

# CITY OF BROOKHAVEN

## NORTH FORK NANCY CREEK STREAM RESTORATION

### FROM I-285 TO MURPHEY CANDLER LAKE

### ISSUED FOR PERMIT - DESIGN DRAWINGS



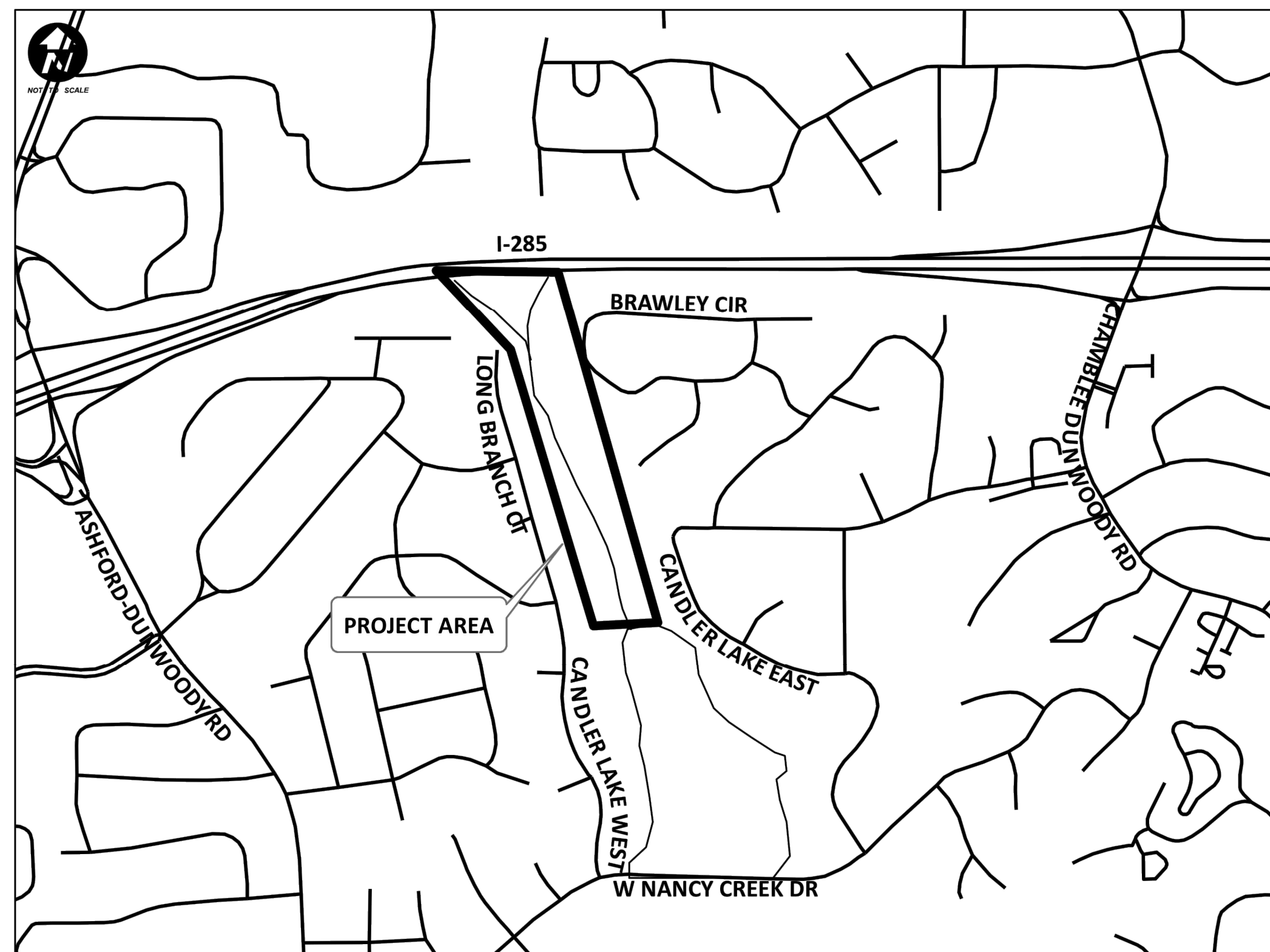
APPROVED  
FIRE MARSHAL

*Joseph E. Burge*  
Joe Burge



APPROVED  
Engineering

*Timothy Ward*  
Timothy Ward

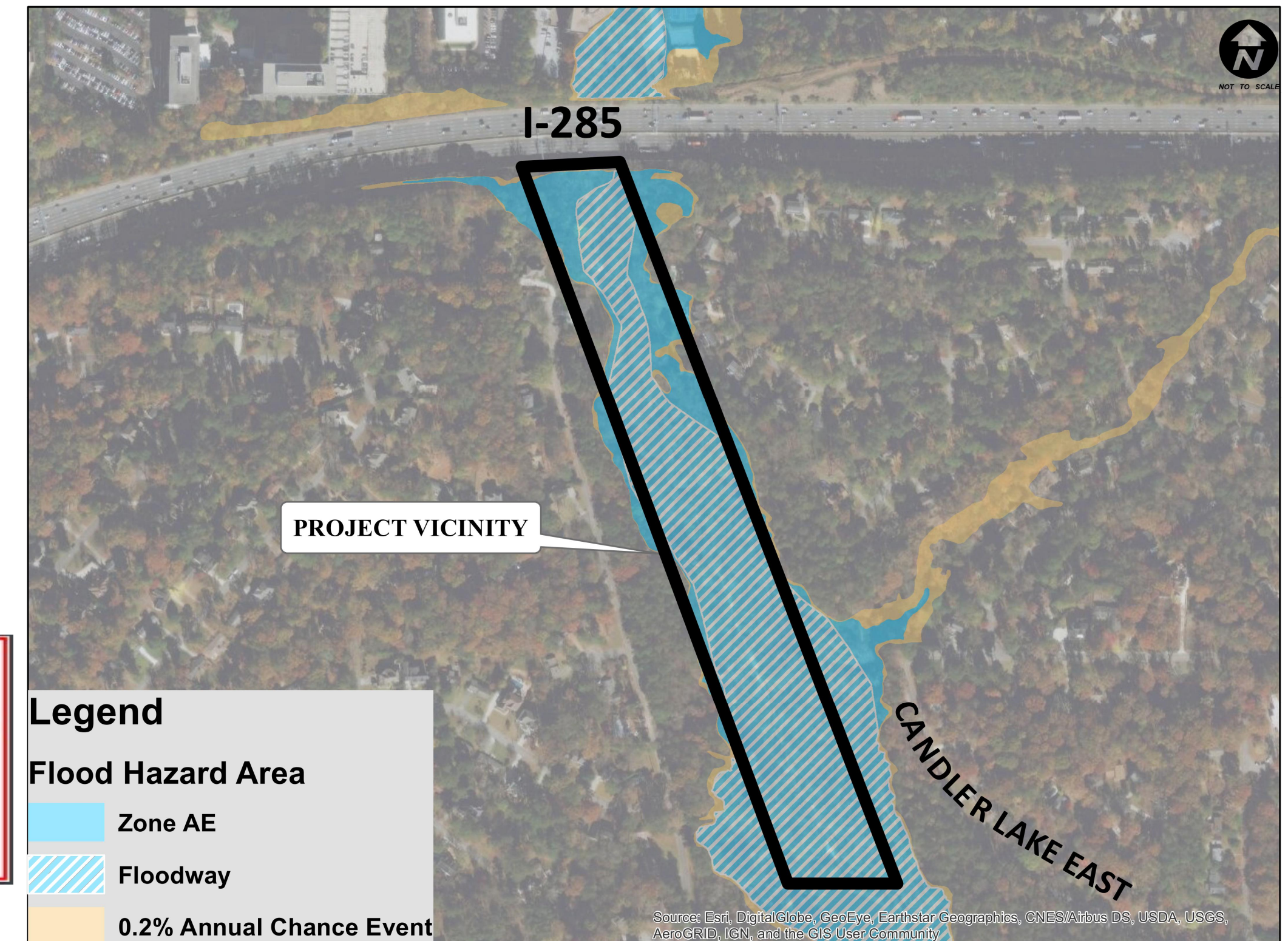


VICINITY MAP  
NOT TO SCALE



**DO NOT BEGIN CONSTRUCTION**  
before the on-site pre-construction meeting  
with the City Land Development Inspector.  
Schedule through the Project Portal:  
<https://cityworks.brookhavenga.gov/ProjectPortal>

LOCATION/FLOOD HAZARD MAP



**Legend**  
Flood Hazard Area  
Zone AE  
Floodway  
0.2% Annual Chance Event

NOT TO SCALE  
FIRM PANEL 13089C0012K  
EFFECTIVE DATE AUGUST 15, 2019

4251 LONG BRANCH CT  
BROOKHAVEN, DEKALB COUNTY GA  
LOT(S) 0331, 0346

PRIMARY PERMITTEE  
CITY OF BROOKHAVEN  
4362 PEACHTREE ROAD  
BROOKHAVEN, GA 30019  
(404)637-0540

SECONDARY PERMITTEE  
N/A

GPS COORDINATES BEGINNING OF PROJECT:  
- LAT = 33.9199  
- LONG = -84.3279  
GPS COORDINATES END OF PROJECT:  
- LAT = 33.9148  
- LONG = -84.3262

The City of Brookhaven does not certify the accuracy of these drawings. In approving these drawings and specifications, the City has relied upon the accuracy of the information and representations furnished herein by the engineer, or architect, and/or applicant. The City of Brookhaven assumes no liability or responsibility for the accuracy of the representations provided.

SEPTEMBER 2023



Georgia Registered Engineering Firm PED-004433  
Expires 06/30/2024

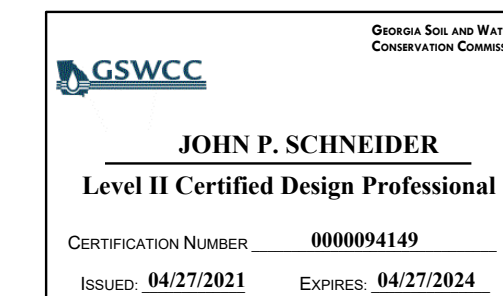
360 Interstate North Parkway, Suite 250  
Atlanta, GA 30339  
Phone - (404) 334-4310  
Web - www.freese.com



THIS PROJECT WAS PREPARED USING THE HORIZONTAL COORDINATE SYSTEM ON GEORGIA WEST ZONE (NAD83), AND NORTH AMERICAN VERTICAL DATUM (NAVD 1988).

