

Langdale and Riverview Projects Decommissioning Plan



**FERC Nos.
2341
2350**



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Georgia Power

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ACRONYMS

A

ADEM	Alabama Department of Environmental Management
AIR	Additional Information Request
APEA	Applicant Prepared Environmental Assessment

B

BMP	Best Management Practice
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C

CBMPP	Construction Best Management Practices Plan
C.F.R.	Code of Federal Regulation
cfs	Cubic Feet per Second
COVID-19	Coronavirus Disease 2019
Crow Hop Dam	Crow Hop Diversion Dam
CY	Cubic Yards
CZMA	Coastal Zone Management Act

E

EAWSPFD	East Alabama Water, Sewer and Fire Protection District
ESPCP	Erosion, Sedimentation, and Pollution Control Plan

F

ft	Feet
FERC	Federal Energy Regulatory Commission
FPC	Federal Power Commission
FSP	Final Study Plan

G

GA HPD	Georgia Department of Community Affairs – Historic Preservation Division
GA EPD	Georgia Environmental Protection Division
Georgia Power	Georgia Power Company
GSWCC	Georgia Soil and Water Conservation Commission

H

H&H	Hydraulic and Hydrologic
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K

kW kilowatt

L

Langdale Project Langdale Dam and Powerhouse

M

Minor Project Hydro Project Less than 5 MWs
MOA Memorandum of Agreement
MOU Memorandum of Understanding

N

NHPA National Historic Preservation Act
NOI Notice of Intent
NPDES National Pollutant Discharge Elimination System

P

PME protection, mitigation, and enhancement
Projects Langdale and Riverview Projects
PSP Proposed Study Plan

R

Riverview Project Riverview Dam, Crow Hop Dam, and Riverview Powerhouse
RM river mile

S

SBAT Shoal Bass Abundance and Tracking
SHPO State Historic Preservation Office
SWPPP Stormwater Pollution Prevention Plan
SPCC Spill, Prevention, Control, and Countermeasure

U

USACE U.S. Army Corps of Engineers
USFWS U.S. Fish and Wildlife Service

1.0 INTRODUCTION

Georgia Power Company (Georgia Power) is the Federal Energy Regulatory Commission (FERC) licensee for the Langdale Project (FERC No. 2341) and the Riverview Project¹ (FERC No. 2350) (collectively, the “Projects”). On December 18, 2018², Georgia Power filed a Notice of Intent (NOI) to not seek a subsequent license with FERC and applications for license surrender for the Projects in accordance with FERC regulations at 18 Code of Federal Regulations (C.F.R.) § 6.1 and 6.2. The licenses for the Projects expire on December 31, 2023.

1.1 Purpose of the Decommissioning Plan

The Dam Decommissioning Plan is Georgia Power’s comprehensive plan to decommission the Langdale powerhouse in place, decommission and demolish the Riverview powerhouse, and remove the remaining portions of the Projects³. Removal of the Projects would benefit aquatic species in the Chattahoochee River by enhancing the area’s riverine shoal habitat consistent with Georgia Power’s ongoing environmental stewardship efforts and provide a scenic and unobstructed stretch of river for local communities and visitors, including enhanced river connectivity for natural recreational paddling experiences.

Georgia Power has partnered with the U.S. Fish and Wildlife Service (USFWS) for the Projects’ decommissioning. Georgia Power filed the May 31, 2019, USFWS letter of support⁴ that described the development of a Memorandum of Understanding (MOU) between Georgia Power and the USFWS for the removal of Project dams on the Chattahoochee River. Georgia Power and the USFWS entered into the MOU on July 10, 2022 (Appendix A). Under the MOU, USFWS is to provide dam removal expertise as it relates to river connectivity and restoration and on-site construction support.

This Decommissioning Plan includes the following content by section:

¹ The Riverview Project includes the Riverview Dam and the Crow Hop Dam.

² Accession Number 20181218-5451 and 20181218-5452

³ A small portion of all three dams (Langdale Dam, Crow Hop Dam, and Riverview Dam) abutments will remain.

⁴ Accession Number 20191024-5081

- Section 1 provides the intent of the Decommissioning Plan and an overview of the decommissioning process to date
- Section 2 describes the Projects' components as they exist today
- Section 3 summarizes the regulatory requirements at the federal and state levels
- Sections 4 through 6 describe the removal activities for each dam and powerhouse, including pre removal, removal, and post-removal phases
- Section 7 provides a schedule for construction activities
- Section 8 summarizes the anticipated plans necessary for the decommissioning and associated construction activities
- Section 9 summarizes the post-removal monitoring activities
- Section 10 summarizes the cost of removing the facilities
- Section 11 provides literature cited in this Dam Decommissioning Plan

1.2 Georgia Power's Proposed Action

Georgia Power proposes to surrender the Project licenses and decommission the Projects. The decommissioning consists of:

- Removing all of Langdale Dam except approximately 300 feet on the east side, (which will be lowered approximately 8 feet); 10-foot portions of the abutments will remain unaltered on both sides of the river for historic documentation
- Decommissioning the Langdale powerhouse in place including placing concrete in the head gate openings and decommissioning the electrical and mechanical hydropower equipment
- Removing the Crow Hop Dam in its entirety (less 10-foot portions of the abutments preserved for historic documentation)
- Removing the Riverview Dam in its entirety (less approximately 10-foot portion of the southern abutment preserved for historic documentation and 25-foot portion of northern abutment preserved for historic documentation and to provide additional bank protection)
- Removing the Riverview powerhouse including all mechanical and electrical equipment and in-place decommissioning of the masonry, steel, and concrete structure

In addition to the removal activities, Georgia Power proposes to construct a:

- Side channel at Langdale to ensure water flows through the Langdale tailrace

- Day use park at Langdale
- Rock ramp at Crow Hop to protect the integrity of the existing rock weir #3 and provide flow in the Riverview headrace channel

Georgia Power also proposes to provide shoreline and riverbed scour protection at the southern end of the Riverview headrace channel. Details of the decommissioning including pre removal, removal, and post-removal activities are provided in Sections 4 through 6.

1.3 Proposed Protection, Mitigation, and Enhancement Measures

Georgia Power proposes specific protection, mitigation, and enhancement (PME) measures during the dam removal process. Table 1-1 provides a list of each PME measure by site and provides information on when in the decommissioning process each PME measure would be implemented. Georgia Power will comply with all applicable Best Management Practices (BMPs) and regulatory requirements.

Table 1-1 Environmental and Recreation PME Measures

PROPOSED ENVIRONMENTAL/RECREATIONAL PME MEASURES	LANGDALE	CROW HOP	RIVERVIEW	REMOVAL PHASE
<ul style="list-style-type: none"> • Implement the Post Removal Shoal Bass Abundance and Tracking Study. 	✓	✓	✓	Post Removal
<ul style="list-style-type: none"> • Implement Post Removal Monitoring Plan <ul style="list-style-type: none"> ○ Develop outfall pipe armoring/extension if needed ○ Revegetation Plan ○ Monitoring and agency consultation 	✓	✓	✓	Post Removal
<ul style="list-style-type: none"> • Boat Ramp above Langdale - Extend existing public boat ramp at airport to at least 2 feet of water depth at the new water surface elevation (measured at West Point minimum flow) following dam removal and river stabilization. 	✓			Post Removal
<ul style="list-style-type: none"> • Boat Ramp below Langdale - Extend existing public ramp below powerhouse (Cemetery Park) to at least 2 feet of water depth at the new water surface elevation (measured at West Point minimum flow) following dam removal and river stabilization. 	✓			Post Removal
<ul style="list-style-type: none"> • Langdale Park – Design and construct new day-use park in the city of Valley adjacent to river: <ul style="list-style-type: none"> ○ Construct 3 pavilions (~24'x36'). ○ Install 8 picnic tables. ○ Construct a ~0.5-mile-long gravel walkway connected to the parking lot with views of the riverfront. ○ Install three benches along the gravel walking trail. ○ Construct a parking lot for approximately 13 vehicles, including one barrier-free space and overhead lighting. ○ Provide public access to the new car-top boat area with hand-carry access to the river, includes parking for three non-trailer vehicles. These facilities will be incorporated into the proposed new Langdale Park. ○ Regrade and gravel access road to the car-top/hand carry boat access. 	✓			Post Removal
<ul style="list-style-type: none"> • Leave 10-foot dam abutment on west side of the Langdale Dam; leave ~300 feet on the east side of the Langdale Dam at a lower elevation and the 10 feet abutting the shoreline at full height. 	✓			Removal

PROPOSED ENVIRONMENTAL/RECREATIONAL PME MEASURES	LANGDALE	CROW HOP	RIVERVIEW	REMOVAL PHASE
<ul style="list-style-type: none"> Implement the stipulations of the Memorandum of Agreement between the FERC, Georgia State Historic Preservation Officer (SHPO) and the Alabama SHPO (Cultural MOA) including recordation, avoidance, protective covenants, post-dam removal monitoring, and public education/interpretation. 	✓	✓	✓	Pre Removal, Removal, Post Removal
<ul style="list-style-type: none"> Perform or cause to be performed Level II Historic American Buildings Survey Historic American Engineering Record (HAER) documentation of the Langdale Dam and powerhouse, to include a historic narrative, measured drawings, and medium format black and white photography, and submit documentation to the National Park Service (NPS) for approval. This record will be housed at the Georgia and Alabama SHPO, and be available to the public at the Cobb Memorial Archives at the Chambers County Library in Valley, AL. 	✓	✓	✓	Pre Removal
<ul style="list-style-type: none"> Develop educational material, including interpretive signage to be located in the proposed new Langdale Park. 	✓	✓	✓	Post Removal
<ul style="list-style-type: none"> Leave 10-foot dam abutments on east and west sides of the Crow Hop Dam. 		✓		Removal
<ul style="list-style-type: none"> Each rock weir structure (3) at Crow Hop will be captured with photo documentation to the extent possible during dam removal. 		✓		Removal, Post Removal
<ul style="list-style-type: none"> Construct a rock ramp to preserve rock weir #3 and maintain flow in the Riverview headrace channel. 			✓	Removal
<ul style="list-style-type: none"> Leave a 10-foot dam abutment on south side of Riverview Dam and approximately 25-foot abutment on the north side of the Riverview Dam. 			✓	Removal
<ul style="list-style-type: none"> Perform or cause to be performed Level II Historic American Buildings Survey Historic American Engineering Record documentation of the Riverview Dam and powerhouse, to include an historic narrative, measured drawings, and medium format black and white photography and submit documentation to the NPS for approval. This record will be housed at the Georgia and Alabama SHPO, and be available to the public at the Cobb Memorial Archives at the Chambers County Library in Valley, AL. 			✓	Pre Removal, Removal
<ul style="list-style-type: none"> Provide bank and bed scour protection in southern end of the Riverview headrace channel. 			✓	Removal

PROPOSED ENVIRONMENTAL/RECREATIONAL PME MEASURES	LANGDALE	CROW HOP	RIVERVIEW	REMOVAL PHASE
<ul style="list-style-type: none"> Boat Ramp at Riverview Park - Extend existing public ramp to at least 2 feet of water depth at the new water surface elevation (measured at West Point minimum flow) following dam removal and river stabilization. 			✓	Post Removal
<ul style="list-style-type: none"> Develop and implement an Erosion and Sediment Control Plan 	✓	✓	✓	Pre Removal, Removal
<ul style="list-style-type: none"> Implement the Aquatic Organism Recovery Survey and Relocation Plan 	✓	✓	✓	Removal

1.4 Summary of Decommissioning Process

As noted in Section 1.1, Georgia Power filed applications for license surrender on December 18, 2018⁵. On April 11, 2019, FERC issued an additional information request (AIR)⁶ regarding the decommissioning studies proposed by Georgia Power. As part of its response, Georgia Power filed the Proposed Study Plan (PSP) on May 24, 2019⁷ to provide additional information on the proposed studies to support its surrender applications for the Projects. Georgia Power filed the Final Study Plan (FSP) on July 24, 2019⁸ and filed draft Study Reports on September 21, 2020⁹.

The draft study reports included:

- Langdale and Riverview Projects Decommissioning Draft Hydraulic and Hydrologic Modeling Report
- Potential Effects of Dam Removal on Shoal Bass
- Water Quality Study Report
- Freshwater Mussel Survey Report
- Archaeological Reconnaissance Survey of the Chattahoochee River, Harris County, GA
- Archaeological Survey of 20 Acre Island in the Chattahoochee River, Harris County GA
- Archaeological Testing of Two Sites on the Chattahoochee River, 9HS30 and S9HS31, Harris County, GA

On October 5, 2020, Georgia Power held a Public Meeting to present the study results to stakeholders. The meeting consisted of an afternoon and evening session held virtually due to concerns with Coronavirus Disease 2019 (COVID-19). On November 18, 2020, FERC issued a letter commenting on the study results for the Langdale and Riverview Projects¹⁰ and requested additional information on the study reports listed above.

To address FERC's information request and in consultation with the resource agencies, Georgia Power developed the Shoal Bass Abundance and Tracking Study Plan filed with

⁵ Accession Number 20181218-5451 and 20181218-5452

⁶ Accession Number 20190411-3007

⁷ Accession Number 20190524-5217

⁸ Accession Number 20190724-5110

⁹ Accession Number 20200921-5036

¹⁰ Accession Number 20201118-3015

FERC on April 28, 2021 and developed the Sediment Testing Study Plan¹¹ and Sediment Transport Assessment Study Plan. All three study plans were provided to agencies for review and comment between June and September 3, 2021.

The decommissioning approach for each dam was developed taking into consideration the following:

- Analyses and results of the Projects' studies
- Agency/stakeholder consultation
- Natural resources present (e.g., shoal bass, mussels)
- Hydraulic conditions in the Chattahoochee River in Project area¹²
- Sediment volume, quality, and transportation rates
- Cultural resources on the shorelines and in proposed construction areas
- Historical resources associated with the Projects
- Public input on fishing, boating, recreation and other topics

Concurrent with filing this Decommissioning Plan, Georgia Power is also filing the following final documents, which have undergone an agency and public comment¹³ review period:

- Final Hydraulic and Hydrologic Study Report
- Final Water Quality Study Report
- Final Potential Effects of Dam Removal on Shoal Bass
- Freshwater Mussel Survey Report
- Archaeological Reconnaissance Survey of the Chattahoochee River, Harris County, GA (privileged)
- Archaeological Survey of 20 Acre Island in the Chattahoochee River, Harris County GA (privileged)
- Archaeological Testing of Two Sites on the Chattahoochee River, 9HS30 and S9HS31, Harris County, GA (privileged)

¹¹ This study title was changed to "Sediment Quality."

¹² The Project area refers to the land and water in the Project boundary and immediate geographic area adjacent to the Project boundary.

¹³ Privileged implies that these documents contain sensitive information that are provided only to cultural resource agencies and tribes.

- Langdale Hydroelectric Generating Project (FERC #2341) and Riverview Hydroelectric Generating Project (FERC #2350), Harris County, Georgia - Assessment of Effects for Archaeological Sites 9HS30, 9HS525, 9HS526, 9HS527, 9HS528, 9HS529, 9HS530, 9HS531, 9HS532, and 9HS533 (privileged)

Georgia Power is filing the following draft documents, which have not undergone a public comment period, concurrent with the Decommissioning Plan:

- Draft Pre Dam Removal Shoal Bass Abundance and Tracking Study Report
- Draft Sediment Quality Study Report
- Draft Sediment Transport Assessment Study Report
- Relict Trillium Survey Technical Memorandum

In addition, Georgia Power is filing the Applicant Prepared Environmental Assessment (APEA) that provides an analysis of the proposed decommissioning on environmental, cultural, and recreational resources at the Projects

All Draft and Final documents are available on FERC's e-library (<https://elibrary.ferc.gov/eLibrary/search>).

Based on the decommissioning approach identified through the study results and agency and other stakeholder consultation, Georgia Power developed 90-percent design drawings¹⁴ for each Project decommissioning (Appendices B – D).

¹⁴ Note that the 90 percent design drawings are not final construction drawings.

2.0 PROJECT DESCRIPTION

The Projects are located on the Chattahoochee River between the U.S. Army Corps of Engineers' (USACE) West Point Dam, which is located approximately 9.5 miles upstream of the Projects, and Lake Harding (the reservoir for Georgia Power's Bartletts Ferry Project) located downstream of the Projects (Figure 2-1).

The dams and powerhouses lie within the state of Georgia. The river flow at the Projects is regulated by the discharges from the upstream USACE's West Point Dam, which contains a hydroelectric station that operates as a peaking facility, and which serves flood control and other purposes. From upstream to downstream, the Projects include the Langdale Dam and powerhouse (Langdale Project), and the Crow Hop Diversion Dam (Crow Hop Dam) and Riverview Dam and powerhouse (Riverview Project) (Figure 2-2). The Projects' components are shown in Figure 2-3.

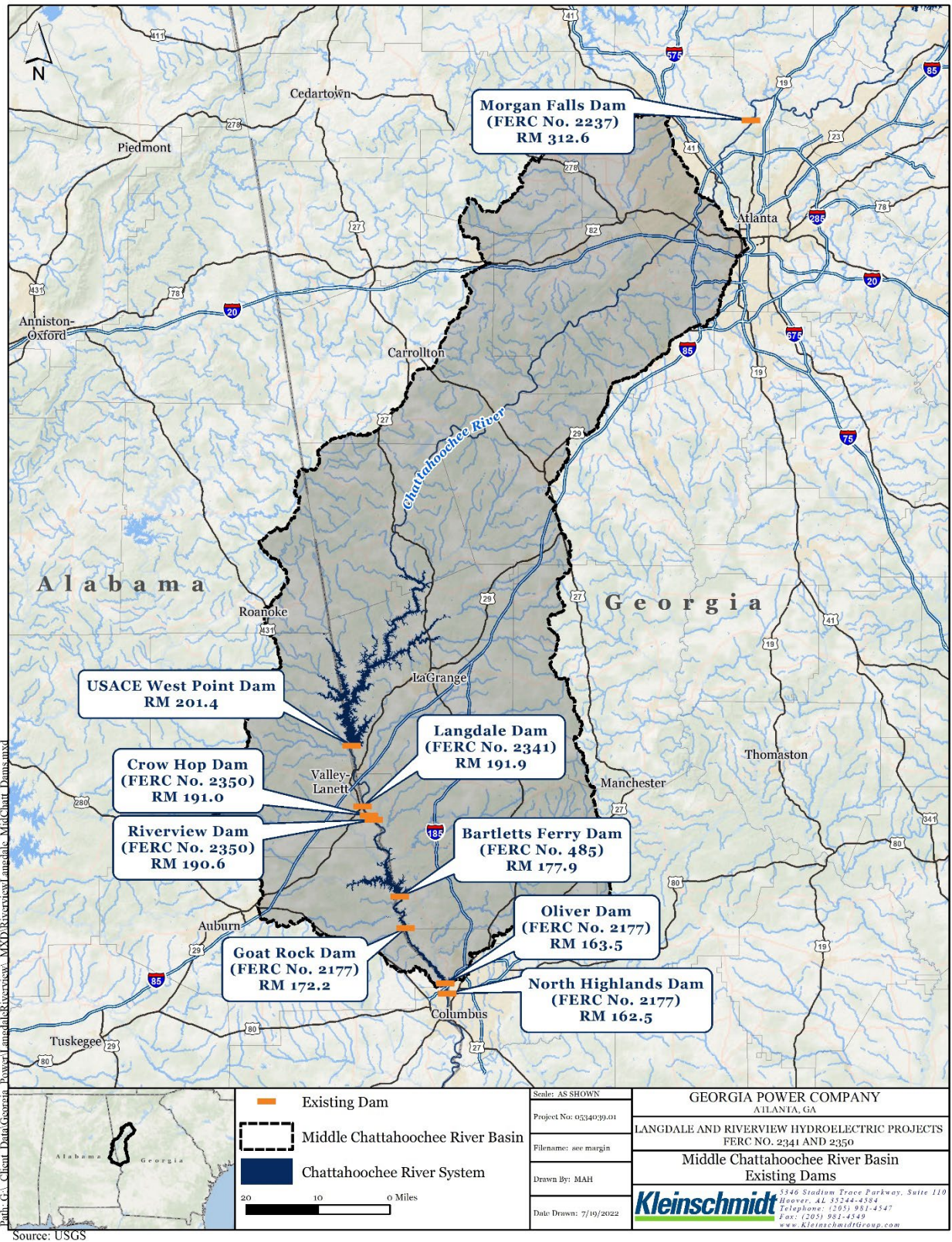


Figure 2-1 Middle Chattahoochee River Basin Existing Dams

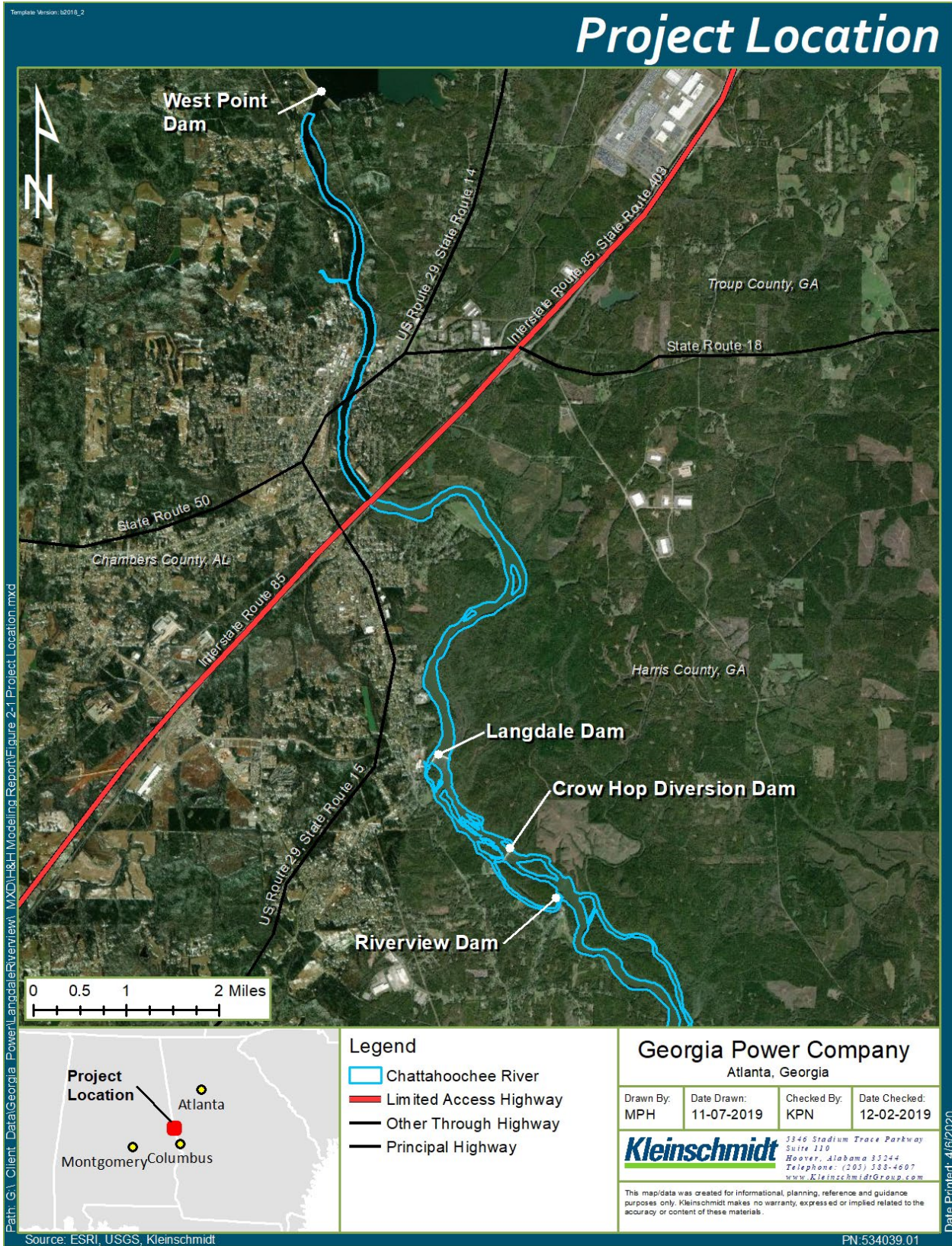


Figure 2-2 Location of Langdale and Riverview Projects

Projects' Components

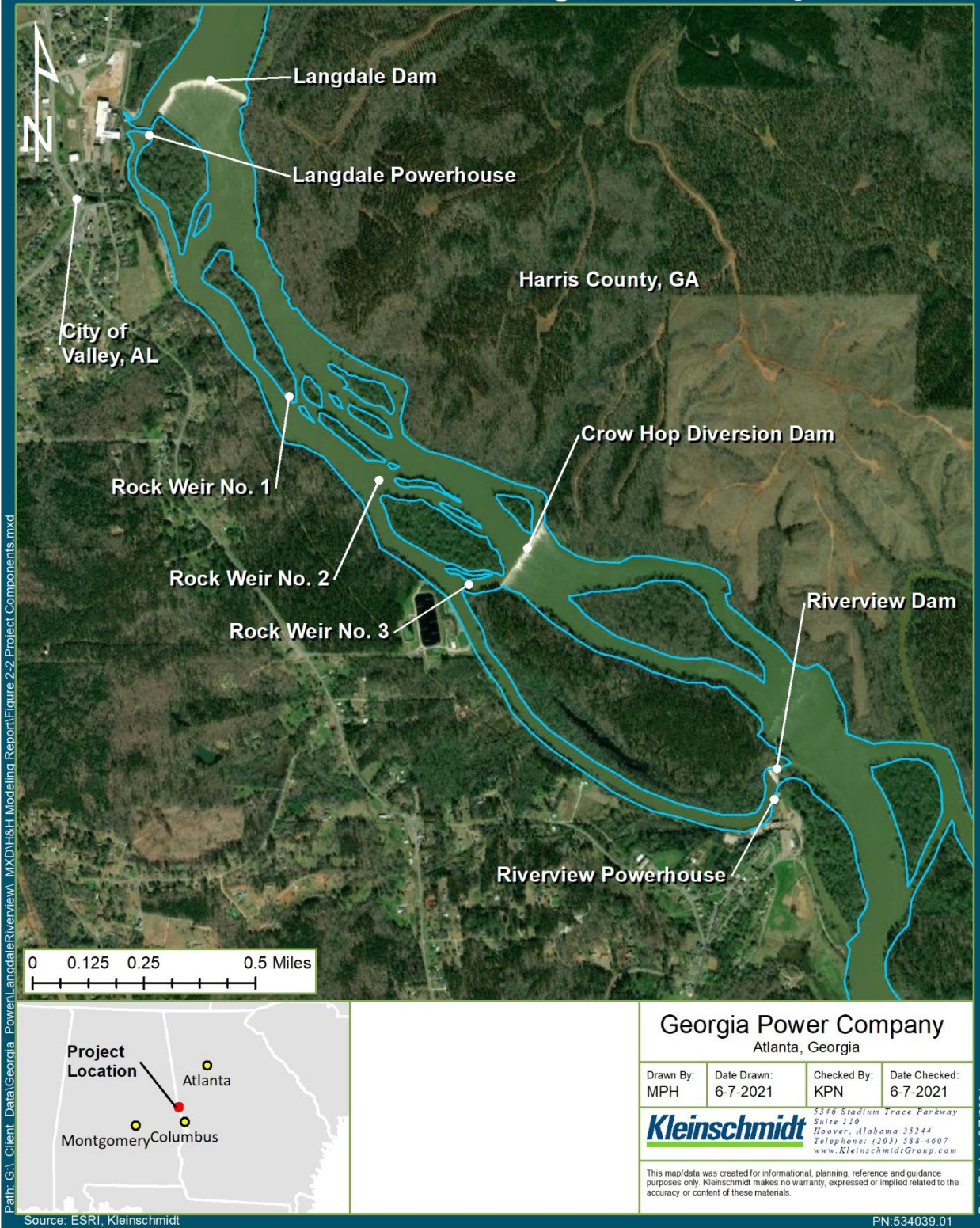


Figure 2-3 Project Components

2.1 Langdale Project

The Langdale Project (Photo 2-1) was first licensed by FERC's predecessor agency, the Federal Power Commission (FPC), on October 15, 1964. An Order Issuing Subsequent License (Minor Project) was issued by FERC on May 24, 1993, and the current license expires on December 31, 2023. The Langdale Project was designed as a run-of-river project. The Project is not currently operating and has not operated since 2009 (Georgia Power 2018a).



Note: View looking west from Georgia side of the Chattahoochee River at the Langdale Dam

Photo 2-1 Langdale Dam

The Langdale Project is located at RM 191.9 on the Chattahoochee River, in the city of Valley, Alabama (USACE 2016) along the border of Georgia and Alabama. Langdale Dam is located approximately 9.5 RMs downstream of the USACE West Point Dam (RM 201.4), which began operation in 1976 and regulates the flow through the Middle Chattahoochee River region. The Langdale impoundment starts at approximately RM 196.5, approximately 5 miles downstream of the West Point Dam.

The Langdale Project was purchased by Georgia Power from West Point Manufacturing Company in 1930. There are few details available regarding the construction of the dam and powerhouse; however, the dam and powerhouse were built for West Point

Manufacturing Company by Hardaway Construction Company between 1904 and 1908. West Point Manufacturing Company utilized the Langdale Project to supply water and power to their mill adjacent to the dam. Turbines with horizontal generators were installed in the powerhouse as early as 1907; eventually, a total of four horizontal units were installed. A fifth unit, with a direct-coupled vertical generator, was installed in 1924, and a similar sixth unit was installed in 1926. This produced some of the electricity needed to run the mills; the remaining electricity was purchased from the local utility. In 1930, West Point Manufacturing Company determined that it was more efficient to obtain all the electricity from the local utility and sold the Langdale Project to Georgia Power (Georgia Power 2018a).

Beginning in 1930, Georgia Power operated the six generating units at the Langdale Project. Over time, the four horizontal units became a maintenance problem, and eventually were no longer operable or repairable. Generation records suggest that Georgia Power stopped operating the horizontal units in approximately 1954. The horizontal units were officially retired in 1960, leaving only the two 520 kilowatt (kW) vertical units operating at the Langdale Project; these two units remain in place in the powerhouse but have not operated since 2009. The horizontal unit openings in the powerhouse floor have been formed and filled with concrete (Georgia Power 2018a).

2.1.1 Project Features

The Langdale Project consists primarily of an approximately 1,300-foot-long, 12-foot-tall¹⁵ stone masonry dam across the Chattahoochee River that forms the headpond for the Langdale powerhouse located on the west side of the river (Figure 2-4). The existing Exhibit G Project boundary map, which includes the Project works (dam, powerhouse, and east bank abutment), is described as metes and bounds.

The Langdale powerhouse (Photo 2-2) and concrete bulkhead wall span from the western shore to the mid-river island, with the powerhouse tailrace discharging to the south, where its flow joins that of Moore's Creek. The approximately 220-foot-long stone masonry powerhouse abutment wall joins the Langdale powerhouse to the masonry dam.

¹⁵ Original drawings cited 15-foot-tall but recent survey shows 12 feet.



Photo 2-2 Langdale Powerhouse

An approximately 420-foot-long concrete diversion wall (Photo 2-3) protects the upstream (north) side of the mid-channel island.



Photo 2-3 View of Concrete Diversion Wall

Note: View is downstream of the dam looking upstream from the mid-channel island at Langdale dam diversion wall

Figure 2-4 provides an aerial view of the Langdale Project features.

Langdale Project Location

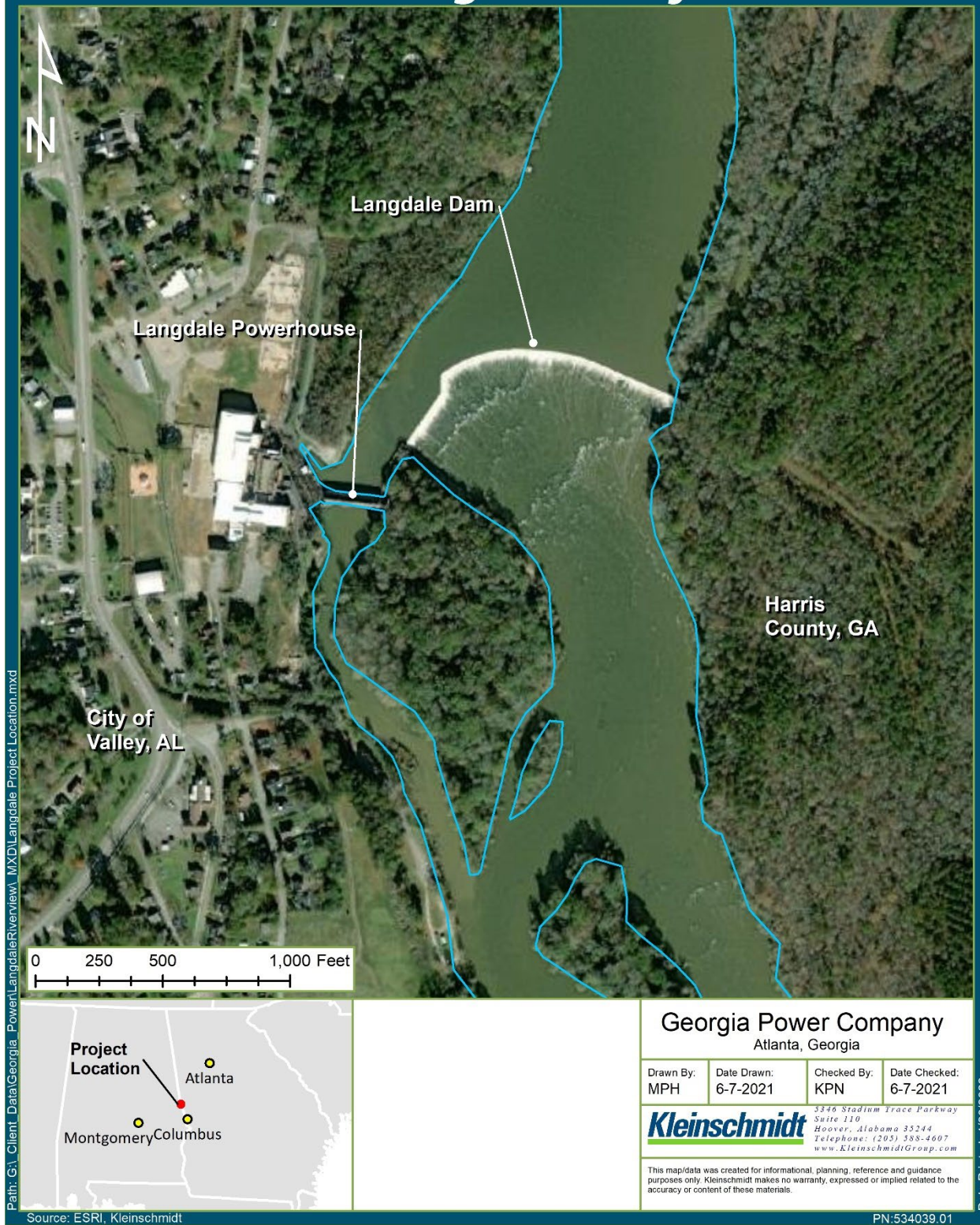


Figure 2-4 Langdale Project Features

2.2 Riverview Project

The Riverview Project consists of two separate dams, Riverview Dam and Crow Hop Dam, and the Riverview powerhouse with generating equipment located on the right (south) abutment of Riverview Dam. Crow Hop Dam is the upstream dam and is situated across the main river, diverting flow into a headrace channel between an island and the right bank of the river. The headrace channel is approximately 1-mile-long. Riverview Dam and powerhouse are located at the lower end of this headrace channel (Georgia Power 2018b).

The Riverview Project was first licensed by FPC on March 2, 1965; FERC issued an Order Issuing Subsequent License (a Minor Project on May 24, 1993). The current license expires December 31, 2023. The Riverview Project was designed as a run-of-river project. It has not operated since 2009 (Georgia Power 2018b).

The Riverview Project is located at approximately RM 191.0 (Crow Hop Dam) and RM 190.6 (Riverview Dam) on the Chattahoochee River, downstream of the city of Valley, Alabama and in Harris County, Georgia (USACE 2016). The Riverview Project is located approximately 10.5 RM downstream of the USACE West Point Project and 0.9 RM downstream of the Langdale Project (Georgia Power 2018b).

The Riverview Project was constructed in phases. The Riverview Dam (the smaller downstream dam adjacent to the powerhouse) was constructed in 1906 by Hardaway Construction Company for West Point Manufacturing Company. Originally, the dam diverted water into the then adjacent mill building to provide power for mill operation. The existing powerhouse was built in 1918 and houses two 240-kW generating units. Crow Hop Dam was constructed in 1920. Both the Riverview and Crow Hop dams are of concrete construction. The Riverview powerhouse produced some of the electricity needed to run the mills, and the remaining electricity was purchased from the local utility. In 1930, West Point Manufacturing Company determined that it was more efficient to obtain all the electricity from the local utility and they sold the Riverview Project to Georgia Power. In 1978, 2-foot-high wooden flashboards were added to Riverview Dam adjacent to the powerhouse (Georgia Power 2018b), however these are no longer present on the spillway.

In 1930, Georgia Power began operating the two generating units at the Riverview Project. Over time, the units became a maintenance problem, and eventually were no longer operable or repairable. Georgia Power stopped operating the units in 2009 (Georgia Power 2018b).

2.2.1 Project Features

The Riverview Project consists primarily of the Crow Hop Dam (Photo 2-4) on the main (east) stem of the Chattahoochee River, the Riverview Dam at the downstream end of the Riverview headrace (west channel of the river), and the Riverview powerhouse (Photo 2-5) at the southern end of the Riverview Dam. The Crow Hop Dam is an approximately 950-foot long, 9-foot-tall concrete dam with its east abutment on the east bank of the river, while the west abutment is on a mid-channel island that is located between the main stem of the river and the Riverview headrace channel. There is a rock weir (third in a series in the river upstream of Riverview headrace channel) at the upstream end of a channel that connects the Riverview headrace to the main stem. Rock weir #3 terminates into the mid channel island just upstream of the west abutment of Crow Hop Dam (Photo 2-6). Figure 2-5 provides an aerial view of the Riverview Project features. The existing Exhibit G Project boundary map, which includes the Project works (dams, powerhouse), is described as metes and bounds.



Note: View is just below dam looking upstream and north.

Photo 2-4 Crow Hop Dam



Note: View: from Riverview headrace channel above dam, looking downstream

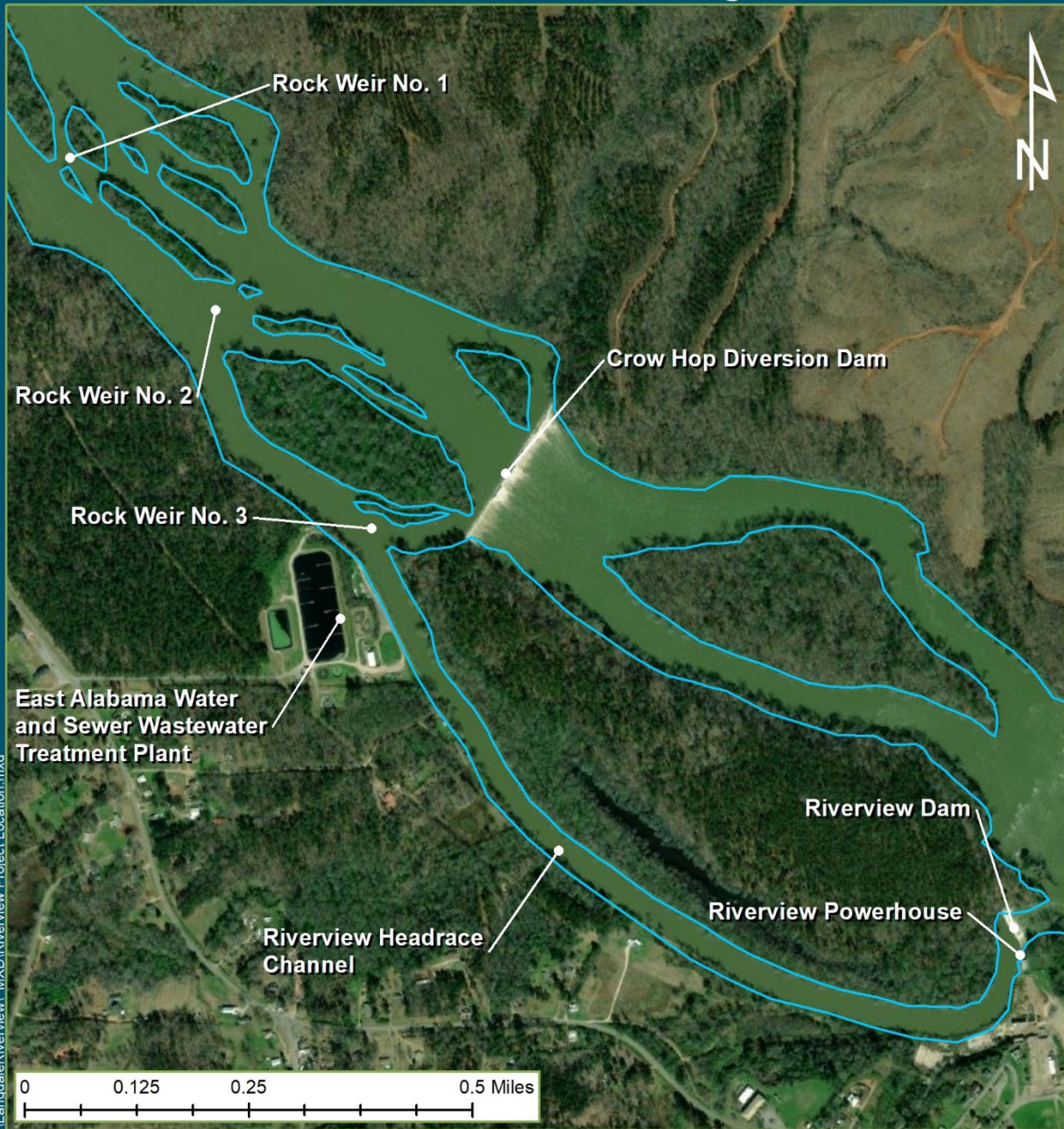
Photo 2-5 Riverview Powerhouse



Note: View is looking upstream and north from near the mid-channel island south of this weir.

Photo 2-6 Existing Rock Weir #3 at Upstream End of Riverview Headrace

Riverview Project Location



Path: G:\Client_Data\Georgia_Power\Langdale\Riverview_MXD\Riverview Project Location.mxd



Source: ESRI, Kleinschmidt

Georgia Power Company
Atlanta, Georgia

Drawn By: MPH	Date Drawn: 6-7-2021	Checked By: KPN	Date Checked: 6-7-2019
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Date Printed: 6/7/2021

PN:534039.01

Figure 2-5 Riverview Project Features

The Riverview Dam is an approximately 205-foot-long, 9-foot-tall concrete dam with its north abutment on the same mid-channel island as the western abutment of the Crow Hop Dam.

The south abutment of the Riverview Dam (Photo 2-7) abuts the Riverview powerhouse at the southern end of the Riverview headrace channel. The powerhouse discharges on the western side of an island that has its northern terminus at the junction of the Riverview Dam and powerhouse. Riverview Dam spillway discharges on the northern end of this same island and then flows in the main channel down the eastern side of this island. An approximately 370-foot-long masonry diversion wall protects the eastern side of the island. This Project component is shown on the left side of Photo 2-7.



Note: View is standing on the mid-channel island downstream of the dam, looking upstream and north.

Photo 2-7 Riverview Dam

3.0 REGULATORY AND COMPLIANCE SUMMARY

3.1 Existing Project Operations Description

As described in Section 1.2, the Projects have not operated since 2009. Prior to discontinuing operations, the Projects were operated as run-of-river.

3.2 Land Ownership

There are no federal lands within the Projects' boundaries. Georgia Power proposes to use fee title and private lands for removal activities including vehicle access, parking, equipment storage, and placement of rubble from the removal.

Georgia Power consulted and met individually with landowners to gain additional access to non-Georgia Power lands needed for construction. Agreements with landowners will be finalized following issuance of a FERC order approving the license surrender and decommissioning and prior to construction.

3.3 Regulatory Requirements

Georgia Power has consulted with federal and state agencies, Federally recognized tribes, local governments, and other stakeholders to draft its comprehensive Dam Decommissioning Plan for the Langdale and Riverview Projects. All applicable regulatory requirements are described in detail in the APEA and summarized in Table 3-1.

Table 3-1 Langdale and Riverview Projects Regulatory and Compliance Requirements

STATUTE	SECTION	LANGDALE AND RIVERVIEW PROJECTS APPLICABILITY
Clean Water Act	401(a)(1)	<ul style="list-style-type: none"> Georgia Power is filing a Clean Water Act section 401 Water Quality Certification (WQC) application with the Georgia Environmental Protection Division (Georgia EPD), which issued the original Water Quality Certification (WQC) for the state of Georgia for the Langdale and Riverview Projects
Clean Water Act	404	<ul style="list-style-type: none"> Georgia Power will work with the USACE to apply for a Section 404 permit. This permit is required before dredged or fill material may be discharged into waters of the United States. Early preapplication consultation with the USACE indicates that work for this project can be completed under Nationwide permits, which will not require a Section 401 permit for 404 activities
Endangered Species Act	7(a)(2)	<ul style="list-style-type: none"> Georgia Power is the non-federal representative for purposes of consultation under Section 7 of the Endangered Species Act No federally threatened and endangered species or critical habitat are known to occur within the Langdale and Riverview Project Area
Magnuson-Stevens Fishery Conservation and Management Act	305(b)	<ul style="list-style-type: none"> No Essential Fish Habitat is located in the Langdale and Riverview Project Area
Coastal Zone Management Act (CZMA)	307(c)(3)(A)	<ul style="list-style-type: none"> The Langdale and Riverview Projects are not located within a coastal zone. Georgia Power contacted Ms. Kelie Moore, the Federal Consistency Coordinator, Georgia Coastal Resources Division on July 25, 2022. Ms. Moore advised that a letter from the Coastal Resources Division defining the 11-county coastal region is found on the Georgia State Clearinghouse website and would be appropriate for filing with FERC.
National Historic Preservation Act (NHPA)	106	<ul style="list-style-type: none"> Georgia Power is the non-federal representative for purposes of consultation with the Georgia Historic Preservation Division (HPD) and Alabama Historical Commission pursuant to Section 106 of

STATUTE	SECTION	LANGDALE AND RIVERVIEW PROJECTS APPLICABILITY
		the NHPA. Georgia Power has developed a MOA with the HPD and AHC
Wild and Scenic Rivers and Wilderness Act		<ul style="list-style-type: none"> No rivers designated under the Federal Wild and Scenic Rivers Act are located within the Projects nor are the Projects in or adjacent to areas designated under the Wilderness Act of 1964

3.4 Presentation of Projects for Decommissioning

Sections 4 through 6 describe the details of the Langdale and Riverview Projects decommissioning and removal activities. While it is common to describe hydroelectric projects from upstream to downstream, this practice does not align with the sequence of the proposed Projects’ dam and powerhouse removal activities. This Decommissioning Plan presents information based on the sequence of the removal, beginning with the Riverview Dam and powerhouse, followed immediately by the Crow Hop Dam, and the Langdale Dam. The Riverview Project (Crow Hop Dam, Riverview Dam, and Riverview powerhouse) will be decommissioned first to minimize sediment accumulation behind these lower impoundments and prevent sedimentation of the East Alabama Water, Sewer, and Fire Protection District’s (EAWSPD) Lower Valley Wastewater Treatment Plant (wastewater treatment plant) discharge to the Riverview headrace channel. This general sequence will be followed for this work; however, certain activities associated with each removal may occur concurrent with activities at the other sites. Ninety percent design drawings for Riverview, Crow Hop, and Langdale are provided in Appendices B-D, respectively.

4.0 RIVERVIEW DAM AND POWERHOUSE REMOVAL

The Proposed Action would result in the removal of the Riverview Dam, decommissioning of the Riverview powerhouse and demolition of the powerhouse structure. These activities will occur in three phases: 1) pre removal, 2) removal, and 3) post removal.

4.1 Riverview Phase 1 – Pre Removal

The removal of Riverview Dam is anticipated to occur in parallel with the removal of Crow Hop Dam (see Section 5), using two construction crews. Prior to any in-water work commencing, Georgia Power will complete the following tasks described below and on the 90-Percent Design Drawing R-100-01.

- Perform any necessary environmental remediation at the Project site (including lead and asbestos remediation); no demolition work will commence until this work is complete
- Disconnect electrical service and transformers and remove mechanical and electrical components of the Project noted for removal on the Project drawings
- Stockpile stone for use in constructing the access roads at the staging area
- Coordinate Project schedule with flow releases at West Point Dam
- Install public safety signs and buoys to warn public of active construction and no trespassing
- Install upland erosion and sediment controls prior to any ground disturbance
- Mark limits of disturbance in upland areas and any resource areas, existing utilities, benchmarks, structures, or infrastructure that are to be protected during this Project
- Mark limits of demolition and proposed fill areas and obtain engineer approval of stakeout
- Install timber mats over sensitive resource areas, as needed, as work commences
- Install interim riverbank stabilization measures in the headrace channel to protect the riverbanks during dam removal

4.2 Riverview Phase 2 - Removal

The demolition of the Riverview Dam and the decommissioning of the Riverview powerhouse are dependent on inflow to the Project. The beginning of demolition, and the associated drawdown of the Riverview reservoir, will occur during the seasonal low flow period and when the USACE West Point Dam is releasing base flow. Weekly coordination with the USACE's Water Management Division will be critical to the construction activities at this Project. Operation of West Point Dam typically includes several hours of peaking generation a day, during which flows can exceed 15,000 cubic feet per second (cfs) that may require construction crews to demobilize during peaking flows. The construction will occur in wet conditions (i.e., no measures will be installed to divert river flow from the construction areas).

Georgia Power anticipates that work will occur each day prior to release of West Point peaking flows in the afternoon, and potentially all-day on weekends when West Point Dam operates at base flow. The hydraulic and hydrologic (H&H) model was utilized to inform the sequencing of removal activities such that the minimum flow requirement of 136 cfs would be met for the EAWSFPD's wastewater treatment plant, located on the Riverview headrace channel (near the Crow Hop Dam) (Figure 4-1). The model shows that Georgia Power should aim to maintain the following minimum flows at all times during the removal to balance flows in this multi-channel system and prevent complete drying out of either of the channels (Kleinschmidt 2022):

- 150 cfs¹⁶ of water flowing in the Riverview headrace channel, and
- Approximately 80 cfs of water flowing in the main channel of the Chattahoochee River

Georgia Power will adjust the removal sequence (e.g., by lowering Crow Hop and Riverview dams more/less quickly in sequence) as necessary, per the engineer's direction to maintain these minimum flows.

Based on the Final Hydraulic and Hydrologic Modeling Report (Kleinschmidt 2022), the anticipated distribution of flows by project stage and sediment evacuation (existing versus adjusted bathymetry) is summarized in Table 4-1, indicating that as long as the Crow Hop

¹⁶ The total West Point minimum flow in the Middle Chattahoochee River is approximately 670 cfs.

and Riverview dams are breached in parallel, the flow distribution is anticipated to maintain the required minimum flows. The existing bathymetry condition is a post removal condition with bathymetric conditions similar to the current riverbed elevations (including most sediment remaining in place), while the adjusted bathymetry represents the anticipated riverbed elevation with the sediment mobilized and evacuated from the impoundment. The actual condition post decommissioning is anticipated to be between the existing and adjusted bathymetry conditions. With weekday peaking operations from West Point Dam, this reach of the Chattahoochee River often experiences frequent changes in water levels (e.g., 1.5-3.0 feet per day between base flow and peaking flow). The dam breaching will be completed in a manner to not exceed 3 feet (ft) of headpond drawdown per day during the removal. This parallel removal will provide National Pollutant Discharge Elimination System (NPDES) permit compliance for the EAWSFPD discharge and preserve wetted habitat in both channels reducing the potential ecological impact of drying out one of these channels during dam removal.

Georgia Power does not plan to use explosives for this dam removal. It is anticipated that tracked excavators with attachments including rock hammers and hydraulic thumbs will be used to demolish the dam. Material from the dams will be moved by the excavators or off-road dump trucks to the final fill disposition area. Means and methods beyond those detailed in this plan and on the 90-Percent Design Drawings are at the discretion of the contractor.

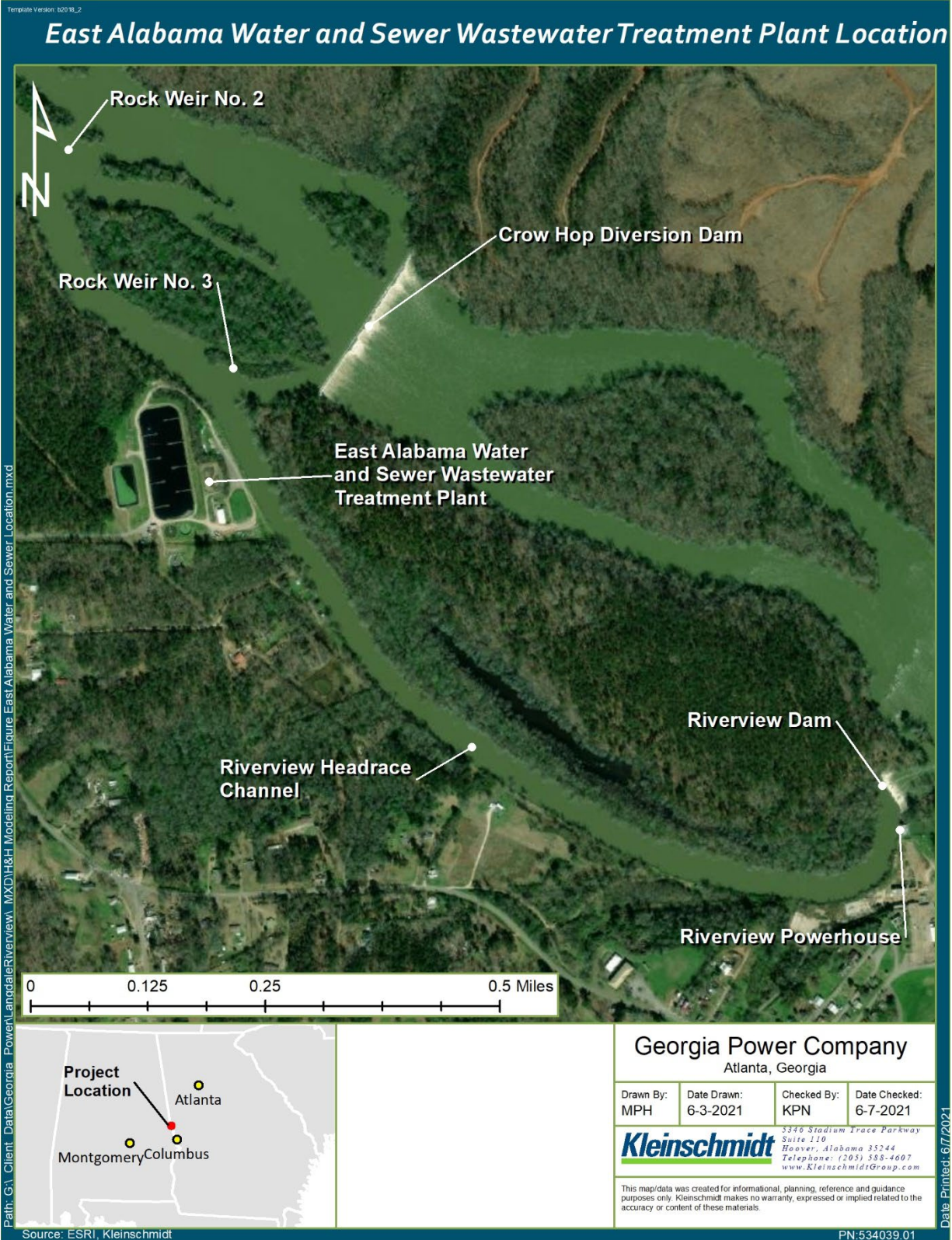


Figure 4-1 East Alabama Water, Sewer, and Fire Protection District Wastewater Treatment Plant Location

Table 4-1 Anticipated Flow Distribution Summary (at Base Flow of ~670 CFS)

PROJECT STAGE	MAIN CHANNEL FLOW (AT CROW HOP DAM; CFS)	RIVERVIEW HEADRACE CHANNEL FLOW (CFS)
Existing Condition	98	577
Crow Hop Dam: Upper 5 ft Removed	515	160
Riverview Dam and Crow Hop Dam: Upper 5 ft Removed (Existing Bathymetry) *	490	185
Riverview Dam and Crow Hop Dam: Upper 5 ft Removed (Adjusted Bathymetry) **	80	595
Both Riverview and Crow Hop Dams Removed (Adjusted Bathymetry) *	80	595

* The existing and adjusted bathymetry represent two conditions: existing and the future modeled condition post dam removal when all sediment is mobilized and is no longer in the project area (Kleinschmidt 2022a). Actual conditions will likely be between these values and the flow distribution under the adjusted bathymetry is likely the extreme amount of flow in the Riverview headrace channel.

**Includes smaller adjustments to bathymetry above Crow Hop Dam due to upstream shoals controlling flow into this reach and minimal sediment accumulation behind this dam.

The removal of the Riverview Project components will not be entirely sequential; therefore, the following is provided as a summary of the major tasks and their general sequence in this phase of work:

1. Perform environmental remediation at Riverview powerhouse
2. Demolish of the superstructure at the Riverview powerhouse to provide access to the downstream side of the dam
3. Install temporary access roads
4. Install riprap to stabilize the Riverview headrace channel bed
5. Remove the Crow Hop and Riverview dams in parallel
6. Install final riverbank stabilization in the Riverview headrace channel
7. Remove temporary access roads

4.2.1 Dam Removal

The Riverview Dam removal activities are described below and on the 90-Percent Design Drawing Number: R-100-01, R-220-01, R-220-03, and R-300-01 – R-300-04 (Appendix B). The following is the anticipated sequence for the removal of the Riverview Dam:

1. Construct the temporary access road from the Project laydown area to the dam.
2. Leave a 10-foot-long portion of the south abutment and a 25-foot portion of the north abutment in place to document the historical context of the dam, according to Project drawings and in consultation with the GA HPD.
3. Install a notch at the north extent of demolition of the dam and place rubble downstream of the notch to limit bank erosion and scour per engineer¹⁷ field direction.
4. Remove the dam from north to south.
 - a. Move stockpiled and existing rocks and use rubble to construct access roads as necessary, minimizing use of rubble to extent practical.
 - b. Remove dam to natural grade, according to Project drawings.
 - c. Confirm minimum flows are being achieved during dam removal.
5. Transport rubble to on-site disposal locations as it is removed (minimize rubble left in the river during higher flows to the extent practical). Place rubble in fill disposal areas once fill area is properly prepared.
6. Cut any reinforcing bar (if present in any areas where the dam is removed) flush with the post removal grade.
7. As the dam reaches final grade, remove the temporary access road from the north side and proceeding south. Place the remaining rubble and stone from the access road around the remains of the powerhouse and in areas of shoreline armoring as approved by the engineer.
8. Remove boat warning buoys, posts, and cable on the Riverview headrace channel.
9. Remove temporary facilities and seed and mulch all disturbed areas as final grades are achieved and per erosion and sediment control plan to naturalize the site.
10. Restore site in accordance with applicable regulatory requirements.

4.2.2 Powerhouse Decommissioning and Removal

The Riverview powerhouse decommissioning activities are described below and on 90-Percent Design Drawing Sheets: R-100-01, R-220-01, R-220-02, and R-300-01 (Appendix B). The work at the Riverview powerhouse will occur following any necessary

¹⁷ References in this document to “engineer” are defined as “the engineer representing the owner on this project to ensure work is completed to the design intent and the owner’s satisfaction, as selected by the owner.”

environmental remediation and electrical/mechanical equipment removals. The following is the anticipated sequence for the removal of the Riverview powerhouse.

1. Remove the downstream footbridge and concrete abutments, disposing of concrete with dam rubble as armoring around and within the Riverview powerhouse and other materials at an approved off-site landfill.
2. Demolish powerhouse leaving the powerhouse substructure, including upstream gate structure (closed) and downstream wall intact below elevations shown in Project drawings to reduce flow of water into the Riverview powerhouse tailrace during a high water event.
3. Place rubble as it becomes available during dam removal, within and adjacent to the powerhouse footprint.
4. Place shoreline armoring around the powerhouse as access roads are removed to achieve final grades.
5. After dam rubble and shoreline armoring is placed, cover rubble with stone, topsoil, seed, and mulch, where required in the project drawings to naturalize the site.

4.3 Riverview Phase 3 – Post Removal Site Restoration

After the physical dam removal, powerhouse removal, and most in-water work occurs (Riverview Project Phases 1 and 2), Georgia Power will implement activities to stabilize, restore, and monitor in accordance with the Post Removal Monitoring, including:

- Implement riverbank stabilization on the Riverview headrace channel and ensure channel bed protection riprap is functioning as intended in the 90-percent design drawings (drawing Series R-300; Appendix B)
- Implement the Post Removal Monitoring which includes planting, seeding, and live stake installation (drawing sheet R-700-01; Appendix F)

Removal of the Riverview Dam will restore free-flowing river conditions for unrestricted fish passage and recreational boating access through the main stem of the Chattahoochee River and provide improved passage on the Riverview headrace channel. Additional restoration efforts include stabilizing the riverbanks and channel in the immediate vicinity of the Riverview Dam, protecting the riverbank upstream of the Riverview Powerhouse, and providing vegetation in areas where cut/fill occurred. The restoration is associated with the removal of the dam and replanting of bank-stabilizing vegetation. To protect cultural resources and minimize costly restoration activities in difficult access areas, the

restoration will focus on the area immediately adjacent to the dam and powerhouse and include the restoration areas identified in this plan, the Project drawings, and the Post Removal Monitoring Plan.

The restoration of the Chattahoochee River at Riverview Dam will include the natural evacuation of up to approximately 266,000 cubic yards (164.9 acre-feet)¹⁸ of sediment as part of the restoration of the riffle/shoal and pool habitat in the Project area, based on the H&H modeling (Kleinschmidt 2022a). However, as with any dam removal, there remains some uncertainty around the sediment mobilization, historic channel and tributary geometry, and flows that will occur post dam removal. The final restoration of the former reservoir and associated Project infrastructure will be based on actual post removal conditions and Georgia Power's continued consultation with the agencies and other stakeholders. The site restoration effort is anticipated to include the following activities.

4.3.1 Bank Stabilization

The right riverbank of the Riverview headrace channel, just upstream of the Riverview powerhouse, is located on a sharp bend in the channel and is anticipated to be subject to higher scouring forces in the post removal condition than in the currently impounded condition, given the channel geomorphology, anticipated changes in water velocities, and flow distribution post removal. Georgia Power will implement additional shoreline armoring to provide protection of the bank under higher near-bank shear stress on the right bank of the Riverview headrace channel for approximately 800-feet upstream of the Riverview powerhouse. A launchable riprap apron will be installed prior to dam removal to help stabilize the bank during removal of the dam. The following describes the general sequence of work for this effort following dam removal:

- Allow time for river channel to adjust as the sediment naturally evacuates post removal (approximately 1-4 weeks, pending engineer approval of site conditions). Conditions should begin to stabilize after several West Point pulsing flows; sediment is expected to evacuate during these larger flow events (when West Point Dam increases their generation)
- Install temporary access roads on the top of the bank, protecting existing utilities and infrastructure

¹⁸ Refers to sediment between Riverview Dam and Crow Hop Dam; portions of this sediment may remain in place as part of the channel bed stabilization associated with the Riverview Decommissioning (see project drawings for details).

- Rework launchable riprap apron including grading and riprap installation, as directed by the engineer based on extent of sediment flushing
- Confirm placement of channel-stabilizing riprap/stone (installed during removal) is functioning as intended (per engineer evaluation), and rework as necessary per engineer field direction
- Remove temporary access road, install topsoil, seed, mulch, and erosion control blankets on the riverbank as the road is removed

The following restoration activities will be part of the Riverview Project decommissioning.

- River Restoration
 - Dam removal
 - Natural sediment evacuation
 - Restoration of natural grades within the existing dam footprint
 - Protection of the riverbank and bed with riprap armoring at the Riverview headrace channel
- Upland Restoration
 - Soil erosion controls/ BMPs in accordance with regulatory requirements
- Revegetation - Revegetate in two planting zones, with vegetation as noted
 - Riparian Planting Zone (approximately 10,500 square feet¹⁹)
 - Live stakes
 - Bareroot shrubs²⁰
 - Native seed mix
 - Upland Planting Zone (approximately 16,100 square feet)
 - Bareroot shrubs
 - Bareroot trees
 - Upland seed mix

The site-specific revegetation plans are contained in Riverview design drawing sheet R-700-01.

¹⁹ The planting zone may be adjusted following final design and dam removal.

²⁰ Georgia Power will use native species if site conditions are conducive and if native species are available.

5.0 CROW HOP DAM REMOVAL

5.1 Crow Hop Phase 1 – Pre Removal

The Crow Hop Dam removal activities are described below and shown in 90-Percent Design Drawing Number C-100-01. The following is the anticipated sequence for these activities.

1. Improve the construction access road on east side of Project.
2. Coordinate Project schedule with flow releases at West Point Dam.
3. Coordinate with GA HPD for documentation of the crib dam removal, as required.
4. Install public safety signs and buoys to warn public of active construction and no trespassing. Install at least 2 signs on shore and 4 floating buoys in the tailwater of the dam.
5. Install upland erosion and sediment controls prior to any ground disturbance.
6. Mark limits of disturbance in upland areas and any resource areas, existing utilities, benchmarks, structures, or infrastructure to be protected during this Project.
7. Mark limits of demolition and proposed fills areas and obtain engineer approval of stakeout.
8. Install timber mats over all sensitive resource areas, if applicable, as work commences in those areas.

5.2 Crow Hop Phase 2 – Removal

The demolition of the Crow Hop Dam, and the construction of the Crow Hop rock ramp are dependent on inflow to the Project and progress of removal at the Riverview Dam (to avoid completely drying out portions of the river). The beginning of the demolition, and the inherent drawdown of the reservoir, will occur during the seasonal low flow period and during USACE West Point Dam base flow release. Weekly coordination with the USACE's Water Management Division will be critical to the construction activities at this dam. Operation of West Point Dam typically includes several hours of peaking generation a day, during which flows can exceed 15,000 cfs that may require construction crews to demobilize during peaking flows.

Georgia Power anticipates that work will occur each day prior to release of peaking flows in the afternoon, and potentially all-day on weekends when West Point Dam operates at base flow. The Crow Hop Dam is anticipated to be removed in parallel with Riverview Dam

(by separate crews). To meet the minimum flow requirement of 136 cfs for the EAWSFPD's water treatment plant located on the Riverview headrace channel (near the Crow Hop Dam), Georgia Power will aim to maintain the following minimum flows at all times during the removal to balance flows in this multi-channel system and prevent complete drying out of either of the channels:

- 150 cfs of water flowing in the Riverview headrace channel, and
- approximately 80 cfs of water flowing in the main channel of the Chattahoochee River.

Georgia Power will adjust the removal sequence (e.g., by lowering Crow Hop and Riverview dams more/less quickly in sequence) as necessary, per the engineer's direction, to maintain these minimum flows.

Based on hydraulic modeling (Kleinschmidt 2022), the anticipated distribution of flows by project stage and sediment evacuation (existing versus adjusted bathymetry) is summarized in Table 4-1 and indicates that if the Crow Hop and Riverview dams are breached in parallel, the flow distribution will maintain the required minimum flow for the EAWSFPD wastewater treatment plant. With the weekday daily peaking operations on this reach of the Chattahoochee River, there can be a 1.5-3.0 feet per day change in water level (between West Point base flow and peaking flows). Thus, the dam breaching will be completed in a manner to not exceed 3 feet of headpond drawdown per day during the removal. This parallel removal will not only support permit compliance for the EAWSFPD wastewater treatment plant discharge, but also preserve wetted habitat in both channels to reduce the ecological impact of drying out one of these channels during dam removal.

The use of explosives is not proposed for this removal. It is anticipated that tracked excavators with attachments including rock hammers and hydraulic thumbs will be utilized to demolish the dam. Material from the dams will be moved by the excavators or off-road dump trucks to the final fill disposition area. Means and methods beyond those detailed in this plan and in the 90-Percent Design Drawings are at the discretion of the contractor.

5.2.1 Dam Removal

The Crow Hop Dam removal activities are described below and in the 90-Percent Design Drawing Numbers: C-100-01, C-220-01, C-220-02, C-220-03, and C-300-01 (Appendix C).

The removal of the Crow Hop Dam is anticipated to progress according to the following sequence:

1. Construct the temporary access road from the Project laydown area to the riverbank on the east side of the dam (no access is proposed from the west riverbank).
2. Leave the first 10 feet of each abutment in place to document the historical context of the dam, per Project drawings.
3. Remove the dam from east to west (down to Elevation 529.0 ft), utilizing notching (as approved by the engineer) to manage flow distribution during dam demolition. Move existing rocks and use rubble to construct access roads as necessary, minimizing use of rubble to extent practical.
4. Make allowances for Georgia Power (or their representative) to document the crib dam upstream of the concrete dam prior to off-site removal.
5. Transport rubble to disposal locations as it is removed (minimize rubble left in the river during higher flows to the extent practical).
 - a. Place rubble in fill disposal areas.
6. Remove the crib dam as it is accessible for removal and after engineer approval.
 - a. Transport timbers from the crib dam to staging area for offsite disposal.
7. Upon approval from the engineer,
 - a. Remove remaining material from the concrete dam and crib dam from east to west in 3-foot stages, per coordination with engineer and Georgia Power (for crib dam documentation).
 - b. Transport rubble to disposal site as it is removed.
 - c. Continue (a.) and (b.) until post removal grades are reached.
 - d. Transport timbers from the crib dam to staging area for offsite disposal.
8. Place stone from the crib dam as shoreline armoring as shown on Project drawings and per engineer field direction.
 - a. Place natural stone near the surface of the rock ramp to the extent feasible to naturalize the appearance of the river bottom.
9. Cut any reinforcing bar (if present in any areas where the dam is removed) flush with the post removal grade.
10. Remove boat warning buoys and cable on the middle and east channels.
11. Remove any temporary access roads. Place the remaining rubble from the access road around the east abutment for shoreline protection.

12. Restore site in accordance with applicable regulatory requirements.

5.2.2 Rock Ramp Construction

The side channel above Crow Hop Dam has rock weir #3 located at the upstream end. The rock weir serves as a diversion to maintain flow in the Riverview headrace channel, helping EAWSFPD's wastewater treatment plant meet their permit required minimum flow. The extent of head cutting that would occur post removal depends on the stability of this rock weir. Thus, as a preventative measure to minimize head cutting, a rock ramp will be constructed in the west channel above Crow Hop Dam to serve as a grade control structure, with rock weirs #1-3 remaining in place after the decommissioning (drawing sheets C -300-01, C-300-02, and C-300-03; Appendix C). The following describes the general sequence of work for this effort to construct the rock ramp:

1. Place rubble, as it becomes available during dam removal, within the footprint of rock ramp. Place rubble to minimize the release of sediment to the extent practical within the rock ramp footprint and channel downstream of the rock weir.
2. Rework rubble, as necessary, to meet the proposed grades shown on the design drawings.

5.3 Crow Hop Phase 3 – Post Removal Site Restoration

Georgia Power will implement activities to stabilize, restore, and monitor the river during and after the physical dam removal and most of the in-water work, (Crow Hop Phases 1 and 2), including:

- remove temporary facilities then seed and mulch as final grades are achieved;
- implement site Post Removal Monitoring Plan; and
- commence post removal monitoring (see Section 9).

5.3.1 Site Restoration

Removal of the Crow Hop Dam will restore free-flowing river conditions for unrestricted fish passage and recreational boater access through this reach of the Chattahoochee River. Additional restoration efforts include stabilizing the riverbanks and channel in the immediate vicinity of the Crow Hop Dam and providing stabilizing vegetation in areas where cut/fill occurred for this Project (Crow Hop drawing sheets (C-101-01, C-700-01).

The restoration is primarily associated with the removal of the dam and implementation of the Post Removal Monitoring Plan. The restoration activities will occur on the area immediately adjacent to the dam and will include the restoration areas identified in this plan, the Project drawings, and the Post Removal Monitoring Plan.

Based on the H&H modeling (Kleinschmidt 2022), the restoration of the riffle/shoal and pool habitat in the Chattahoochee River at Crow Hop Dam will include the natural evacuation of up to approximately 108,000 cubic yards (66.9 acre-feet)²¹ of sediment. However, as with any dam removal, there remains some uncertainty around the sediment mobilization, historic channel and tributary geometry, and flows that will occur post dam removal. The final restoration of the former reservoir and associated Project infrastructure will be based on actual post removal conditions and Georgia Power's continued consultation with the agencies and other stakeholders. The site restoration effort is anticipated to include the following activities:

- River Restoration
 - Dam removal
 - Natural sediment evacuation
 - Restoration of natural grades within the existing dam footprint
- Upland Restoration
 - Soil erosion controls/ BMPs in accordance with regulatory requirements
- Revegetation in three planting zones, with vegetation as noted
 - Upland Planting Zone (approximately 15,500 square feet)²²
 - Bareroot shrubs
 - Bareroot trees
 - Upland seed mix
 - Riparian Planting Zone (approximately 32,500 square feet)
 - Live stakes
 - Bareroot shrubs
 - Riparian seed mix
 - Riprap Planting Zone (approximately 19,000 square feet)

²¹ Refers to the sediment between Crow Hop Dam and Langdale Dam.

²² The planting zone may be adjusted following final design and dam removal.

- Live stakes

6.0 LANGDALE DAM REMOVAL AND POWERHOUSE DECOMMISSIONING

The Proposed Action would result in the removal of the majority of the Langdale Dam, decommissioning of the Langdale powerhouse in place, and the construction of the Langdale island channel to convey flow to the Langdale tailrace. These activities occur in three phases: 1) pre removal; 2) removal; and 3) post removal.

6.1 Langdale Phase 1 – Pre Removal

Prior to any in-water work commencing, Georgia Power will complete the following tasks in preparation for the decommissioning of the Langdale Project:

1. Perform necessary environmental remediation (e.g., asbestos removal) at the Project site. No demolition work will commence until this work is complete.
2. Modify the electrical service and remove those mechanical and electrical components of the Project noted for removal on the Project drawings.
 - a. Disconnect powerhouse outgoing lines from main electrical grid.
 - b. Electrical service for lighting and security of the building post dam removal will be maintained by a supply-side electrical service connection.
3. Improve the construction access road on east side of Project.
4. Stockpile stone for access road at the gravel parking area on west side.
5. Coordinate Project schedule with flow releases at West Point Dam.
6. Install public safety signs and buoys to warn public of active construction and no trespassing.
 - a. Install at least 2 signs on shore and 4 floating buoys in the tailwater of the dam.
 - b. Owner to approve sign text and locations prior to installation.
7. Install upland erosion and sediment controls prior to any ground disturbance.
8. Mark limits of disturbance in upland areas and any resource areas, existing utilities, benchmarks, structures, or infrastructure that are to be protected during this Project.
9. Mark limits of demolition and proposed fills areas and obtain engineer approval of stakeout.
10. Install timber mats over all sensitive resource areas, if applicable, as work commences in those areas.

6.2 Langdale Phase 2 - Removal

The dam removal will depend on inflow to the Langdale Reservoir. The beginning of demolition, and the associated drawdown of the Langdale Reservoir, will occur during the seasonal low flow period and during the times when the USACE West Point Dam is releasing base flow. Weekly coordination with the USACE's Water Management Division will be critical to the construction activities at this Project. Operation of West Point Dam typically includes several hours of peaking generation a day, during which flows can exceed 15,000 cfs that may require construction crews to demobilize during peaking flows.

With weekday peaking operations from West Point, this reach of the Chattahoochee River often experiences frequent changes in water levels (e.g., 1.5-3.0 feet per day between base flow and peaking flow). The dam breaching will be completed in a manner to not exceed 3 feet of headpond drawdown per day during the removal.

Georgia Power is not planning to use explosives for this dam removal. It is anticipated that tracked excavators with attachments including rock hammers and hydraulic thumbs will be used to demolish the dam. Material from the dams will be moved by the excavators or off-road dump trucks to the final fill disposition area. Means and methods beyond those detailed in this plan and on the 90-Percent Design Drawings are at the discretion of the contractor.

6.2.1 Dam Removal

The Langdale Dam removal activities are described below and shown in 90-Percent Design Drawing Numbers: L-100-01, L-220-01, L-300-01, and L-300-02 (Appendix D). The following is the anticipated sequence for the removal of the Landale Dam.

1. Construct temporary access roads from the Project laydown area to the riverbank on the east side.
2. Leave the first 10 feet of each abutment in place to document the historical context of the dam, per Project drawings.
3. Prior to commencing full depth removal, notch the eastern approximately 500 feet section of the dam approximately 8-feet-deep to elevation 542 ft.
 - a. Notching shall occur in stages, with the maximum increase in notch depth per stage being approximately 4 feet, or as approved by the engineer based on stone block layering.

- b. Use notch rubble to construct the berm at the 300-foot-long eastern abutment as required by proposed final grading and establish temporary access roads, ensuring stable passage of flow through the notch.
 - c. Consult with engineer regarding notch location, depth, and support to ensure stability during daily high flows.
 4. During dam notching, construct the temporary access road from the west riverbank across the powerhouse headrace to the dam abutment on the island, minimizing the ponding of water between the access road and the powerhouse. Dewater the area behind the temporary access road, providing culverts under the access road and pumping to drain the headrace area, as necessary.
 5. After initial notch installation, commence removal of the dam crest starting at the notch and working west.
 - a. Move existing rocks and use rubble to construct access roads as necessary, minimizing use of rubble to extent practical.
 - b. Transport rubble to disposal locations as it is removed (minimize rubble left in the river overnight to the extent practical).
 - c. Place rubble in fill disposal areas.
 6. Remove an approximately 2-foot layer from the dam crest from east to west (starting at the west end of the east berm) or remove the dam to the full depth (if approved by the engineer if the notch and exposed end of the dam will remain stable) from east to west.
 7. Continue removing layers of the dam or the full depth of the dam, as approved, working from east to west.
 8. Upon reaching final grades for the dam removal, remove any in-river temporary facilities as equipment works out of the river; removing rubble in the river for temporary access to those areas where fill is proposed.
 9. Cut any reinforcing bar (if present in any areas where the dam is removed) flush with the rock at the post removal grade.
 10. Remove boat warning buoys and cable.
 11. After receiving Georgia Power's approval of new headgate concrete (Section 6.2 Powerhouse Decommissioning), place fill against new concrete headgates and grade for positive drainage north to the river.
 12. Cover rubble in headrace area with stockpiled or procured cover material and plant and mulch areas that are not frequently inundated (per engineer field direction, as extent of planting depends on sediment flushing).
 13. Remove temporary facilities and seed and mulch all disturbed areas as final grades are achieved and per erosion and sediment control plan.

14. Restore site in accordance with any additional regulatory requirements.

6.2.2 Powerhouse Decommissioning

The powerhouse closure begins with Phase 1 – Pre removal activities (Section 6.1) to remove necessary mechanical/electrical equipment, remove potential environmental contaminants, and commence the decommissioning of the powerhouse. The Langdale Powerhouse decommissioning activities are described below and in 90-Percent Design Drawing Sheets: L-100-01, L-220-01, L-200-04, L-300-01, L-310-01, and L-310-02 (Appendix D). The following sequence will be used to seal the headgates and complete the decommissioning of the Langdale powerhouse:

1. Secure the two vertical turbine runners in place by welding the turbine runners to the runner support structure. Confirm all four horizontal units are encased in concrete.
2. As sediment dries in the headrace as the dam is removed, construct an access road from dam rubble and off-site stone fill to the powerhouse, abutment, and bulkhead gates. Dredge sediment as required to install new concrete plugs (flow barriers) at each of the gate locations described in step 3 below.
3. Place formwork, reinforcing bar, and concrete as required to seal the headgates, the bulkhead gate, and the abutment wall gate.
4. Remove powerhouse infrastructure, equipment and utilities per demolition plans including:
 - a. Removal of electrical transmission equipment.
 - b. Placement of new concrete draft tube cover to reduce flow through this structure.
 - c. Venting the turbine chambers.
5. As river water levels allow, complete the installation of the tailrace draft tube barriers (via access road from the Island Channel Construction (see Section 3.2, Island Channel Construction)).

6.2.3 Island Channel Construction

To support continued flow into the Langdale tailrace post dam removal (as requested by the city of Valley, Alabama), Georgia Power will construct a small riprap lined channel from the mainstem of the Chattahoochee River to the Langdale tailrace post dam removal. This channel is anticipated to provide flows of approximately 24 cfs up to 470 cfs from base

flow, up to the 2-unit peaking flow²³ released from West Point Dam, respectively. The anticipated sequence for this work is as follows.

1. Install temporary roadway for construction access to the island channel area from the west end of the main dam.
2. Leave vegetation and diversion wall on upstream end of the proposed island channel to hold soil in place and form a soil plug within 50 feet of the river's edge. Soil plug shall extend to elevation 543 feet or higher.
3. Demolish island diversion wall south of the proposed island channel, placing rubble on the shore-side of the wall to serve as shoreline erosion protection. Avoid placement of fill in wetlands.
4. Clear/grub the remaining island channel area (south of soil plug) for island channel excavation and fill disposal (stockpiling topsoil and suitable cover material for future use).
5. Install tailrace barriers along powerhouse via temporary access built from the island. Remove this access road when work is completed.
6. Complete channel grading north of the island diversion wall (in the river).
7. Excavate proposed island channel and install required riprap from downstream to upstream, preserving the vegetated earthen plug of soil to allow work to occur mostly in the dry until the plug is removed. Install temporary protections, as needed, upstream of the plug (or use a portion of the existing diversion wall, if acceptable to engineer), and then remove the earthen plug to complete final channel grading. Install remaining riprap and topsoil; seed and mulch slopes to stabilize.
8. Remove temporary protections, if implemented, to allow flow into the channel.

6.3 Langdale Phase 3 – Post Removal Site Restoration

After the physical dam removal and most in-water work occurs (Langdale Phases 1 and 2), Georgia Power will implement activities to stabilize, restore, and monitor the site in accordance with this Decommissioning Plan and with the Post Removal Monitoring Plan, including:

- Implement site vegetation (including planting, seeding, and live stake installation; drawing sheet L-700-01)

²³ Two unit generating flow from West Point is approximately 15,000 cfs.

- Install ancillary post removal site improvements for the Langdale Park (see Section 9; drawing sheets L-100-01 and L-400 series drawings)
- Commence post removal monitoring (see Section 9.3)

Removal of the Langdale Dam will restore free-flowing river conditions for unrestricted fish passage and provide recreational boater access through this main stem of the Chattahoochee River. Additional restoration efforts will include stabilizing the riverbanks and channel in the immediate vicinity of the Langdale Dam and providing vegetation in areas where cut/fill occurred for this Project. The restoration is primarily associated with the removal of the dam and replanting of bank-stabilizing vegetation. The restoration activities will occur on the area immediately adjacent to the dam and will include the restoration areas identified in this plan, the Project drawings, and the Post Removal Monitoring Plan.

Based on the H&H modeling (Kleinschmidt 2022), the restoration of the riffle/shoal and pool habitat in the Chattahoochee River at Langdale Dam will include the natural evacuation of up to approximately 495,000 cubic yards (306.8 acre-feet)²⁴ of sediment. However, as with any dam removal, there remains some uncertainty around the sediment mobilization, historic channel and tributary geometry, and flows that will occur post dam removal. The final restoration of the former reservoir and associated Project infrastructure will be based on actual post removal conditions and Georgia Power's continued consultation with the agencies and other stakeholders. The site restoration effort is anticipated to include the following activities:

1. River restoration
 - a. Dam removal
 - b. Natural sediment evacuation
 - c. Restoration of natural grades within the existing dam footprint
 - d. Restoration of flow to the Langdale tailrace via the Langdale island channel (see Section 6.3.2)
2. Upland Restoration
 - a. Soil erosion controls/BMPs in accordance with regulatory requirements
3. Revegetation - Revegetate in three planting zones, with vegetation as noted

²⁴ Refers to the sediment upstream of Langdale Dam.

- i. Riparian Planting Zone (approximately 265,900 square feet)
 - 1. Live stakes
 - 2. Bareroot shrubs
 - 3. Riparian seed mix
- ii. Riprap Planting Zone (approximately 9,000 square feet)
 - 1. Live stakes
- iii. Upland Planting Zone (approximately 49,500 square feet)
 - 1. Bareroot shrubs
 - 2. Bareroot trees
 - 3. Upland seed mix

7.0 SCHEDULE

Georgia Power will remove the Langdale and Riverview Project facilities in the sequence discussed in Sections 4 through 6 during one low-flow construction season. Table 7-1 includes the estimated schedule for each Project’s decommissioning. The actual schedule may be compressed or extended by 1-2 shoulder months depending upon site specific temporal flow conditions during the year of decommissioning. Should decommissioning approval and flow conditions not align with this proposed schedule, the Projects’ decommissioning may extend to encompass two low flow periods (i.e., two calendar years).

Table 7-1 Riverview/Langdale Project Estimated Decommissioning Schedule

Langdale & Riverview Decommissioning Schedule Overview	Estimated Task Duration (months)	Project Month (Month 4 is anticipated to begin in June with in-water work. In-water work is depicted in blue shading; upland work is depicted in green)									
		1	2	3	4	5	6	7	8	9	10
Tasks											
Decommission Riverview Dam and Powerhouse	4										
Decommission Crow Hop Dam and Construct Rock Ramp	3										
Decommission Langdale Powerhouse and Construct Island Channel	8										
Finalize Riverview Headrace Bank and Bed Protection	1										
Decommission Langdale Dam	2										
Construct Langdale Park	2										

8.0 CONSTRUCTION MANAGEMENT PLANS

Prior to construction activities, Georgia Power will prepare multiple plans specific to state and local permitting, as well as those required by FERC in the license surrender order. Once FERC approves the proposed decommissioning and removal, Georgia Power will prepare, in consultation with appropriate agencies, the plans required by the license surrender order which may include, but not be limited to, the following construction related plans.

- Quality Control and Inspection Plan
- Emergency Response Plan
- Spill Prevention Control and Countermeasure Plan
- Hazardous Material Management Plan

Georgia Power will also include an erosion and sediment control plan and a Historic Properties Management Plan, as described below.

