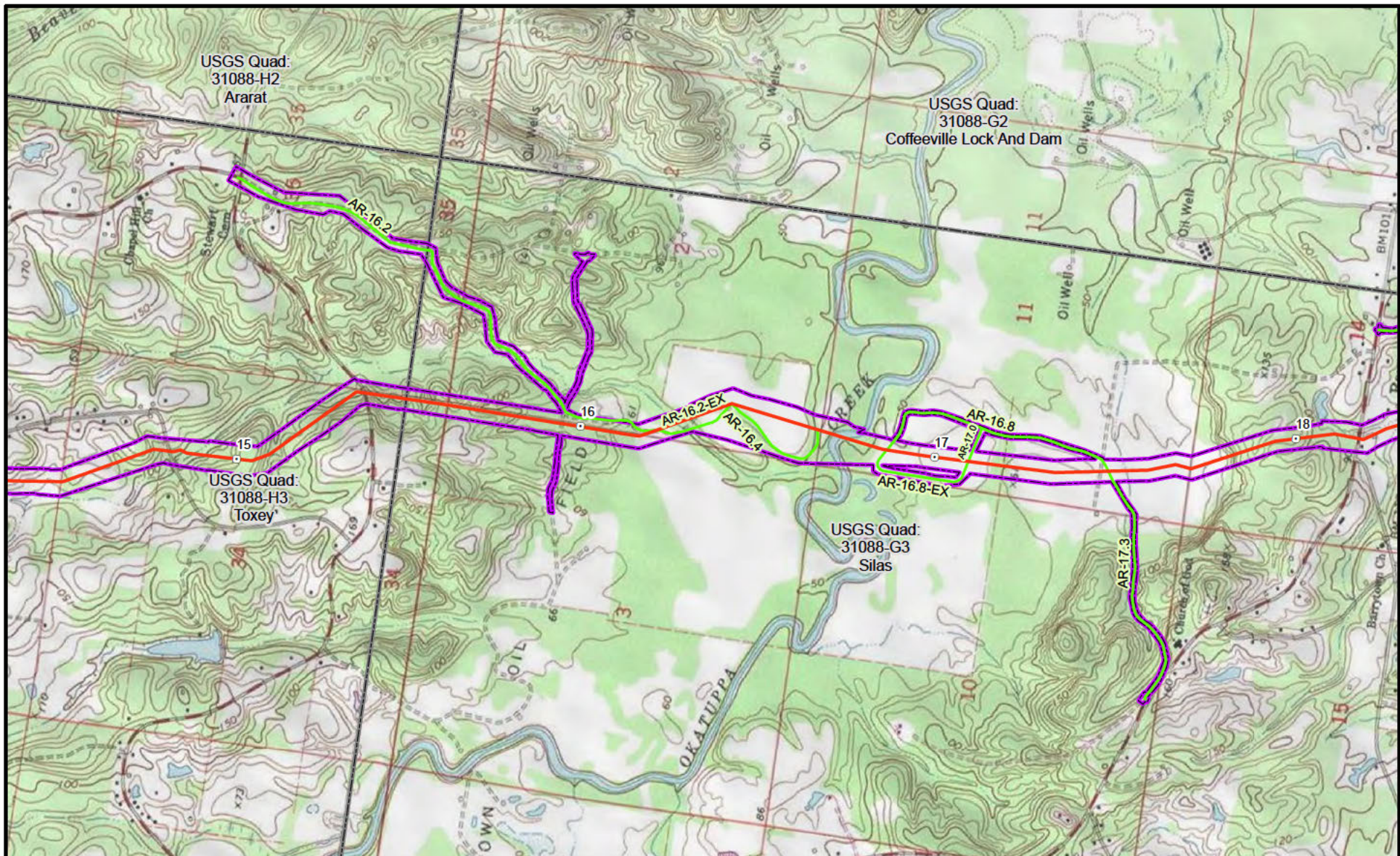
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NEXTERA ENERGY

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NextEra Energy Pipeline Holdings (Lowman), Inc.
Lowman Pipeline Project

Figure 2
 USGS Topographic Site Maps
 Choctaw and Washington Counties, Alabama



Legend

- Milepost
- Proposed Pipeline
- Access Road
- Pipe Yard
- Survey Area
- USGS Quadrangle