DISTURBED AREA: 4.3 ACRES

PERMITS:  
USACE NWP27: SAS-2020-00393  
GA EPD: BV-044-21-01  
COUNTY: 3115753  
CITY: LDP22-00016



24 HOUR CONTACT:  
CITY OF BROOKHAVEN  
PUBLIC WORKS DEPARTMENT  
TOM ROBERTS  
TOM.ROBERTS@BROOKHAVENGA.GOV  
404-637-0540

ISSUED FOR PERMIT  
NOT FOR CONSTRUCTION



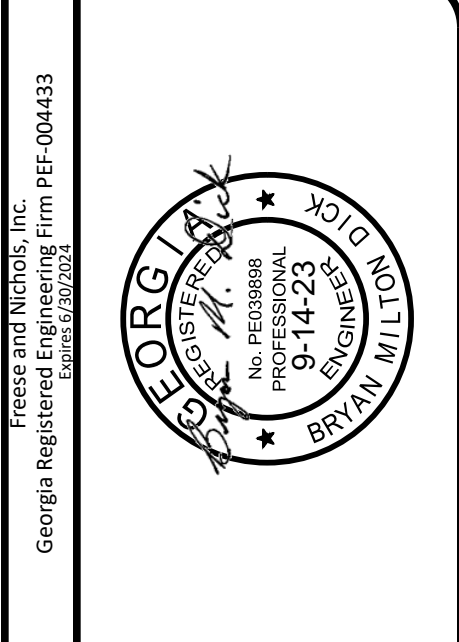
GENERAL NOTES

- THE PROJECT BEGINS ADJACENT TO I-285 AT 4251 LONG BRANCH CT, AND EXTENDS DOWNSTREAM TO MURPHEY CANDLER LAKE WITHIN THE CITY OF BROOKHAVEN IN LAND LOT(S) 0331 & 0346 IN THE 18TH DISTRICT, DEKALB COUNTY, GEORGIA.
- THE PROJECT IS FOR THE RESTORATION/STABILIZATION OF NORTH FORK NANCY CREEK. CONSTRUCTION ACTIVITY WILL INCLUDE INSTALLATION OF IN-STREAM STRUCTURES, ACCOMPANYING SITE GRADING, BANK STABILIZATION, AND PLANTING OF NATIVE VEGETATION.
- HORIZONTAL CONTROL IS BASED UPON GEORGIA STATE PLANE COORDINATE SYSTEM, (GA WEST ZONE, NAD83). VERTICAL DATUM IS NAVD88.
- THIS PROPERTY LIES WITHIN SPECIAL FLOOD HAZARD ZONE 'AE', FIRM MAP NUMBER 13089C0012K OF THE DEKALB COUNTY FLOOD INSURANCE STUDY, EFFECTIVE DATE: AUGUST 15, 2019.
- THE STORMWATER RUNOFF FLOWS DIRECTLY INTO NORTH FORK NANCY CREEK. NORTH FORK NANCY CREEK IS A PART OF THE NANCY CREEK WATERSHED IN DEKALB COUNTY.
- EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE BASED ON THE BEST AVAILABLE INFORMATION. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO FIELD VERIFY EXISTING UTILITY LOCATIONS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL ALSO NOTIFY UTILITIES OF PROPOSED CONSTRUCTION AT LEAST (2), BUT NOT MORE THAN TEN (10) WORKING DAYS IN ADVANCE. FOR UTILITY LOCATES/NOTIFICATIONS CONTACT:  
DEKALB COUNTY PUBLIC WORKS: 404-371-2000  
DEKALB COUNTY DEPARTMENT OF WATERSHED MANAGEMENT: 770-621-7200  
UTILITY PROTECTION CENTER: 811 OR 1-800-282-7411
- ALL CONSTRUCTION SHALL CONFORM TO APPLICABLE CITY OF BROOKHAVEN, DEKALB COUNTY, AND STATE OF GEORGIA STANDARDS AND SPECIFICATIONS.
- TO REPORT PUBLIC WORKS EMERGENCIES, CONTACT THE CITY OF BROOKHAVEN PUBLIC WORKS DEPARTMENT 24 HOURS-A-DAY NUMBER: 404-637-0540.
- PLACE MATERIAL FROM EXCAVATION AWAY FROM DRAINAGE FEATURES TO PREVENT OBSTRUCTION OF STORM DRAINAGE FLOW.
- THE SITE GRADE WILL BE RETURNED TO NATURAL CONTOURS TYPICAL OF A RIPARIAN ENVIRONMENT. ALL DISTURBED PAVEMENT, CURB, SIDEWALK, AND LANDSCAPING WILL BE REPLACED IN KIND.
- CONTRACTOR TO COORDINATE WITH PROJECT ENGINEER REGARDING NECESSARY BYPASS PUMPING AND/OR TEMPORARY PIPING TO MAINTAIN CREEK FLOWS WITHOUT IMPACT TO THE ENVIRONMENT.
- CONSTRUCTION LAYOUT AND STAKING SHALL BE PROVIDED BY THE CONTRACTOR.
- CONTRACTOR TO ESTABLISH TEMPORARY SUPPORT FOR EXISTING UTILITIES AND MAINTAIN IT THROUGHOUT CONSTRUCTION, IF REQUIRED.
- DURING NON-WORKING HOURS OR DAYS, ALL EXCAVATED AREAS ARE TO BE BACKFILLED OR SECURED AND PROTECTED USING APPROVED SAFETY DEVICES AND MATERIALS.
- IF ANY CONFLICTS OR DISCREPANCIES ARE DISCOVERED, EITHER IN THE CONSTRUCTION DOCUMENTS OR THE FIELD CONDITIONS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL NOT COMMENCE OPERATION UNTIL THE CONFLICTS OR DISCREPANCIES ARE RESOLVED.
- THE CONTRACTOR SHALL VERIFY ALL INFORMATION BEFORE PROCEEDING AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- THE CONTRACTOR SHALL NOT MOVE OR DRIVE CONSTRUCTION MACHINERY OR HEAVY EQUIPMENT OVER THE PEDESTRIAN BRIDGE. SEE SHEET C-3 OR ES-4 FOR LOCATION.
- SHOULD PARK TRAILS BE DAMAGED DURING CONSTRUCTION, THE CONTRACTOR SHALL REPAIR OR REPLACE TO MATCH PRE-PROJECT CONDITIONS.
- FAILURE TO INSTALL, OPERATE, OR MAINTAIN ALL EROSION CONTROL MEASURES WILL RESULT IN ALL CONSTRUCTION BEING STOPPED ON THE JOB SITE UNTIL SUCH MEASURES ARE CORRECTED TO BE EFFECTIVE AND IN COMPLIANCE WITH STATE AND LOCAL REQUIREMENTS.
- THE SANITARY SEWER AERIAL CROSSING AT APPROXIMATE LOCATION OF STA 14+08 TO BE STABILIZED, AS NECESSARY DURING CONSTRUCTION TO ELIMINATE/MINIMIZE ADVERSE EFFECTS. SEE SHEET C-2 FOR LOCATION.
- THE PREPARATION OF THESE DRAWINGS WAS FINANCED IN PART THROUGH A GRANT FROM THE U.S. ENVIRONMENTAL PROTECTION AGENCY UNDER THE PROVISIONS OF SECTION 319(h) OF THE FEDERAL WATER POLLUTION CONTROL ACT, AS AMENDED, IN PARTNERSHIP WITH THE ENVIRONMENTAL PROTECTION DIVISION OF THE GEORGIA DEPARTMENT OF NATURAL RESOURCES.
- AN UPDATED TREE SURVEY WILL BE PERFORMED PRIOR TO CONSTRUCTION IN ORDER TO FIELD-LOCATE "LEAVE-TREES" FOR THE CONTRACTOR(S) TO AVOID.
- CONSTRUCTION DRAWINGS NOT DEPENDENT ON TREE MATERIALS BEING RE-USED ON SITE. CONTRACTOR MAY SUPPLEMENT WOODY MATERIALS WITH THOSE REMOVED ON SITE ONLY IF MARKED FOR REMOVAL.
- REFER TO APPENDED TREE PLAN FOR CRZ/SRP IMPACTS AND PRELIMINARY TREE REMOVAL PLAN.
- SEE BELOW TABLE FOR IN-STREAM STRUCTURE STATIONING AND ELEVATION DATA. ELEVATIONS REFER TO THE THALWEG (I.E. INVERT) OF THE CHANNEL.

SHEET LIST TABLE		
SEQUENCE NO.	SHEET NUMBER	SHEET DESCRIPTION
1	T-1	TITLE COVER
2	G-1	GENERAL NOTES
3	G-2	OVERVIEW MAP
4	C-1	START TO STA 14+00
5	C-2	STA 14+00 TO STA 18+00
6	C-3	STA 18+00 TO STA 22+00
7	C-4	STA 22+00 TO STA 26+00
8	C-5	STA 26+00 TO END
9	CS-1	CROSS SECTION VIEWS
10	CS-2	CROSS SECTION VIEWS
11	CS-3	CROSS SECTION VIEWS
12	CS-4	CROSS SECTION VIEWS
13	CS-5	CROSS SECTION VIEWS
14	CS-6	CROSS SECTION VIEWS
15	DT-1	DETAILS
16	DT-2	DETAILS
17	DT-3	DETAILS
18	DT-4	DETAILS
19	DT-5	DETAILS
20	DT-6	DETAILS
21	ES-1	EROSION CONTROL NOTES I
22	ES-2	EROSION CONTROL NOTES II
23	ES-3	START TO STA 14+00 - PHASE I & II
24	ES-4	STA 14+00 TO STA 22+00 - PHASE I & II
25	ES-5	STA 22+00 TO END - PHASE I & II
26	ES-6	DS STAGE & STOCK PILE AREA - PHASE I & II
27	ES-7	START TO STA 14+00 - PHASE III
28	ES-8	STA 14+00 TO STA 22+00 - PHASE III
29	ES-9	STA 22+00 TO END - PHASE III
30	ES-10	DS STAGE & STOCKPILE AREA - PHASE III
31	ES-11	ESC DETAILS
32	ES-12	ESC DETAILS
33	ES-13	ESC DETAILS

STRUCTURE DATA TABLE		
STATION	DESCRIPTION	ELEVATION (FT)
10+30	ROCK SILL	892.6
10+42	ROCK SILL	892.6
10+84	LOG SILL	890.9
11+49	LOG VANE	890.7
11+85	LOG SILL	890.8
12+29	LOG VANE	890.4
13+06	LOG SILL	890.0
15+58	LOG VANE	886.1
15+97	LOG SILL	886.1
16+37	LOG SILL	886.7
17+31	LOG SILL	886.5
18+11	LOG SILL	886.2
18+67	LOG VANE	886.1
19+55	LOG VANE	886.2
19+90	LOG SILL	886.2
20+40	LOG SILL	886.2
21+02	LOG VANE	886.1
21+37	LOG SILL	885.6
21+76	LOG VANE	886.0
22+18	LOG SILL	886.0
22+79	LOG VANE	886.0
23+29	LOG SILL	885.8

STRUCTURE DATA TABLE		
STATION	DESCRIPTION	ELEVATION (FT)
23+73	LOG SILL	885.5
24+46	LOG SILL	886.1
24+82	LOG SILL	885.8
25+30	LOG SILL	885.9
25+61	LOG SILL	886.2
26+10	LOG SILL	886.2
26+45	LOG SILL	886.0
26+83	LOG SILL	886.0
27+67	LOG SILL	886.0
28+04	LOG SILL	885.0
28+48	LOG VANE	885.3
28+88	LOG SILL	884.6
29+27	LOG SILL	884.2
29+66	LOG SILL	884.1



CITY OF BROOKHAVEN  
**N. FORK NANCY CREEK STREAMBANK RESTORATION FROM I-285 TO MURPHEY CANDLER LAKE**  
 GENERAL NOTES  
 GENERAL

NO.	ISSUE	DATE	BY	DESCRIPTION
0				
1				

24 HOUR CONTACT:  
 CITY OF BROOKHAVEN  
 PUBLIC WORKS DEPARTMENT  
 TOM ROBERTS  
 TOM.ROBERTS@BROOKHAVENGA.GOV  
 404-637-0540

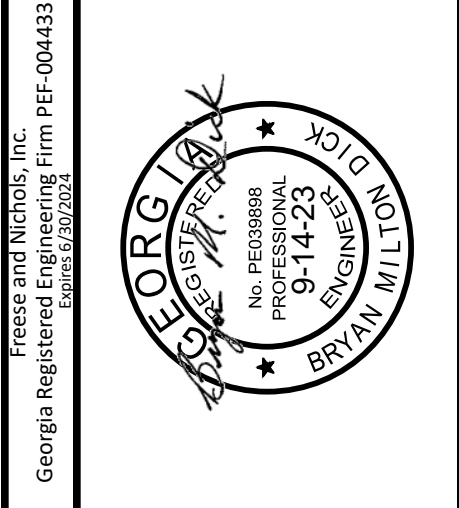
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 NOT FOR CONSTRUCTION



Know what's below.  
Call before you dig.