8.1 Erosion and Sediment Control Plan

The Erosion, Sedimentation, and Pollution Control Plan (ESPCP) for Georgia and Construction Best Management Practices Plan (CBMPP) for Alabama are erosion and sediment control (E&SC) best management practice (BMP) approaches to address potential impacts associated with implementing the Proposed Action. Both Alabama and Georgia require that land disturbing activities of one acre or more obtain coverage under a NPDES permit. The “Manual for Erosion and Sediment Control in Georgia” and “Field Guide for Erosion and Sediment Control on Construction Sites In Alabama” provide guidance on establishing E&SC BMPs to minimize pollution from erosion and sedimentation caused by the removal of the facilities and other construction activities, in their respective states. The CBMPP and ESPCP in Alabama and Georgia are the state equivalents to the Federal Stormwater Pollution Prevention Plan (SWPPP) for these NPDES-permitted construction activities.

Georgia Power will obtain NPDES permit coverage from Alabama and Georgia. These permits will prescribe the necessary erosion control measures and monitoring. In addition, best management practices outlined by the NPDES permits will be incorporated to the

ESPCP (Georgia) and CBMPP (Alabama). A Spill Prevention, Control, and Countermeasure (SPCC) Plan will be prepared to comply with these plans, if needed.

The erosion control plan for this work will include, but is not limited to, the following:

- Minimize the area and duration of exposed areas to prevent the disturbance of riparian vegetation and wetlands
- Flag the boundaries of clearing limits at construction sites to prevent the disturbance of critical riparian vegetation and wetlands
- Ensure ES&SC materials are present on site, as well as an oil absorbing, floating boom whenever surface water is present
- Utilize wood crane matting to transverse the sensitive resource areas
- Install riprap or dam rubble for bank stabilization
- Establish permanent vegetation in temporary upland laydown areas and access roads
- Create rock construction exits to reduce or eliminate the transport of mud from the construction area onto the public right-of-way
- Ensure all temporary erosion controls are in place and appropriately installed downslope of construction activity until construction has been completed and the site has been stabilized
- Perform BMP inspections and stormwater monitoring, as applicable, from construction start through final stabilization at all locations

Preliminary BMPs are included in the 90-Percent Design Drawings and will be finalized prior to the submission of the NPDES permits.

Georgia Environmental Protection Division (GA EPD) and Alabama Department of Environmental Management (ADEM) will be consulted specific to NPDES permitting purposes.

8.2 Historic Properties Management Plan

An MOA was developed in consultation with the Georgia HPD and Alabama Historical Commission, Federally recognized tribes, FERC, and the Advisory Council on Historic Preservation.

The MOA describes the activities necessary to protect and document cultural and historic resources before and during construction activities.

9.0 POST REMOVAL ACTIVITIES

Georgia Power will complete the following post removal activities to include monitoring the decommissioning and documenting the implementation of this Decommissioning Plan.

9.1 Shoal Bass Abundance and Tracking Study

There is expected to be a short-term and long-term response of shoal bass to the removal of the Project dams. The short-term response is predicted to be the initial dispersal of existing juvenile and adult shoal bass and exploration into newly accessible habitats. The long-term response of shoal bass could include shifts in habitat use, potential colonization of previously inaccessible shoals, or changes in reproduction and recruitment.

Georgia Power will conduct the Post Removal Shoal Bass Abundance and Tracking Study within 1-2 years following dam removal to address the short-term response of the shoal bass to the removal of the Project dams. The post removal assessment would determine if changes in the fisheries community or species composition occurs following the dam removal. The post removal assessment would examine substrate composition, evaluate shoal bass habitat suitability in the Project area and at the former dam locations, and examine habitat use of shoals, including the determination if shoal bass have moved into newly accessible shoal habitats.

9.2 Post Removal Monitoring Plan

Georgia Power proposes to implement a Post Removal Monitoring Plan. The goal of the Post Removal Monitoring Plan is to conduct monitoring activities at specific intervals to document conditions and identify specific actions, as needed following the removal of the Langdale, Riverview, and Crow Hop Dams.

The plan contents include:

- Pre removal site documentation
- Revegetation Plan
- Monitoring schedule
- Process for addressing post removal management actions
- Consultation

The Draft Post Removal Monitoring Plan is provided in Appendix F.

9.3 Post Removal Ancillary Activities

As part of the larger dam decommissioning effort, Georgia Power will improve recreation access by:

- Developing recreation access at the new Langdale Park, and
- Performing boat launch modifications (Shawmut Airport boat ramp, Cemetery Park, Riverview Park).

9.3.1 Langdale Park

Georgia Power will develop additional recreation amenities in a new park on the west bank of the Chattahoochee River, just upstream the Langdale powerhouse on Georgia Power property. The Langdale Park (Park) will include an approximate half-mile gravel walking trail, three picnic pavilions, a gravel parking lot for 13 cars, and eight picnic tables and three benches, as described in Appendix C. The Park will provide users with amenities to view and enjoy the restored river and will include signage to document the historic powerhouse and dam.²⁵ The Park will be constructed as part of the Langdale Project decommissioning and maintained in Georgia Power's ownership and management following construction. The details of this improvement are shown on the L-400-series drawing sheets and will consist of the following steps.

Park Construction:

1. Install temporary facilities, including erosion and sediment controls.
2. Clear and grub area within park footprint as required for site improvements. Remove fencing, existing private boat dock, and existing concrete per the demolition plan.
3. Improve gravel access drive/parking area and install car-top river access point at north end of Park.
4. Construct pavilions, parking area, benches, and picnic tables.
5. Construct gravel walking trail along route approved by the engineer (after evaluation of any changes required by sediment evacuation).
6. Remove temporary erosion and sediment controls.

²⁵ Per the stipulations of the Cultural Resources Memorandum of Agreement.

9.3.2 Boat Ramp Modifications

Georgia Power will review the usability of the four existing boat launches (Cemetery Park, Langdale Boat Ramp, Shawmut Airport boat ramp, and Riverview Boat Ramp) 1 year following removal of the dams and will implement dredging or extend boat launches to provide recreational boat access to the Chattahoochee River. This work will be completed in consultation with the USACE, GA WDNR, ADCNR, and USFWS.

10.0 TOTAL COST FOR PROJECT(S) DECOMMISSIONING AND SITE IMPROVEMENTS

In 2017, Georgia Power estimated approximately \$12 million would be needed to dismantle and remove the dams and the Riverview powerhouse and to go through the FERC surrender process, which included associated studies. This estimate did not include any post removal restoration work or construction management costs.

11.0 REFERENCES

- Franke, G. F., D. R. Webb, R. K. Fisher, Jr., D. Mathur, P. N. Hopping, P. A. March, M. R. Headrick, I. T. Laczó, Y. Ventikos, and F. Sotiropoulos. 1997. Development of environmentally advanced hydropower turbine system design concepts. Prepared for U.S. Department of Energy, Idaho Operations Office Contract DE-AC07-94ID13223.
- Georgia Power Company (Georgia Power). 2018a. Application for License Surrender Exhibit A for the Langdale Hydroelectric Project (FERC No. 2341). Georgia Power Company, Atlanta, GA.
- Georgia Power Company (Georgia Power). 2018b. Application for License Surrender Exhibit A for the Riverview Hydroelectric Project (FERC No. 2350). Georgia Power Company, Atlanta, GA.
- Kleinschmidt Associates (Kleinschmidt). 2022. Langdale and Riverview Projects Final Hydraulic & Hydrologic Modeling Report.
- U.S. Society on Dams (USSD). 2015. Guidelines for Dam Decommissioning Projects. Prepared by the USSD Committee on Dam Decommissioning. Denver, CO 80202.

APPENDIX A
USFWS Memorandum of
Understanding

AGREEMENT NO. (DCN 076403)

MEMORANDUM OF UNDERSTANDING

Between

Georgia Power Company

and

U.S. DEPARTMENT OF THE INTERIOR

U.S. FISH AND WILDLIFE SERVICE

1. Authority:

This Memorandum of Understanding (MOU) is entered into between the Department of the Interior (hereinafter referred to as the Department), U.S. Fish and Wildlife Service (hereinafter referred to as the Service) and the (Georgia Power Company) (hereinafter referred to as Georgia Power), (collectively, the Parties or individually, the Party)

WHEREAS, Each MOU (signatory) party's mission includes conserving natural resources, that affect, includes or both, fishery resources;

WHEREAS, the Service works with others to conserve, protect, and enhance fish and other aquatic resources, including operation of National Fish Hatcheries, to address fish and other aquatic resources affected by habitat modification resulting from federally licensed water development projects;

WHEREAS, the Fish and Aquatic Conservation program, through its Aquatic Habitat Restoration Team, has a long history of working with partners to manage and restore aquatic habitats to reduce habitat fragmentation, improve hydrologic conditions, benefit recreational access and safe public use of streams and rivers.

WHEREAS, Georgia Power is an investor-owned public utility company that owns and operates licensed power generating water control structures (dams) that operate under authority of licenses issued by the Federal Energy Regulatory Commission (FERC) and Georgia Power is charged with the wise use and conservation of natural resources, including fisheries and aquatic resources;

WHEREAS, the Service enters into this MOU under the following legal authorities:

- 1.1. Fish and Wildlife Coordination Act of 1934 (16 U.S.C. § 661, et seq.)(the Fish and Wildlife Coordination Act gives DOI’s Secretary the power to enter agreements with federal and state agencies, as well as public and private organizations, to assist in protecting fish and wildlife and their habitats. This broad authority also gives the Secretary power to receive land and fund donations as well as to enter into grants and cooperative agreements to benefit fish and wildlife species and their habitat.);**
- 1.2. National Wildlife Refuge System Administration Act, as amended (16 U.S.C. §§ 668dd, et seq.)(to administer a national network of lands and waters for the conservation, management and, where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.);**
- 1.3. National Wildlife Refuge System Administration Act of 1966 (NWRSA), as the National Wildlife Refuge System Improvement Act of 1997 (NWRZIA)(16 U.S.C. §§ 668dd, et seq.) amended (wildlife refuges, areas for the protection and conservation of fish and wildlife that are threatened with extinction, wildlife ranges, game ranges, wildlife management areas, and waterfowl production areas.);**
- 1.4. Fish and Wildlife Act of August 8, 1956 (16 U.S.C. §§ 742a-742j, not including 742 d-l; 70 Stat. 1119, as amended (establishes a comprehensive national fish, shellfish, and wildlife resources policy that emphasizes the commercial fishing industry but also directs the Secretary to administer the Act to respect every citizen’s and resident’s inherent right to fish for pleasure, enjoyment, and betterment and to maintain and increase public opportunities for recreational use of fish and wildlife resources.);**
- 1.5. Land and Water Conservation Fund Act of 1956 (16 U.S.C. §§ 669-669i), as amended (grants the Secretary broad authority to take any required steps to develop, advance, manage, conserve, and protect fish and wildlife resources. The statute permits the Secretary the authority to accept gifts and volunteers’ services for programs and projects that benefit the Service’s mission. Further, the act authorizes the Secretary to enter into cooperative agreements for programs and projects to benefit specific units of the National Wildlife Refuge System.);**
- 1.6. Emergency Wetlands Resources Act (16 U.S.C. §§ 3901-3932)(promotes wetlands conservation for the public benefits and to assist in fulfilling international obligations in various migratory birds);**
- 1.7. Fish and Wildlife Coordination Act of 1934 (16 U.S. § 761)(protects fish and wildlife when federal actions result in the control or modification of a natural stream or body of water. The Act provides the United States Fish and Wildlife Service’s (Service) authority to be involved in evaluating impacts to fish and wildlife from proposed water).**

WHEREAS, collectively, all parties desire to establish a formalized relationship between the Service and Georgia Power to remove, demolish or both, the Langdale Dam (FERC Project No. 2341) and Crow Hop Dam (FERC Project No. 2350) to enhance and manage the fishery resources of the states of Georgia and Alabama and to increase public access and safe recreational use. Specifically, this MOU outlines the means to establish an agreement that will meet the needs of Georgia Power and facilitate cooperation between parties.

2. Background:

In the interest of the Service mission, the Fish & Aquatic Conservation Program seeks to conserve aquatic species and their habitats. A major component of this work is aquatic connectivity, whereby the FAC program has a unique skill set to design, plan, and execute a variety of habitat projects, including dam removal, culvert replacement, and habitat restoration.

FAC has been in discussions with Georgia Power for a number of years as Georgia Power begins the Federal Energy Regulatory Commission de-commissioning process of two (2) of its dams; Riverdale and Crowhop.

The removal of these dams will provide significant biological benefits as well as opportunities for surrounding communities to better utilize the river for recreation.

3. Purpose + Objectives

This MOU is intended to define a cooperative agreement between the Service and Georgia Power, whereby the Service, through the National Fish Passage Program, will decommission two (2) Georgia Power dams, Riverdale and Crowhop, along the Chattahoochee River.

The project is mutually beneficial and will allow Georgia Power to meet its regulatory responsibilities, while allow the Service to carry out a priority fish passage project.

Upon execution of the agreement, whereby both parties have signed, the Service and Georgia Power will commence discussions and/or negotiations with regard to a potential definitive agreement to implement the demolition, removal, or both of the Riverdale and Crow Hop dams under mutually agreeable terms and conditions.

Unless and until a definitive agreement has been duly authorized, executed, and delivered by the Parties with respect to the scope of effort contemplated in Article 4 of this MOU, no Party has any legal obligations to the other Party, expressed or implied, arising in any other manner under this MOU or during discussions or negotiations as contemplated by this MOU. Each Party's decision to enter into a definitive agreement will be in its sole discretion and subject to it receiving all requisite governmental and management approvals.

4. Scope of Effort:

For a period as hereinafter set forth, the Service and GA Power shall cooperate as set forth below:

A. The Service shall:

- i. Provide technical expertise for the safe demolition of the above-mentioned Riverdale and Crowhop dam structures in cooperation and coordination with Georgia Power, other agencies, and interested parties, as appropriate. This assistance will consist of initial planning and design for removal, development and participation in required permitting, biological assessments, necessary assessments to meet NEPA requirements, and consultation with state historic preservation offices, and demolition of the structures referenced herein to include habitat restoration components in the final project design.

B. Georgia Power shall:

- i. Provide assistance and coordination as reasonably needed and requested by the Service, to include but not limited to:
 1. Permit and compliance documentation
 2. Engineering plans
 3. Permissions and right of ways, granted by Georgia Power and/or other parties for site access, including Georgia Power's reasonable site access requirements
 4. Approve demolition of the structures referenced herein to include habitat restoration components in the final project design.
- ii. Supply and fund other reasonably necessary expendable project components as needed to successfully and safely carry out the removal of the structures and agree to in-stream restoration activities developed by the Service and Georgia Power.
- iii. In collaboration with the Service:
 1. Develop a detailed scope of work.
 2. Develop a timeline/schedule(s) for the work to be performed and types and frequencies of reports.
 3. Establish which party is responsible for equipment, contract administration, records maintenance, insurance, and liabilities to third parties.
 4. Define the obligations of the parties with respect to the projects.
- iv. Grant the funds required and available to accomplish the scope of effort.

5. Period of Performance

The period of performance of the MOU is from the last date of signature by all parties and shall continue in force for a period of five (5) years thereafter at which time it will be subject to review, renewal, or expiration.

6. Project Officers

- A. Project Officers are essential to coordinating and communicating about the work to be performed under this MOU successfully. Therefore, communication, including, but not limited to, termination notices and non-compliance notices, must go to the designated Project Officers or designee(s).
- B. A Party who designates a new Project Officer must give written notice to the other Party within 15 calendar days after the change happens.
- C. Notice must be given via certified mail, return receipt requested, or in person with proof of delivery to the addresses designated to receive legal notice under this MOU, or via electronic mail.
- D. The Parties have designated the following individuals as their initial Project Officers:

- i. For the Service:

- Allan Brown, Assistant Regional Director**
FISH & AQUATIC CONSERVATION
U.S. Fish & Wildlife Service | Southeast Region
South Atlantic-Gulf and Mississippi Basin Interior Regions
1875 Century Blvd NE, Atlanta, GA 30345
(404) 679-7047 (office) / (386) 937-3985 (mobile)
allan_brown@fws.gov

- ii. For Georgia Power:

- Joe E. Slaughter, Natural Resources Manager**
GEORGIA POWER COMPANY
241 Ralph McGill Boulevard, NE, Atlanta, Georgia 30308
(404) 505-6828 (office)
jeslaugh@southernco.com

7. Modification of Agreement:

This MOU constitutes the full, complete, and entire agreement between the parties hereto. No modification or amendment of this MOU shall be binding on either party unless such modification or amendment shall be in writing executed in duplicate by both parties hereto, attached to this MOU, and incorporated in and by reference made a part of this MOU.

8. Termination of Agreement:

Any party to this MOU may withdraw with a 60-day written notice. Such withdrawal shall be effective 60-days from the date such written notice is provided to the other party or parties to the agreement.

If one Party notifies the other Party of its intent to terminate, the Parties will meet within 30 calendar days to discuss the reasons for termination notice and try to resolve their differences amicably, if any exists. Resolution efforts may include but are not limited to using a neutral mediator to facilitate a non-binding mediation

9. Terms and Conditions:

- A. **Assignment & Delegation:** No Party can assign any right nor delegate any duty under this MOU without the other Party's prior written consent.
- B. **Authorized Signatories:** Each Party represents that the individuals signing this MOU on its behalf are authorized to sign this MOU.
- C. **Comply with Applicable Laws:** The Parties, their employees, subcontractors, agents, or assigns, will follow all applicable federal, state, and local laws and regulations governing this MOU's performance.
- D. **Counterparts, Facsimile or .pdf Signatures:** The Parties may sign this MOU in multiple counterparts which, taken together, will constitute one memorandum of agreement. All faxed or scanned and emailed counterpart signatures copies of this MOU will be equally binding as deemed originals and as sufficient evidence of signing.
- E. **Freedom of Information Act:** The Service is subject to the Freedom of Information Act (5 U.S.C. § 552) as it may be applicable.
- F. **Governing Law and Venue:** Georgia law will govern this MOU's validity and interpretation. The Parties acknowledge that the U.S. District Court for the Northern District of Georgia has jurisdiction over any disputes arising out of this MOU.
- G. **Headings:** Article headings are for convenient reference only and are not part of the MOU or in any way to enlarge or limit any Article's contents.
- H. **Intent:** The parties agree to implement the provisions of this MOU to the extent personnel are available and budgets allow. In addition, nothing in the MOU is intended to supersede any laws, regulations, or directives by which the parties must legally abide.

- I. **Liability:** The Parties will be liable as the law provides for property damage, personal injury, or death, caused by the negligent or wrongful acts or omissions of their respective officers, agents or employees acting in the scope of their employment. The Federal Tort Claims 28 U.S.C. § 2671 et seq. and the Federal Employees Compensation Act, U.S.C. § 8101 et seq., govern all tort liability arising from negligent or wrongful acts or omissions of Service employees acting in the scope of employment. Likewise, Georgia law will govern the tort liability arising from Georgia Power's negligent, wrongful acts or omissions and its employees acting in the scope of official duty. Each Party's participation in this MOU activities is not intended to place either Party or its representatives in a position to incur tort liability arising from the other Party's acts or omissions.
- J. **No Agency Relationship:** Georgia Power and Georgia Power's officials are not the United States', the DOI's, or the Service's agents or representatives and will not represent themselves as such to third parties. The Service and the Service's employees are not Georgia Power's agents or representatives, and the Service will not represent itself as such to third parties. This MOU will never be construed as creating an employer and employee, principal and agent, or joint venture relationship between the Parties.
- K. **Non-Discrimination:** All activities under this MOU will follow Executive Order 11246, as amended; Title VI of the Civil Rights Act of 1964 (78 Stat. 252; 42 U.S.C. § 2000d et seq.); Title V, Section 504 of the Rehabilitation Act of 1973 (87 Stat. 394; 29 U.S.C. § 794); the Age Discrimination Act of 1975 (89 Stat. 728; 42 U.S.C. §§ 6101 et seq.); and with all other federal laws and regulations that prohibit discrimination based on race, color, national origin, handicap, age, religion, or sex in providing of facilities and service to the public.
- L. **Non-Endorsement:** This MOU may not be interpreted to imply that the United States, the DOI, or Service endorses any Georgia Power product, service, or policy. Georgia Power will not take any action or make any statement that suggests or implies any endorsement.
- M. **Non-Exclusive Agreement:** This MOU in no way restricts either the DOI or the Service from entering into similar agreements or participating in similar activities or arrangements with other public or private agencies, organizations, or individuals.
- N. **Officials Not to Benefit:** No Member of, Delegate to, Resident Commissioner in, Congress will be admitted to any share or part of this MOU or to any benefit to arise therefrom, unless the share or part benefit is for a corporation or company's general benefit.
- O. **Partial Invalidity:** If any part of this MOU is unenforceable, the remaining Articles other than those that are unenforceable, will be valid and enforceable as the law permits.
- P. **Plain Meaning:** The MOU terms will be interpreted according to their plain meaning and neither for nor against any Party.
- Q. **Service Appropriations:** Under 31 U.S.C. § 1341, no part of this MOU will be construed to obligate the Service, the DOI, or the United States of America to any current or future expenditure of funds before the availability of appropriations from Congress and their administrative allocation for the MOU's purposes, nor does this MOU obligate the Service, the DOI, or the United States of America to spend funds on any particular project or purpose, even if funds are available. This MOU is neither a fiscal nor a funds obligation document. Any endeavor involving reimbursement or

contribution of funds between the Parties to this MOU will be handled per applicable regulations and procedures, including those for federal government procurement and printing. Separate written agreements that the Parties' representative may sign will authorize any endeavor independently per appropriate statutory authority. This MOU does not provide that authority.

- R. **Sufficient Time:** Each Party acknowledges that it has read, considered, and understands this MOU. Each Party further acknowledges that it had sufficient time to consult with others, including its attorneys, about this MOU.
- S. **Training & Certification:** All parties will ensure that its employees have the proper training and certification required to conduct activities under this MOU.
- T. **Voluntary Agreement:** Georgia Power voluntarily enters in this MOU without threat or coercion by any Service, DOI, or United States of America employee or agent.
- U. **Waiver:** No waiver of any Article in this MOU will be effective unless the waiving party uses a signed writing. No waiver of any Article in this MOU constitutes a waiver of any prior, concurrent, or subsequent breach of the same or any other Articles.
- V. **Entire Agreement:** This MOU constitutes the Parties' entire agreement about the subject matter and supersedes all prior and contemporaneous agreements and discussions between themselves.
- W. **Signatures:** The Parties have signed this MOU on the dates listed below.

IN WITNESS WHEREOF, the parties have caused this MOU to be executed by an authorized official on the date and year set forth below their signature.

U.S. DEPARTMENT OF THE INTERIOR / U.S. FISH AND WILDLIFE SERVICE

BY: BRUCE BROWN Digitally signed by BRUCE BROWN
Date: 2022.07.10 10:47:52 -0500 DATE: 07/10/2022

Signature

NAME: Allan Brown *Allan Brown* TITLE: Assistant Regional Director FAC

GEORGIA POWER COMPANY

BY: *[Signature]* DATE: 7/12/2022

Signature

NAME: Kevin Pearson TITLE: General Manager, Natural Resources

APPENDIX B

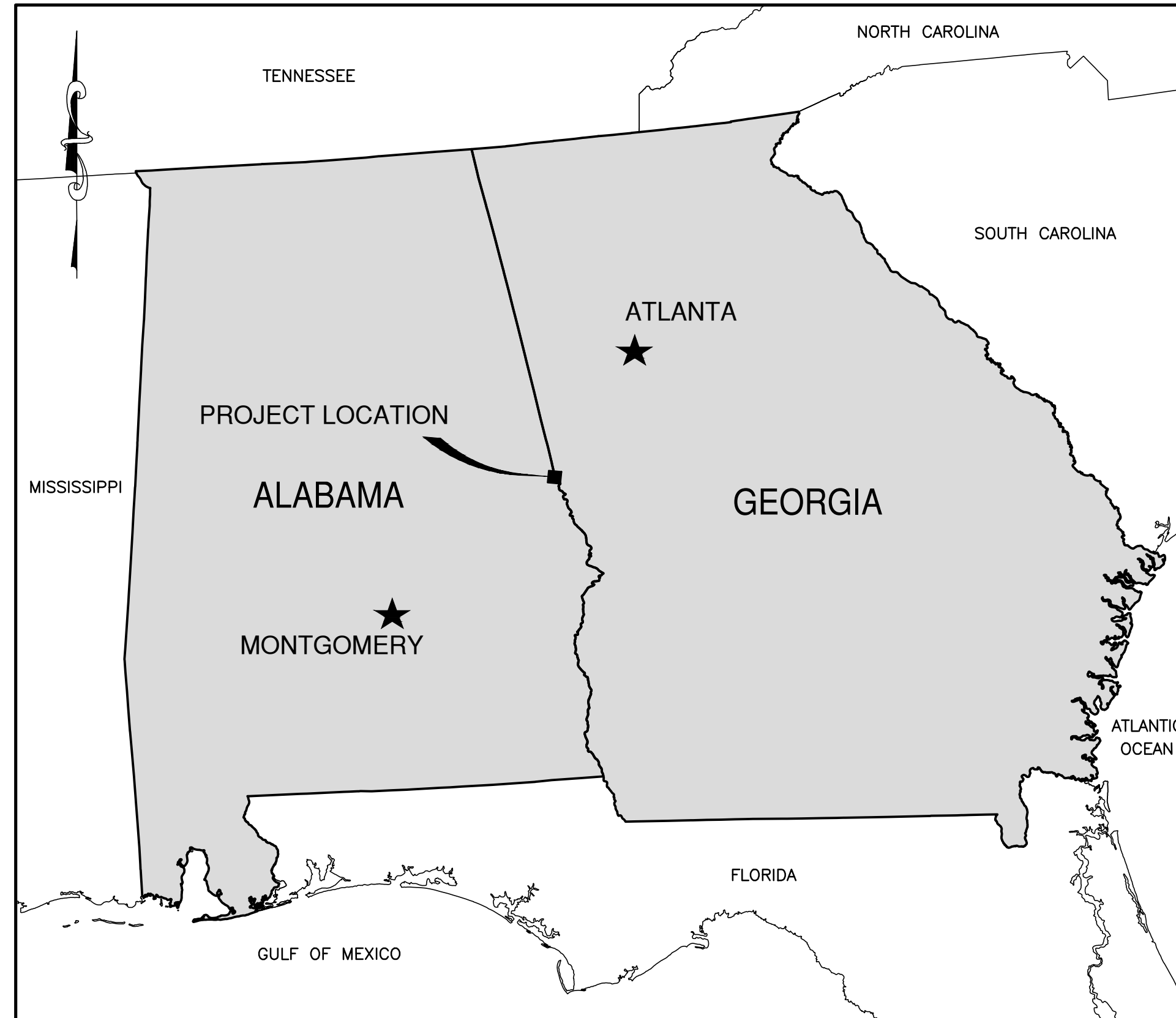
RIVERVIEW 90 PERCENT DESIGN DRAWINGS

24x36 = FULL SCALE 0 1" 2" 3"

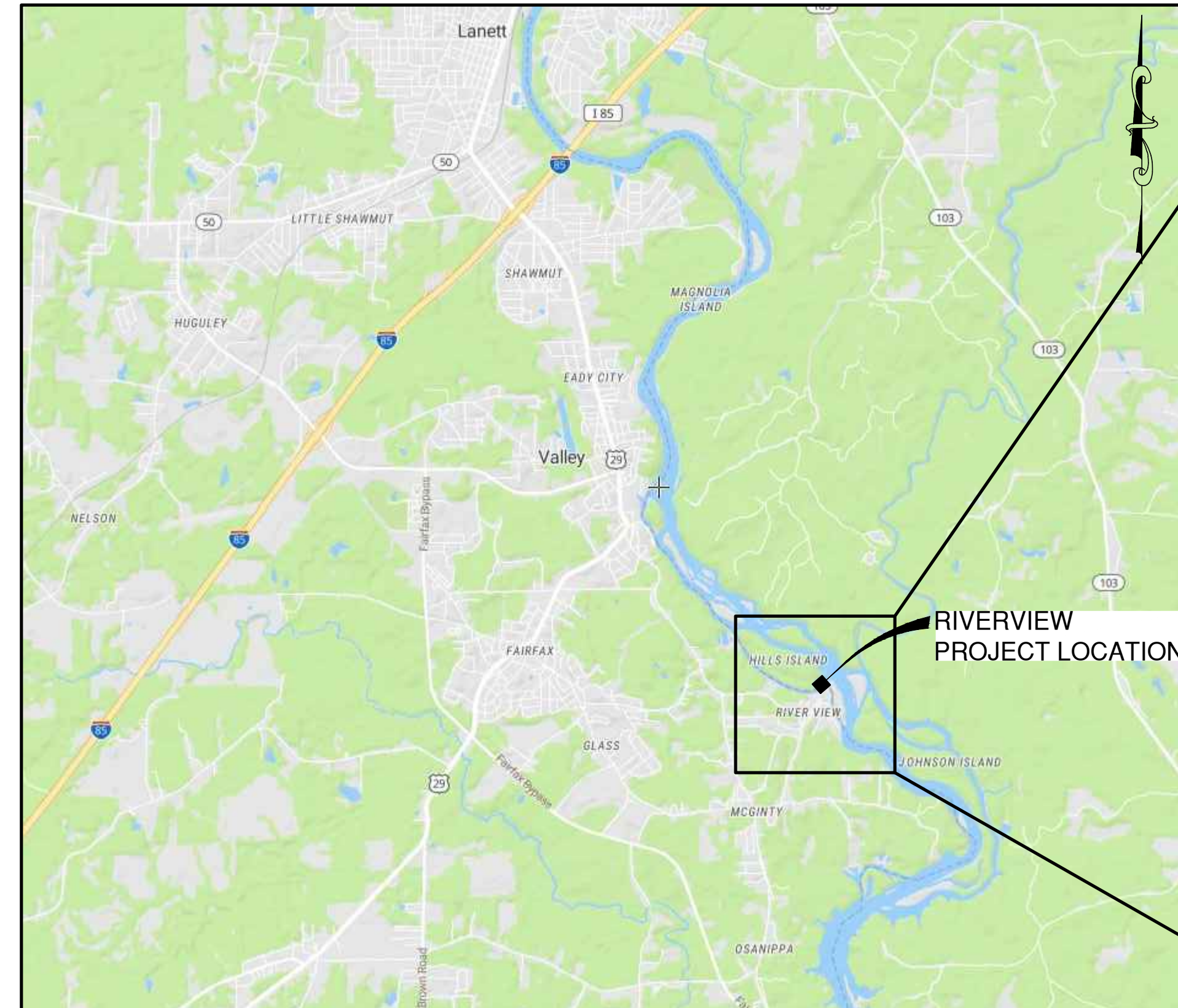
GEORGIA POWER COMPANY

ATLANTA, GA. RIVERVIEW

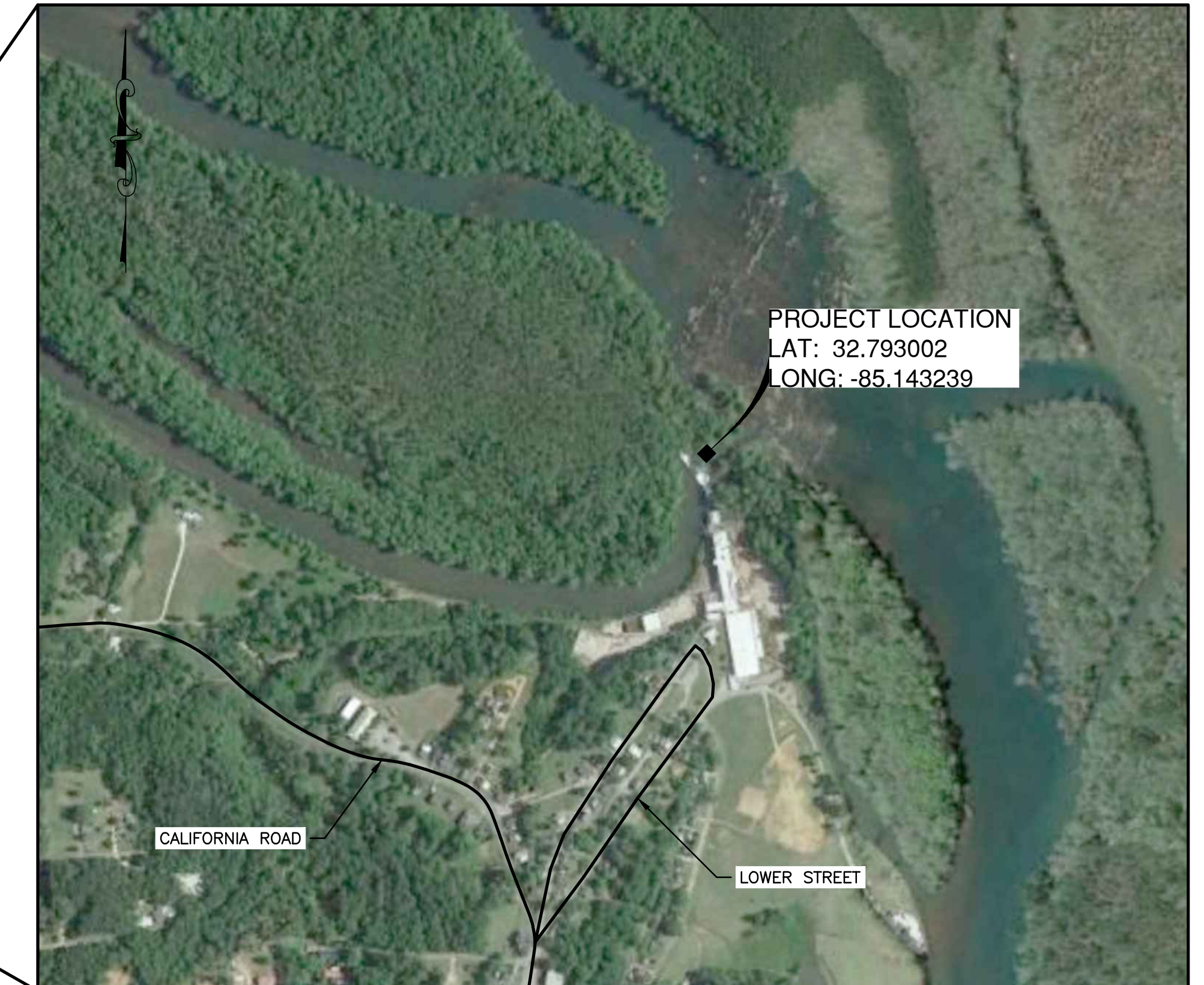
(FERC PROJECT NO. 2350) DAM DECOMMISSIONING



STATE MAP



VICINITY MAP



SITE MAP

DRAWING LIST				
SHEET NO.	SHEET DESCRIPTION	DATE	REVISION	STATUS
R-000	COVERSHEET	08-03-22	A	90% DESIGN
R-100-01	GENERAL NOTES	08-03-22	A	90% DESIGN
R-200-01	EXISTING CONDITIONS PLAN (AERIAL)	08-03-22	A	90% DESIGN
R-200-02	EXISTING CONDITIONS PLAN (NO AERIAL)	08-03-22	A	90% DESIGN
R-200-03	EXISTING CONDITIONS PLAN - HEADRACE	08-03-22	A	90% DESIGN
R-210-01	TEMPORARY FACILITIES PLAN	08-03-22	A	90% DESIGN
R-210-02	EROSION AND SEDIMENT CONTROL NOTES	08-03-22	A	90% DESIGN
R-210-03	EROSION AND SEDIMENT CONTROL NOTES	08-03-22	A	90% DESIGN
R-220-01	DEMOLITION PLAN	08-03-22	A	90% DESIGN
R-220-02	DEMOLITION PLAN POWERHOUSE	08-03-22	A	90% DESIGN
R-220-03	DAM DEMOLITION PLAN	08-03-22	A	90% DESIGN
R-300-01	POST-REMOVAL PLAN	08-03-22	A	90% DESIGN
R-300-02	POST-REMOVAL HEADRACE CHANNEL STABILIZATION PLAN	08-03-22	A	90% DESIGN
R-300-03	POST-REMOVAL DETAILS	08-03-22	A	90% DESIGN
R-310-01	POST-REMOVAL SECTIONS: POWERHOUSE PHASE 1	08-03-22	A	90% DESIGN
R-700-01	POST-REMOVAL PLANTING PLAN	08-03-22	A	90% DESIGN
R-900-01	PERMIT AREAS	08-03-22	A	90% DESIGN



90% DESIGN
08-03-22



NOT FOR CONSTRUCTION

GEORGIA POWER COMPANY ATLANTA, GEORGIA
RIVERVIEW (FERC PROJECT NO. 2350) DAM DECOMMISSIONING
COVER SHEET
Kleinschmidt 888-224-5942 KleinschmidtGroup.com
Project No. 534-039 Date Revised 08-03-22 Drawing No. R-000

No.	Revision	Date	Drawn	Checked
A	90% DESIGN	08-03-22	RMD	TAK

Designed	Drawn	Checked	Project No.	Date Revised	Drawing No.
TAK	BJL	TAK	534-039	08-03-22	R-000

24x36 = FULL SCALE

GENERAL NOTES:

- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS, SPECIFICATIONS, AND REFERENCED DOCUMENTS ASSOCIATED WITH THE PROJECT PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND ANY CONFLICT WITH THE DOCUMENTS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER'S REPRESENTATIVE, IN WRITING, PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE OWNER'S REPRESENTATIVE SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AS DEFINED BY THE DRAWINGS AND SPECIFICATIONS AND IN FULL COMPLIANCE WITH LOCAL REGULATIONS AND CODES.
- DEFINITIONS:
 - OWNER: GEORGIA POWER COMPANY
 - OWNER'S REPRESENTATIVE: INDIVIDUAL IDENTIFIED BY OWNER TO REPRESENT THEM ON SITE AND AUTHORIZED TO MAKE DECISIONS ON THEIR BEHALF. THIS COULD BE THE ENGINEER OR CONSTRUCTION MANAGER, IF APPOINTED AS OWNER'S REPRESENTATIVE BY THE OWNER.
 - ENGINEER: THE ENGINEER REPRESENTING THE OWNER ON THIS PROJECT TO ENSURE WORK IS COMPLETED TO THE DESIGN INTENT AND OWNER'S SATISFACTION, AS SELECTED BY THE OWNER
- ALL WORK SHALL BE COORDINATED AND PERFORMED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
- THE CONTRACTOR SHALL COMPLY WITH ALL CONDITIONS CONTAINED IN RELEVANT PERMITS ISSUED FOR THIS PROJECT. PERMITS MAY INCLUDE, BUT ARE NOT LIMITED TO A USACE NATIONWIDE PERMIT AND 401 WATER QUALITY CERTIFICATES FROM THE GEORGIA EPD, AND NPDES PERMIT FROM ALABAMA DEM.
- ALL MATERIALS SHALL BE PROVIDED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE GEORGIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS CONSTRUCTION OF TRANSPORTATION SYSTEMS, CURRENT EDITION, UNLESS NOTED OTHERWISE.
- ALL MATERIALS SHALL BE PROVIDED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST VERSION OF THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA, AND IN ACCORDANCE WITH THE LATEST VERSION OF THE "ALABAMA HANDBOOK FOR EROSION CONTROL, SEDIMENT CONTROL, AND STORMWATER MANAGEMENT ON CONSTRUCTION SITES AND URBAN AREAS" IN ALABAMA.
- THE CONTRACTOR SHALL INSTALL ALL REQUIRED EROSION AND POLLUTION CONTROL DEVICES PRIOR TO CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THEIR MAINTENANCE, REPOSITIONING AND REMOVAL UPON COMPLETION OF WORK.
- THE CONTRACTOR SHALL RESTORE ALL TEMPORARY ACCESS AREAS TO THEIR ORIGINAL CONDITION, UNLESS DISTURBANCE OCCURS IN AN AREA OF PROPOSED WORK. RESTORATION MAY INCLUDE, BUT NOT BE LIMITED TO, REGRADING TO ORIGINAL CONTOURS AND REPLANTING HERBACEOUS VEGETATION. NO ADDITIONAL PAYMENT WILL BE MADE FOR TEMPORARY ACCESS NOT INCLUDED IN THE ORIGINAL BID.
- NO TREES SHALL BE DISTURBED UNLESS INDICATED ON THE PLANS THAT THEY ARE TO BE REMOVED. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING TREES AND SHRUBS ON SITE. TREES AND SHRUBS IN ACCESS AREAS SHOULD BE CUT OFF AS CLOSE TO THE GROUND AS POSSIBLE. NO HERBICIDES ARE ALLOWED TO BE USED ON THE SITE.
- THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND PROPER DISPOSAL OF ALL WASTE MATERIAL, INCLUDING TEMPORARY EROSION AND SEDIMENT CONTROLS, TEMPORARY STRUCTURES, AND TEMPORARY FILL. DEBRIS SHALL NOT BE RELEASED INTO THE RIVER. ALL SPOIL MATERIAL AND DEBRIS (SOLID WASTE) SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL LAWS AND OTHER APPLICABLE CODES, AT AN OFF-SITE LOCATION.
- PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PREVENT ANY IMPACTS TO AREAS OUTSIDE OF THE LIMITS OF PROPOSED WORK. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL ANY IMPACTS TO AREAS OUTSIDE THE LIMITS OF PROPOSED WORK AT LEAST 1 WEEK IN ADVANCE OF THE PROPOSED IMPACT. IF THE CONTRACTOR'S ACTIVITY ADVERSELY AFFECTS ANY AREA OUTSIDE THE LIMIT OF PROPOSED WORK, THE CONTRACTOR SHALL RESTORE THE AREA TO PRE-CONSTRUCTION CONDITIONS AND NOTIFY THE ENGINEER.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR CONDUCTING UNDERGROUND UTILITY CHECKS IN ACCORDANCE WITH STATE REGULATIONS. THE CONTRACTOR WILL BE RESPONSIBLE FOR COORDINATING WITH ALABAMA 811 AND GEORGIA 811 A MINIMUM OF 14 WORK DAYS PRIOR TO THE START OF EARTH DISTURBANCE ACTIVITIES. SHOULD ANY UTILITIES BE LOCATED THAT ARE IN CONFLICT WITH THE DESIGN, THE CONTRACTOR SHALL IMMEDIATELY REPORT THESE CONFLICTS IN WRITING TO THE ENGINEER.
- SURVEY PROVIDED BY GEORGIA POWER AND INCLUDES: 1) BATHYMETRY FROM LOWE ENGINEERS' 2018, MAY 2019, AND AUGUST 2019 SURVEYS, AND 2) CIVIL AND UPLAND SURVEY FROM GASKINS NOVEMBER 2020 SURVEY. ELEVATIONS ARE SHOWN IN NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88). THE HORIZONTAL DATUM FOR THE PROJECT IS NAD83. WETLAND DELINEATION BY GEORGIA POWER COMPANY ENVIRONMENTAL & NATURAL RESOURCES. CULTURAL RESOURCES SURVEY BY SOUTHERN RESEARCH, HISTORIC PRESERVATION CONSULTANTS, INC.
- CONTRACTOR SHALL CONFIRM SURVEY BENCHMARK ELEVATIONS PRIOR TO CONSTRUCTION AND SHALL PROTECT ALL BENCHMARKS, SURVEY MARKERS, AND MONUMENTS DURING CONSTRUCTION.
- THIS SITE IS WITHIN ZONE AE, AN AREA OF 100-YEAR INUNDATION AS SHOWN ON FEMA MAPPING. PORTIONS OF THE SITE ARE LOCATED IN THE REGULATORY FLOODWAY. CONTRACTOR SHALL INFORM OWNER AS SOON AS POSSIBLE IF THEY ANTICIPATE THAT FLOOD CONDITIONS MAY IMPACT PROJECT WORK. CONTRACTOR SHALL TAKE REASONABLE MEANS TO PROTECT THEIR EQUIPMENT, THEIR STAFF, THE PROJECT SITE, AND THE RIVER IN ADVANCE OF ANTICIPATED FLOOD CONDITIONS.
- DURING ADVERSE WEATHER NO MATERIALS SHALL BE LEFT ON THE PROJECT SITE THAT COULD BE MOBILIZED DOWNSTREAM BY FLOOD, WAVES, OR WIND AND THEREBY POSE A THREAT TO DOWNSTREAM PROPERTY. THE CONTRACTOR IS RESPONSIBLE TO STABILIZE AND SECURE THE SITE UNTIL THE PROJECT IS ACCEPTED BY THE ENGINEER, AND SHALL PROTECT THE PROJECT, THE RIVER, AND OTHER PROPERTY AT ALL TIMES.
- ALL EQUIPMENT SHALL BE REMOVED FROM THE IN RIVER WORK AREA AT THE END OF EACH WORK DAY. UNLESS OTHERWISE APPROVED IN WRITING BY THE OWNER.
- THE CONTRACTOR SHALL COOPERATE WITH AND MAKE ALLOWANCES FOR OTHER CONTRACTORS (IF UTILIZED), AS WELL AS THE ENGINEER AND OWNER'S REPRESENTATIVES.
- THE CONTRACTOR SHALL MINIMIZE THE STOCKPILING OF EXCAVATED MATERIALS. IF EROSION AND SEDIMENT CONTROL MEASURES ARE NOT CAPABLE OF MANAGING SOIL RUNOFF FROM A STOCKPILE, THE CONTRACTOR SHALL REMOVE STOCKPILES BEFORE EXCAVATING MORE MATERIAL. THE CONTRACTOR SHALL MAINTAIN A SUPPLY OF SILT FENCE, STAKES AND STRAW BALES ON SITE FOR CONSTRUCTING EROSION CONTROL BEST MANAGEMENT PRACTICES PRIOR TO STOCKPILING.
- GRADES SHOWN ON THE PLANS ARE FINAL GRADES (AVERAGE ELEVATION OF FILL); ADJUSTMENTS MUST BE MADE FOR FILL AND ROCK WHERE APPLICABLE. WHERE BEDROCK IS ENCOUNTERED ABOVE FINAL GRADES, CONSULT ENGINEER FOR DIRECTION.
- ANY IMPORTED MATERIAL SHALL BE FREE OF INVASIVE PLANT MATERIAL AND SEED. UPON FINAL STABILIZATION AND REMOVAL OF THE EROSION AND SEDIMENT CONTROLS THE DISTURBED AREA SHALL HAVE MINIMAL (E.G. <20%) COVERAGE BY INVASIVE SPECIES.
- CONTRACTOR SHALL COORDINATE IN-RIVER WORK WITH UNITED STATES ARMY CORP OF ENGINEERS WEST POINT DAM BASEFLOW RELEASES.
- DAM REMOVAL WILL TAKE PLACE DURING THE SEASONAL LOW FLOW PERIOD.
- CONTRACTOR SHALL VISIBLY MARK LIMITS OF DISTURBANCE, AS DEFINED BY PROJECT PLAN DRAWINGS, WITH ORANGE CONSTRUCTION FENCE (IN UPLAND AREAS) AND WOODEN STAKES (WITHIN WATERBODIES), OR AS APPROVED BY THE OWNER'S REPRESENTATIVE.
- SURVEY DATA WAS NOT AVAILABLE NEAR THE DAM - CONTRACTOR TO REVIEW SITE DURING INTIAL MOBILIZATION AND ADVISE THE OWNER AND ENGINEER (PRIOR TO COMMENCING DAM REMOVAL) IF CONDITIONS DIFFER SUBSTANTIALLY FROM THOSE SHOWN ON THESE DRAWINGS.

RIVERVIEW GENERAL NOTES

- ALL CONCRETE RE-USED ON SITE SHALL BE NO LARGER THAN 3 FEET IN ANY DIRECTION, FREE OF EXPOSED REBAR, AND SHALL BE WELL GRADED TO INCLUDE PIECES FROM 6 INCHES TO 3 FEET IN SIZE, IF NOT OTHERWISE SPECIFIED ON THE DRAWINGS.
- THE MAXIMUM DRAWDOWN RATE OF THE HEADPOND ABOVE THE DAM SHALL BE 3 FEET PER DAY. CONTRACTOR SHALL MONITOR DRAWDOWN RATE HOURLY AND STOP WORK THAT MAY FURTHER LOWER THE HEADPOND IF THE MAXIMUM DRAWDOWN RATE IS REACHED FOR ANY GIVEN DAY.

CONSTRUCTION SEQUENCE

- CONFIRM OR UPDATE ANTICIPATED DAM DECOMMISSIONING DURATION (IN-WATER WORK) FOR THIS PROJECT - CURRENTLY ANTICIPATED TO TAKE APPROXIMATELY 4 WEEKS ONCE THE UPLAND EROSION & SEDIMENT CONTROLS ARE INSTALLED. THE REMOVAL OF RIVERVIEW DAM IS ANTICIPATED TO OCCUR IN PARALLEL WITH THE REMOVAL OF CROW HOP DAM.
- CONTRACTOR SHALL COMPLETE, AND RECEIVE OWNER'S APPROVAL OF, THE FOLLOWING TASKS PRIOR TO COMMENCING THE DECOMMISSIONING:
 - PERFORM NECESSARY ENVIRONMENTAL REMEDIATION AT THE PROJECT SITE. NO DEMOLITION WORK SHALL COMMENCE UNTIL THIS WORK IS COMPLETE.
 - DISCONNECT ALL ELECTRICAL SERVICE AND TRANSFORMERS.
 - STOCKPILE STONE AT STAGING AREA.
 - COORDINATE PROJECT SCHEDULE WITH FLOW RELEASES AT WEST POINT DAM.
- INSTALL PUBLIC SAFETY SIGNS AND BUOYS TO WARN PUBLIC OF ACTIVE CONSTRUCTION AND NO TRESPASSING. INSTALL AT LEAST 2 SIGNS ON SHORE AND 2 SIGNS OR FLOATING BUOYS IN THE TAILWATER OF THE DAM. OWNER TO APPROVE SIGN TEXT AND LOCATIONS PRIOR TO INSTALLATION.
- AT ALL TIMES DURING THE REMOVAL, THE FOLLOWING MINIMUM FLOWS SHALL BE MAINTAINED:
 - 150 CFS OF WATER FLOWING IN THE RIVERVIEW HEADRACE CHANNEL AND
 - APPROXIMATELY 80 CFS OF WATER FLOWING IN THE MAIN CHANNEL OF THE CHATTAHOOCHEE RIVER
 - CONTRACTOR SHALL MAKE ADJUSTMENTS AS NECESSARY, PER ENGINEER DIRECTION TO MAINTAIN THESE MINIMUM FLOWS.
- INSTALL UPLAND EROSION AND SEDIMENT CONTROLS PRIOR TO ANY GROUND DISTURBANCE.
- MARK LIMITS OF DISTURBANCE IN UPLAND AREAS AND ANY RESOURCE AREAS, EXISTING UTILITIES, BENCHMARKS, STRUCTURES, OR INFRASTRUCTURE THAT ARE TO BE PROTECTED DURING THIS PROJECT.
- MARK LIMITS OF DEMOLITION AND PROPOSED FILLS AREAS AND OBTAIN ENGINEER APPROVAL OF STAKEOUT.
- INSTALL TIMBER MATS OVER ALL SENSITIVE RESOURCE AREAS AS WORK COMMENCES IN THOSE AREAS.
- POWERHOUSE DEMOLITION:
 - REMOVE EXISTING FOOTBRIDGE AND CONCRETE ABUTMENTS, DISPOSING OF CONCRETE WITH DAM RUBBLE AND OTHER MATERIALS AT AN APPROVED OFF-SITE LANDFILL.
 - DEMOLISH POWERHOUSE IN PLACE LEAVING THE POWERHOUSE SUBSTRUCTURE, INCLUDING UPSTREAM GATE STRUCTURE AND DOWNSTREAM WALL INTACT BELOW ELEVATIONS SHOWN IN PROJECT DRAWINGS TO REDUCE FLOW OF WATER INTO SIDE CHANNEL DURING HIGH WATER EVENT.
 - PLACE RUBBLE, AS IT BECOMES AVAILABLE DURING DAM REMOVAL, WITHIN AND ADJACENT TO THE POWERHOUSE FOOTPRINT.
 - PLACE SHORELINE ARMORING AROUND THE POWERHOUSE AS ACCESS ROADS ARE REMOVED TO ACHIEVE FINAL GRADES.
 - AFTER DAM RUBBLE AND SHORELINE ARMORING IS PLACED, COVER RUBBLE WITH STONE, TOPSOIL, SEED, AND MULCH, WHERE REQUIRED TO NATURALIZE THE SITE.
- RIVERVIEW DAM DECOMMISSIONING:
 - CONSTRUCT THE TEMPORARY ACCESS ROAD FROM THE PROJECT LAYDOWN AREA TO THE DAM.
 - LEAVE A PORTION OF EACH ABUTMENT IN PLACE TO DOCUMENT THE HISTORICAL CONTEXT OF THE DAM, PER PROJECT DRAWINGS.
 - INSTALL A NOTCH AT THE NORTH EXTENT OF DEMOLITION OF THE DAM AND PLACE RUBBLE DOWNSTREAM OF THE NOTCH TO LIMIT BANK EROSION AND SCOUR PER ENGINEER FIELD DIRECTION.
 - REMOVE THE DAM FROM NORTH TO SOUTH. MOVE STOCKPILED AND EXISTING ROCKS AND USE RUBBLE TO CONSTRUCT ACCESS ROADS AS NECESSARY, MINIMIZING USE OF RUBBLE TO EXTENT PRACTICAL. TRANSPORT RUBBLE TO DISPOSAL LOCATIONS AS IT IS REMOVED (MINIMIZE RUBBLE LEFT IN THE RIVER DURING HIGHER FLOWS TO THE EXTENT PRACTICAL). PLACE RUBBLE IN FILL DISPOSAL AREAS ONCE FILL AREA IS PROPERLY PREPARED.
 - CUT ANY REINFORCING BAR (IF PRESENT IN ANY AREAS WHERE THE DAM IS REMOVED) FLUSH WITH THE POST-REMOVAL GRADE.
 - AS THE DAM REACHES FINAL GRADE, REMOVE THE TEMPORARY ACCESS ROAD FROM THE NORTH SIDE AND PROCEEDING SOUTH. PLACE THE REMAINING RUBBLE AND STONE FROM THE ACCESS ROAD AROUND THE REMAINS OF THE POWERHOUSE AND IN AREAS OF SHORELINE ARMORING AS APPROVED BY THE ENGINEER.
 - REMOVE BOAT WARNING BUOYS, POST, AND CABLES.
- RIVERVIEW HEADRACE CHANNEL STABILIZATION:
 - USE PROPOSED RIPRAP TO BUILD ACCESS ROADS TO RIPRAP INSTALLATION AREAS.
 - PRIOR TO NOTCHING AND REMOVAL OF THE DAM, INSTALL RIPRAP TO EXTENT/DIMENSIONS SHOWN ON PROJECT PLANS PER INTERIM BANK STABILIZATION OF RIVER BANKS AND BED DURING SEDIMENT FLUSHING.
 - COMMENCE DAM REMOVAL
 - ALLOW TIME FOR RIVER CHANNEL TO ADJUST NATURALLY AS THE SEDIMENT FLUSHES AFTER DAM REMOVAL. COMMENCE FINAL RIVERBANK STABILIZATION AFTER ENGINEER APPROVAL.
 - COMPLETE BANK STABILIZATION INCLUDING FINAL GRADING, AND LIMITED ADDITIONAL RIPRAP INSTALLATION AND REWORKING PER DIRECTION OF ENGINEER BASED ON EXTENT OF SEDIMENT FLUSHING.
 - TOPSOIL, SEED, MULCH, AND INSTALL EROSION CONTROL BLANKETS ON THE EXPOSED SOIL OF THE RIVERBANK TO NATURALIZE THE SITE.
- REMOVE TEMPORARY FACILITIES AND THEN SEED AND MULCH ALL DISTURBED UPLAND AREAS AS FINAL GRADES ARE ACHIEVED AND PER EROSION AND SEDIMENT CONTROL PLAN.
- RESTORE SITE TO OWNER'S APPROVAL AND PERMIT CONDITIONS. (REFER TO THE LANGDALE AND RIVERVIEW PROJECTS DECOMMISSIONING HYDRAULIC & HYDROLOGIC MODELING REPORT FOR DETAILS ON ADJUSTED BATHYMETRY)

Langdale & Riverview Decommissioning Schedule Overview (PRELIM) Tasks	Estimated Task Duration (months)	Project Month*												
		1	2	3	4	5	6	7	8	9	10			
Decommission Riverview Dam and Powerhouse	4													
Decommission Crow Hop Dam and Construct Rock Ramp	3													
Decommission Langdale Powerhouse and Construct Island Channel	8													
Finalize Riverview Headrace Bank and Bed Protection	1													
Decommission Langdale Dam	2													
Construct Langdale Park	2													

*Month 4 is anticipated to begin in June with in-water work. In-water work: darker shading; upland work: lighter shading

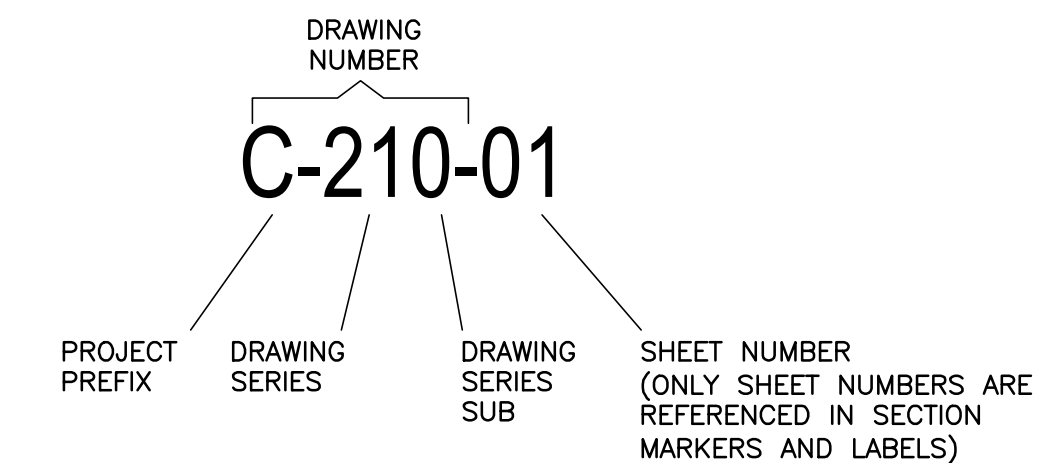


ANTICIPATED FLOW DISTRIBUTION SUMMARY ESTIMATES FOR BASE FLOW (~675CFS)

PROJECT STAGE	MAIN CHANNEL FLOW (AT CROW HOP DAM; CFS)	RIVERVIEW HEADRACE CHANNEL FLOW (CFS)
EXISTING CONDITION	98	577
STAGE 1: CROW HOP DAM: TOP 5' REMOVED	515	160
STAGE 2A: RIVERVIEW DAM AND CROW HOP TOP 5' REMOVED (EXISTING BATHYMETRY)	490	185
STAGE 2B: RIVERVIEW DAM AND CROW HOP TOP 5' REMOVED (ADJUSTED BATHYMETRY)*	80	595
STAGE 3: RIVERVIEW DAM AND CROW HOP DAM REMOVED (ADJUSTED BATHYMETRY)*	80	595

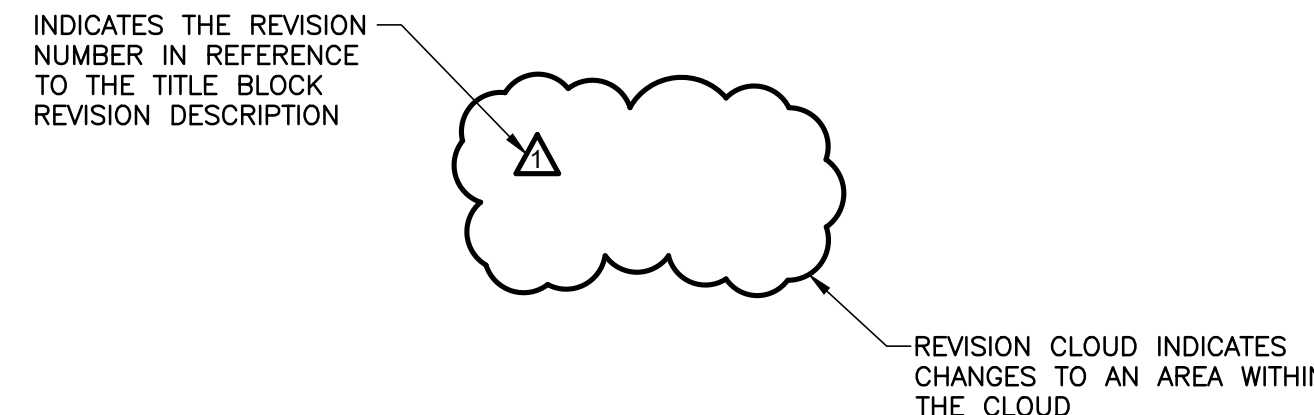
* INCLUDES NO ADJUSTMENT TO BATHYMETRY ABOVE CROW HOP DAM DUE TO UPSTREAM SHOALS CONTROLLING FLOW INTO THIS REACH AND MINIMAL SEDIMENT ACCUMULATION BEHIND THIS DAM. (REFER TO THE LANGDALE AND RIVERVIEW PROJECTS DECOMMISSIONING HYDRAULIC & HYDROLOGIC MODELING REPORT FOR DETAILS ON ADJUSTED BATHYMETRY)

DRAWING AND SHEET NUMBER IDENTIFICATION*

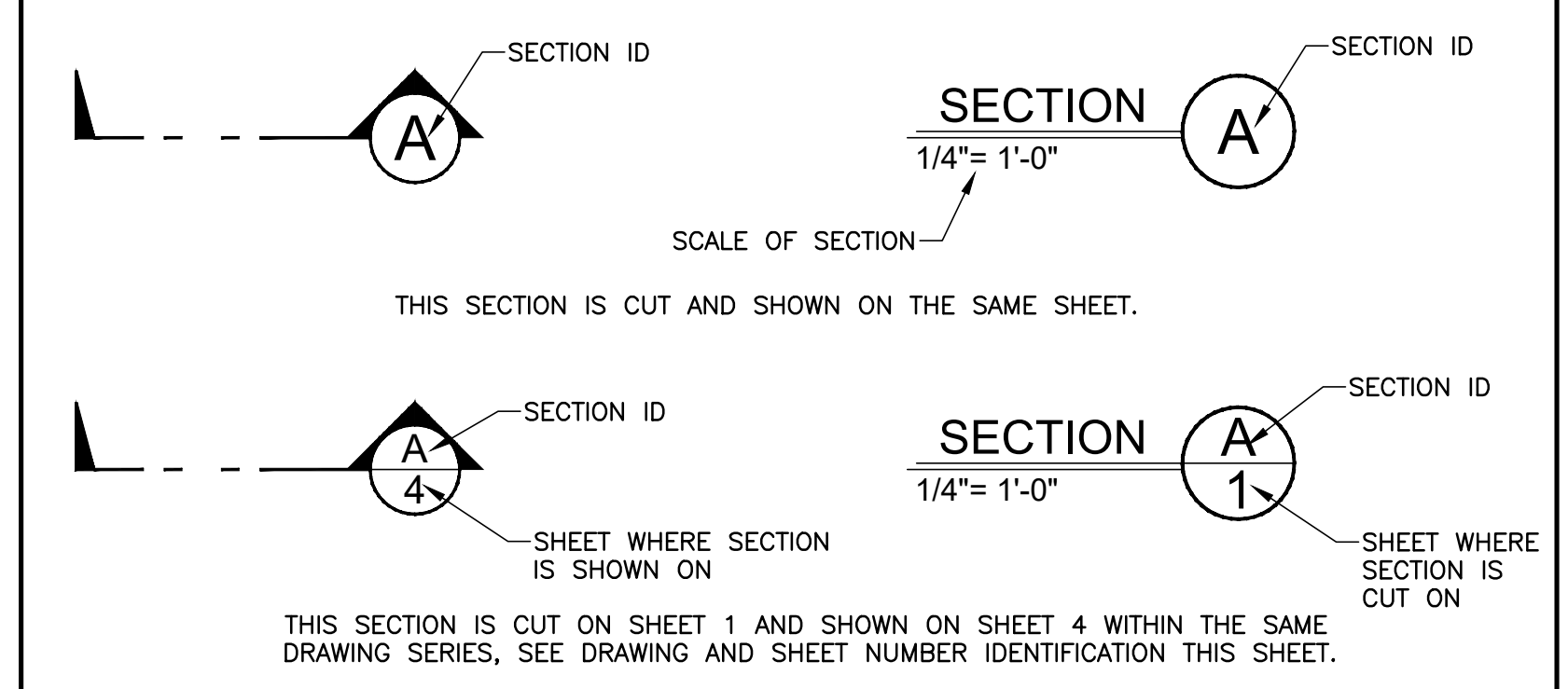


*REFERS TO DRAWING NUMBER IN LOWER RIGHT HAND CORNER OF TITLE BLOCK.

REVISION IDENTIFICATION



SECTION, DETAIL AND VIEW IDENTIFICATION SYMBOLS



SECTION, DETAIL AND VIEW IDENTIFICATION SYMBOLS NOTES:

- SECTIONS ARE ALPHABETICAL.
- DETAILS ARE NUMERICAL.
- VIEWS ARE DOUBLE ALPHABETICAL.
- SHEET REFERENCE NUMBER FOR SECTIONS AND DETAILS OCCUR WITHIN THE SAME DRAWING SERIES.

NOT FOR CONSTRUCTION

GEORGIA POWER COMPANY
ATLANTA, GEORGIA

RIVERVIEW (FERC PROJECT NO. 2350)
DAM DECOMMISSIONING

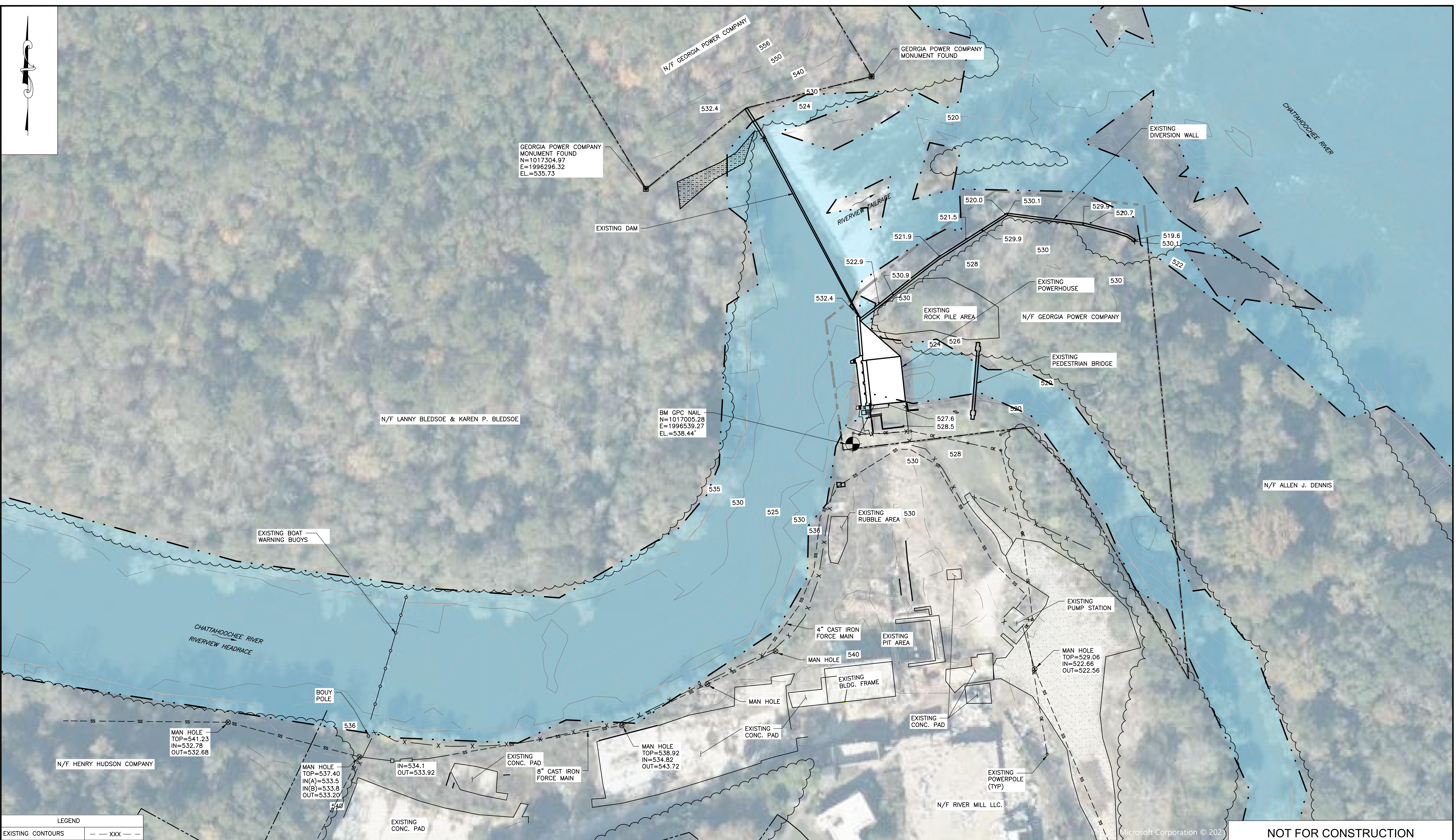
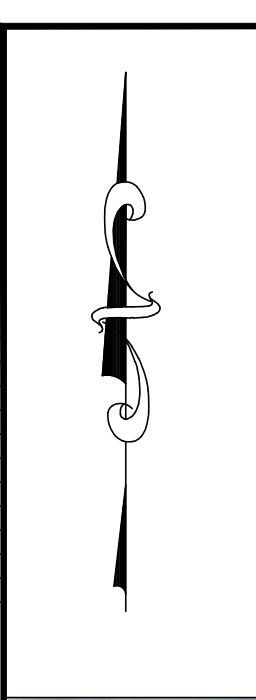
GENERAL NOTES

Kleinschmidt 888-224-5942
KleinschmidtGroup.com

Project No. 534-039 Date Revised 08-03-22 Drawing No. **R-100-01**

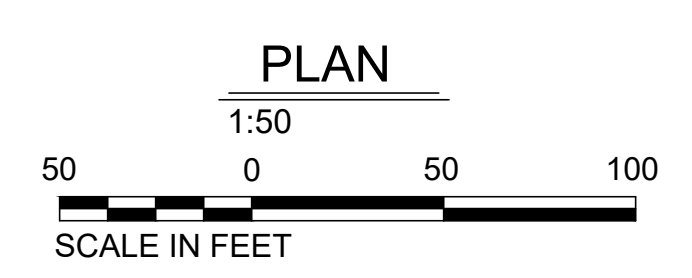
No.	Revision	Date	Drawn	Checked
A	90% DESIGN	08-03-22	RMD	TAK

24x36 = FULL SCALE



LEGEND	
EXISTING CONTOURS	--- XXX ---
PROPERTY LINE	---
EXISTING ACCESS ROAD	---
APPROXIMATE LOCATION OF WATERS EDGE	---
APPROXIMATE EDGE OF EXISTING TREE COVER	---
EXISTING WETLAND (2020 SURVEY)	---
EXISTING SEWER LINE	---
EXISTING OVERHEAD ELECTRICAL	---
EXISTING FENCE LINE	X
FERC PROJECT BOUNDARY	---

- NOTES:
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 3. SANITARY SEWER LOCATION TO BE CONFIRMED WITH EAST ALABAMA WATER, SEWER, AND FIRE PROTECTION DISTRICT PRIOR TO COMMENCING EARTH DISTURBANCE.
 4. APPROXIMATE LOCATION OF WATERS EDGE IS DURING A WEST POINT BASE FLOW OF 670 CFS.
 5. THE SURVEYORS CERTIFICATION EXTEND ONLY TO THE TOPOGRAPHICAL ASPECTS AND THAT THE TOPOGRAPHICAL SURVEY DOES NOT CONSTITUTE A BOUNDARY SURVEY. THIS PLAN IS NOT TO BE RECORDED OR USED TO CONVEY PROPERTY. PARCEL BOUNDARIES ARE FROM PUBLIC SOURCES, NOT A BOUNDARY SURVEY.



No.	Revision	Date	Drawn	Checked
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GEORGIA POWER COMPANY
ATLANTA, GA.

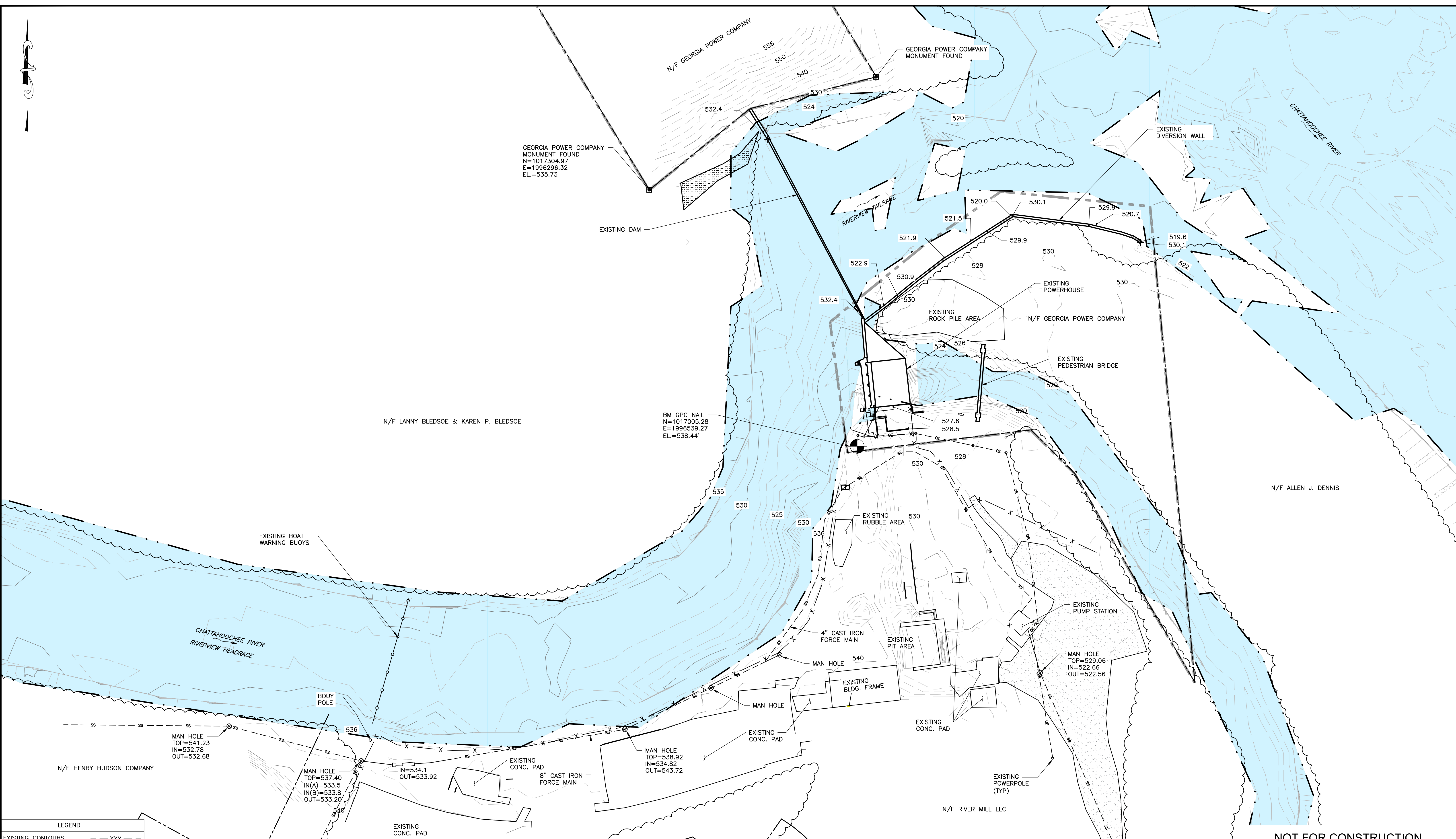
RIVERVIEW (FERC PROJECT NO. 2350)
DAM DECOMMISSIONING

EXISTING CONDITIONS (AERIAL)

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Project No. 534-039	Date Revised 08-03-22
Designed TAK	Drawn BJL
Checked TAK	Checked TAK
Drawing No. R-200-01	

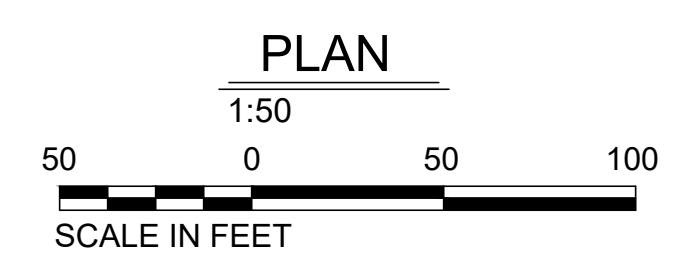
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LEGEND	
EXISTING CONTOURS	--- XXX ---
PROPERTY LINE	---
EXISTING ACCESS ROAD	---
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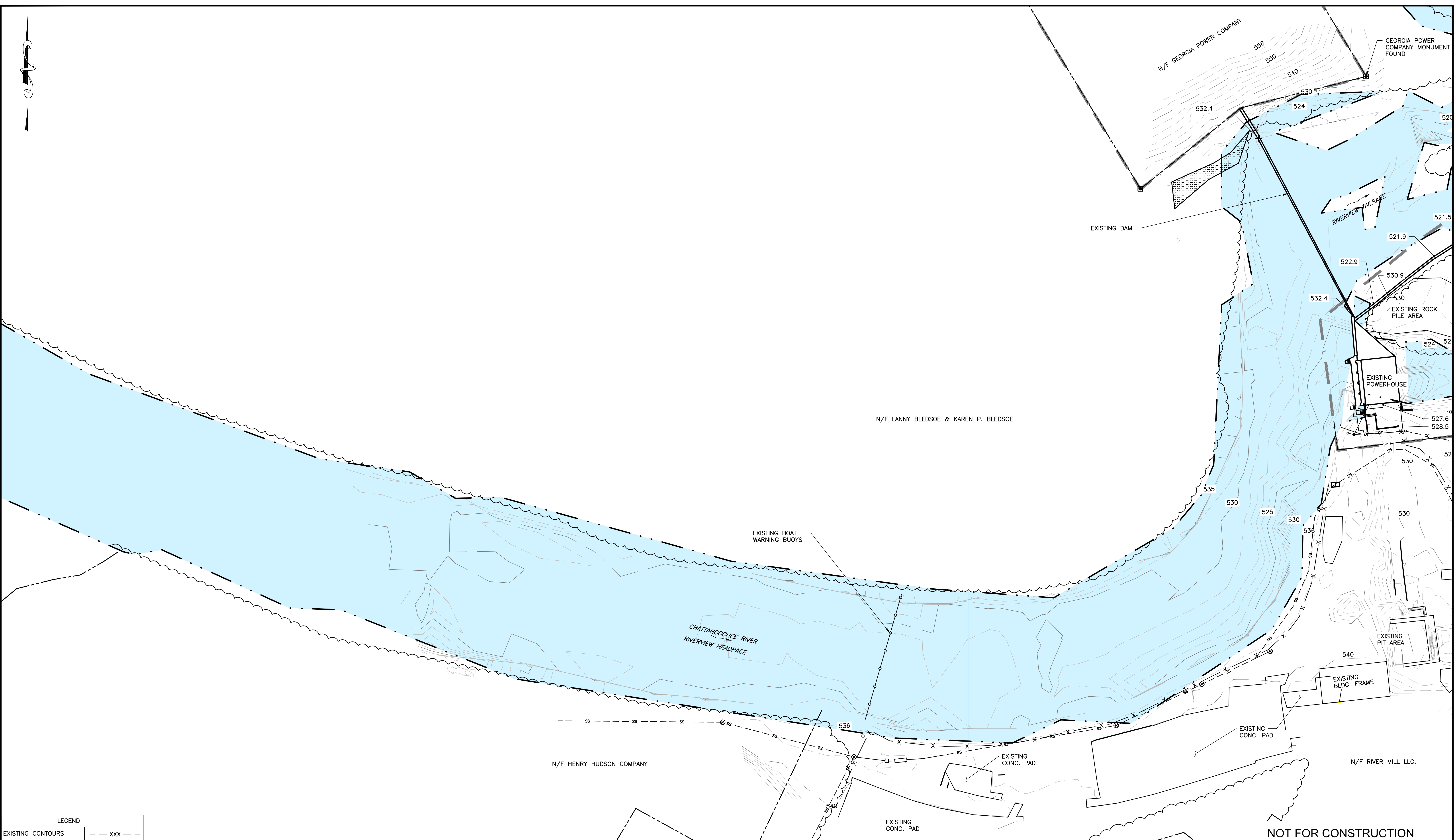


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GEORGIA POWER COMPANY ATLANTA, GA.					
RIVERVIEW (FERC PROJECT NO. 2350) DAM DECOMMISSIONING					
EXISTING CONDITIONS (NO AERIAL)					
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No.	Revision	Date	Drawn	Checked	
A	90% DESIGN	08-03-22	RMD	TAK	
Designated	Drawn	Checked	Project No.	Date Revised	Drawing No.
TAK	BJL	TAK	534-039	08-03-22	R-200-02

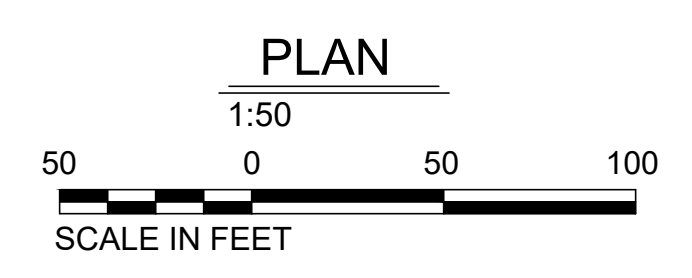
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LEGEND	
EXISTING CONTOURS	--- XXX ---
PROPERTY LINE	---
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APPROXIMATE LOCATION OF WATERS EDGE	— · — · —
APPROXIMATE EDGE OF EXISTING TREE COVER	~~~~~
EXISTING WETLAND (2020 SURVEY)	▨
EXISTING SEWER LINE	--- SS ---
EXISTING OVERHEAD ELECTRICAL	--- OE ---
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FERC PROJECT BOUNDARY	--- · · · · ·

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			BJL	TAK

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RIVERVIEW (FERC PROJECT NO. 2350)
DAM DECOMMISSIONING

EXISTING CONDITIONS - HEADRACE

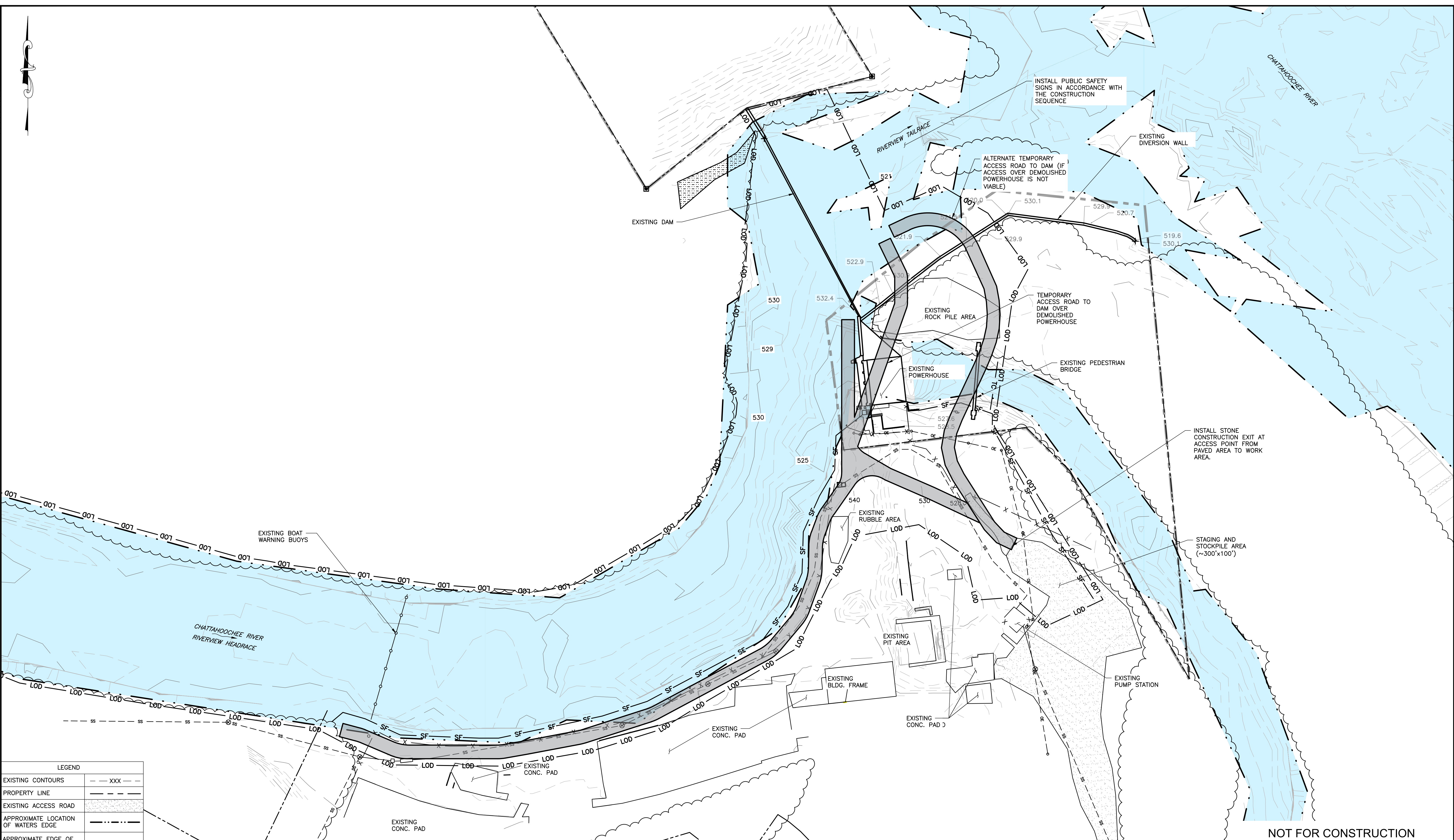
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534-039	08-03-22	R-200-03

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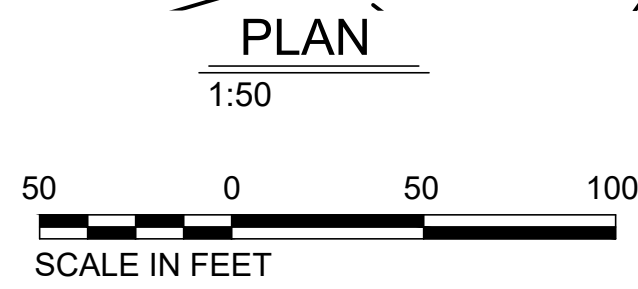
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EXISTING OVERHEAD ELECTRICAL	--- OE ---
EXISTING FENCE LINE	--- X ---
TEMP. ACCESS ROAD	-----
LIMITS OF DISTURBANCE	--- LOD ---
GA DOT TYPE C SEDIMENT BARRIER	--- SF ---
FERC PROJECT BOUNDARY	-----

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GEORGIA POWER COMPANY
ATLANTA, GA.