Scale: 1:24,000

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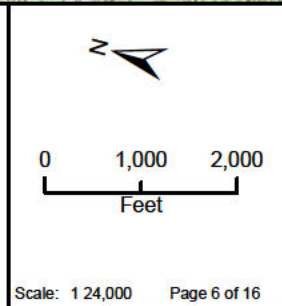
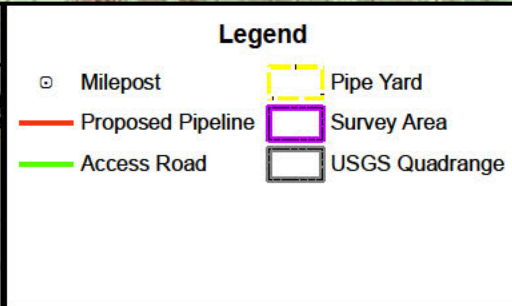
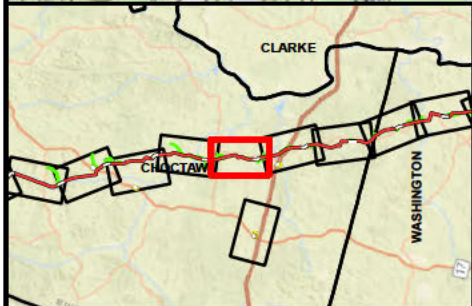
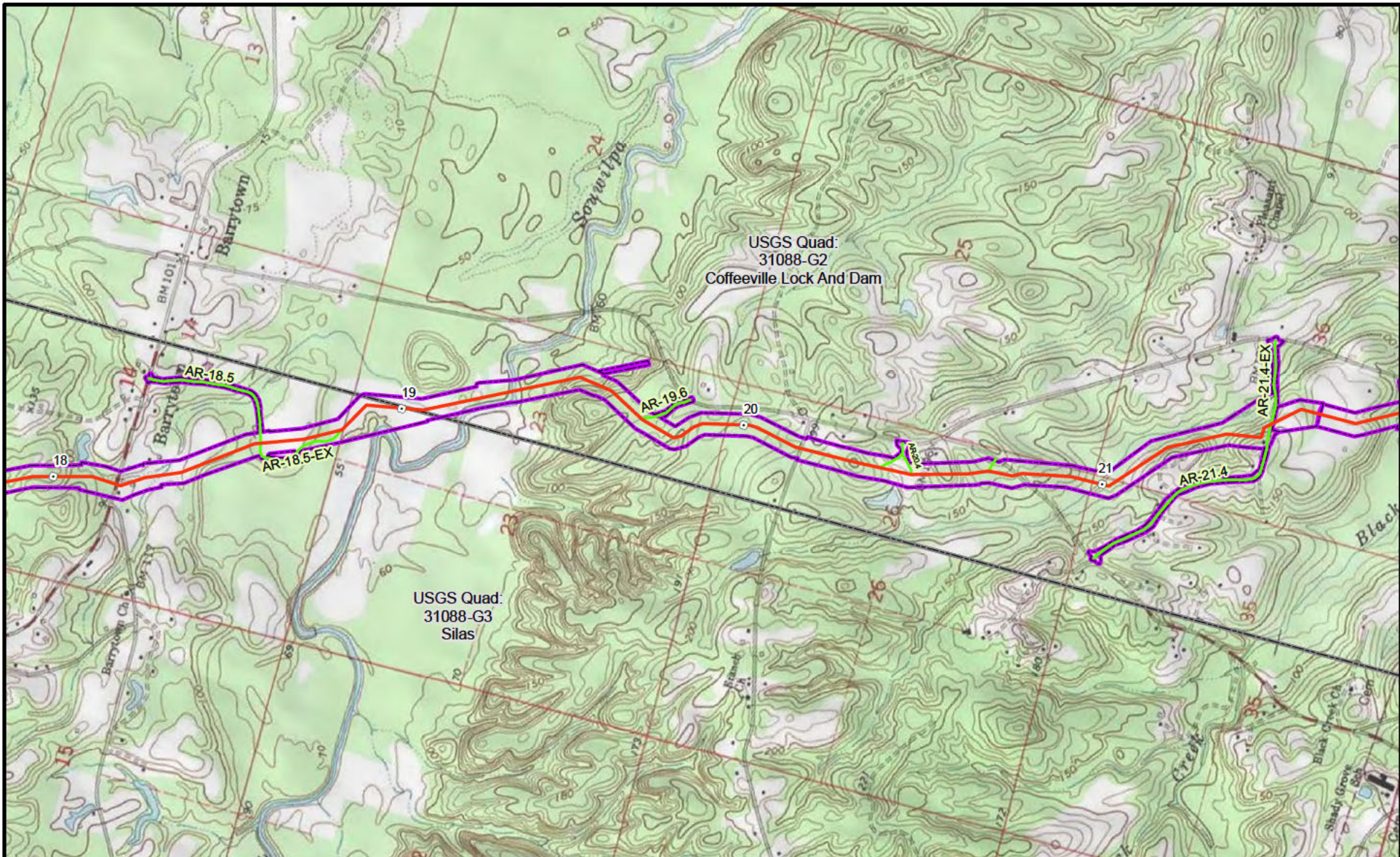
0 1,000 2,000 Feet

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NextEra Energy Pipeline Holdings (Lowman), Inc.
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Figure 2
USGS Topographic Site Maps
Choctaw and Washington Counties, Alabama



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Figure 2
USGS Topographic Site Maps
Choctaw and Washington Counties, Alabama

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