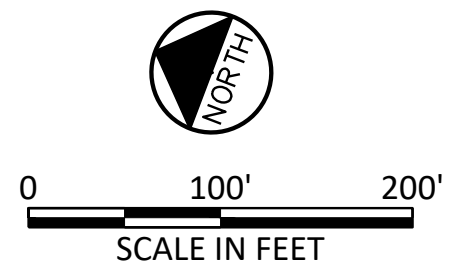
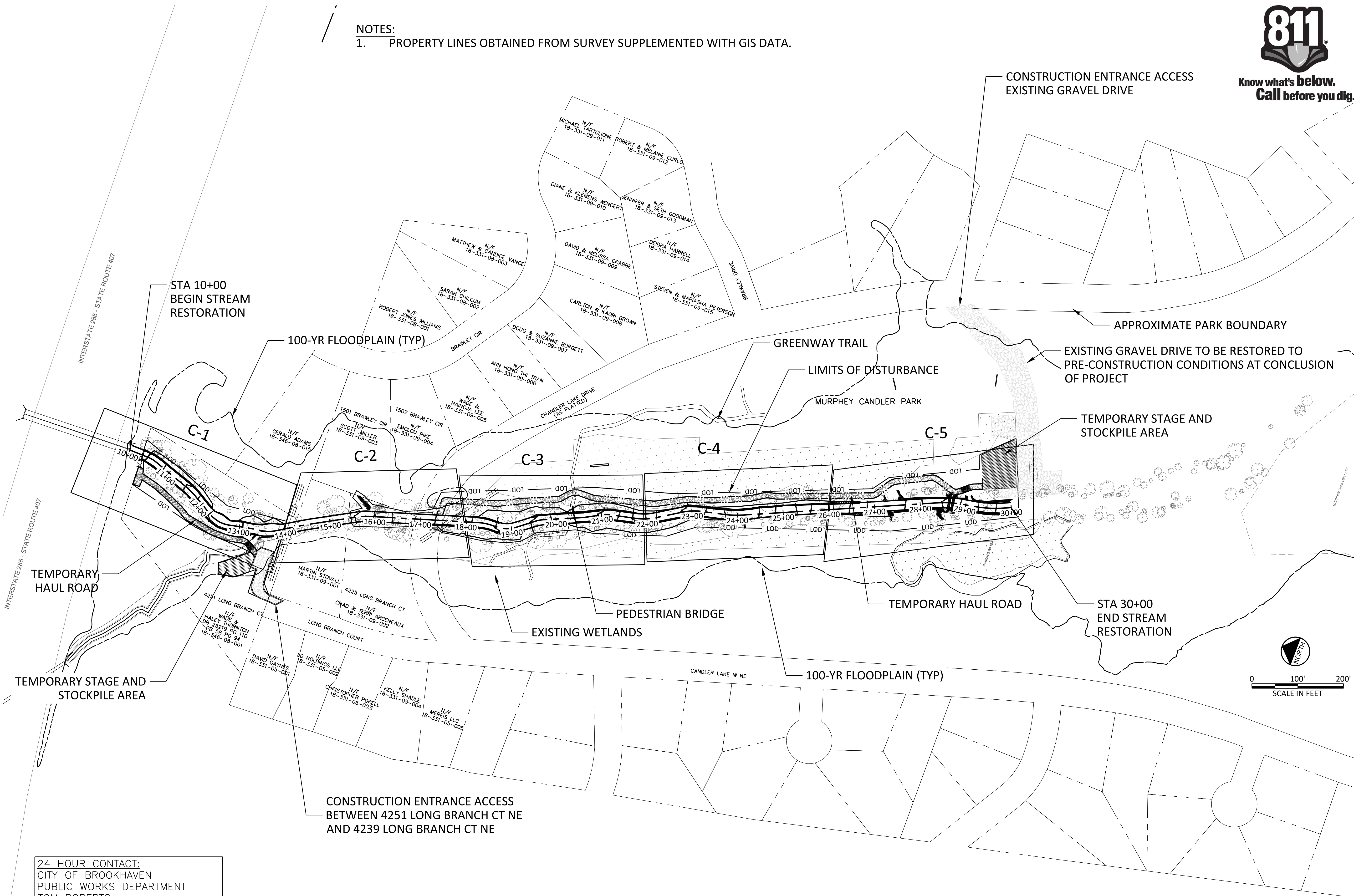
NOTES:  
1. PROPERTY LINES OBTAINED FROM SURVEY SUPPLEMENTED WITH GIS DATA.



**FRESE NICHOLS**  
360 Interstate North Parkway,  
Atlanta, GA 30339  
Phone: (404) 334-4310  
Web: www.frese.com

CITY OF BROOKHAVEN  
**N. FORK NANCY CREEK STREAMBANK RESTORATION  
FROM I-285 TO MURPHEY CANDLER LAKE**  
GENERAL  
OVERVIEW MAP

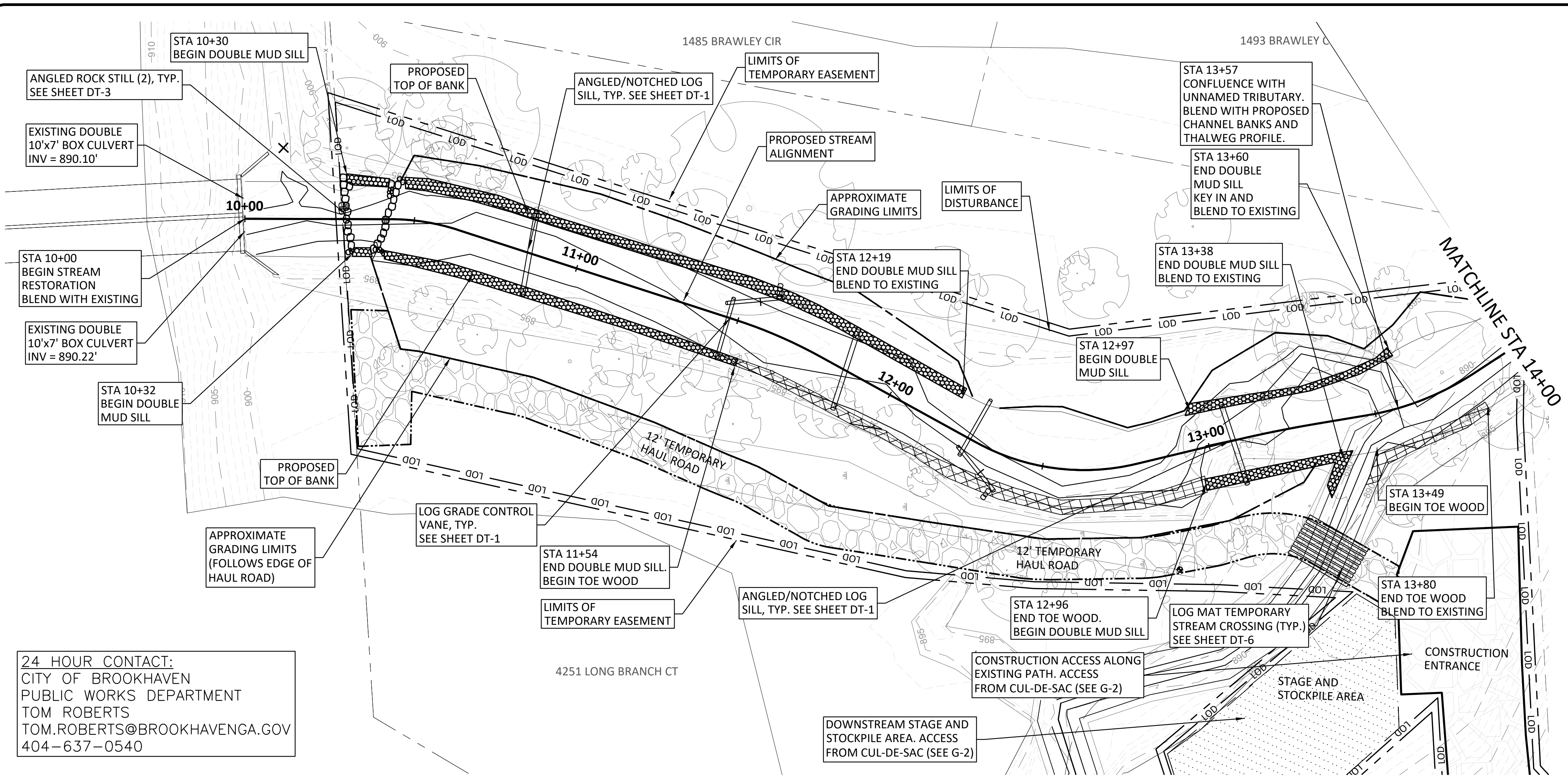
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NOT FOR CONSTRUCTION



- NOTES:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.
  - WETLANDS TO BE RESTORED WITH NATIVE PLANTINGS AND ANY TEMPORARY FILLS REMOVED TO RE-ESTABLISH WETLAND ELEVATIONS TO PRE-CONSTRUCTION CONTOURS, SEE PLANTING PLAN FOR MORE DETAILS.
  - THE CONTRACTOR SHALL LINE THE LOD WITH TREE PROTECTION FENCE TO PREVENT THE UNNECESSARY REMOVAL OF VEGETATION.
  - ALL TEMPORARY STREAM CROSSINGS REQUIRE PLANS FOR CONSTRUCTION, REMOVAL AND RESTORATION PER DT-6.
  - ALL WOOD CHIPS USED FOR HAUL ROAD AND/OR STORED ON SITE SHALL BE SPREAD AROUND THE SITE OR HAULED AWAY.