RIVERVIEW (FERC PROJECT NO. 2350)
DAM DECOMMISSIONING

TEMPORARY FACILITIES

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Project No.	Date Revised	Design	Drawn	Checked
534-039	08-03-22	TAK	BJL	TAK

Drawing No. **R-210-01**

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EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN

- THIS PLAN HAS BEEN DEVELOPED TO PROVIDE A STRATEGY FOR CONTROLLING SOIL EROSION AND SEDIMENTATION DURING AND AFTER CONSTRUCTION OF THE PROPOSED DEVELOPMENT. THIS PLAN IS BASED ON THE ALABAMA HANDBOOK FOR EROSION CONTROL, SEDIMENT CONTROL AND STORMWATER MANAGEMENT ON CONSTRUCTION SITES AND URBAN AREAS (2018 EDITION) AND MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA (2016 EDITION).
- AT NO TIME SHALL UPLAND SEDIMENT BE PERMITTED TO LEAVE THE SITE.
- WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT
- ALL POLLUTION CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
- ALL SOIL OR STONE WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE WILL BE REMOVED IMMEDIATELY BY THE CONTRACTOR.
- ALL WORK SHALL BE PERFORMED WITHIN THE LIMIT OF DISTURBANCE THAT HAS BEEN MARKED IN THE FIELD BY THE CONTRACTOR.
- NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION OR WITHIN 25-FEET OF THE COASTAL MARSHLAND BUFFER AS MEASURED FROM THE JURISDICTIONAL DETERMINATION LINE WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.
- AMENDMENTS/REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMPS WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.
- EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE."
- KEY ACTIONS:
 - DELINEATE/MARK SOIL DISTURBANCE LIMITS
 - INSTALL SEDIMENT BARRIERS BEFORE DISTURBING ANY SOILS
 - INSTALL A STABILIZED CONSTRUCTION ENTRANCE BEFORE ANY HAUL TO OR FROM THE SITE
 - DIVERT AND DISPERSE STORM RUNOFF TO UNDISTURBED AREAS WHEREVER POSSIBLE
 - MULCH DISTURBED AREAS
 - PROTECT SLOPES
 - INSPECT AND REPAIR EROSION CONTROLS AND SEDIMENT BARRIERS

- AFTER THE CONSTRUCTION INSPECTOR HAS DETERMINED THAT THE PROJECT AREA HAS STABILIZED, THE CONTRACTOR SHALL REMOVE ALL TEMPORARY SEDIMENTATION BARRIERS CONTROL RISERS, AND ANY OTHER TEMPORARY EROSION CONTROL MEASURES.

PERMANENT SEEDING

- PROVIDE VEGETATIVE PLAN, NOTING ALL TEMPORARY AND PERMANENT VEGETATIVE PRACTICES. INCLUDE SPECIES, PLANTING DATES AND SEEDING, FERTILIZER, LIME AND MULCHING RATES. VEGETATIVE PLAN SHALL BE SITE SPECIFIC FOR APPROPRIATE TIME OF YEAR THAT SEEDING WILL TAKE PLACE AND FOR THE APPROPRIATE GEOGRAPHIC REGION OF GEORGIA.
- ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING."
- UPON COMPLETION OF SITE CONSTRUCTION, ALL AREAS PREVIOUSLY DISTURBED SHALL BE TREATED AS STATED BELOW. THESE AREAS SHALL BE CLOSELY MONITORED BY THE CONTRACTOR UNTIL SUCH TIME AS A SATISFACTORY GROWTH OF VEGETATION IS ESTABLISHED. SATISFACTORY GROWTH SHALL MEAN A MINIMUM OF 80% OF THE AREA IS VEGETATED WITH VIGOROUS GROWTH. TOPSOIL SHALL BE SPREAD OVER ALL DISTURBED AREAS AND GRADED TO A UNIFORM DEPTH OF FOUR (4") INCHES.
- THE TOPSOIL TO BE USED FOR LOAM SHALL BE TESTED BY A CERTIFIED TESTING LABORATORY TO DETERMINE THE SOIL AMENDMENTS THAT ARE REQUIRED FOR HEALTHY GRASS GROWTH. UPON COMPLETION OF THE TESTS, SUBMIT THE LABORATORIES RECOMMENDATIONS TO THE INSPECTOR FOR APPROVAL PRIOR TO PLACING THE TOPSOIL.
- SEEDING SHALL BE COMPLETED BETWEEN THE DATES OF MARCH 1 AND MAY 31 OR SEPTEMBER 1 TO OCTOBER 15. IF SEEDING NEEDS TO OCCUR OUTSIDE OF THESE SEASONS WATERING AND ADDITIONAL MULCH MAY BE REQUIRED. A LATE FALL/EARLY WINTER DORMANT SEEDING (NOVEMBER 1 – DECEMBER 15) CAN ALSO BE MADE, HOWEVER THE SEEDING RATE WILL NEED TO BE INCREASED BY 50%.
- STRAW MULCH SHALL BE APPLIED AT THE RATE OF 100 LBS. PER 1,000 SQ. FT. FOR SMALL AREAS OF 2 TONS/ACRE FOR LARGER AREAS. FOLLOWING SEEDING, MULCH SHALL BE ANCHORED BY WATERING OR USING ANCHORING EMULSION OR TRACKING BY BULLDOZER ON AREAS OF MODERATE SLOPES. AN ALTERNATE TO STRAW MULCH IS THE USE OF NAG S150BN (SLOPES <3:1) AND NAG SC150BN (SLOPES >3:1) EROSION CONTROL MATTING (OR AN APPROVED EQUIVALENT), STAKED PER THE MANUFACTURERS GUIDELINES.
- ALL SEDIMENT CONTROL STRUCTURES SHALL REMAIN IN PLACE UNTIL SATISFACTORY VEGETATION GROWTH IS ESTABLISHED. DISTURBED AREAS SHALL BE SEEDED WITH THE FOLLOWING MIXTURE:
 - WARM SEASON SLOPEMASTER SEED MIXTURE: 50 LB/ACRE, 1.15 LBS/1000SQFT.
 - COOL SEASON SLOPEMASTER SEED MIXTURE: 100 LBS/ACRE, 2.25 LBS/1000SQFT.
- REFER TO SHEET R-700-01 FOR SEED MIXES AND PLANTING AREAS.

GENERAL CONSTRUCTION NOTES

- DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE ALL REASONABLE MEASURES TO SCHEDULE EARTHWORK OPERATIONS SUCH THAT THE AREA OF EXPOSED AND DISTURBED SOIL IS MINIMIZED. CONSTRUCTION SHALL BE PHASED TO REDUCE THE AREA OF DISTURBED SOIL AT ANY ONE TIME. UPGRADIENT STORM WATER DIVERSION AND DISPERSION MEASURES SHALL BE INSTALLED WHERE APPROPRIATE. AFTER ACHIEVING ROUGH GRADE OF A PORTION OF THE SITE AND PRIOR TO EXTENDING EARTHWORK OPERATIONS, THE CONTRACTOR SHALL STABILIZE DISTURBED AREAS BY TEMPORARY MULCHING UNTIL FINAL GRADE IS REACHED. ALL CUT AND FILL SLOPES SHALL BE STABILIZED UPON COMPLETION. THE FOLLOWING MEASURES SHALL BE UNDERTAKEN TO PROVIDE PROTECTION TO THE SOIL, WATER, AND ADJUTING LANDS.
- PRIOR TO GRUBBING OR ANY EARTH MOVING OPERATION, SILTATION FENCE OR SEDIMENT BARRIER SHALL BE INSTALLED ACROSS THE SLOPE ON THE CONTOUR AT THE DOWNHILL LIMIT OF THE WORK AS PROTECTION AGAINST CONSTRUCTION RELATED EROSION. INSTALL ALL NECESSARY STORMWATER DIVERSIONS AND DISPERSION MEASURES.
- EROSION CONTROL BLANKET (NAG SC150BN, OR EQUIVALENT) SHALL BE INSTALLED IN ALL DRAINAGE SWALES AND DITCHES. ALL SLOPES STEEPER THAN 3:1 SHALL BE COVERED WITH EROSION CONTROL BLANKET TO PREVENT EROSION DURING CONSTRUCTION AND TO FACILITATE REVEGETATION AFTER TOPSOILING AND SEEDING.
- PERMANENT SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN FOURTEEN CALENDAR DAYS AFTER FINAL GRADING HAS BEEN COMPLETED. WHEN IT IS NOT POSSIBLE OR PRACTICAL TO PERMANENTLY STABILIZE DISTURBED LAND, TEMPORARY EROSION CONTROL MEASURES SHALL BE EMPLOYED TO PROTECT DISTURBED AREAS INCLUDING STOCKPILES WITHIN FOURTEEN CALENDAR DAYS OF EXPOSURE, OR FORMATION OF STOCKPILES (SEVEN DAYS ON AREAS ADJACENT TO WETLANDS) UNLESS THESE AREAS ARE TO BE SUBSEQUENTLY SURFACED. ALL DISTURBED AREAS SHALL BE MULCHED FOR EROSION CONTROL UPON COMPLETION OF ROUGH GRADING.
- PUMPED DISCHARGE FROM CONSTRUCTION DEWATERING OPERATIONS, SHALL BE DIRECTED TO SEDIMENT CONTROL DEVICES ADJACENT TO THE ACTIVITY. SEDIMENT CONTROL DEVICES SHALL BE TEMPORARY FACILITIES SUCH AS DIRTBAGS, OR OTHER SIMILAR DEVICES THAT DO NOT REQUIRE ADDITIONAL SOIL DISTURBANCE. ADDITIONAL SEDIMENTATION PROTECTION SHALL BE PROVIDED BY THE INSTALLATION OF STRAW BALE BARRIERS BETWEEN THE CONTROL DEVICES AND ANY RECEIVING DRAINAGE COURSE.
- NATIVE TOPSOIL OR EROSION CONTROL MIX SEDIMENT BERM SHALL BE SAVED, STOCKPILED, MULCHED, AND REUSED AS MUCH AS POSSIBLE ON THE SITE. SILTATION FENCE SHALL BE INSTALLED AT THE BASE OF STOCKPILES AT THE DOWNHILL LIMIT TO PROTECT AGAINST EROSION. STOCKPILES SHALL BE STABILIZED BY SEEDING AND MULCHING UPON FORMATION OF THE PILES. UPGRADIENT OF THE STOCKPILES, STABILIZED DITCHES AND/OR BERMS SHALL BE CONSTRUCTED TO DIVERT STORMWATER RUNOFF AWAY FROM THE PILES.
- ALL SILTATION FENCE, EROSION CONTROL MIX SEDIMENT BARRIER, AND STRAW BALE BARRIERS SHALL BE INSPECTED BY THE CONTRACTOR ON A WEEKLY BASIS OR WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.5 INCHES OR GREATER. ALL DAMAGED EROSION CONTROL DEVICES SHALL BE REPAIRED OR REPLACED IMMEDIATELY. TRAPPED SEDIMENT SHALL BE REMOVED BEFORE IT HAS ACCUMULATED HALF OF THE SILTATION BARRIER HEIGHT. DEVICES NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION SHALL ALSO BE REPAIRED OR REPLACED AS REQUIRED.
- IF FINAL SEEDING OF THE DISTURBED AREAS IS NOT COMPLETED BY OCTOBER 15 OF THE YEAR OF CONSTRUCTION OR TO NOT BE SEEDED BEFORE SPRING, THEN WITHIN THE NEXT 10 CALENDAR DAYS THESE AREAS SHALL BE GRADED AND SMOOTHED, THEN SEEDED TO A WINTER COVER CROP OF WINTER RYE AT A RATE OF 3 LBS. PER 1,000 SQ. FT. THE FOLLOWING SHALL BE INCORPORATED INTO THE SOIL PRIOR TO WINTER RYE SEEDING: GROUND LIMESTONE AT A RATE OF 100 LBS. PER 1,000 SQ. FT. FOLLOWED BY A 10-10-10 FERTILIZER AT A RATE OF 14 LBS. PER 1,000 SQ. FT. STRAW MULCH SHALL BE APPLIED AT A RATE OF 100 LBS. PER 1,000 SQ. FT. FOLLOWING SEEDING. IF THE WINTER RYE SEEDING CANNOT BE COMPLETED BY NOVEMBER 1, THEN ON THAT DATE STRAW MULCH SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE TO PROVIDE WINTER PROTECTION. IF THE WINTER RYE DOES NOT SHOW ADEQUATE GROWTH BY DECEMBER 5, THEN ADDITIONAL STRAW MULCH SHALL BE APPLIED AT THE RATE OF 100 LBS. PER 1,000 SQ. FT. A SUITABLE BINDER SUCH AS CURASOL OR RMB PLUS SHALL BE USED ON STRAW MULCH FOR WIND CONTROL.
- INTERCEPTED SEDIMENT SHALL BE REMOVED AND SHALL BE DEPOSITED TO AN AREA THAT SHALL NOT CONTRIBUTE TO SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.

DUST CONTROL

- IF DUSTY CONDITIONS OCCUR ON-SITE AS A RESULT OF INCREASED VEHICULAR TRAFFIC DURING DRY CONDITIONS, DUST CONTROL MEASURES SHALL BE IMPLEMENTED.
- WATER: WATER SHOULD BE APPLIED AT A RATE SUFFICIENT ENOUGH TO MOISTEN EXPOSED SOIL TO PREVENT DUST TRANSPORT BUT NOT AT A RATE THAT PRODUCES ANY AMOUNT OF SILT-LADEN RUNOFF OR MUDDY POOLS IN THE TRAVEL WAY.
- STONE: REPLACE MATERIAL AS VOIDS IN STONE BECOME FILLED AND TRACKING OCCURS.

MONITORING PROGRAM

- THE DESIGN PROFESSIONAL WHO PREPARED THE ES&PC PLAN IS TO INSPECT THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMPS WITHIN 7 DAYS AFTER INSTALLATION.
- SEDIMENTATION AND EROSION CONTROL STRUCTURES SHALL BE INSPECTED CONTINUALLY BY THE CONTRACTOR AND ALL STRUCTURES DAMAGED BY CONSTRUCTION EQUIPMENT, VANDALS, OR THE ELEMENTS SHALL BE REPAIRED IMMEDIATELY. FOLLOWING RAINSTORMS AND DURING RUNOFF EVENTS, THE SITE AND ALL STRUCTURES SHALL BE INSPECTED FOR EROSION AND DAMAGE. ALL DAMAGED STRUCTURES SHALL BE REPAIRED AND/OR ADDITIONAL EROSION CONTROL STRUCTURES SHALL BE INSTALLED PRIOR TO CONTINUING THE CONSTRUCTION.
- FOLLOWING THE FINAL SEEDING, THE SITE SHALL BE INSPECTED TO ENSURE THAT THE VEGETATION HAS BEEN ESTABLISHED. IN THE EVENT OF ANY UNSATISFACTORY GROWTH, RESEEDING SHALL BE CARRIED OUT, WITH FOLLOW-UP INSPECTION.

NOT FOR CONSTRUCTION

GEORGIA POWER COMPANY ATLANTA, GEORGIA
RIVERVIEW (FERC PROJECT NO. 2350) DAM DECOMMISSIONING
EROSION & SEDIMENT CONTROL NOTES

A	90% DESIGN	08-03-22	RMD	TAK					
No.	Revision	Date	Drawn	Checked					
			Designated	Drawn	Checked	Project No.	Date Revised	Drawing No.	
			TAK	BJL	TAK	534-039	08-03-22		R-210-02

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CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Cd	CHECKDAM			A small temporary barrier or dam constructed across a swale, drainage ditch or area of concentrated flow.
Ch	CHANNEL STABILIZATION			Improving, constructing or stabilizing an open channel, existing stream, or ditch.
Co	CONSTRUCTION EXIT			A crushed stone pad located at the construction site exit to provide a place for removing mud from tires thereby protecting public streets.
Cr	CONSTRUCTION ROAD STABILIZATION			A travelway constructed as part of a construction plan including access roads, subdivision roads, parking areas and other on-site vehicle transportation routes.
Dc	STREAM DIVERSION CHANNEL			A temporary channel constructed to convey flow around a construction site while a permanent structure is being constructed.
Di	DIVERSION			An earth channel or dike located above, below or across a slope to divert runoff. This may be a temporary or permanent structure.
Dn1	TEMPORARY DOWNDRAIN STRUCTURE			A flexible conduit of heavy-duty fabric or other material designed to safely conduct surface runoff down a slope. This is temporary and inexpensive.
Dn2	PERMANENT DOWNDRAIN STRUCTURE			A paved chute, pipe, sectional conduit or similar material designed to safely conduct surface runoff down a slope.
Fr	FILTER RING			A temporary stone barrier constructed at storm drain inlets and pond outlets.
Ga	GABION			Rock filter baskets which are hand-placed into position forming soil stabilizing structures.
Gr	GRADE STABILIZATION STRUCTURE			Permanent structures installed to protect channels or waterways where otherwise the slope would be sufficient for the running water to form gullies.
Lv	LEVEL SPREADER			A structure to convert concentrated flow of water into less erosive sheet flow. This should be constructed only on undisturbed soils.
Rd	ROCK FILTER DAM			A permanent or temporary stone filter dam installed across small streams or drainageways.
Re	RETAINING WALL			A wall installed to stabilize cut and fill slopes where maximum permissible slopes are not obtainable. Each situation will require special design.
Rt	RETRO FITTING			A device or structure placed in front of a permanent stormwater detention pond outlet structure to serve as a temporary sediment filter.
Sd1	SEDIMENT BARRIER			A barrier to prevent sediment from leaving the construction site. It may be sandbags, bales of straw or hay, brush, logs and poles, gravel, or a silt fence.
Sd2	INLET SEDIMENT TRAP			An impounding area created by excavating around a storm drain inlet. The excavated area will be filled and stabilized on completion of construction activities.
Sd3	TEMPORARY SEDIMENT BASIN			A basin created by excavation or a dam across a waterway. The surface water runoff is temporarily stored allowing the bulk of the sediment to drop out.
Sd4	TEMPORARY SEDIMENT TRAP			A small temporary pond that drains a disturbed area so that sediment can settle out. The principle feature distinguishing a temporary sediment trap from a temporary sediment basin is the lack of a pipe or riser.
Sk	FLOATING SURFACE SKIMMER			A buoyant device that releases/drains water from the surface of sediment ponds, traps, or basins at a controlled rate of flow.
Spb	SEEP BERM			Linear control device constructed as a diversion perpendicular to the direction of runoff to enhance dissipation and infiltration, while creating multiple sedimentation chambers with the employment of intermediate dikes.

STRUCTURAL PRACTICES

GEORGIA UNIFORM CODING SYSTEM

FOR SOIL EROSION AND SEDIMENT CONTROL PRACTICES
GEORGIA SOIL AND WATER CONSERVATION COMMISSION

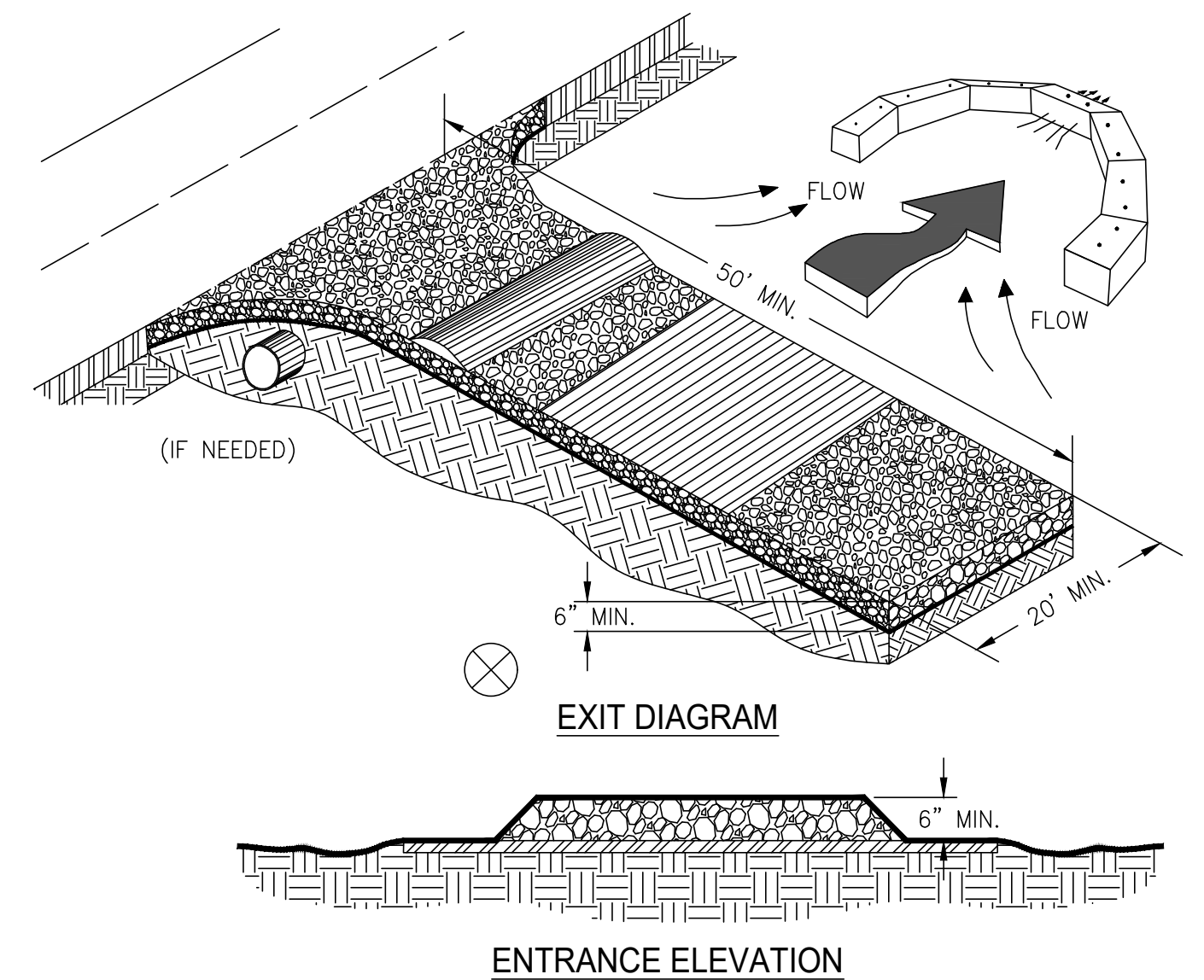
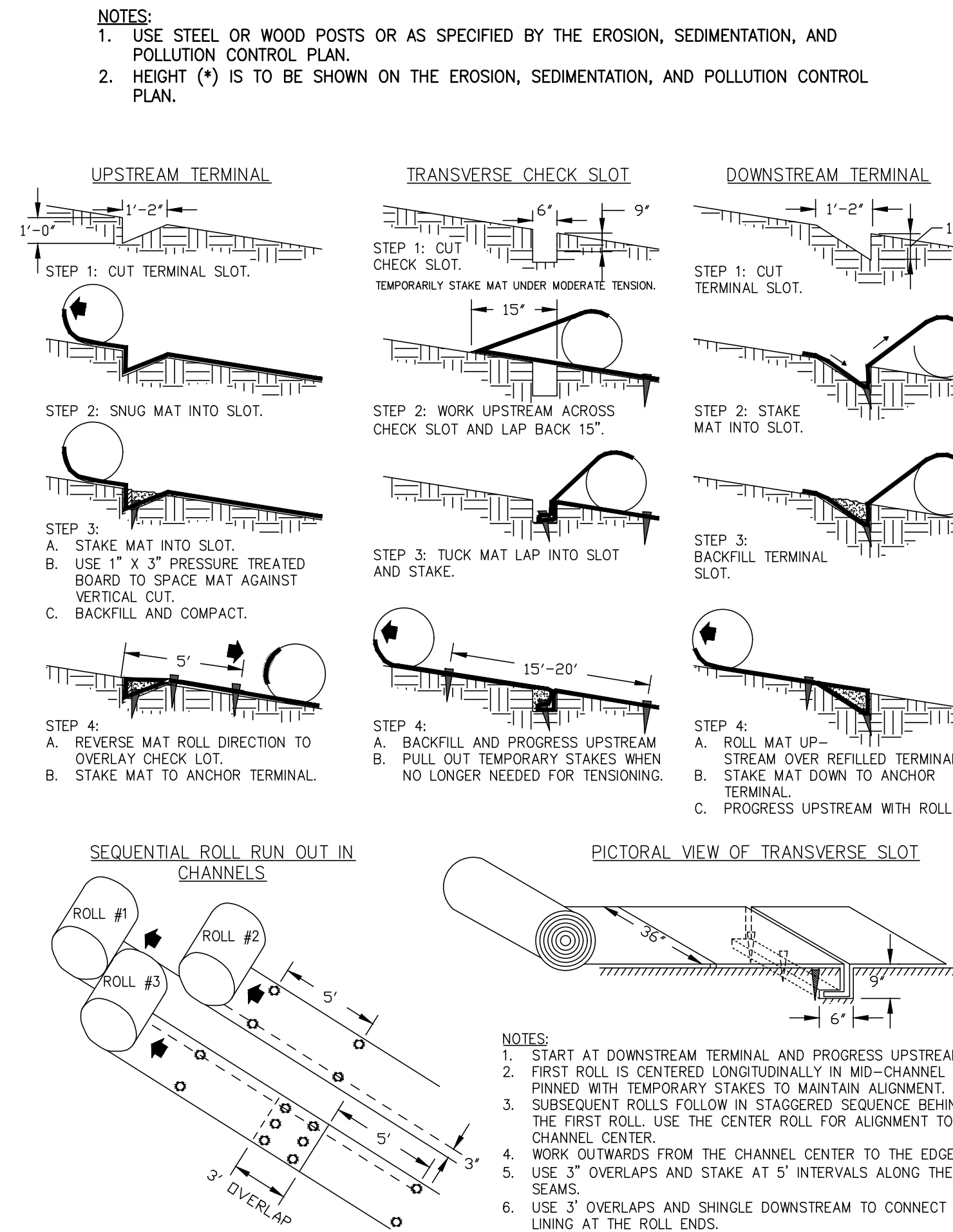
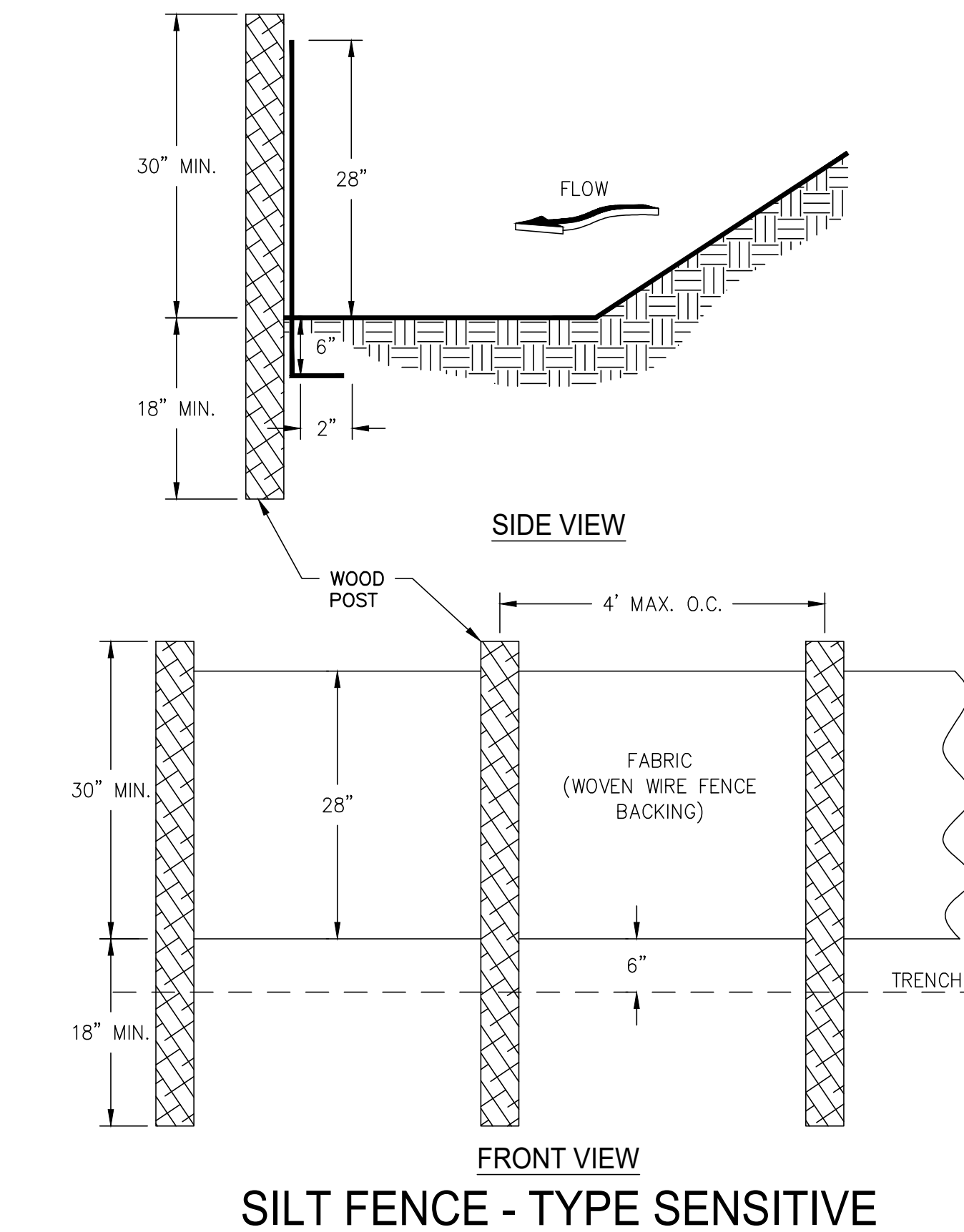
CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Sr	TEMPORARY STREAM CROSSING			A temporary bridge or culvert-type structure protecting a stream or watercourse from damage by crossing construction equipment.
St	STORMDRAIN OUTLET PROTECTION			A paved or short section of riprap channel at the outlet of a storm drain preventing erosion from the concentrated runoff.
Su	SURFACE ROUGHENING			A rough soil surface with horizontal depressions on a contour or slopes left in a roughened condition after grading.
Tc	TURBIDITY CURTAIN			A floating or staked barrier installed within the water (it may also be referred to as a floating boom, silt barrier, or silt curtain).
Tp	TOPSOILING			The practice of stripping off the more fertile soil, storing it, then spreading it over the disturbed area after completion of construction activities.
Tr	TREE PROTECTION			To protect desirable trees from injury during construction activity.
Wt	VEGETATED WATERWAY OR STORMWATER CONVEYANCE CHANNEL			Paved or vegetative water outlets for diversions, terraces, berms, dikes or similar structures.

STRUCTURAL PRACTICES

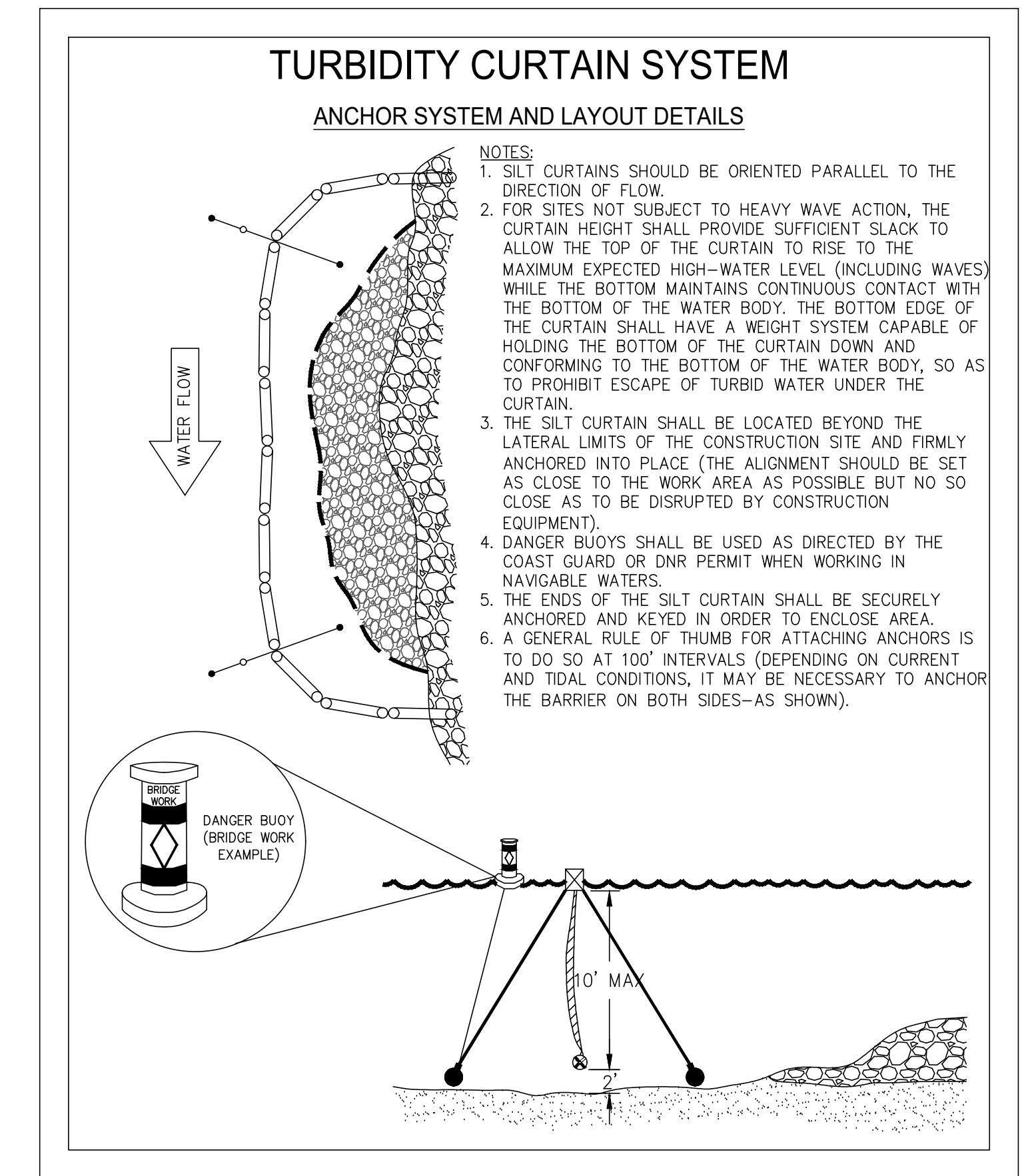
CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Bf	BUFFER ZONE			Strip of undisturbed original vegetation, enhanced or restored existing vegetation or the reestablishment of vegetation surrounding an area of disturbance or bordering streams.
Cs	COASTAL DUNE STABILIZATION (WITH VEGETATION)			Planting vegetation on dunes that are denuded artificially constructed, or re-nourished.
Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)			Establishing temporary protection for disturbed areas where seedlings may not have a suitable growing season to produce an erosion retarding cover.
Ds2	DISTURBED AREA STABILIZATION (WITH TEMP SEEDING)			Establishing a temporary vegetative cover with fast growing seedlings on disturbed areas.
Ds3	DISTURBED AREA STABILIZATION (WITH PERM SEEDING)			Establishing a permanent vegetative cover such as trees, shrubs, vines, grasses, or legumes on disturbed areas.
Ds4	DISTURBED AREA STABILIZATION (SODDING)			A permanent vegetative cover using sods on highly erodible or critically eroded lands.
Du	DUST CONTROL ON DISTURBED AREAS			Controlling surface and air movement of dust on construction site, roadways and similar sites.
Fl-Co	FLOCCULANTS AND COAGULANTS			Substance formulated to assist in the solids/liquid separation of suspended particles in solution.
Sb	STREAMBANK STABILIZATION (USING PERM VEGETATION)			The use of readily available native plant materials to maintain and enhance streambanks, or to prevent, or restore and repair small streambank erosion problems.
Ss	SLOPE STABILIZATION			A protective covering used to prevent erosion and establish temporary or permanent vegetation on steep slopes, shore lines, or channels.
Tac	TACKIFIERS AND BINDERS			Substance used to anchor straw or hay mulch by causing the organic material to bind together.

VEGETATIVE PRACTICES

GaSWCC (Amended - 2013)



- NOTES:
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
3. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5"-3.5" STONE).
4. GRAVEL PAD SHALL HAVE A MINIMUM THICKNESS OF 6".
5. PAD WIDTH SHALL BE EQUAL FULL WIDTH AT ALL POINTS OF VEHICULAR EGRESS, BUT NO LESS THAN 20'.
6. A DIVERSION RIDGE SHOULD BE CONSTRUCTED WHEN GRADE TOWARD PAVED AREA IS GREATER THAN 2%.
7. INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES.
8. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN (DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE).
9. WASHRACKS AND/OR TIRE WASHERS MAY BE REQUIRED DEPENDING ON SCALE AND CIRCUMSTANCE. IF NECESSARY, WASHRACK DESIGN MAY CONSIST OF ANY MATERIAL SUITABLE FOR TRUCK TRAFFIC THAT REMOVE MUD AND DIRT.
10. MAINTAIN AREA IN A WAY THAT PREVENTS TRACKING AND/OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.



NOT FOR CONSTRUCTION

GEORGIA POWER COMPANY
ATLANTA, GEORGIA

RIVERVIEW (FERC PROJECT NO. 2350)
DAM DECOMMISSIONING

EROSION & SEDIMENT CONTROL NOTES

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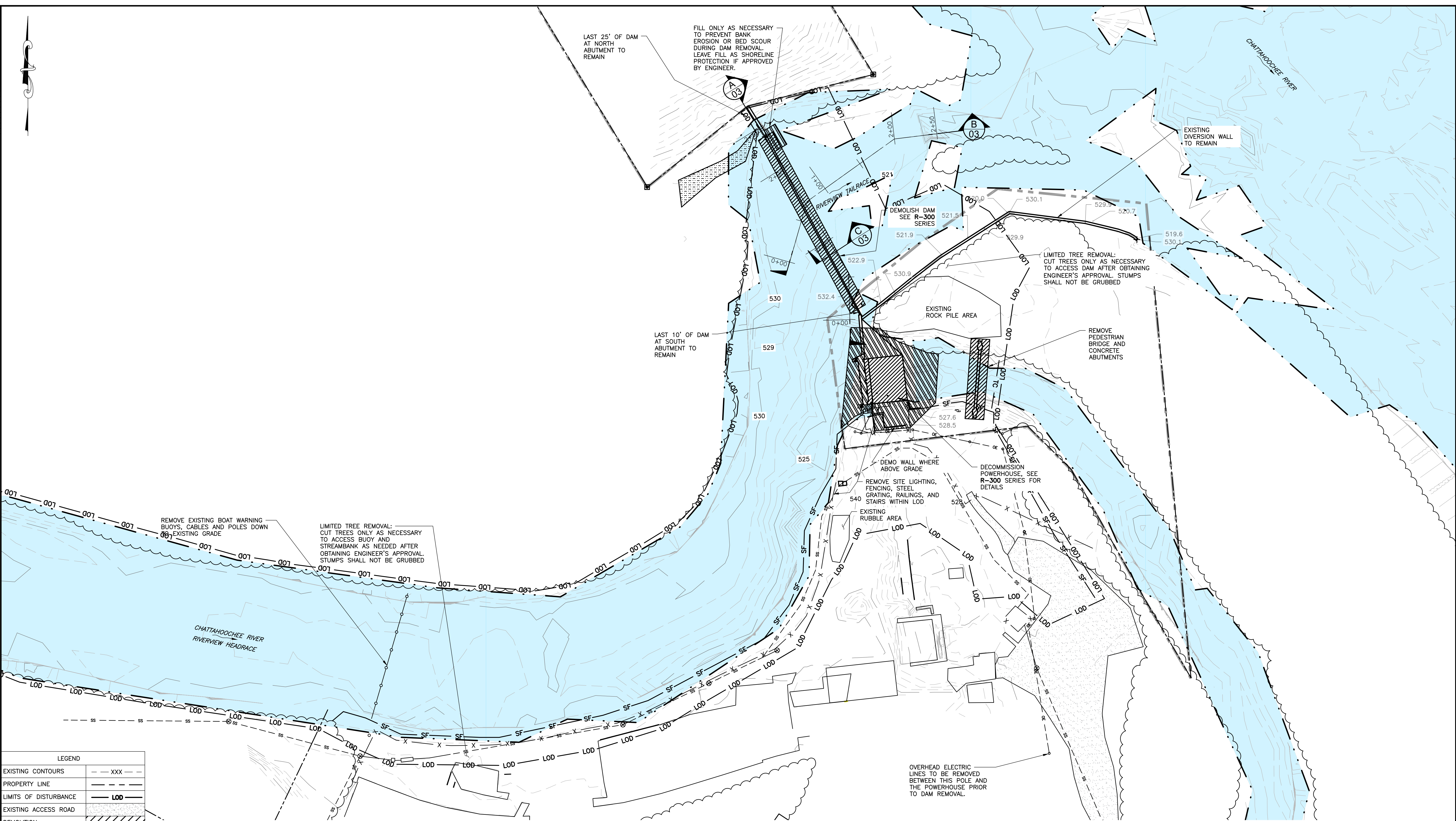
Project No. 534-039 Date Revised 08-03-22 Drawing No. R-210-03

No.	Revision	Date	Drawn	Checked
A	90% DESIGN	08-03-22	RMD	TAK
No.	Revision	Date	Drawn	Checked
			TAK	BJL
			TAK	

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24x36 = FULL SCALE

0 1" 2" 3"



PLAN

1:50



LEGEND	
EXISTING CONTOURS	--- XXX ---
PROPERTY LINE	---
LIMITS OF DISTURBANCE	— LOD —
EXISTING ACCESS ROAD	---
DEMOLITION	[Hatched pattern]
FILL DISPOSAL AREA	[Diagonal line pattern]
APPROXIMATE LOCATION OF WATERS EDGE	- - - - -
APPROXIMATE EDGE OF EXISTING TREE COVER	~~~~~
EXISTING WETLAND (2020 SURVEY)	[Stippled pattern]
EXISTING SEWER LINE	--- SS ---
EXISTING OVERHEAD ELECTRICAL	--- OE ---
EXISTING FENCE LINE	--- X ---
GA DOT TYPE C SEDIMENT BARRIER	--- SF ---
FERC PROJECT BOUNDARY	[Dashed line with dots]

NOTES:
 1. PROJECT HORIZONTAL DATUM: NAD83; PROJECT VERTICAL DATUM: NAVD88
 2. DIFFERING SURVEY METHODOLOGIES ABOVE AND BELOW THE WATER'S EDGE MAY RESULT IN ELEVATION DISCREPANCIES AT THE EXISTING EDGE OF WATER. CONTRACTOR TO FIELD VERIFY CRITICAL ELEVATIONS PRIOR TO STARTING CONSTRUCTION.

NOT FOR CONSTRUCTION

GEORGIA POWER COMPANY ATLANTA, GA.	
RIVERVIEW (FERC PROJECT NO. 2350) DAM DECOMMISSIONING	
DEMOLITION PLAN	

No.	Revision	Date	Drawn	Checked
A	90% DESIGN	08-03-22	RMD	TAK

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Project No.	Date Revised	Drawing No.
534-039	08-03-22	R-220-01

Designed	Drawn	Checked
TAK	BJL	TAK

24x36 = FULL SCALE



PLAN

1:10



LEGEND	
EXISTING CONTOURS	--- XXX ---
PROPERTY LINE	— — — — —
LIMITS OF DISTURBANCE	LOD — — — — —
EXISTING ACCESS ROAD	— — — — —
DEMOLITION	▨ ▨ ▨ ▨ ▨
FILL DISPOSAL AREA	▨ ▨ ▨ ▨ ▨
APPROXIMATE EXISTING EDGE OF WATER AT WEST POINT BASE FLOW (~670CFS)	— · · —
APRX. EDGE OF EXISTING TREE COVER	~~~~~
EXISTING WETLAND (2020 SURVEY)	▨ ▨ ▨ ▨ ▨
EXISTING SEWER LINE	— SS —
EXISTING OVERHEAD ELECTRICAL	— OE —
EXISTING FENCE LINE	— X —
GA DOT TYPE C SEDIMENT BARRIER	— SF —
TURBIDITY CURTAIN	— TC —

- NOTES:
1. PROJECT HORIZONTAL DATUM: NAD83; PROJECT VERTICAL DATUM: NAVD88
 2. DIFFERING SURVEY METHODOLOGIES ABOVE AND BELOW THE WATER'S EDGE MAY RESULT IN ELEVATION DISCREPANCIES AT THE EXISTING EDGE OF WATER. CONTRACTOR TO FIELD VERIFY CRITICAL ELEVATIONS PRIOR TO STARTING CONSTRUCTION.
 3. SPOT ELEVATIONS ON UPSTREAM SIDE OF POWERHOUSE INDICATE EXISTING ELEVATIONS.

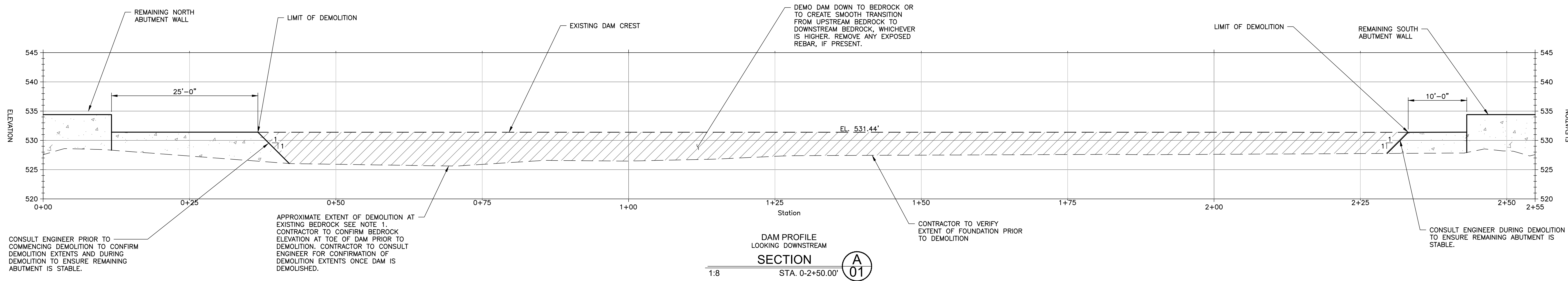
NOT FOR CONSTRUCTION

GEORGIA POWER COMPANY ATLANTA, GA.				
RIVERVIEW (FERC PROJECT NO. 2350) DAM DECOMMISSIONING				
DEMOLITION PLAN POWERHOUSE				
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No.	Revision	Date	Drawn	Checked
A	90% DESIGN	08-03-22	RMD	TAK
Project No. 534-039		Date Revised 08-03-22	Drawn BJT	Checked TAK
Drawing No. R-220-02				

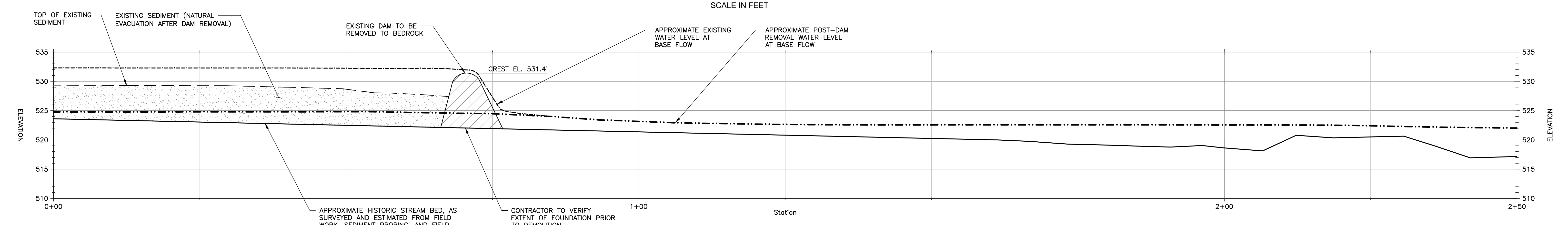
No.	Revision	Date	Drawn	Checked
A	90% DESIGN	08-03-22	RMD	TAK

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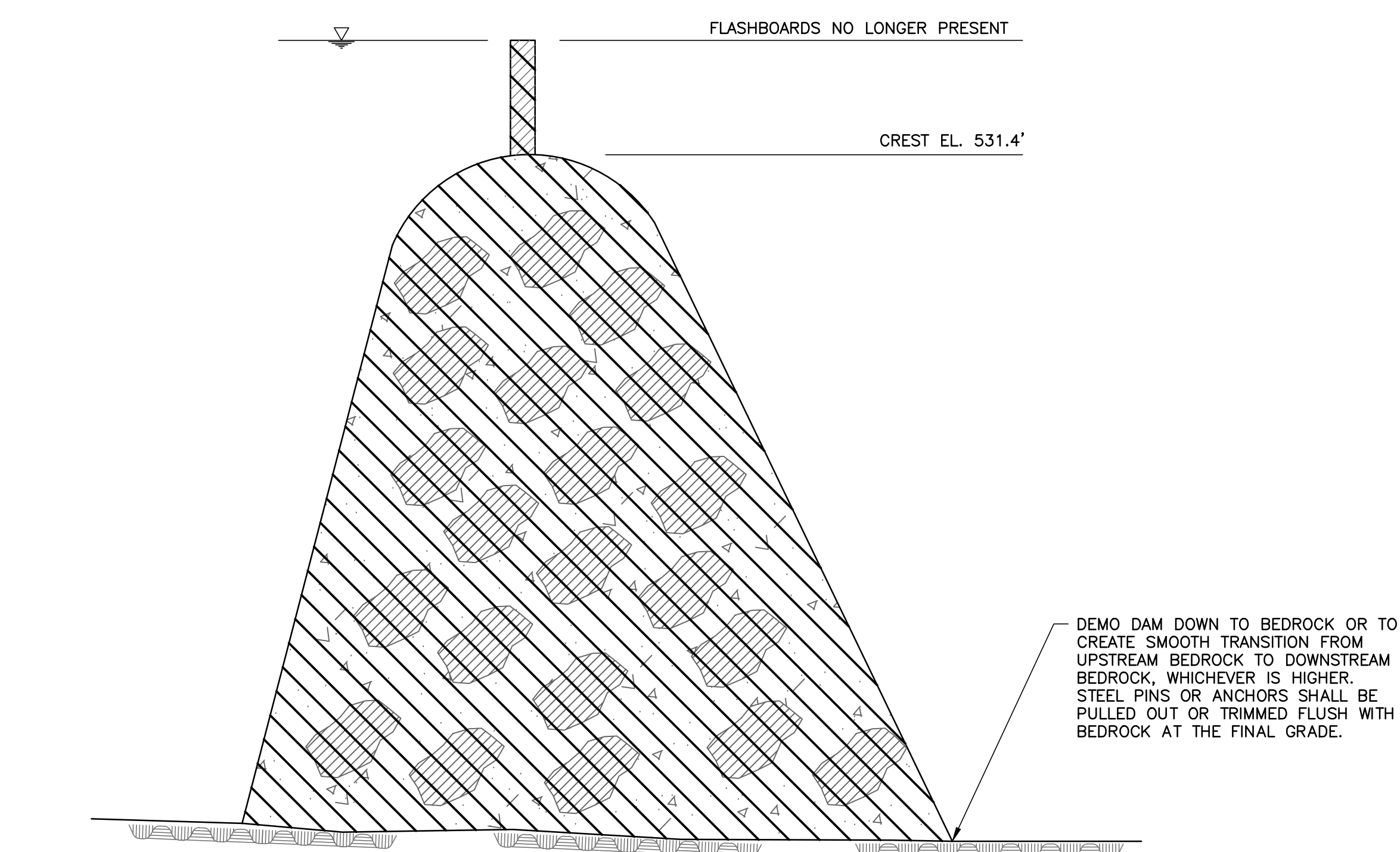
24x36 = FULL SCALE



DAM PROFILE
LOOKING DOWNSTREAM
SECTION **A**
1:8 STA. 0+2+50.00'



RIVER PROFILE
SECTION **B**
1:8 STA. 0+2+50.00'



SECTION **C**
1:2

- NOTES:
- APPROXIMATE EXTENT OF DEMOLITION SHOWN BASED ON EXISTING GRADES IN SURVEY; HOWEVER, SURVEY IS DIFFICULT BELOW THE DAM AND CONTRACTOR SHALL MAKE ALLOWANCES TO REMOVE DAM MATERIALS TO EXISTING BEDROCK, WHICH MAY BE AT ELEVATION 519' OR LOWER IN SOME LOCATIONS.
 - DRAWINGS ON THIS SHEET ARE FROM DRAWINGS PROVIDED BY GEORGIA POWER COMPANY, FROM HISTORIC DRAWING NUMBERED 11 416 D9, FOR WEST POINT MFG. CO., RIVERDALE DEVELOPMENT, DETAIL OF DIVERSION DAM ABUTMENTS.
 - CONTRACTOR TO VERIFY ELEVATIONS AND GEOMETRY PRIOR TO CONSTRUCTION.

- NOTE:
- HEADRACE DAM SECTION IS BASED ON GEORGIA POWER COMPANY FERC DRAWING NO. 2350-6, SHEET 11-416-H5, TITLED: RIVERVIEW PROJECT, GENERAL ARRANGEMENT, PLAN, ELEVATION & SECTION, EXHIBIT F, DATED 10/28/1993
 - APPROXIMATE EXTENT OF DEMOLITION SHOWN BASED ON HISTORIC DRAWING. CONTRACTOR SHALL MAKE ALLOWANCES TO REMOVE DAM MATERIALS TO EXISTING BEDROCK, WHICH MAY BE AT ELEVATION 519' OR LOWER IN SOME LOCATIONS.

NOT FOR CONSTRUCTION

GEORGIA POWER COMPANY
ATLANTA, GA.
RIVERVIEW (FERC PROJECT NO. 2350)
DAM DECOMMISSIONING
DAM DEMOLITION PROFILE

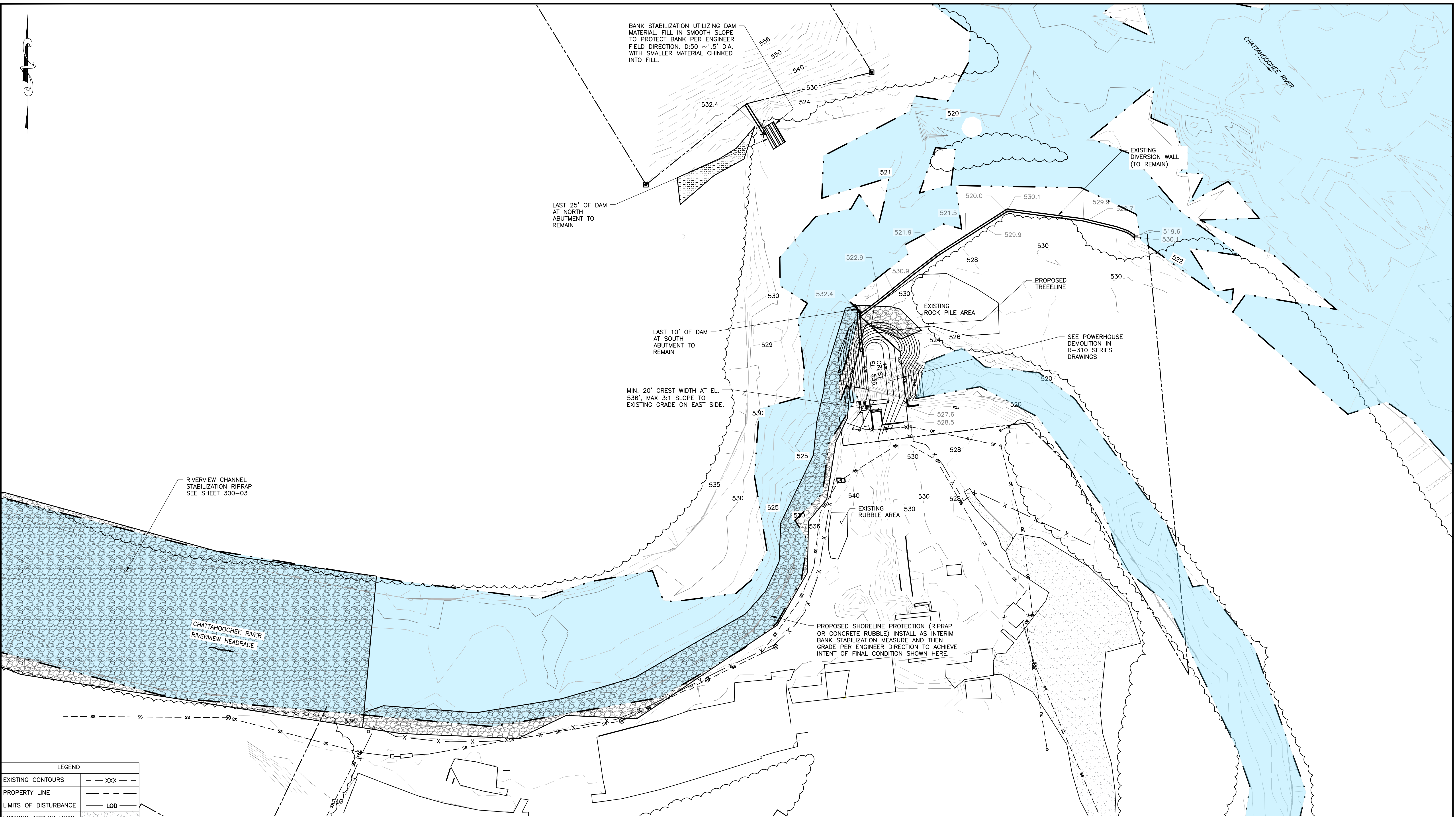
No.	Revision	Date	Drawn	Checked
A	90% DESIGN	08-03-22	RMD	TAK
			Designed	Drawn
			TAK	BJL
			Checked	TAK

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Project No. 534-039 Date Revised 08-03-22 Drawing No. R-220-03

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24x36 = FULL SCALE



LEGEND	
EXISTING CONTOURS	--- XXX ---
PROPERTY LINE	---
LIMITS OF DISTURBANCE	--- LOD ---
EXISTING ACCESS ROAD	---
BANK/BED PROTECTION	○ ○ ○ ○ ○
FILL DISPOSAL AREA	▨ ▨ ▨ ▨ ▨
ESTIMATED POST-DAM REMOVAL EDGE OF WATER AT BASE FLOW	- - - - -
APRX. EDGE OF EXISTING TREE COVER	~~~~~
EXISTING WETLAND (2020 SURVEY)	▨ ▨ ▨ ▨ ▨
EXISTING SEWER LINE	--- SS ---
EXISTING OVERHEAD ELECTRICAL	--- OE ---
EXISTING FENCE LINE	--- X ---

- NOTES:
1. PROJECT HORIZONTAL DATUM: NAD83; PROJECT VERTICAL DATUM: NAVD88
 2. DIFFERING SURVEY METHODOLOGIES ABOVE AND BELOW THE WATERS EDGE MAY RESULT IN ELEVATION DISCREPANCIES AT THE EXISTING EDGE OF WATER. CONTRACTOR TO FIELD VERIFY CRITICAL ELEVATIONS PRIOR TO STARTING CONSTRUCTION.
 3. CONTOURS IN RIVER SHOW THE EXISTING CONDITIONS PRIOR TO SEDIMENT FLUSHING. ACTUAL CONDITIONS MAY VARY AFTER SEDIMENT FLUSHING BASED ON HISTORIC STREAM BED ELEVATIONS, SUBSTRATE, AND EXTENT OF SEDIMENT FLUSHING. NO ACTIVE GRADING OF CHANNEL OR SEDIMENT IS PROPOSED, OTHER THAN AS NECESSARY TO REMOVE THE DAM AND INSTALL THE ISLAND CHANNEL.
 4. ESTIMATED POST DAM REMOVAL WATERS EDGE AT BASE FLOW IS BASED ON HYDRAULIC MODELING AND ASSUMED CONDITIONS RELATED TO SEDIMENT FLUSHING. ACTUAL EDGE OF WATER IS ANTICIPATED TO VARY AS NATURAL FLUVIAL PROCESSES OCCUR AND THE ACTUAL EDGE OF WATER FOR A GIVEN FLOW WILL DEPEND ON EXTENT OF SEDIMENT FLUSHING, FLOWS IN THE RIVER, AND DURATION OF TIME AFTER DAM REMOVAL.

PLAN

1:50



NOT FOR CONSTRUCTION

GEORGIA POWER COMPANY ATLANTA, GA.				
RIVERVIEW (FERC PROJECT NO. 2350) DAM DECOMMISSIONING				
POST-REMOVAL PLAN				
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No.	Revision	Date	Drawn	Checked
A	90% DESIGN	08-03-22	RMD	TAK
Designated	Drawn	Checked	Project No.	Date Revised
TAK	BJL	TAK	534-039	08-03-22
Drawing No.			R-300-01	

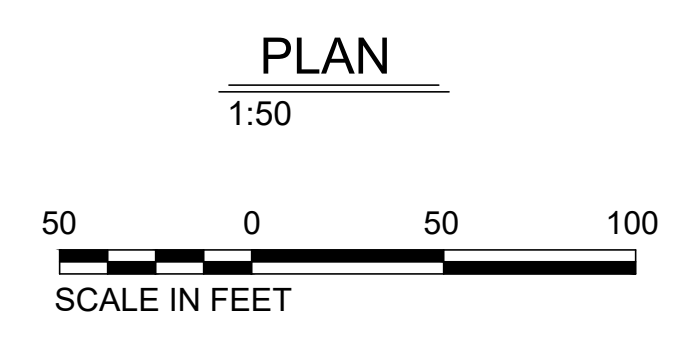
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24x36 = FULL SCALE



LEGEND	
EXISTING CONTOURS	--- XXX ---
PROPERTY LINE	---
LIMITS OF DISTURBANCE	--- LOD ---
EXISTING ACCESS ROAD	---
BANK/BED PROTECTION	---
FILL DISPOSAL AREA	---
ESTIMATED POST-DAM REMOVAL EDGE OF WATER AT BASE FLOW	---
APRX. EDGE OF EXISTING TREE COVER	---
EXISTING WETLAND (2020 SURVEY)	---
EXISTING SEWER LINE	--- SS ---
EXISTING OVERHEAD ELECTRICAL	--- oe --- oe ---
EXISTING FENCE LINE	--- X ---

- NOTES:
- PROJECT HORIZONTAL DATUM: NAD83; PROJECT VERTICAL DATUM: NAVD88
 - DIFFERING SURVEY METHODOLOGIES ABOVE AND BELOW THE WATERS EDGE MAY RESULT IN ELEVATION DISCREPANCIES AT THE EXISTING EDGE OF WATER. CONTRACTOR TO FIELD VERIFY CRITICAL ELEVATIONS PRIOR TO STARTING CONSTRUCTION.
 - ESTIMATED POST DAM REMOVAL WATERS EDGE AT BASE FLOW IS BASED ON HYDRAULIC MODELING AND ASSUMED CONDITIONS RELATED TO SEDIMENT FLUSHING. ACTUAL EDGE OF WATER IS ANTICIPATED TO VARY AS NATURAL FLUVIAL PROCESSES OCCUR AND THE ACTUAL EDGE OF WATER FOR A GIVEN FLOW WILL DEPEND ON EXTENT OF SEDIMENT FLUSHING, FLOWS IN THE RIVER, AND DURATION OF TIME AFTER DAM REMOVAL.
 - CONTOURS IN RIVER SHOW THE EXISTING CONDITIONS PRIOR TO SEDIMENT FLUSHING. ACTUAL CONDITIONS MAY VARY AFTER SEDIMENT FLUSHING BASED ON HISTORIC STREAM BED ELEVATIONS, SUBSTRATE, AND EXTENT OF SEDIMENT FLUSHING. NO ACTIVE GRADING OF CHANNEL OR SEDIMENT IS PROPOSED, OTHER THAN AS NECESSARY TO REMOVE THE DAM AND INSTALL THE ISLAND CHANNEL.



NOT FOR CONSTRUCTION

GEORGIA POWER COMPANY
ATLANTA, GA.

RIVERVIEW (FERC PROJECT NO. 2350)
DAM DECOMMISSIONING

POST-REMOVAL HEADRACE
CHANNEL STABILIZATION PLAN

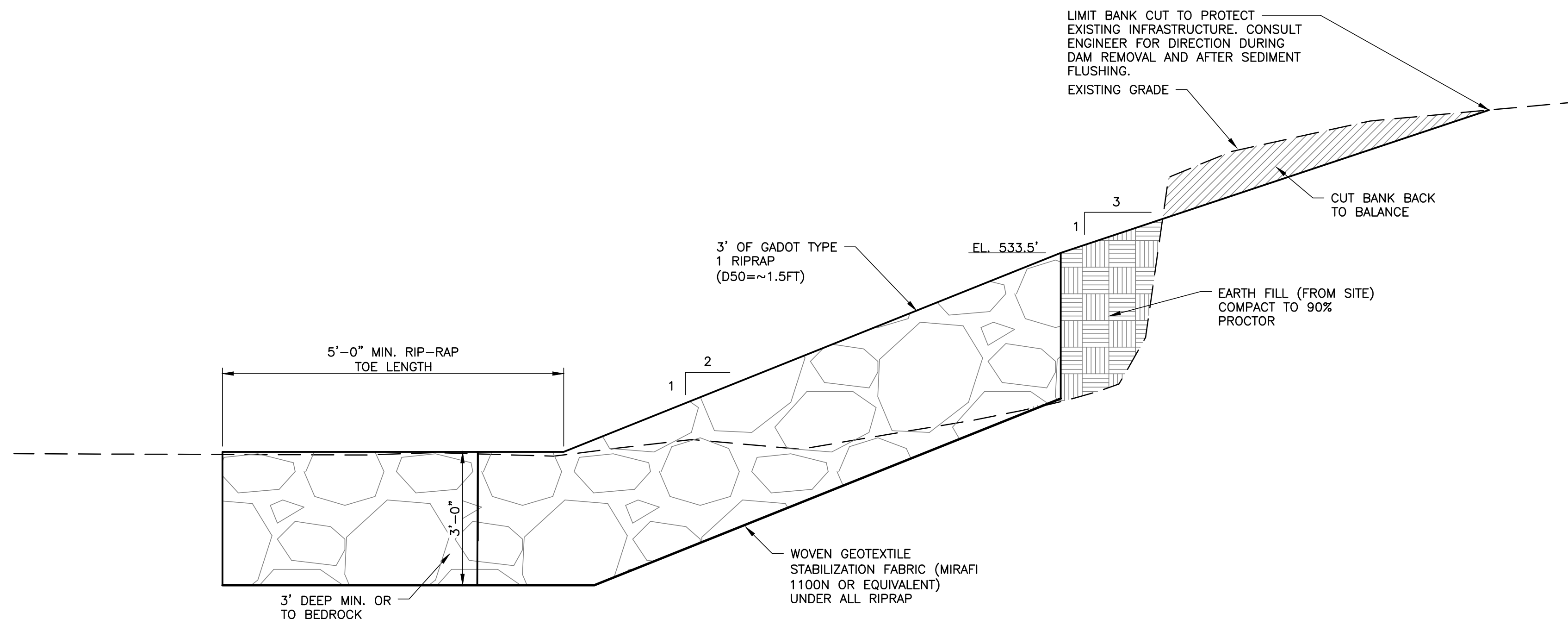
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A	90% DESIGN	08-03-22	RMD	TAK

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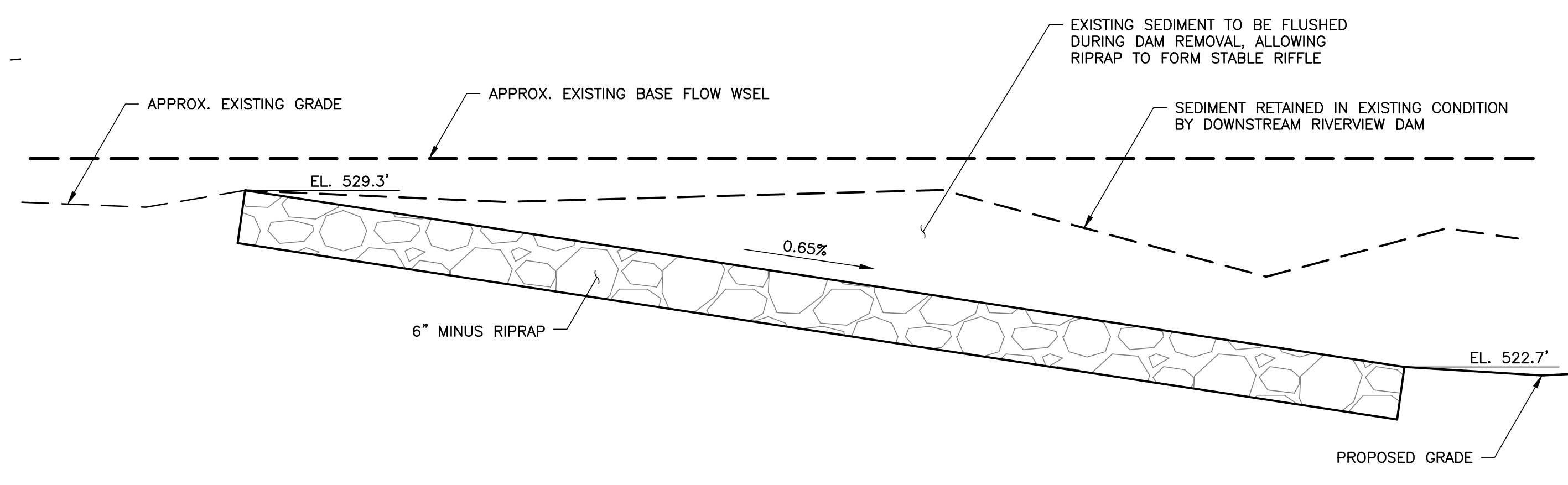
Designed	Drawn	Checked	Project No.	Date Revised	Drawing No.
TAK	BJL	TAK	534-039	08-03-22	R-300-02

24x36 = FULL SCALE

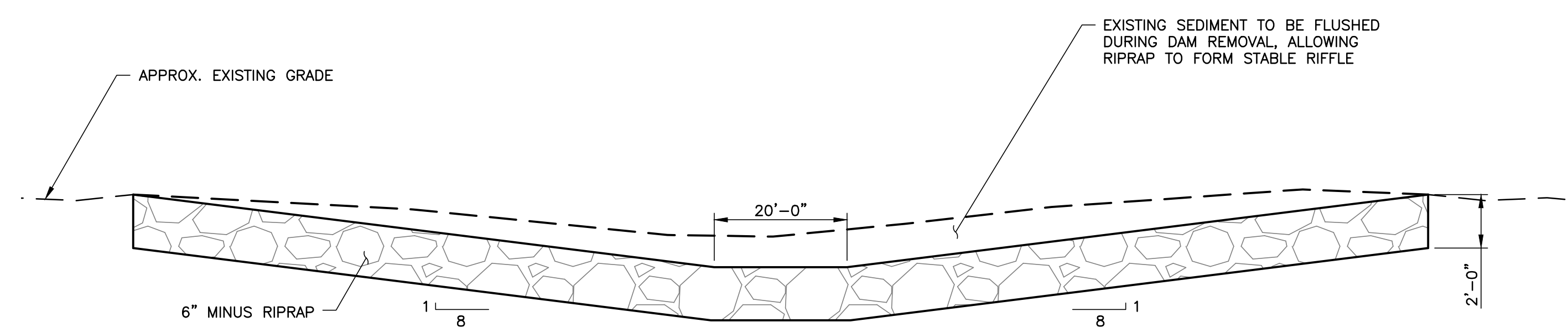


ANTICIPATED FINAL CONDITION BANK STABILIZATION DETAIL
N.T.S.

- NOTES:
1. ALL EXPOSED SOILS DOWN TO THE TOP OF THE RIPRAP FILL SHALL BE COVERED WITH AN EROSION AND SEDIMENT CONTROL MAT (NORTH AMERICAN GREEN SC150BN, OR AN APPROVED EQUIVALENT) UPON ESTABLISHMENT OF FINAL GRADE. INSTALL PER MANUFACTURERS GUIDELINES.
 2. THE EXISTING GRADE SHOWN IN DETAIL IS A TYPICAL CROSS SECTION OF EXISTING BATHYMETRY. CROSS SECTION IS SUBJECT TO CHANGE DUE TO THE EROSION OF SEDIMENT IN THE CHANNEL AFTER THE DAM REMOVAL. CONSULT ENGINEER AFTER DAM IS BREACHED AND PRIOR TO REWORKING RIPRAP FOR DIRECTION.

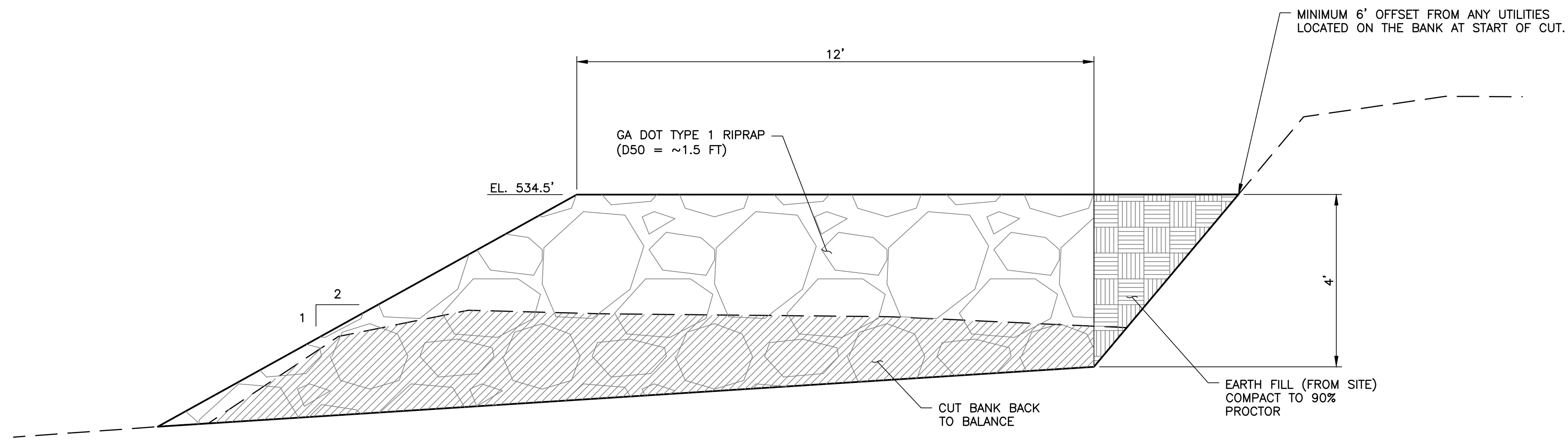


RIVERVIEW HEADRACE RIPRAP GRADE STABILIZATION TYPICAL PROFILE
N.T.S.



RIVERVIEW HEADRACE RIPRAP GRADE STABILIZATION TYPICAL SECTION
N.T.S.

- RIVERVIEW HEADRACE RIPRAP GRADE STABILIZATION NOTES:
1. RIPRAP GRADE STABILIZATION STONE SHALL BE INSTALLED ON EXISTING GRADE PRIOR TO RIVERVIEW DAM REMOVAL.
 2. EXTENT OF RIPRAP GRADE STABILIZATION IS BASED ON CURRENT CONDITIONS IN THE RIVER, BUT WILL BE ADJUSTED BY THE DESIGN ENGINEER IN GENERAL CONFORMANCE WITH THE PROPOSED APPROACH AT THE TIME OF DAM REMOVAL TO ACCOUNT FOR CURRENT RIVER CONDITIONS, INCLUDING ADJUSTMENTS TO ACCOUNT FOR THE EXTENT OF SEDIMENT PRIOR TO REMOVAL, VEGETATION ESTABLISHMENT, AND LOCATION OF ANY HISTORIC OR CURRENT SECONDARY CHANNELS.
 3. FINAL CHANNEL GEOMETRY WILL BE DICTATED BY NATURAL SEDIMENT TRANSPORT PROCESSES. IF NECESSARY, THE CONTRACTOR SHALL REWORK/MODIFY RIPRAP GRADE STABILIZATION TO MEET THE DESIGN INTENT, AS DIRECTED BY OWNER'S FLUVIAL GEOMORPHOLOGY SPECIALIST.
 4. THE INTENT OF THIS RIPRAP GRADE STABILIZATION IS TO CREATE A RELATIVELY UNIFORM, STABLE SLOPING RIFFLE TO MAINTAIN FLOW IN THE MAIN CHANNEL AND THE RIVERVIEW HEADRACE. THE INTENT IS THAT THE CHANNEL SELF-ESTABLISH POST-DAM REMOVAL; THEREFORE, FINAL CHANNEL GEOMETRY IS NOT KNOWN, BUT IS APPROXIMATED IN THESE SECTIONS BASED ON ANTICIPATED CONDITIONS.



INTERIM BANK STABILIZATION DETAIL
N.T.S.

- NOTES:
1. INTERIM CONDITION IS INTENDED TO SELF-INSTALL AS THE SEDIMENT IS ERODED, WITH THE THICKNESS OF RIPRAP BEING SPREAD OVER THE SLOPING BANK IN THE FINAL CONDITION. ADDITIONAL GRADING IS ANTICIPATED TO BE REQUIRED TO ACHIEVE STABLE, FINAL CONDITION AFTER SEDIMENT HAS SUBSTANTIALLY FLUSHED.
 2. INTERIM BANK STABILIZATION SHALL ALSO SERVE A TEMPORARY ACCESS ROAD TO THE WEST OF THE POWERHOUSE.

NOTE:
ESTIMATED POST DAM REMOVAL WATERS EDGE AT BASE FLOW IS BASED ON HYDRAULIC MODELING AND ASSUMED CONDITIONS RELATED TO SEDIMENT FLUSHING. ACTUAL EDGE OF WATER IS ANTICIPATED TO VARY AS NATURAL FLUVIAL PROCESSES OCCUR AND THE ACTUAL EDGE OF WATER FOR A GIVEN FLOW WILL DEPEND ON EXTENT OF SEDIMENT FLUSHING, FLOWS IN THE RIVER, AND DURATION OF TIME AFTER DAM REMOVAL.

NOT FOR CONSTRUCTION

GEORGIA POWER COMPANY
ATLANTA, GA.

RIVERVIEW (FERC PROJECT NO. 2350)
DAM DECOMMISSIONING

POST-REMOVAL DETAILS

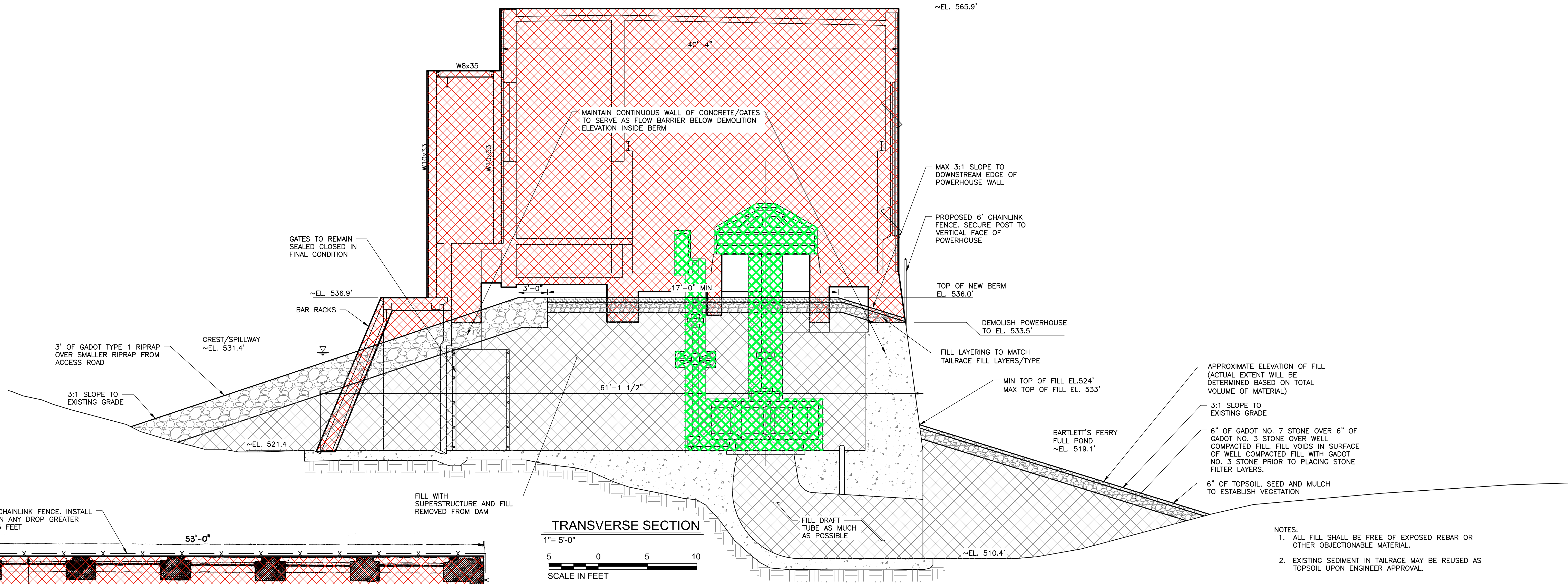
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Project No. 534-039 Date Revised 08-03-22 Drawing No. R-300-03

No.	Revision	Date	Drawn	Checked
A	90% DESIGN	08-03-22	RMD	TAK
			Designed	Drawn
			TAK	BJL
			Checked	TAK

24x36 = FULL SCALE

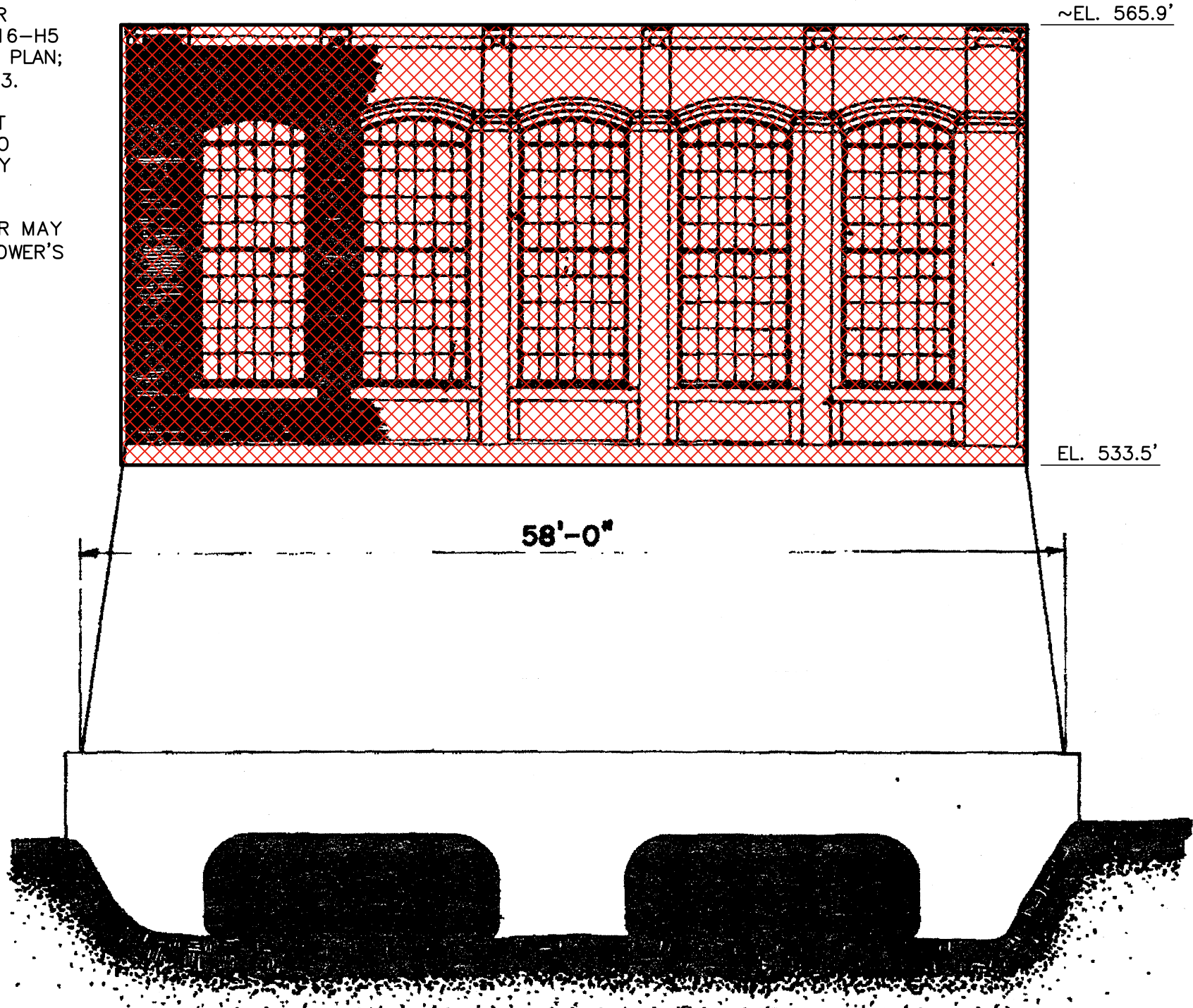
3"
2"
1"
0



TRANSVERSE SECTION

1"= 5'-0"
5 0 5 10
SCALE IN FEET

- NOTES:
- POWERHOUSE SECTION IS BASED ON GEORGIA POWER COMPANY FERC DRAWING NO. 2350-6, SHEET 11-416-H5 TITLED: RIVERVIEW PROJECT; GENERAL ARRANGEMENT, PLAN, ELEVATION & SECTION, EXHIBIT F, DATED 10/28/1993.
 - ELEVATIONS HAVE BEEN CONVERTED TO NAVD88, BUT CONTRACTOR SHALL VERIFY ALL ELEVATIONS PRIOR TO COMMENCING WORK AS ACTUAL CONDITIONS MAY VARY FROM THOSE SHOWN IN THESE DRAWINGS.
 - PHASING CONVEYS GENERAL SEQUENCE. CONTRACTOR MAY PROPOSE ALTERNATIVE SEQUENCING FOR GEORGIA POWER'S REVIEW AND APPROVAL.