### LEGEND

- LOG GRADE CONTROL VANE
- ANGLED ROCK SILL
- STEP PLUNGE POOL
- ANGLED/NOTCHED LOG SILL
- SURVEYED TREES (REFER TO APPENDED TREE PLAN)
- TOE WOOD
- DOUBLE MUD SILL
- EXISTING WETLANDS
- PROPOSED GRADING LIMITS
- PROPOSED STREAM ALIGNMENT
- PROPOSED TOP OF BANK
- HAUL ROAD
- LIMITS OF DISTURBANCE
- TEMPORARY EASEMENT
- EXISTING MINOR CONTOURS
- EXISTING MAJOR CONTOURS
- PROPERTY BOUNDARY
- STAGE AND STOCKPILE AREA

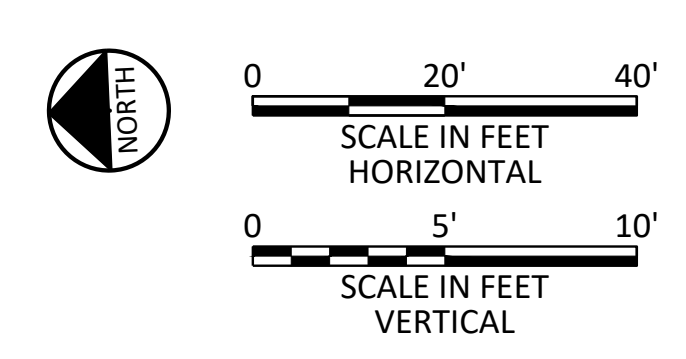
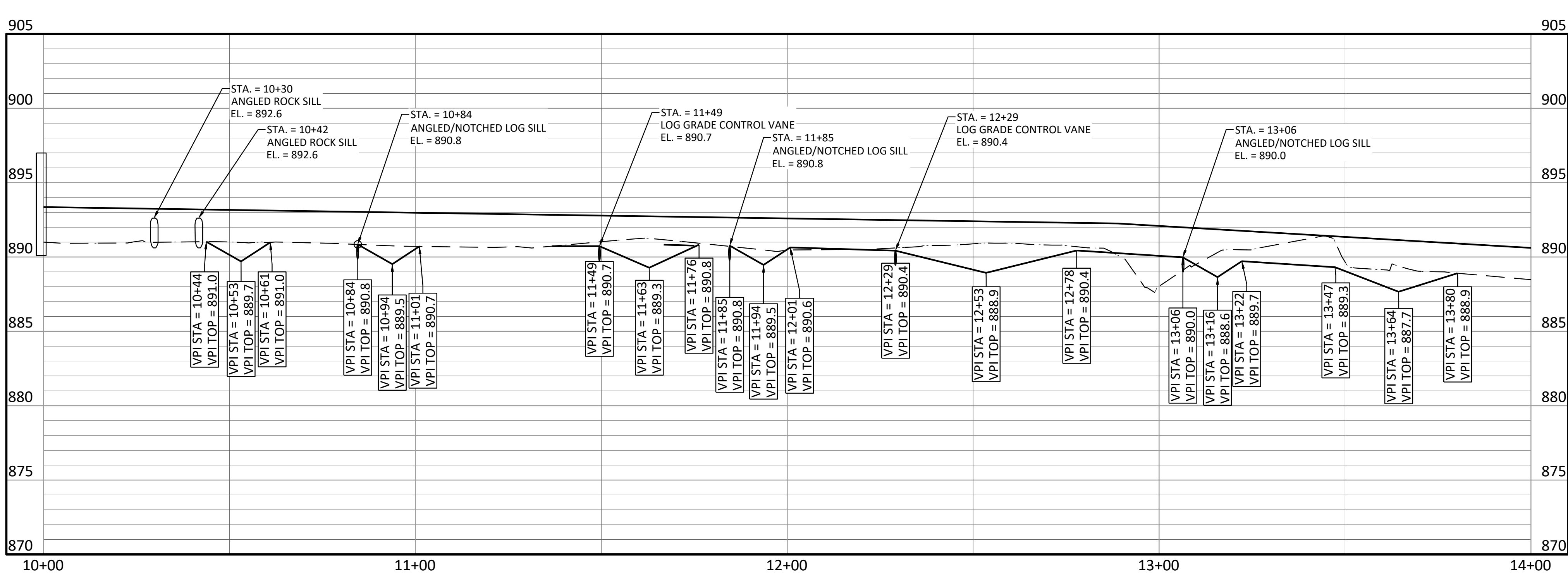
Freese and Nichols, Inc.  
Georgia Registered Engineering Firm PEF-004433  
Date: 07/05/2023  
Professional Engineer  
9-14-23  
BRYAN W. LITTLE, P.E.

**FREES & NICHOLS**  
360 Interstate North Parkway  
Atlanta, GA 30339  
Phone: (404) 334-4310  
Web: www.freese.com

CITY OF BROOKHAVEN  
**N. FORK NANCY CREEK STREAMBANK RESTORATION FROM I-285 TO MURPHEY CANDLER LAKE**  
CIVIL  
**NORTH FORK NANCY CREEK START TO STA 14+00**

NO.	ISSUE	BY	DATE	FRN JOB NO.
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1	Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.	JPS	07/05/2023	DATE
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3		JPS	09/15/2022	DRAWN JMW/jps
4		JPS	09/15/2022	REVISION
5		JPS	09/15/2022	CHECKED BMD
6		JPS	09/15/2022	FILE NAME
7		JPS	09/15/2022	CV-PP-SHTS1.dwg

24 HOUR CONTACT:  
CITY OF BROOKHAVEN  
PUBLIC WORKS DEPARTMENT  
TOM ROBERTS  
TOM.ROBERTS@BROOKHAVENGA.GOV  
404-637-0540



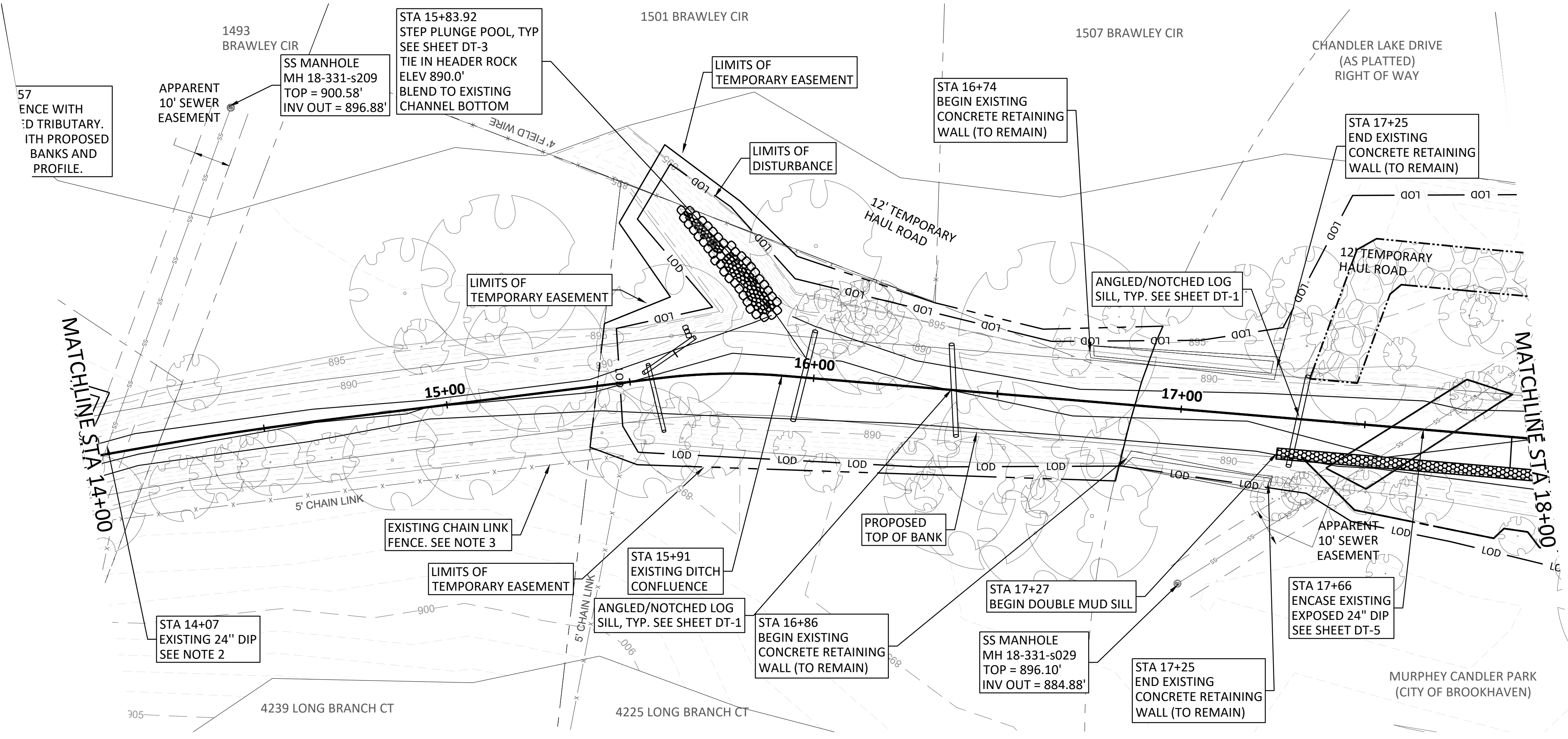
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APPROVED PLAN 10/17/2023  
Permit # LDP22-00016

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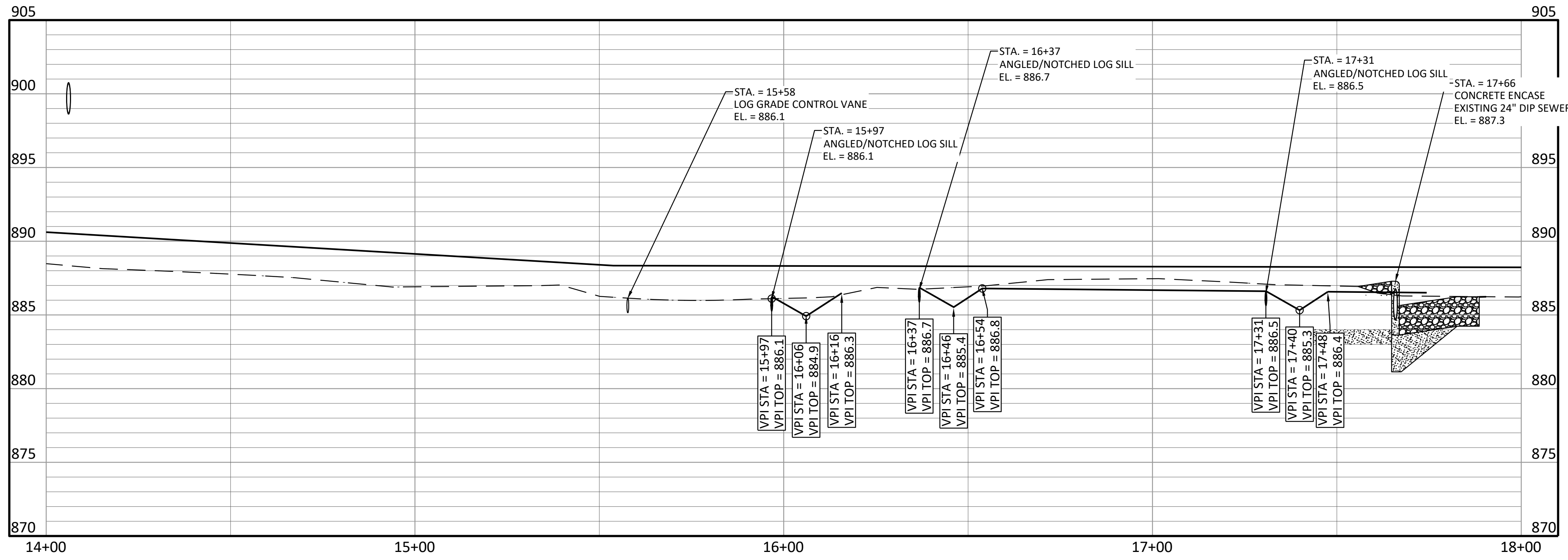
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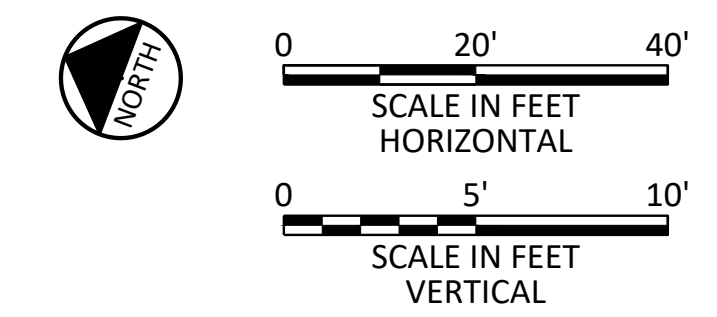
- NOTES:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.
  - WETLANDS TO BE RESTORED WITH NATIVE PLANTINGS AND ANY TEMPORARY FILLS REMOVED TO RE-ESTABLISH WETLAND ELEVATIONS TO PRE-CONSTRUCTION CONTOURS, SEE PLANTING PLAN FOR MORE DETAILS.
  - THE CONTRACTOR SHALL LINE THE LOD WITH TREE PROTECTION FENCE TO PREVENT THE UNNECESSARY REMOVAL OF VEGETATION.
  - ALL TEMPORARY STREAM CROSSINGS REQUIRE PLANS FOR CONSTRUCTION, REMOVAL AND RESTORATION PER DT-6.
  - NO CONSTRUCTION ACTIVITIES WILL OCCUR WITHIN 10' ON EITHER SIDE OF THE AERIAL SEWER CROSSING. IF DAMAGED DURING CONSTRUCTION, THE CONTRACTOR SHALL REPAIR AND REPLACE THE SEWER LINE TO EXISTING CONDITIONS.
  - THE EXISTING CHAIN LINK FENCE TO REMAIN. IF DAMAGED, THE CONTRACTOR TO REPAIR AND REPLACE TO EXISTING CONDITIONS.