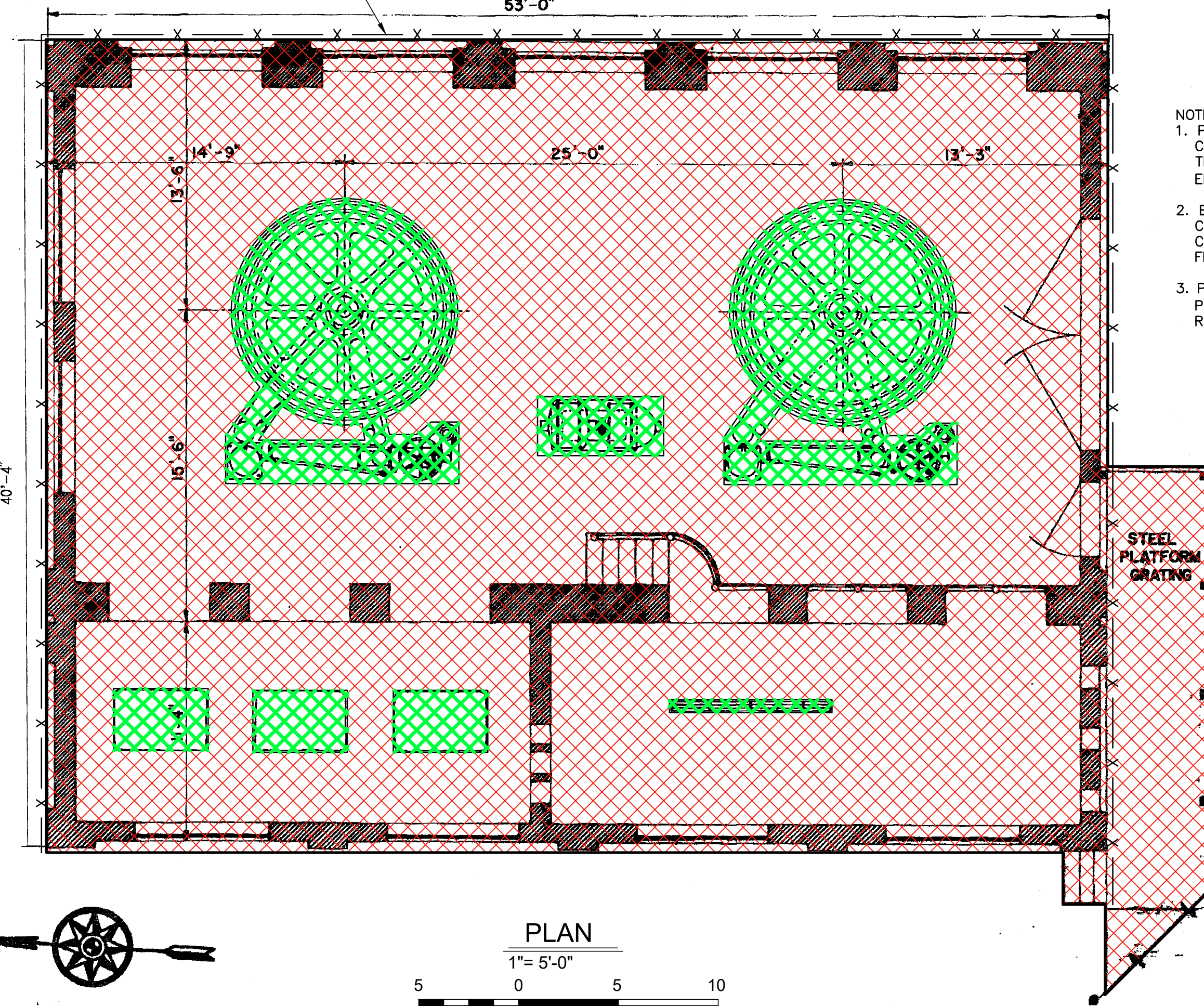
DOWNSTREAM ELEVATION

1"= 8'-0"
8 0 8 16
SCALE IN FEET

- NOTES:
- CONTRACTOR TO VERIFY EXTENTS, DIMENSIONS, AND ELEVATIONS PRIOR TO CONSTRUCTION

No.	Revision	Date	Drawn	Checked
A	90% DESIGN	08-03-22	RMD	TAK
			Designed	Drawn
			TAK	BJL
			Checked	TAK

- NOTES:
- ALL FILL SHALL BE FREE OF EXPOSED REBAR OR OTHER OBJECTIONABLE MATERIAL.
 - EXISTING SEDIMENT IN TAILRACE MAY BE REUSED AS TOPSOIL UPON ENGINEER APPROVAL.

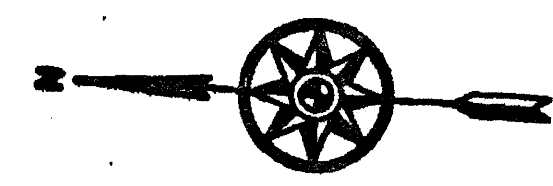


PLAN

1"= 5'-0"
5 0 5 10
SCALE IN FEET

LEGEND

PHASE 1 DEMO	
PHASE 2 DEMO	



NOT FOR CONSTRUCTION

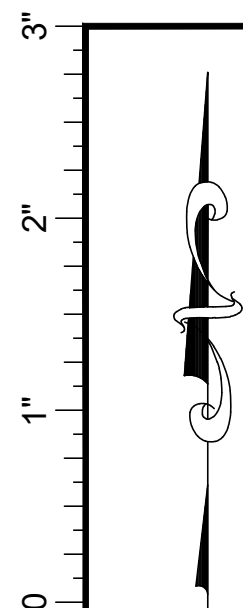
GEORGIA POWER COMPANY
ATLANTA, GA.
RIVERVIEW (FERC PROJECT NO. 2350)
DAM DECOMMISSIONING
POST REMOVAL SECTIONS
POWERHOUSE PHASES

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Project No.	Date Revised	Drawing No.	R-310-01
534-039	08-03-22		

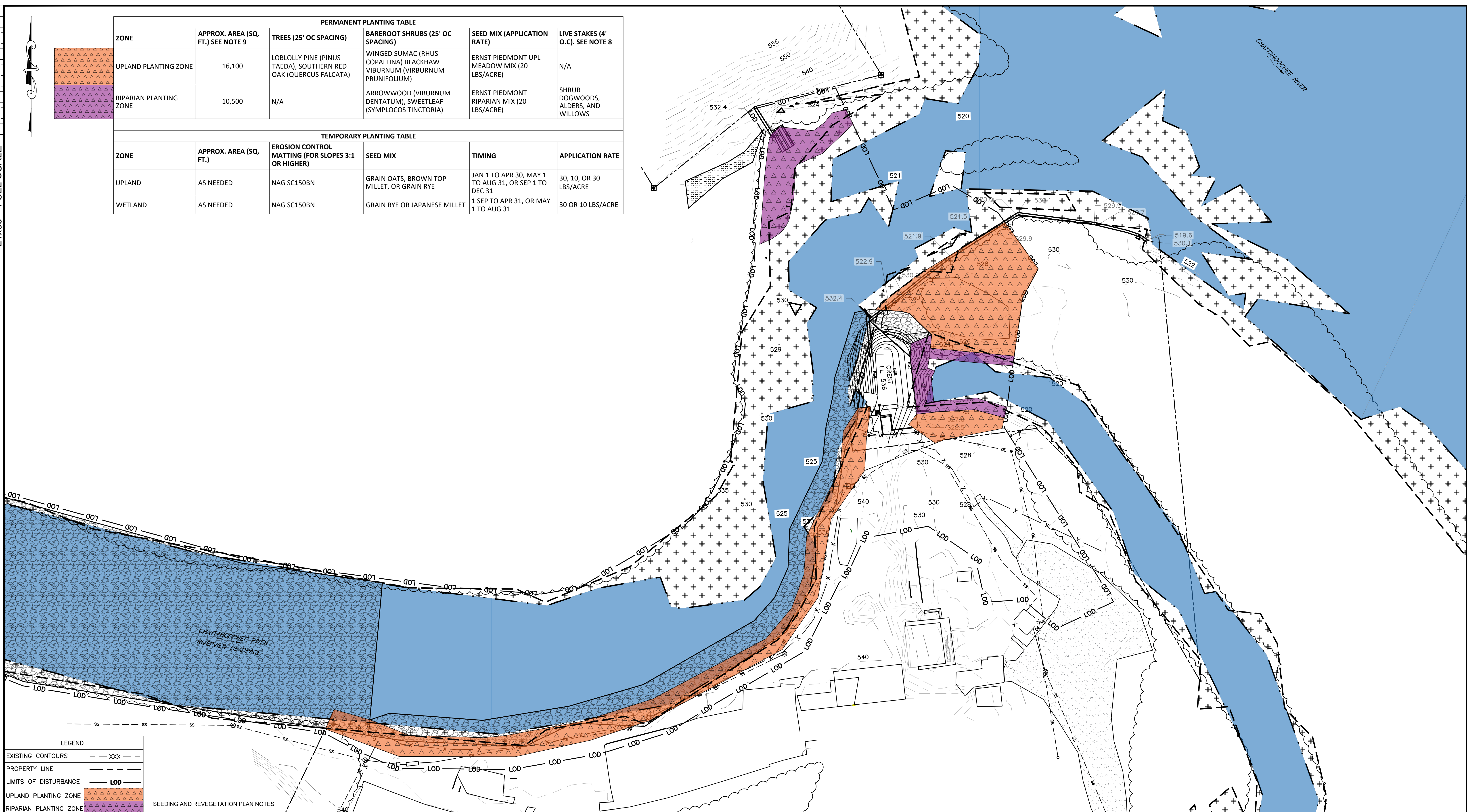
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24x36 = FULL SCALE



PERMANENT PLANTING TABLE					
ZONE	APPROX. AREA (SQ. FT.) SEE NOTE 9	TREES (25' OC SPACING)	BAREROOT SHRUBS (25' OC SPACING)	SEED MIX (APPLICATION RATE)	LIVE STAKES (4' O.C.) SEE NOTE 8
UPLAND PLANTING ZONE	16,100	LOBLOLLY PINE (PINUS TAEDA), SOUTHERN RED OAK (QUERCUS FALCATA)	WINGED SUMAC (RHUS COPALLINA) BLACKHAW VIBURNUM (VIRBURNUM PRUNIFOLIUM)	ERNST PIEDMONT UPL MEADOW MIX (20 LBS/ACRE)	N/A
RIPARIAN PLANTING ZONE	10,500	N/A	ARROWWOOD (VIBURNUM DENTATUM), SWEETLEAF (SYMPLOCOS TINCTORIA)	ERNST PIEDMONT RIPARIAN MIX (20 LBS/ACRE)	SHRUB DOGWOODS, ALDERS, AND WILLOWS

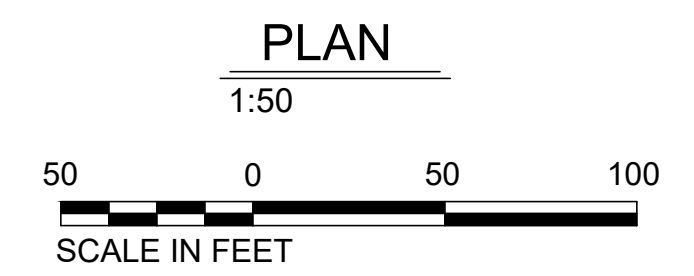
TEMPORARY PLANTING TABLE					
ZONE	APPROX. AREA (SQ. FT.)	EROSION CONTROL MATTING (FOR SLOPES 3:1 OR HIGHER)	SEED MIX	TIMING	APPLICATION RATE
UPLAND	AS NEEDED	NAG SC150BN	GRAIN OATS, BROWN TOP MILLET, OR GRAIN RYE	JAN 1 TO APR 30, MAY 1 TO AUG 31, OR SEP 1 TO DEC 31	30, 10, OR 30 LBS/ACRE
WETLAND	AS NEEDED	NAG SC150BN	GRAIN RYE OR JAPANESE MILLET	1 SEP TO APR 31, OR MAY 1 TO AUG 31	30 OR 10 LBS/ACRE



LEGEND	
EXISTING CONTOURS	--- XXX ---
PROPERTY LINE	---
LIMITS OF DISTURBANCE	--- LOD ---
UPLAND PLANTING ZONE	[Orange triangle pattern]
RIPARIAN PLANTING ZONE	[Purple triangle pattern]
APPROXIMATE LOCATION OF WATERS EDGE AT WEST POINT BASE FLOW POST-DAM REMOVAL	--- · · ---
APPROXIMATE LOCATION OF WATERS EDGE AT WEST POINT BASE FLOW +2 UNITS GENERATING POST-DAM REMOVAL	---
APRX. EDGE OF EXISTING TREE COVER	~~~~~
EXISTING WETLAND (2020 SURVEY)	[Cross-hatch pattern]
EXISTING FENCE LINE	--- X ---
AREA BETWEEN APPROX. PROPOSED EDGE OF WATER AT WEST POINT MIN. FLOW AND APPROX. PROPOSED EDGE OF WATER AT WEST POINT MIN. FLOW AND 2 UNITS	[Cross-hatch pattern]

SEEDING AND REVEGETATION PLAN NOTES

- UPON COMPLETION OF SITE CONSTRUCTION, ALL AREAS ABOVE THE BASE FLOW + 2 UNITS WATERLINE DISTURBED SHALL BE TREATED AS STATED BELOW. THESE AREAS SHALL BE CLOSELY MONITORED BY THE CONTRACTOR UNTIL FINAL STABILIZATION IS REACHED. FINAL STABILIZATION IS DEFINED AS 100% OF THE SOIL SURFACE IS UNIFORMLY COVERED IN PERMANENT VEGETATION WITH A DENSITY OF 70% OR GREATER OR LANDSCAPED ACCORDING TO THE PLAN (UNIFORMLY COVERED WITH LANDSCAPING MATERIALS IN PLANNED LANDSCAPED AREAS). TOPSOIL SHALL BE SPREAD OVER ALL DISTURBED AREAS AND GRADED TO A MINIMUM UNIFORM DEPTH OF FOUR (4") INCHES.
- PRIOR TO PLACING TOPSOIL (WHERE APPLICABLE), THE SUBSOIL SHALL BE SCARIFIED AT LEAST FOUR (4") INCHES.
- FALL PLANTING IS ENCOURAGED TO GIVE VEGETATION TIME TO DEVELOP ROOTS BEFORE HOT WEATHER.
- IN AREAS NOT RECEIVING LANDSCAPING MATERIAL (I.E. RIPRAP), STRAW MULCH SHALL BE APPLIED AT THE RATE OF 100 LBS. PER 1,000 SQ. FT. FOR SMALL AREAS OF 2 TONS/ACRE FOR LARGER AREAS, FOLLOWING SEEDING. MULCH SHALL BE ANCHORED BY WATERING OR USING ANCHORING EMULSION. STEEP SLOPES (3:1 AND STEEPER) SHALL BE STABILIZED BY INSTALLING EROSION CONTROL BLANKET (E.G. NORTH AMERICAN GREEN SC150 BN OR EQUIVALENT).
- ALL SEDIMENT CONTROL STRUCTURES SHALL REMAIN IN PLACE UNTIL VEGETATION IS ESTABLISHED. ESTABLISHED SHALL MEAN A MINIMUM OF 90% OF THE AREA IS VEGETATED WITH VIGOROUS GROWTH. DISTURBED AREAS SHALL BE SEEDING IN ACCORDANCE WITH APPLICABLE GA/AL REQUIREMENTS AND THE TEMPORARY PLANTING TABLE FOR THIS PROJECT.
- SEEDING SHOULD BE PLANTED TO A DEPTH OF 1/4 TO 1/2 INCHES. SEEDING METHODS MAY BE DRILL SEEDING, BROADCAST, OR HYDRO-SEEDED. THE SEED SHALL BE EMBEDDED BY BROADCASTING, DRILLING, CULTIPACK TYPE, OR HYDROSEEDING.
- PLANTING ALONG THE WATERLINE SHALL CONTINUE TO THE EDGE OF THE POST-DAM REMOVAL MINIMUM FLOW WATER'S EDGE, WHICH MAY BE DIFFERENT THAN SHOWN ON THE DRAWINGS. CONTRACTOR TO GET ENGINEER'S APPROVAL OF PLANTING ZONE EXTENTS PRIOR TO IMPLEMENTING THE PLANTINGS.
- SUITABLE WILLOW SPECIES INCLUDE: BANKERS DWARF, STREAMCO PURPLESOIER, BLACK, SANDBAR, MEADOW, HEART-LEAVED, AND WARD'S WILLOW.
- THIS IS THE PLANTING AREA SHOWN IN THIS DRAWING BASED ON ANTICIPATED POST-REMOVAL CONDITIONS. ACTUAL PLANTING AREAS SHALL BE BASED ON FLOW EXTENTS POST-DAM REMOVAL AND ACTUAL DISTURBED AREAS, AS APPROVED BY THE ENGINEER. ACTUAL PLANTING AREAS ARE ANTICIPATED TO VARY FROM THESE VALUES.
- ESTIMATED POST DAM REMOVAL WATERS EDGE AT BASE FLOW IS BASED ON HYDRAULIC MODELING AND ASSUMED CONDITIONS RELATED TO SEDIMENT FLUSHING. ACTUAL EDGE OF WATER IS ANTICIPATED TO VARY AS NATURAL FLUVIAL PROCESSES OCCUR AND THE ACTUAL EDGE OF WATER FOR A GIVEN FLOW WILL DEPEND ON EXTENT OF SEDIMENT FLUSHING, FLOWS IN THE RIVER, AND DURATION OF TIME AFTER DAM REMOVAL.



No.	Revision	Date	Drawn	Checked
A	90% DESIGN	08-03-22	RMD	TAK
			Designed	Drawn
			TAK	CAA
			Checked	TAK

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GEORGIA POWER COMPANY
ATLANTA, GA.

RIVERVIEW (FERC PROJECT NO. 2350)
DAM DECOMMISSIONING

POST-REMOVAL
PLANTING PLAN

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Project No.	Date Revised	Drawing No.
534-039	08-03-22	R-700-01

24x36 = FULL SCALE

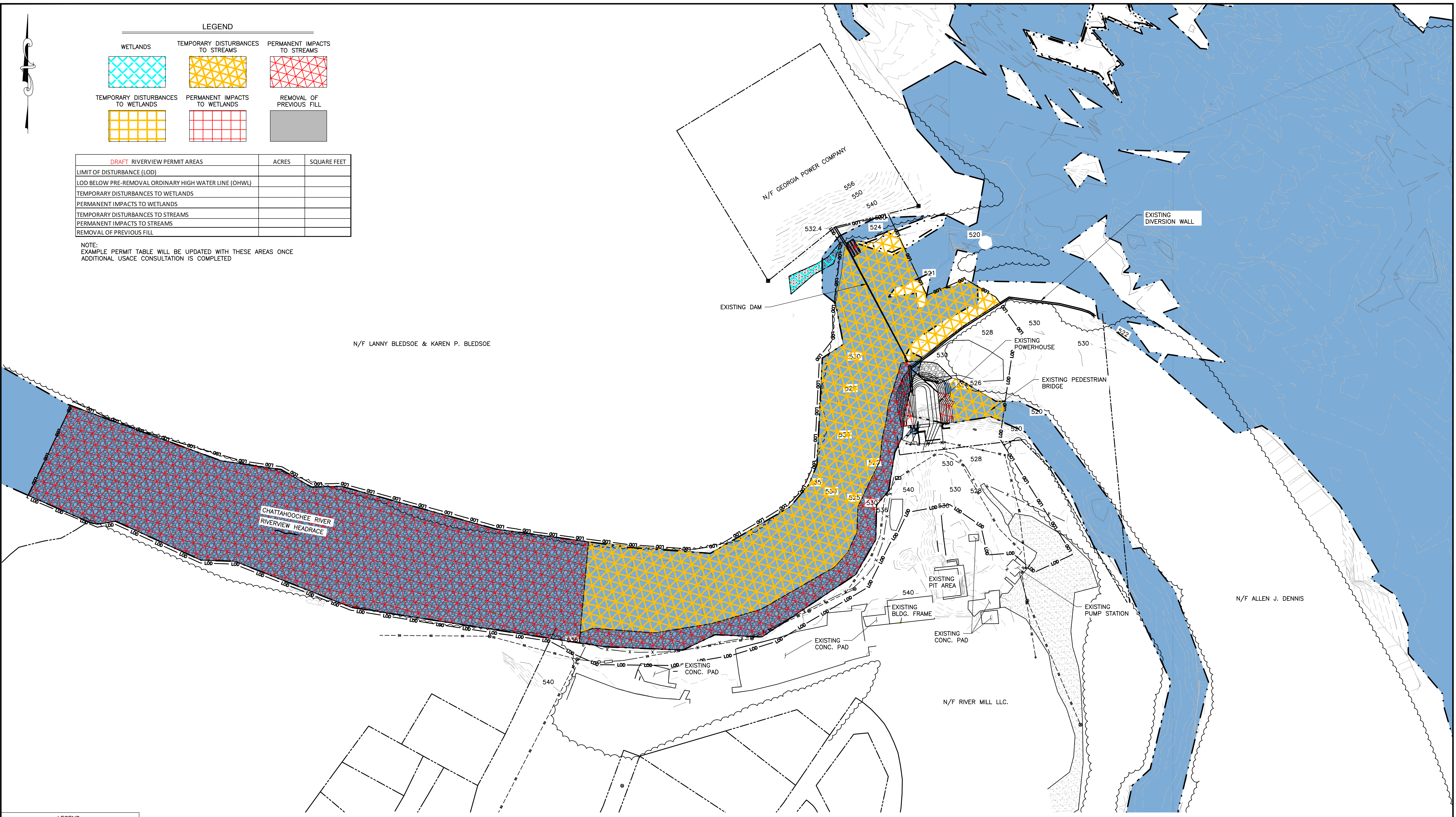


LEGEND

WETLANDS	TEMPORARY DISTURBANCES TO STREAMS	PERMANENT IMPACTS TO STREAMS
TEMPORARY DISTURBANCES TO WETLANDS	PERMANENT IMPACTS TO WETLANDS	REMOVAL OF PREVIOUS FILL

DRAFT RIVERVIEW PERMIT AREAS	ACRES	SQUARE FEET
LIMIT OF DISTURBANCE (LOD)		
LOD BELOW PRE-REMOVAL ORDINARY HIGH WATER LINE (OHWL)		
TEMPORARY DISTURBANCES TO WETLANDS		
PERMANENT IMPACTS TO WETLANDS		
TEMPORARY DISTURBANCES TO STREAMS		
PERMANENT IMPACTS TO STREAMS		
REMOVAL OF PREVIOUS FILL		

NOTE:
EXAMPLE PERMIT TABLE WILL BE UPDATED WITH THESE AREAS ONCE
ADDITIONAL USACE CONSULTATION IS COMPLETED



PLAN
1:75



LEGEND

EXISTING CONTOURS	--- XXX ---
PROPERTY LINE	---
EXISTING ACCESS ROAD	---
APPROXIMATE EXISTING EDGE OF WATER AT WEST POINT BASE FLOW	---
APRX. EDGE OF EXISTING TREE COVER	~~~~~
EXISTING WETLAND (2020 SURVEY)	~~~~~
EXISTING SEWER LINE	--- SS ---
EXISTING OVERHEAD ELECTRICAL	--- OE ---
EXISTING FENCE LINE	--- X ---

- NOTES:
1. PROJECT HORIZONTAL DATUM: NAD83; PROJECT VERTICAL DATUM: NAVD88
 2. DIFFERING SURVEY METHODOLOGIES ABOVE AND BELOW THE WATER'S EDGE MAY RESULT IN ELEVATION DISCREPANCIES AT THE EXISTING EDGE OF WATER. CONTRACTOR TO FIELD VERIFY CRITICAL ELEVATIONS PRIOR TO STARTING CONSTRUCTION.
 3. SANITARY SEWER LOCATION TO BE CONFIRMED WITH EAST ALABAMA WATER, SEWER, AND FIRE PROTECTION DISTRICT PRIOR TO COMMENCING EARTH DISTURBANCE.

NOT FOR CONSTRUCTION

GEORGIA POWER COMPANY ATLANTA, GA.	
RIVERVIEW (FERC PROJECT NO. 2350) DAM DECOMMISSIONING	
PERMIT AREAS	
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No.	Revision
A	90% DESIGN
Date	08-03-22
Drawn	RMD
Checked	TAK
Designed	TAK
Drawn	BJL
Checked	TAK
Project No.	534-039
Date Revised	08-03-22
Drawing No.	R-900-01

APPENDIX C

CROW HOP 90 PERCENT DESIGN DRAWINGS

24x36 = FULL SCALE 0 1" 2" 3"

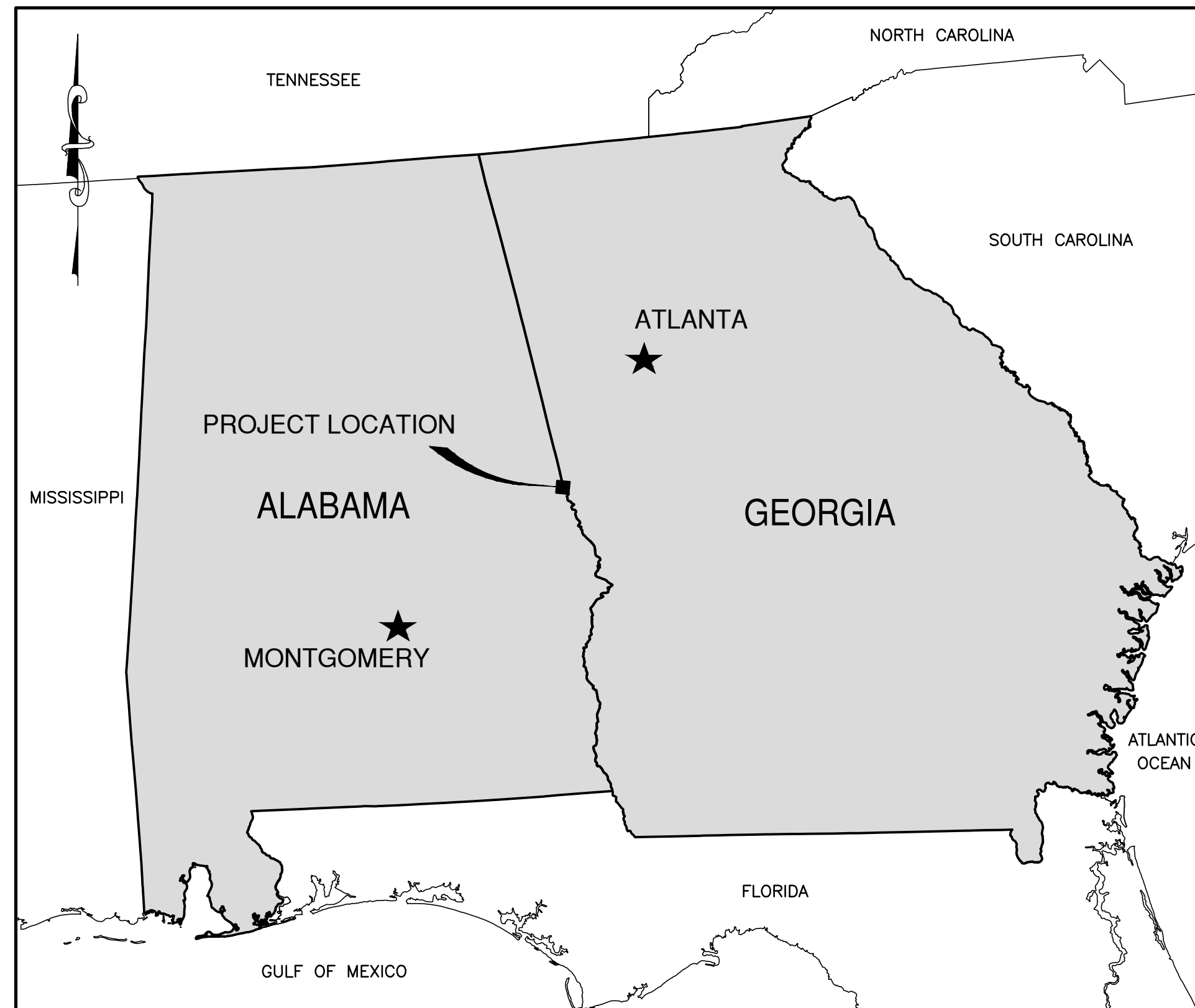
GEORGIA POWER COMPANY

ATLANTA, GA.

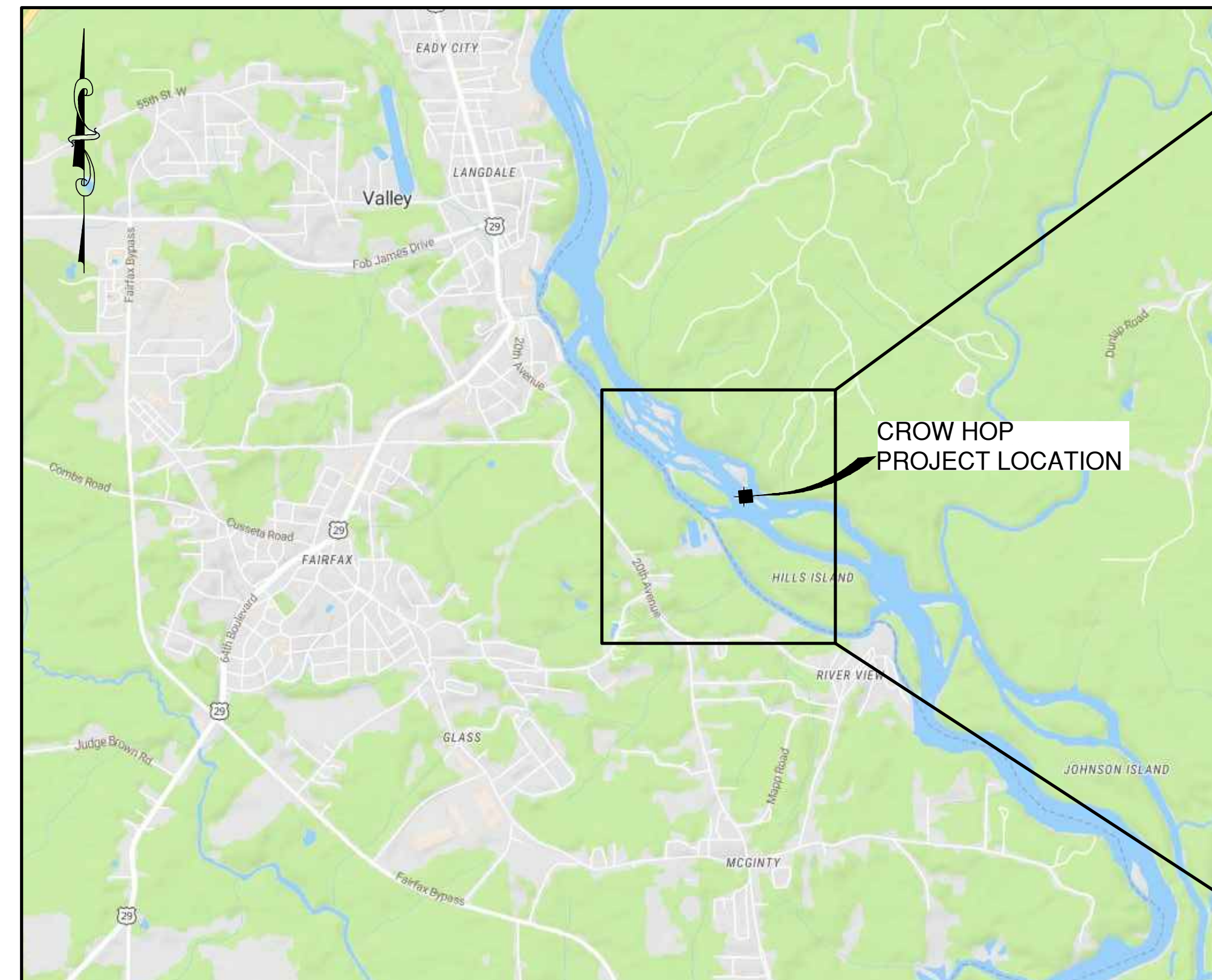
CROW HOP

(FERC PROJECT NO. 2350)

DAM DECOMMISSIONING



STATE MAP



VICINITY MAP



SITE MAP

DRAWING LIST				
SHEET NO.	SHEET DESCRIPTION	DATE	REVISION	STATUS
C-000	COVERSHEET	08-03-22	A	90% DESIGN
C-100-01	GENERAL NOTES	08-03-22	A	90% DESIGN
C-200-01	EXISTING CONDITIONS PLAN (AERIAL)	08-03-22	A	90% DESIGN
C-200-02	EXISTING CONDITIONS PLAN (NO AERIAL)	08-03-22	A	90% DESIGN
C-210-01	TEMPORARY CONDITIONS	08-03-22	A	90% DESIGN
C-210-02	EROSION & SEDIMENT CONTROL NOTES & DETAILS	08-03-22	A	90% DESIGN
C-210-03	EROSION & SEDIMENT CONTROL NOTES & DETAILS	08-03-22	A	90% DESIGN
C-220-01	DEMOLITION PLAN	08-03-22	A	90% DESIGN
C-220-02	DAM REMOVAL PROFILE	08-03-22	A	90% DESIGN
C-220-03	DAM REMOVAL SECTION	08-03-22	A	90% DESIGN
C-300-01	POST-REMOVAL PLAN	08-03-22	A	90% DESIGN
C-300-02	POST-REMOVAL ROCK RAMP PLAN & SECTIONS	08-03-22	A	90% DESIGN
C-300-03	POST-REMOVAL ROCK RAMP SECTIONS & DETAILS	08-03-22	A	90% DESIGN
C-700-01	POST-REMOVAL PLANTING PLAN	08-03-22	A	90% DESIGN
C-900-01	PERMIT AREAS	08-03-22	A	90% DESIGN



90% DESIGN
08-03-2022



NOT FOR CONSTRUCTION

GEORGIA POWER COMPANY ATLANTA, GEORGIA	
CROW HOP (FERC PROJECT NO. 2350) DAM DECOMMISSIONING	
COVER SHEET	
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Project No. 534-039	Date Revised 08-03-22
Design No.	Drawing No. C-000

No.	Revision	Date	Drawn	Checked
A	90% DESIGN	08-03-22	JCH	TAK

Design	Drawn	Checked
TAK	BJL	TAK

PRINTED: Aug 31, 2022 - 2:50 PM C:\Users\jason.Hall\AppData\Local\Temp\ApPublish_9508534-039\Crow Hop_C-000 COVER.dwg

GENERAL NOTES:

- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS, SPECIFICATIONS, AND REFERENCED DOCUMENTS ASSOCIATED WITH THE PROJECT PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND ANY CONFLICT WITH THE DOCUMENTS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER'S REPRESENTATIVE, IN WRITING, PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE OWNER'S REPRESENTATIVE SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AS DEFINED BY THE DRAWINGS AND SPECIFICATIONS AND IN FULL COMPLIANCE WITH LOCAL REGULATIONS AND CODES.
- DEFINITIONS:
 - OWNER: GEORGIA POWER COMPANY
 - OWNER'S REPRESENTATIVE: INDIVIDUAL IDENTIFIED BY OWNER TO REPRESENT THEM ON SITE AND AUTHORIZED TO MAKE DECISIONS ON THEIR BEHALF. THIS COULD BE THE ENGINEER OR CONSTRUCTION MANAGER, IF APPOINTED AS OWNER'S REPRESENTATIVE BY THE OWNER. U. ENGINEER: THE ENGINEER REPRESENTING THE OWNER ON THIS PROJECT TO ENSURE WORK IS COMPLETED TO THE DESIGN INTENT AND OWNER'S SATISFACTION, AS SELECTED BY THE OWNER
- ALL WORK SHALL BE COORDINATED AND PERFORMED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
- THE CONTRACTOR SHALL COMPLY WITH ALL CONDITIONS CONTAINED IN RELEVANT PERMITS ISSUED FOR THIS PROJECT. PERMITS MAY INCLUDE, BUT ARE NOT LIMITED TO A USACE NATIONWIDE PERMIT AND 401 WATER QUALITY CERTIFICATES FROM THE GEORGIA EPD, AND NPDES PERMITS FROM THE GEORGIA EPD AND ALABAMA DEM.
- ALL MATERIALS SHALL BE PROVIDED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE GEORGIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS CONSTRUCTION OF TRANSPORTATION SYSTEMS, CURRENT EDITION, UNLESS NOTED OTHERWISE.
- ALL MATERIALS SHALL BE PROVIDED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST VERSION OF THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA, AND IN ACCORDANCE WITH THE LATEST VERSION OF THE "ALABAMA HANDBOOK FOR EROSION CONTROL, SEDIMENT CONTROL, AND STORMWATER MANAGEMENT ON CONSTRUCTION SITES AND URBAN AREAS" IN ALABAMA.
- THE CONTRACTOR SHALL INSTALL ALL REQUIRED EROSION AND POLLUTION CONTROL DEVICES PRIOR TO CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THEIR MAINTENANCE, REPOSITIONING AND REMOVAL UPON COMPLETION OF WORK.
- THE CONTRACTOR SHALL RESTORE ALL TEMPORARY ACCESS AREAS TO THEIR ORIGINAL CONDITION, UNLESS DISTURBANCE OCCURS IN AN AREA OF PROPOSED WORK. RESTORATION MAY INCLUDE, BUT NOT BE LIMITED TO, REGRADING TO ORIGINAL CONTOURS AND REPLANTING HERBACEOUS VEGETATION. NO ADDITIONAL PAYMENT WILL BE MADE FOR TEMPORARY ACCESS NOT INCLUDED IN THE ORIGINAL BID.
- NO TREES SHALL BE DISTURBED UNLESS INDICATED ON THE PLANS THAT THEY ARE TO BE REMOVED. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING TREES AND SHRUBS ON SITE. TREES AND SHRUBS IN ACCESS AREAS SHOULD BE CUT OFF AS CLOSE TO THE GROUND AS POSSIBLE. NO HERBICIDES ARE ALLOWED TO BE USED ON THE SITE.
- THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND PROPER DISPOSAL OF ALL WASTE MATERIAL, INCLUDING TEMPORARY EROSION AND SEDIMENT CONTROLS, TEMPORARY STRUCTURES, AND TEMPORARY FILL. DEBRIS SHALL NOT BE RELEASED INTO THE RIVER. ALL SPOIL MATERIAL AND DEBRIS (SOLID WASTE) SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL LAWS AND OTHER APPLICABLE CODES, AT AN OFF-SITE LOCATION.
- PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PREVENT ANY IMPACTS TO AREAS OUTSIDE OF THE LIMITS OF PROPOSED WORK. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL ANY IMPACTS TO AREAS OUTSIDE THE LIMITS OF PROPOSED WORK AT LEAST 1 WEEK IN ADVANCE OF THE PROPOSED IMPACT. IF THE CONTRACTOR'S ACTIVITY ADVERSELY AFFECTS ANY AREA OUTSIDE THE LIMIT OF PROPOSED WORK, THE CONTRACTOR SHALL RESTORE THE AREA TO PRE-CONSTRUCTION CONDITIONS AND NOTIFY THE ENGINEER.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR CONDUCTING UNDERGROUND UTILITY CHECKS IN ACCORDANCE WITH STATE REGULATIONS. THE CONTRACTOR WILL BE RESPONSIBLE FOR COORDINATING WITH ALABAMA 811 AND GEORGIA 811 A MINIMUM OF 14 WORK DAYS PRIOR TO THE START OF EARTH DISTURBANCE ACTIVITIES. SHOULD ANY UTILITIES BE LOCATED THAT ARE IN CONFLICT WITH THE DESIGN, THE CONTRACTOR SHALL IMMEDIATELY REPORT THESE CONFLICTS IN WRITING TO THE ENGINEER.
- SURVEY PROVIDED BY GEORGIA POWER AND INCLUDES: 1) BATHYMETRY FROM LOWE ENGINEERS' 2018, MAY 2019, AND AUGUST 2019 SURVEYS, AND 2) CIVIL AND UPLAND SURVEY FROM GASKINS NOVEMBER 2020 SURVEY. ELEVATIONS ARE SHOWN IN NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88). THE HORIZONTAL DATUM FOR THE PROJECT IS NAD83. WETLAND DELINEATION BY GEORGIA POWER COMPANY ENVIRONMENT AND NATURAL RESOURCES. CULTURAL RESOURCES SURVEY BY SOUTHERN RESEARCH, HISTORIC PRESERVATION CONSULTANTS, INC.
- CONTRACTOR SHALL CONFIRM SURVEY BENCHMARK ELEVATIONS PRIOR TO CONSTRUCTION AND SHALL PROTECT ALL BENCHMARKS, SURVEY MARKERS, AND MONUMENTS DURING CONSTRUCTION.
- THIS SITE IS WITHIN ZONE AE, AN AREA OF 100-YEAR INUNDATION AS SHOWN ON FEMA MAPPING. PORTIONS OF THE SITE ARE LOCATED IN THE REGULATORY FLOODWAY. CONTRACTOR SHALL INFORM OWNER AS SOON AS POSSIBLE IF THEY ANTICIPATE THAT FLOOD CONDITIONS MAY IMPACT PROJECT WORK. CONTRACTOR SHALL TAKE REASONABLE MEANS TO PROTECT THEIR EQUIPMENT, THEIR STAFF, THE PROJECT SITE, AND THE RIVER IN ADVANCE OF ANTICIPATED FLOOD CONDITIONS.
- DURING ADVERSE WEATHER NO MATERIALS SHALL BE LEFT ON THE PROJECT SITE THAT COULD BE MOBILIZED DOWNSTREAM BY FLOOD, WAVES, OR WIND AND THEREBY POSE A THREAT TO DOWNSTREAM PROPERTY. THE CONTRACTOR IS RESPONSIBLE TO STABILIZE AND SECURE THE SITE UNTIL THE PROJECT IS ACCEPTED BY THE ENGINEER, AND SHALL PROTECT THE PROJECT, THE RIVER, AND OTHER PROPERTY AT ALL TIMES.
- ALL EQUIPMENT SHALL BE REMOVED FROM THE IN RIVER WORK AREA AT THE END OF EACH WORK DAY. UNLESS OTHERWISE APPROVED IN WRITING BY THE OWNER.
- THE CONTRACTOR SHALL COOPERATE WITH AND MAKE ALLOWANCES FOR OTHER CONTRACTORS (IF UTILIZED), AS WELL AS THE ENGINEER AND OWNER'S REPRESENTATIVES.
- THE CONTRACTOR SHALL MINIMIZE THE STOCKPILING OF EXCAVATED MATERIALS. IF EROSION AND SEDIMENT CONTROL MEASURES ARE NOT CAPABLE OF MANAGING SOIL RUNOFF FROM A STOCKPILE, THE CONTRACTOR SHALL REMOVE STOCKPILES BEFORE EXCAVATING MORE MATERIAL. THE CONTRACTOR SHALL MAINTAIN A SUPPLY OF SILT FENCE, STAKES AND STRAW BALES ON SITE FOR CONSTRUCTING EROSION CONTROL BEST MANAGEMENT PRACTICES PRIOR TO STOCKPILING.
- GRADES SHOWN ON THE PLANS ARE FINAL GRADES (AVERAGE ELEVATION OF FILL); ADJUSTMENTS MUST BE MADE FOR FILL AND ROCK WHERE APPLICABLE. WHERE BEDROCK IS ENCOUNTERED ABOVE FINAL GRADES, CONSULT ENGINEER FOR DIRECTION.
- ANY IMPORTED MATERIAL SHALL BE FREE OF INVASIVE PLANT MATERIAL AND SEED. UPON FINAL STABILIZATION AND REMOVAL OF THE EROSION AND SEDIMENT CONTROLS THE DISTURBED AREA SHALL HAVE MINIMAL (E.G. <20%) COVERAGE BY INVASIVE SPECIES.
- CONTRACTOR SHALL COORDINATE IN-RIVER WORK WITH UNITED STATES ARMY CORP OF ENGINEERS WEST POINT DAM BASEFLOW RELEASES.
- DAM REMOVAL WILL TAKE PLACE DURING THE SEASONAL LOW FLOW PERIOD.
- CONTRACTOR SHALL VISIBLY MARK LIMITS OF DISTURBANCE, AS DEFINED BY PROJECT PLAN DRAWINGS, WITH ORANGE CONSTRUCTION FENCE (IN UPLAND AREAS) AND WOODEN STAKES (WITHIN WATERBODIES), OR AS APPROVED BY THE OWNER'S REPRESENTATIVE.
- SURVEY DATA WAS NOT AVAILABLE NEAR THE DAM – CONTRACTOR TO REVIEW SITE DURING INTIAL MOBILIZATION AND ADVISE THE OWNER AND ENGINEER (PRIOR TO COMMENCING DAM REMOVAL) IF CONDITIONS DIFFER SUBSTANTIALLY FROM THOSE SHOWN ON THESE DRAWINGS.

Langdale & Riverview Decommissioning Schedule Overview (PRELIM)	Estimated Task Duration (months)	Project Month*									
		1	2	3	4	5	6	7	8	9	10
Decommission Riverview Dam and Powerhouse	4										
Decommission Crow Hop Dam and Construct Rock Ramp	3										
Decommission Langdale Powerhouse and Construct Island Channel	8										
Finalize Riverview Headrace Bank and Bed Protection	1										
Decommission Langdale Dam	2										
Construct Langdale Park	2										

*Month 4 is anticipated to begin in June with in-water work. In-water work: darker shading; upland work: lighter shading

CONSTRUCTION SEQUENCE

- CONFIRM OR UPDATE ANTICIPATED DAM DECOMMISSIONING DURATION (IN-WATER WORK) FOR THIS PROJECT – CURRENTLY ANTICIPATED TO TAKE APPROXIMATELY 6 WEEKS ONCE THE UPLAND EROSION & SEDIMENT CONTROLS ARE INSTALLED. THE REMOVAL OF CROW HOP DAM IS ANTICIPATED TO OCCUR IN PARALLEL WITH THE REMOVAL OF RIVERVIEW DAM.
- CONTRACTOR SHALL COMPLETE, AND RECEIVE OWNER'S APPROVAL OF THE FOLLOWING TASKS PRIOR TO COMMENCING THE DECOMMISSIONING:
 - IMPROVED THE CONSTRUCTION ACCESS ROAD ON EAST SIDE OF PROJECT.
 - COORDINATED PROJECT SCHEDULE WITH FLOW RELEASES AT WEST POINT DAM.
 - COORDINATED WITH SHPO STAFF FOR DOCUMENTATION OF THE CRIB DAM REMOVAL, AS REQUIRED.
 - INSTALL PUBLIC SAFETY SIGNS AND BUOYS TO WARN PUBLIC OF ACTIVE CONSTRUCTION AND NO TRESPASSING. INSTALL AT LEAST 2 SIGNS ON SHORE AND 4 FLOATING BUOYS IN THE TAILWATER OF THE DAM. OWNER TO APPROVE SIGN TEXT AND LOCATIONS PRIOR TO INSTALLATION.
- AT ALL TIMES DURING THE REMOVAL, THE FOLLOWING MINIMUM FLOWS SHALL BE MAINTAINED:
 - 150 CFS OF WATER FLOWING IN THE RIVERVIEW HEADRACE CHANNEL AND
 - APPROXIMATELY 80 CFS OF WATER FLOWING IN THE MAIN CHANNEL OF THE CHATTAHOOCHEE RIVER. CONTRACTOR SHALL MAKE ADJUSTMENTS AS NECESSARY, PER ENGINEER DIRECTION TO MAINTAIN THESE MINIMUM FLOWS.
- INSTALL UPLAND EROSION AND SEDIMENT CONTROLS PRIOR TO ANY GROUND DISTURBANCE.
- MARK LIMITS OF DISTURBANCE IN UPLAND AREAS AND ANY RESOURCE AREAS, EXISTING UTILITIES, BENCHMARKS, STRUCTURES, OR INFRASTRUCTURE THAT ARE TO BE PROTECTED DURING THIS PROJECT.
- MARK LIMITS OF DEMOLITION AND PROPOSED FILLS AREAS AND OBTAIN ENGINEER APPROVAL OF STAKEOUT.
- INSTALL TIMBER MATS OVER ALL SENSITIVE RESOURCE AREAS AS WORK COMMENCES IN THOSE AREAS.
- CROW HOP DAM DECOMMISSIONING:
 - CONSTRUCT THE TEMPORARY ACCESS ROAD FROM THE PROJECT LAYDOWN AREA TO THE RIVERBANK ON THE EAST SIDE OF THE DAM (NO ACCESS IS PROPOSED FROM THE WEST RIVER BANK).
 - REMOVE THE UPPER 5 FEET FROM THE DAM CREST FROM EAST TO WEST (DOWN TO ELEVATION 529.0'). UTILIZE NOTCHING (AS APPROVED BY THE ENGINEER) TO MANAGE FLOW DISTRIBUTION DURING DAM DEMOLITION. CONTRACTOR SHALL OBSERVE DAILY MAXIMUM DRAWDOWN RATE DURING REMOVAL (RIVERVIEW GENERAL NOTE 2). MOVE EXISTING ROCKS AND USE RUBBLE TO CONSTRUCT ACCESS ROADS AS NECESSARY, MINIMIZING USE OF RUBBLE TO EXTENT PRACTICAL. TRANSPORT RUBBLE TO DISPOSAL LOCATIONS AS IT IS REMOVED (MINIMIZE RUBBLE LEFT IN THE RIVER DURING HIGHER FLOWS TO THE EXTENT PRACTICAL). PLACE RUBBLE IN FILL DISPOSAL AREAS. TRANSPORT TIMBERS FROM THE CRIB DAM TO STAGING AREA FOR OFFSITE DISPOSAL.
 - MAKE ALLOWANCES FOR THE OWNER (OR THEIR REPRESENTATIVE) TO DOCUMENT THE CRIB DAM UPSTREAM OF THE CONCRETE DAM.
 - REMOVE THE CRIB DAM AS IT IS ACCESSIBLE FOR REMOVAL AND AFTER ENGINEER APPROVAL TO REMOVE.
 - UPON APPROVAL FROM THE ENGINEER, REMOVE REMAINING MATERIAL FROM THE CONCRETE DAM AND CRIB DAM FROM EAST TO WEST, TRANSPORTING RUBBLE TO DISPOSAL SITE AS IT IS REMOVED. CONTINUE UNTIL POST-REMOVAL GRADES ARE REACHED. TRANSPORT TIMBERS FROM THE CRIB DAM TO STAGING AREA FOR OFFSITE DISPOSAL.
 - PLACE STONE FROM THE CRIB DAM AS SHORELINE ARMORING AS SHOWN ON PROJECT DRAWINGS AND PER ENGINEER FIELD DIRECTION.
 - CUT ANY REINFORCING BAR (IF PRESENT IN ANY AREAS WHERE THE DAM IS REMOVED) FLUSH WITH THE POST-REMOVAL GRADE.
 - REMOVE BOAT WARNING BUOYS AND CABLE, EXCEPT THOSE UPSTREAM OF THE PROPOSED ROCK RAMP.
 - AFTER RECEIVING OWNER'S APPROVAL, REMOVE ANY TEMPORARY ACCESS ROADS. PLACE THE REMAINING RUBBLE FROM THE ACCESS ROAD AROUND THE EAST ABUTMENT FOR SHORELINE PROTECTION.
 - ROCK RAMP CONSTRUCTION:
 - PLACE RUBBLE, AS IT BECOMES AVAILABLE DURING DAM REMOVAL, WITHIN THE FOOTPRINT OF ROCK RAMP. PLACE RUBBLE TO MINIMIZE THE RELEASE OF SEDIMENT TO THE EXTENT PRACTICAL WITHIN THE ROCK RAMP FOOTPRINT AND CHANNEL DOWNSTREAM OF THE ROCK WEIR.
 - REWORK RUBBLE, AS NECESSARY, TO MEET THE PROPOSED GRADES SHOWN ON THE DESIGN DRAWINGS.
- REMOVE TEMPORARY FACILITIES AND THEN SEED AND MULCH ALL DISTURBED AREAS AS FINAL GRADES ARE ACHIEVED AND PER THE EROSION AND SEDIMENT CONTROL PLAN TO NATURALIZE THE SITE.
- RESTORE SITE TO OWNER'S APPROVAL AND PERMIT CONDITIONS.

ANTICIPATED FLOW DISTRIBUTION SUMMARY ESTIMATES FOR BASE FLOW (~675CFS)

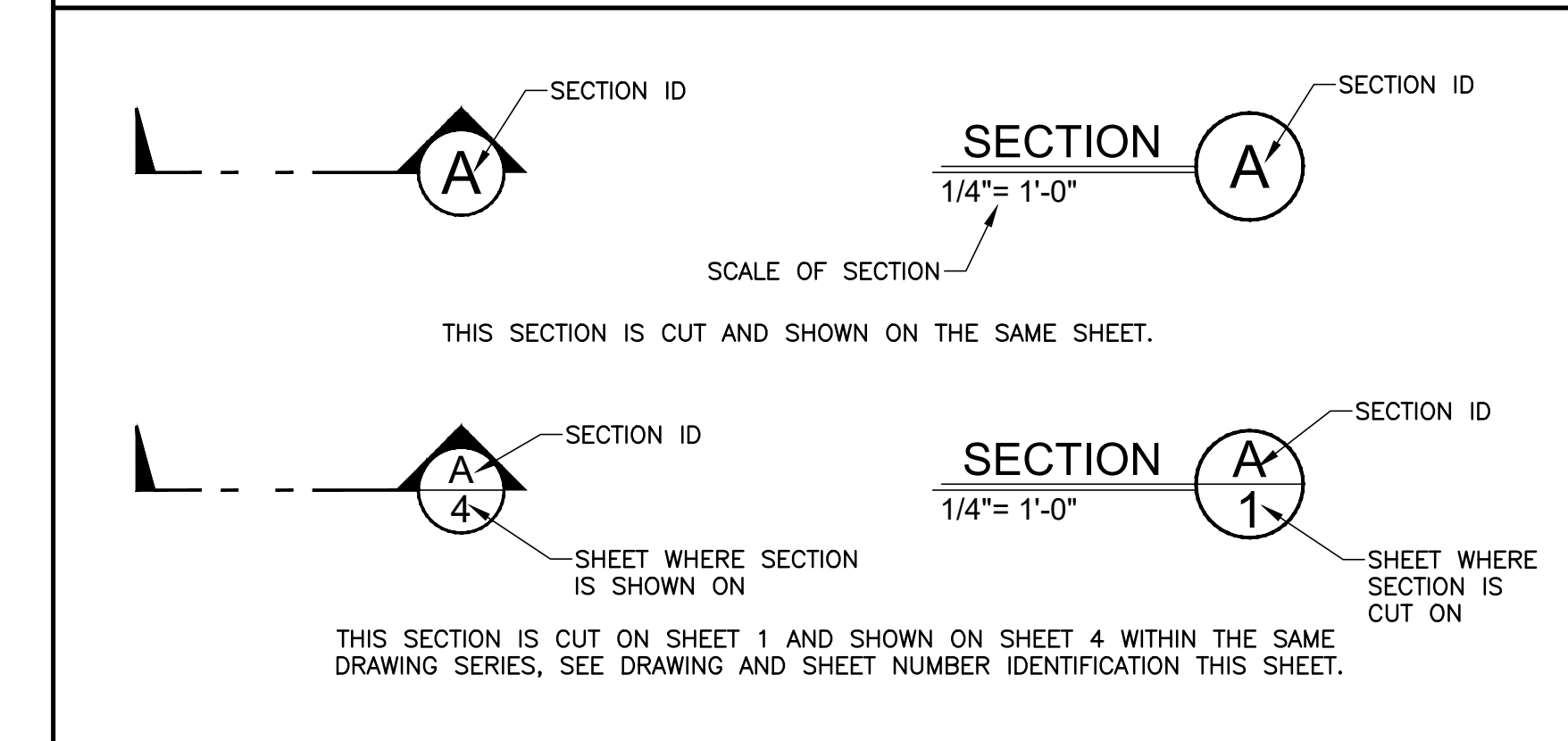
PROJECT STAGE	MAIN CHANNEL FLOW (AT CROW HOP DAM; CFS)	RIVERVIEW HEADRACE CHANNEL FLOW (CFS)
EXISTING CONDITION	98	577
STAGE 1: CROW HOP DAM: TOP 5' REMOVED	515	160
STAGE 2A: RIVERVIEW DAM AND CROW HOP TOP 5' REMOVED (EXISTING BATHYMETRY)	490	185
STAGE 2B: RIVERVIEW DAM AND CROW HOP TOP 5' REMOVED (ADJUSTED BATHYMETRY)*	80	595
STAGE 3: RIVERVIEW DAM AND CROW HOP DAM REMOVED (ADJUSTED BATHYMETRY)*	80	595

* INCLUDES NO ADJUSTMENT TO BATHYMETRY ABOVE CROW HOP DAM DUE TO UPSTREAM SHOALS CONTROLLING FLOW INTO THIS REACH AND MINIMAL SEDIMENT ACCUMULATION BEHIND THIS DAM. (REFER TO THE LANGDALE AND RIVERVIEW PROJECTS DECOMMISSIONING HYDRAULIC AND HYDROLOGIC MODELING REPORT FOR DETAILS ON ADJUSTED BATHYMETRY.)

CROW HOP GENERAL NOTES

- ALL CONCRETE RE-USED ON SITE SHALL BE NO LARGER THAN 5 FEET IN ANY DIRECTION, FREE OF EXPOSED REBAR, AND SHALL BE WELL GRADED TO INCLUDE PIECES FROM 3 INCHES TO 5 FEET IN SIZE, IF NOT OTHERWISE SPECIFIED ON THE DRAWINGS.
- THE MAXIMUM DRAWDOWN RATE OF THE HEADPOND ABOVE THE DAM SHALL BE 3 FEET PER DAY. CONTRACTOR SHALL MONITOR DRAWDOWN RATE HOURLY AND STOP WORK THAT MAY FURTHER LOWER THE HEADPOND IF THE MAXIMUM DRAWDOWN RATE IS REACHED FOR ANY GIVEN DAY.

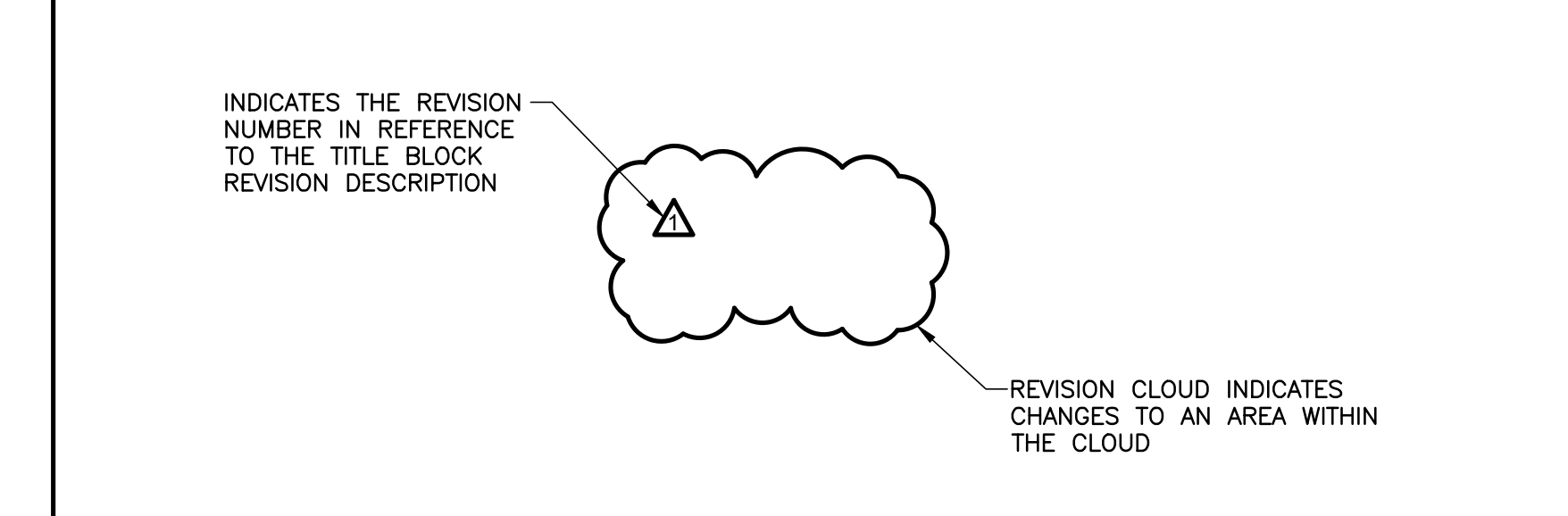
SECTION, DETAIL AND VIEW IDENTIFICATION SYMBOLS



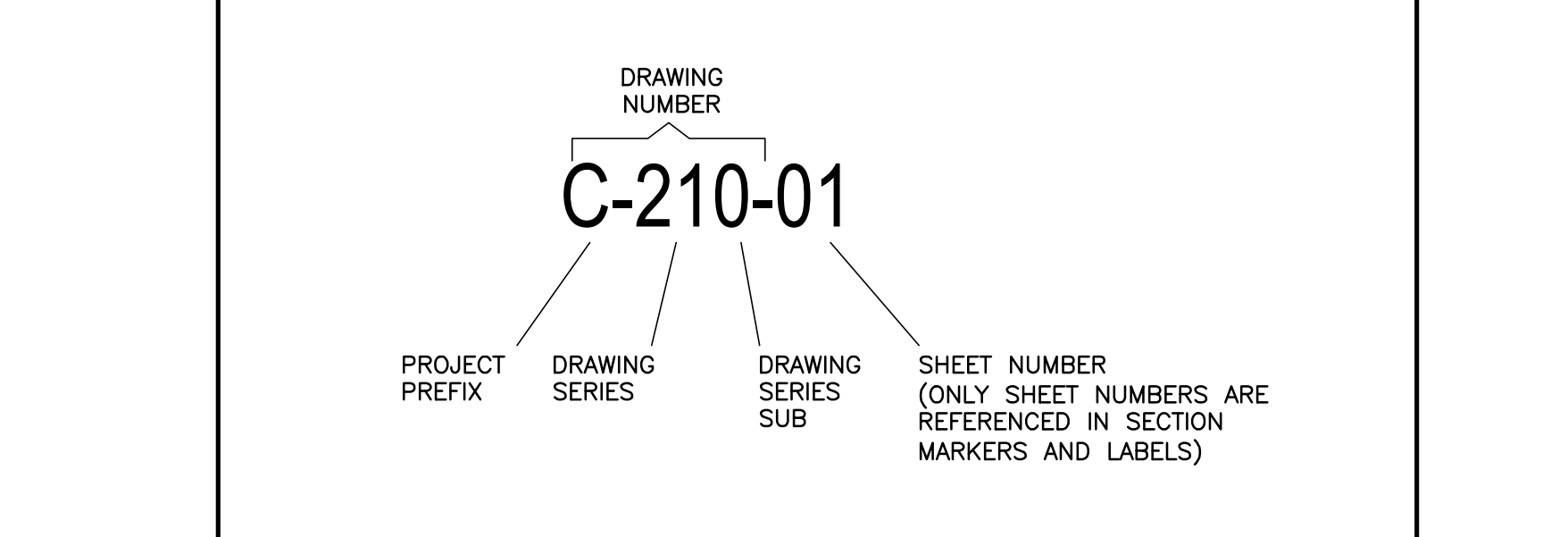
SECTION, DETAIL AND VIEW IDENTIFICATION SYMBOLS NOTES:

- SECTIONS ARE ALPHABETICAL.
- DETAILS ARE NUMERICAL.
- VIEWS ARE DOUBLE ALPHABETICAL.
- SHEET REFERENCE NUMBER FOR SECTIONS AND DETAILS OCCUR WITHIN THE SAME DRAWING SERIES.

REVISION IDENTIFICATION



DRAWING AND SHEET NUMBER IDENTIFICATION*



*REFERS TO DRAWING NUMBER IN LOWER RIGHT HAND CORNER OF TITLE BLOCK.



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GEORGIA POWER COMPANY ATLANTA, GEORGIA	
CROW HOP (FERC PROJECT NO. 2350) DAM DECOMMISSIONING	
GENERAL NOTES	
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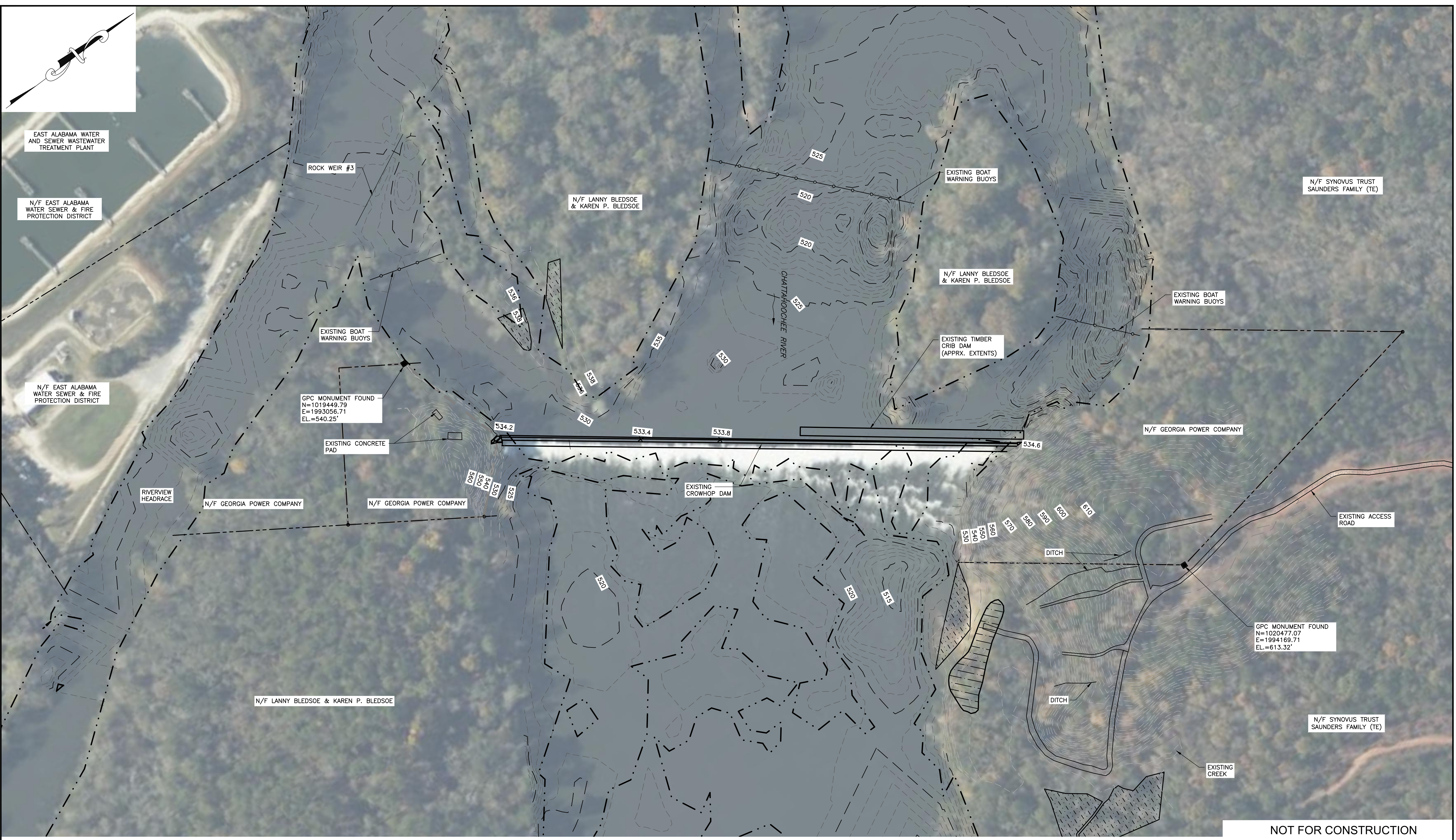
No.	Revision	Date	Drawn	Checked
A	90% DESIGN	08-03-22	JCH	TAK

Project No.	Date Revised	Drawing No.
534-039	08-03-22	C-100-01

Designated	Drawn	Checked
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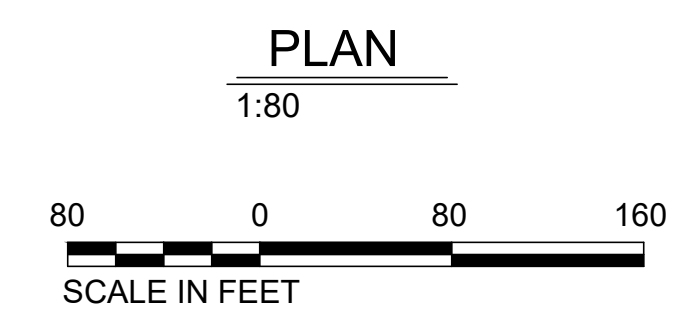
3"
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24x36 = FULL SCALE

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LEGEND	
EXISTING CONTOURS	--- XXX ---
PROPERTY LINE	---
SENSITIVE RESOURCE AREA	
FERC PROJECT BOUNDARY	----
EXISTING ACCESS ROAD	
APPROXIMATE LOCATION OF WATERS EDGE	----
EXISTING WETLAND (2020 SURVEY)	

- NOTES:
1. PROJECT HORIZONTAL DATUM: NAD83; PROJECT VERTICAL DATUM: NAVD88.
 2. DIFFERING SURVEY METHODOLOGIES ABOVE AND BELOW THE WATERS EDGE MAY RESULT IN ELEVATION DISCREPANCIES AT THE EXISTING EDGE OF WATER. CONTRACTOR TO FIELD VERIFY CRITICAL ELEVATIONS PRIOR TO STARTING CONSTRUCTION.
 3. LOCATION AND EXTENT OF TIMBER CRIB DAM ARE BASED ON LIMITED FIELD OBSERVATIONS. ACTUAL LOCATION AND EXTENT MAY VARY FROM THAT SHOWN HERE.
 4. APPROXIMATE LOCATION OF WATERS EDGE IS DURING A WEST POINT BASE FLOW OF 670 CFS.
 5. THE SURVEYORS CERTIFICATION EXTEND ONLY TO THE TOPOGRAPHICAL ASPECTS AND THAT THE TOPOGRAPHICAL SURVEY DOES NOT CONSTITUTE A BOUNDARY SURVEY. THIS PLAN IS NOT TO BE RECORDED OR USED TO CONVEY PROPERTY. PARCEL BOUNDARIES ARE FROM PUBLIC SOURCES, NOT A BOUNDARY SURVEY.



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A	90% DESIGN	08-03-22	JCH	TAK

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CROW HOP (FERC PROJECT NO. 2350)
DAM DECOMMISSIONING

EXISTING CONDITIONS (AERIAL)

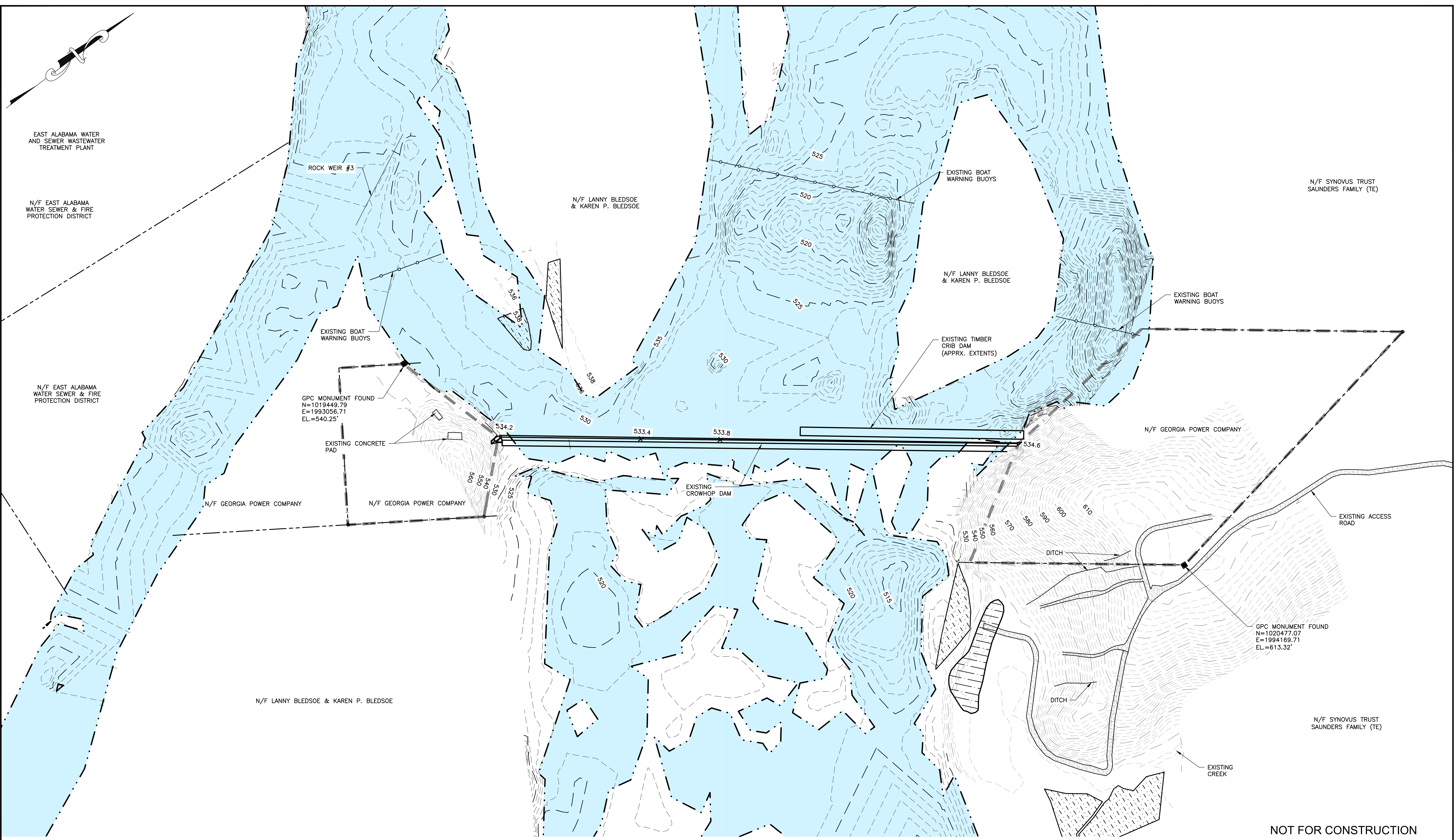
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Project No.	Date Revised	Drawing No.
534-039	08-03-22	C-200-01

Designed	Drawn	Checked
TAK	BJL	TAK

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PLAN

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LEGEND	
EXISTING CONTOURS	--- XXX ---
PROPERTY LINE	---
SENSITIVE RESOURCE AREA	///
FERC PROJECT BOUNDARY	---
EXISTING ACCESS ROAD	---
APPROXIMATE LOCATION OF WATERS EDGE	---
EXISTING WETLAND (2020 SURVEY)	///

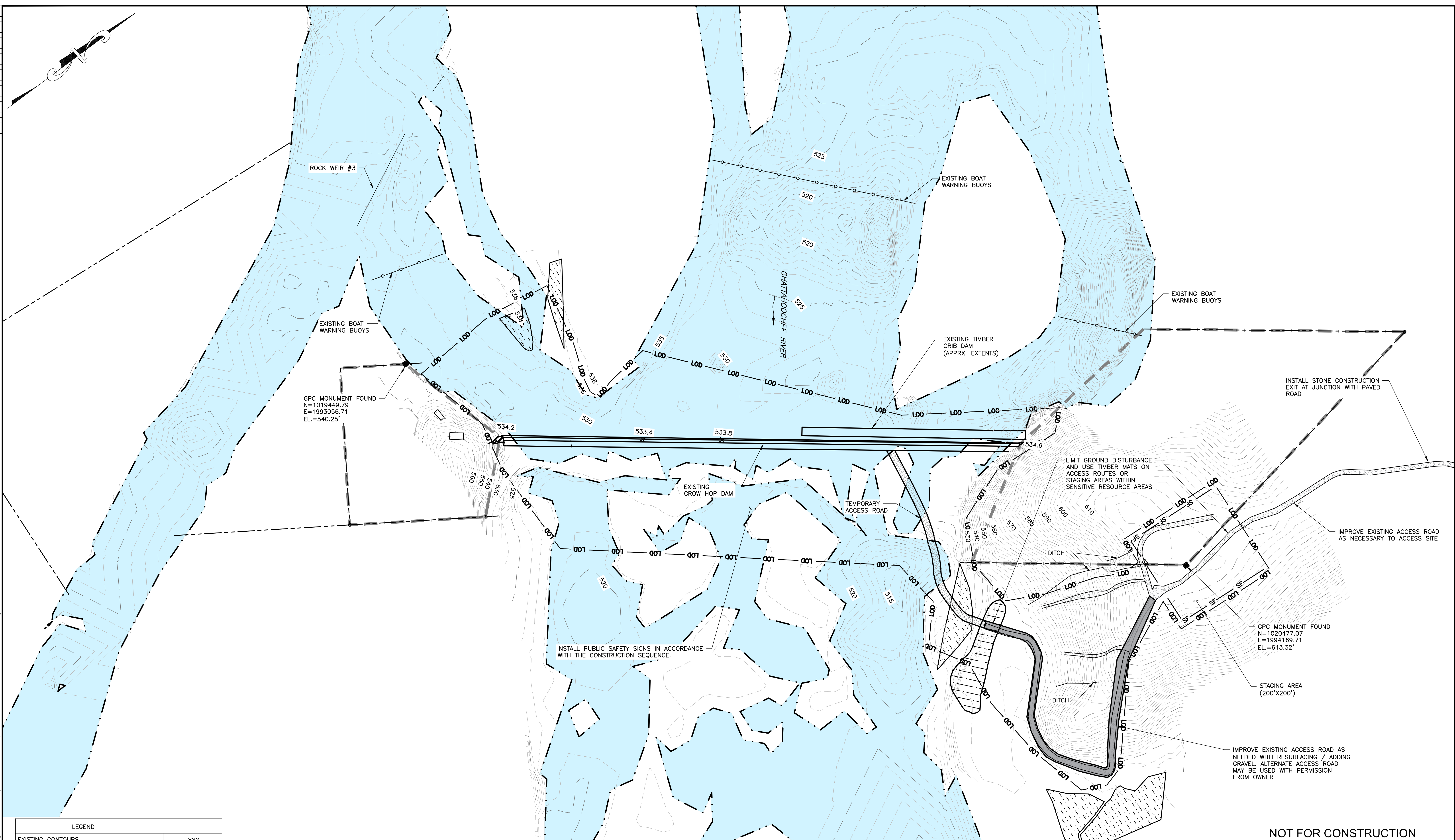
- NOTES:
1. PROJECT HORIZONTAL DATUM: NAD83; PROJECT VERTICAL DATUM: NAVD88.
 2. DIFFERING SURVEY METHODOLOGIES ABOVE AND BELOW THE WATERS EDGE MAY RESULT IN ELEVATION DISCREPANCIES AT THE EXISTING EDGE OF WATER. CONTRACTOR TO FIELD VERIFY CRITICAL ELEVATIONS PRIOR TO STARTING CONSTRUCTION.
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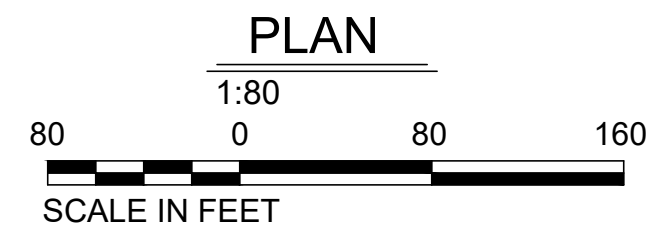
GEORGIA POWER COMPANY ATLANTA, GEORGIA.	
CROW HOP (FERC PROJECT NO. 2350) DAM DECOMMISSIONING	
EXISTING CONDITIONS (NO-AERIAL)	
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No.	Revision
A	90% DESIGN
	Date
	Drawn
	Checked
Designed	Drawn
TAK	BJL
Checked	TAK
Project No.	Date Revised
534-039	08-03-22
Drawing No.	C-200-02

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LEGEND	
EXISTING CONTOURS	--- XXX ---
PROPERTY LINE	-----
SENSITIVE RESOURCE AREA	
FERC PROJECT BOUNDARY	-----
LIMIT OF DISTURBANCE	--- LOD ---
GA DOT TYPE C SEDIMENT BARRIER	--- SF ---
EXISTING ACCESS ROAD	-----
TEMPORARY ACCESS ROAD	-----
APPROXIMATE LOCATION OF WATERS EDGE	-----
EXISTING WETLAND (2020 SURVEY)	



NOTES:
 1. THIS PROJECT IS PROPOSED TO WORK DIRECTLY IN THE RIVER TO LIMIT THE IMPACTS OF DEWATERING A PORTION OF THE RIVER BED BY INSTALLING A COFFERDAM. THIS WILL ALSO REDUCE THE DURATION OF THE CONSTRUCTION PROJECT OVERALL.

No.	Revision	Date	Drawn	Checked
A	90% DESIGN	08-03-22	JCH	TAK
			Designed	Drawn
			TAK	BJL
			Checked	TAK

NOT FOR CONSTRUCTION

GEORGIA POWER COMPANY
ATLANTA, GEORGIA.

CROW HOP (FERC PROJECT NO. 2350)
DAM DECOMMISSIONING

CROW HOP
TEMPORARY CONDITIONS

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Project No.	Date Revised	Drawing No.
534-039	08-03-22	C-210-01

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EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN

- THIS PLAN HAS BEEN DEVELOPED TO PROVIDE A STRATEGY FOR CONTROLLING SOIL EROSION AND SEDIMENTATION DURING AND AFTER CONSTRUCTION OF THE PROPOSED DEVELOPMENT. THIS PLAN IS BASED ON THE ALABAMA HANDBOOK FOR EROSION CONTROL, SEDIMENT CONTROL AND STORMWATER MANAGEMENT ON CONSTRUCTION SITES AND URBAN AREAS (2018 EDITION) AND MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA (2016 EDITION).
- AT NO TIME SHALL UPLAND SEDIMENT BE PERMITTED TO LEAVE THE SITE.
- WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT
- ALL POLLUTION CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
- ALL SOIL OR STONE WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE WILL BE REMOVED IMMEDIATELY BY THE CONTRACTOR.
- ALL WORK SHALL BE PERFORMED WITHIN THE LIMIT OF DISTURBANCE THAT HAS BEEN MARKED IN THE FIELD BY THE CONTRACTOR.
- NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION OR WITHIN 25-FOOT OF THE COASTAL MARSHLAND BUFFER AS MEASURED FROM THE JURISDICTIONAL DETERMINATION LINE WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.
- AMENDMENTS/REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMPS WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.
- EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE."
- KEY ACTIONS:
 - DELINEATE/MARK SOIL DISTURBANCE LIMITS
 - INSTALL SEDIMENT BARRIERS BEFORE DISTURBING ANY SOILS
 - INSTALL A STABILIZED CONSTRUCTION ENTRANCE BEFORE ANY HAUL TO OR FROM THE SITE
 - DIVERT AND DISPERSE STORM RUNOFF TO UNDISTURBED AREAS WHEREVER POSSIBLE
 - MULCH DISTURBED AREAS
 - PROTECT SLOPES
 - INSPECT AND REPAIR EROSION CONTROLS AND SEDIMENT BARRIERS

GENERAL CONSTRUCTION NOTES

- DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE ALL REASONABLE MEASURES TO SCHEDULE EARTHWORK OPERATIONS SUCH THAT THE AREA OF EXPOSED AND DISTURBED SOIL IS MINIMIZED. CONSTRUCTION SHALL BE PHASED TO REDUCE THE AREA OF DISTURBED SOIL AT ANY ONE TIME. UPGRADIENT STORM WATER DIVERSION AND DISPERSION MEASURES SHALL BE INSTALLED WHERE APPROPRIATE. AFTER ACHIEVING ROUGH GRADE OF A PORTION OF THE SITE AND PRIOR TO EXTENDING EARTHWORK OPERATIONS, THE CONTRACTOR SHALL STABILIZE DISTURBED AREAS BY TEMPORARY MULCHING UNTIL FINAL GRADE IS REACHED. ALL CUT AND FILL SLOPES SHALL BE STABILIZED UPON COMPLETION. THE FOLLOWING MEASURES SHALL BE UNDERTAKEN TO PROVIDE PROTECTION TO THE SOIL, WATER, AND ADJUTING LANDS.
- PRIOR TO GRUBBING OR ANY EARTH MOVING OPERATION, SILTATION FENCE OR SEDIMENT BARRIER SHALL BE INSTALLED ACROSS THE SLOPE ON THE CONTOUR AT THE DOWNHILL LIMIT OF THE WORK AS PROTECTION AGAINST CONSTRUCTION RELATED EROSION. INSTALL ALL NECESSARY STORMWATER DIVERSIONS AND DISPERSION MEASURES.
- EROSION CONTROL BLANKET (ECSC-2B, OR EQUIVALENT) SHALL BE INSTALLED IN ALL DRAINAGE SWALES AND DITCHES. ALL SLOPES STEEPER THAN 3:1 SHALL BE COVERED WITH EROSION CONTROL BLANKET TO PREVENT EROSION DURING CONSTRUCTION AND TO FACILITATE REVEGETATION AFTER TOPSOILING AND SEEDING.
- PERMANENT SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN FOURTEEN CALENDAR DAYS AFTER FINAL GRADING HAS BEEN COMPLETED. WHEN IT IS NOT POSSIBLE OR PRACTICAL TO PERMANENTLY STABILIZE DISTURBED LAND, TEMPORARY EROSION CONTROL MEASURES SHALL BE EMPLOYED TO PROTECT DISTURBED AREAS INCLUDING STOCKPILES WITHIN FOURTEEN CALENDAR DAYS OF EXPOSURE, OR FORMATION OF STOCKPILES (SEVEN DAYS ON AREAS ADJACENT TO WETLANDS) UNLESS THESE AREAS ARE TO BE SUBSEQUENTLY SURFACED. ALL DISTURBED AREAS SHALL BE MULCHED FOR EROSION CONTROL UPON COMPLETION OF ROUGH GRADING.
- PUMPED DISCHARGE FROM CONSTRUCTION DEWATERING OPERATIONS, SHALL BE DIRECTED TO SEDIMENT CONTROL DEVICES ADJACENT TO THE ACTIVITY. SEDIMENT CONTROL DEVICES SHALL BE TEMPORARY FACILITIES SUCH AS DIRTBAGS, OR OTHER SIMILAR DEVICES THAT DO NOT REQUIRE ADDITIONAL SOIL DISTURBANCE. ADDITIONAL SEDIMENTATION PROTECTION SHALL BE PROVIDED BY THE INSTALLATION OF STRAW BALE BARRIERS BETWEEN THE CONTROL DEVICES AND ANY RECEIVING DRAINAGE COURSE.
- NATIVE TOPSOIL OR EROSION CONTROL MIX SEDIMENT BERM SHALL BE SAVED, STOCKPILED, MULCHED, AND REUSED AS MUCH AS POSSIBLE ON THE SITE. SILTATION FENCE SHALL BE INSTALLED AT THE BASE OF STOCKPILES AT THE DOWNHILL LIMIT TO PROTECT AGAINST EROSION. STOCKPILES SHALL BE STABILIZED BY SEEDING AND MULCHING UPON FORMATION OF THE PILES. UPGRADIENT OF THE STOCKPILES, STABILIZED DITCHES AND/OR BERMS SHALL BE CONSTRUCTED TO DIVERT STORMWATER RUNOFF AWAY FROM THE PILES.
- ALL SILTATION FENCE, EROSION CONTROL MIX SEDIMENT BARRIER, AND STRAW BALE BARRIERS SHALL BE INSPECTED BY THE CONTRACTOR ON A WEEKLY BASIS OR WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.5 INCHES OR GREATER. ALL DAMAGED EROSION CONTROL DEVICES SHALL BE REPAIRED OR REPLACED IMMEDIATELY. TRAPPED SEDIMENT SHALL BE REMOVED BEFORE IT HAS ACCUMULATED HALF OF THE SILTATION BARRIER HEIGHT. DEVICES NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION SHALL ALSO BE REPAIRED OR REPLACED AS REQUIRED.
- IF FINAL SEEDING OF THE DISTURBED AREAS IS NOT COMPLETED BY OCTOBER 15 OF THE YEAR OF CONSTRUCTION OR TO NOT BE SEEDED BEFORE SPRING, THEN WITHIN THE NEXT 10 CALENDAR DAYS THESE AREAS SHALL BE GRADED AND SMOOTHED, THEN SEEDED TO A WINTER COVER CROP OF WINTER RYE AT A RATE OF 3 LBS. PER 1,000 SQ. FT. THE FOLLOWING SHALL BE INCORPORATED INTO THE SOIL PRIOR TO WINTER RYE SEEDING: GROUND LIMESTONE AT A RATE OF 100 LBS. PER 1,000 SQ. FT., FOLLOWED BY A 10-10-10 FERTILIZER AT A RATE OF 14 LBS. PER 1,000 SQ. FT. STRAW MULCH SHALL BE APPLIED AT A RATE OF 100 LBS. PER 1,000 SQ. FT. FOLLOWING SEEDING. IF THE WINTER RYE SEEDING CANNOT BE COMPLETED BY NOVEMBER 1, THEN ON THAT DATE STRAW MULCH SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE TO PROVIDE WINTER PROTECTION. IF THE WINTER RYE DOES NOT SHOW ADEQUATE GROWTH BY DECEMBER 5, THEN ADDITIONAL STRAW MULCH SHALL BE APPLIED AT THE RATE OF 100 LBS. PER 1,000 SQ. FT. A SUITABLE BINDER SUCH AS CURASOL OR RMB PLUS SHALL BE USED ON STRAW MULCH FOR WIND CONTROL.
- INTERCEPTED SEDIMENT SHALL BE REMOVED AND SHALL BE DEPOSITED TO AN AREA THAT SHALL NOT CONTRIBUTE TO SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.