**LEGEND**

- LOG GRADE CONTROL VANE
- ANGLED ROCK SILL
- STEP PLUNGE POOL
- ANGLED/NOTCHED LOG SILL
- SURVEYED TREES (REFER TO APPENDED TREE PLAN)
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 PUBLIC WORKS DEPARTMENT  
 TOM ROBERTS  
 TOM.ROBERTS@BROOKHAVENGA.GOV  
 404-637-0540



Freese and Nichols, Inc.  
 Georgia Registered Engineering Firm P.E. 004433  
 Expires 02/28/2025

FORGE  
 PROFESSIONAL ENGINEERING  
 9-14-23  
 BRYAN, GA

**FREES & NICHOLS**  
 360 Interstate North Parkway,  
 Atlanta, GA 30339  
 Phone: (404) 334-4310  
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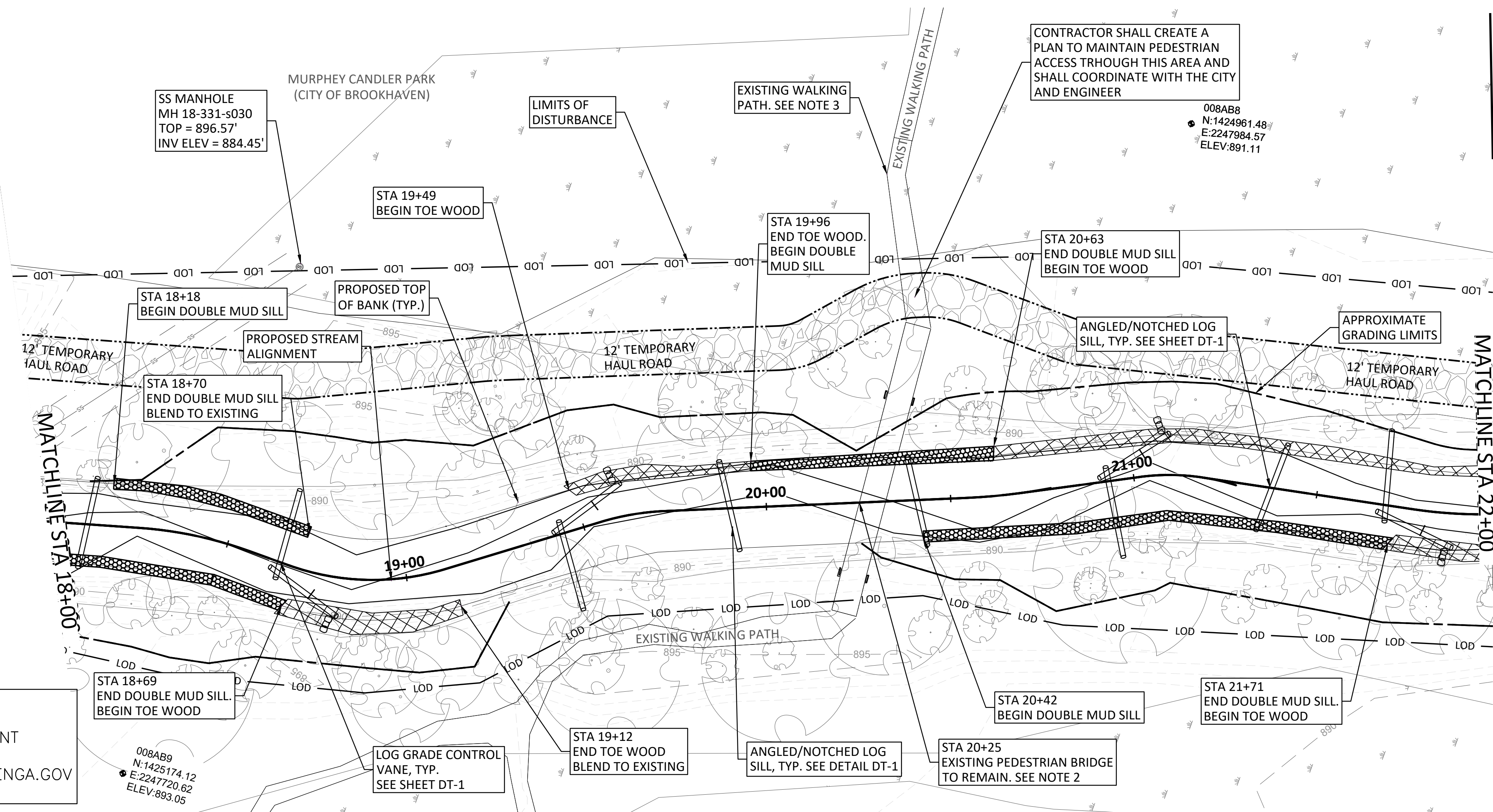
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**N. FORK NANCY CREEK STREAMBANK RESTORATION  
 FROM I-285 TO MURPHEY CANDLER LAKE**  
 CIVIL  
**NORTH FORK NANCY CREEK  
 STA 14+00 TO STA 18+00**

NO.	ISSUE	BY	DATE	FRN JOB NO.	DATE	DESIGNED	DRAWN	REVISION	CHECKED	BMD
1	CITY OF BROOKHAVEN LDP REVIEW	JPS	12/2/2022	BGA20127	07/05/2023	JM/BCM	JM/JPS			
2	DEKALB COUNTY LDP REVIEW	JPS	09/15/2022							

Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

VERIFY SCALE

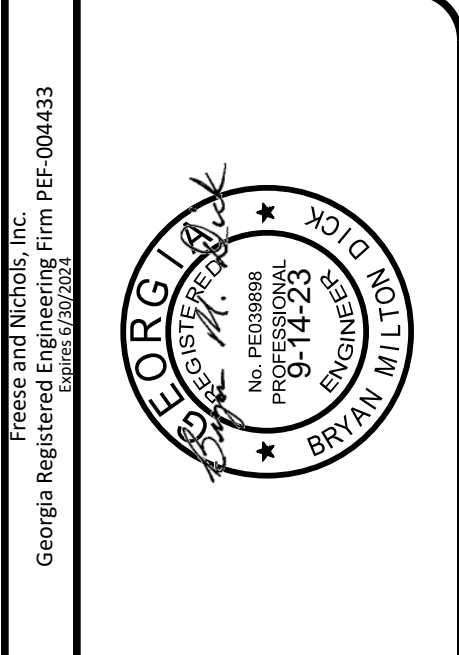
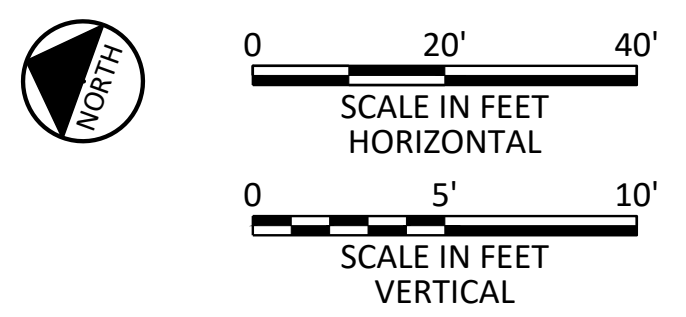
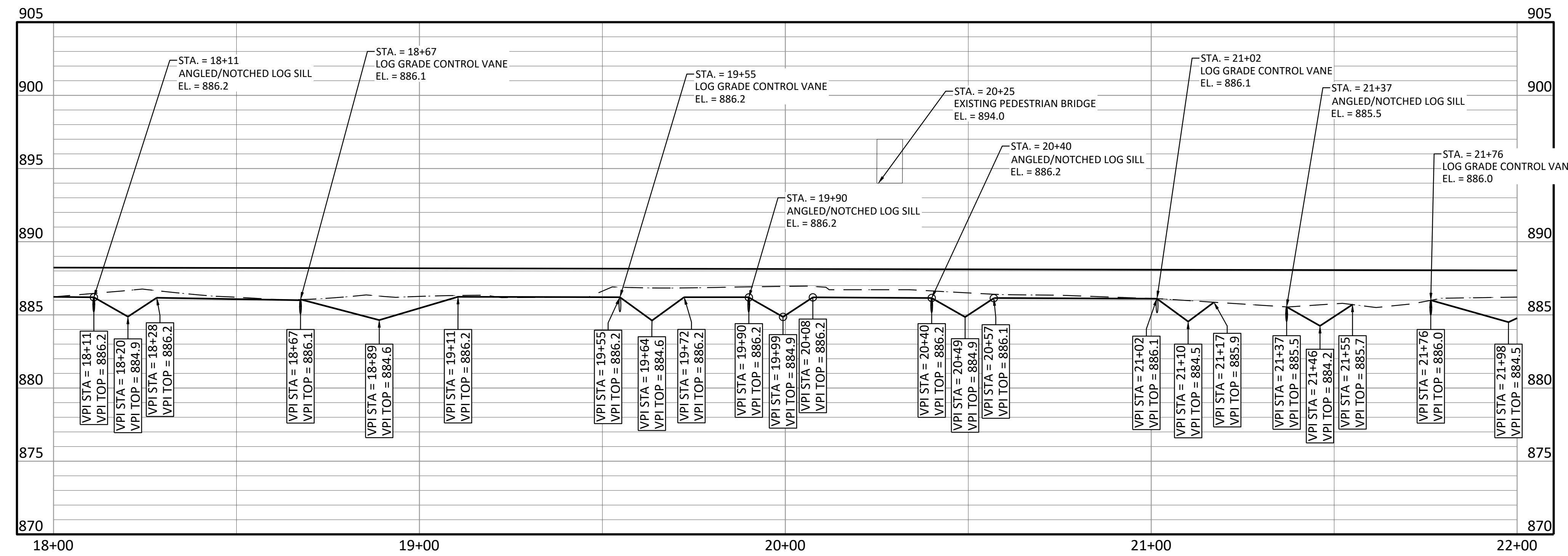
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- NOTES:
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  - THE CONTRACTOR SHALL LINE THE LOD WITH TREE PROTECTION FENCE TO PREVENT THE UNNECESSARY REMOVAL OF VEGETATION.
  - ALL TEMPORARY STREAM CROSSINGS REQUIRE PLANS FOR CONSTRUCTION, REMOVAL AND RESTORATION PER DT-6.
  - CONTRACTOR SHALL NOT MOVE OR DRIVE HEAVY MACHINERY ACROSS PEDESTRIAN BRIDGE. IF PEDESTRIAN BRIDGE IS DAMAGED DURING CONSTRUCTION, CONTRACTOR TO RESTORE TO EXISTING CONDITION AT NO ADDITIONAL COST TO OWNER.
  - WALKING PATH TO BE RESTORED TO EXISTING CONDITION UPON PROJECT COMPLETION.