DUST CONTROL

- IF DUSTY CONDITIONS OCCUR ON-SITE AS A RESULT OF INCREASED VEHICULAR TRAFFIC DURING DRY CONDITIONS, DUST CONTROL MEASURES SHALL BE IMPLEMENTED.
- WATER: WATER SHOULD BE APPLIED AT A RATE SUFFICIENT ENOUGH TO MOISTEN EXPOSED SOIL TO PREVENT DUST TRANSPORT BUT NOT AT A RATE THAT PRODUCES ANY AMOUNT OF SILT-LADEN RUNOFF OR MUDDY POOLS IN THE TRAVEL WAY.
- STONE: REPLACE MATERIAL AS VOIDS IN STONE BECOME FILLED AND TRACKING OCCURS.

MONITORING PROGRAM

- THE DESIGN PROFESSIONAL WHO PREPARED THE ES&PC PLAN IS TO INSPECT THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMPS WITHIN 7 DAYS AFTER INSTALLATION.
- SEDIMENTATION AND EROSION CONTROL STRUCTURES SHALL BE INSPECTED CONTINUALLY BY THE CONTRACTOR AND ALL STRUCTURES DAMAGED BY CONSTRUCTION EQUIPMENT, VANDALS, OR THE ELEMENTS SHALL BE REPAIRED IMMEDIATELY. FOLLOWING RAINSTORMS AND DURING RUNOFF EVENTS, THE SITE AND ALL STRUCTURES SHALL BE INSPECTED FOR EROSION AND DAMAGE. ALL DAMAGED STRUCTURES SHALL BE REPAIRED AND/OR ADDITIONAL EROSION CONTROL STRUCTURES SHALL BE INSTALLED PRIOR TO CONTINUING THE CONSTRUCTION.
- FOLLOWING THE FINAL SEEDING, THE SITE SHALL BE INSPECTED TO ENSURE THAT THE VEGETATION HAS BEEN ESTABLISHED. IN THE EVENT OF ANY UNSATISFACTORY GROWTH, RESEEDING SHALL BE CARRIED OUT, WITH FOLLOW-UP INSPECTION.

- AFTER THE CONSTRUCTION INSPECTOR HAS DETERMINED THAT THE PROJECT AREA HAS STABILIZED, THE CONTRACTOR SHALL REMOVE ALL TEMPORARY SEDIMENTATION BARRIERS CONTROL RISERS, AND ANY OTHER TEMPORARY EROSION CONTROL MEASURES.

PERMANENT SEEDING

- PROVIDE VEGETATIVE PLAN, NOTING ALL TEMPORARY AND PERMANENT VEGETATIVE PRACTICES. INCLUDE SPECIES, PLANTING DATES AND SEEDING, FERTILIZER, LIME AND MULCHING RATES. VEGETATIVE PLAN SHALL BE SITE SPECIFIC FOR APPROPRIATE TIME OF YEAR THAT SEEDING WILL TAKE PLACE AND FOR THE APPROPRIATE GEOGRAPHIC REGION OF GEORGIA.
- ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING."
- UPON COMPLETION OF SITE CONSTRUCTION, ALL AREAS PREVIOUSLY DISTURBED SHALL BE TREATED AS STATED BELOW. THESE AREAS SHALL BE CLOSELY MONITORED BY THE CONTRACTOR UNTIL SUCH TIME AS A SATISFACTORY GROWTH OF VEGETATION IS ESTABLISHED. SATISFACTORY GROWTH SHALL MEAN A MINIMUM OF 80% OF THE AREA IS VEGETATED WITH VIGOROUS GROWTH. TOPSOIL SHALL BE SPREAD OVER ALL DISTURBED AREAS AND GRADED TO A UNIFORM DEPTH OF FOUR (4") INCHES.
- THE TOPSOIL TO BE USED FOR LOAM SHALL BE TESTED BY A CERTIFIED TESTING LABORATORY TO DETERMINE THE SOIL AMENDMENTS THAT ARE REQUIRED FOR HEALTHY GRASS GROWTH. UPON COMPLETION OF THE TESTS, SUBMIT THE LABORATORIES RECOMMENDATIONS TO THE INSPECTOR FOR APPROVAL PRIOR TO PLACING THE TOPSOIL.
- SEEDING SHALL BE COMPLETED BETWEEN THE DATES OF MARCH 1 AND MAY 31 OR SEPTEMBER 1 TO OCTOBER 15. IF SEEDING NEEDS TO OCCUR OUTSIDE OF THESE SEASONS WATERING AND ADDITIONAL MULCH MAY BE REQUIRED. A LATE FALL/EARLY WINTER DORMANT SEEDING (NOVEMBER 1 - DECEMBER 15) CAN ALSO BE MADE, HOWEVER THE SEEDING RATE WILL NEED TO BE INCREASED BY 50%.
- STRAW MULCH SHALL BE APPLIED AT THE RATE OF 100 LBS. PER 1,000 SQ. FT. FOR SMALL AREAS OF 2 TONS/ACRE FOR LARGER AREAS. FOLLOWING SEEDING, MULCH SHALL BE ANCHORED BY WATERING OR USING ANCHORING EMULSION OR TRACKING BY BULLDOZER ON AREAS OF MODERATE SLOPES. AN ALTERNATE TO STRAW MULCH IS THE USE OF NAG S150BN (SLOPES <3:1) AND NAG SC150BN (SLOPES >3:1) EROSION CONTROL MATTING (OR AN APPROVED EQUIVALENT), STAKED PER THE MANUFACTURERS GUIDELINES.
- ALL SEDIMENT CONTROL STRUCTURES SHALL REMAIN IN PLACE UNTIL SATISFACTORY VEGETATION GROWTH IS ESTABLISHED. DISTURBED AREAS SHALL BE SEEDED WITH THE FOLLOWING MIXTURE:
 - WARM SEASON SLOPEMASTER SEED MIXTURE: 50 LB/ACRE, 1.15 LBS/1000SQFT
 - COOL SEASON SLOPEMASTER SEED MIXTURE: 100 LBS/ACRE, 2.25 LBS/1000SQFT
- REFER TO SHEET R-700-01 FOR SEED MIXES AND PLANTING AREAS.

NOT FOR CONSTRUCTION

GEORGIA POWER COMPANY
ATLANTA, GEORGIA.
CROW HOP (FERC PROJECT NO. 2350)
DAM DECOMMISSIONING

EROSION & SEDIMENT CONTROL NOTES

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No.	Revision	Date	Drawn	Checked
A	90% DESIGN	08-03-22	JCH	TAK
			Designed	Drawn
			TAK	BJL
			Checked	TAK
Project No.	Date Revised	Drawing No.		
534-039	08-03-22	C-210-02		

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CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Cd	CHECKDAM			A small temporary barrier or dam constructed across a swale, drainage ditch or area of concentrated flow.
Ch	CHANNEL STABILIZATION			Improving, constructing or stabilizing an open channel, existing stream, or ditch.
Co	CONSTRUCTION EXIT			A crushed stone pad located at the construction site exit to provide a place for removing mud from tires thereby protecting public streets.
Cr	CONSTRUCTION ROAD STABILIZATION			A travelway constructed as part of a construction plan including access roads, subdivision roads, parking areas and other on-site vehicle transportation routes.
Dc	STREAM DIVERSION CHANNEL			A temporary channel constructed to convey flow around a construction site while a permanent structure is being constructed.
Di	DIVERSION			An earth channel or dike located above, below or across a slope to divert runoff. This may be a temporary or permanent structure.
Dn1	TEMPORARY DOWNDRAIN STRUCTURE			A flexible conduit of heavy-duty fabric or other material designed to safely conduct surface runoff down a slope. This is temporary and inexpensive.
Dn2	PERMANENT DOWNDRAIN STRUCTURE			A paved chute, pipe, sectional conduit or similar material designed to safely conduct surface runoff down a slope.
Fr	FILTER RING			A temporary stone barrier constructed at storm drain inlets and pond outlets.
Ga	GABION			Rock filter baskets which are hand-placed into position forming soil stabilizing structures.
Gr	GRADE STABILIZATION STRUCTURE			Permanent structures installed to protect channels or waterways where otherwise the slope would be sufficient for the running water to form gullies.
Lv	LEVEL SPREADER			A structure to convert concentrated flow of water into less erosive sheet flow. This should be constructed only on undisturbed soils.
Rd	ROCK FILTER DAM			A permanent or temporary stone filter dam installed across small streams or drainageways.
Re	RETAINING WALL			A wall installed to stabilize cut and fill slopes where maximum permissible slopes are not obtainable. Each situation will require special design.
Rt	RETRO FITTING			A device or structure placed in front of a permanent stormwater detention pond outlet structure to serve as a temporary sediment filter.
Sd1	SEDIMENT BARRIER			A barrier to prevent sediment from leaving the construction site. It may be sandbags, bales of straw or hay, brush, logs and poles, gravel, or a silt fence.
Sd2	INLET SEDIMENT TRAP			An impounding area created by excavating around a storm drain inlet. The excavated area will be filled and stabilized on completion of construction activities.
Sd3	TEMPORARY SEDIMENT BASIN			A basin created by excavation or a dam across a waterway. The surface water runoff is temporarily stored allowing the bulk of the sediment to drop out.
Sd4	TEMPORARY SEDIMENT TRAP			A small temporary pond that drains a disturbed area so that sediment can settle out. The principle feature distinguishing a temporary sediment trap from a temporary sediment basin is the lack of a pipe or riser.
Sk	FLOATING SURFACE SKIMMER			A buoyant device that releases/drains water from the surface of sediment ponds, traps, or basins at a controlled rate of flow.
Spb	SEEP BERM			Linear control device constructed as a diversion perpendicular to the direction of runoff to enhance dissipation and infiltration, while creating multiple sedimentation chambers with the employment of intermediate dikes.

STRUCTURAL PRACTICES

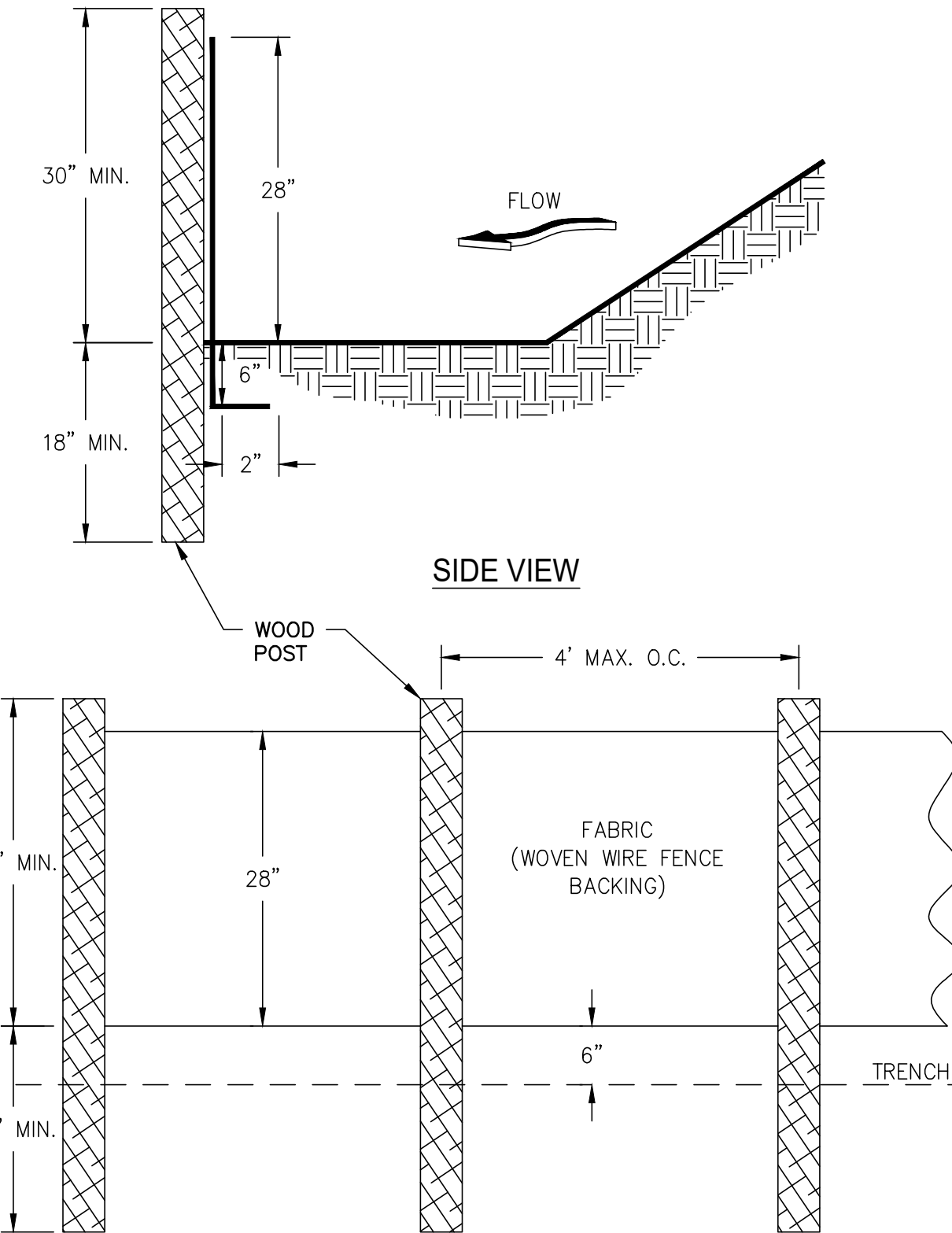
CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Sr	TEMPORARY STREAM CROSSING			A temporary bridge or culvert-type structure protecting a stream or watercourse from damage by crossing construction equipment.
St	STORMDRAIN OUTLET PROTECTION			A paved or short section of riprap channel at the outlet of a storm drain system preventing erosion from the concentrated runoff.
Su	SURFACE ROUGHENING			A rough soil surface with horizontal depressions on a contour or slopes left in a roughened condition after grading.
Tc	TURBIDITY CURTAIN			A floating or staked barrier installed within the water (it may also be referred to as a floating boom, silt barrier, or silt curtain).
Tp	TOPSOILING			The practice of stripping off the more fertile soil, storing it, then spreading it over the disturbed area after completion of construction activities.
Tr	TREE PROTECTION			To protect desirable trees from injury during construction activity.
Wt	VEGETATED WATERWAY OR STORMWATER CONVEYANCE CHANNEL			Paved or vegetative water outlets for diversions, terraces, berms, dikes or similar structures.

STRUCTURAL PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Bf	BUFFER ZONE			Strip of undisturbed original vegetation, enhanced or restored existing vegetation or the reestablishment of vegetation surrounding an area of disturbance or bordering streams.
Cs	COASTAL DUNE STABILIZATION (WITH VEGETATION)			Planting vegetation on dunes that are denuded artificially constructed, or re-nourished.
Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)			Establishing temporary protection for disturbed areas where seedlings may not have a suitable growing season to produce an erosion retarding cover.
Ds2	DISTURBED AREA STABILIZATION (WITH TEMP SEEDING)			Establishing a temporary vegetative cover with fast growing seedlings on disturbed areas.
Ds3	DISTURBED AREA STABILIZATION (WITH PERM SEEDING)			Establishing a permanent vegetative cover such as trees, shrubs, vines, grasses, or legumes on disturbed areas.
Ds4	DISTURBED AREA STABILIZATION (SOODING)			A permanent vegetative cover using sods on highly erodable or critically eroded lands.
Du	DUST CONTROL ON DISTURBED AREAS			Controlling surface and air movement of dust on construction site, roadways and similar sites.
Fl-Co	FLOCCULANTS AND COAGULANTS			Substance formulated to assist in the solids/liquid separation of suspended particles in solution.
Sb	STREAMBANK STABILIZATION (USING PERM VEGETATION)			The use of readily available native plant materials to maintain and enhance streambanks, or to prevent, or restore and repair small streambank erosion problems.
Ss	SLOPE STABILIZATION			A protective covering used to prevent erosion and establish temporary or permanent vegetation on steep slopes, shore lines, or channels.
Tac	TACKIFIERS AND BINDERS			Substance used to anchor straw or hay mulch by causing the organic material to bind together.

VEGETATIVE PRACTICES

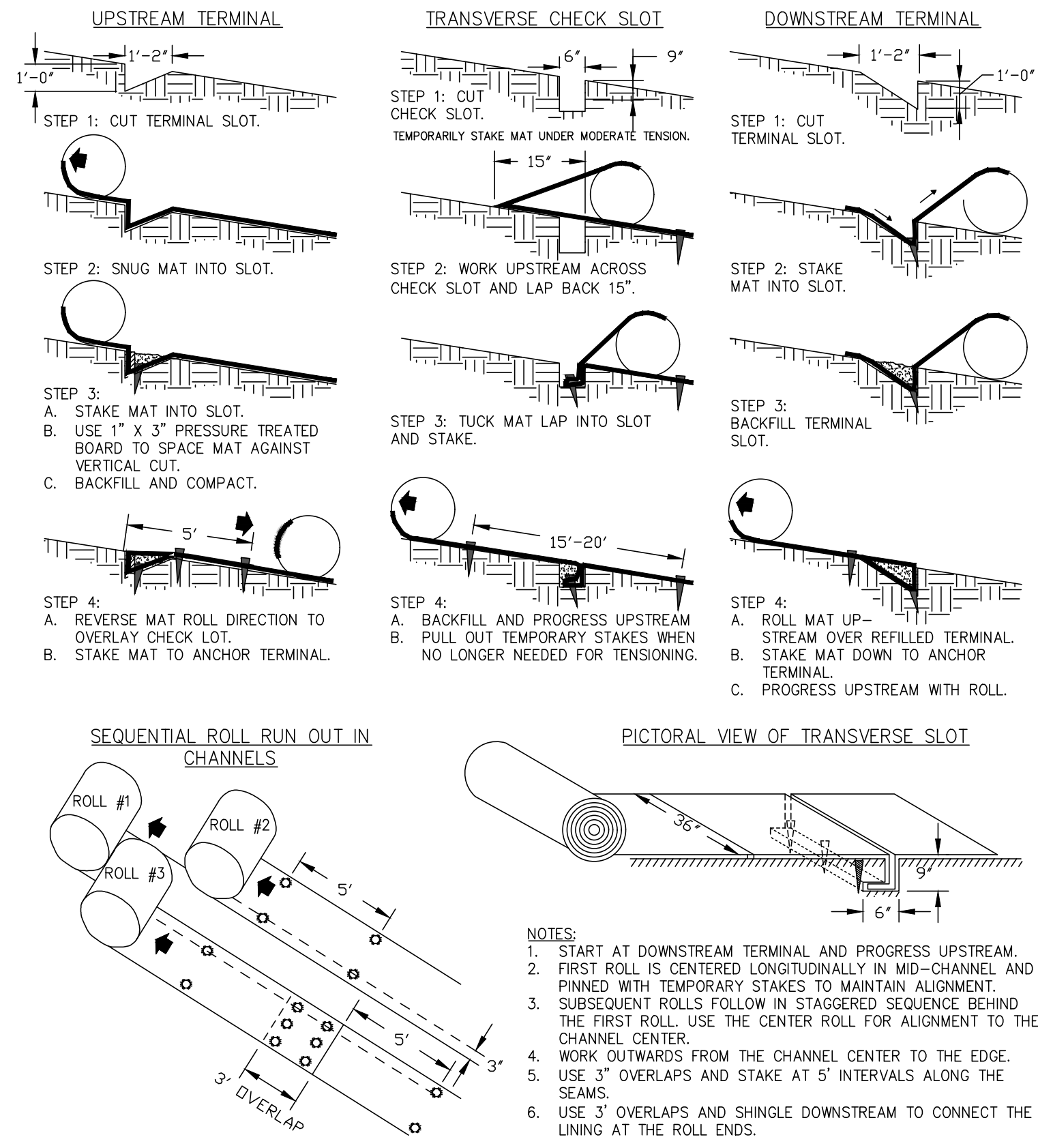
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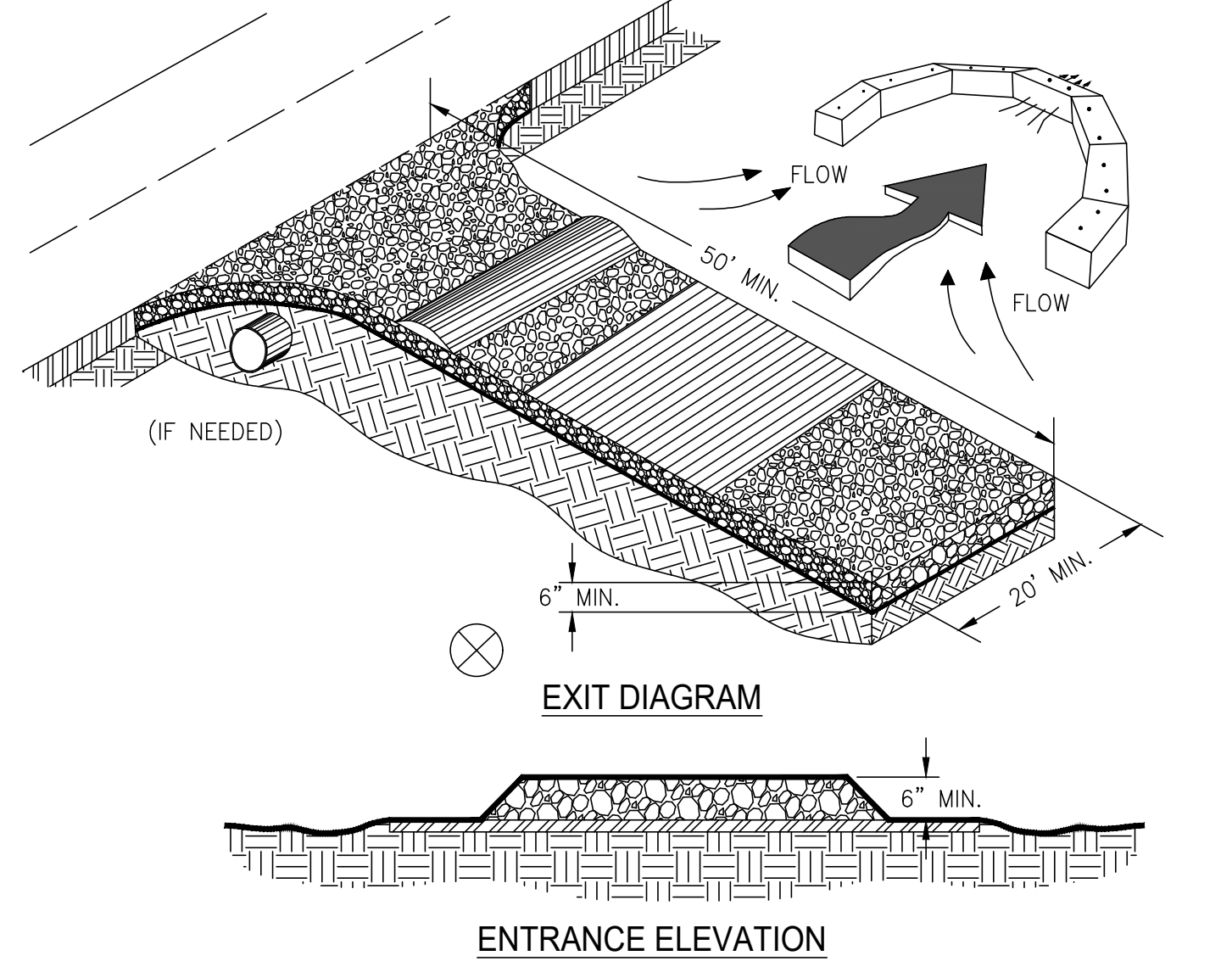
SILT FENCE - TYPE SENSITIVE

DETAIL FROM GEORGIA SOIL AND WATER CONSERVATION COMMISSION

- NOTES:
 1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
 2. HEIGHT (*) IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.



- NOTES:
 1. START AT DOWNSTREAM TERMINAL AND PROGRESS UPSTREAM.
 2. FIRST ROLL IS CENTERED LONGITUDINALLY IN MID-CHANNEL AND PINNED WITH TEMPORARY STAKES TO MAINTAIN ALIGNMENT.
 3. SUCCESSIVE ROLLS FOLLOW IN STAGGERED SEQUENCE BEHIND THE FIRST ROLL. USE THE CENTER ROLL FOR ALIGNMENT TO THE CHANNEL CENTER.
 4. WORK OUTWARDS FROM THE CHANNEL CENTER TO THE EDGE.
 5. USE 3" OVERLAPS AND STAKE AT 5' INTERVALS ALONG THE SEAMS.
 6. USE 3" OVERLAPS AND SHINGLE DOWNSTREAM TO CONNECT THE LINING AT THE ROLL ENDS.



- NOTES:
 1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
 2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
 3. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5"-3.5" STONE).
 4. GRAVEL PAD SHALL HAVE A MINIMUM THICKNESS OF 6".
 5. PAD WIDTH SHALL BE EQUAL FULL WIDTH AT ALL POINTS OF VEHICULAR EGRESS, BUT NO LESS THAN 20'.
 6. A DIVERSION RIDGE SHOULD BE CONSTRUCTED WHEN GRADE TOWARD PAVED AREA IS GREATER THAN 2%.
 7. INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES.
 8. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN (DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE).
 9. WASHRACKS AND/OR TIRE WASHERS MAY BE REQUIRED DEPENDING ON SCALE AND CIRCUMSTANCE. IF NECESSARY, WASHRACK DESIGN MAY CONSIST OF ANY MATERIAL SUITABLE FOR TRUCK TRAFFIC THAT REMOVE MUD AND DIRT.
 10. MAINTAIN AREA IN A WAY THAT PREVENTS TRACKING AND/OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

TYPICAL INSTALLATION GUIDELINES FOR ROLLED EROSION CONTROL PRODUCTS (RECP) BLANKET AND MATTING CROSS-SECTIONS

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GEORGIA POWER COMPANY
 ATLANTA, GEORGIA.

CROW HOP (FERC PROJECT NO. 2350)
 DAM DECOMMISSIONING

EROSION & SEDIMENT CONTROL DETAILS

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Project No. 534-039
 Date Revised 08-03-22
 Drawing No. C-210-03

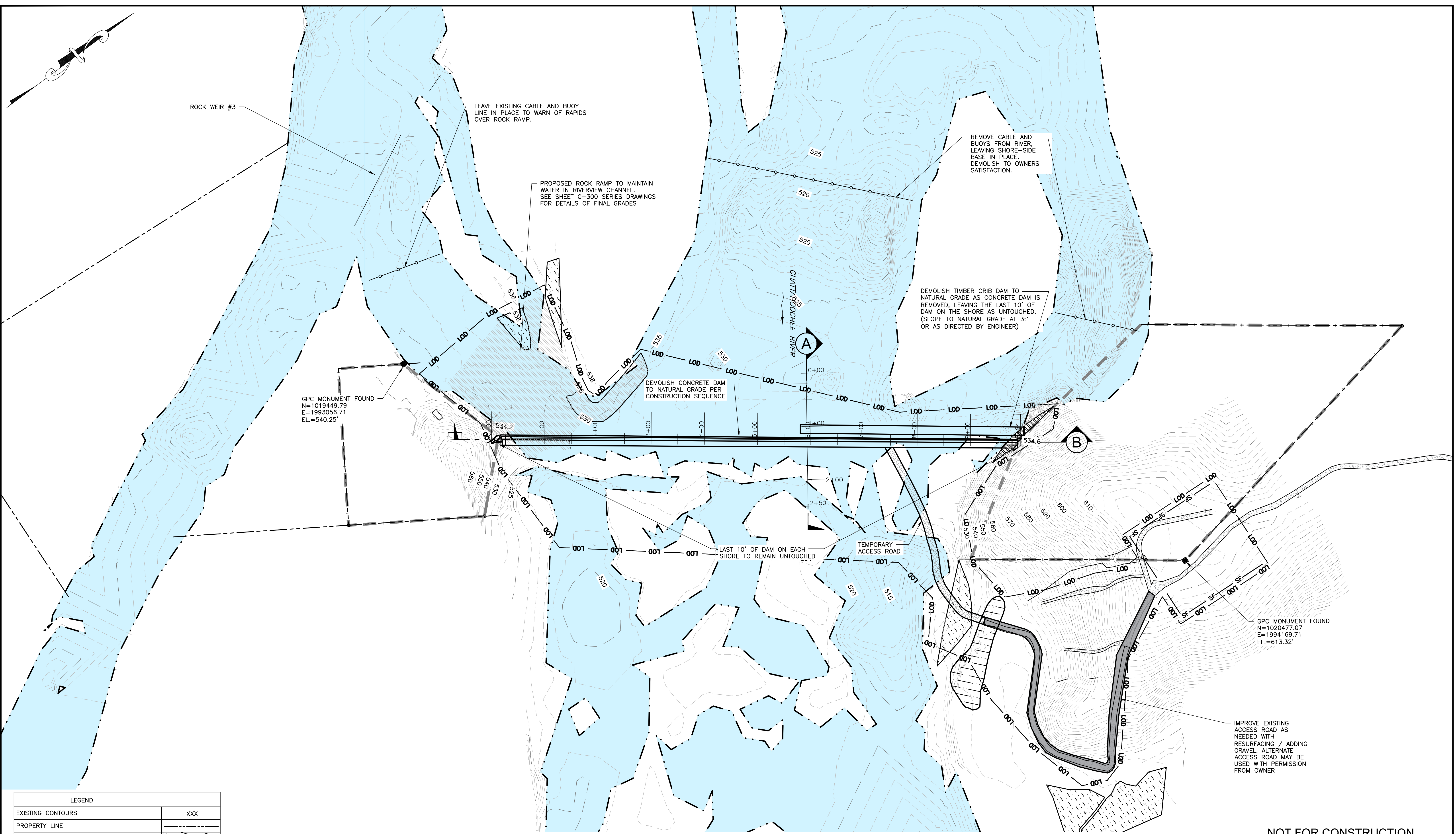
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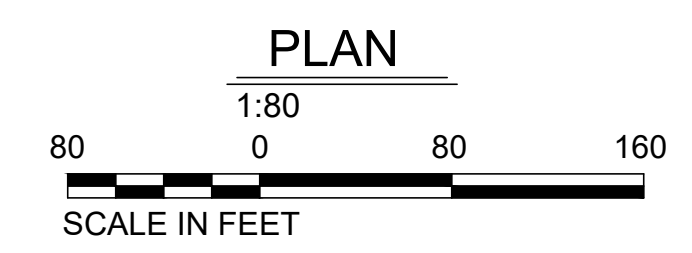
24x36 = FULL SCALE

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LEGEND	
EXISTING CONTOURS	--- XXX ---
PROPERTY LINE	-----
SENSITIVE RESOURCE AREA	
FERC PROJECT BOUNDARY	-----
DEMOLITION	
LIMIT OF DISTURBANCE	--- LOD ---
GA DOT TYPE C SEDIMENT BARRIER	--- SF ---
EXISTING ACCESS ROAD	
FILL DISPOSAL AREA	
TEMPORARY ACCESS ROAD	
APPROXIMATE LOCATION OF WATERS EDGE	--- ---
EXISTING WETLAND (2020 SURVEY)	



- NOTES:
- PROJECT HORIZONTAL DATUM: NAD83; PROJECT VERTICAL DATUM: NAVD88.
 - DIFFERING SURVEY METHODOLOGIES ABOVE AND BELOW THE WATERS EDGE MAY RESULT IN ELEVATION DISCREPANCIES AT THE EXISTING EDGE OF WATER. CONTRACTOR TO FIELD VERIFY CRITICAL ELEVATIONS PRIOR TO STARTING CONSTRUCTION.
 - LOCATION AND EXTENT OF TIMBER CRIB DAM ARE BASED ON LIMITED FIELD OBSERVATIONS. ACTUAL LOCATION AND EXTENT MAY VARY FROM THAT SHOWN HERE.

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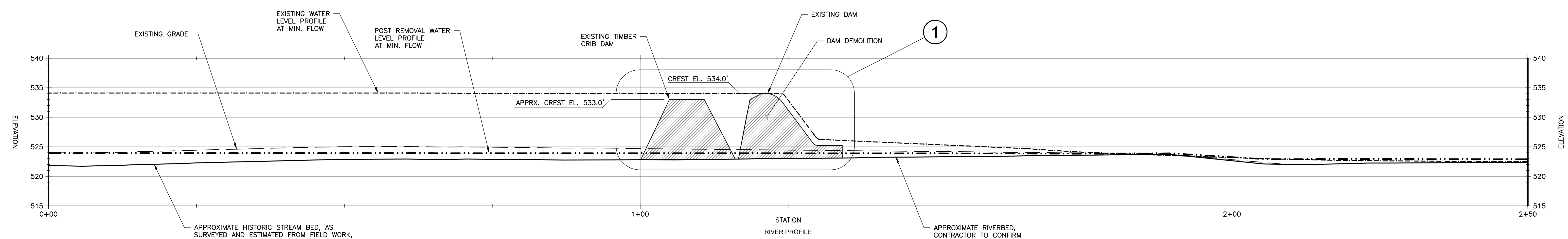
CROW HOP (FERC PROJECT NO. 2350)
DAM DECOMMISSIONING

CROW HOP
DEMOLITION PLAN

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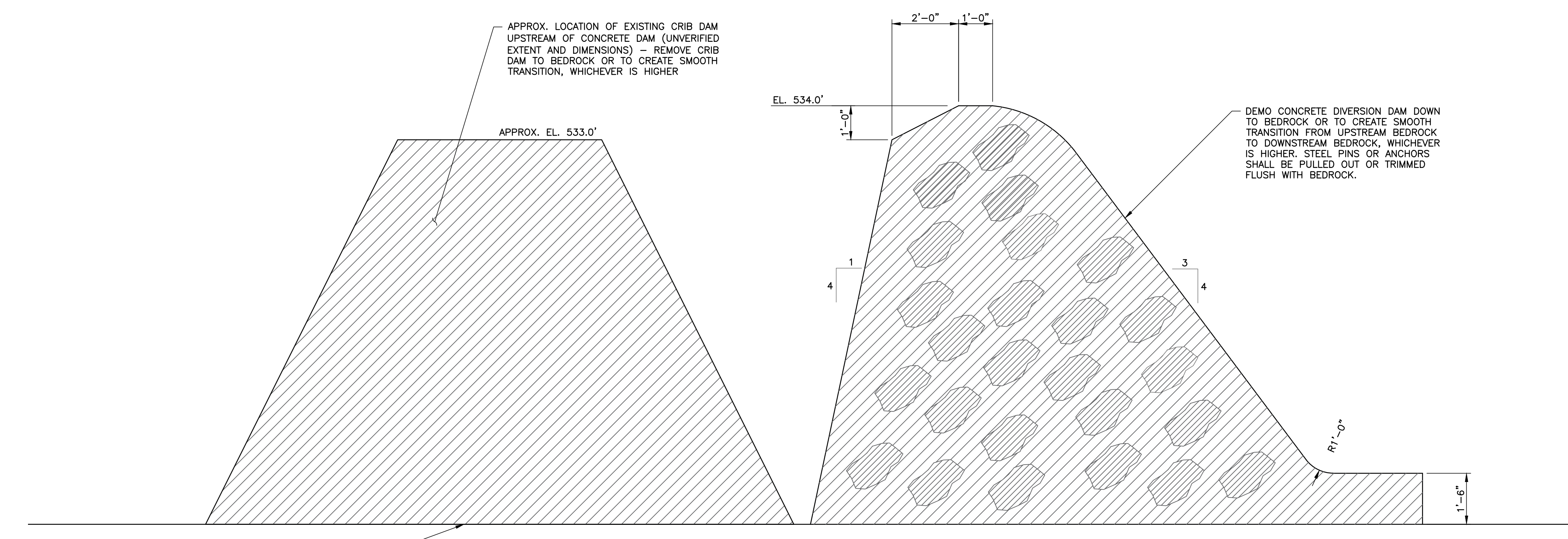
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534-039	08-03-22	C-220-01

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SECTION A
 1:8 STA. 0+2+41.50'
 8 0 8 16
 SCALE IN FEET

NOTE:
 LOCATION AND EXTENT OF TIMBER CRIB DAM ARE BASED ON LIMITED FIELD OBSERVATIONS. ACTUAL LOCATION AND EXTENT MAY VARY FROM THAT SHOWN HERE.



CROSS SECTION THRU DIVERSION DAM 1
 1:2
 2 0 2 4
 SCALE IN FEET

NOTE:
 SECTION THRU DIVERSION DAM IS BASED ON GEORGIA POWER COMPANY FERC DRAWING NO. 2350-6, TITLED: RIVERVIEW PROJECT; GENERAL ARRANGEMENT, PLAN; ELEVATION & SECTION, EXHIBIT F, DATED 10/28/1993

NOT FOR CONSTRUCTION

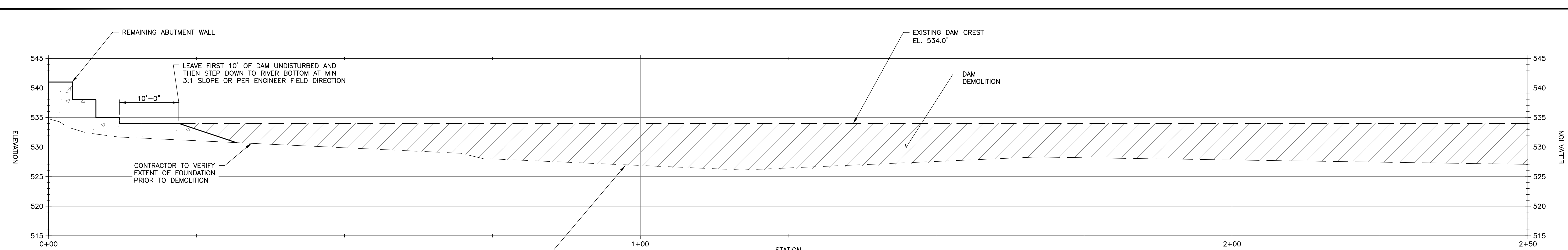
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 CROW HOP (FERC PROJECT NO. 2350)
 DAM DECOMMISSIONING
 CROW HOP
 DAM REMOVAL PROFILE

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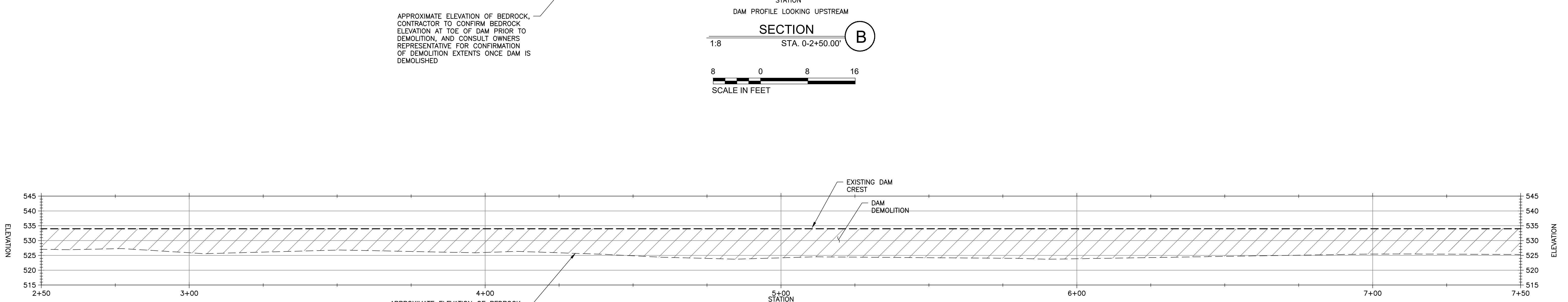
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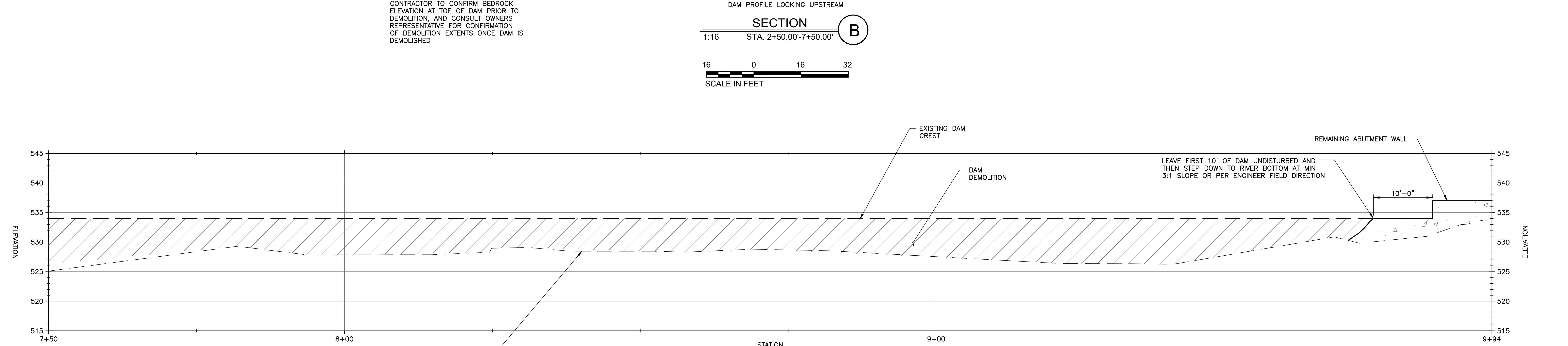


APPROXIMATE ELEVATION OF BEDROCK, CONTRACTOR TO CONFIRM BEDROCK ELEVATION AT TOE OF DAM PRIOR TO DEMOLITION, AND CONSULT OWNERS REPRESENTATIVE FOR CONFIRMATION OF DEMOLITION EXTENTS ONCE DAM IS DEMOLISHED

SECTION B
1:8
STA. 0+2+50.00'



SECTION B
1:16
STA. 2+50.00'-7+50.00'



APPROXIMATE ELEVATION OF BEDROCK, CONTRACTOR TO CONFIRM BEDROCK ELEVATION AT TOE OF DAM PRIOR TO DEMOLITION, AND CONSULT OWNERS REPRESENTATIVE FOR CONFIRMATION OF DEMOLITION EXTENTS ONCE DAM IS DEMOLISHED

SECTION B
1:8
STA. 7+50.00'-9+94.0'

NOTES:
1. DRAWINGS ON THIS SHEET ARE FROM DRAWINGS PROVIDED BY GEORGIA POWER COMPANY, Robert & Co. Assessments & Engineering, #11 416 D 9, DETAIL OF DIVERSION DAM AND ABUTMENTS, FEB. 14, 1921.
2. CONTRACTOR TO VERIFY ELEVATIONS AND GEOMETRY PRIOR TO CONSTRUCTION.

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ATLANTA, GEORGIA
CROW HOP (FERC PROJECT NO. 2350)
DAM DECOMMISSIONING
CROW HOP
DAM REMOVAL SECTION

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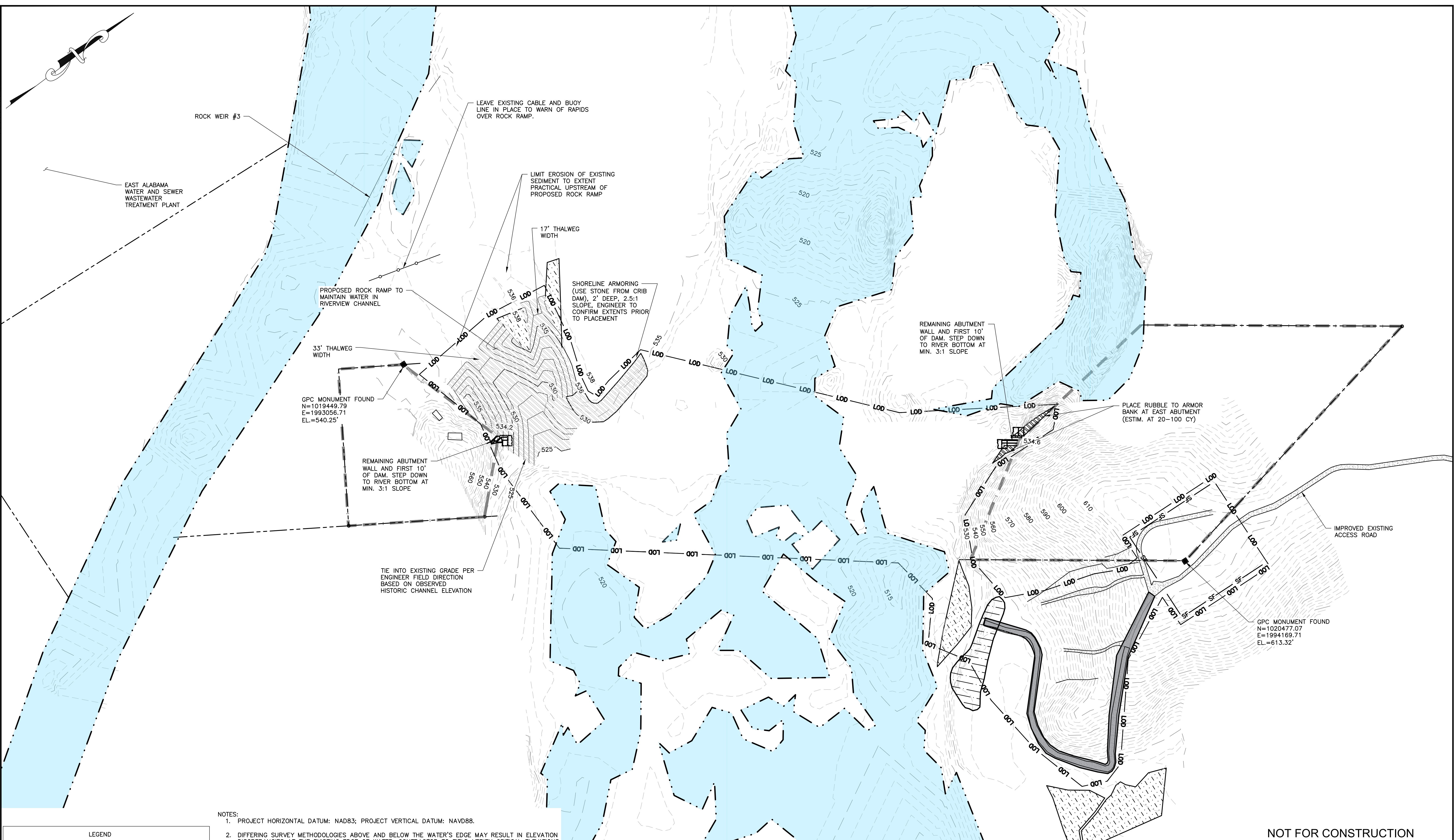
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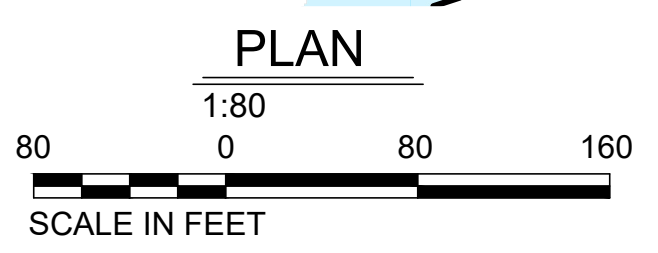
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0 1" 2" 3"

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- NOTES:
1. PROJECT HORIZONTAL DATUM: NAD83; PROJECT VERTICAL DATUM: NAVD88.
 2. DIFFERING SURVEY METHODOLOGIES ABOVE AND BELOW THE WATER'S EDGE MAY RESULT IN ELEVATION DISCREPANCIES AT THE EXISTING EDGE OF WATER. CONTRACTOR TO FIELD VERIFY CRITICAL ELEVATIONS PRIOR TO STARTING CONSTRUCTION.
 3. LOCATION AND EXTENT OF TIMBER CRIB DAM ARE BASED ON LIMITED FIELD OBSERVATIONS. ACTUAL LOCATION AND EXTENT MAY VARY FROM THAT SHOWN HERE.
 4. CONTOURS IN RIVER SHOW THE EXISTING CONDITIONS PRIOR TO SEDIMENT FLUSHING. ACTUAL CONDITIONS MAY VARY AFTER SEDIMENT FLUSHING BASED ON HISTORIC STREAM BED ELEVATIONS, SUBSTRATE, AND EXTENT OF SEDIMENT FLUSHING. NO ACTIVE GRADING OF CHANNEL OR SEDIMENT IS PROPOSED, OTHER THAN AS NECESSARY TO REMOVE THE DAM AND INSTALL THE ROCK RAMP.
 5. CONTRACTOR TO PROVIDE SMOOTH TRANSITION FROM ROCK RAMP TO EXISTING RIVER BANK. DIFFERENCE IN SURVEY ELEVATIONS AT THE WATERS EDGE WILL REQUIRE ENGINEER INPUT TO CONFIRM GRADES FOR THE ROCK RAMP AT THE SHORELINE DURING CONSTRUCTION.
 6. ESTIMATED POST DAM REMOVAL WATERS EDGE AT BASE FLOW IS BASED ON HYDRAULIC MODELING AND ASSUMED CONDITIONS RELATED TO SEDIMENT FLUSHING. ACTUAL EDGE OF WATER IS ANTICIPATED TO VARY AS NATURAL FLUVIAL PROCESSES OCCUR AND THE ACTUAL EDGE OF WATER FOR A GIVEN FLOW WILL DEPEND ON EXTENT OF SEDIMENT FLUSHING, FLOWS IN THE RIVER, AND DURATION OF TIME AFTER DAM REMOVAL.



LEGEND	
EXISTING CONTOURS	--- XXX ---
PROPERTY LINE	-----
SENSITIVE RESOURCE AREA	
FERC PROJECT BOUNDARY	-----
LIMIT OF DISTURBANCE	--- LOD ---
FILL DISPOSAL AREA	
EXISTING ACCESS ROAD	-----
APPROXIMATE LOCATION OF WATERS EDGE	-----
EXISTING WETLAND (2020 SURVEY)	

NOT FOR CONSTRUCTION

GEORGIA POWER COMPANY
ATLANTA, GEORGIA.

CROW HOP (FERC PROJECT NO. 2350)
DAM DECOMMISSIONING

CROW HOP
POST REMOVAL PLAN

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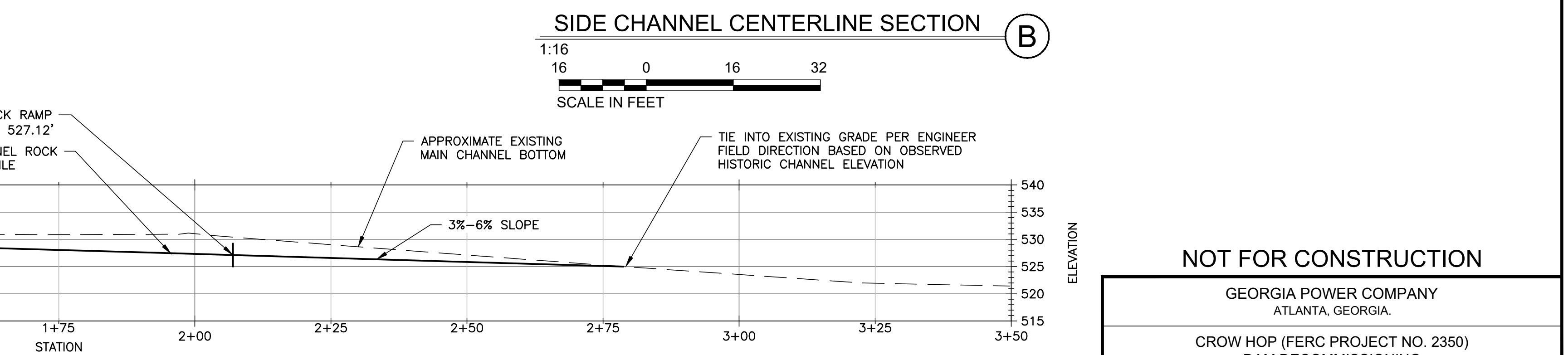
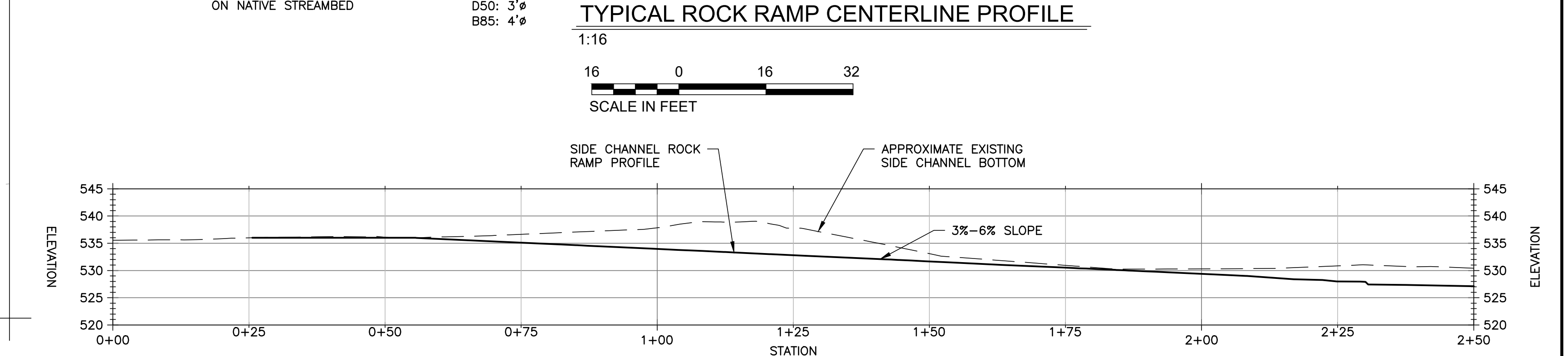
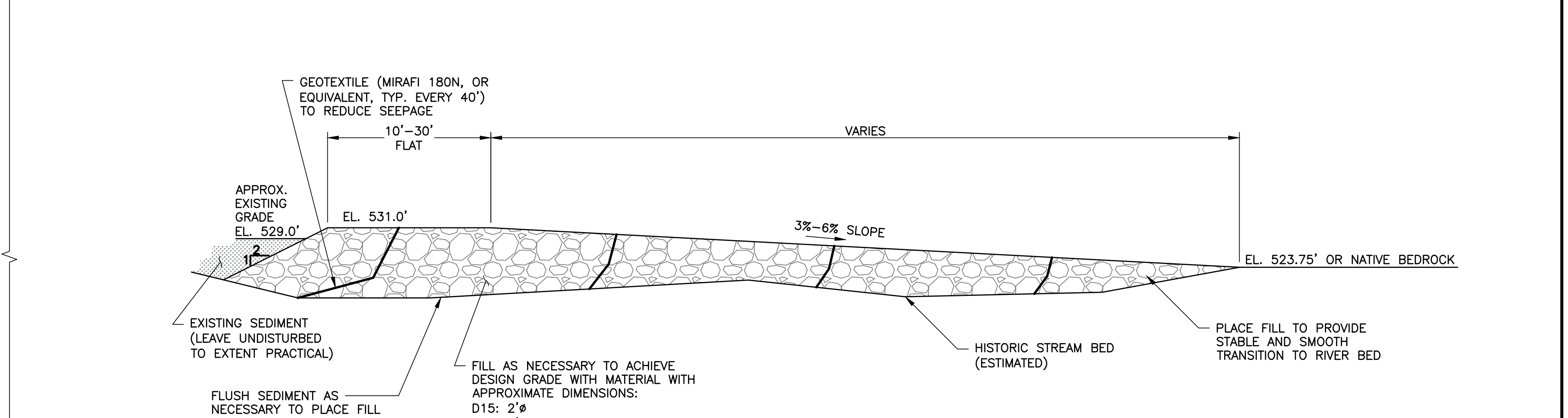
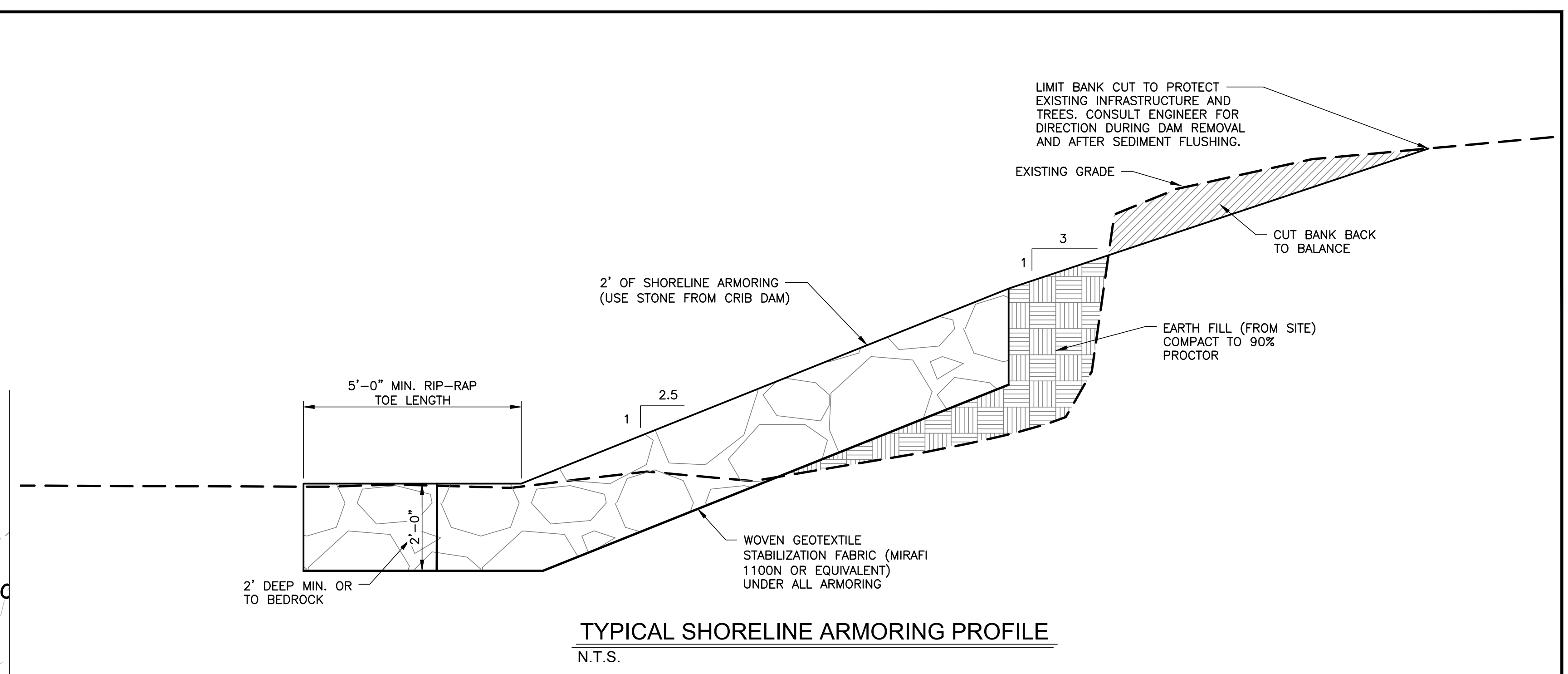
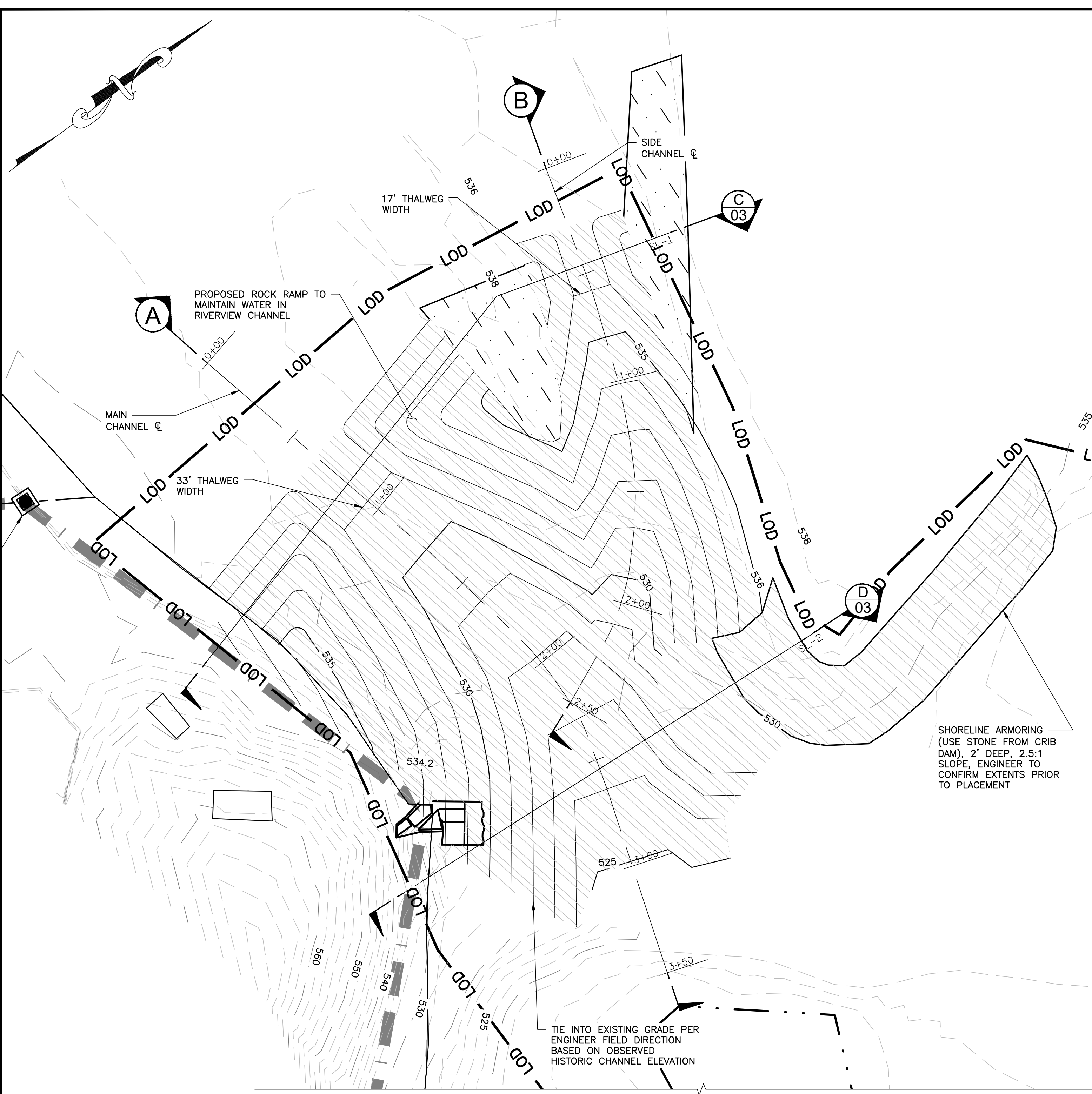
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LEGEND	
EXISTING CONTOURS	---XXX---
PROPERTY LINE	-----
SENSITIVE RESOURCE AREA	
FERC PROJECT BOUNDARY	-----
LIMIT OF DISTURBANCE	---LOD---
FILL DISPOSAL AREA	
EXISTING ACCESS ROAD	-----
APPROXIMATE LOCATION OF WATERS EDGE	---.---
EXISTING WETLAND (2020 SURVEY)	

NOTE:

- ESTIMATED POST DAM REMOVAL WATERS EDGE AT BASE FLOW IS BASED ON HYDRAULIC MODELING AND ASSUMED CONDITIONS RELATED TO SEDIMENT FLUSHING. ACTUAL EDGE OF WATER IS ANTICIPATED TO VARY AS NATURAL FLUVIAL PROCESSES OCCUR AND THE ACTUAL EDGE OF WATER FOR A GIVEN FLOW WILL DEPEND ON EXTENT OF SEDIMENT FLUSHING, FLOWS IN THE RIVER, AND DURATION OF TIME AFTER DAM REMOVAL.
- CONTOURS IN RIVER SHOW THE EXISTING CONDITIONS PRIOR TO SEDIMENT FLUSHING. ACTUAL CONDITIONS MAY VARY AFTER SEDIMENT FLUSHING BASED ON HISTORIC STREAM BED ELEVATIONS, SUBSTRATE, AND EXTENT OF SEDIMENT FLUSHING. NO ACTIVE GRADING OF CHANNEL OR SEDIMENT IS PROPOSED, OTHER THAN AS NECESSARY TO REMOVE THE DAM AND INSTALL THE ROCK RAMP.

NOT FOR CONSTRUCTION

GEORGIA POWER COMPANY
 ATLANTA, GEORGIA.

CROW HOP (FERC PROJECT NO. 2350)
 DAM DECOMMISSIONING

CROW HOP
 POST REMOVAL ROCK RAMP PLAN & SECTIONS

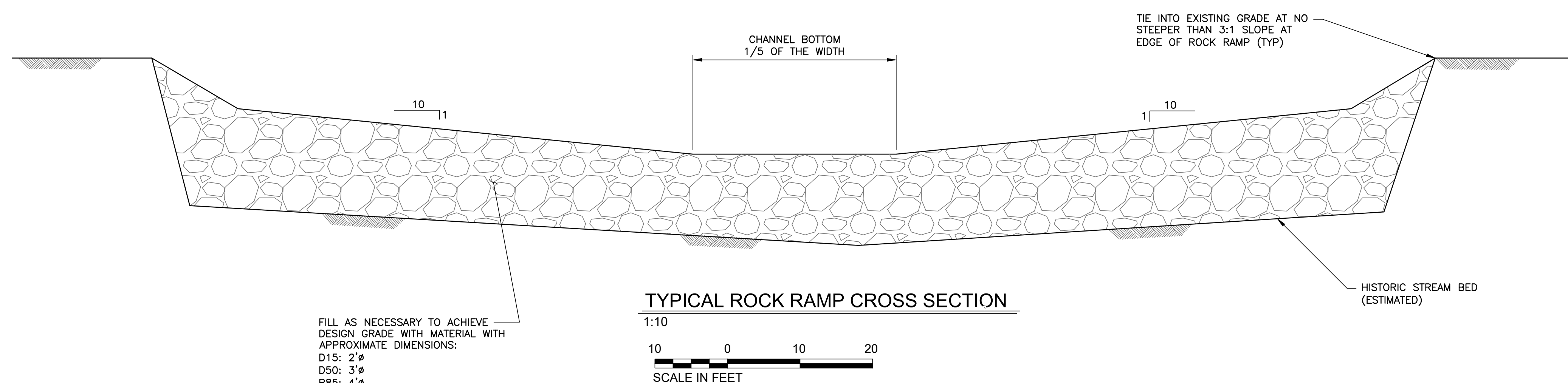
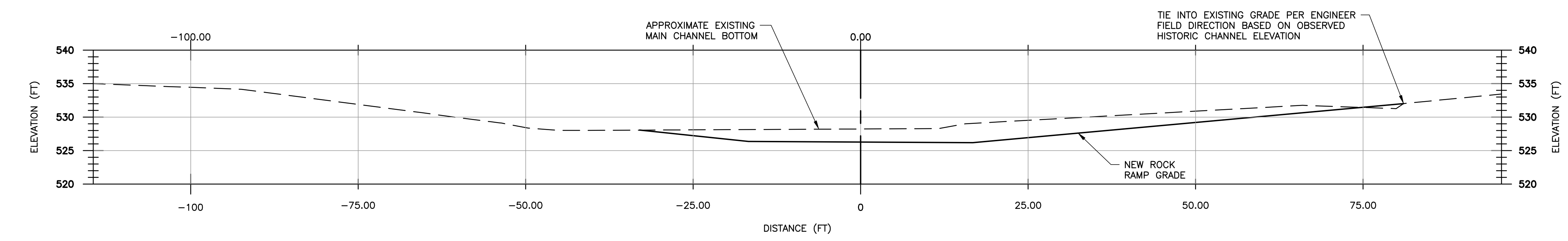
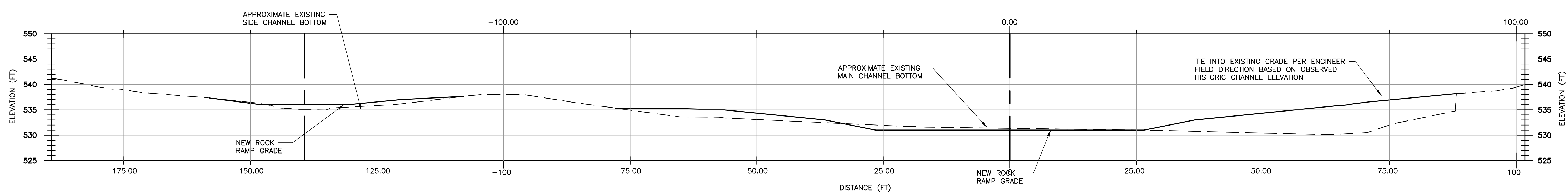
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Project No. 534-039
 Date Revised 08-03-22
 Drawing No. C-300-02

24x36 = FULL SCALE



- NOTE:
- EXTENT OF FILL AND SLOPE OF ROCK RAMP WILL DEPEND ON AVAILABLE FILL IN PRIMARY AND CRIB DAMS.
 - LIMITED EROSION OF EXISTING SEDIMENT UNDER ROCK RAMP IS ANTICIPATED DURING PLACEMENT OF FILL. WHERE FEASIBLE, PLACE FILL FROM DOWNSTREAM TO UPSTREAM TO RETAIN EXISTING SEDIMENT AND ALLOW EXISTING SEDIMENT TO WASH INTO THE PLACED FILL.

NOTE: ESTIMATED POST DAM REMOVAL WATERS EDGE AT BASE FLOW IS BASED ON HYDRAULIC MODELING AND ASSUMED CONDITIONS RELATED TO SEDIMENT FLUSHING. ACTUAL EDGE OF WATER IS ANTICIPATED TO VARY AS NATURAL FLUVIAL PROCESSES OCCUR AND THE ACTUAL EDGE OF WATER FOR A GIVEN FLOW WILL DEPEND ON EXTENT OF SEDIMENT FLUSHING, FLOWS IN THE RIVER, AND DURATION OF TIME AFTER DAM REMOVAL.

NOT FOR CONSTRUCTION

GEORGIA POWER COMPANY
ATLANTA, GEORGIA
CROW HOP (FERC PROJECT NO. 2350)
DAM DECOMMISSIONING
CROW HOP POST-REMOVAL
ROCK RAMP SECTIONS AND DETAILS

No.	Revision	Date	Drawn	Checked
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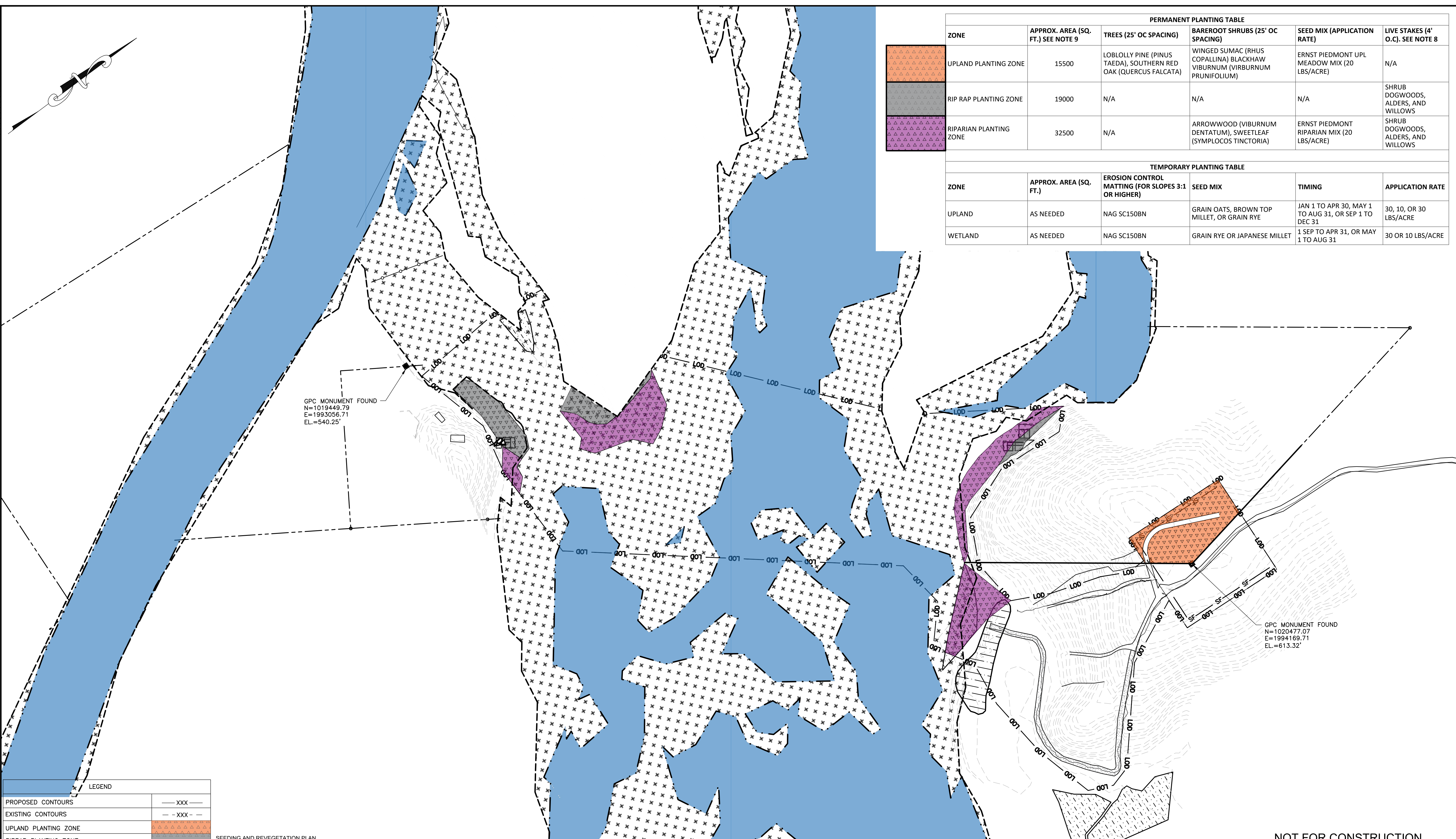
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3"
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PERMANENT PLANTING TABLE					
ZONE	APPROX. AREA (SQ. FT.) SEE NOTE 9	TREES (25' OC SPACING)	BAREROOT SHRUBS (25' OC SPACING)	SEED MIX (APPLICATION RATE)	LIVE STAKES (4' O.C.) SEE NOTE 8
UPLAND PLANTING ZONE	15500	LOBLOLLY PINE (PINUS TAEDA), SOUTHERN RED OAK (QUERCUS FALCATA)	WINGED SUMAC (RHUS COPALLINA) BLACKHAW VIBURNUM (VIBURNUM PRUNIFOLIUM)	ERNST PIEDMONT UPL MEADOW MIX (20 LBS/ACRE)	N/A
RIP RAP PLANTING ZONE	19000	N/A	N/A	N/A	SHRUB DOGWOODS, ALDERS, AND WILLOWS
RIPARIAN PLANTING ZONE	32500	N/A	ARROWWOOD (VIBURNUM DENTATUM), SWEETLEAF (SYMPLOCOS TINCTORIA)	ERNST PIEDMONT RIPARIAN MIX (20 LBS/ACRE)	SHRUB DOGWOODS, ALDERS, AND WILLOWS

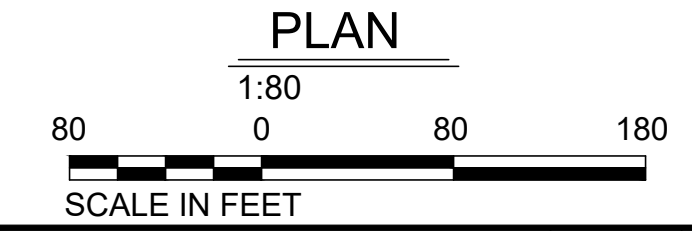
TEMPORARY PLANTING TABLE					
ZONE	APPROX. AREA (SQ. FT.)	EROSION CONTROL MATTING (FOR SLOPES 3:1 OR HIGHER)	SEED MIX	TIMING	APPLICATION RATE
UPLAND	AS NEEDED	NAG SC150BN	GRAIN OATS, BROWN TOP MILLET, OR GRAIN RYE	JAN 1 TO APR 30, MAY 1 TO AUG 31, OR SEP 1 TO DEC 31	30, 10, OR 30 LBS/ACRE
WETLAND	AS NEEDED	NAG SC150BN	GRAIN RYE OR JAPANESE MILLET	1 SEP TO APR 31, OR MAY 1 TO AUG 31	30 OR 10 LBS/ACRE

J:\534\039\Drawings\CAD\Crow Hop\534-039 Crow Hop_C-700-01 PLANTING PLAN 2.dwg
 PRINTED: 2:52 PM
 Aug. 31, 2022

LEGEND	
PROPOSED CONTOURS	--- XXX ---
EXISTING CONTOURS	- - - XXX - - -
UPLAND PLANTING ZONE	[Orange pattern]
RIPRAP PLANTING ZONE	[Grey pattern]
RIPARIAN PLANTING ZONE	[Purple pattern]
LIMIT OF DISTURBANCE	--- LOD ---
APPROXIMATE LOCATION OF WATERS EDGE AT WEST POINT BASE FLOW POST-DAM REMOVAL	--- . . . ---
APPROXIMATE LOCATION OF WATERS EDGE AT WEST POINT BASE FLOW +2 UNITS GENERATING POST-DAM REMOVAL	--- - - - ---
EXISTING WETLAND (2020 SURVEY)	[Cross-hatch pattern]
AREA BETWEEN APPROX. PROPOSED EDGE OF WATER AT WEST POINT MINIMUM FLOW AND APPROX. PROPOSED EDGE OF WATER AT WEST POINT MINIMUM FLOW AND 2 UNITS	[Dotted pattern]

SEEDING AND REVEGETATION PLAN

- UPON COMPLETION OF SITE CONSTRUCTION, ALL AREAS PREVIOUSLY DISTURBED SHALL BE TREATED AS STATED BELOW. THESE AREAS SHALL BE CLOSELY MONITORED BY THE CONTRACTOR UNTIL SUCH TIME AS A SATISFACTORY GROWTH OF VEGETATION IS ESTABLISHED. SATISFACTORY GROWTH SHALL MEAN A MINIMUM OF 90% OF THE AREA IS VEGETATED WITH VIGOROUS GROWTH. TOPSOIL SHALL BE SPREAD OVER ALL DISTURBED AREAS AND GRADED TO A MINIMUM UNIFORM DEPTH OF FOUR (4") INCHES.
- PRIOR TO PLACING TOPSOIL, THE SUBSOIL SHALL BE SCARIFIED AT LEAST FOUR (4") INCHES.
- FALL PLANTING IS ENCOURAGED TO GIVE VEGETATION TIME TO DEVELOP ROOTS BEFORE HOT WEATHER.
- STRAW MULCH SHALL BE APPLIED AT THE RATE OF 100 LBS. PER 1,000 SQ. FT. FOR SMALL AREAS OF 2 TONS/ACRE FOR LARGER AREAS, FOLLOWING SEEDING. MULCH SHALL BE ANCHORED BY WATERING OR USING ANCHORING EMULSION. STEEP SLOPES (3:1 AND STEEPER) SHALL BE STABILIZED BY INSTALLING EROSION CONTROL BLANKET (E.G. NORTH AMERICAN GREEN SC150 BN OR EQUIVALENT).
- ALL SEDIMENT CONTROL STRUCTURES SHALL REMAIN IN PLACE UNTIL VEGETATION IS ESTABLISHED. ESTABLISHED SHALL MEAN A MINIMUM OF 90% OF THE AREA IS VEGETATED WITH VIGOROUS GROWTH. DISTURBED AREAS SHALL BE SEEDING IN ACCORDANCE WITH APPLICABLE GA/LR REQUIREMENTS AND THE TEMPORARY PLANTING TABLE FOR THIS PROJECT.
- SEEDING SHOULD BE PLANTED TO A DEPTH OF 1/4 TO 1/2 INCHES. SEEDING METHODS MAY BE DRILL SEEDING, BROADCAST, OR HYDRO-SEEDED. THE SEED SHALL BE EMBEDDED BY BROADCASTING, DRILLING, CULTIPACK TYPE, OR HYDROSEEDING.
- PLANTING ALONG THE WATERLINE SHALL CONTINUE TO THE EDGE OF THE POST-DAM REMOVAL MINIMUM FLOW WATER'S EDGE, WHICH MAY BE DIFFERENT THAN SHOWN ON THE DRAWINGS. CONTRACTOR TO GET ENGINEER'S APPROVAL OF PLANTING ZONE EXTENTS PRIOR TO IMPLEMENTING THE PLANTINGS.
- SUITABLE WILLOW SPECIES INCLUDE: BANKERS DWARF, STREAMCO PURPLESOIER, BLACK, SANDBAR, MEADOW, HEART-LEAVED, AND WARD'S WILLOW.
- THIS IS THE PLANTING AREA SHOWN IN THIS DRAWING BASED ON ANTICIPATED POST-REMOVAL CONDITIONS. ACTUAL PLANTING AREAS SHALL BE BASED ON FLOW EXTENTS POST-DAM REMOVAL AND ACTUAL DISTURBED AREAS, AS APPROVED BY THE ENGINEER. ACTUAL PLANTING AREAS ARE ANTICIPATED TO VARY FROM THESE VALUES.
- ESTIMATED POST DAM REMOVAL WATERS EDGE AT BASE FLOW IS BASED ON HYDRAULIC MODELING AND ASSUMED CONDITIONS RELATED TO SEDIMENT FLUSHING. ACTUAL EDGE OF WATER IS ANTICIPATED TO VARY AS NATURAL FLUVIAL PROCESSES OCCUR AND THE ACTUAL EDGE OF WATER FOR A GIVEN FLOW WILL DEPEND ON EXTENT OF SEDIMENT FLUSHING, FLOWS IN THE RIVER, AND DURATION OF TIME AFTER DAM REMOVAL.