### LEGEND

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- ANGLED ROCK SILL
- STEP PLUNGE POOL
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- STAGE AND STOCKPILE AREA



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**N. FORK NANCY CREEK STREAMBANK RESTORATION**  
 FROM I-285 TO MURPHEY CANDLER LAKE  
 CIVIL  
 NORTH FORK NANCY CREEK  
 STA 18+00 TO STA 22+00

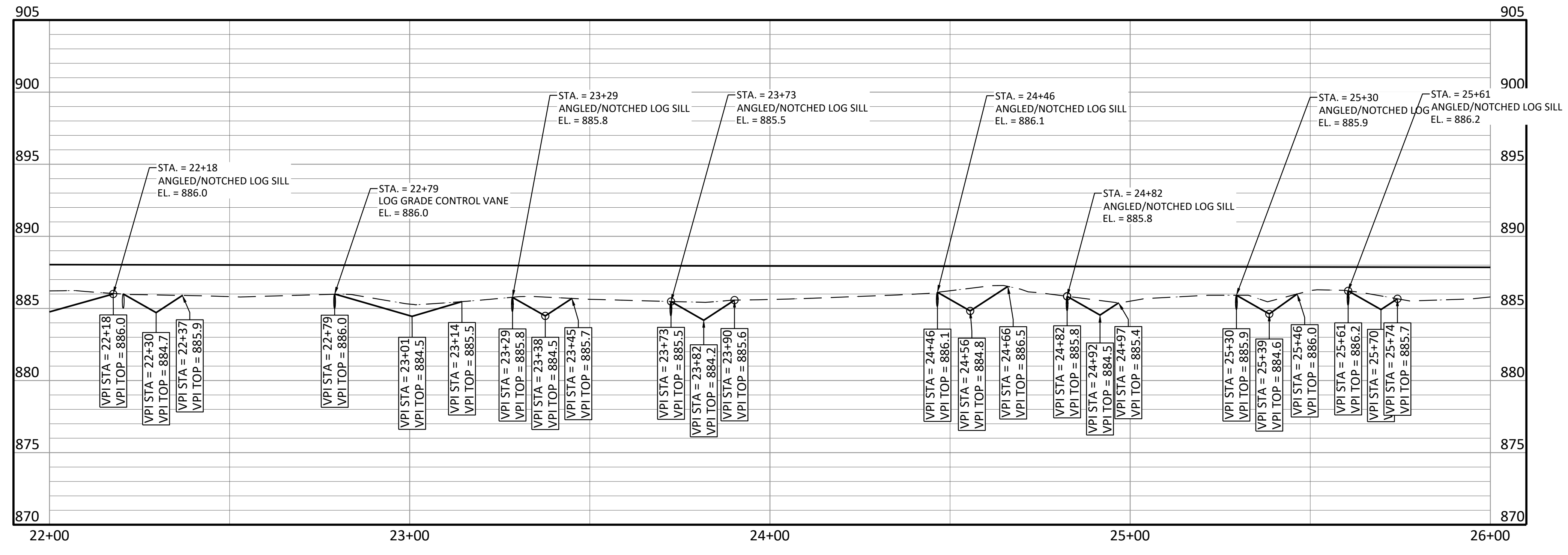
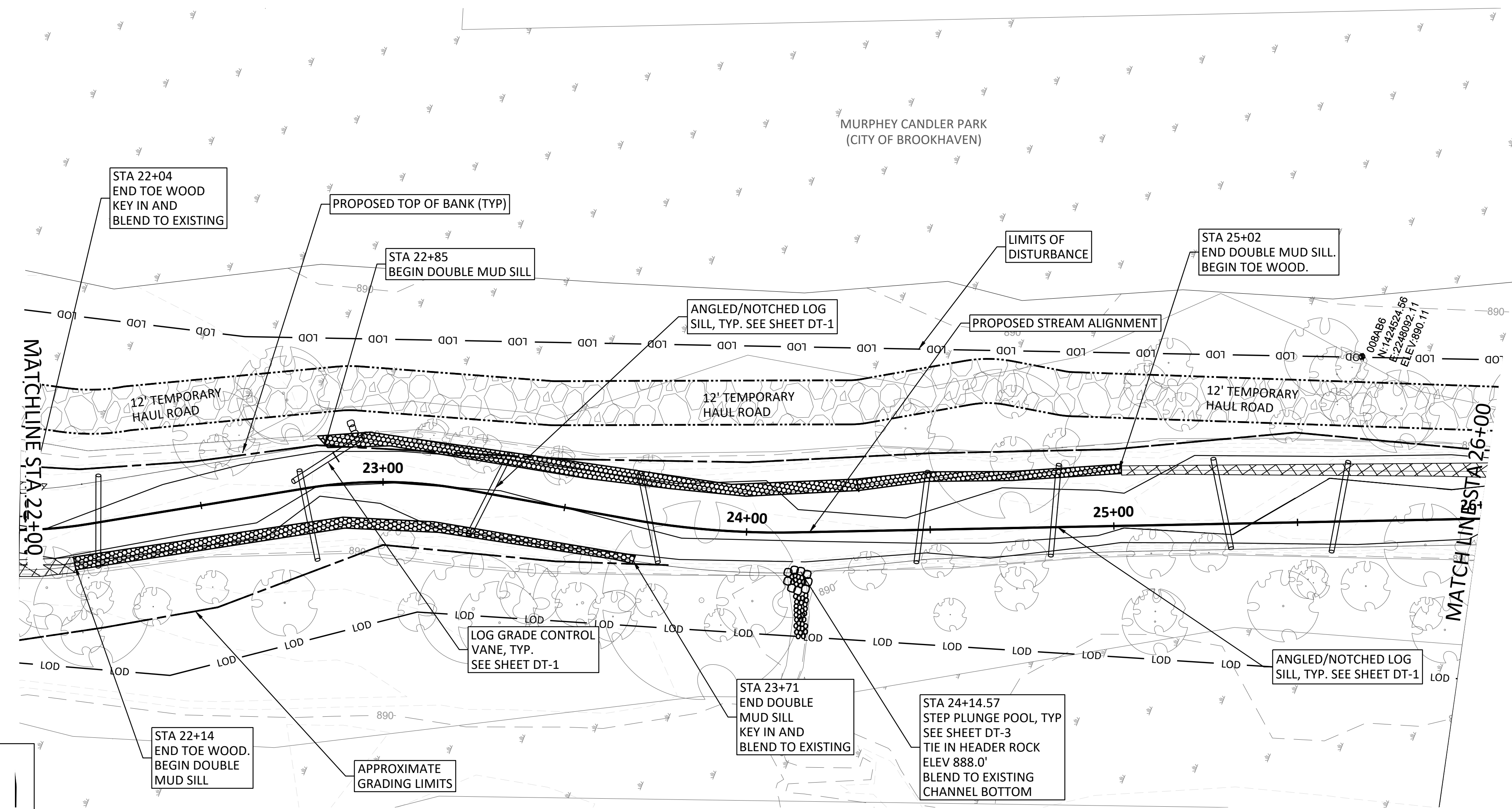
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1	VERIFY SCALE	JPS	09/15/2022							

ISSUED FOR PERMIT  
 NOT FOR CONSTRUCTION

SHEET C-3  
 SEQ. 6  
 APPROVED PLAN 10/17/2023  
 Permit # LDP22-00016

ACAD Ref: 24.1s (LMS Tech)  
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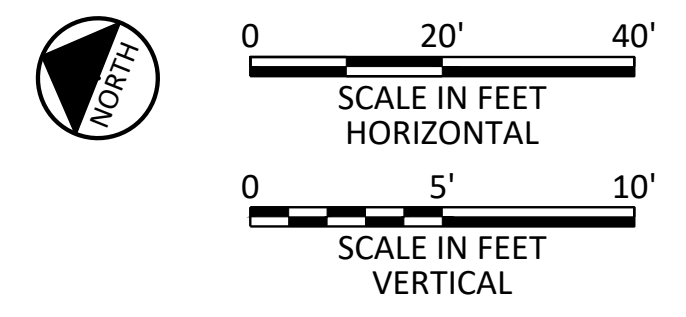
24 HOUR CONTACT:  
 CITY OF BROOKHAVEN  
 PUBLIC WORKS DEPARTMENT  
 TOM ROBERTS  
 TOM.ROBERTS@BROOKHAVENGA.GOV  
 404-637-0540



- NOTES:
1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.
  2. WETLANDS TO BE RESTORED WITH NATIVE PLANTINGS AND ANY TEMPORARY FILLS REMOVED TO RE-ESTABLISH WETLAND ELEVATIONS TO PRE-CONSTRUCTION CONTOURS, SEE PLANTING PLAN FOR MORE DETAILS.
  3. THE CONTRACTOR SHALL LINE THE LOD WITH TREE PROTECTION FENCE TO PREVENT THE UNNECESSARY REMOVAL OF VEGETATION.
  4. ALL TEMPORARY STREAM CROSSINGS REQUIRE PLANS FOR CONSTRUCTION, REMOVAL AND RESTORATION PER DT-6.

**LEGEND**

- LOG GRADE CONTROL VANE
- ANGLED ROCK SILL
- STEP PLUNGE POOL
- ANGLED/NOTCHED LOG SILL
- SURVEYED TREES (REFER TO APPENDED TREE PLAN)
- TOE WOOD
- DOUBLE MUD SILL
- EXISTING WETLANDS
- PROPOSED GRADING LIMITS
- PROPOSED STREAM ALIGNMENT
- PROPOSED TOP OF BANK
- HAUL ROAD
- LIMITS OF DISTURBANCE
- TEMPORARY EASEMENT
- EXISTING MINOR CONTOURS
- EXISTING MAJOR CONTOURS
- PROPERTY BOUNDARY
- STAGE AND STOCKPILE AREA



Freese and Nichols, Inc.  
 Georgia Registered Engineering Firm PEF-004433  
 Expires 02/28/2025

GEORGIA REGISTERED PROFESSIONAL ENGINEER  
 9-14-23  
 BR/AN/INTL/DO/CLK

**FREES & NICHOLS**  
 CIVIL  
 360 Interstate North Parkway,  
 Suwanee, GA 30039  
 Phone: (404) 334-4310  
 Web: www.freese.com

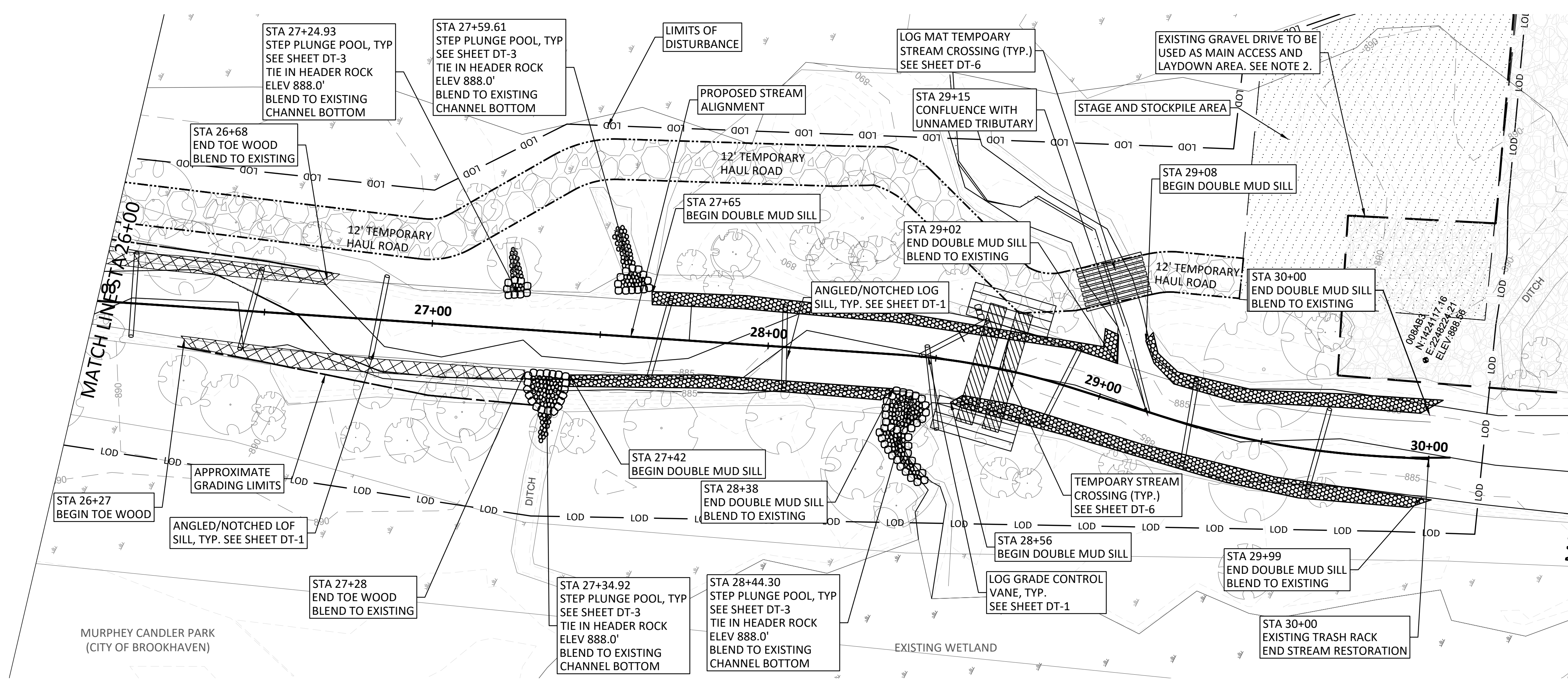
**N. FORK NANCY CREEK STREAMBANK RESTORATION  
 FROM I-285 TO MURPHEY CANDLER LAKE**

CIVIL  
**NORTH FORK NANCY CREEK  
 STA 22+00 TO STA 26+00**

NO.	ISSUE	BY	DATE	FRN JOB NO.	BGA20127
				DATE	07/05/2023
				DESIGNED	JM/BCM
				DRAWN	JM/JPS
				REVISION	###
				CHECKED	BMD
				FILE NAME	CV-PP-SHTS1.dwg
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ISSUED FOR PERMIT  
 NOT FOR CONSTRUCTION

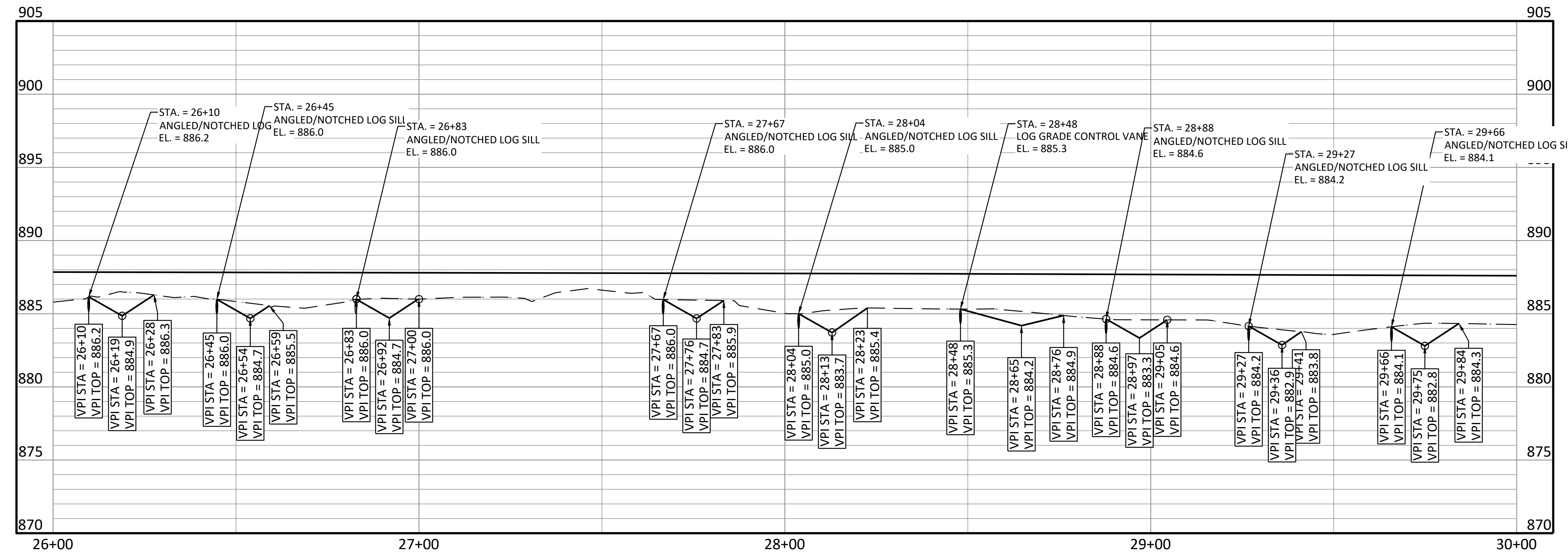
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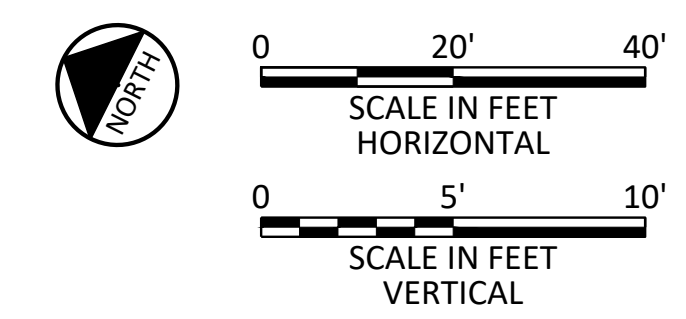
- NOTES:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.
  - WETLANDS TO BE RESTORED WITH NATIVE PLANTINGS AND ANY TEMPORARY FILLS REMOVED TO RE-ESTABLISH WETLAND ELEVATIONS TO PRE-CONSTRUCTION CONTOURS, SEE PLANTING PLAN FOR MORE DETAILS.
  - ALL TEMPORARY STREAM CROSSINGS REQUIRE PLANS FOR CONSTRUCTION, REMOVAL AND RESTORATION PER DT-6.
  - THE CONTRACTOR SHALL LINE THE LOD WITH TREE PROTECTION FENCE TO PREVENT THE UNNECESSARY REMOVAL OF VEGETATION.
  - GRAVEL DRIVE SHALL BE RESTORED TO PRE-PROJECT CONDITIONS FOLLOWING PROJECT COMPLETION.
  - ALL WOOD CHIPS USED FOR HAUL ROAD AND/OR STORED ON SITE SHALL BE SPREAD AROUND THE SITE OR HAULED AWAY.

**LEGEND**

- LOG GRADE CONTROL VANE
- ANGLED ROCK SILL
- STEP PLUNGE POOL
- ANGLED/NOTCHED LOG SILL
- SURVEYED TREES (REFER TO APPENDED TREE PLAN)
- TOE WOOD
- DOUBLE MUD SILL
- EXISTING WETLANDS
- PROPOSED GRADING LIMITS
- PROPOSED STREAM ALIGNMENT
- PROPOSED TOP OF BANK
- HAUL ROAD
- LIMITS OF DISTURBANCE
- TEMPORARY EASEMENT
- EXISTING MINOR CONTOURS
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- PROPERTY BOUNDARY
- STAGE AND STOCKPILE AREA