PLAN

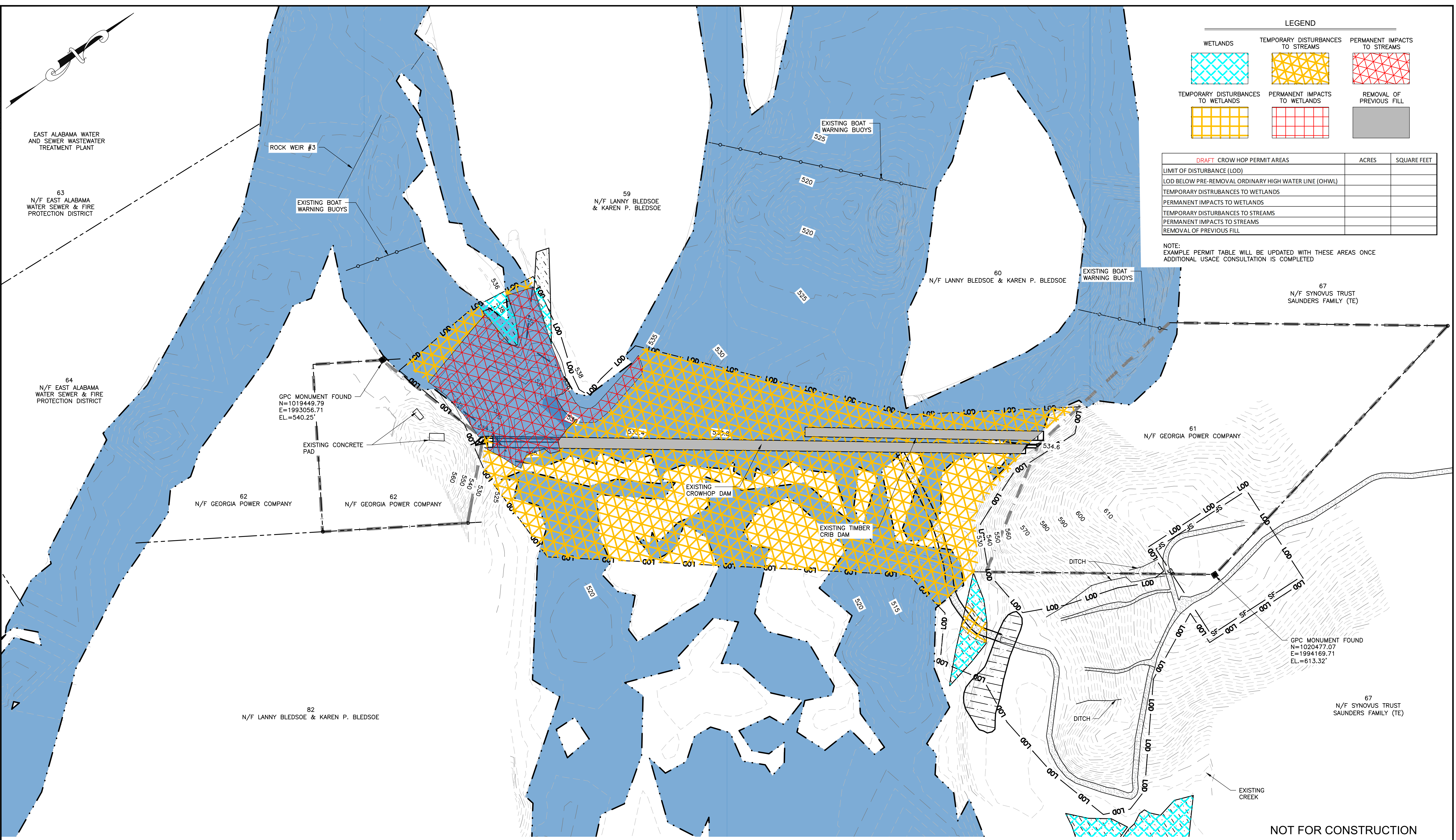
NOT FOR CONSTRUCTION

GEORGIA POWER COMPANY ATLANTA, GEORGIA.	
CROW HOP (FERC PROJECT NO. 2350) DAM DECOMMISSIONING	
CROW HOP - POST REMOVAL PLANTING PLAN	
Kleinschmidt 888-224-5942 KleinschmidtGroup.com	
No.	Revision
A	90% DESIGN
Date	08-03-22
Drawn	RMD
Checked	TAK
Project No.	534-039
Date Revised	08-03-22
Drawing No.	C-700-01

24x36 = FULL SCALE

0 1" 2" 3"

PRINTED: Aug 4, 2022 - 8:08 AM J:\534\039\Drawings\CAD\Crow Hop\534-039 Crow Hop C-900-01 PERMIT AREAS PLAN.dwg



LEGEND

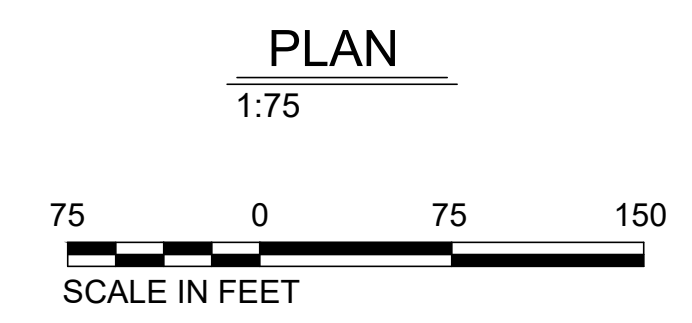
	WETLANDS		TEMPORARY DISTURBANCES TO STREAMS		PERMANENT IMPACTS TO STREAMS
	TEMPORARY DISTURBANCES TO WETLANDS		PERMANENT IMPACTS TO WETLANDS		REMOVAL OF PREVIOUS FILL

DRAFT CROW HOP PERMIT AREAS	ACRES	SQUARE FEET
LIMIT OF DISTURBANCE (LOD)		
LOD BELOW PRE-REMOVAL ORDINARY HIGH WATER LINE (OHWL)		
TEMPORARY DISTURBANCES TO WETLANDS		
PERMANENT IMPACTS TO WETLANDS		
TEMPORARY DISTURBANCES TO STREAMS		
PERMANENT IMPACTS TO STREAMS		
REMOVAL OF PREVIOUS FILL		

NOTE:
EXAMPLE PERMIT TABLE WILL BE UPDATED WITH THESE AREAS ONCE
ADDITIONAL USACE CONSULTATION IS COMPLETED

LEGEND

EXISTING CONTOURS	— XXX —
PROPERTY LINE	---
SENSITIVE RESOURCE AREA	
FERC PROJECT BOUNDARY	---
EXISTING ACCESS ROAD	
APPROXIMATE EXISTING EDGE OF WATER AT WEST POINT BASE FLOW	---
EXISTING WETLAND (2020 SURVEY)	



NOT FOR CONSTRUCTION

GEORGIA POWER COMPANY ATLANTA, GEORGIA.	
CROW HOP (FERC PROJECT NO. 2350) DAM DECOMMISSIONING	
CROW HOP PERMIT AREAS	
Kleinschmidt 888-224-5942 KleinschmidtGroup.com	
No.	Revision
A	90% DESIGN
Date	08-03-22
Drawn	RMD
Checked	TAK
Project No.	534-039
Date Revised	08-03-22
Drawing No.	C-900-01

Designed	Drawn	Checked	Project No.	Date Revised	Drawing No.
TAK	BJL	TAK	534-039	08-03-22	C-900-01

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APPENDIX D

LANGDALE 90 PERCENT DESIGN DRAWINGS

24x36 = FULL SCALE

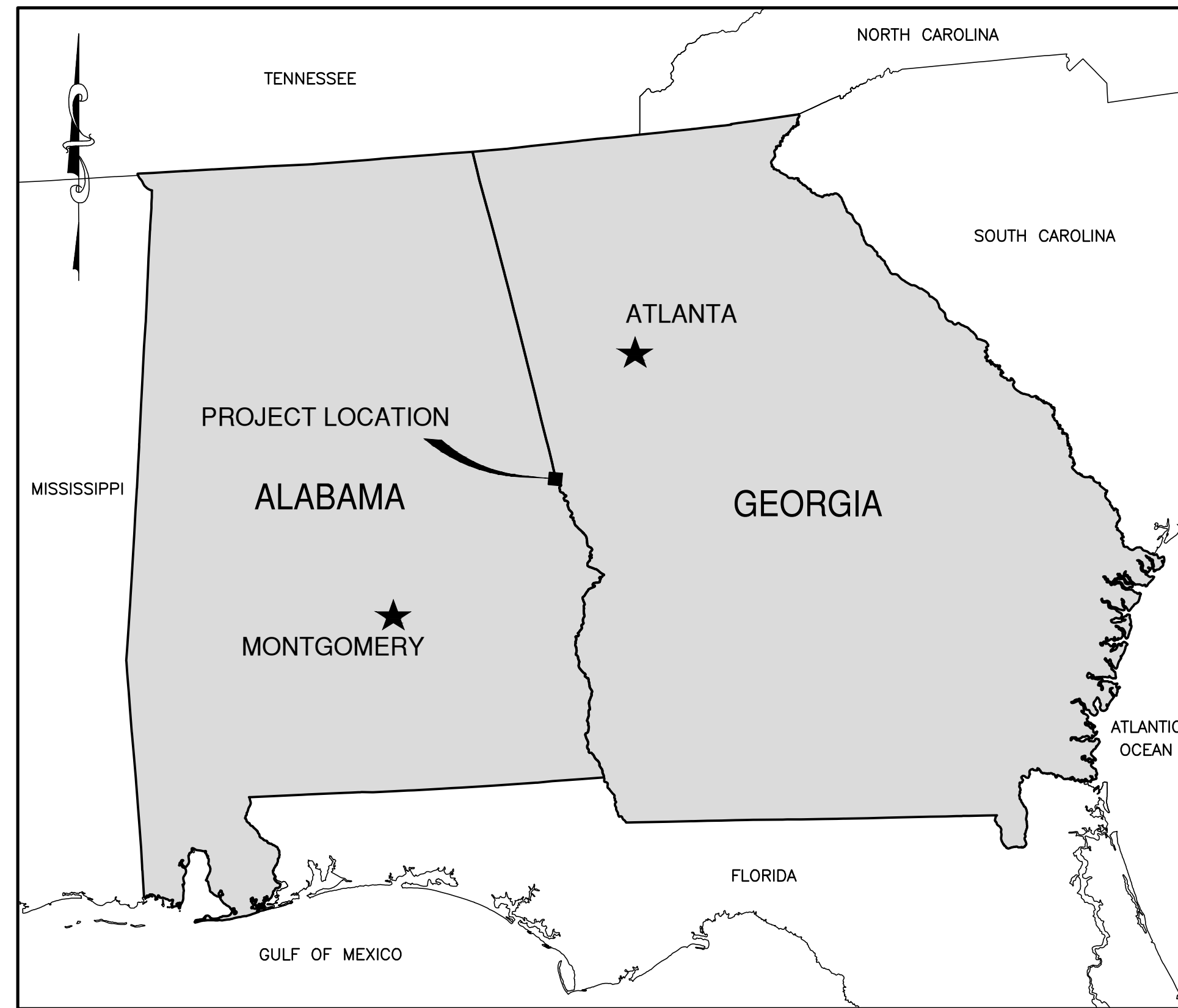
GEORGIA POWER COMPANY

ATLANTA, GA.

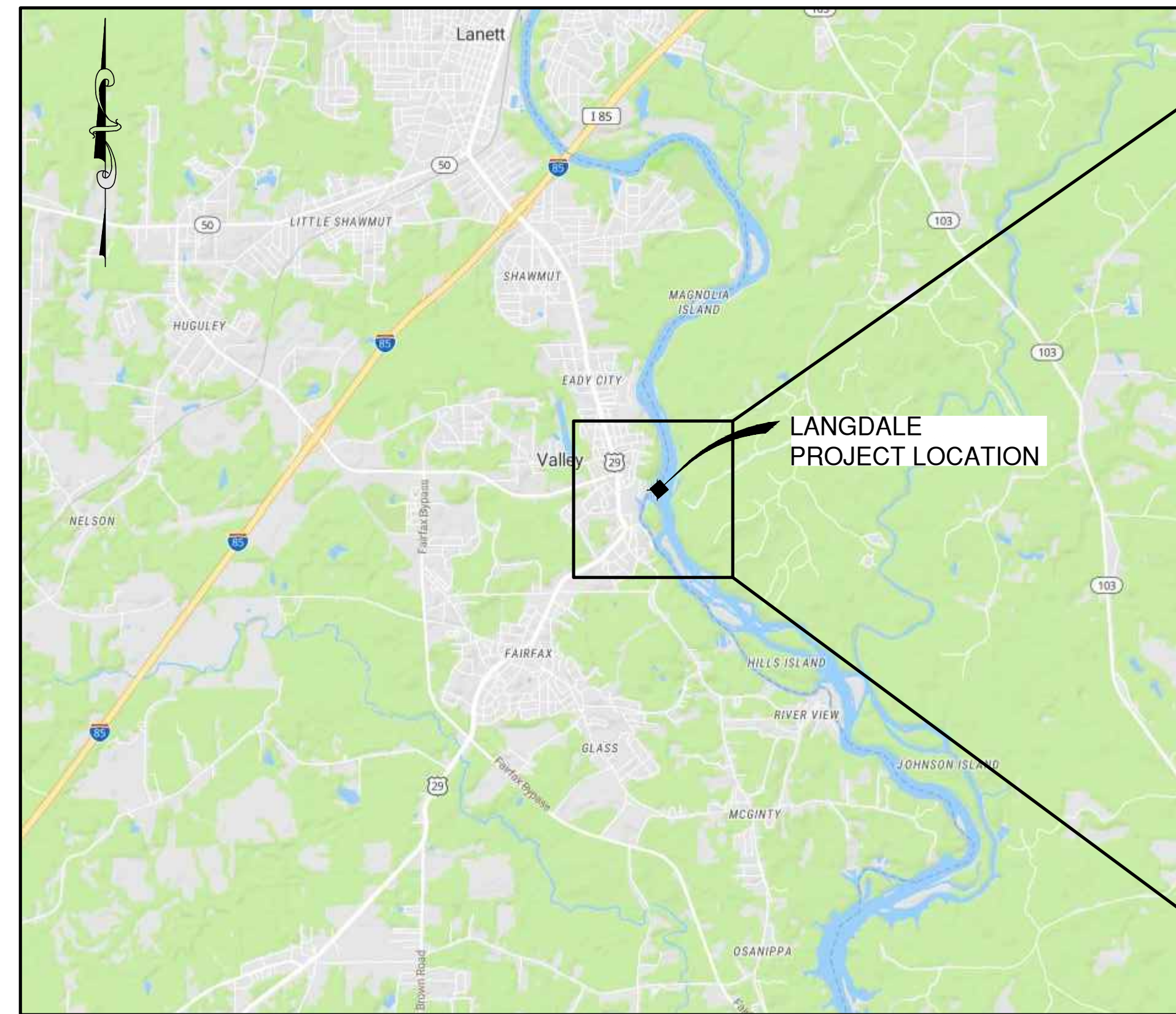
LANGDALE

(FERC PROJECT NO. 2341)

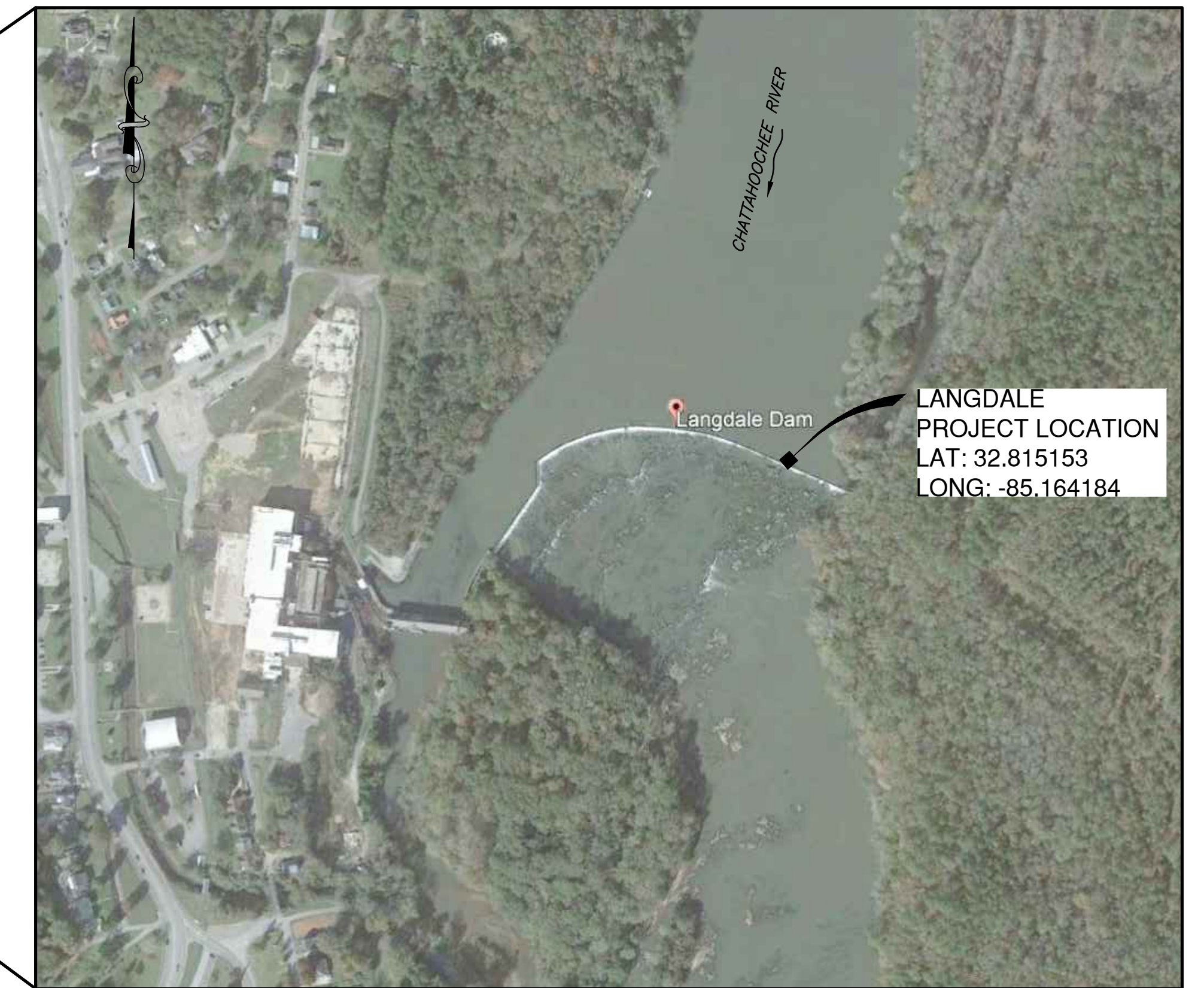
DAM DECOMMISSIONING



STATE MAP



VICINITY MAP



SITE MAP

LANGDALE
PROJECT LOCATION
LAT: 32.815153
LONG: -85.164184

DRAWING LIST				
SHEET NO.	SHEET DESCRIPTION	DATE	REVISION	STATUS
L-000	COVERSHEET	08-03-22	A	90% DESIGN
L-100-01	GENERAL NOTES I	08-03-22	A	90% DESIGN
L-100-02	GENERAL NOTES II	08-03-22	A	90% DESIGN
L-200-01	EXISTING CONDITIONS PLAN (AERIAL)	08-03-22	A	90% DESIGN
L-200-02	EXISTING CONDITIONS PLAN (NO AERIAL)	08-03-22	A	90% DESIGN
L-210-01	TEMPORARY FACILITIES PLAN	08-03-22	A	90% DESIGN
L-210-02	EROSION & SEDIMENT CONTROL, NOTES & DETAILS I	08-03-22	A	90% DESIGN
L-210-03	EROSION & SEDIMENT CONTROL, NOTES & DETAILS II	08-03-22	A	90% DESIGN
L-220-01	DEMOLITION PLAN	08-03-22	A	90% DESIGN
L-220-02	DAM DEMOLITION PROFILE	08-03-22	A	90% DESIGN
L-220-03	DAM DEMOLITION PROFILE	08-03-22	A	90% DESIGN
L-220-04	POWERHOUSE DEMOLITION	08-03-22	A	90% DESIGN
L-300-01	PROPOSED CONDITIONS PLAN	08-03-22	A	90% DESIGN
L-300-02	PROPOSED CONDITIONS SECTION	08-03-22	A	90% DESIGN
L-310-01	PROPOSED CONDITIONS DAM AND POWERHOUSE	08-03-22	A	90% DESIGN
L-310-02	PROPOSED CONDITIONS POWERHOUSE DETAILS	08-03-22	A	90% DESIGN
L-320-01	PROPOSED CONDITIONS ISLAND CHANNEL PLAN AND SECTIONS	08-03-22	A	90% DESIGN
L-320-02	PROPOSED CONDITIONS ISLAND CHANNEL PROFILE AND SECTIONS	08-03-22	A	90% DESIGN
L-400-01	PARK EXISTING CONDITIONS	08-03-22	A	90% DESIGN
L-410-01	PARK TEMPORARY FACILITIES	08-03-22	A	90% DESIGN
L-420-01	PARK DEMOLITION PLAN	08-03-22	A	90% DESIGN
L-450-01	PARK PROPOSED CONDITIONS PLAN	08-03-22	A	90% DESIGN
L-450-02	PARK PROPOSED CONDITION DETAILS	08-03-22	A	90% DESIGN
L-700-01	PLANTING PLAN	08-03-22	A	90% DESIGN
L-900-01	PERMIT AREAS	08-03-22	A	90% DESIGN



90% DESIGN
08-03-22



NOT FOR CONSTRUCTION

GEORGIA POWER COMPANY
ATLANTA, GEORGIA

LANGDALE (FERC PROJECT NO. 2341)
DAM DECOMMISSIONING

COVER SHEET



No.	Revision	Date	Drawn	Checked
A	90% DESIGN	08-03-22	RMD	TAK

Project No.	Date Revised	Drawing No.
534-039	08-03-22	L-000

24x36 = FULL SCALE

GENERAL NOTES:

- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS, SPECIFICATIONS, AND REFERENCED DOCUMENTS ASSOCIATED WITH THE PROJECT PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND ANY CONFLICT WITH THE DOCUMENTS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNERS REPRESENTATIVE, IN WRITING, PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE OWNERS REPRESENTATIVE SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AS DEFINED BY THE DRAWINGS AND SPECIFICATIONS AND IN FULL COMPLIANCE WITH LOCAL REGULATIONS AND CODES.
- DEFINITIONS:
 - OWNER: GEORGIA POWER COMPANY
 - OWNER'S REPRESENTATIVE: INDIVIDUAL IDENTIFIED BY OWNER TO REPRESENT THEM ON SITE AND AUTHORIZED TO MAKE DECISIONS ON THEIR BEHALF. THIS COULD BE THE ENGINEER OR CONSTRUCTION MANAGER, IF APPOINTED AS OWNER'S REPRESENTATIVE BY THE OWNER.
 - ENGINEER: THE ENGINEER REPRESENTING THE OWNER ON THIS PROJECT TO ENSURE WORK IS COMPLETED TO THE DESIGN INTENT AND OWNER'S SATISFACTION, AS SELECTED BY THE OWNER
- ALL WORK SHALL BE COORDINATED AND PERFORMED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
- THE CONTRACTOR SHALL COMPLY WITH ALL CONDITIONS CONTAINED IN RELEVANT PERMITS ISSUED FOR THIS PROJECT. PERMITS MAY INCLUDE, BUT ARE NOT LIMITED TO A USACE NATIONWIDE PERMIT AND 401 WATER QUALITY CERTIFICATES FROM THE GEORGIA EPD, AND NPDES PERMIT FROM GEORGIA EPD AND ALABAMA DEM.
- ALL MATERIALS SHALL BE PROVIDED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE GEORGIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS CONSTRUCTION OF TRANSPORTATION SYSTEMS, CURRENT EDITION, UNLESS NOTED OTHERWISE.
- ALL MATERIALS SHALL BE PROVIDED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST VERSION OF THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA, AND IN ACCORDANCE WITH THE LATEST VERSION OF THE "ALABAMA HANDBOOK FOR EROSION CONTROL, SEDIMENT CONTROL, AND STORMWATER MANAGEMENT ON CONSTRUCTION SITES AND URBAN AREAS" IN ALABAMA.
- THE CONTRACTOR SHALL INSTALL ALL REQUIRED EROSION AND POLLUTION CONTROL DEVICES PRIOR TO CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THEIR MAINTENANCE, REPOSITIONING AND REMOVAL UPON COMPLETION OF WORK.
- THE CONTRACTOR SHALL RESTORE ALL TEMPORARY ACCESS AREAS TO THEIR ORIGINAL CONDITION, UNLESS DISTURBANCE OCCURS IN AN AREA OF PROPOSED WORK. RESTORATION MAY INCLUDE, BUT NOT BE LIMITED TO, REGRADING TO ORIGINAL CONTOURS AND REPLANTING HERBACEOUS VEGETATION. NO ADDITIONAL PAYMENT WILL BE MADE FOR TEMPORARY ACCESS NOT INCLUDED IN THE ORIGINAL BID.
- NO TREES SHALL BE DISTURBED UNLESS INDICATED ON THE PLANS THAT THEY ARE TO BE REMOVED. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING TREES AND SHRUBS ON SITE. TREES AND SHRUBS IN ACCESS AREAS SHOULD BE CUT OFF AS CLOSE TO THE GROUND AS POSSIBLE. NO HERBICIDES ARE ALLOWED TO BE USED ON THE SITE.
- THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND PROPER DISPOSAL OF ALL WASTE MATERIAL, INCLUDING TEMPORARY EROSION AND SEDIMENT CONTROLS, TEMPORARY STRUCTURES, AND TEMPORARY FILL. DEBRIS SHALL NOT BE RELEASED INTO THE RIVER. ALL SPOIL MATERIAL AND DEBRIS (SOLID WASTE) SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL LAWS AND OTHER APPLICABLE CODES, AT AN OFF-SITE LOCATION.
- PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PREVENT ANY IMPACTS TO AREAS OUTSIDE OF THE LIMITS OF PROPOSED WORK. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL ANY IMPACTS TO AREAS OUTSIDE THE LIMITS OF PROPOSED WORK AT LEAST 1 WEEK IN ADVANCE OF THE PROPOSED IMPACT. IF THE CONTRACTOR'S ACTIVITY ADVERSELY AFFECTS ANY AREA OUTSIDE THE LIMIT OF PROPOSED WORK, THE CONTRACTOR SHALL RESTORE THE AREA TO PRE-CONSTRUCTION CONDITIONS AND NOTIFY THE ENGINEER.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR CONDUCTING UNDERGROUND UTILITY CHECKS IN ACCORDANCE WITH STATE REGULATIONS. THE CONTRACTOR WILL BE RESPONSIBLE FOR COORDINATING WITH ALABAMA 811 AND GEORGIA 811 A MINIMUM OF 14 WORK DAYS PRIOR TO THE START OF EARTH DISTURBANCE ACTIVITIES. SHOULD ANY UTILITIES BE LOCATED THAT ARE IN CONFLICT WITH THE DESIGN, THE CONTRACTOR SHALL IMMEDIATELY REPORT THESE CONFLICTS IN WRITING TO THE ENGINEER.
- SURVEY PROVIDED BY GEORGIA POWER AND INCLUDES: 1) BATHYMETRY FROM LOWE ENGINEERS' 2018, MAY 2019, AND AUGUST 2019 SURVEYS, AND 2) CIVIL AND UPLAND SURVEY FROM GASKINS NOVEMBER 2020 SURVEY. ELEVATIONS ARE SHOWN IN NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88). THE HORIZONTAL DATUM FOR THE PROJECT IS NAD83. WETLAND DELINEATION BY GEORGIA POWER COMPANY ENVIRONMENTAL & NATURAL RESOURCES. CULTURAL RESOURCES SURVEY BY SOUTHERN RESEARCH, HISTORIC PRESERVATION CONSULTANTS, INC.
- CONTRACTOR SHALL CONFIRM SURVEY BENCHMARK ELEVATIONS PRIOR TO CONSTRUCTION AND SHALL PROTECT ALL BENCHMARKS, SURVEY MARKERS, AND MONUMENTS DURING CONSTRUCTION.
- THIS SITE IS WITHIN ZONE AE, AN AREA OF 100-YEAR INUNDATION AS SHOWN ON FEMA MAPPING. PORTIONS OF THE SITE ARE LOCATED IN THE REGULATORY FLOODWAY. CONTRACTOR SHALL INFORM OWNER AS SOON AS POSSIBLE IF THEY ANTICIPATE THAT FLOOD CONDITIONS MAY IMPACT PROJECT WORK. CONTRACTOR SHALL TAKE REASONABLE MEANS TO PROTECT THEIR EQUIPMENT, THEIR STAFF, THE PROJECT SITE, AND THE RIVER IN ADVANCE OF ANTICIPATED FLOOD CONDITIONS.
- DURING ADVERSE WEATHER NO MATERIALS SHALL BE LEFT ON THE PROJECT SITE THAT COULD BE MOBILIZED DOWNSTREAM BY FLOOD, WAVES, OR WIND AND THEREBY POSE A THREAT TO DOWNSTREAM PROPERTY. THE CONTRACTOR IS RESPONSIBLE TO STABILIZE AND SECURE THE SITE UNTIL THE PROJECT IS ACCEPTED BY THE ENGINEER, AND SHALL PROTECT THE PROJECT, THE RIVER, AND OTHER PROPERTY AT ALL TIMES.
- ALL EQUIPMENT SHALL BE REMOVED FROM THE IN RIVER WORK AREA AT THE END OF EACH WORK DAY, UNLESS OTHERWISE APPROVED IN WRITING BY THE OWNER.
- THE CONTRACTOR SHALL COOPERATE WITH AND MAKE ALLOWANCES FOR OTHER CONTRACTORS (IF UTILIZED), AS WELL AS THE ENGINEER AND OWNER'S REPRESENTATIVES.
- THE CONTRACTOR SHALL MINIMIZE THE STOCKPILING OF EXCAVATED MATERIALS. IF EROSION AND SEDIMENT CONTROL MEASURES ARE NOT CAPABLE OF MANAGING SOIL RUNOFF FROM A STOCKPILE, THE CONTRACTOR SHALL REMOVE STOCKPILES BEFORE EXCAVATING MORE MATERIAL. THE CONTRACTOR SHALL MAINTAIN A SUPPLY OF SILT FENCE, STAKES AND STRAW BALES ON SITE FOR CONSTRUCTING EROSION CONTROL BEST MANAGEMENT PRACTICES PRIOR TO STOCKPILING.
- GRADES SHOWN ON THE PLANS ARE FINAL GRADES (AVERAGE ELEVATION OF FILL); ADJUSTMENTS MUST BE MADE FOR FILL AND ROCK WHERE APPLICABLE. WHERE BEDROCK IS ENCOUNTERED ABOVE FINAL GRADES, CONSULT ENGINEER FOR DIRECTION.
- ANY IMPORTED MATERIAL SHALL BE FREE OF INVASIVE PLANT MATERIAL AND SEED. UPON FINAL STABILIZATION AND REMOVAL OF THE EROSION AND SEDIMENT CONTROLS THE DISTURBED AREA SHALL HAVE MINIMAL (E.G. <20%) COVERAGE BY INVASIVE SPECIES.
- CONTRACTOR SHALL COORDINATE IN-RIVER WORK WITH UNITED STATES ARMY CORP OF ENGINEERS WEST POINT DAM BASEFLOW RELEASES.
- DAM REMOVAL WILL TAKE PLACE DURING THE SEASONAL LOW FLOW PERIOD.
- CONTRACTOR SHALL VISIBLY MARK LIMITS OF DISTURBANCE, AS DEFINED BY PROJECT PLAN DRAWINGS, WITH ORANGE CONSTRUCTION FENCE (IN UPLAND AREAS) AND WOODEN STAKES (WITHIN WATERBODIES), OR AS APPROVED BY THE OWNER'S REPRESENTATIVE.
- SURVEY DATA WAS NOT AVAILABLE NEAR THE DAM - CONTRACTOR TO REVIEW SITE DURING INITIAL MOBILIZATION AND ADVISE THE OWNER AND ENGINEER (PRIOR TO COMMENCING DAM REMOVAL) IF CONDITIONS DIFFER SUBSTANTIALLY FROM THOSE SHOWN ON THESE DRAWINGS.

Langdale & Riverview Decommissioning Schedule Overview (PRELIM) Tasks	Estimated Task Duration (months)	Project Month*									
		1	2	3	4	5	6	7	8	9	10
Decommission Riverview Dam and Powerhouse	4										
Decommission Crow Hop Dam and Construct Rock Ramp	3										
Decommission Langdale Powerhouse and Construct Island Channel	8										
Finalize Riverview Headrace Bank and Bed Protection	1										
Decommission Langdale Dam	2										
Construct Langdale Park	2										

*Month 4 is anticipated to begin in June with in-water work. In-water work: darker shading; upland work: lighter shading

LANGDALE GENERAL NOTES:

- ALL CONCRETE RE-USED ON SITE SHALL BE NO LARGER THAN 8 FEET IN ANY DIRECTION, FREE OF EXPOSED REBAR, AND SHALL BE WELL GRADED TO INCLUDE PIECES FROM 6 INCHES TO 8 FEET IN SIZE, IF NOT OTHERWISE SPECIFIED ON THE DRAWINGS.
- THE MAXIMUM DRAWDOWN RATE OF THE HEADPOND ABOVE THE DAM SHALL BE 3 FEET PER DAY. CONTRACTOR SHALL MONITOR DRAWDOWN RATE HOURLY AND STOP WORK THAT MAY FURTHER LOWER THE HEADPOND IF THE MAXIMUM DRAWDOWN RATE IS REACHED FOR ANY GIVEN DAY.

CONSTRUCTION SEQUENCE

- CONFIRM OR UPDATE ANTICIPATED POWERHOUSE AND DAM DECOMMISSIONING DURATION FOR THIS PROJECT - CURRENTLY ANTICIPATED TO TAKE APPROXIMATELY 8 MONTHS ONCE THE UPLAND EROSION & SEDIMENT CONTROLS ARE INSTALLED. THE REMOVAL OF LANGDALE DAM IS ANTICIPATED TO OCCUR AT LEAST ONE MONTH AFTER THE RIVERVIEW AND CROW HOP DAMS REMOVAL IS COMPLETED.
 - PERFORM NECESSARY ENVIRONMENTAL REMEDIATION AT THE PROJECT SITE. NO DEMOLITION WORK SHALL COMMENCE UNTIL THIS WORK IS COMPLETE.
 - MODIFY THE ELECTRICAL SERVICE AND REMOVE THOSE MECHANICAL AND ELECTRICAL COMPONENTS OF THE PROJECT NOTED FOR REMOVAL ON THE PROJECT DRAWINGS. POWERHOUSE TO MAINTAIN ELECTRICAL SERVICE AS DETERMINED BY FUTURE OWNER AND CURRENT OWNER.
 - IMPROVE THE CONSTRUCTION ACCESS ROAD ON EAST SIDE OF PROJECT.
 - STOCKPILE STONE FOR ACCESS ROAD AT GRAVEL PARKING AREA ON WEST SIDE.
 - COORDINATE PROJECT SCHEDULE WITH FLOW RELEASES AT WEST POINT DAM.
 - INSTALL PUBLIC SAFETY SIGNS AND BUOYS TO WARN PUBLIC OF ACTIVE CONSTRUCTION AND NO TRESPASSING. INSTALL AT LEAST 2 SIGNS ON EACH SHORE AND 4 FLOATING BUOYS IN THE TAILWATER OF THE DAM. OWNER TO APPROVE SIGN TEXT AND LOCATIONS PRIOR TO INSTALLATION.
- MARK LIMITS OF DISTURBANCE IN UPLAND AREAS AND ANY RESOURCE AREAS, EXISTING UTILITIES, BENCHMARKS, STRUCTURES, OR INFRASTRUCTURE THAT ARE TO BE PROTECTED DURING THIS PROJECT.
- MARK LIMITS OF DEMOLITION AND PROPOSED FILL AREAS AND OBTAIN ENGINEER APPROVAL OF STAKEOUT.
- INSTALL TIMBER MATS OVER ALL SENSITIVE RESOURCE AREAS AS WORK COMMENCES IN THOSE AREAS.
- INSTALL UPLAND EROSION AND SEDIMENT CONTROLS PRIOR TO ANY GROUND DISTURBANCE.
- LANGDALE DAM DECOMMISSIONING:
 - CONSTRUCT TEMPORARY ACCESS ROADS FROM THE PROJECT LAYDOWN AREA TO THE RIVERBANK ON THE EAST SIDE.
 - LEAVE THE FIRST 10 FT OF EACH ABUTMENT IN PLACE TO DOCUMENT THE HISTORICAL CONTEXT OF THE DAM.
 - PRIOR TO COMMENCING FULL DEPTH REMOVAL, NOTCH THE EASTERN ~500-FOOT SECTION OF THE DAM APPROXIMATELY 8 FEET DEEP TO ELEVATION 542 FEET. NOTCHING SHALL OCCUR IN STAGES, WITH THE MAXIMUM INCREASE IN NOTCH DEPTH PER STAGE BEING APPROXIMATELY 4 FEET (AS LONG AS DAILY MAXIMUM DRAWDOWN RATE IS NOT EXCEEDED; LANGDALE GENERAL NOTE 2) OR AS APPROVED BY THE ENGINEER BASED ON STONE BLOCK LAYERING. USE NOTCH RUBBLE TO CONSTRUCT THE BERM AT THE 300'-LONG EASTERN ABUTMENT AS REQUIRED BY PROPOSED FINAL GRADING AND ESTABLISH TEMPORARY ACCESS ROADS, ENSURING STABLE PASSAGE OF FLOW THROUGH THE NOTCH. CONSULT WITH ENGINEER REGARDING NOTCH LOCATION, DEPTH, AND SUPPORT TO ENSURE STABILITY DURING DAILY HIGH FLOWS.
 - DURING DAM NOTCHING, CONSTRUCT THE TEMPORARY ACCESS ROAD FROM THE WEST RIVERBANK ACROSS THE POWERHOUSE HEADRACE TO THE DAM ABUTMENT ON THE ISLAND, MINIMIZING THE PONDING OF WATER BETWEEN THE ACCESS ROAD AND THE POWERHOUSE. DEWATER THE AREA BEHIND THE TEMPORARY ACCESS ROAD, PROVIDING CULVERTS UNDER THE ACCESS ROAD TO DRAIN THE HEADRACE AREA, AS NECESSARY.
 - AFTER INITIAL NOTCH INSTALLATION, COMMENCE REMOVAL OF THE DAM CREST STARTING AT THE NOTCH AND WORKING WEST. MOVE EXISTING ROCKS AND USE RUBBLE TO CONSTRUCT ACCESS ROADS AS NECESSARY. MINIMIZING USE OF RUBBLE TO EXTENT PRACTICAL. TRANSPORT RUBBLE TO DISPOSAL LOCATIONS AS IT IS REMOVED (MINIMIZE RUBBLE LEFT IN THE RIVER OVERNIGHT TO THE EXTENT PRACTICAL). PLACE RUBBLE IN FILL DISPOSAL AREAS.
 - REMOVE AN APPROXIMATELY 2' LAYER FROM THE DAM CREST FROM EAST TO WEST (STARTING AT THE NOTCH), OR REMOVE THE DAM TO THE FULL DEPTH (IF APPROVED BY THE ENGINEER IF THE NOTCH AND EXPOSED END OF THE DAM WILL REMAIN STABLE) FROM EAST TO WEST.
 - CONTINUE REMOVING LAYERS OF THE DAM OR THE FULL DEPTH OF THE DAM, AS APPROVED, WORKING FROM EAST TO WEST.
 - UPON REACHING FINAL GRADES FOR THE DAM REMOVAL, REMOVE ANY IN-RIVER TEMPORARY FACILITIES AS EQUIPMENT WORKS OUT OF THE RIVER; REMOVING MOST RUBBLE IN THE RIVER FOR TEMPORARY ACCESS TO THOSE AREAS WHERE FILL IS PROPOSED.
 - CUT ANY REINFORCING BAR (IF PRESENT IN ANY AREAS WHERE THE DAM IS REMOVED) FLUSH WITH THE ROCK AT THE POST-REMOVAL GRADE.
 - REMOVE BOAT WARNING BUOYS AND CABLE.
 - AFTER RECEIVING OWNER'S APPROVAL OF NEW HEADGATE CONCRETE, PLACE FILL AGAINST NEW CONCRETE HEADGATES AND GRADE THE FORMER HEADRACE AREA FOR POSITIVE DRAINAGE NORTH TO THE RIVER.
 - COVER RUBBLE IN HEADRACE AREA WITH STOCKPILED OR PROCURED COVER MATERIAL AND PLANT AND MULCH AREAS THAT ARE NOT FREQUENTLY INUNDATED (PER ENGINEER FIELD DIRECTION, AS EXTENT OF PLANTING DEPENDS ON SEDIMENT FLUSHING).

- POWERHOUSE CLOSURE:
 - SECURE THE FOUR HORIZONTAL AND TWO VERTICAL TURBINE RUNNERS IN PLACE BY WELDING THE TURBINE RUNNERS TO THE TURBINE SUPPORT STRUCTURE.
 - AS SEDIMENT DRIES OUT IN THE HEADRACE, CONSTRUCT AN ACCESS ROAD FROM DAM RUBBLE TO THE POWERHOUSE, ABUTMENT, AND BULKHEAD GATES AND DREDGE OUT SEDIMENT AS REQUIRED TO INSTALL NEW CONCRETE STRUCTURES AT EACH OF THE GATE LOCATIONS.
 - PLACE FORMWORK, REINFORCING BAR, AND CONCRETE AS REQUIRED TO SEAL OFF 11 HEADGATES, THE BULKHEAD GATE, AND THE ABUTMENT GATE.
 - OBTAIN OWNER'S APPROVAL OF WORK AT HEADGATES PRIOR TO PLACING FILL AGAINST GATES.
 - AS SCHEDULE ALLOWS, REMOVE POWERHOUSE INFRASTRUCTURE, EQUIPMENT AND UTILITIES PER DEMOLITION PLANS INCLUDING:
 - REMOVAL OF ELECTRICAL TRANSMISSION EQUIPMENT,
 - PLACEMENT OF NEW CONCRETE DRAFT TUBE COVER TO REDUCE FLOW THROUGH STRUCTURE,
 - VENTING THE TURBINE CHAMBERS, AND
 - INSTALLATION OF THE TAILRACE DRAFT TUBE BARRIERS.
- ISLAND CHANNEL CONSTRUCTION
 - INSTALL TEMPORARY ROADWAY FOR CONSTRUCTION ACCESS TO THE ISLAND CHANNEL AREA FROM THE WEST END OF THE MAIN DAM.
 - LEAVE VEGETATION AND DIVERSION WALL ON THE UPSTREAM END TO HOLD SOIL IN PLACE AND FORM A SOIL PLUG FOR 50' AT ELEVATION 543' OR HIGHER.
 - DEMOLISH ISLAND DIVERSION WALL SOUTH OF THE PROPOSED ISLAND CHANNEL, PLACING RUBBLE ON THE SHORE-SIDE OF THE WALL TO SERVE AS SHORELINE EROSION PROTECTION. AVOID DISTURBANCE OF AND PLACEMENT OF FILL IN WETLANDS.
 - CLEAR/GRUB THE REMAINING ISLAND CHANNEL AREA FOR ISLAND CHANNEL EXCAVATION AND FILL DISPOSAL (STOCKPILING TOPSOIL AND SUITABLE COVER MATERIAL FOR FUTURE USE).
 - INSTALL TAILRACE BARRIERS AROUND POWERHOUSE VIA TEMPORARY ACCESS BUILT OUT FROM THE ISLAND. REMOVE THIS ACCESS ROAD WHEN THIS WORK IS COMPLETED.
 - COMPLETE CHANNEL GRADING ON NORTH SIDE OF ISLAND DIVERSION WALL.
 - EXCAVATE PROPOSED ISLAND CHANNEL AND INSTALL REQUIRED RIP RAP FROM DOWNSTREAM TO UPSTREAM, PRESERVING THE VEGETATED EARTHEN PLUG OF SOIL TO ALLOW WORK TO OCCUR MOSTLY IN THE DRY UNTIL THE PLUG IS REMOVED. INSTALL A TEMPORARY BARRIER UPSTREAM OF THE PLUG (OR USE A PORTION OF THE EXISTING DIVERSION WALL, IF ACCEPTABLE TO ENGINEER), AND THEN REMOVE THE EARTHEN PLUG TO COMPLETE FINAL CHANNEL GRADING AND THEN INSTALL REMAINING RIPRAP AND TOPSOIL; SEED, AND MULCH SLOPES TO STABILIZE.
 - REMOVE TEMPORARY BARRIER TO ALLOW FLOW INTO THE CHANNEL.
- PARK CONSTRUCTION:
 - STRIP AND STOCKPILE TOPSOIL WITHIN PARK FOOTPRINT AS REQUIRED FOR SITE IMPROVEMENTS. REMOVE FENCING AND EXISTING CONCRETE PER THE DEMOLITION PLAN
 - COMPLETE RECREATION IMPROVEMENTS
- REMOVE TEMPORARY FACILITIES AND THEN SEED AND MULCH ALL DISTURBED AREAS AS FINAL GRADES ARE ACHIEVED AND PER EROSION AND SEDIMENT CONTROL PLAN.
- RESTORE SITE TO OWNER'S APPROVAL AND PERMIT CONDITIONS.

GENERAL CONCRETE NOTES

- DESIGN, MATERIAL, AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE FOLLOWING STANDARDS:
 - ACI-318-14 -BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
 - ACI 301-10 -SPECIFICATIONS FOR STRUCTURAL CONCRETE
 - ACI 347-04 -GUIDE TO FORMWORK FOR CONCRETE
 - ACI SP-66(-04) -ACI DETAILING MANUAL
- CONCRETE DESIGN SPECIFICATIONS:
 - MINIMUM 28 DAY STRENGTH = 4000 PSI.
 - MAXIMUM WATER/CEMENT RATIO = 0.40
 - SLUMP 3" TO 4".
 - AIR CONTENT PROVIDED BY AIR ENTRAINMENT ADMXTURE 5% TO 7% AS MEASURES BY ASTM C231.
 - WATER REDUCING ADMXTURE SHALL BE USED AT THE OPTION OF THE CONTRACTOR.
 - ADMXTURES CONTAINING CALCIUM CHLORIDE SHALL NOT BE USED.
- REINFORCEMENT:
 - ASTM A615 GRADE 60.
 - CONTRACTOR SHALL FIELD BEND REINFORCING BARS TO CLEAR BOXOUTS AND PIPES WHERE REQUIRED. NO CUTTING OF REINFORCEMENT BARS SHALL BE DONE WITHOUT PRIOR APPROVAL OF OWNER WITH RECOMMENDATIONS FROM THE ENGINEER.
 - HOOKS: HOOKS IN BARS SHALL BE DIMENSIONED AND BENT PER ACI STANDARD HOOKS.
 - REBAR COVER: 3" OR AS NOTED.
- CONCRETE ANCHORS AND EMBEDMENTS
 - ALL MATERIAL FOR BOLTS SHALL CONFORM TO ASTM F1554 GRADE 36.
 - ANCHOR BOLT ASSEMBLIES TO BE HOT DIPPED GALAVANIZED PER ASTM A153.
 - ANCHOR BOLTS SHALL BE FURNISHED WITH HEAVY HEX NUTS THAT CONFORM TO ASTM A563 AND WASHERS THAT CONFORM TO ASTM ASTM F436.
 - ADHESIVE ANCHOR BOLTS SHALL BE INSTALLED WITH HILTI RE--500, OR APPROVED EQUAL. ANCHORS SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTIONS.
 - ALL EMBEDDED STEEL EXCEPT FOR ANCHOR BOLTS SHALL BE ASTM A36. EXPOSED EMBEDDED STEEL SHALL BE HOT DIPPED GALVANIZED PER ASTM A153. WELDED ANCHOR STUDS SHALL COMPLY WITH ASTM A108 AND AWS D1.1.

- FORMWORK AND CONSTRUCTION JOINTS:
 - ALL FORMWORK SHALL BE DESIGNED BY CONTRACTOR.
 - CONTRACTOR SHALL CONSTRUCT FORMS TRUE TO LINE AND GRADE, ADEQUATELY BRACED TO MAINTAIN POSITION DURING PLACEMENT OF CONCRETE. WELDING OF FORM TIES TO STRUCTURAL DOWELS IS NOT PERMITTED, THOUGH ADDITIONAL DOWELS MAY BE INSTALLED FOR THAT PURPOSE.
 - PROVIDE 3/4" CHAMFER ON ALL EXPOSED EDGES UNLESS NOTED OTHERWISE.
 - CONTRACTOR SHALL REPAIR ALL AIR HOLES AND VOIDS LARGER THAN 1/4", FILL ALL TIE HOLES, AND REMOVE FINNS AND PROJECTIONS.
 - CONSTRUCTION JOINTS SHOWN SHALL BE LOCATED AS SHOWN UNLESS OTHERWISE APPROVED BY THE ENGINEER. ADDITIONAL JOINTS MAY BE USED WHERE THE STRENGTH AND DURABILITY OF THE STRUCTURE IS NOT AFFECTED AND ARE SUBJECT TO THE REVIEW OF THE ENGINEER. IF CONTRACTOR PROPOSES CONSTRUCTION JOINT LOCATIONS DIFFERENT FROM THOSE SHOWN ON DRAWINGS, CONTRACTOR SHALL SUBMIT LOCATION OF ANY PROPOSED CONSTRUCTION JOINT TO OWNER/ENGINEER FOR REVIEW.
 - REINFORCEMENT SHALL BE CONTINUOUS THRU JOINT, UNLESS NOTED OTHERWISE AND BE FULLY DEVELOPED ON BOTH SIDE OF CONSTRUCTION JOINTS.
 - CONTRACTOR SHALL CLEAN ALL JOINTS TO REMOVE LAITANCE WITH MIN. 1500 PSI WATER BLAST OR SANDBLASTING PRIOR TO NEXT CONCRETE PLACEMENT. MECHANICAL ROUGHENING IS AN ACCEPTABLE ALTERNATE FOR LAITANCE REMOVAL. ACID CLEANING/REMOVAL OF LAITANCE IS NOT ACCEPTABLE. JOINTS ARE CLEAN WHEN APPROVED BY OWNER OR REPRESENTATIVE.
 - CONTRACTOR SHALL SATURATE JOINT IMMEDIATELY PRECEDING AND 12 HOURS PRIOR TO NEXT CONCRETE PLACEMENT.
 - CONTRACTOR SHALL REMOVE FORMS 2-3 DAYS AFTER CONCRETE PLACEMENT.
 - MAXIMUM HORIZONTAL C.J. SPACING IS 25 FEET (AND MATCH MONOLITHIC C.J. SPACING), ON THE SPILLWAY.
 - MAXIMUM VERTICAL C.J. SPACING IS 10 FEET (U.N.O.).
 - CONTRACTOR SHALL CURE CONCRETE FOR 7 DAYS MINIMUM. DO NOT APPLY LOADS TO NEW CONCRETE FOR AT LEAST 7 DAYS UNLESS APPROVED BY THE OWNER WITH RECOMMENDATIONS FROM THE ENGINEER.
 - VERTICAL CONCRETE SURFACES SHALL HAVE A SMOOTH FORMED FINISH. HORIZONTAL CONCRETE SURFACES SHALL HAVE A SMOOTH FORMED FINISH (U.N.O.), EXCEPT WALKING SURFACE SHALL HAVE BROOM FINISH.
- WATERSTOPS SHALL BE HYDROTITE CJ OR APPROVED EQUAL HYDROPHILIC RUBBER CONCRETE JOINT WATERSTOP.
- NON-SHRINK GROUT: SHALL BE NON-SHRINK TYPE, PREMIXED COMPOUND CONSISTING OF NON-METALLIC AGGREGATE, CEMENT, WATER REDUCING AND PLASTICIZING ADDITIVES, CAPABLE OF DEVELOPING A MINIMUM COMPRESSIVE STRENGTH OF 6,000 PSI AT 28 DAYS. FOR AREAS UNDERWATER USE SUBEG HYDRAULIC CEMENT OR AN APPROVED EQUIVALENT. CONSULT ENGINEER FOR FULL GROUT DETAILS.
- SURFACE PREPARATION:
 - CONTRACTOR SHALL NOT PLACE CONCRETE AGAINST ACTIVE LEAKS OR SEAMS WITH FLOWING WATER. STOP FLOW OR INSTALL DRAINAGE TO DIVERT FLOW AWAY FROM FRESH CONCRETE.
 - ALL LOOSE ROCK, CONCRETE, AND SOIL SHALL BE REMOVED PRIOR TO CONSTRUCTION. REMOVE ANY GREASE, OIL, OTHER COATINGS OR CONTAMINATION ON ANY EXISTING SURFACE.
 - WHEN CONCRETE IS PLACED DIRECTLY AGAINST ROCK SURFACES, THE SURFACE SHALL BE CLEANED WITH HIGH-PRESSURE WATER, (6000 PSI MINIMUM PRESSURE), TO REMOVE ALL DIRT OR LOOSE MATERIAL.
 - SURFACE PREPARATION OF EXISTING CONCRETE AND MASONRY SURFACES SHALL REMOVE ALL LOOSE OR DETERIORATED MATERIAL AND VEGETATION. ACCEPTABLE METHODS INCLUDE SANDBLASTING, MECHANICAL CHIPPING, OR HIGH-PRESSURE WATER BLAST (6000 PSI MINIMUM PRESSURE).
 - WILL BE COMPLETED WHEN FIELD DETERMINED BY OWNER OR REPRESENTATIVE.
- WHERE DIMENSIONS ARE NOT SHOWN, THE CONTRACTOR SHALL CONTACT ENGINEER FOR CLARIFICATION. VERIFY DIMENSIONS PRIOR TO START OF WORK.

GENERAL STEEL NOTES

- STRUCTURAL STEEL DESIGN STANDARD - AISC SPECIFICATION FOR DESIGN AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS, 15th EDITION, ASD DESIGN METHOD. WELDING SHALL BE IN ACCORDANCE WITH AWS D.1.1- STRUCTURAL WELDING CODE.
- MATERIAL PROPERTIES, UNLESS NOTED OTHERWISE:
 - STEEL BARS, PLATES, ANGLES, CHANNELS AND OTHER SHAPES - ASTM A36.
 - STRUCTURAL STEEL W AND WT SHAPES - ASTM A992, GRADE 50.
 - HIGH STRENGTH BOLTS - 3/4" DIAMETER, ASTM A325-N WITH ASTM A563 OH NUTS AND ASTM F436 WASHERS. ALL COMPONENTS OF FASTENER ASSEMBLIES SHALL BE GALAVANIZED PER ASTM A153.
 - PIPING - ASTM A53, GRADE B.
 - STRUCTURAL TUBING - ASTM A500 GR C
 - WELDS- PER AWS D1.1 MATCHING ELECTRODES TO STRENGTH OF BASE METALS.
 - ALL STRUCTURAL STEEL AND MISCELLANEOUS STEEL SHALL BE HOT DIPPED GALVANIZED PER ASTM A123, UNLESS NOTED OTHERWISE.
- CONNECTIONS
 - CONNECTIONS SHALL BE SHOP WELDED AND FIELD BOLTED UNLESS NOTED OTHERWISE.
 - BOLTED CONNECTIONS SHALL HAVE A MINIMUM OF 2 BOLTS. MINIMUM BOLT SIZE 3/4" DIA. UNLESS NOTED OTHERWISE.
 - ALL TEMPORARY EXPANSION ANCHORS (I.E. ANCHORS NEEDED FOR TEMPORARY ACCESS INSTALLATION) NOT FULLY REMOVED SHALL BE STAINLESS STEEL.
- WHERE DIMENSIONS ARE NOT SHOWN, CONTACT ENGINEER FOR CLARIFICATION. VERIFY DIMENSIONS PRIOR TO START OF WORK.

NOT FOR CONSTRUCTION

GEORGIA POWER COMPANY ATLANTA, GEORGIA	
LANGDALE (FERC PROJECT NO. 2341) DAM DECOMMISSIONING	
GENERAL NOTES I	
Kleinschmidt	
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Project No.	Date Revised
534-039	08-03-22
Drawing No.	L-100-01

No.	Revision	Date	Drawn	Checked
A	90% DESIGN	08-03-22	RMD	TAK
Design	Drawn	Checked		
TAK	BJL	TAK		

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24x36 = FULL SCALE

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SECTION, DETAIL AND VIEW IDENTIFICATION SYMBOLS

SECTION ID

SECTION ID

SCALE OF SECTION

THIS SECTION IS CUT AND SHOWN ON THE SAME SHEET.

SECTION ID

SHEET WHERE SECTION IS SHOWN ON

SECTION ID

SHEET WHERE SECTION IS CUT ON

THIS SECTION IS CUT ON SHEET 1 AND SHOWN ON SHEET 4 WITHIN THE SAME DRAWING SERIES, SEE DRAWING AND SHEET NUMBER IDENTIFICATION THIS SHEET.

SECTION, DETAIL AND VIEW IDENTIFICATION SYMBOLS NOTES:

1. SECTIONS ARE ALPHABETICAL.
2. DETAILS ARE NUMERICAL.
3. VIEWS ARE DOUBLE ALPHABETICAL.
4. SHEET REFERENCE NUMBER FOR SECTIONS AND DETAILS OCCUR WITHIN THE SAME DRAWING SERIES.



REVISION IDENTIFICATION

INDICATES THE REVISION NUMBER IN REFERENCE TO THE TITLE BLOCK REVISION DESCRIPTION

REVISION CLOUD INDICATES CHANGES TO AN AREA WITHIN THE CLOUD

DRAWING AND SHEET NUMBER IDENTIFICATION*

DRAWING NUMBER

C-210-01

PROJECT
PREFIX

DRAWING
SERIES

DRAWING
SERIES
SUB

SHEET NUMBER
(ONLY SHEET NUMBERS ARE
REFERENCED IN SECTION
MARKERS AND LABELS)

*REFERS TO DRAWING NUMBER IN LOWER RIGHT HAND CORNER OF TITLE BLOCK.

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GEORGIA POWER COMPANY
ATLANTA, GEORGIA

LANGDALE (FERC PROJECT NO. 2341)
DAM DECOMMISSIONING

GENERAL NOTES II

No.	Revision	Date	Drawn	Checked
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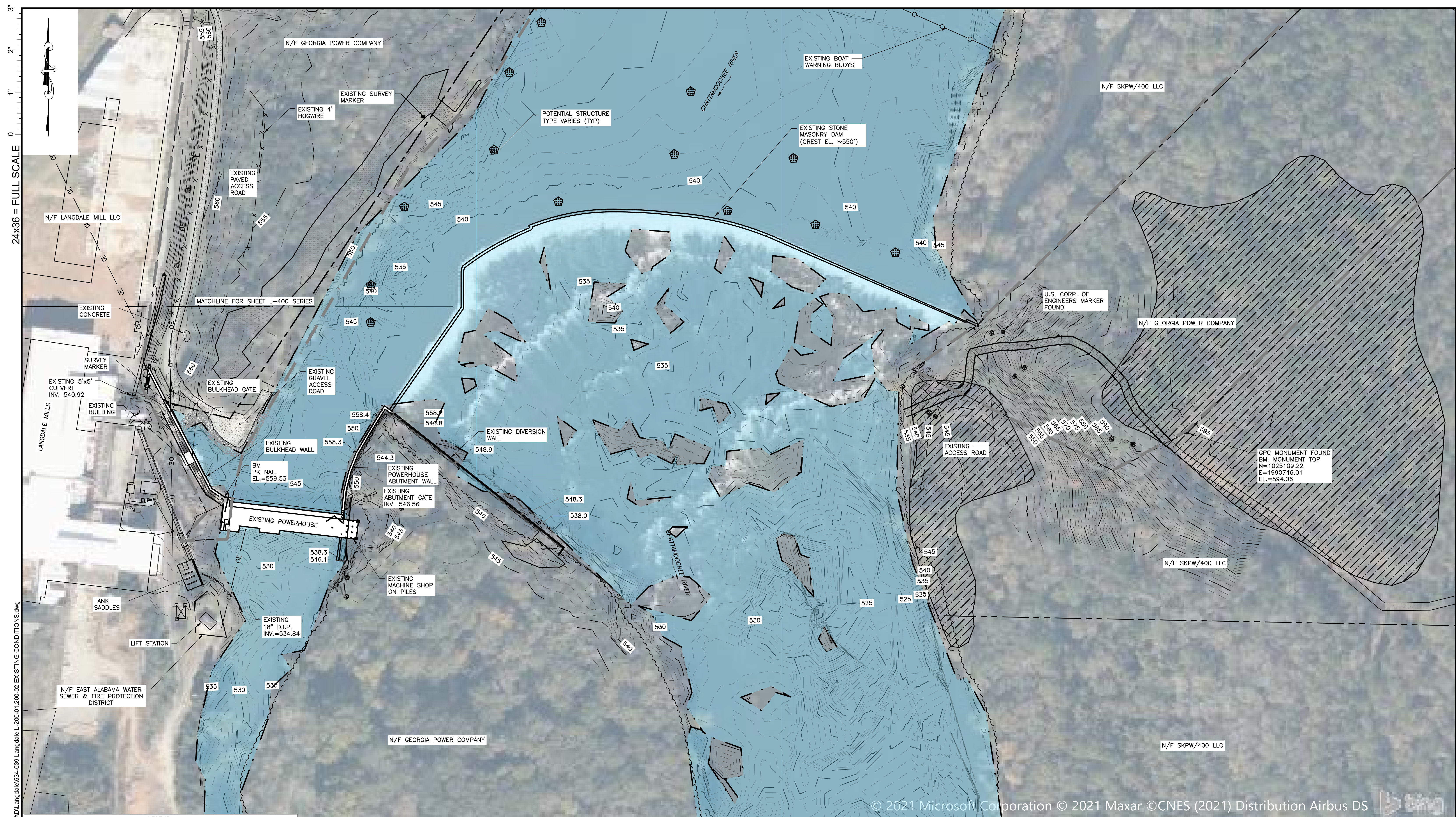
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Project No.	Date Revised	Drawing No.	L-100-02
534-039	08-03-22		

24x36 = FULL SCALE

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 J:\534\039\Drawings\CADD\Langdale\534-039 Langdale L-200-02 EXISTING CONDITIONS.dwg

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LEGEND		
EXISTING CONTOURS	--- xxx ---	SENSITIVE RESOURCE AREA
PROPOSED CONTOURS	--- xxx ---	FERC PROJECT BOUNDARY
PROPERTY LINE	---	APRX. EDGE OF EXISTING TREE COVER
LIMIT OF DISTURBANCE	--- LOD ---	PROPOSED EDGE OF TREE COVER
GA DOT TYPE C SEDIMENT BARRIER	--- SF ---	DEMOLITION
EXISTING ACCESS ROAD	---	FILL DISPOSAL AREAS
TEMPORARY FEATURE	---	EXISTING WETLAND (2020 SURVEY)
PROPOSED FEATURE	---	USACE EASEMENT
APPROXIMATE LOCATION OF WATERS EDGE	---	EXISTING BOAT BUOYS

- NOTES:**
1. PROJECT HORIZONTAL DATUM: NAD83; PROJECT VERTICAL DATUM: NAVD88.
 2. DIFFERING SURVEY METHODOLOGIES ABOVE AND BELOW THE WATERS EDGE MAY RESULT IN ELEVATION DISCREPANCIES AT THE EXISTING EDGE OF WATER. CONTRACTOR TO FIELD VERIFY CRITICAL ELEVATIONS PRIOR TO STARTING CONSTRUCTION.
 3. APPROXIMATE LOCATION OF WATERS EDGE IS DURING A WEST POINT BASE FLOW OF 670 CFS.
 4. THE SURVEYORS CERTIFICATION EXTEND ONLY TO THE TOPOGRAPHICAL ASPECTS AND THAT THE TOPOGRAPHICAL SURVEY DOES NOT CONSTITUTE A BOUNDARY SURVEY. THIS PLAN IS NOT TO BE RECORDED OR USED TO CONVEY PROPERTY. PARCEL BOUNDARIES ARE FROM PUBLIC SOURCES, NOT A BOUNDARY SURVEY.



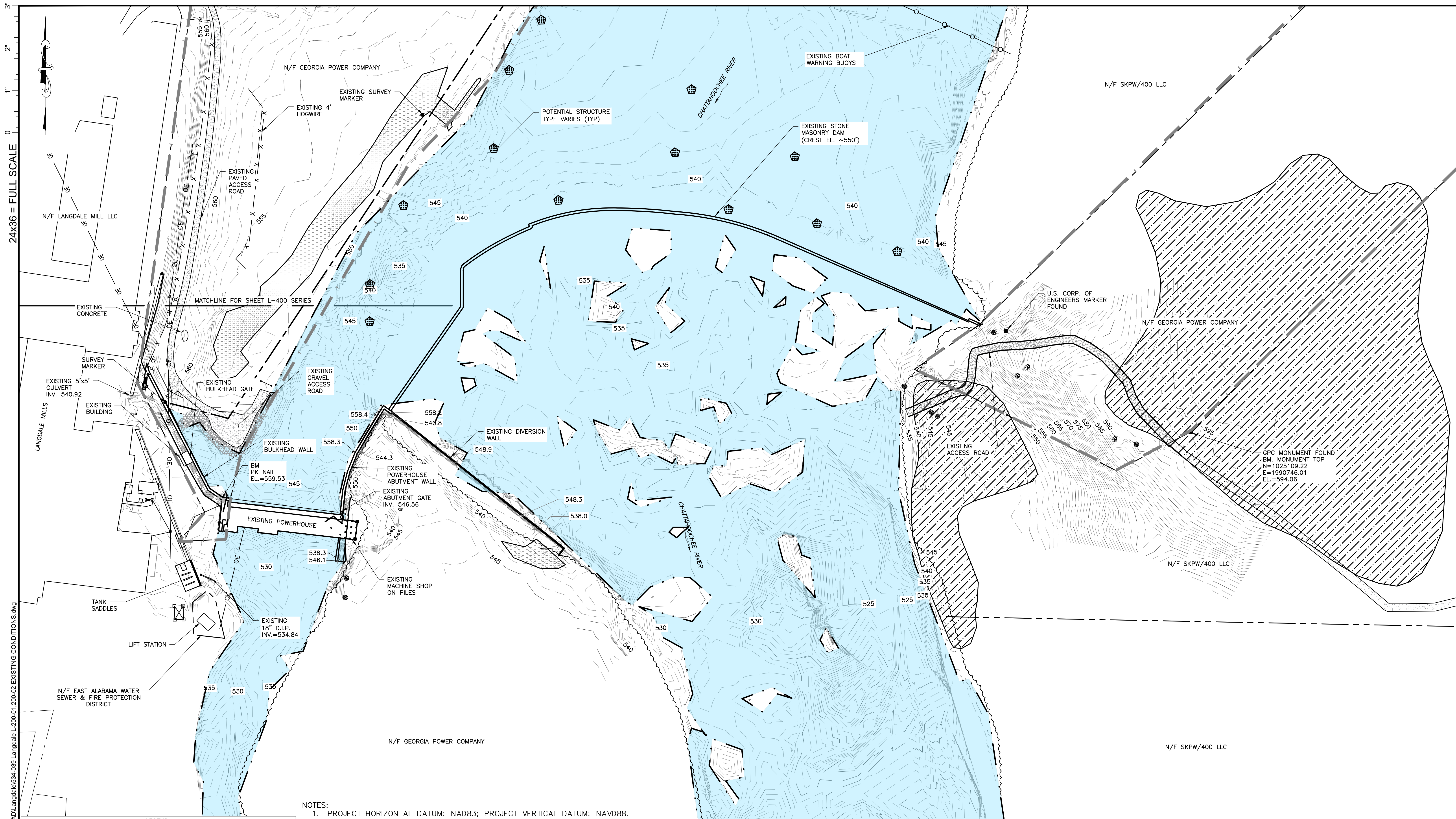
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LANGDALE (FERC PROJECT NO. 2341) DAM DECOMMISSIONING	
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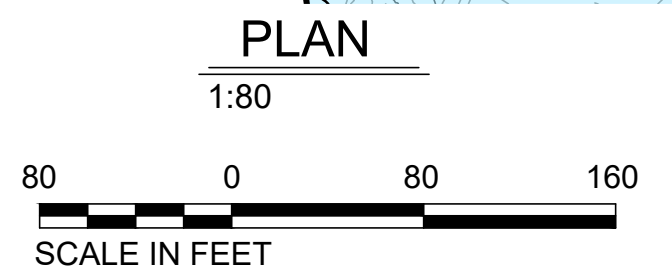
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Designed	Drawn	Checked	Project No.	Date Revised	Drawing No.
TAK	BJL	TAK	534-039	08-03-22	L-200-01

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LEGEND		
EXISTING CONTOURS	--- xxx ---	SENSITIVE RESOURCE AREA
PROPOSED CONTOURS	— xxx —	FERC PROJECT BOUNDARY
PROPERTY LINE	---	APRX. EDGE OF EXISTING TREE COVER
LIMIT OF DISTURBANCE	— LOD —	PROPOSED EDGE OF TREE COVER
GA DOT TYPE C SEDIMENT BARRIER	— SF —	DEMOLITION
EXISTING ACCESS ROAD	---	FILL DISPOSAL AREAS
TEMPORARY FEATURE	---	EXISTING WETLAND (2020 SURVEY)
PROPOSED FEATURE	---	USACE EASEMENT
APPROXIMATE LOCATION OF WATERS EDGE	---	EXISTING BOAT BUOYS

NOT FOR CONSTRUCTION

GEORGIA POWER COMPANY
 ATLANTA, GA.
 LANGDALE (FERC PROJECT NO. 2341)
 DAM DECOMMISSIONING

EXISTING CONDITIONS PLAN (NO AERIAL)

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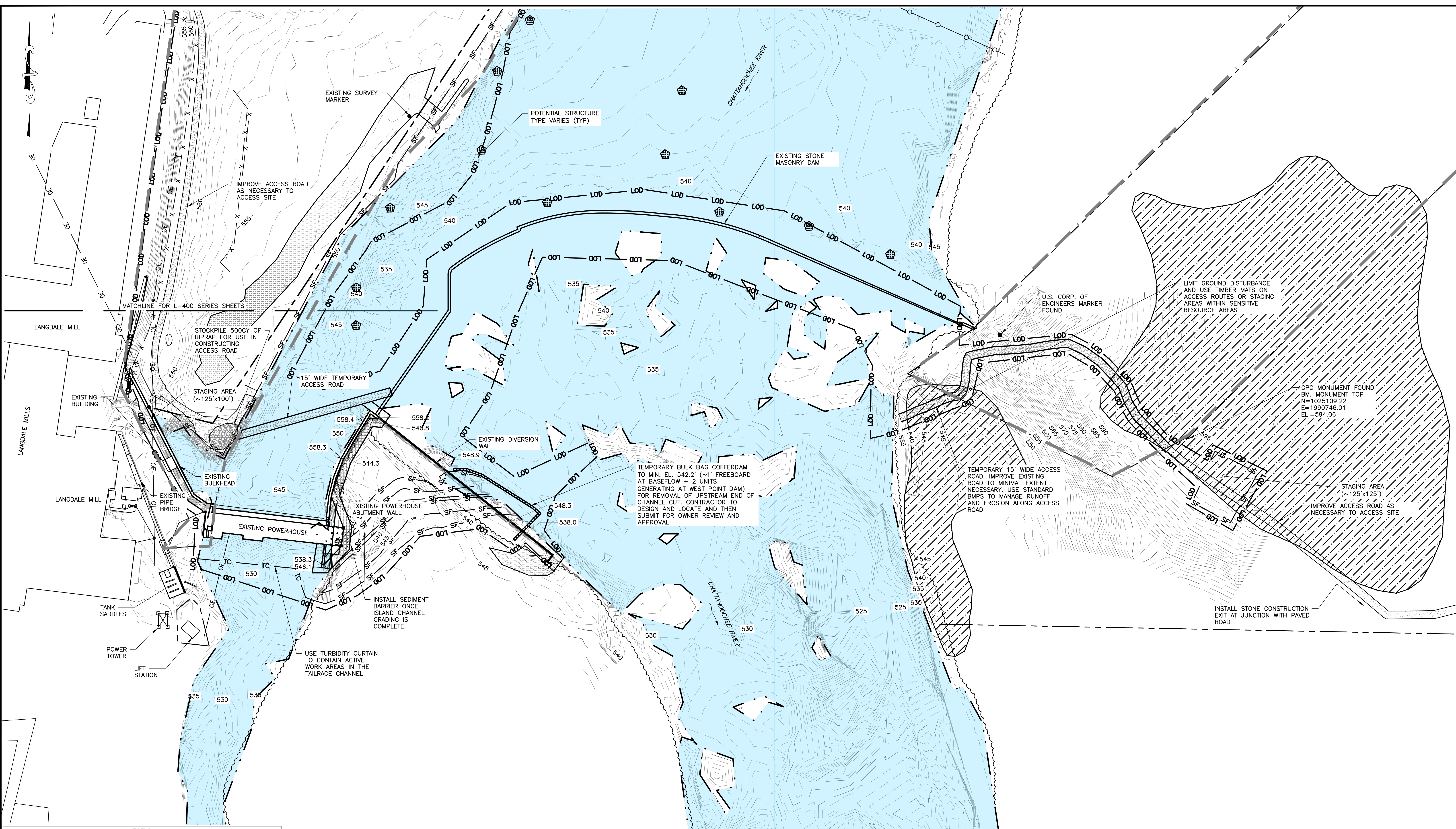
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24x36 = FULL SCALE

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LEGEND		
EXISTING CONTOURS	--- xxx ---	SENSITIVE RESOURCE AREA
PROPOSED CONTOURS	--- xxx	FERC PROJECT BOUNDARY
PROPERTY LINE	---	APRX. EDGE OF EXISTING TREE COVER
LIMIT OF DISTURBANCE	--- LOD ---	PROPOSED EDGE OF TREE COVER
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 3. THIS PROJECT IS PROPOSED TO WORK DIRECTLY IN THE RIVER TO LIMIT THE IMPACTS OF DEWATERING A PORTION OF THE RIVER BED BY INSTALLING A COFFERDAM. THIS WILL ALSO REDUCE THE DURATION OF THE CONSTRUCTION PROJECT OVERALL.

PLAN

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LANGDALE (FERC PROJECT NO. 2341) DAM DECOMMISSIONING	
TEMPORARY FACILITIES PLAN	
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Drawn	RMD
Checked	TAK
Designed	TAK
Drawn	BJL
Checked	TAK
Project No.	534-039
Date Revised	08-03-22
Drawing No.	L-210-01

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 J:\5341039\Drawings\CADD\Langdale L-210-02 EROSION & SEDIMENT CONTROL.dwg
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EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN

1. THIS PLAN HAS BEEN DEVELOPED TO PROVIDE A STRATEGY FOR CONTROLLING SOIL EROSION AND SEDIMENTATION DURING AND AFTER CONSTRUCTION OF THE PROPOSED DEVELOPMENT. THIS PLAN IS BASED ON THE ALABAMA HANDBOOK FOR EROSION CONTROL, SEDIMENT CONTROL AND STORMWATER MANAGEMENT ON CONSTRUCTION SITES AND URBAN AREAS (2018 EDITION) AND MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA (2016 EDITION).
2. AT NO TIME SHALL UPLAND SEDIMENT BE PERMITTED TO LEAVE THE SITE.
3. WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT
4. ALL POLLUTION CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
5. ALL SOIL OR STONE WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE WILL BE REMOVED IMMEDIATELY BY THE CONTRACTOR.
6. ALL WORK SHALL BE PERFORMED WITHIN THE LIMIT OF DISTURBANCE THAT HAS BEEN MARKED IN THE FIELD BY THE CONTRACTOR.
7. NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION OR WITHIN 25- FEET OF THE COASTAL MARSHLAND BUFFER AS MEASURED FROM THE JURISDICTIONAL DETERMINATION LINE WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.
8. AMENDMENTS/REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMPS WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.
9. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.*
10. KEY ACTIONS:
 - DELINEATE/MARK SOIL DISTURBANCE LIMITS
 - INSTALL SEDIMENT BARRIERS BEFORE DISTURBING ANY SOILS
 - INSTALL A STABILIZED CONSTRUCTION ENTRANCE BEFORE ANY HAUL TO OR FROM THE SITE
 - DIVERT AND DISPERSE STORM RUNOFF TO UNDISTURBED AREAS WHEREVER POSSIBLE
 - MULCH DISTURBED AREAS
 - PROTECT SLOPES
 - INSPECT AND REPAIR EROSION CONTROLS AND SEDIMENT BARRIERS

GENERAL CONSTRUCTION NOTES

1. DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE ALL REASONABLE MEASURES TO SCHEDULE EARTHWORK OPERATIONS SUCH THAT THE AREA OF EXPOSED AND DISTURBED SOIL IS MINIMIZED. CONSTRUCTION SHALL BE PHASED TO REDUCE THE AREA OF DISTURBED SOIL AT ANY ONE TIME. UPGRADE STORM WATER DIVERSION AND DISPERSION MEASURES SHALL BE INSTALLED WHERE APPROPRIATE. AFTER ACHIEVING ROUGH GRADE OF A PORTION OF THE SITE AND PRIOR TO EXTENDING EARTHWORK OPERATIONS, THE CONTRACTOR SHALL STABILIZE DISTURBED AREAS BY TEMPORARY MULCHING UNTIL FINAL GRADE IS REACHED. ALL CUT AND FILL SLOPES SHALL BE STABILIZED UPON COMPLETION. THE FOLLOWING MEASURES SHALL BE UNDERTAKEN TO PROVIDE PROTECTION TO THE SOIL, WATER, AND ADJUTING LANDS.
2. PRIOR TO GRUBBING OR ANY EARTH MOVING OPERATION, SILTATION FENCE OR SEDIMENT BARRIER SHALL BE INSTALLED ACROSS THE SLOPE ON THE CONTOUR AT THE DOWNHILL LIMIT OF THE WORK AS PROTECTION AGAINST CONSTRUCTION RELATED EROSION. INSTALL ALL NECESSARY STORMWATER DIVERSIONS AND DISPERSION MEASURES.
3. EROSION CONTROL BLANKET (ECS-2B, OR EQUIVALENT) SHALL BE INSTALLED IN ALL DRAINAGE SWALES AND DITCHES. ALL SLOPES STEEPER THAN 3:1 SHALL BE COVERED WITH EROSION CONTROL BLANKET TO PREVENT EROSION DURING CONSTRUCTION AND TO FACILITATE REVEGETATION AFTER TOPSOILING AND SEEDING.
4. PERMANENT SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN FOURTEEN CALENDAR DAYS AFTER FINAL GRADING HAS BEEN COMPLETED. WHEN IT IS NOT POSSIBLE OR PRACTICAL TO PERMANENTLY STABILIZE DISTURBED LAND, TEMPORARY EROSION CONTROL MEASURES SHALL BE EMPLOYED TO PROTECT DISTURBED AREAS INCLUDING STOCKPILES WITHIN FOURTEEN CALENDAR DAYS OF EXPOSURE, OR FORMATION OF STOCKPILES (SEVEN DAYS ON AREAS ADJACENT TO WETLANDS) UNLESS THESE AREAS ARE TO BE SUBSEQUENTLY SURFACED. ALL DISTURBED AREAS SHALL BE MULCHED FOR EROSION CONTROL UPON COMPLETION OF ROUGH GRADING.
5. PUMPED DISCHARGE FROM CONSTRUCTION DEWATERING OPERATIONS, SHALL BE DIRECTED TO SEDIMENT CONTROL DEVICES ADJACENT TO THE ACTIVITY. SEDIMENT CONTROL DEVICES SHALL BE TEMPORARY FACILITIES SUCH AS DIRTBAGS, OR OTHER SIMILAR DEVICES THAT DO NOT REQUIRE ADDITIONAL SOIL DISTURBANCE. ADDITIONAL SEDIMENTATION PROTECTION SHALL BE PROVIDED BY THE INSTALLATION OF STRAW BALE BARRIERS BETWEEN THE CONTROL DEVICES AND ANY RECEIVING DRAINAGE COURSE.
6. NATIVE TOPSOIL OR EROSION CONTROL MIX SEDIMENT BERM SHALL BE SAVED, STOCKPILED, MULCHED, AND REUSED AS MUCH AS POSSIBLE ON THE SITE. SILTATION FENCE SHALL BE INSTALLED AT THE BASE OF STOCKPILES AT THE DOWNHILL LIMIT TO PROTECT AGAINST EROSION. STOCKPILES SHALL BE STABILIZED BY SEEDING AND MULCHING UPON FORMATION OF THE PILES. UPGRADEMENT OF THE STOCKPILES, STABILIZED DITCHES AND/OR BERMS SHALL BE CONSTRUCTED TO DIVERT STORMWATER RUNOFF AWAY FROM THE PILES.
7. ALL SILTATION FENCE, EROSION CONTROL MIX SEDIMENT BARRIER, AND STRAW BALE BARRIERS SHALL BE INSPECTED BY THE CONTRACTOR ON A WEEKLY BASIS OR WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.5 INCHES OR GREATER. ALL DAMAGED EROSION CONTROL DEVICES SHALL BE REPAIRED OR REPLACED IMMEDIATELY. TRAPPED SEDIMENT SHALL BE REMOVED BEFORE IT HAS ACCUMULATED HALF OF THE SILTATION BARRIER HEIGHT. DEVICES NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION SHALL ALSO BE REPAIRED OR REPLACED AS REQUIRED.
8. IF FINAL SEEDING OF THE DISTURBED AREAS IS NOT COMPLETED BY OCTOBER 15 OF THE YEAR OF CONSTRUCTION OR TO NOT BE SEEDED BEFORE SPRING, THEN WITHIN THE NEXT 10 CALENDAR DAYS THESE AREAS SHALL BE GRADED AND SMOOTHED, THEN SEEDED TO A WINTER COVER CROP OF WINTER RYE AT A RATE OF 3 LBS. PER 1,000 SQ. FT. THE FOLLOWING SHALL BE INCORPORATED INTO THE SOIL PRIOR TO WINTER RYE SEEDING: GROUND LIMESTONE AT A RATE OF 100 LBS. PER 1,000 SQ. FT., FOLLOWED BY A 10-10-10 FERTILIZER AT A RATE OF 14 LBS. PER 1,000 SQ. FT. STRAW MULCH SHALL BE APPLIED AT A RATE OF 100 LBS. PER 1,000 SQ. FT. FOLLOWING SEEDING. IF THE WINTER RYE SEEDING CANNOT BE COMPLETED BY NOVEMBER 1, THEN ON THAT DATE STRAW MULCH SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE TO PROVIDE WINTER PROTECTION. IF THE WINTER RYE DOES NOT SHOW ADEQUATE GROWTH BY DECEMBER 5, THEN ADDITIONAL STRAW MULCH SHALL BE APPLIED AT THE RATE OF 100 LBS. PER 1,000 SQ. FT. A SUITABLE BINDER SUCH AS CURASOL OR RMB PLUS SHALL BE USED ON STRAW MULCH FOR WIND CONTROL.
9. INTERCEPTED SEDIMENT SHALL BE REMOVED AND SHALL BE DEPOSITED TO AN AREA THAT SHALL NOT CONTRIBUTE TO SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.

DUST CONTROL

1. IF DUSTY CONDITIONS OCCUR ON-SITE AS A RESULT OF INCREASED VEHICULAR TRAFFIC DURING DRY CONDITIONS, DUST CONTROL MEASURES SHALL BE IMPLEMENTED.
2. WATER: WATER SHOULD BE APPLIED AT A RATE SUFFICIENT ENOUGH TO MOISTEN EXPOSED SOIL TO PREVENT DUST TRANSPORT BUT NOT AT A RATE THAT PRODUCES ANY AMOUNT OF SILT-LADEN RUNOFF OR MUDDY POOLS IN THE TRAVEL WAY.
3. STONE: REPLACE MATERIAL AS VOIDS IN STONE BECOME FILLED AND TRACKING OCCURS.

MONITORING PROGRAM

1. THE DESIGN PROFESSIONAL WHO PREPARED THE ES&PC PLAN IS TO INSPECT THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMPS WITHIN 7 DAYS AFTER INSTALLATION.
2. SEDIMENTATION AND EROSION CONTROL STRUCTURES SHALL BE INSPECTED CONTINUALLY BY THE CONTRACTOR AND ALL STRUCTURES DAMAGED BY CONSTRUCTION EQUIPMENT, VANDALS, OR THE ELEMENTS SHALL BE REPAIRED IMMEDIATELY. FOLLOWING RAINSTORMS AND DURING RUNOFF EVENTS, THE SITE AND ALL STRUCTURES SHALL BE INSPECTED FOR EROSION AND DAMAGE. ALL DAMAGED STRUCTURES SHALL BE REPAIRED AND/OR ADDITIONAL EROSION CONTROL STRUCTURES SHALL BE INSTALLED PRIOR TO CONTINUING THE CONSTRUCTION.

3. FOLLOWING THE FINAL SEEDING, THE SITE SHALL BE INSPECTED TO ENSURE THAT THE VEGETATION HAS BEEN ESTABLISHED. IN THE EVENT OF ANY UNSATISFACTORY GROWTH, RESEEDING SHALL BE CARRIED OUT, WITH FOLLOW-UP INSPECTION.
4. AFTER THE CONSTRUCTION INSPECTOR HAS DETERMINED THAT THE PROJECT AREA HAS STABILIZED, THE CONTRACTOR SHALL REMOVE ALL TEMPORARY SEDIMENTATION BARRIERS CONTROL RISERS, AND ANY OTHER TEMPORARY EROSION CONTROL MEASURES.

PERMANENT SEEDING

1. PROVIDE VEGETATIVE PLAN, NOTING ALL TEMPORARY AND PERMANENT VEGETATIVE PRACTICES. INCLUDE SPECIES, PLANTING DATES AND SEEDING, FERTILIZER, LIME AND MULCHING RATES. VEGETATIVE PLAN SHALL BE SITE SPECIFIC FOR APPROPRIATE TIME OF YEAR THAT SEEDING WILL TAKE PLACE AND FOR THE APPROPRIATE GEOGRAPHIC REGION OF GEORGIA.
2. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.*
3. UPON COMPLETION OF SITE CONSTRUCTION, ALL AREAS PREVIOUSLY DISTURBED SHALL BE TREATED AS STATED BELOW. THESE AREAS SHALL BE CLOSELY MONITORED BY THE CONTRACTOR UNTIL SUCH TIME AS A SATISFACTORY GROWTH OF VEGETATION IS ESTABLISHED. SATISFACTORY GROWTH SHALL MEAN A MINIMUM OF 80% OF THE AREA IS VEGETATED WITH VIGOROUS GROWTH. TOPSOIL SHALL BE SPREAD OVER ALL DISTURBED AREAS AND GRADED TO A UNIFORM DEPTH OF FOUR (4") INCHES.
4. THE TOPSOIL TO BE USED FOR LOAM SHALL BE TESTED BY A CERTIFIED TESTING LABORATORY TO DETERMINE THE SOIL AMENDMENTS THAT ARE REQUIRED FOR HEALTHY GRASS GROWTH. UPON COMPLETION OF THE TESTS, SUBMIT THE LABORATORIES RECOMMENDATIONS TO THE INSPECTOR FOR APPROVAL PRIOR TO PLACING THE TOPSOIL.
5. SEEDING SHALL BE COMPLETED BETWEEN THE DATES OF MARCH 1 AND MAY 31 OR SEPTEMBER 1 TO OCTOBER 15. IF SEEDING NEEDS TO OCCUR OUTSIDE OF THESE SEASONS WATERING AND ADDITIONAL MULCH MAY BE REQUIRED. A LATE FALL/EARLY WINTER DORMANT SEEDING (NOVEMBER 1 – DECEMBER 15) CAN ALSO BE MADE, HOWEVER THE SEEDING RATE WILL NEED TO BE INCREASED BY 50%.
6. STRAW MULCH SHALL BE APPLIED AT THE RATE OF 100 LBS. PER 1,000 SQ. FT. FOR SMALL AREAS OF 2 TONS/ACRE FOR LARGER AREAS. FOLLOWING SEEDING, MULCH SHALL BE ANCHORED BY WATERING OR USING ANCHORING EMULSION OR TRACKING BY BULLDOZER ON AREAS OF MODERATE SLOPES. AN ALTERNATE TO STRAW MULCH IS THE USE OF NAG S150BN (SLOPES <3:1) AND NAG SC150BN (SLOPES >3:1) EROSION CONTROL MATTING (OR AN APPROVED EQUIVALENT), STAKED PER THE MANUFACTURERS GUIDELINES.
7. ALL SEDIMENT CONTROL STRUCTURES SHALL REMAIN IN PLACE UNTIL SATISFACTORY VEGETATION GROWTH IS ESTABLISHED. DISTURBED AREAS SHALL BE SEEDED WITH THE FOLLOWING MIXTURE:
 - WARM SEASON SLOPEMASTER SEED MIXTURE: 50 LB/ACRE, 1.15 LBS/1000SQFT
 - COOL SEASON SLOPEMASTER SEED MIXTURE: 100 LBS/ACRE, 2.25 LBS/1000SQFT
8. REFER TO SHEET R-700-01 FOR SEED MIXES AND PLANTING AREAS.

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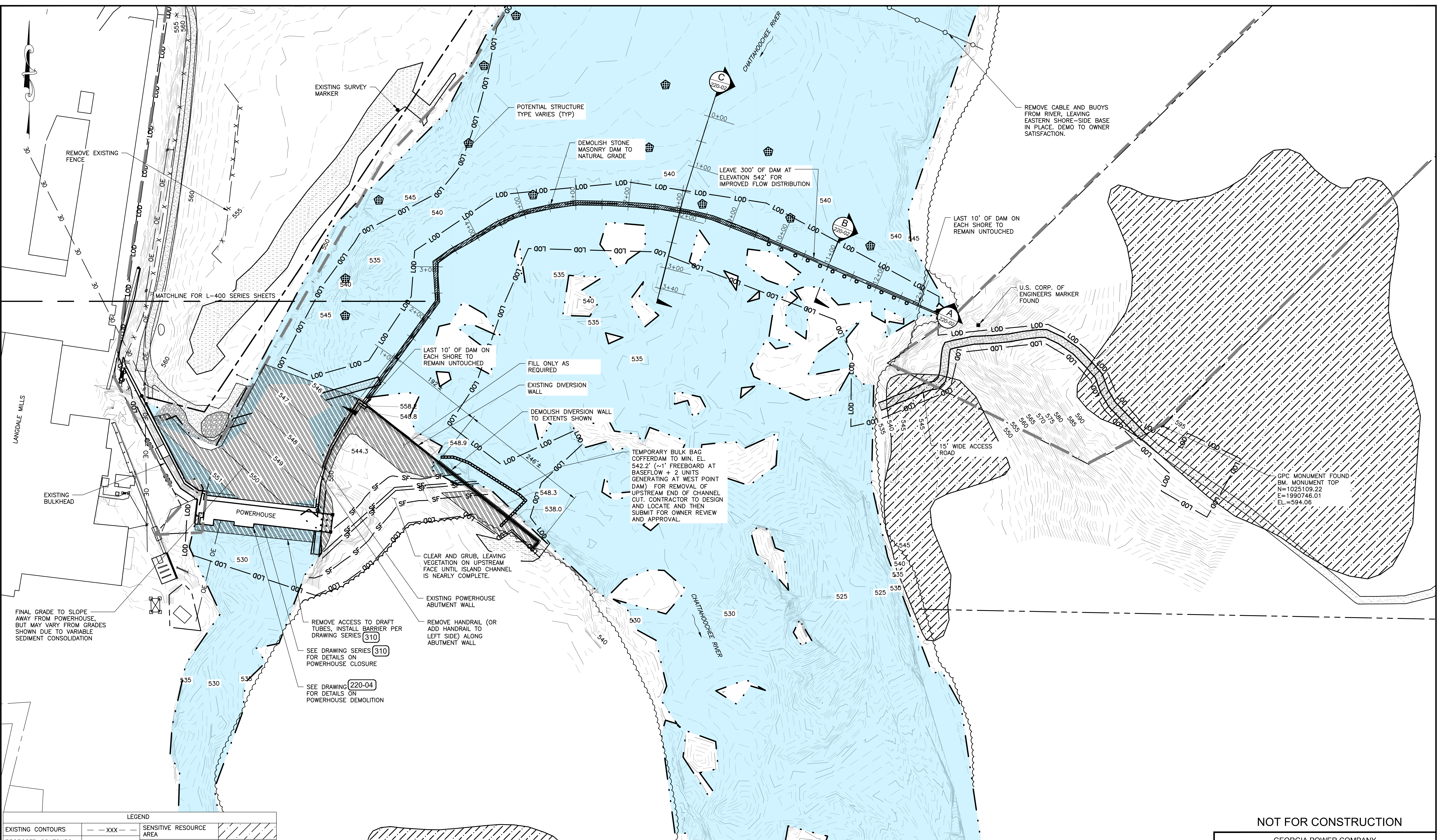
GEORGIA POWER COMPANY ATLANTA, GEORGIA			
LANGDALE (FERC PROJECT NO. 2341) DAM DECOMMISSIONING			
EROSION & SEDIMENT CONTROL NOTES & DETAILS I			
888-224-5942 KleinschmidtGroup.com			
Project No.	Date Revised	Drawing No.	L-210-02
534-039	08-03-22	L-210-02	

No.	Revision	Date	Drawn	Checked
A	90% DESIGN	08-03-22	RMD	TAK
Designated	Drawn	Checked	Project No.	Date Revised
TAK	BJL	TAK	534-039	08-03-22

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LEGEND		
EXISTING CONTOURS	--- xxx ---	SENSITIVE RESOURCE AREA
PROPOSED CONTOURS	--- xxx	FERC PROJECT BOUNDARY
PROPERTY LINE	---	APRX. EDGE OF EXISTING TREE COVER
LIMIT OF DISTURBANCE	--- LOD ---	PROPOSED EDGE OF TREE COVER
GA DOT TYPE C SEDIMENT BARRIER	--- SF ---	DEMOLITION
EXISTING ACCESS ROAD	---	FILL DISPOSAL AREAS
TEMPORARY FEATURE	---	EXISTING WETLAND (2020 SURVEY)
PROPOSED FEATURE	---	USACE EASEMENT
APPROXIMATE LOCATION OF WATERS EDGE	---	EXISTING BOAT BUOYS

- NOTES:
- PROJECT HORIZONTAL DATUM: NAD83; PROJECT VERTICAL DATUM: NAVD88.
 - DIFFERING SURVEY METHODOLOGIES ABOVE AND BELOW THE WATER'S EDGE MAY RESULT IN ELEVATION DISCREPANCIES AT THE EXISTING EDGE OF WATER. CONTRACTOR TO FIELD VERIFY CRITICAL ELEVATIONS PRIOR TO STARTING CONSTRUCTION.

PLAN
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ATLANTA, GEORGIA

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DAM DECOMMISSIONING

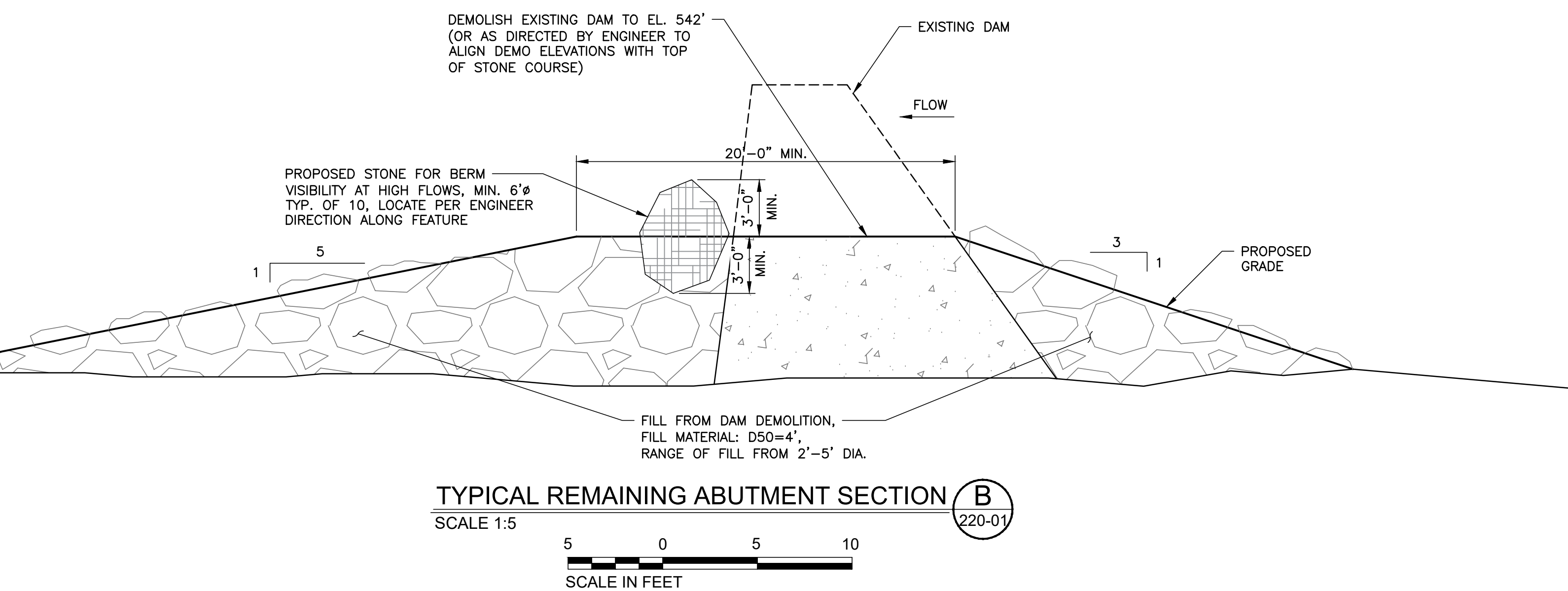
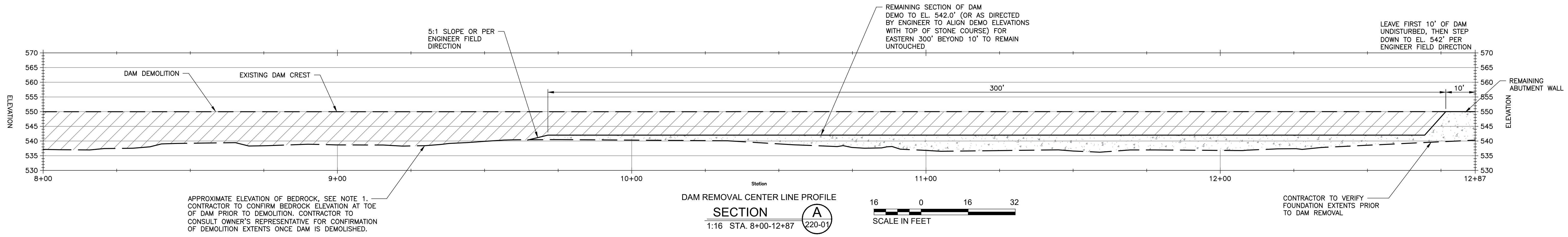
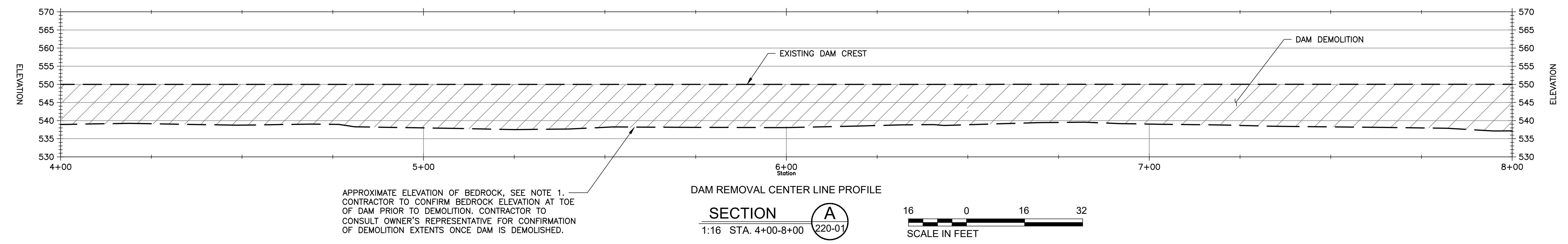
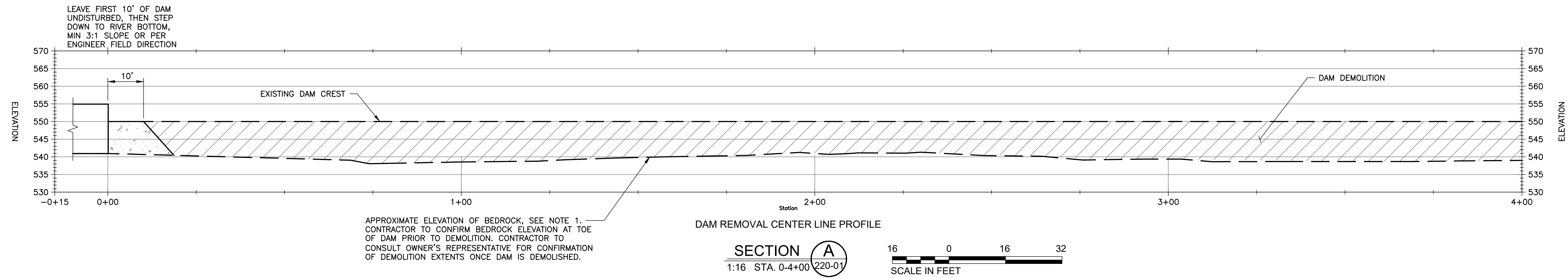
DEMOLITION PLAN

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		Drawing No. L-220-01	

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NOTES:
1. APPROXIMATE EXTENT OF DEMOLITION SHOWN BASED ON EXISTING GRADES IN SURVEY; HOWEVER, SURVEY IS DIFFICULT BELOW THE DAM AND CONTRACTOR SHALL MAKE ALLOWANCES TO REMOVE DAM MATERIALS TO EXISTING BEDROCK, WHICH MAY BE AT ELEVATION 537' OR LOWER IN SOME LOCATIONS.

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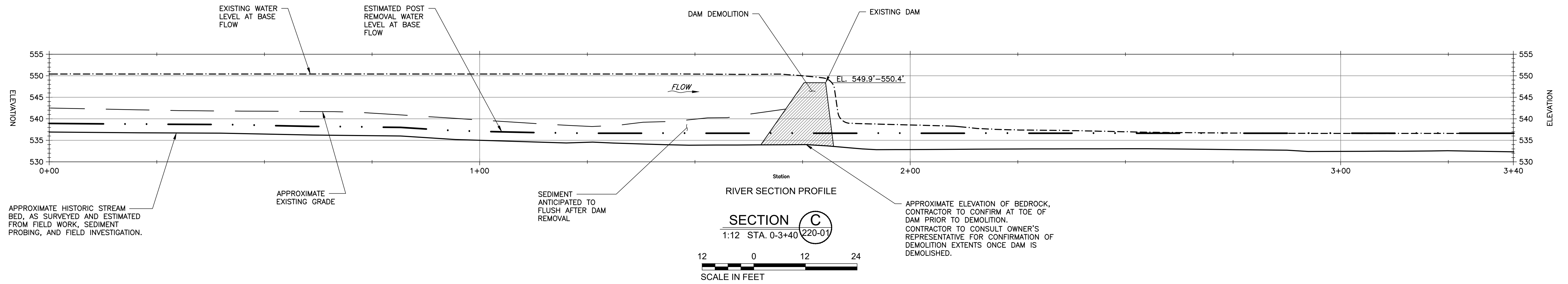
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LANGDALE (FERC PROJECT NO. 2341) DAM DECOMMISSIONING
DAM DEMOLITION PROFILE

No.	Revision	Date	Drawn	Checked
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LANGDALE (FERC PROJECT NO. 2341)
DAM DECOMMISSIONING
DAM DEMOLITION PROFILE

No.	Revision	Date	Drawn	Checked
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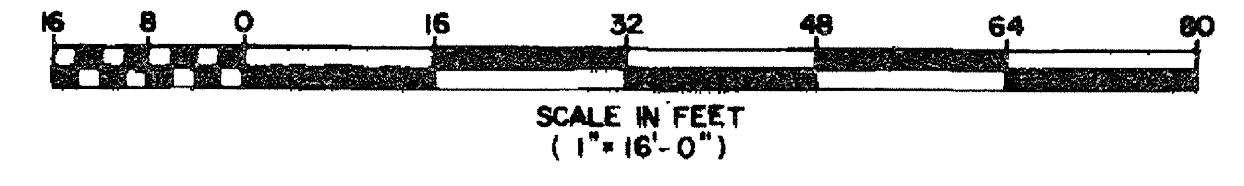
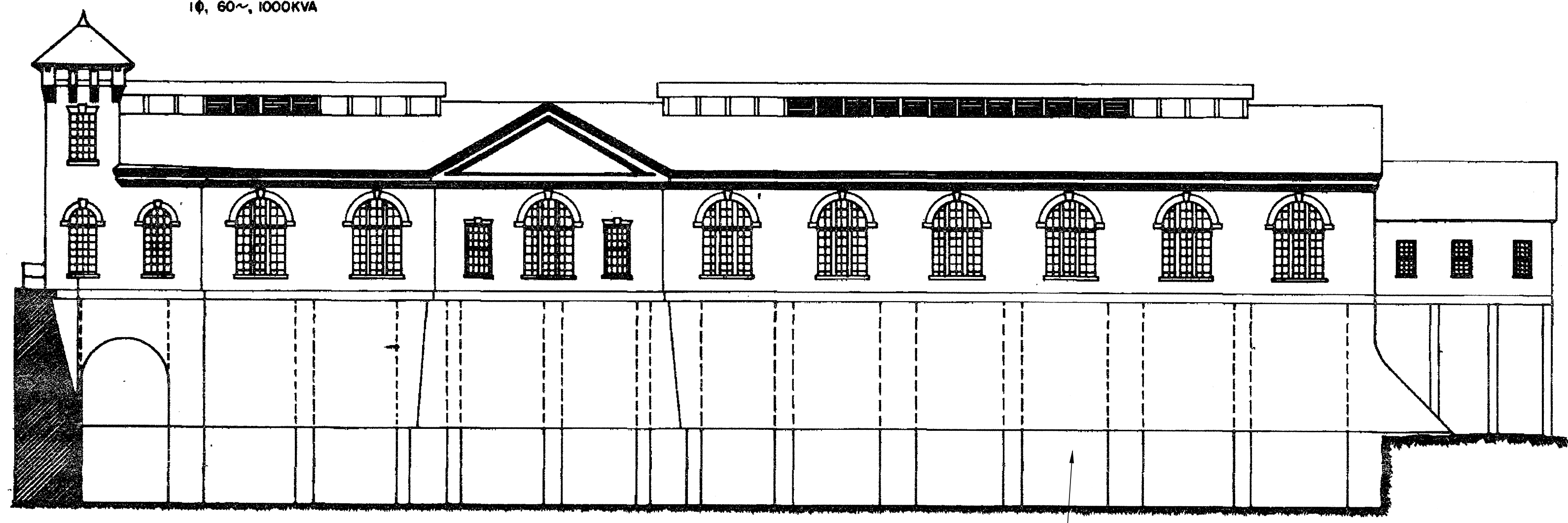
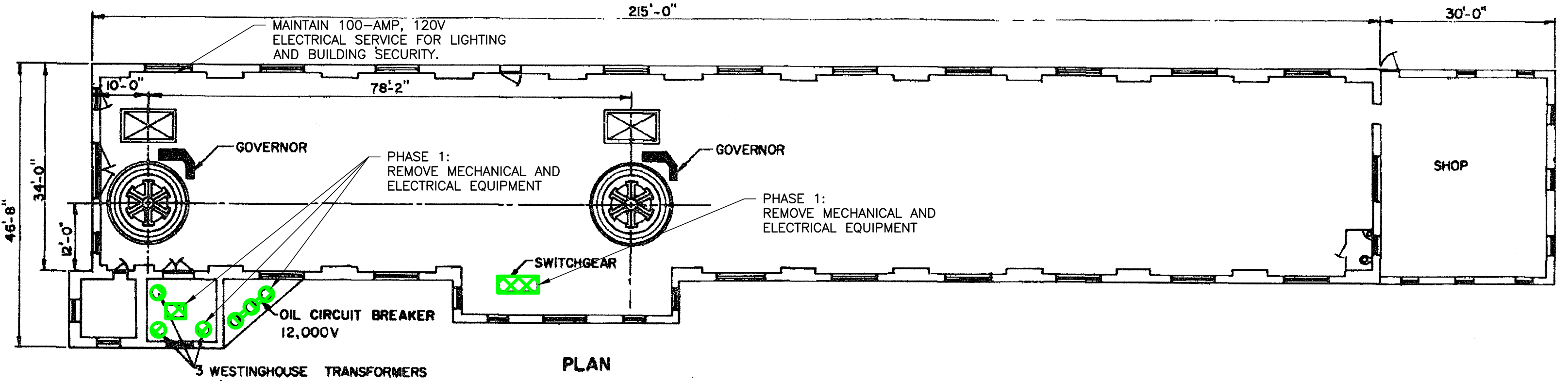
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Project No.	Date Revised	Drawing No.
534-039	08-03-22	L-220-03

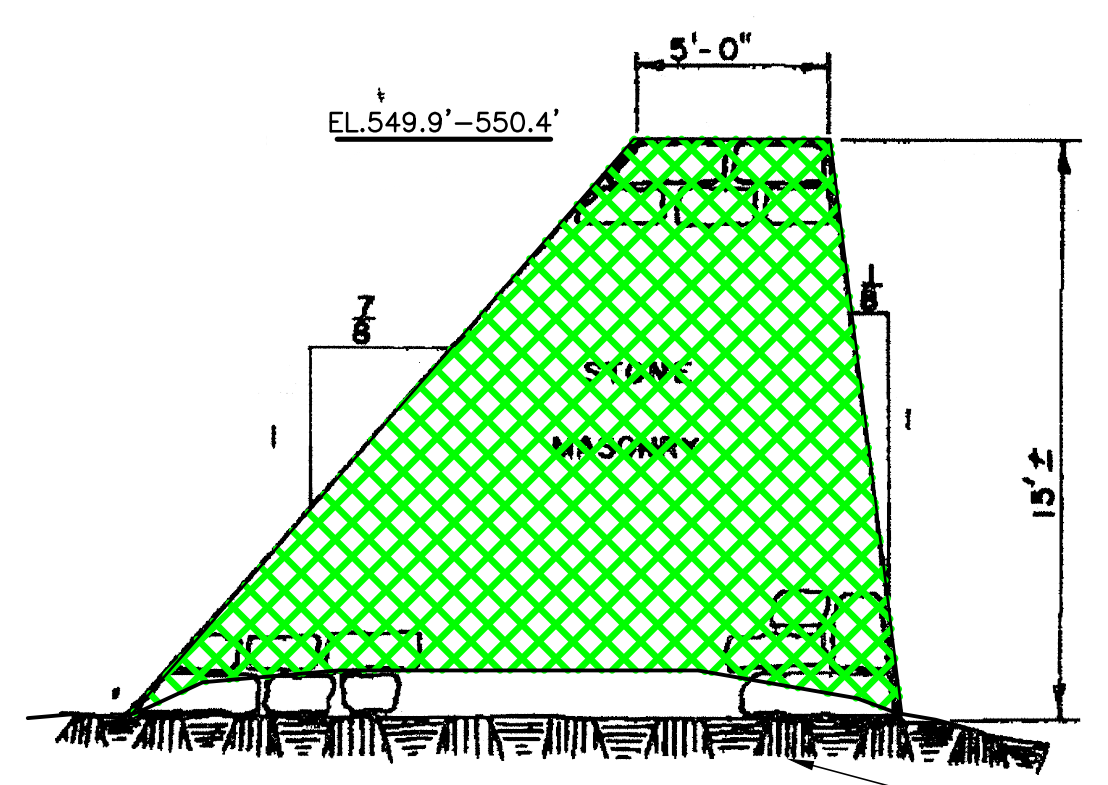
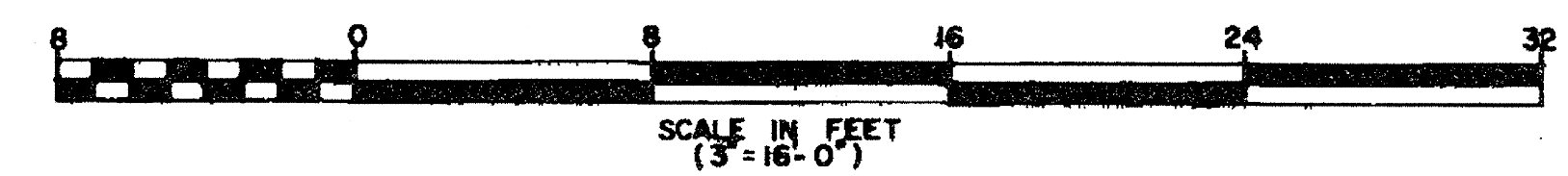
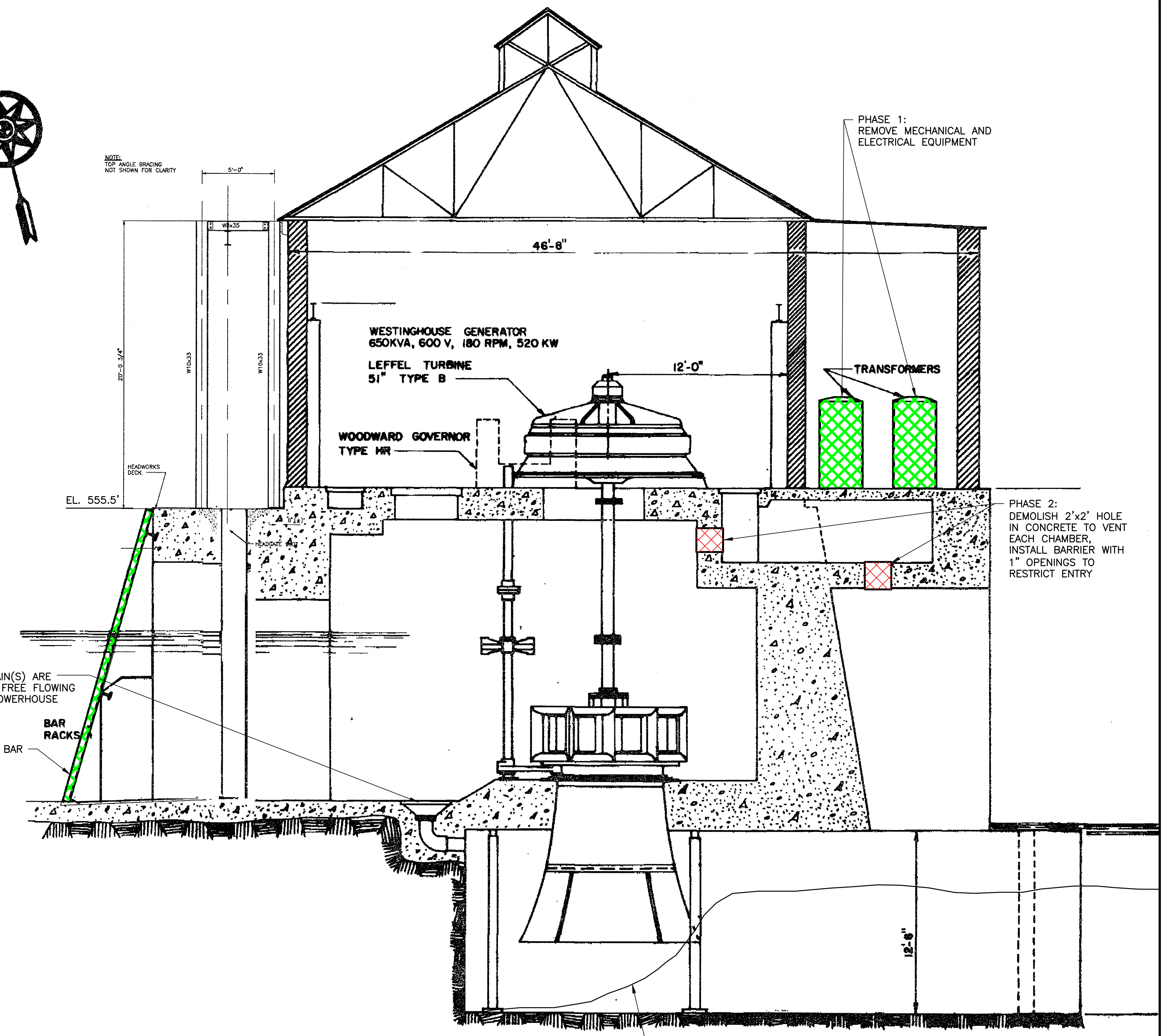
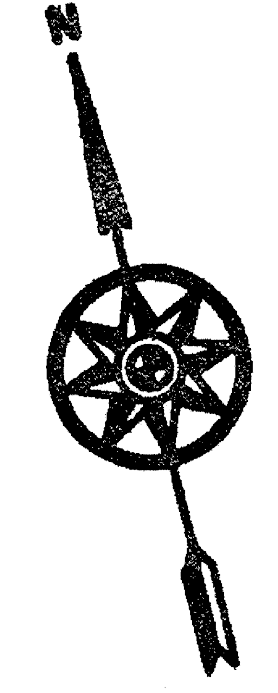
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INSTALL TAILRACE BARRIER AND RUBBLE BARRIER PER TRANSVERSE SECTION, TYP. OF ALL TAILRACES



SPILLWAY SECTION

(SCALE: 3" = 16'-0")

DEMO DAM DOWN TO BEDROCK OR TO CREATE SMOOTH TRANSITION FROM UPSTREAM BEDROCK TO DOWNSTREAM BEDROCK, WHICHEVER IS HIGHER. STEEL PINS OR ANCHORS SHALL BE PULLED OUT OR TRIMMED FLUSH WITH BEDROCK.

LEGEND	
PHASE 1 DEMO	
PHASE 2 DEMO	

- NOTES:
- DRAWINGS ON THIS SHEET ARE FROM GEORGIA POWER COMPANY FERC DRAWING NO. 2341-5, TITLED "LANGDALE PROJECT GENERAL ARRANGEMENT, PLAN, ELEVATION, & SECTION, EXHIBIT F" DATED 10/25/93
 - ELEVATIONS FROM HISTORIC DRAWINGS ARE NOT IN CURRENT DATUM (NAVD-88). CONTRACTOR TO VERIFY ELEVATIONS PRIOR TO CONSTRUCTION

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			Checked	TAK

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GEORGIA POWER COMPANY
ATLANTA, GEORGIA

LANGDALE (FERC PROJECT NO. 2341)
DAM DECOMMISSIONING

POWERHOUSE DEMOLITION

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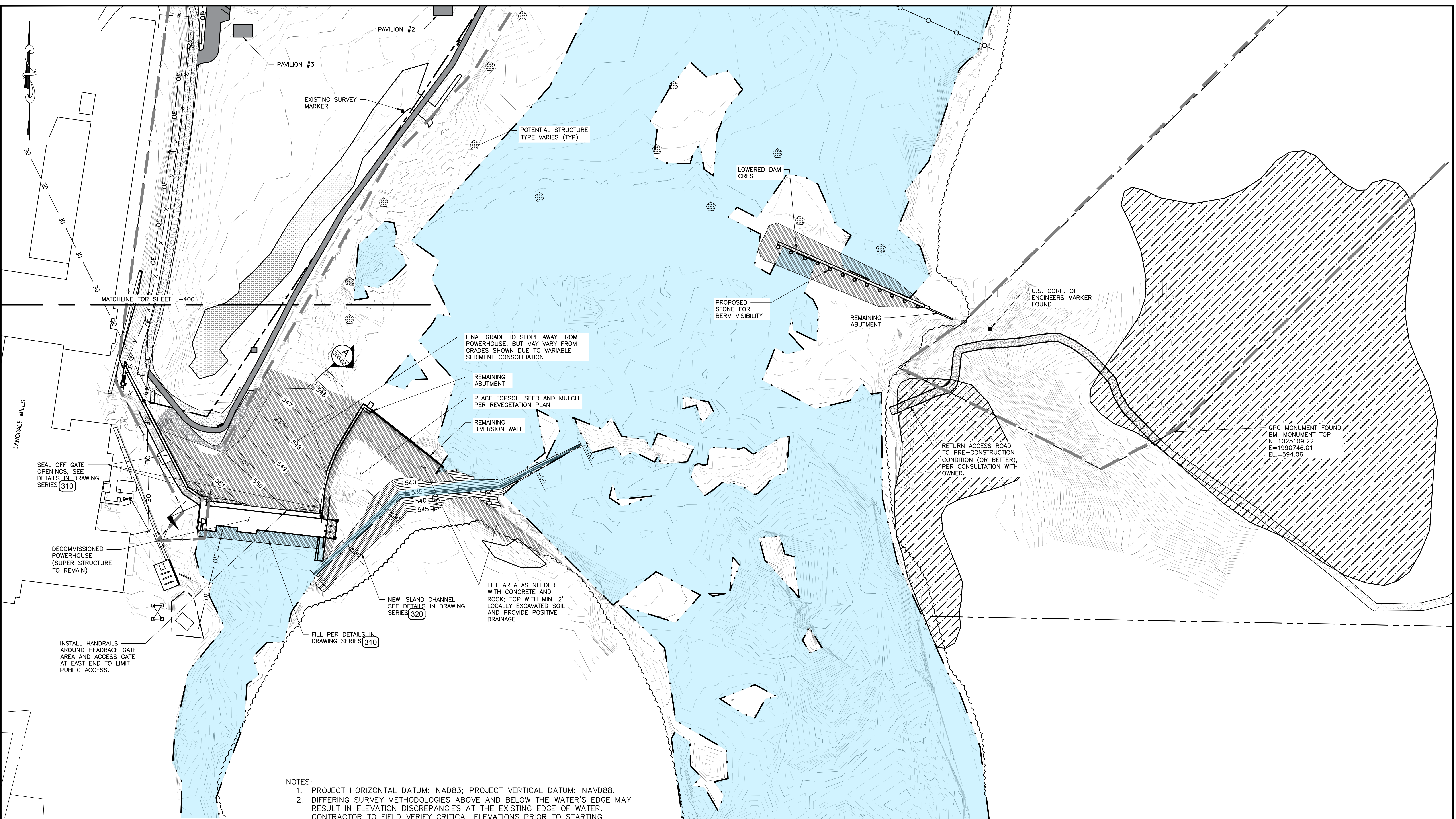
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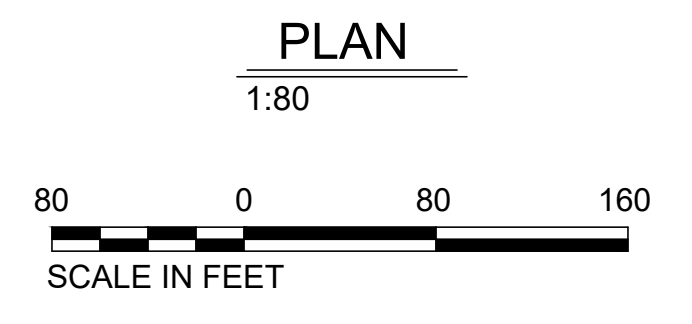
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- NOTES:
- PROJECT HORIZONTAL DATUM: NAD83; PROJECT VERTICAL DATUM: NAVD88.
 - DIFFERING SURVEY METHODOLOGIES ABOVE AND BELOW THE WATER'S EDGE MAY RESULT IN ELEVATION DISCREPANCIES AT THE EXISTING EDGE OF WATER. CONTRACTOR TO FIELD VERIFY CRITICAL ELEVATIONS PRIOR TO STARTING CONSTRUCTION.
 - ISLAND CHANNEL TO BE EXCAVATED FROM DOWNSTREAM TO UPSTREAM, LEAVING A PLUG (WITH UN-CUT VEGETATION) AT THE UPSTREAM END TO MIN. EL 544' UNTIL ALL DOWNSTREAM RIPRAP IS INSTALLED. SECOND, COMPLETE IN-RIVER GRADING TO TOE OF PLUG. THIRD, REMOVE PLUG AND COMPLETE FINAL GRADING AND FINAL RIPRAP INSTALLATION DURING PERIOD WITH NO PEAKING FLOW.
 - CONTOURS IN RIVER SHOW THE EXISTING CONDITIONS PRIOR TO SEDIMENT FLUSHING. ACTUAL CONDITIONS MAY VARY AFTER SEDIMENT FLUSHING BASED ON HISTORIC STREAM BED ELEVATIONS, SUBSTRATE, AND EXTENT OF SEDIMENT FLUSHING. NO ACTIVE GRADING OF CHANNEL OR SEDIMENT IS PROPOSED, OTHER THAN AS NECESSARY TO REMOVE THE DAM AND INSTALL THE ISLAND CHANNEL.
 - ESTIMATED POST DAM REMOVAL WATERS EDGE AT BASE FLOW IS BASED ON HYDRAULIC MODELING AND ASSUMED CONDITIONS RELATED TO SEDIMENT FLUSHING. ACTUAL EDGE OF WATER IS ANTICIPATED TO VARY AS NATURAL FLUVIAL PROCESSES OCCUR AND THE ACTUAL EDGE OF WATER FOR A GIVEN FLOW WILL DEPEND ON EXTENT OF SEDIMENT FLUSHING, FLOWS IN THE RIVER, AND DURATION OF TIME AFTER DAM REMOVAL.

LEGEND		
EXISTING CONTOURS	--- xxx ---	SENSITIVE RESOURCE AREA
PROPOSED CONTOURS	— xxx —	FERC PROJECT BOUNDARY
PROPERTY LINE	— — — — —	APRX. EDGE OF EXISTING TREE COVER
LIMIT OF DISTURBANCE	— LOD —	PROPOSED EDGE OF TREE COVER
GA DOT TYPE C SEDIMENT BARRIER	— SF —	DEMOLITION
EXISTING ACCESS ROAD	— — — — —	FILL DISPOSAL AREAS
TEMPORARY FEATURE	— — — — —	EXISTING WETLAND (2020 SURVEY)
PROPOSED FEATURE	— — — — —	USACE EASEMENT
ESTIMATED POST-DAM REMOVAL EDGE OF WATER AT BASE FLOW	— . . . —	EXISTING BOAT BUOYS



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 ATLANTA, GEORGIA

LANGDALE (FERC PROJECT NO. 2341)
 DAM DECOMMISSIONING

PROPOSED CONDITIONS PLAN

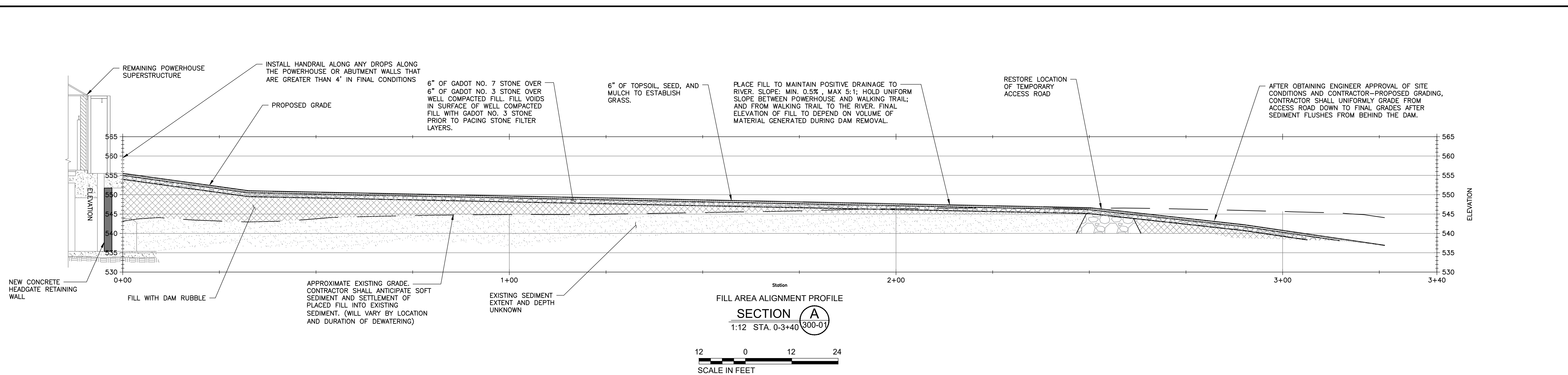
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NOTE:
ESTIMATED POST DAM REMOVAL WATERS EDGE AT BASE FLOW IS BASED ON HYDRAULIC MODELING AND ASSUMED CONDITIONS RELATED TO SEDIMENT FLUSHING. ACTUAL EDGE OF WATER IS ANTICIPATED TO VARY AS NATURAL FLUVIAL PROCESSES OCCUR AND THE ACTUAL EDGE OF WATER FOR A GIVEN FLOW WILL DEPEND ON EXTENT OF SEDIMENT FLUSHING, FLOWS IN THE RIVER, AND DURATION OF TIME AFTER DAM REMOVAL.

NOT FOR CONSTRUCTION

GEORGIA POWER COMPANY ATLANTA, GEORGIA
LANGDALE (FERC PROJECT NO. 2341) DAM DECOMMISSIONING
PROPOSED CONDITIONS SECTION

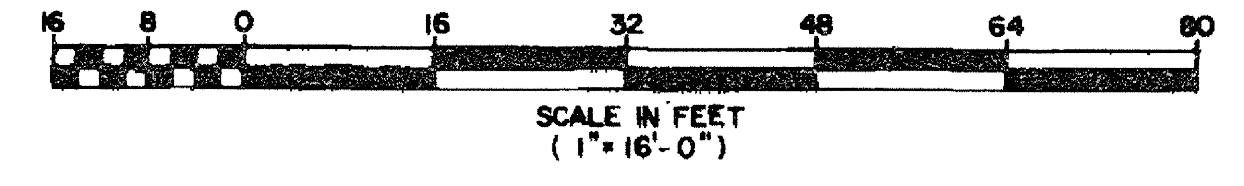
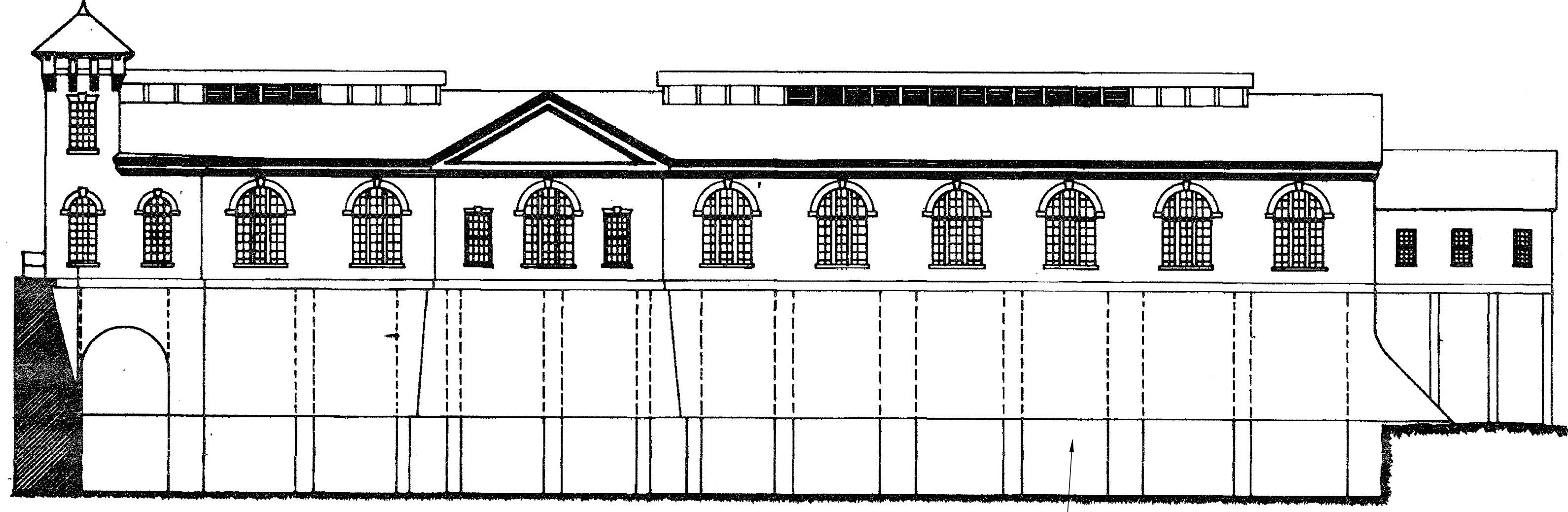
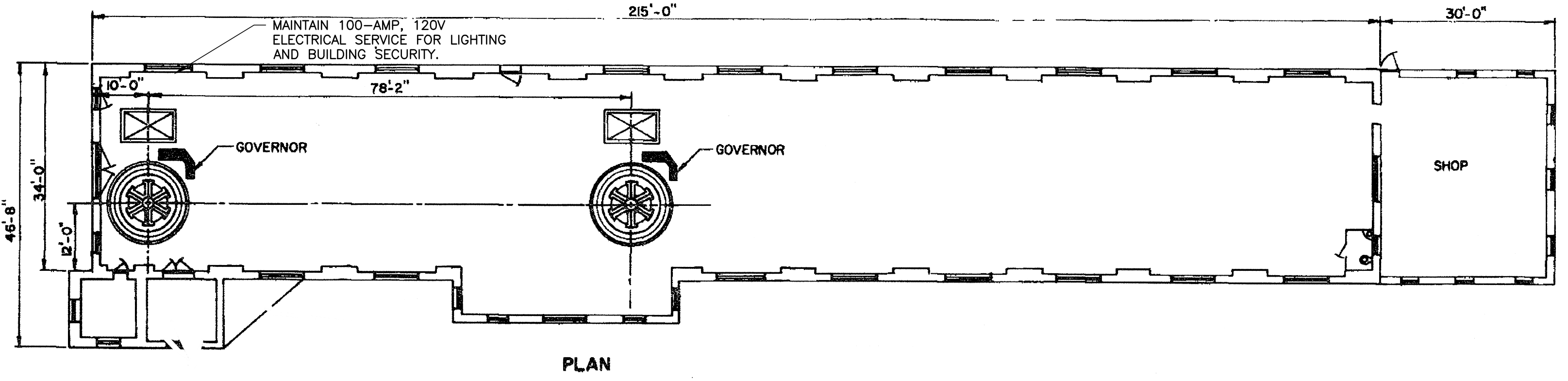
No.	Revision	Date	Drawn	Checked
A	90% DESIGN	08-03-22	CRS	TAK

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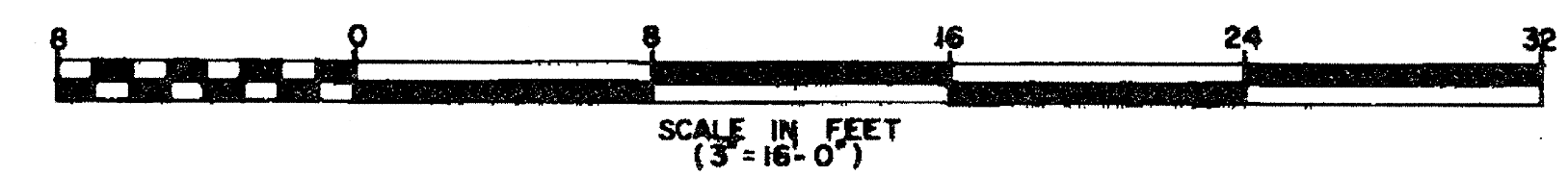
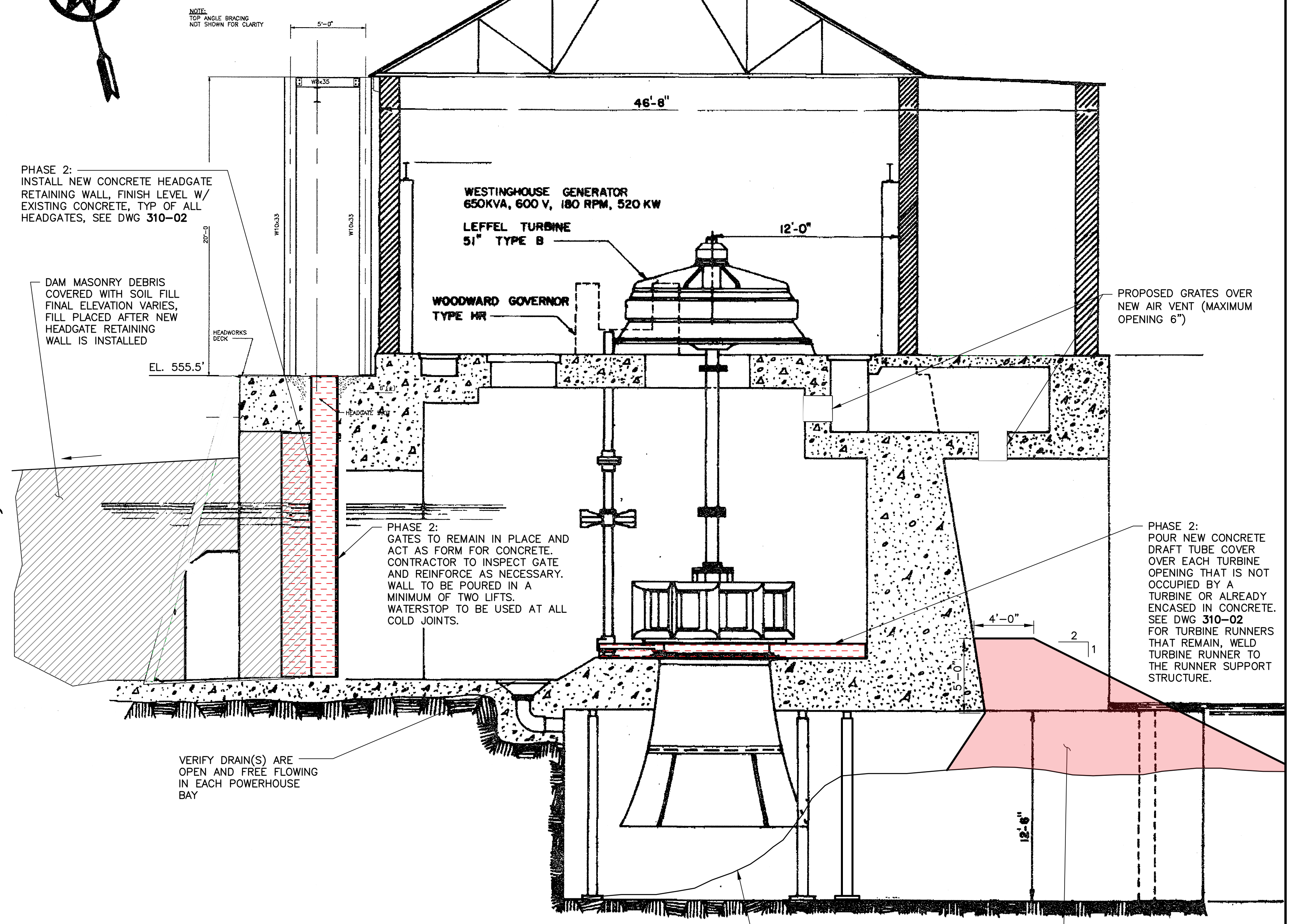
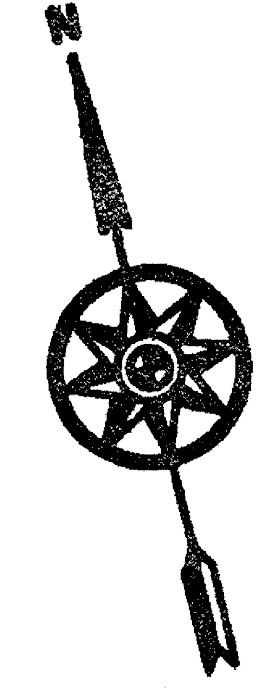
Project No.	Date Revised	Drawing No.
534-039	08-03-22	L-300-02

Designed	Drawn	Checked
TAK	BJL	TAK

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INSTALL TAILRACE BARRIER AND RUBBLE BARRIER PER TRANSVERSE SECTION, TYP. OF ALL TAILRACES



LEGEND	
PROPOSED CONCRETE	
PROPOSED FILL	

- NOTES:
- DRAWINGS ON THIS SHEET ARE FROM GEORGIA POWER COMPANY FERC DRAWING NO. 2341-5, TITLED "LANGDALE PROJECT GENERAL ARRANGEMENT, PLAN, ELEVATION, & SECTION, EXHIBIT F" DATED 10/25/93
 - ELEVATIONS FROM HISTORIC DRAWINGS ARE NOT IN CURRENT DATUM (NAVD-88). CONTRACTOR TO VERIFY ELEVATIONS PRIOR TO CONSTRUCTION

No.	Revision	Date	Drawn	Checked
A	90% DESIGN	08-03-22	CRS	TAK
			Designed	Drawn
			TAK	BJL
			Checked	TAK

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GEORGIA POWER COMPANY
 ATLANTA, GEORGIA
 LANGDALE (FERC PROJECT NO. 2341)
 DAM DECOMMISSIONING

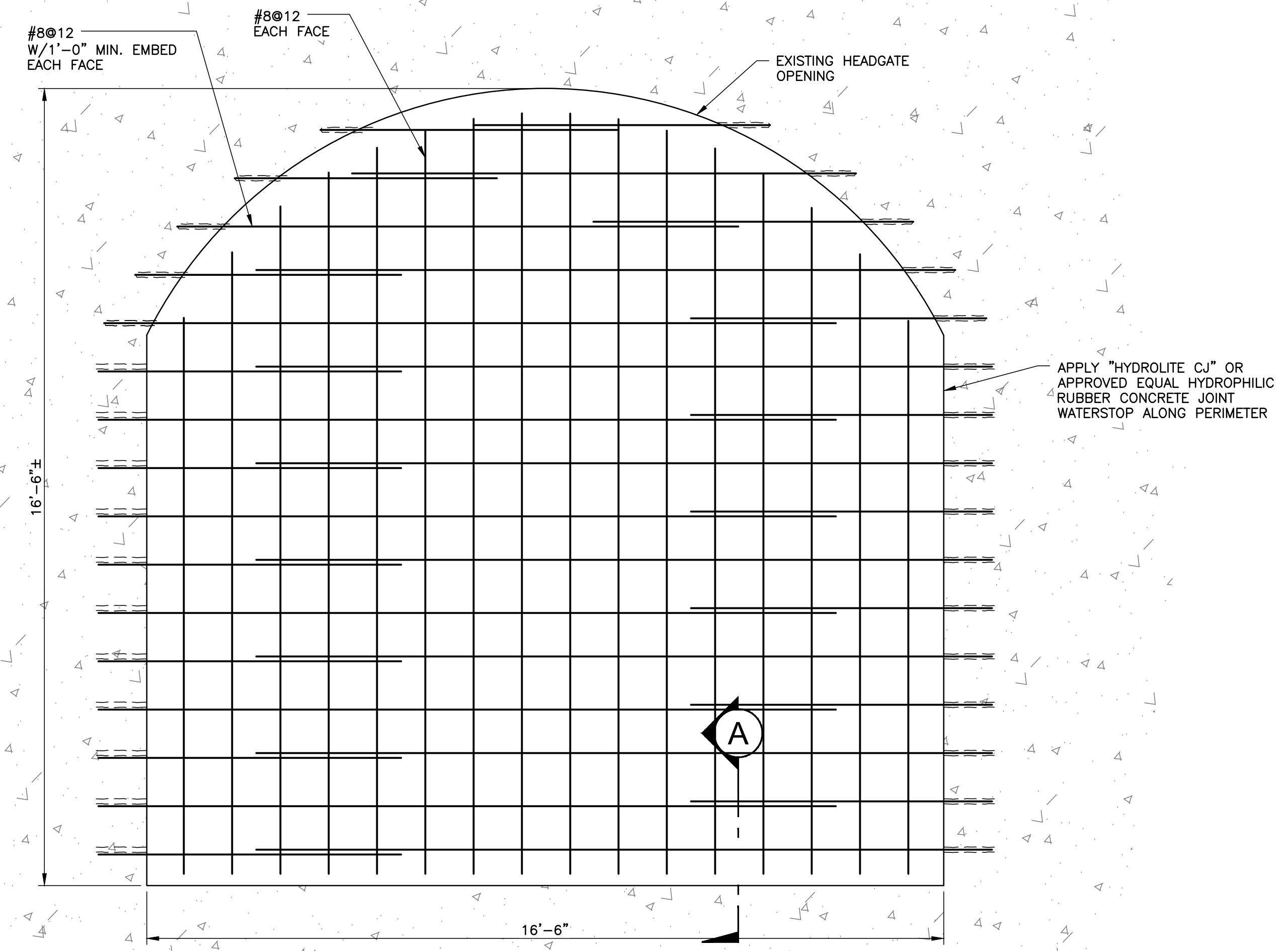
PROPOSED CONDITIONS DAM AND POWERHOUSE

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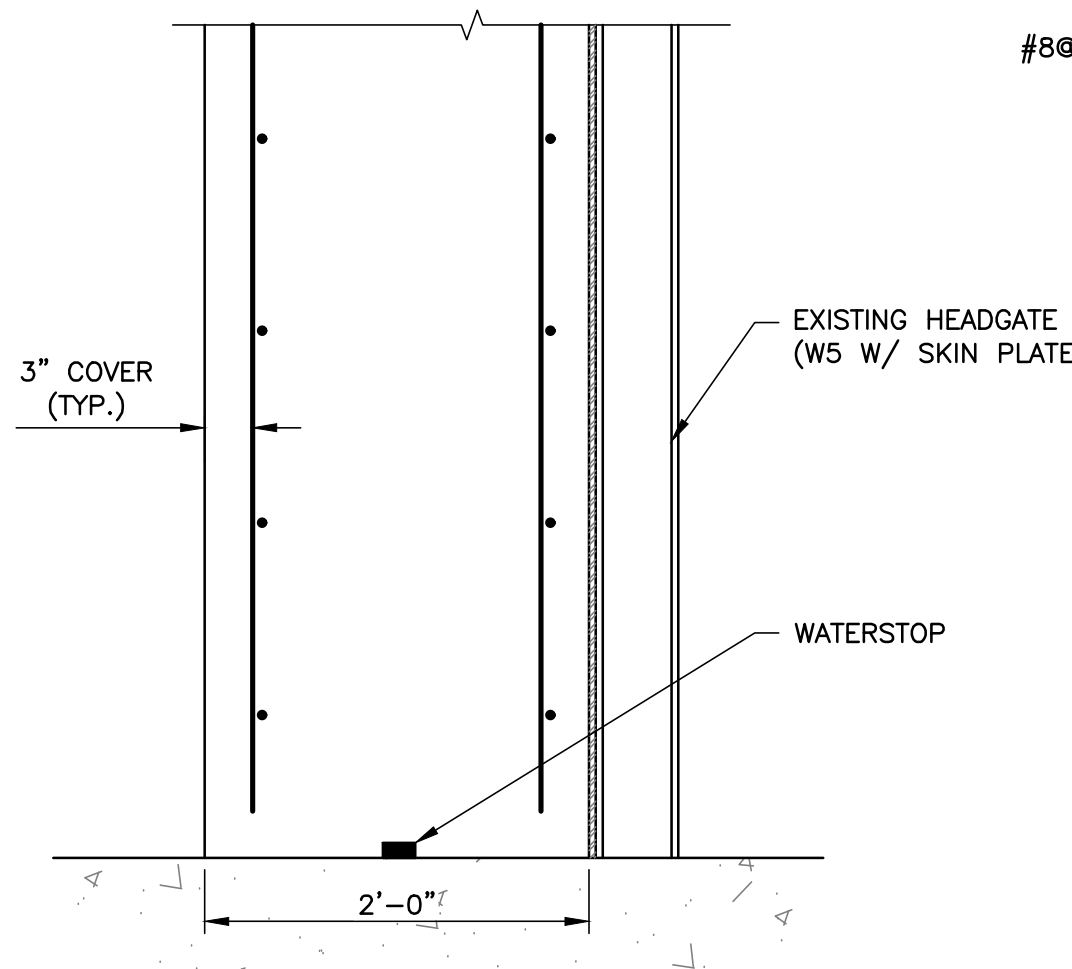
Project No.	Date Revised	Drawing No.
534-039	08-03-22	L-310-01

24x36 = FULL SCALE

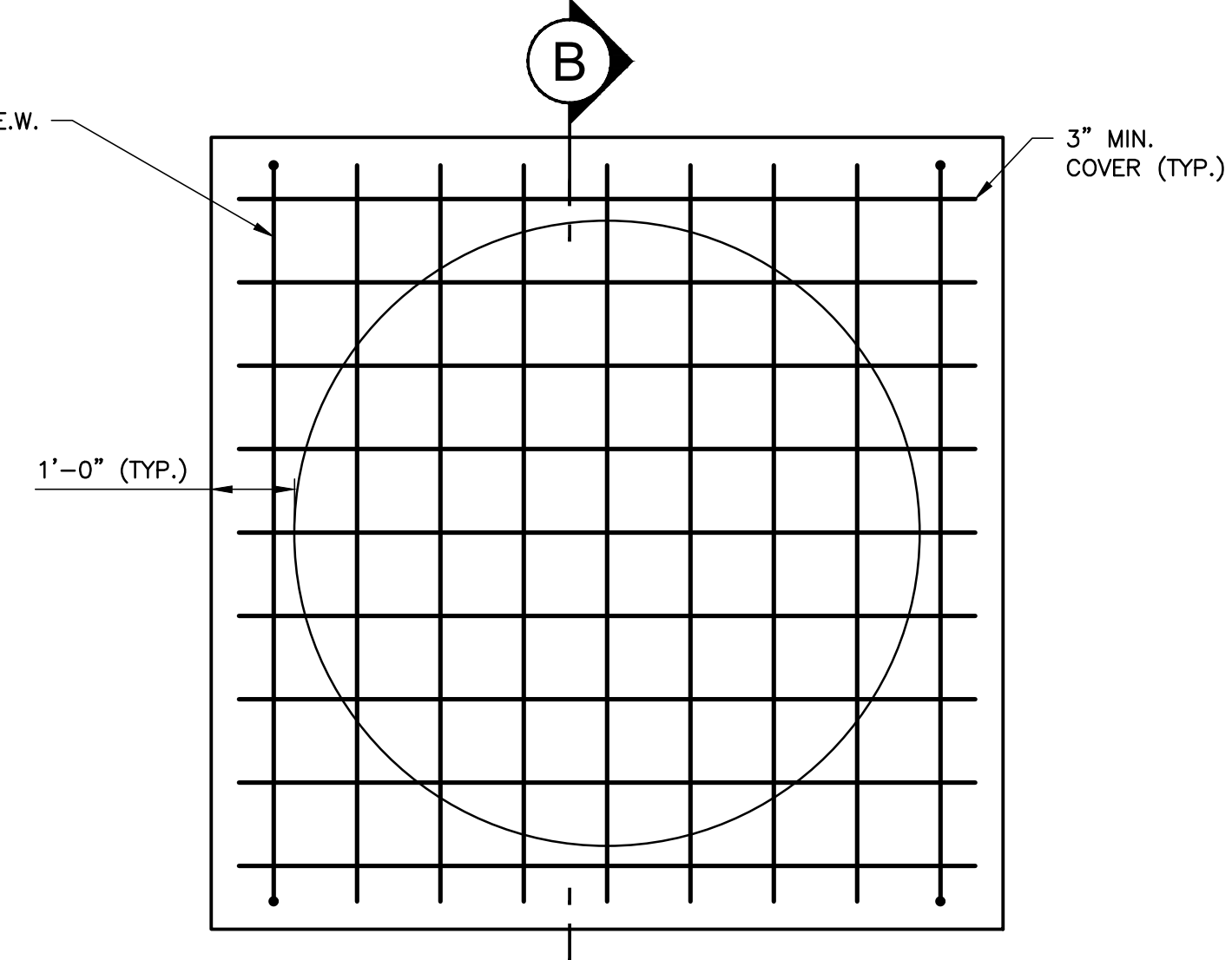
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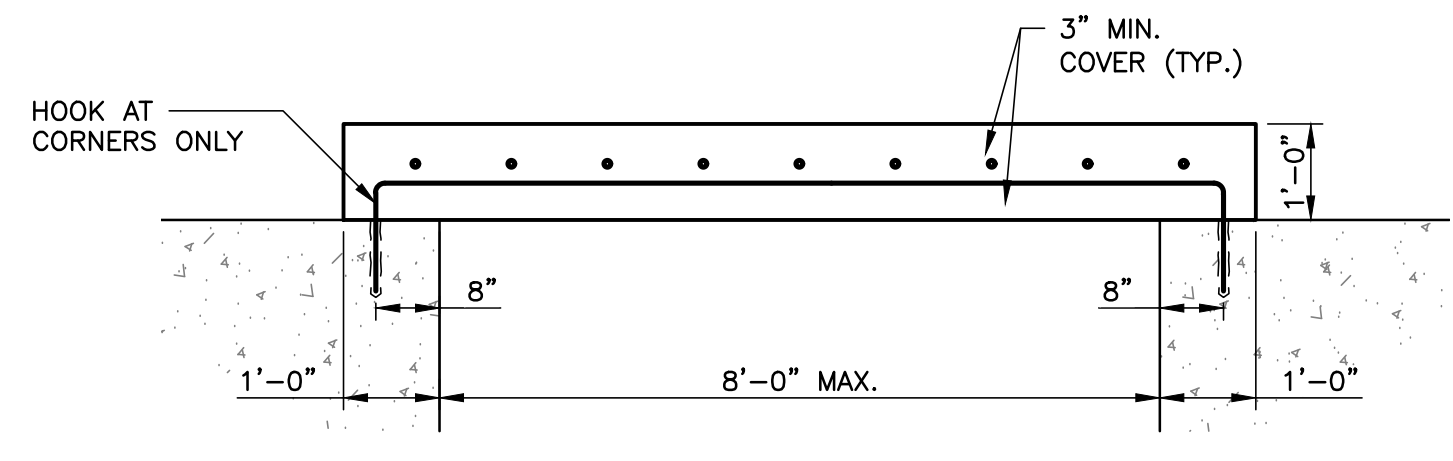
HEADGATE RETAINING WALL (LOOKING DOWNSTREAM)
1:2



SECTION A
N.T.S.

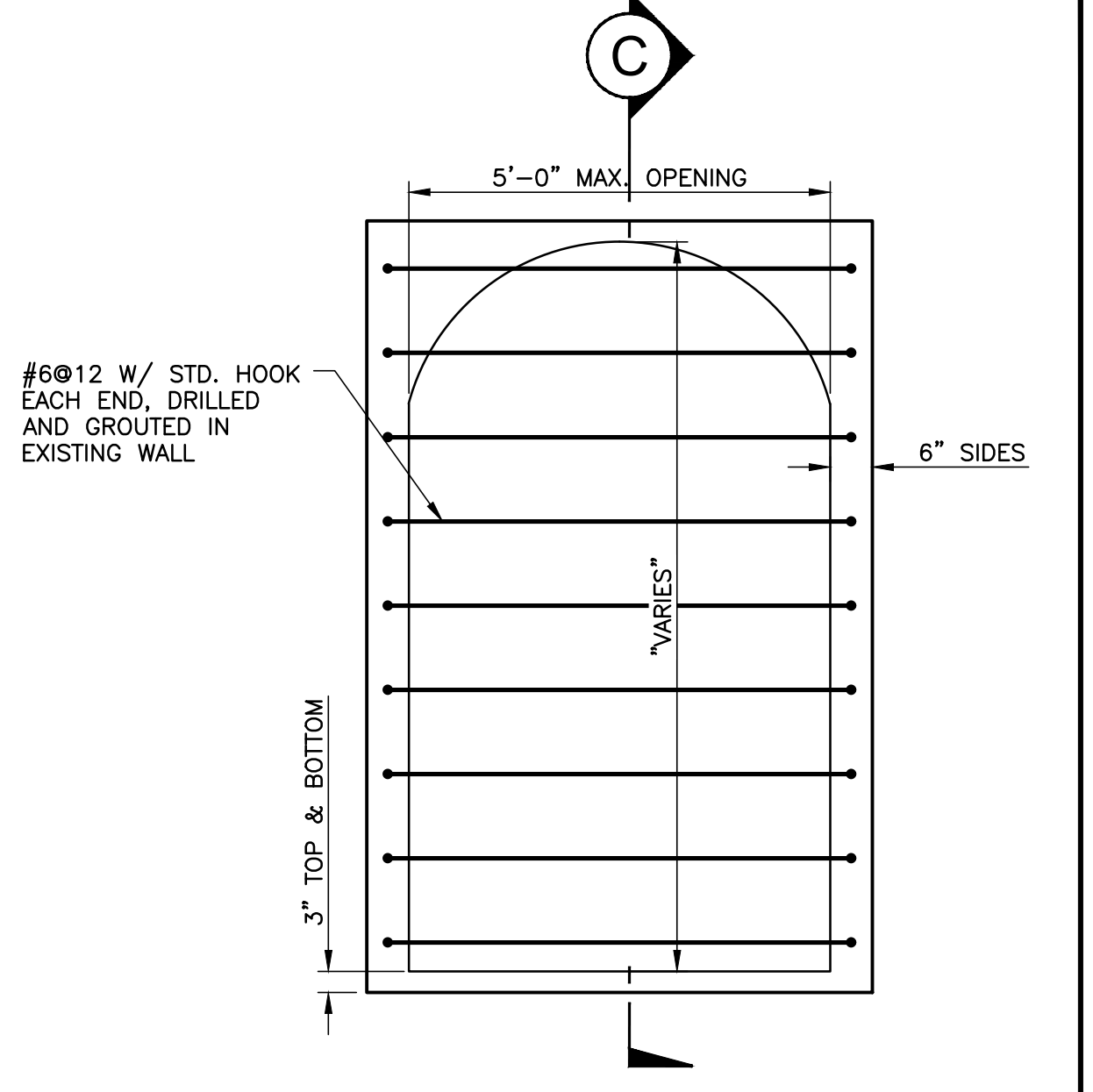


DRAFT TUBE COVER PLAN
1:2

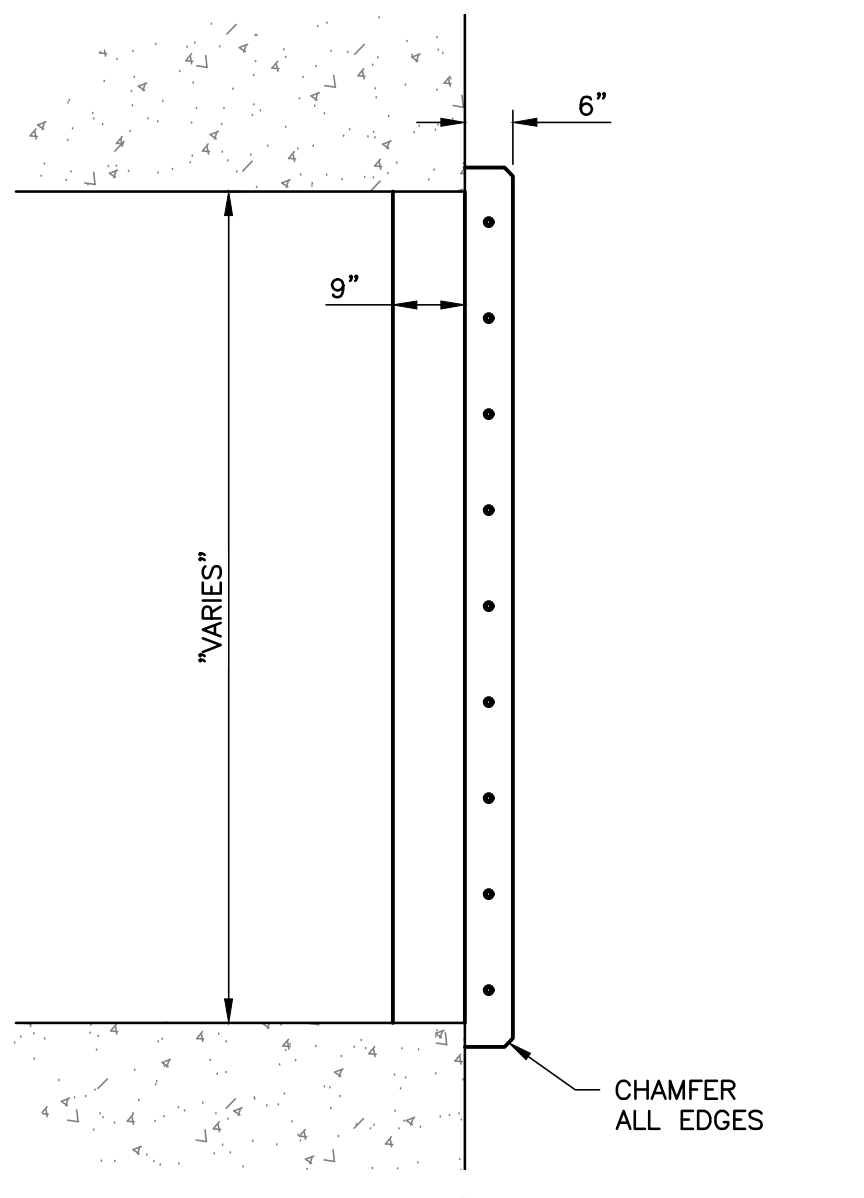


SECTION B
1:2

NOTES:
1. TEMPORARY FORMS MAY BE LEFT IN PLACE BELOW NEW DRAFT TUBE COVER.



TYPICAL SLUICE GATE COVER
1:2



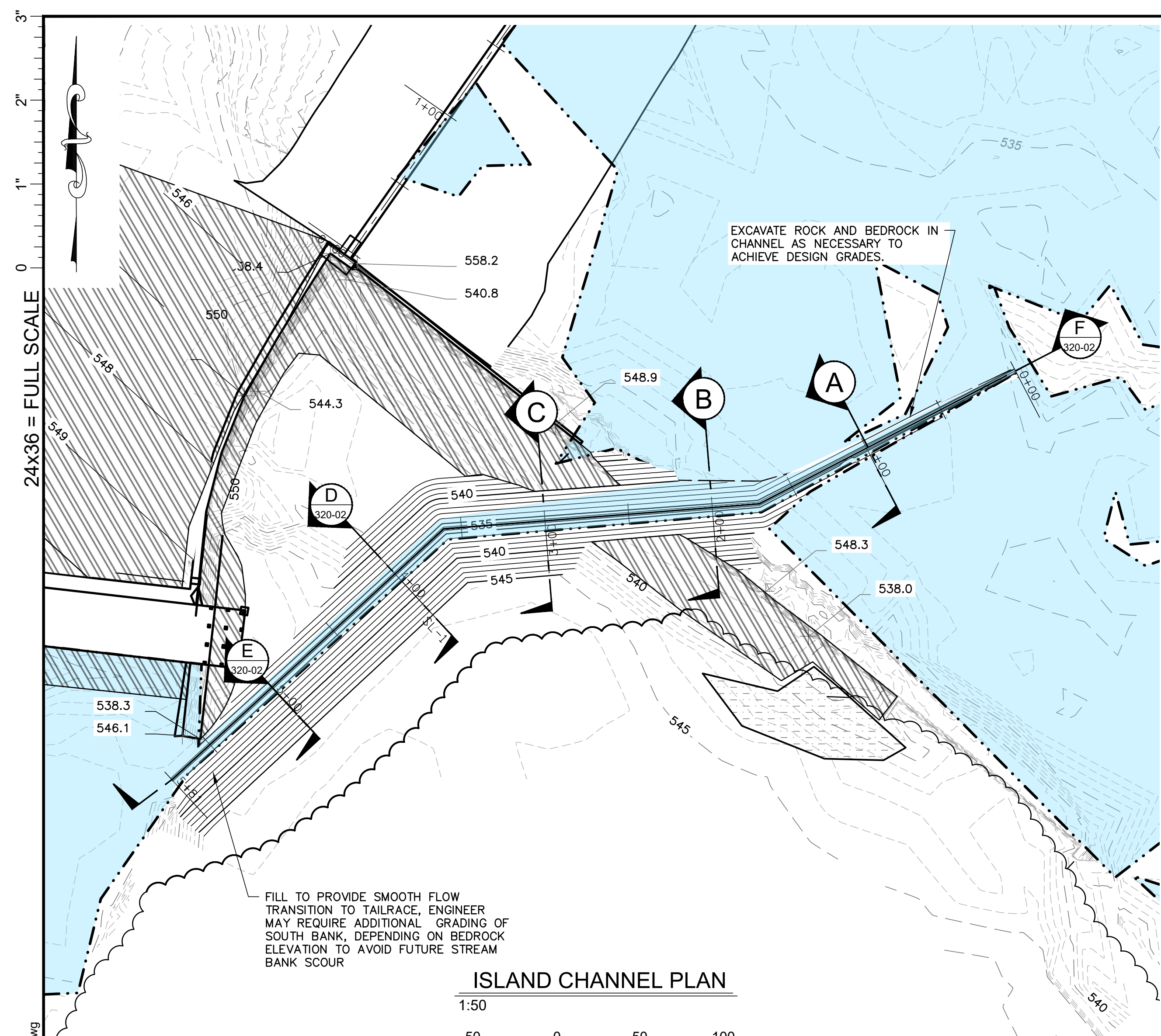
SECTION C
1:2



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LANGDALE (FERC PROJECT NO. 2341) DAM DECOMMISSIONING	
PROPOSED CONDITIONS POWERHOUSE DETAILS	
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Project No. 534-039	Date Revised 08-03-22
Design DA	Drawn CRS
Checked TAK	Checked TAK
Drawing No. L-310-02	

No.	Revision	Date	Drawn	Checked
A	90% DESIGN	08-03-22	CRS	TAK



FILL TO PROVIDE SMOOTH FLOW TRANSITION TO TAILRACE, ENGINEER MAY REQUIRE ADDITIONAL GRADING OF SOUTH BANK, DEPENDING ON BEDROCK ELEVATION TO AVOID FUTURE STREAM BANK SCOUR

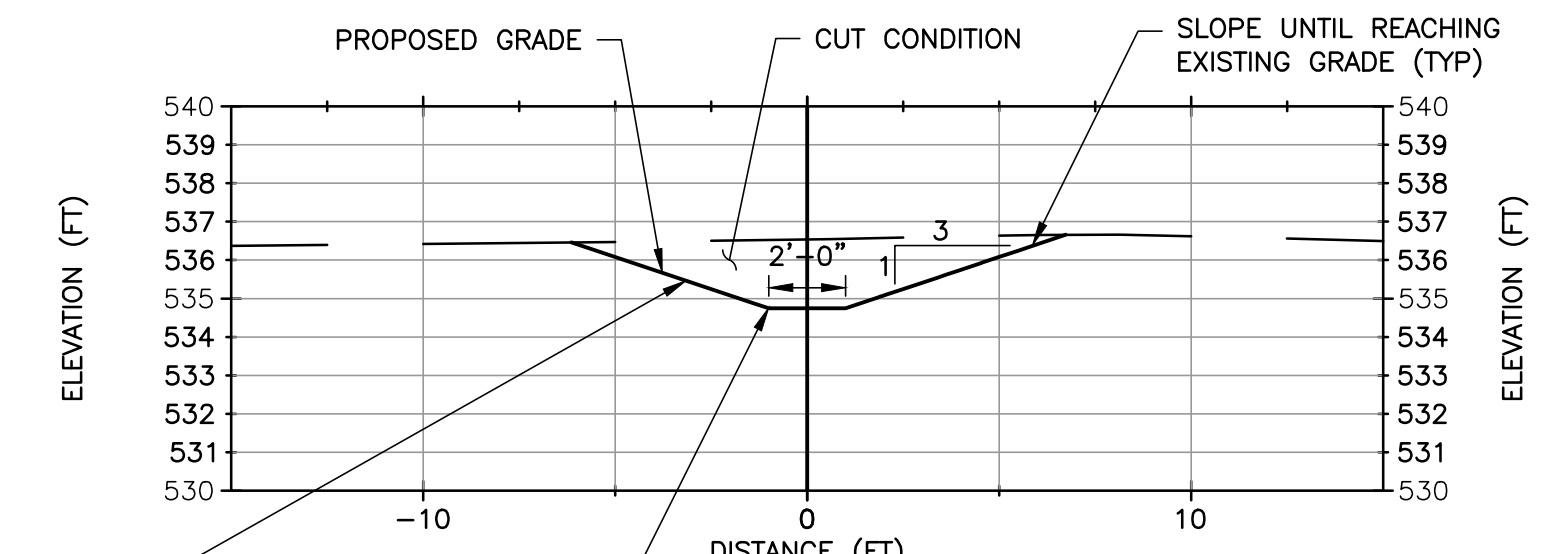
EXCAVATE ROCK AND BEDROCK IN CHANNEL AS NECESSARY TO ACHIEVE DESIGN GRADES.

ISLAND CHANNEL PLAN

1:50



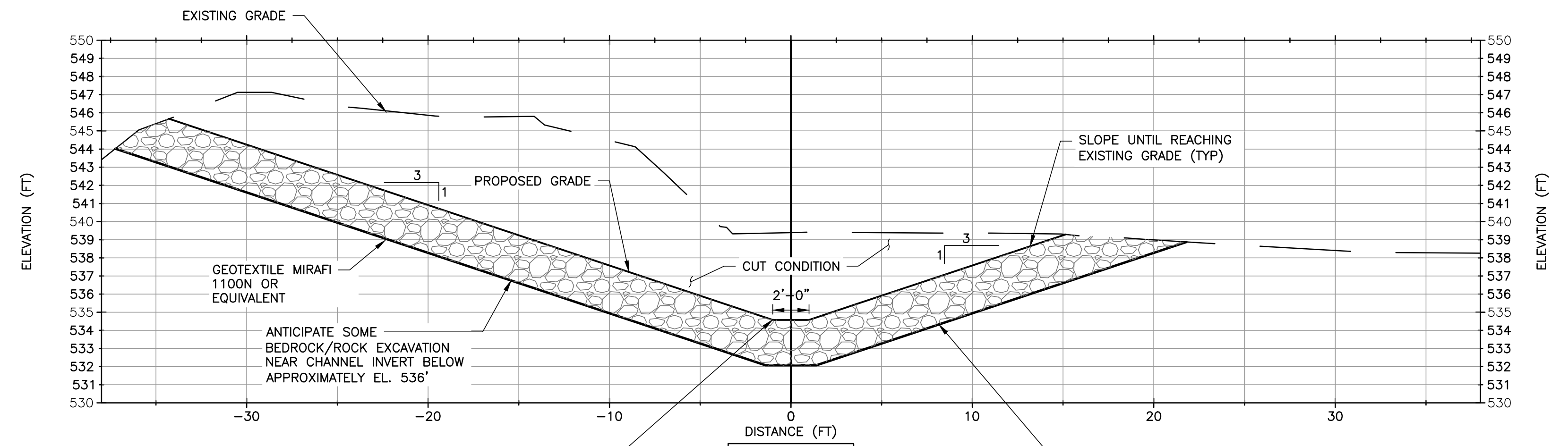
- NOTES:
1. SEE CONSTRUCTION SEQUENCE FOR ANTICIPATED STEPS IN THE CONSTRUCTION OF THIS CHANNEL.
 2. EARTHEN PLUG AND VEGETATION AT UPSTREAM END OF EXCAVATION SHALL BE REMOVED LAST TO PROVIDE DRY CONSTRUCTION FOR THE DOWNSTREAM PORTION OF THE CHANNEL.
 3. COFFERDAM TO BE BULK BAGS (OR OTHER OWNER-APPROVED METHOD) TO PROTECT CHANNEL DURING EARTHEN PLUG REMOVAL AND RIPRAP INSTALLATION IN THE CHANNEL.
 4. MINIMIZE TREE CLEARING TO THE EXTENT FEASIBLE ON THE SOUTH SIDE OF THE CHANNEL.
 5. PROTECT ALL EXISTING INFRASTRUCTURE TO REMAIN DURING EXCAVATION, DEMOLITION, AND FILLING ACTIVITIES.



ANTICIPATE SOME BEDROCK/ROCK EXCAVATION AT THIS SECTION. IF PROPOSED GRADE IS NOT IN BEDROCK, CONSULT ENGINEER

ISLAND CHANNEL TYPICAL SECTION A

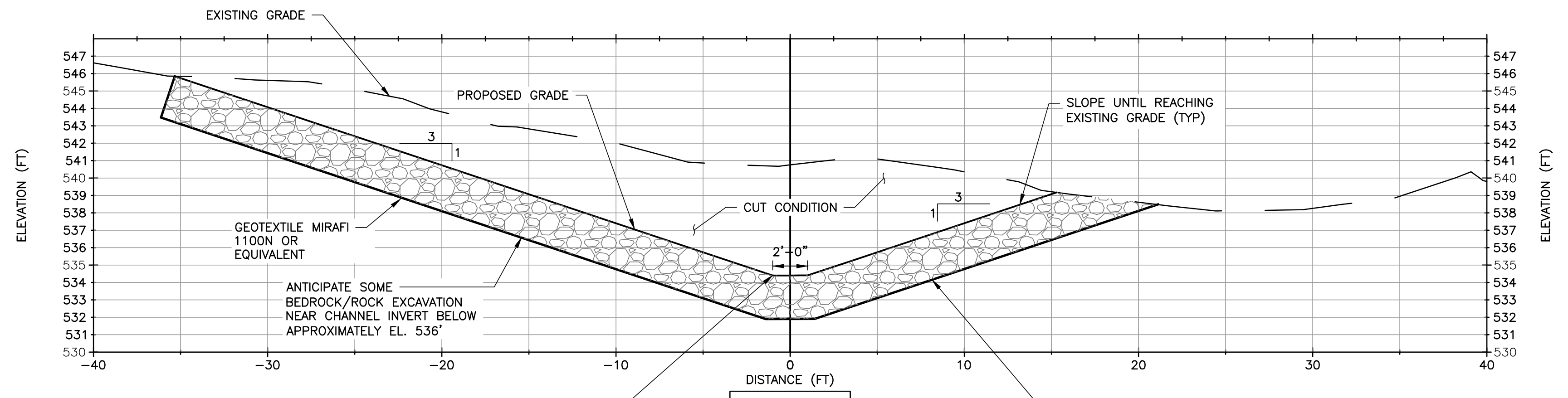
1:5



ANTICIPATE SOME BEDROCK/ROCK EXCAVATION NEAR CHANNEL INVERT BELOW APPROXIMATELY EL. 536'

ISLAND CHANNEL TYPICAL SECTION B

1:5



ANTICIPATE SOME BEDROCK/ROCK EXCAVATION NEAR CHANNEL INVERT BELOW APPROXIMATELY EL. 536'

ISLAND CHANNEL TYPICAL SECTION C

1:5



NOTE: ALL SECTIONS LOOKING DOWNSTREAM

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GEORGIA POWER COMPANY
ATLANTA, GEORGIA
LANGDALE (FERC PROJECT NO. 2341)
DAM DECOMMISSIONING
PROPOSED CONDITIONS ISLAND CHANNEL
PLAN AND SECTIONS

No.	Revision	Date	Drawn	Checked
A	90% DESIGN	08-03-22	RMD	TAK

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TAK	BJL	TAK	534-039	08-03-22	L-320-01

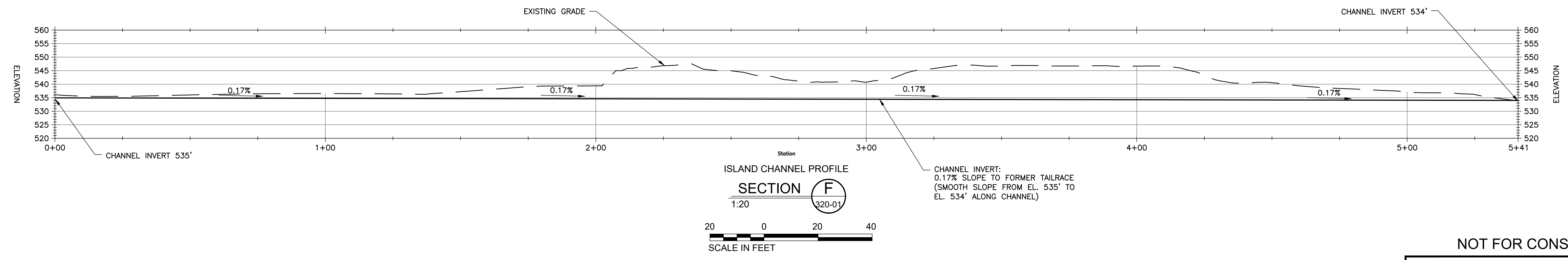
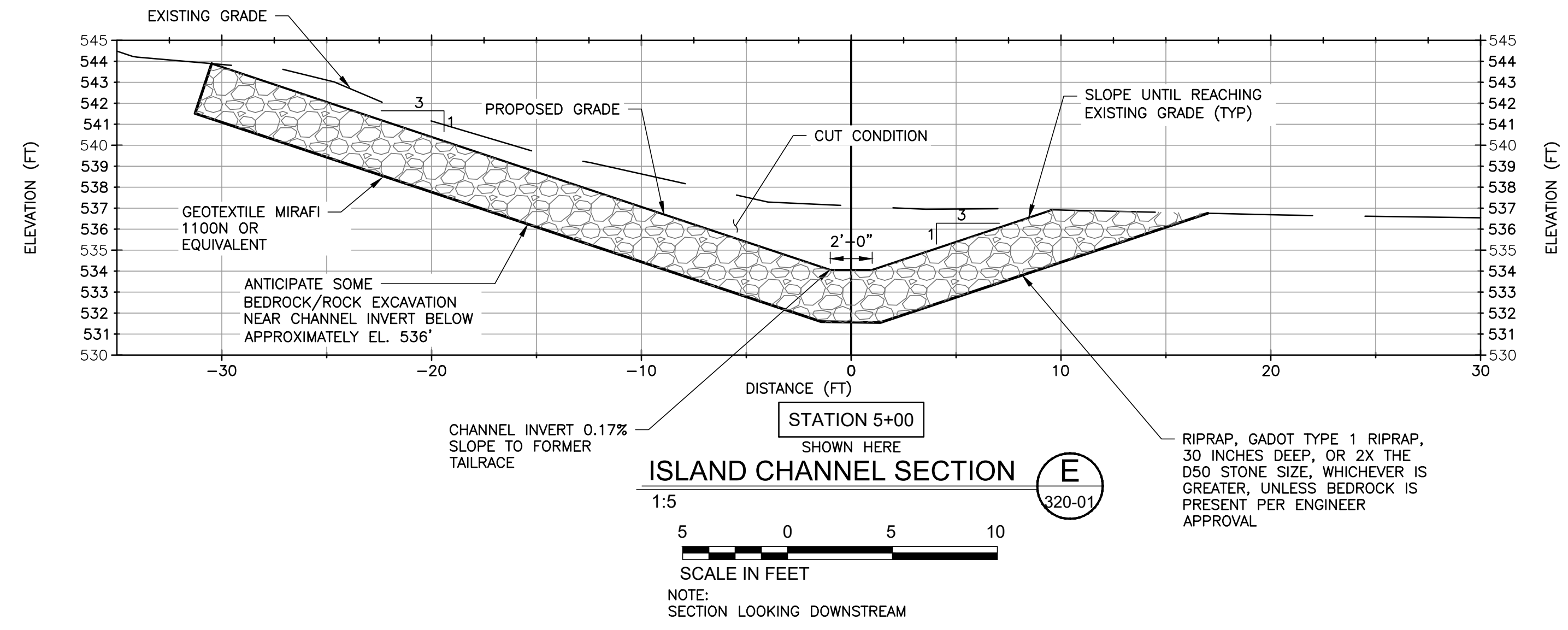
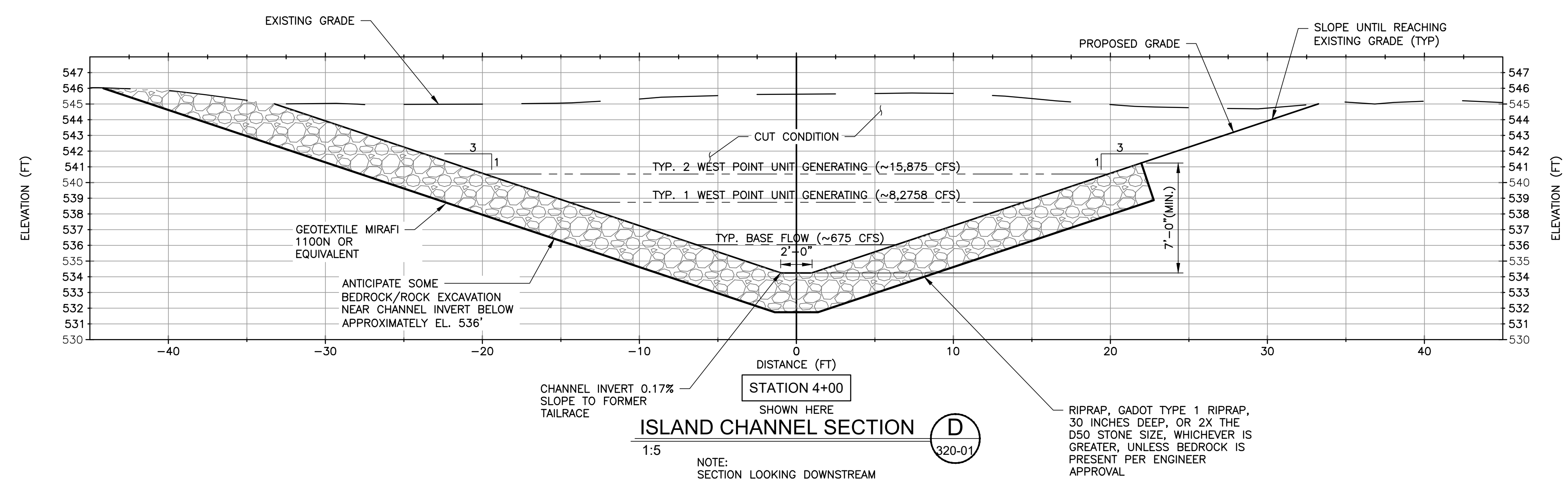
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ATLANTA, GEORGIA
LANGDALE (FERC PROJECT NO. 2341)
DAM DECOMMISSIONING
PROPOSED CONDITIONS ISLAND CHANNEL
PROFILE AND SECTIONS

No.	Revision	Date	Drawn	Checked
A	90% DESIGN	08-03-22	RMD	TAK
			Designed	Drawn
			TAK	BJL
			Checked	TAK

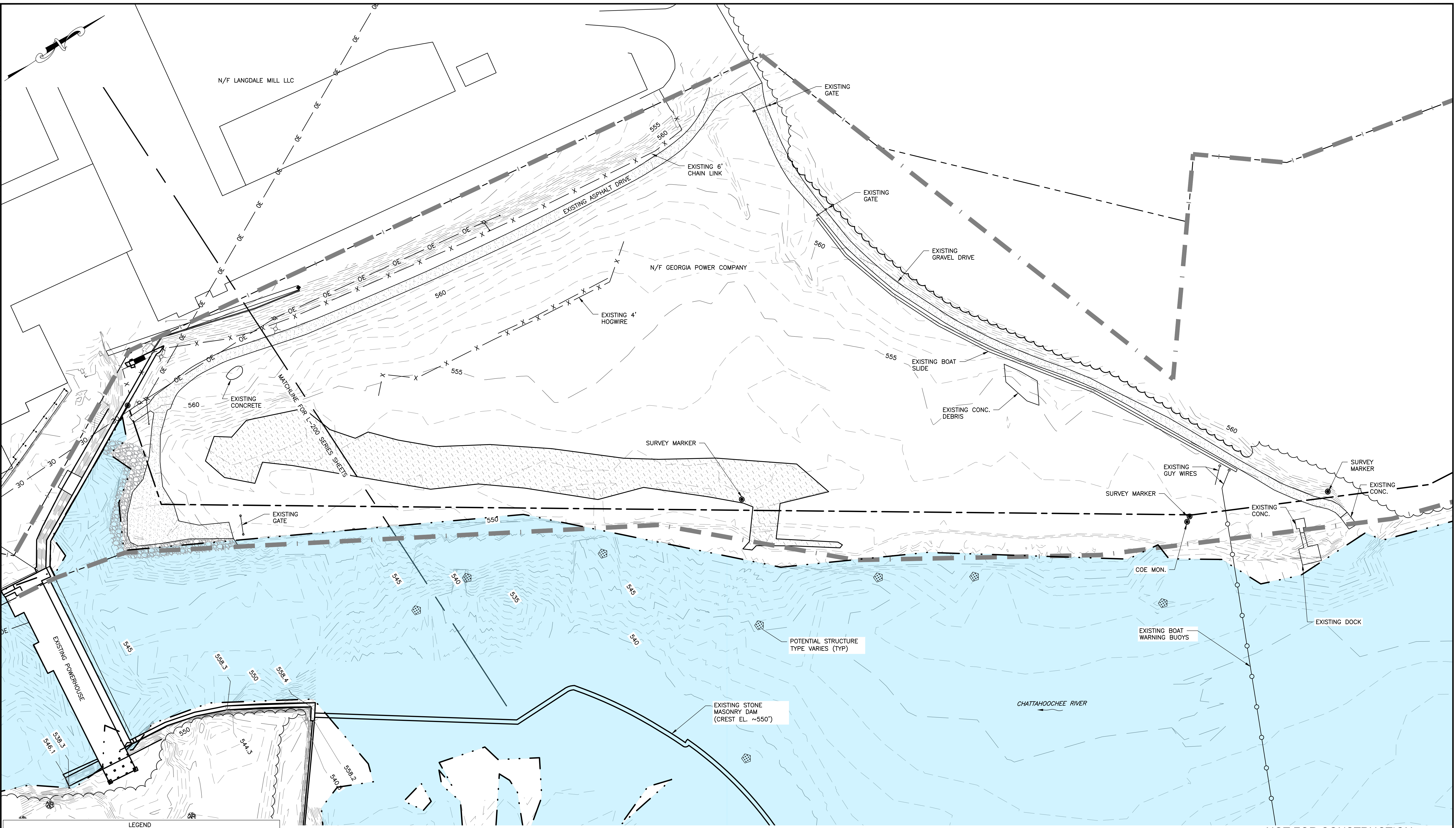
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Project No. 534-039
Date Revised 08-03-22
Drawing No. L-320-02

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 Aug. 3, 2022 - 3:19 PM



LEGEND		
EXISTING CONTOURS	--- xxx ---	SENSITIVE RESOURCE AREA
PROPOSED CONTOURS	--- xxx ---	FERC PROJECT BOUNDARY
PROPERTY LINE	---	APRX. EDGE OF EXISTING TREE COVER
LIMIT OF DISTURBANCE	--- LOD ---	PROPOSED EDGE OF TREE COVER
GA DOT TYPE C SEDIMENT BARRIER	--- SF ---	DEMOLITION
EXISTING ACCESS ROAD	---	FILL DISPOSAL AREAS
TEMPORARY FEATURE	---	EXISTING WETLAND (2020 SURVEY)
PROPOSED FEATURE	---	USACE EASEMENT
APPROXIMATE LOCATION OF WATERS EDGE	---	EXISTING BOAT BUOYS

- NOTES:
1. PROJECT HORIZONTAL DATUM: NAD83; PROJECT VERTICAL DATUM: NAVD88.
 2. DIFFERING SURVEY METHODOLOGIES ABOVE AND BELOW THE WATER'S EDGE MAY RESULT IN ELEVATION DISCREPANCIES AT THE EXISTING EDGE OF WATER. CONTRACTOR TO FIELD VERIFY CRITICAL ELEVATIONS PRIOR TO STARTING CONSTRUCTION.

PLAN
 1:50

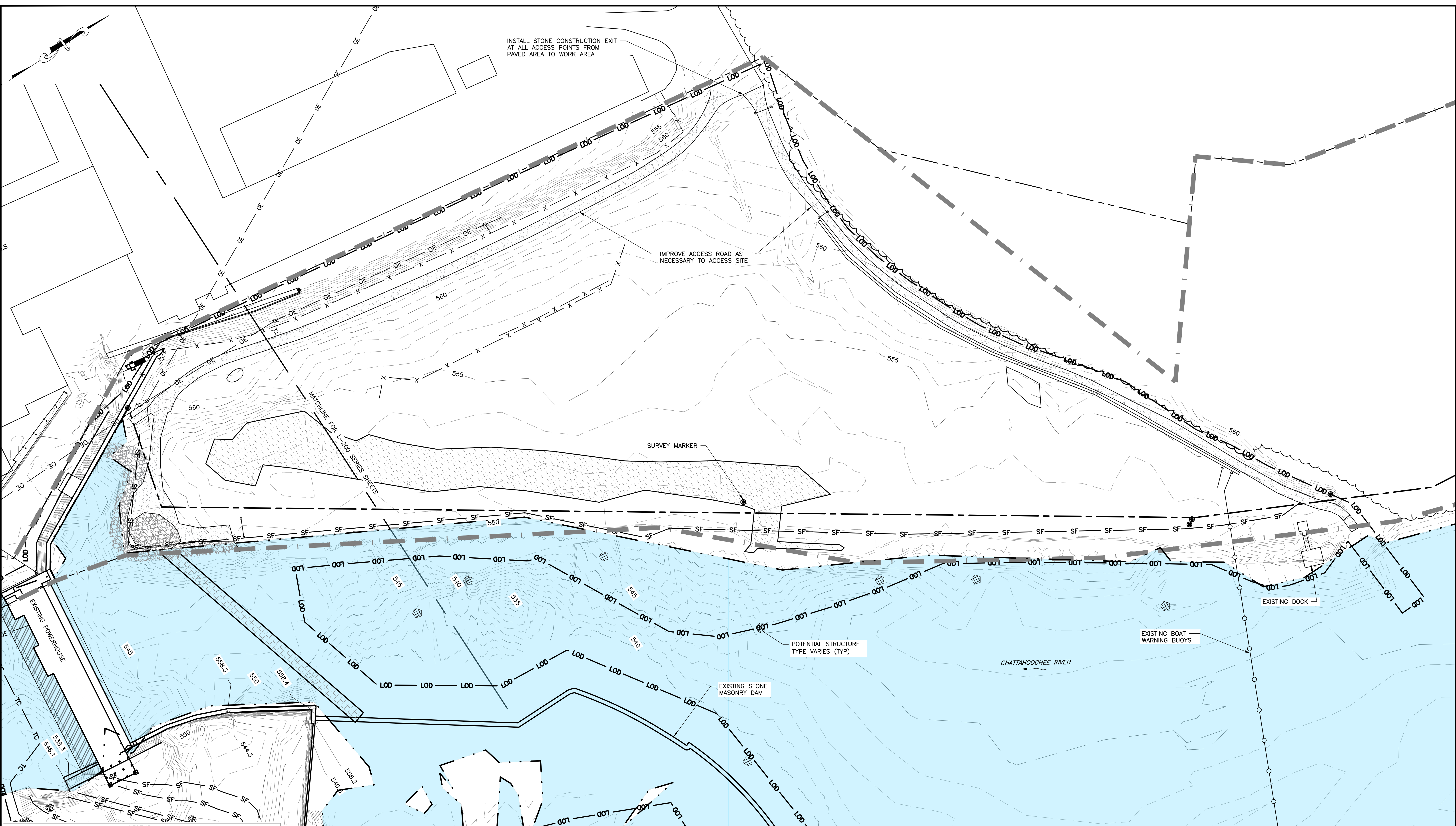


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LANGDALE (FERC PROJECT NO. 2341) DAM DECOMMISSIONING	
PARK EXISTING CONDITIONS	
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No.	Revision
A	90% DESIGN
Date	08-03-22
Drawn	CRS
Checked	TAK
Designed	TAK
Drawn	BJL
Checked	TAK
Project No.	534-039
Date Revised	08-03-22
Drawing No.	L-400-01

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LEGEND

EXISTING CONTOURS	--- xxx ---	SENSITIVE RESOURCE AREA	[Hatched Pattern]
PROPOSED CONTOURS	--- xxx ---	FERC PROJECT BOUNDARY	[Dashed Line]
PROPERTY LINE	---	APRX. EDGE OF EXISTING TREE COVER	[Wavy Line]
LIMIT OF DISTURBANCE	--- LOD ---	PROPOSED EDGE OF TREE COVER	[Dotted Line]
GA DOT TYPE C SEDIMENT BARRIER	--- SF ---	DEMOLITION	[Diagonal Hatched Pattern]
EXISTING ACCESS ROAD	---	FILL DISPOSAL AREAS	[Cross-hatched Pattern]
TEMPORARY FEATURE	[Grid Pattern]	EXISTING WETLAND (2020 SURVEY)	[Stippled Pattern]
PROPOSED FEATURE	[Solid Grey]	USACE EASEMENT	---
APPROXIMATE LOCATION OF WATERS EDGE	---	EXISTING BOAT BUOYS	○

PLAN
1:50

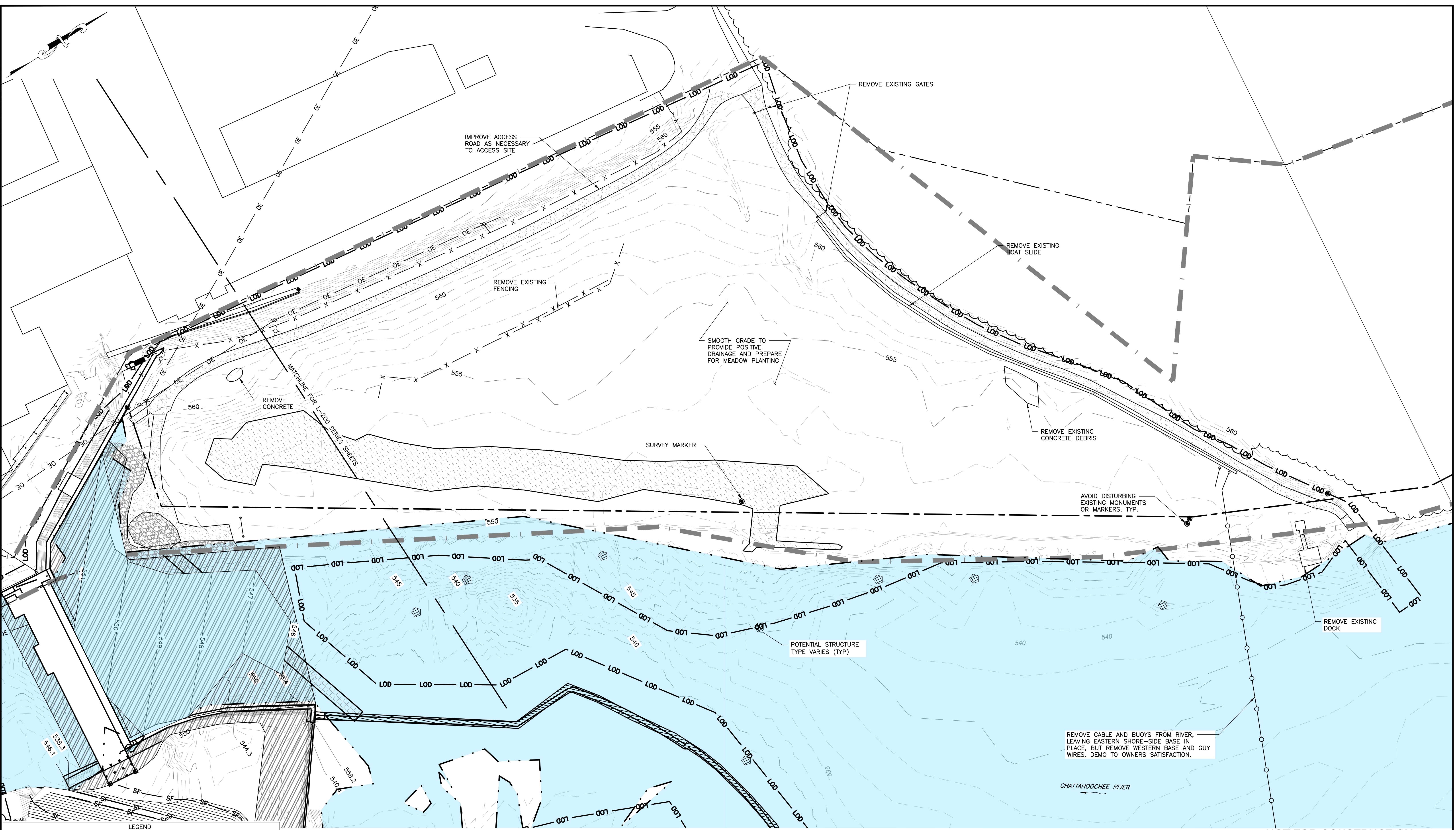


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LANGDALE (FERC PROJECT NO. 2341) DAM DECOMMISSIONING	
PARK TEMPORARY FACILITIES	
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No.	Revision
A	90% DESIGN
Date	08-03-22
Drawn	CRS
Checked	TAK
Project No.	534-039
Date Revised	08-03-22
Design	TAK
Drawn	CRS
Checked	TAK
Drawing No.	L-410-01

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LEGEND		
EXISTING CONTOURS	---xxx---	SENSITIVE RESOURCE AREA
PROPOSED CONTOURS	-xxx-	FERC PROJECT BOUNDARY
PROPERTY LINE	- - - - -	APRX. EDGE OF EXISTING TREE COVER
LIMIT OF DISTURBANCE	-LOD-	PROPOSED EDGE OF TREE COVER
GA DOT TYPE C SEDIMENT BARRIER	-SF-	DEMOLITION
EXISTING ACCESS ROAD	[Hatched Area]	FILL DISPOSAL AREAS
TEMPORARY FEATURE	[Grid Pattern]	EXISTING WETLAND (2020 SURVEY)
PROPOSED FEATURE	[Solid Grey]	USACE EASEMENT
APPROXIMATE LOCATION OF WATERS EDGE	- . . -	EXISTING BOAT BUOYS

- NOTES:
1. PROJECT HORIZONTAL DATUM: NAD83; PROJECT VERTICAL DATUM: NAVD88.
 2. DIFFERING SURVEY METHODOLOGIES ABOVE AND BELOW THE WATER'S EDGE MAY RESULT IN ELEVATION DISCREPANCIES AT THE EXISTING EDGE OF WATER. CONTRACTOR TO FIELD VERIFY CRITICAL ELEVATIONS PRIOR TO STARTING CONSTRUCTION.



No.	Revision	Date	Drawn	Checked
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ATLANTA, GEORGIA

LANGDALE (FERC PROJECT NO. 2341)
DAM DECOMMISSIONING

PARK DEMOLITION PLAN

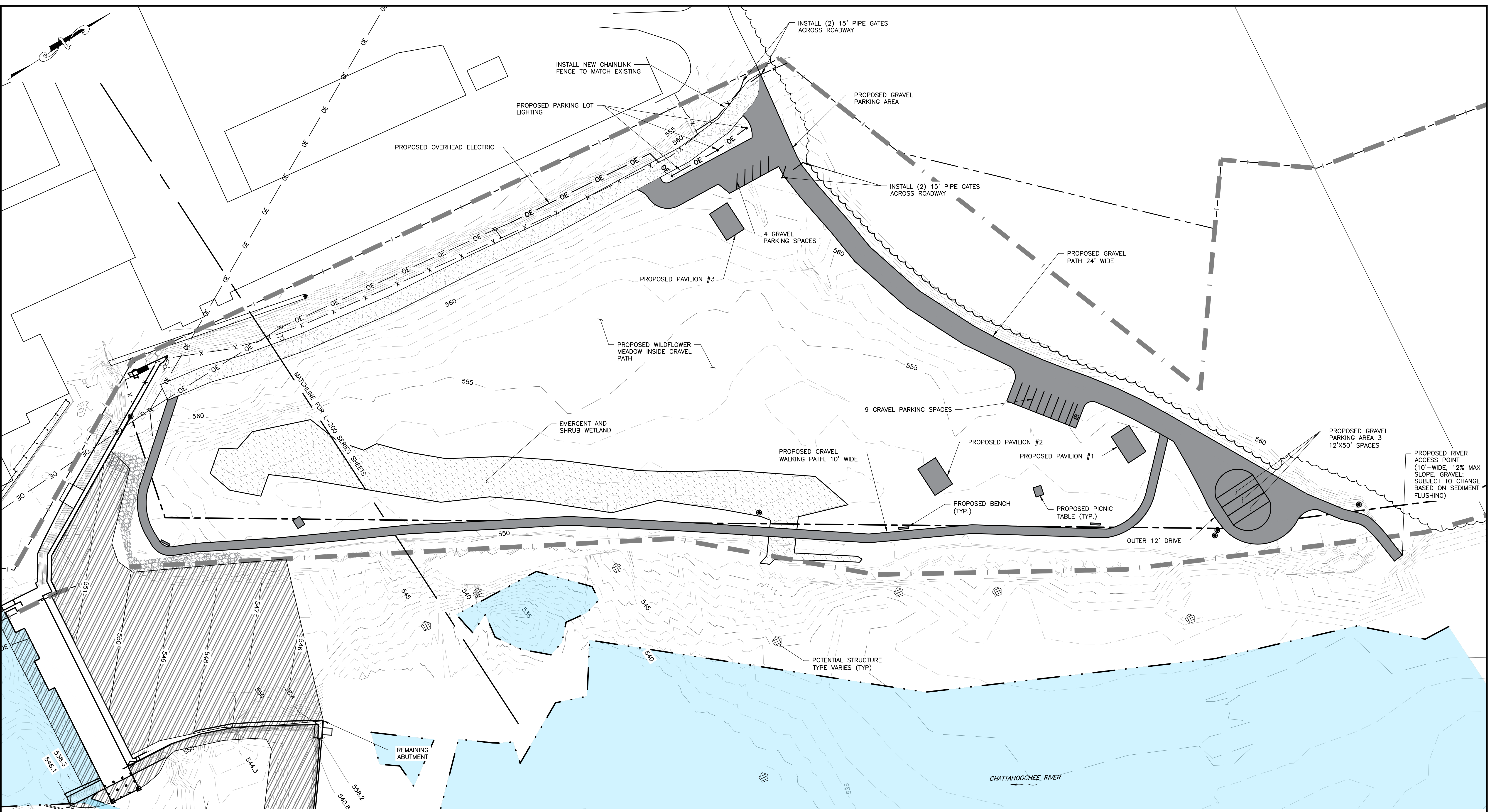
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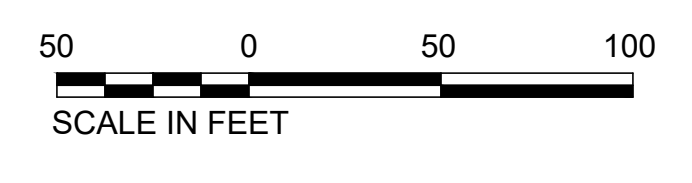
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- NOTES:
- PROJECT HORIZONTAL DATUM: NAD83; PROJECT VERTICAL DATUM: NAVD88.
 - DIFFERING SURVEY METHODOLOGIES ABOVE AND BELOW THE WATER'S EDGE MAY RESULT IN ELEVATION DISCREPANCIES AT THE EXISTING EDGE OF WATER. CONTRACTOR TO FIELD VERIFY CRITICAL ELEVATIONS PRIOR TO STARTING CONSTRUCTION.
 - TRAIL LOCATIONS TO BE FIELD LOCATED BASED ON TOPOGRAPHY, SITE CONDITIONS, AND ENGINEER'S INPUT. GENERAL INTENT, LENGTH, AND TYPE OF TRAIL WILL BE CONSISTENT WITH THIS FIGURE.
 - CONTOURS IN RIVER SHOW THE EXISTING CONDITIONS PRIOR TO SEDIMENT FLUSHING. ACTUAL CONDITIONS MAY VARY AFTER SEDIMENT FLUSHING BASED ON HISTORIC STREAM BED ELEVATIONS, SUBSTRATE, AND EXTENT OF SEDIMENT FLUSHING. NO ACTIVE GRADING OF CHANNEL OR SEDIMENT IS PROPOSED, OTHER THAN AS NECESSARY TO REMOVE THE DAM AND INSTALL THE ISLAND CHANNEL. ESTIMATED POST DAM REMOVAL WATER'S EDGE AT BASE FLOW IS BASED ON HYDRAULIC MODELING AND ASSUMED CONDITIONS RELATED TO SEDIMENT FLUSHING. ACTUAL EDGE OF WATER IS ANTICIPATED TO VARY AS NATURAL FLUVIAL PROCESSES OCCUR AND THE ACTUAL EDGE OF WATER FOR A GIVEN FLOW WILL DEPEND ON EXTENT OF SEDIMENT FLUSHING, FLOWS IN THE RIVER, AND DURATION OF TIME AFTER DAM REMOVAL.

LEGEND	
EXISTING CONTOURS	--- xxx ---
PROPOSED CONTOURS	--- xxx ---
PROPERTY LINE	---
LIMIT OF DISTURBANCE	--- LOD ---
GA DOT TYPE C SEDIMENT BARRIER	--- SF ---
EXISTING ACCESS ROAD	---
TEMPORARY FEATURE	---
PROPOSED FEATURE	---
ESTIMATED POST-DAM REMOVAL EDGE OF WATER AT BASE FLOW	---
	SENSITIVE RESOURCE AREA
	FERC PROJECT BOUNDARY
	APRX. EDGE OF EXISTING TREE COVER
	PROPOSED EDGE OF TREE COVER
	DEMOLITION
	FILL DISPOSAL AREAS
	EXISTING WETLAND (2020 SURVEY)
	USACE EASEMENT
	EXISTING BOAT BUOYS



No.	Revision	Date	Drawn	Checked
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ATLANTA, GEORGIA

LANGDALE (FERC PROJECT NO. 2341)
DAM DECOMMISSIONING

PARK PROPOSED CONDITIONS PLAN

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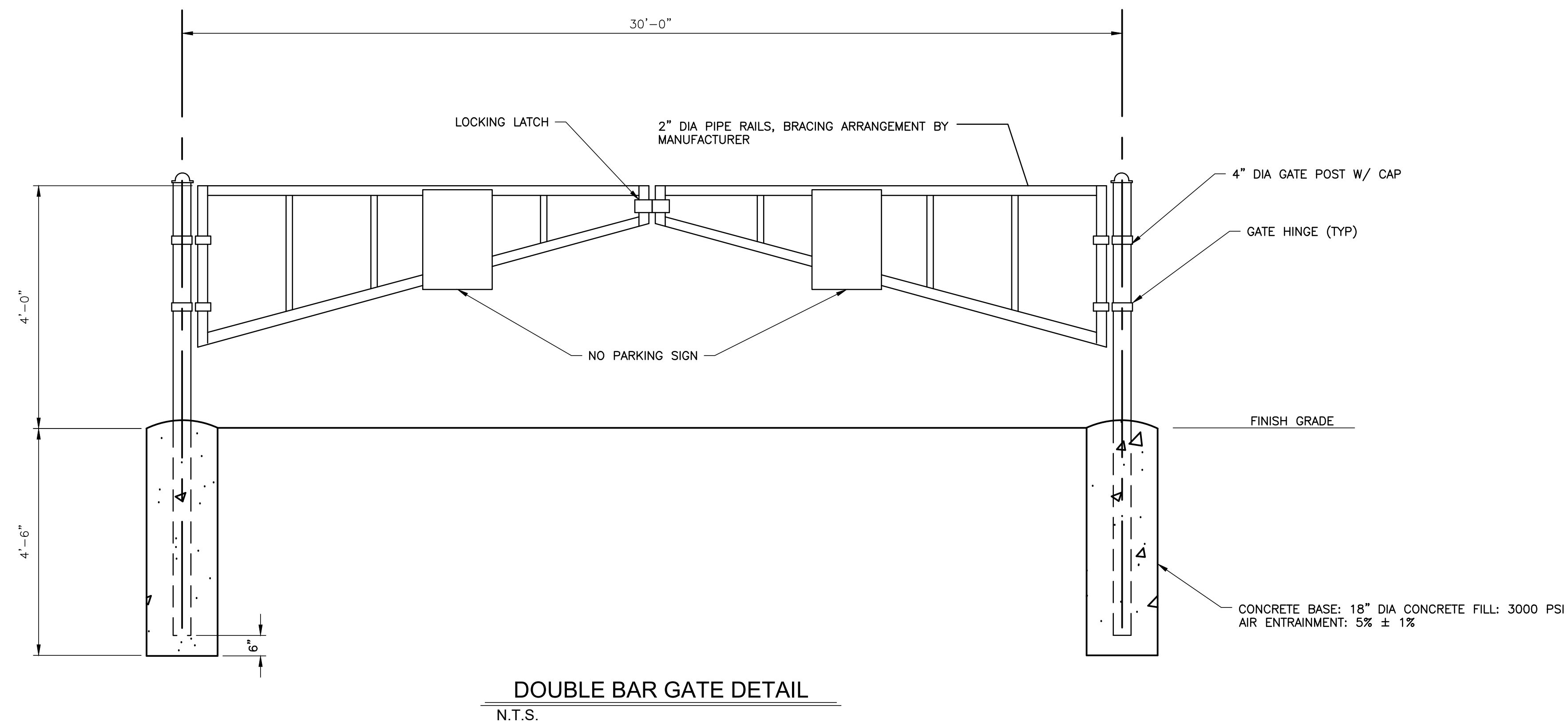
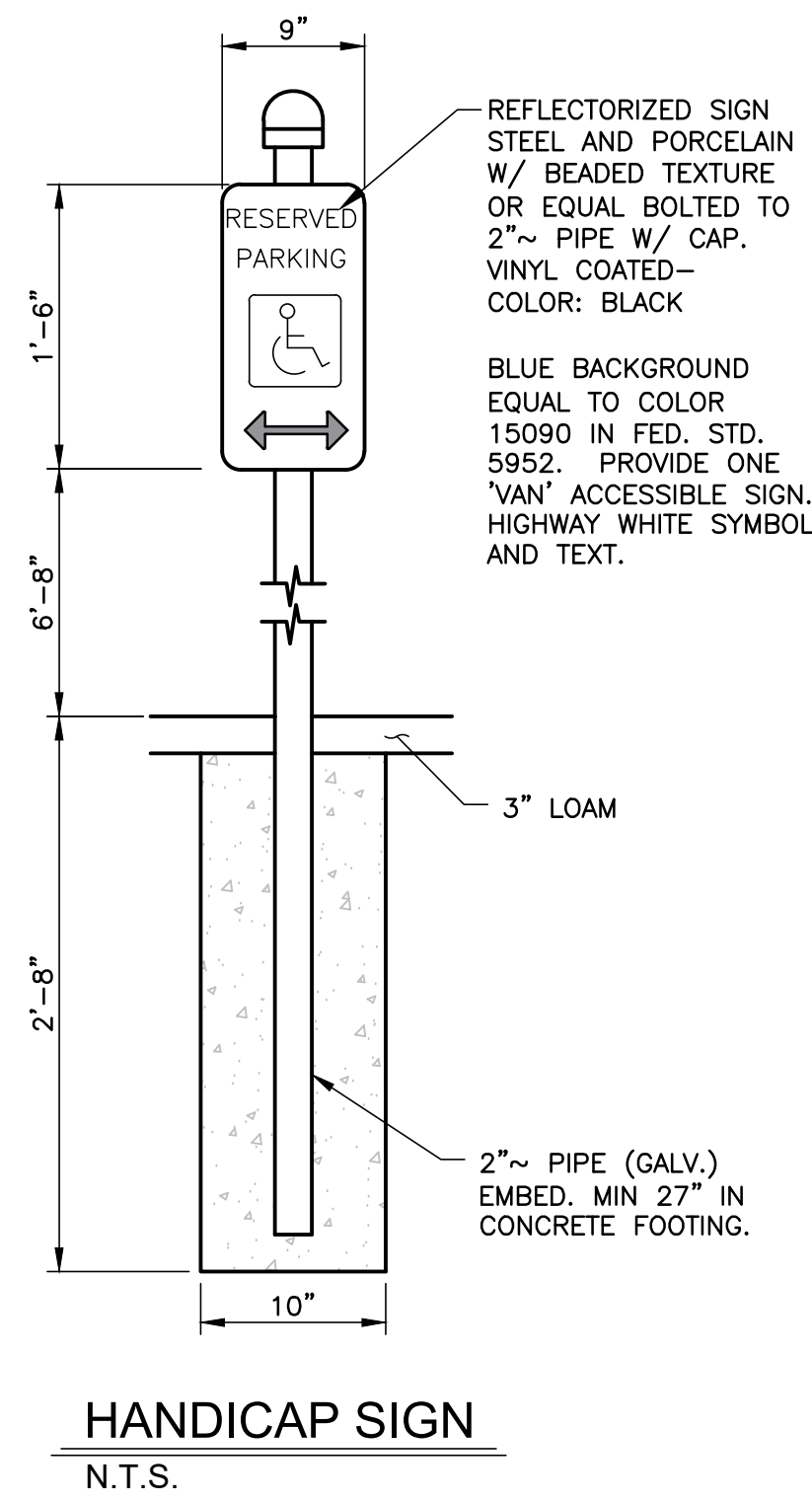
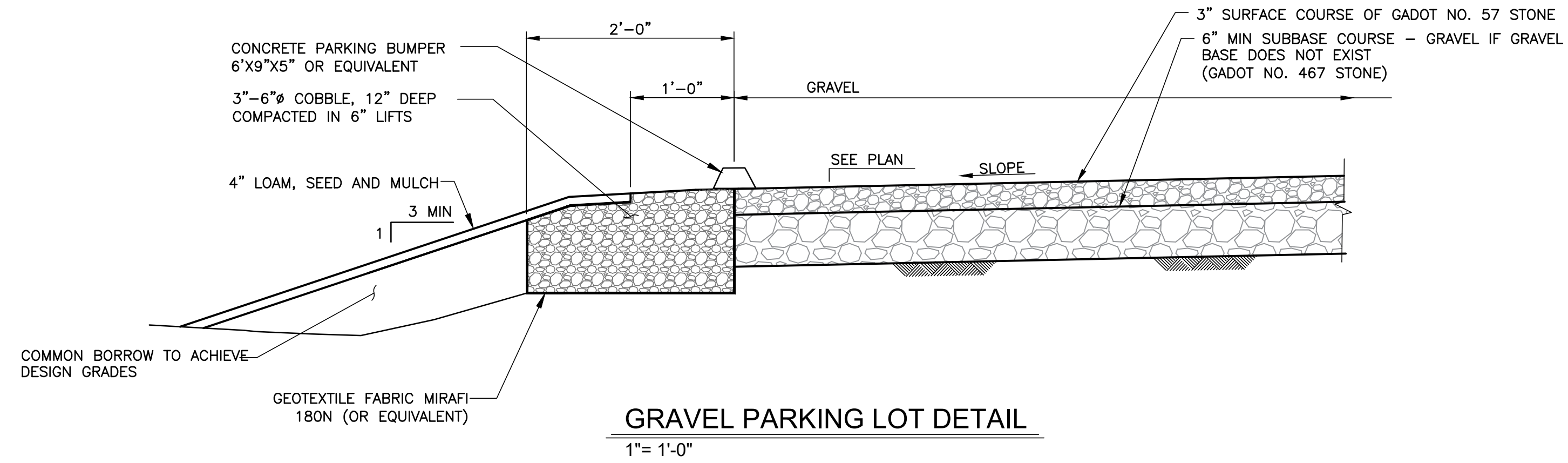
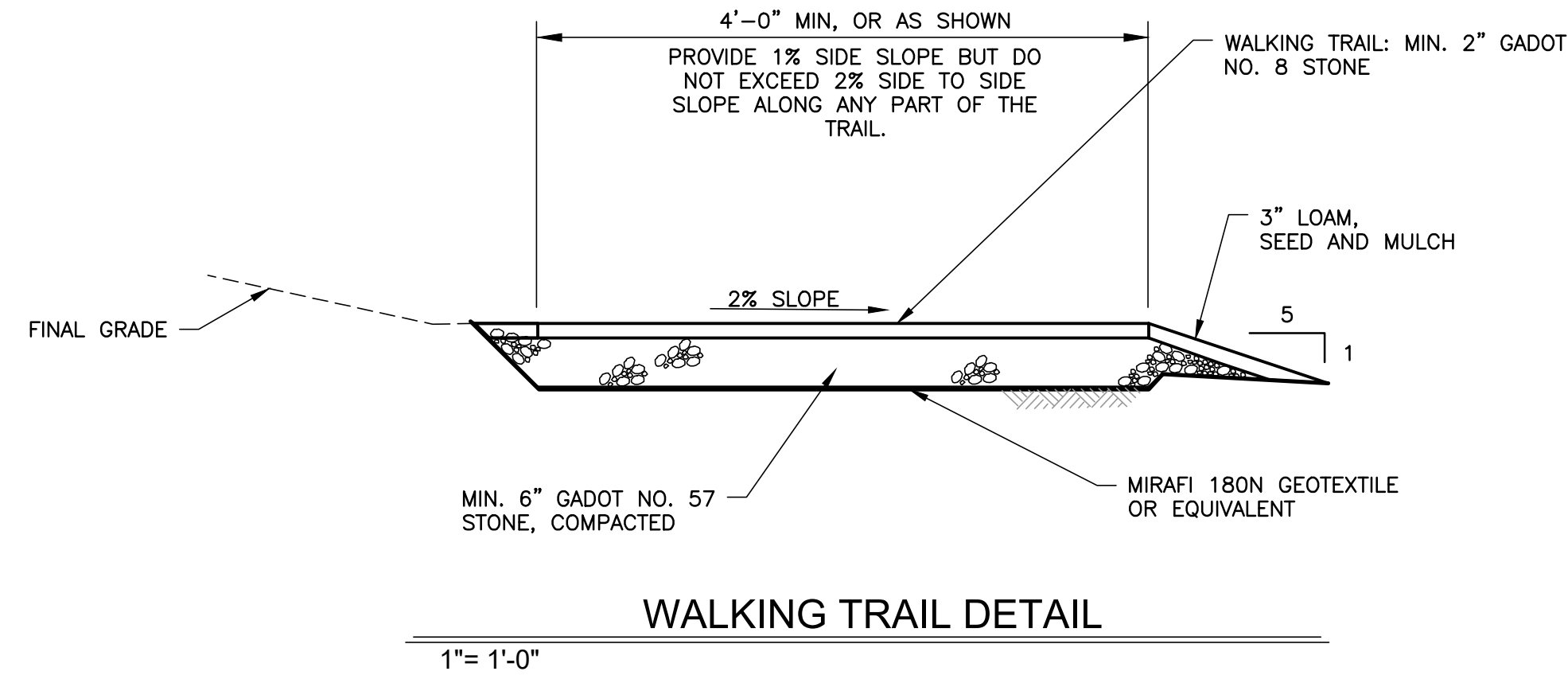
Project No.	Date Revised	Drawing No.
534-039	08-03-22	L-450-01

Designed	Drawn	Checked
TAK	BJL	TAK

24x36 = FULL SCALE

PAVILION NOTES

1. CONTRACTOR TO WORK WITH VENDOR (FIFTHROOM.COM) OR ALTERNATE PROVIDER TO PROVIDE A PAVILION THAT MEETS THE FOLLOWING SPECIFICATIONS, OR OWNER APPROVED EQUIVALENT.
 - A. PAVILION
 - A.1. 24'X36' WOOD GABLE, RECTANGULAR SAVANNAH PAVILION
 - A.2. CONCRETE SLAB FLOOR.
 - A.3. TIMBER CONSTRUCTION – NATURAL STAIN,
 - A.4. METAL ROOF – EVERGREEN 26 GAUGE METAL, STANDING SEAM
2. CONTRACTOR TO PROCURE, UNLOAD, AND INSTALL PAVILION IN COMPLIANCE WITH APPLICABLE LOCAL AND STATE CODES.
3. BEARING CAPACITY OF SOIL ASSUMED TO BE A MINIMUM OF 1,500 PSF. CONTRACTOR TO INFORM THE ENGINEER IF SOIL CONDITIONS ARE INADEQUATE.



NOT FOR CONSTRUCTION

GEORGIA POWER COMPANY
ATLANTA, GEORGIA

LANGDALE (FERC PROJECT NO. 2341)
DAM DECOMMISSIONING

PARK PROPOSED CONDITIONS DETAILS

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No.	Revision	Date	Drawn	Checked
A	90% DESIGN	08-03-22	CRS	TAK
			Designed	Drawn
			TAK	BJL
			Checked	TAK

Project No.	Date Revised	Drawing No.
534-039	08-03-22	L-450-02

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J:\534\039\Drawings\CADD\Langdale\534-039 Langdale L-700-01 PLANTING PLAN 2.dwg
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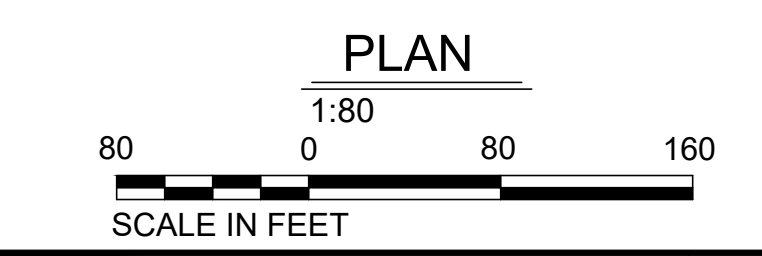
PERMANENT PLANTING TABLE					
ZONE	APPROX. AREA (SQ. FT.) SEE NOTE 9	BAREROOT TREES (25' OC SPACING)	BAREROOT SHRUBS (25' OC SPACING)	SEED MIX (APPLICATION RATE)	LIVE STAKES (4' O.C.) SEE NOTE 8
UPLAND PLANTING ZONE	49500	LOBLOLLY PINE (PINUS TAEDA), SOUTHERN RED OAK (QUERCUS FALCATA)	WINGED SUMAC (RHUS COPALLINA) BLACKHAW VIBURNUM (VIBURNUM PRUNIFOLIUM)	ERNST PIEDMONT UPL MEADOW MIX (20 LBS/ACRE)	N/A
RIP RAP PLANTING ZONE	9000	N/A	N/A	N/A	SHRUB DOGWOODS, ALDERS, AND WILLOWS
RIPARIAN PLANTING ZONE	265900	N/A	ARROWWOOD (VIBURNUM DENTATUM), SWEETLEAF (SYMPLOCOS TINCTORIA)	ERNST PIEDMONT RIPARIAN MIX (20 LBS/ACRE)	SHRUB DOGWOODS, ALDERS, AND WILLOWS

TEMPORARY PLANTING TABLE					
ZONE	APPROX. AREA (SQ. FT.)	EROSION CONTROL MATTING (FOR SLOPES 3:1 OR HIGHER)	SEED MIX	TIMING	APPLICATION RATE
UPLAND	AS NEEDED	NAG SC150BN	GRAIN OATS, BROWN TOP MILLET, OR GRAIN RYE	JAN 1 TO APR 30, MAY 1 TO AUG 31, OR SEP 1 TO DEC 31	30, 10, OR 30 LBS/ACRE
WETLAND	AS NEEDED	NAG SC150BN	GRAIN RYE OR JAPANESE MILLET	1 SEP TO APR 31, OR MAY 1 TO AUG 31	30 OR 10 LBS/ACRE

LEGEND	
PROPOSED CONTOURS	--- XXX ---
EXISTING CONTOURS	- - - XXX - - -
UPLAND PLANTING ZONE	[Orange Hatched Pattern]
RIPRAP PLANTING ZONE	[Grey Hatched Pattern]
RIPARIAN PLANTING ZONE	[Purple Hatched Pattern]
LIMIT OF DISTURBANCE	--- LOD ---
ESTIMATED POST-DAM REMOVAL EDGE OF WATER AT BASE FLOW	- - - - -
EXISTING WETLAND (2020 SURVEY)	[Diagonal Hatched Pattern]
AREA BETWEEN APPROX. PROPOSED EDGE OF WATER AT WEST POINT BASE FLOW AND APPROX. PROPOSED EDGE OF WATER AT WEST POINT BASE FLOW AND 2 UNITS	[Cross-hatched Pattern]
USACE EASEMENT	--- ---

SEEDING AND REVEGETATION PLAN

- UPON COMPLETION OF SITE CONSTRUCTION, ALL AREAS PREVIOUSLY DISTURBED SHALL BE TREATED AS STATED BELOW. THESE AREAS SHALL BE CLOSELY MONITORED BY THE CONTRACTOR UNTIL SUCH TIME AS A SATISFACTORY GROWTH OF VEGETATION IS ESTABLISHED. SATISFACTORY GROWTH SHALL MEAN A MINIMUM OF 90% OF THE AREA IS VEGETATED WITH VIGOROUS GROWTH. TOPSOIL SHALL BE SPREAD OVER ALL DISTURBED AREAS AND GRADED TO A MINIMUM UNIFORM DEPTH OF FOUR (4") INCHES.
- PRIOR TO PLACING TOPSOIL, THE SUBSOIL SHALL BE SCARIFIED AT LEAST FOUR (4") INCHES.
- FALL PLANTING IS ENCOURAGED TO GIVE VEGETATION TIME TO DEVELOP ROOTS BEFORE HOT WEATHER.
- STRAW MULCH SHALL BE APPLIED AT THE RATE OF 100 LBS. PER 1,000 SQ. FT. FOR SMALL AREAS OF 2 TONS/ACRE FOR LARGER AREAS, FOLLOWING SEEDING. MULCH SHALL BE ANCHORED BY WATERING OR USING ANCHORING EMULSION. STEEP SLOPES (3:1 AND STEEPER) SHALL BE STABILIZED BY INSTALLING EROSION CONTROL BLANKET (E.G. NORTH AMERICAN GREEN SC150 BN OR EQUIVALENT).
- ALL SEDIMENT CONTROL STRUCTURES SHALL REMAIN IN PLACE UNTIL VEGETATION IS ESTABLISHED. ESTABLISHED SHALL MEAN A MINIMUM OF 90% OF THE AREA IS VEGETATED WITH VIGOROUS GROWTH. DISTURBED AREAS SHALL BE SEEDING IN ACCORDANCE WITH APPLICABLE GA/AL REQUIREMENTS AND THE TEMPORARY PLANTING TABLE FOR THIS PROJECT.
- SEEDING SHOULD BE PLANTED TO A DEPTH OF 1/4 TO 1/2 INCHES. SEEDING METHODS MAY BE DRILL SEEDING, BROADCAST, OR HYDRO-SEEDED. THE SEED SHALL BE EMBEDDED BY BROADCASTING, DRILLING, CULTIPACK TYPE, OR HYDROSEEDING.
- PLANTING ALONG THE WATERLINE SHALL CONTINUE TO THE EDGE OF THE POST-DAM REMOVAL MINIMUM FLOW WATER'S EDGE, WHICH MAY BE DIFFERENT THAN SHOWN ON THE DRAWINGS. CONTRACTOR TO GET ENGINEER'S APPROVAL OF PLANTING ZONE EXTENTS PRIOR TO IMPLEMENTING THE PLANTINGS.
- SUITABLE WILLOW SPECIES INCLUDE: BANKERS DWARF, STREAMCO PURPLESOIER, BLACK, SANDBAR, MEADOW, HEART-LEAVED, AND WARD'S WILLOW.
- THIS IS THE PLANTING AREA SHOWN IN THIS DRAWING BASED ON ANTICIPATED POST-REMOVAL CONDITIONS. ACTUAL PLANTING AREAS SHALL BE BASED ON FLOW EXTENTS POST-DAM REMOVAL AND ACTUAL DISTURBED AREAS, AS APPROVED BY THE ENGINEER. ACTUAL PLANTING AREAS ARE ANTICIPATED TO VARY FROM THESE VALUES.
- ESTIMATED POST DAM REMOVAL WATERS EDGE AT BASE FLOW IS BASED ON HYDRAULIC MODELING AND ASSUMED CONDITIONS RELATED TO SEDIMENT FLUSHING. ACTUAL EDGE OF WATER IS ANTICIPATED TO VARY AS NATURAL FLUVIAL PROCESSES OCCUR AND THE ACTUAL EDGE OF WATER FOR A GIVEN FLOW WILL DEPEND ON EXTENT OF SEDIMENT FLUSHING, FLOWS IN THE RIVER, AND DURATION OF TIME AFTER DAM REMOVAL.

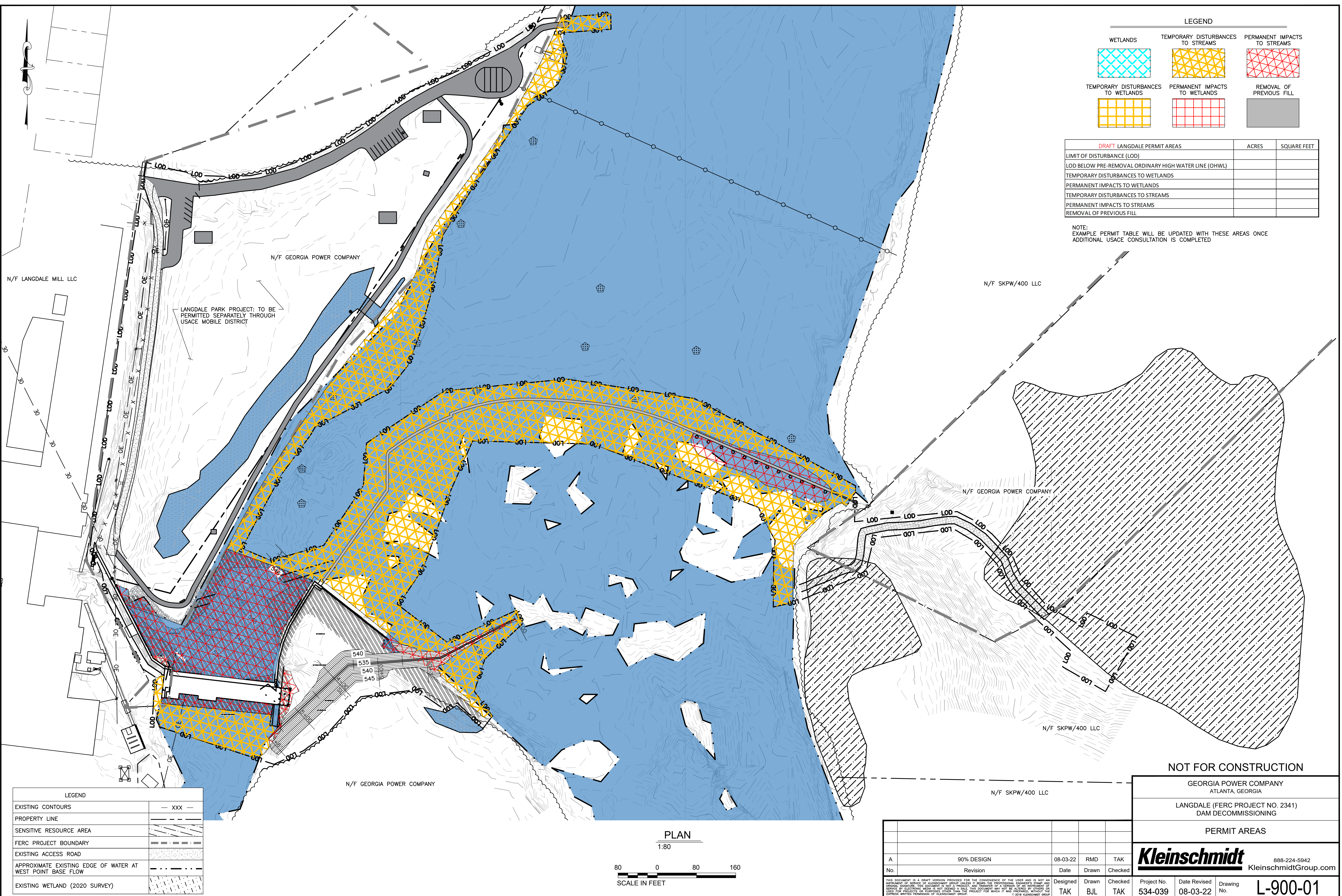


NOT FOR CONSTRUCTION

GEORGIA POWER COMPANY ATLANTA, GEORGIA	
LANGDALE (FERC PROJECT NO. 2341) DAM DECOMMISSIONING	
LANGDALE POST REMOVAL PLANTING PLAN	
Kleinschmidt 888-224-5942 KleinschmidtGroup.com	
No.	Revision
A	90% DESIGN
Date	08-03-22
Drawn	CRS
Checked	TAK
Designed	GSM
Drawn	CAA
Checked	TAK
Project No.	534-039
Date Revised	08-03-22
Drawing No.	L-700-01

24x36 = FULL SCALE

PRINTED: Aug 4, 2022 - 9:31 AM J:\534\039\Drawings\CADD\Langdale\534-039 Langdale L-900-01 PERMIT AREAS.dwg



LEGEND

	WETLANDS		TEMPORARY DISTURBANCES TO STREAMS		PERMANENT IMPACTS TO STREAMS
	TEMPORARY DISTURBANCES TO WETLANDS		PERMANENT IMPACTS TO WETLANDS		REMOVAL OF PREVIOUS FILL

DRAFT LANGDALE PERMIT AREAS	ACRES	SQUARE FEET
LIMIT OF DISTURBANCE (LOD)		
LOD BELOW PRE-REMOVAL ORDINARY HIGH WATER LINE (OHWL)		
TEMPORARY DISTURBANCES TO WETLANDS		
PERMANENT IMPACTS TO WETLANDS		
TEMPORARY DISTURBANCES TO STREAMS		
PERMANENT IMPACTS TO STREAMS		
REMOVAL OF PREVIOUS FILL		

NOTE:
EXAMPLE PERMIT TABLE WILL BE UPDATED WITH THESE AREAS ONCE ADDITIONAL USACE CONSULTATION IS COMPLETED

LEGEND

EXISTING CONTOURS	--- XXX ---
PROPERTY LINE	---
SENSITIVE RESOURCE AREA	
FERC PROJECT BOUNDARY	---
EXISTING ACCESS ROAD	---
APPROXIMATE EXISTING EDGE OF WATER AT WEST POINT BASE FLOW	---
EXISTING WETLAND (2020 SURVEY)	---

PLAN
1:80

80 0 80 160

SCALE IN FEET

No.	Revision	Date	Drawn	Checked
A	90% DESIGN	08-03-22	RMD	TAK

NOT FOR CONSTRUCTION

GEORGIA POWER COMPANY
ATLANTA, GEORGIA

LANGDALE (FERC PROJECT NO. 2341)
DAM DECOMMISSIONING

PERMIT AREAS

Kleinschmidt
888-224-5942
KleinschmidtGroup.com

Designed	Drawn	Checked	Project No.	Date Revised	Drawing No.
TAK	BJL	TAK	534-039	08-03-22	L-900-01

APPENDIX E

**Draft Aquatic Organism Recovery
Survey and Relocation Plan**

DRAFT AQUATIC ORGANISM RECOVERY SURVEY AND RELOCATION PLAN

LANGDALE PROJECT (FERC No. 2341)
AND
RIVERVIEW PROJECT (FERC No. 2350)

Prepared for:

Georgia Power Company

Prepared by:

Kleinschmidt Associates

AUGUST 2022

Kleinschmidt

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1.0 INTRODUCTION

Georgia Power Company (Georgia Power) is the Federal Energy Regulatory Commission (FERC) licensee for the Langdale Project (FERC No. 2341) and the Riverview Project (FERC No. 2350) (collectively, the “Projects”). On December 18, 2018¹, Georgia Power filed applications for license surrender for the Projects with FERC in accordance with the Commission’s regulations at 18 C.F.R. § 6.1 and 6.2. The licenses for the Projects expire on December 31, 2023.

1.1 Project Background

Langdale Project

The Langdale Project is located on the Chattahoochee River, adjacent to the City of Valley, Alabama and in Harris County, Georgia at river mile (RM) 191.9. The Langdale Project is located approximately 9.5 river miles downstream of the U.S. Army Corps of Engineers (USACE) West Point Dam (RM 201.4), which began operation in 1976 and regulates the flow through the Middle Chattahoochee River region (Figure 1–1).

The Langdale Project was constructed between 1904 and 1908 and purchased by Georgia Power from West Point Manufacturing Company in 1930. The Project operated as a run of river hydroelectric plant. Over time, the four horizontal generating units developed maintenance problems, and eventually were no longer operable. Generation records suggest that Georgia Power stopped operating the horizontal units in approximately 1954. The horizontal units were officially retired in 1960, leaving only the two 520 kilowatt (kW) vertical units operating at the Langdale Project; these two units remain in place in the powerhouse but have not operated since 2009.

Riverview Project

The Riverview Project is located approximately at RM 191.0 (Crow Hop Diversion Dam) and RM 190.6 (Riverview Dam) on the Chattahoochee River, downstream of the City of Valley, Alabama and in Harris County, Georgia (Figure 1-1). The Project is located approximately 10.5 RM downstream USACE West Point Project and 0.9 RM downstream of the Langdale Project.

¹ Accession Number 20181218-5451 and 20181218-5452



Figure 1-1 Langdale and Riverview Project Locations

The Riverview Project consists of two separate dams, Riverview Dam and Crow Hop Diversion Dam (Crow Hop Dam), and a powerhouse with generating equipment located on the western abutment of Riverview Dam. Crow Hop Dam is the upstream dam and is situated across the main river, diverting flow into a headrace channel between an island and the western bank. The headrace channel is approximately 1-mile-long. Riverview Dam and the powerhouse are located at the lower end of this headrace channel. The Project was constructed in several phases. The smaller downstream dam was constructed in 1906 for West Point Manufacturing Company. Originally, the dam diverted water into the adjacent mill building to provide power for mill operation. The existing powerhouse was built in 1918 and houses two 240 kW generating units. Crow Hop Dam was constructed in 1920. Georgia Power purchased the Riverview Project from West Point Manufacturing Company in 1930 and began operating the two generating units. Over time, the units developed maintenance problems, and eventually were no longer operable or repairable. Georgia Power stopped operating the units in 2009. The Riverview Project previously operated as a run of river project.

1.2 Background Information

On April 11, 2019, FERC issued an additional information request (AIR)² regarding decommissioning studies proposed by Georgia Power. As part of its response, Georgia Power filed the Proposed Study Plan (PSP) on May 24, 2019³ to provide additional information on the proposed studies to support its surrender applications for the Projects. Georgia Power filed the Final Study Plan (FSP) on July 24, 2019⁴ and filed the Draft Study reports on September 21, 2020⁵.

On November 18, 2020⁶, FERC responded to the draft study reports and indicated that the Decommissioning Plan must include a plan to survey for stranded aquatic organisms during each dam removal, including methods for recovery and relocation if stranded organisms are found. The Decommissioning Plan is being filed concurrently with this Draft Aquatic Organism Recovery Survey and Relocation Plan.

² Accession Number 20190411-3007

³ Accession Number 20190524-5217

⁴ Accession Number 20190724-5110

⁵ Accession Number 20200921-5036

⁶ Accession Number 20201118-3015

2.0 PLAN GOALS AND OBJECTIVES

The goal of this plan is to identify the procedures that will be used to assess potential stranding of aquatic organisms that may occur as the Projects dams are removed and their associated impoundments are drawn down to natural (pre-dam) levels. This plan will also identify measures that will be undertaken if stranded aquatic organisms are encountered during the drawdown.

2.1 Study Area

The study area consists of three river reaches that would be evaluated for stranding during dam removal: the mainstem of the Chattahoochee River between Interstate 85 and Langdale Dam; between Langdale Dam and Crow Hop Dam; and the headrace channel of Riverview Dam.

3.0 METHODS

3.1 Recovery and Relocation Surveys

Riverview and Crow Hop dams will be removed in parallel (i.e., at the same time), after which Langdale Dam will be removed. In accordance with the Decommissioning Plan, the dam removals will be conducted in a manner that will result in a maximum impoundment drawdown rate of three feet per day. Surveys during dam removal would include aquatic organisms identified in consultation with Georgia Department of Natural Resources - Wildlife Resources Division (Georgia WRD) and U.S. Fish and Wildlife Service (USFWS) (hereinafter, "Target Species"). Efforts to survey for stranded live aquatic Target Species will begin at the commencement of direct dam removal activity (lowering the water elevation of the associated impoundment. Target mussel species will include the Unionid mussels (in Family Unionidae [freshwater mussels]). It is important to note that existing conditions in the Chattahoochee River in the Project area include a daily general river stage fluctuation of three feet (Monday-Friday), resulting from the upstream USACE's West Point Project, which includes peaking generation (approximately 15,000 cfs) in the afternoon/evening, and a base flow when not generating (670 cfs).

Georgia Power proposes to perform searches for target species on each day of planned dam removal drawdown. The searches will consist of Project personnel visually searching dewatered shoreline area while traversing (may include wading, canoeing or kayaking, etc., if determined to be the most feasible means of searching a given segment) through the length of available shoreline in the affected impoundment. Searches for stranded Target species or habitats subject to stranding concerns such as isolated perched or pooled areas, among mid-channel islands, etc. will be augmented as needed and/or feasible via drone survey. Isolated pools that would not be reconnected during West Point generation flows and that are too deep to visually search will be seined to remove stranded target fish species and searched by snorkeling or hand grubbing, etc. to detect and relocate target mussel species. As any stranded live Target species are discovered, they will be identified to species and enumerated (on data sheets or electronically). Other observations of noteworthy findings or significance related to field survey issues, species detection or organism relocation/handling concerns handling will be recorded as well. Dam removal drawdown is defined as any period of time when greater than 1 foot change (i.e., reduction) in impoundment water surface elevation is observed over a 24 hour period), excluding water surface elevation changes from daily West Point peaking flows. These drawdowns will occur during the four foot per day removal of the Projects' dam.

Early project aquatic surveys determined that no Federally protected species occur or are likely to occur in the Project and particularly with regard to mussels, only two common species were detected and were found in extreme low abundance. Generally, as non-protected Target species are discovered and noted, to reduce further stress or added stress due to handling, they will be immediately relocated into water of areas well inside the expected minimum wetted perimeter of main channel area adjacent to the location of search detection (from consultation with M. Rowe, Georgia WRD Conservation Section, Social Circle Office, personal communication, 07/29/2022). If a federally listed threatened or endangered live mussel is detected, Georgia Power would immediately contact the USFWS Ecological Field Services Office in Columbus, GA. USFWS will provide consultation and directly handle specimen collection and handling as needed (S. Abbott, USFWS Ft. Benning/West Georgia Office, personal communication, 07/29/2022). If federally listed threatened or endangered fish is detected, it will be positively identified, held live then possibly transported to a specific relocation area for live release based on consultation from the USFWS Regional Ecological Services Office and Georgia WRD Fisheries.

4.0 SCHEDULE AND REPORTING

Survey and relocation efforts for mussels and fish will begin when dam removal activities for a given demolition day begins. In accordance with the Decommissioning Plan, dam removal activities will occur during the seasonal low flow period and during the times when the USACE West Point Dam is releasing base flow (670 cfs).

Following dam removal and associated survey and recovery/relocation activities, Georgia Power will prepare a brief report summarizing these efforts. The report will include information summarizing the level of effort and the number, location, and identity of fish and mussel species recovered and relocated. The report will be filed with FERC within 90 days after completion of dam removal activities.

APPENDIX F

DRAFT POST REMOVAL MONITORING PLAN

LANGDALE AND RIVERVIEW PROJECTS DRAFT POST REMOVAL MONITORING PLAN



**FERC Nos
2341 & 2350**



Prepared for: Georgia Power Company
Prepared by: Kleinschmidt Associates

August 2022

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1.0 INTRODUCTION

Georgia Power Company (Georgia Power) is the Federal Energy Regulatory Commission (FERC) licensee for the Langdale Project (FERC No. 2341) and the Riverview Project (FERC No. 2350) (collectively, the "Projects")¹. On December 18, 2018, Georgia Power filed a Notice of Intent (NOI) to not seek a subsequent license with FERC and applications for license surrender for the Projects in accordance with FERC regulations at 18 Code of Federal Regulations (C.F.R.) § 6.1 and 6.2. The licenses for the Projects expire on December 31, 2023. Georgia Power proposes to surrender the licenses and decommission the Projects. This proposal is referred to as the Proposed Action. The decommissioning consists of:

- Removing the majority of the Langdale Dam (less 300 feet on the east side of the river) and decommissioning the powerhouse in place
- Removing the Crow Hop Dam
- Removing the Riverview Dam and Powerhouse

These removal activities will restore free-flowing river conditions for improved fish passage and recreational boater access through this reach of the Chattahoochee River. Post dam removal restoration efforts will include stabilizing the riverbanks and channel in the immediate vicinity of the Langdale, Riverview, and Crow Hop Dams and revegetating areas where temporary access or cut/fill occurred for the decommissioning of these dams, as identified on the site restoration drawings associated with Appendices B-D of the Decommissioning Plan. Georgia Power will implement this Draft Post Removal Monitoring Plan for a period of no more than 12 months following removal of the Langdale, Riverview, and Crow Hop Dams. The Draft plan includes:

- 1) monitoring process;
- 2) pre removal site documentation;
- 3) bank stabilization and revegetation methods;
- 4) post dam removal monitoring;
- 5) post removal shoal bass abundance and tracking; and
- 6) estimated costs.

¹ The Langdale Project consists of one dam; the Riverview Project includes the Crow Hop Diversion Dam and the Riverview Dam.

2.0 MONITORING PLAN PROCESS

2.1 Purpose

The goal of the Draft Post Removal Monitoring Plan is to identify monitoring activities that will be implemented at specific intervals to document conditions and identify specific actions to remediate post removal issues with natural resources along the Chattahoochee River, as needed following the removal of the Langdale, Riverview, and Crow Hop Dams. Restoration efforts will focus on the area immediately adjacent to the dams and powerhouses unless post removal monitoring specified in Section 5 of this plan identifies additional natural areas requiring management activity or protection (i.e., armoring of outfalls, extending public boat ramp).

2.2 Monitoring and Reporting Process

Georgia Power will perform monitoring in accordance with this Draft Post Removal Monitoring Plan and will prepare summary reports after each monitoring event set forth in this Plan. Those reports will be provided to FERC, the U.S. Army Corps of Engineers (USACE), Alabama Department of Environmental Management (ADEM), and Georgia Environmental Protection Division (GA EPD) within 1 month of completing monitoring, or as noted in specific monitoring plans (e.g., post removal shoal bass abundance and tracking). Georgia Power will engage these resource agencies as necessary to discuss any unanticipated findings, should any occur during monitoring.

3.0 PRE DAM REMOVAL SITE DOCUMENTATION

Within 1 year prior to dam removal activities, Georgia Power will document existing conditions within the Project reach, including the following activities described below.

3.1 Unmanned Aerial Vehicle Flight

Conduct unmanned aerial vehicle (UAV) flight to document existing conditions. A UAV will be flown over the Chattahoochee River in the Project area² to capture video documenting the condition of the affected reaches (for comparison to post removal monitoring efforts. This UAV survey is anticipated to cover from the upstream end of Lake Harding (Bartletts Ferry Project impoundment, FERC No. 485) in the Bartletts Ferry impoundment to the upstream end of the existing Langdale impoundment. The drone video will cover the key reaches and features including the banks and channel of the main channel, Riverview headrace channel, Langdale tailrace channel, and island east of Langdale, as well as key features, including the future area of the Crow Hop rock ramp and Rock Weirs 1, 2, and 3.

3.2 Outfall Survey

Georgia Power will conduct a qualitative survey at specific outfalls in the Project area. Specific outfalls potentially affected by the removal would be identified in consultation with applicable entities prior to removal. These outfalls may be stormwater discharge culverts or streams that drain directly to the impoundments associated with these Projects. Photographs will be taken to document the condition of the outfalls at the time of the monitoring event.

3.3 Cross Section Documentation

Conduct qualitative documentation at cross sections. The final locations of the cross sections will be determined prior to removal. After determining the cross section locations, temporary markers will be installed using wood or rebar stakes driven into the ground and flagging. The location of each end will then be recorded by sub-meter Global Positioning System (GPS) device. A minimum of four photographs (from the ground or by a UAV) will be taken at each cross section to document the condition of the cross section

² Project area refers to the land and water in the Project boundary and immediate geographic area adjacent to the Project boundary.

at the time of the monitoring event. These four photographs shall be: facing upstream, downstream, and of the left and right banks (relative to the downstream direction).

The site has been divided into four distinct reaches. The proposed cross sections in each reach are summarized below.

- Upstream of Langdale (RM191.9 to RM 196.5)
 - 4 cross sections
- Downstream of Langdale/Upstream of Crow Hop (RM 191.0 to RM 191.9)
 - Main Channel: 2 cross sections
 - Langdale Tailrace: 1 cross section
- Downstream of Crow Hop/Upstream of Riverview (RM 190.6 to RM 191.0)
 - Main Channel: 1 cross section
 - Riverview Headrace: 3 cross sections (1 in riverbank stabilization area, 1 in in-channel grade stabilization area, and 1 upstream of in-channel grade stabilization area)
- Downstream of Riverview (Downstream of RM 190.6)
 - 4 cross sections

4.0 BANK STABILIZATION AND REVEGETATION METHODS

The removal of the dams associated with these Projects will change the water levels in the impoundment but will not change the flows in the river. The area of greatest water level change will be near the existing dams, and as such, Georgia Power is proposing several measures to stabilize this area as part of the decommissioning, including installing riprap, allowing the exposed riverbed/bank to naturally revegetate, and planting the exposed river banks, as described further below

4.1 Riprap

In the immediate vicinity of the Langdale, Riverview, and Crow Hop Dams, riprap will be the primary method utilized to stabilize the bank and protect the remaining dam abutments. Material from the dam demolitions will be utilized for this riprap, as portions of the dams consist of stone masonry, concrete, or natural stone. Additional quarried riprap will be imported as necessary to supplement the dam material. The riprap will be underlaid with a geotextile or filter stone layer to prevent the migration of fine substrates into the riprap where the riprap is placed over fine soils.

4.2 Natural Revegetation

Except for the immediate vicinity of the Langdale, Riverview, and Crow Hop Dams, natural revegetation will be the primary method of revegetation post dam removal. Natural revegetation uses the natural establishment of plants from those that already may be on site, from dormant seeds in the existing sediment, deposition of seeds from upstream sources, or recruitment of seeds from the existing vegetation around the Projects. In the existing condition the seeds that are washed into the impoundment settle out and are buried in the sediment behind the dams. Upon removal of the dams and exposure of these sediments and seeds to daylight and air, they quickly start sprouting and putting down roots. In prior dam removal, it was found that fine sediments (e.g., silts) had higher woody plant density in the years immediately after dam removal when compared to coarser sediments (e.g., sands/cobbles); however, the woody stem density was not significantly different between seeded/planted areas and areas left to naturally revegetate (Chenoweth et. al., 2021). Riparian plant species are often part of primary succession and can quickly establish on bare soils exposed after dam removal, especially in areas with long growing seasons and optimal climate conditions such as this location. Therefore,

most of the impoundment substrate exposed by the dam removals will be allowed to naturally revegetate.

4.3 Assisted Revegetation

In areas where dam decommissioning equipment disturbs the soil or in areas immediately around the dam abutments, Georgia Power will provide plantings to assist the natural revegetation efforts. These will be site specific and actual planting areas will be based on post removal conditions. Planting areas are anticipated to vary in size and location from those depicted in the site restoration drawings associated with the Dam Decommissioning Plan (L-700-01, R-700-01, and C-700-01) and summarized below. Georgia Power will utilize revegetation techniques in three planting zones (upland, riprap, and riparian) at Langdale, Riverview, and Crow Hop. Restoration efforts will focus on the area immediately adjacent to the dams and powerhouses. The approximate extent of each planting zone at Langdale, Riverview, and Crow Hop is provided in Table 4-1.

Table 4-1 Approximate Area¹ of Planting Zones at Langdale, Riverview, and Crow Hop

	Upland	Riprap	Riparian	Total
Langdale	49,500	9,000	265,900	324,400
Riverview	16,100	-	10,500	26,600
Crow Hop	15,500	19,000	32,500	67,000
Total	81,100	28,000	308,900	418,000

¹ area is represented in square feet

Revegetation techniques will include planting live stakes³ and bareroot shrubs and trees (native woody and bushy perennial species) and seeding to stabilize and protect the streambanks post dam removal. Georgia Power will source live stakes and bareroot shrubs and trees from local nurseries and coordinate the live stake cuttings during their dormant season to increase transplant success. Native seed mixes will be site specific and planted at ¼ to ½ inch depth and may be seed drilled, broadcasted, or hydro-seeded. All planting will be performed at the appropriate time of year to allow time for vegetation to develop roots and establish on the site prior to extreme heat of summer.

³ Live stakes are stem cuttings (typically 0.5 – 1” diameter and 4-5’ long) harvested from woody species known to propagate via this method during their dormant season. These live stakes then grow into new trees and shrubs that establish a root network in the stream bank to help prevent erosion.

4.3.1 Upland Zone

The Upland Zone at Langdale, Riverview, and Crow Hop will be planted with native bareroot trees (e.g., southern red oak [*Quercus falcata*]) and bareroot shrubs (e.g., winged sumac [*Rhus copallinum*] and blackhaw viburnum [*Viburnum prunifolium*]) at a density of approximately 25 feet on-center. In addition, Ernst Piedmont Upland Meadow seed mix will be applied at 20-pounds per acre. This seed mix will ultimately provide pollinator habitat as well as help stabilize the soils in this area.

4.3.2 Riprap Zone

The Riprap Zone at Langdale, Riverview, and Crow Hop will be planted with live stakes of shrub dogwood (*Cornus* spp.), alder (*Alnus* spp.), and native willow (*Salix* spp.) species (at a density of approximately 4-feet on-center). Vegetation planted within and immediately upslope of installed riprap greatly increases the stability of the slope once the roots establish, as well as improves the overall aesthetic and ecological value of the area.

4.3.3 Riparian Zone

The riparian zone at Langdale, Riverview, and Crow Hop will be planted with live stakes similar as the riprap zone, and also planted with bareroot shrubs (e.g., southern arrowwood [*Viburnum dentatum*] and sweetleaf [*Symplocos tinctoria*]) at a density of approximately 25 feet on-center and Ernst Piedmont Riparian seed mix at 20-pounds per acre.

4.4 Temporary Revegetation

Temporary native seedlings will be used as needed and implemented through the Erosion, Sedimentation, and Pollution Control Plan (Georgia) and the Construction Best Management Practices Plan (CBMPP) (Alabama) to provide quicker but temporary erosion control until permanent vegetation can be established.

5.0 POST DAM REMOVAL MONITORING

Georgia Power will monitor the Langdale and Riverview Project areas post dam removal at three intervals: one month post removal, six months post removal, and one year post removal. A description of monitoring activities for each interval is described below.

Although monitoring is expected to be primarily an exercise in documentation, it is possible that potential problem areas may arise, requiring management actions. In this case, Georgia Power will implement the process described in Section 5.4. Reporting of monitoring efforts is described in Section 2.2.

5.1 One Month Post Dam Removal

- Repeat UAV Flight (per Section 3.1)
- Repeat Outfall Survey (per Section 3.2)
- Repeat Cross-Section Documentation (per Section 3.3, combination of drone, on-site, as applicable)
- Document and distribute results

5.2 Six Months Post Dam Removal

- Repeat Cross-Section Documentation (per Section 3.3 combination of drone, on-site, as applicable)
- Document and distribute results
- Host Agency meeting to review results

5.3 One Year Post Dam Removal

- Repeat UAV Flight (per Section 3.1)
- Repeat Outfall Survey (per Section 3.2)
- Repeat Cross-Section Documentation (per Section 3.3, combination of drone, on-site, as applicable)
- Document and distribute results
- Host Agency meeting to review results

5.4 Implementation of Management Actions

Georgia Power proposes to implement, upon FERC review and approval, a Post Removal Monitoring Plan and address any management actions using the process outlined in Figure 5-1

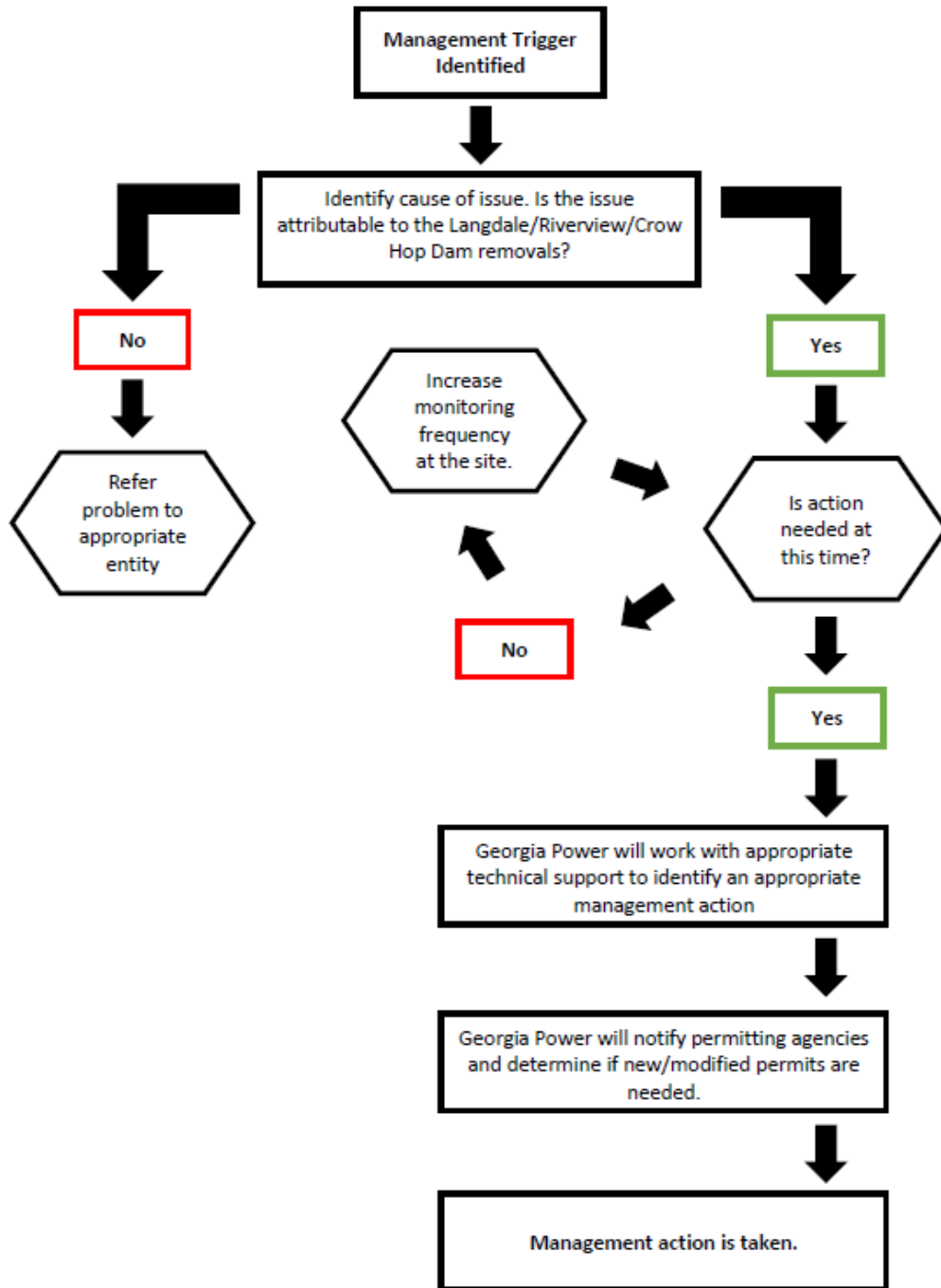


Figure 5-1 Proposed Management Action Process Schematic

6.0 ESTIMATED COSTS

Georgia Power estimates the capital costs to implement the assisted revegetation activities is approximately \$200,000, which includes the purchase of live stakes, shrubs, and trees and accompanying planting at Langdale, Riverview, and Crow Hop. Costs for placement of riprap are already included in the decommissioning cost of the Projects.

Each monitoring event (four events, including pre dam removal monitoring) is estimated to cost approximately \$25K.

7.0 REFERENCES

Chenoweth, Joshua, Jonathan D. Bakker, and Steven A. Acker. 2021. Planting, seeding, and sediment impact restoration success following dam removal. *Restoration Ecology*. First published: 30 July 2021