24 HOUR CONTACT:  
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 TOM ROBERTS  
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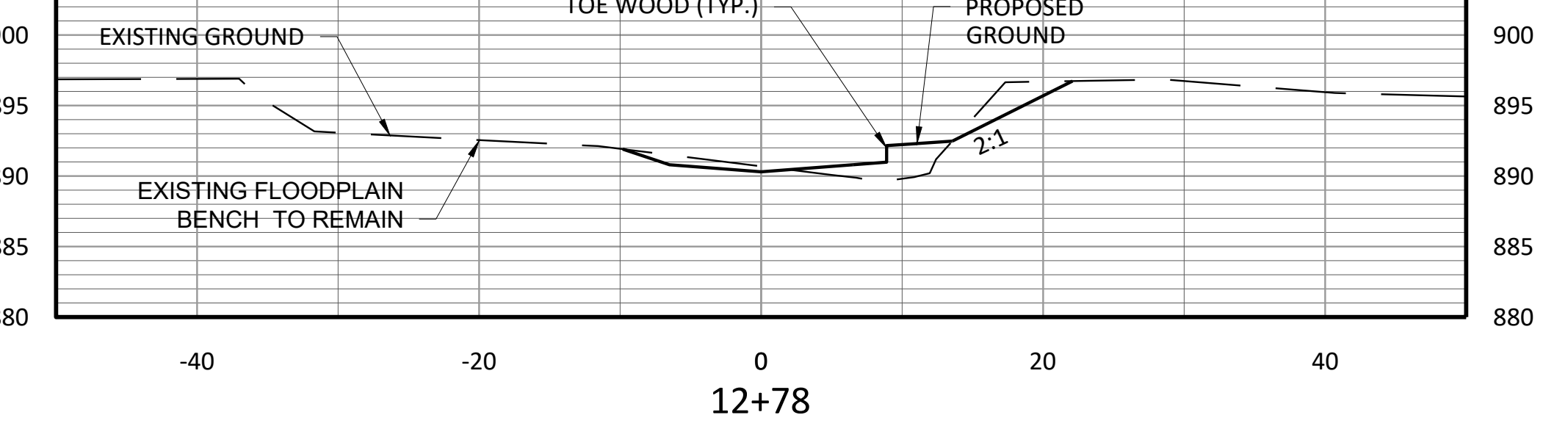
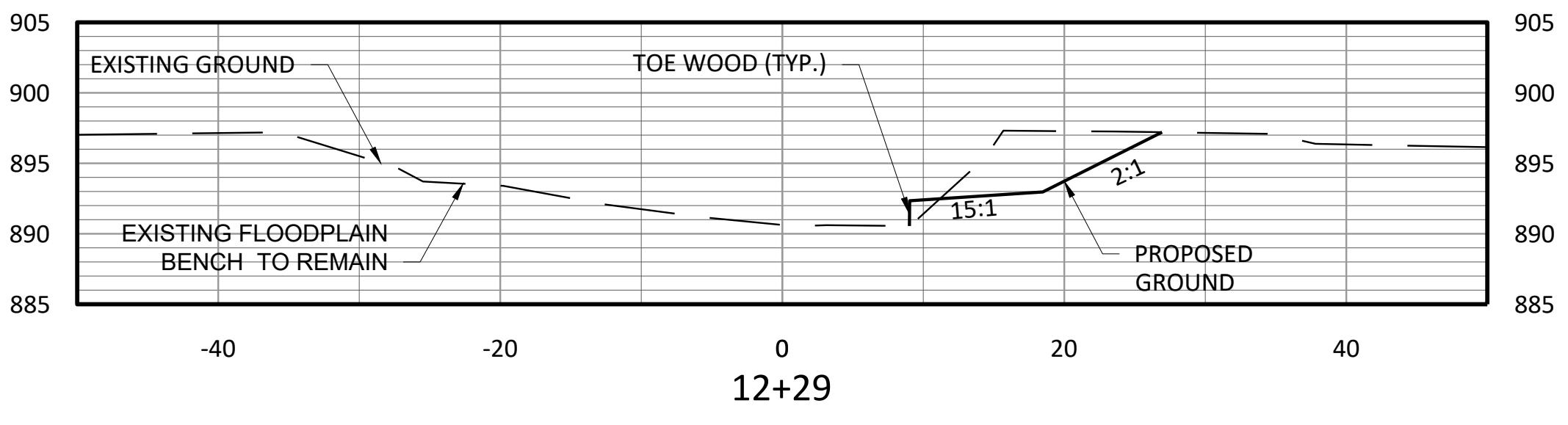
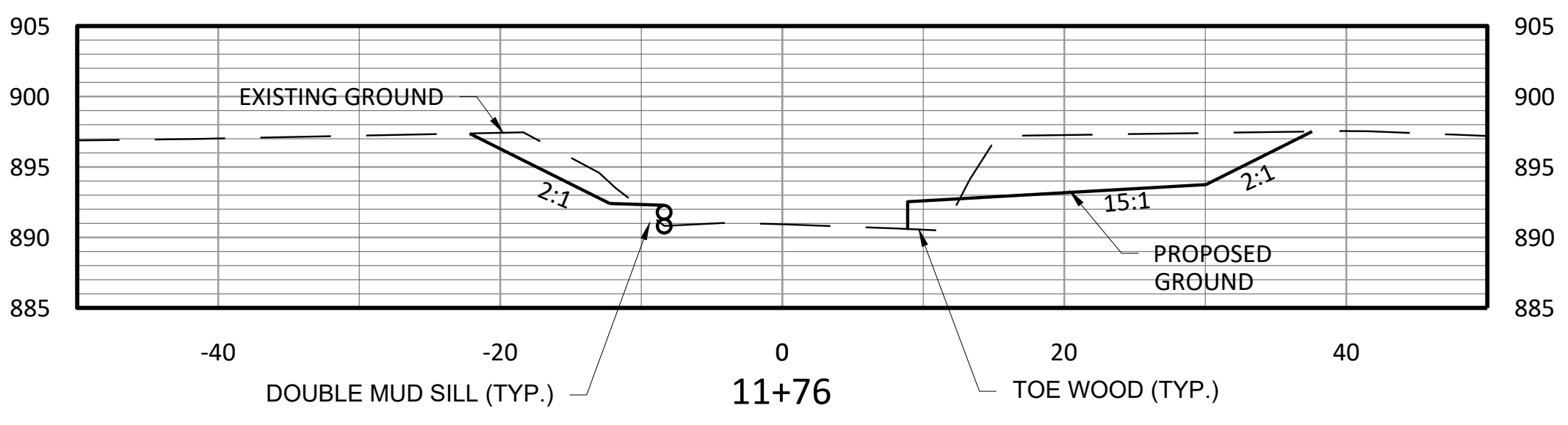
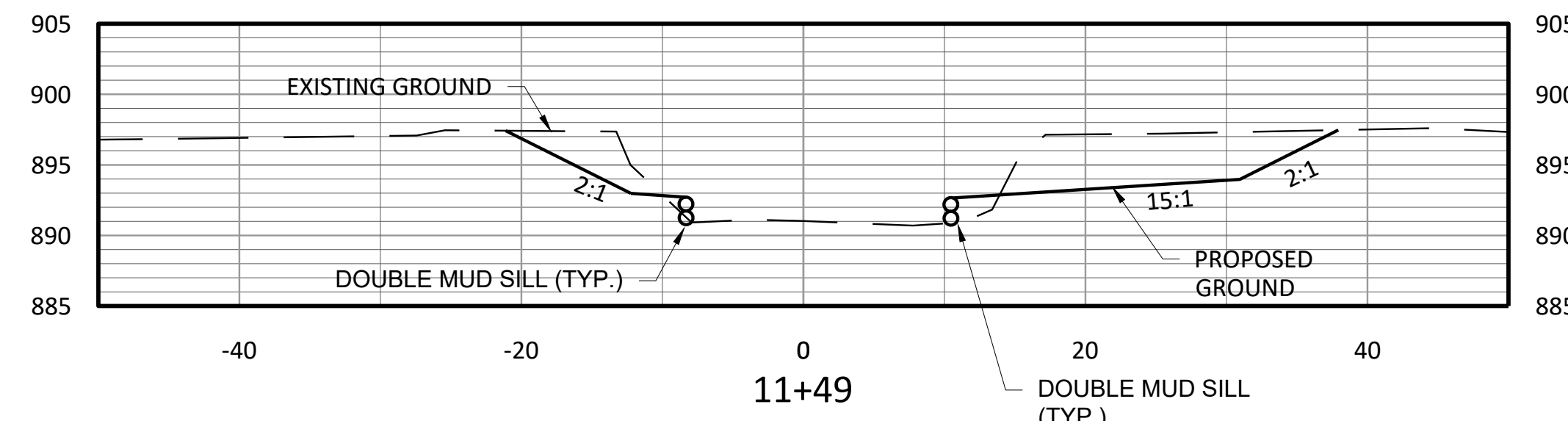
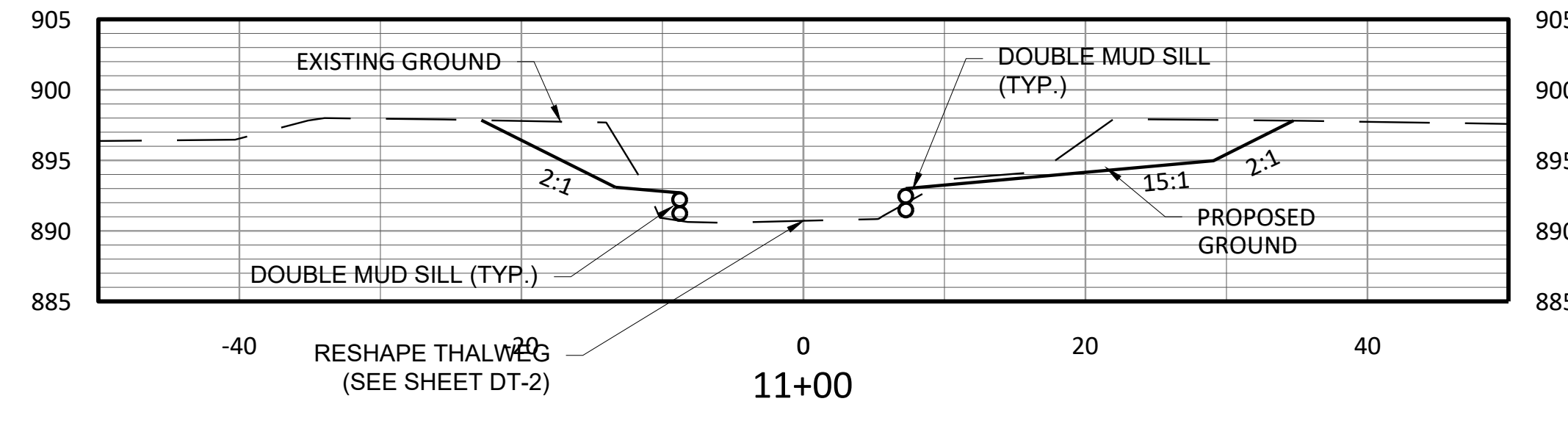
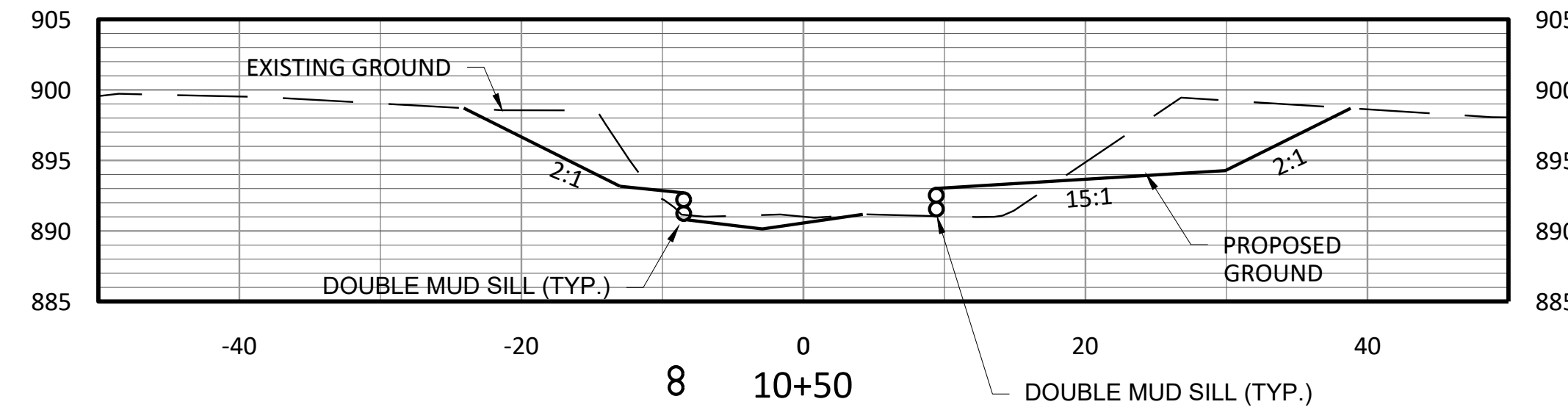
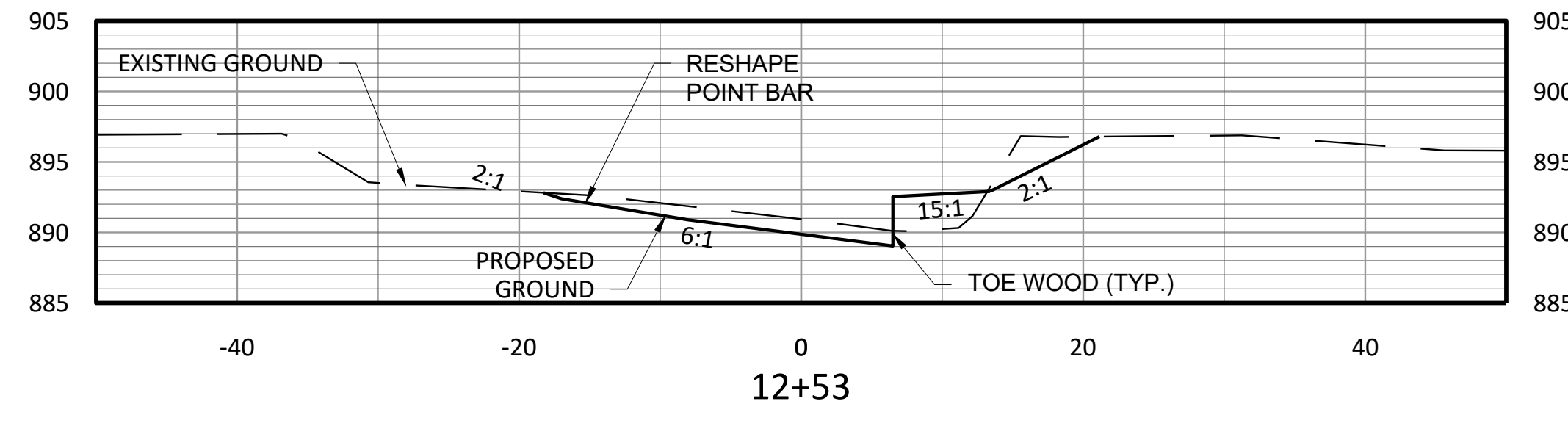
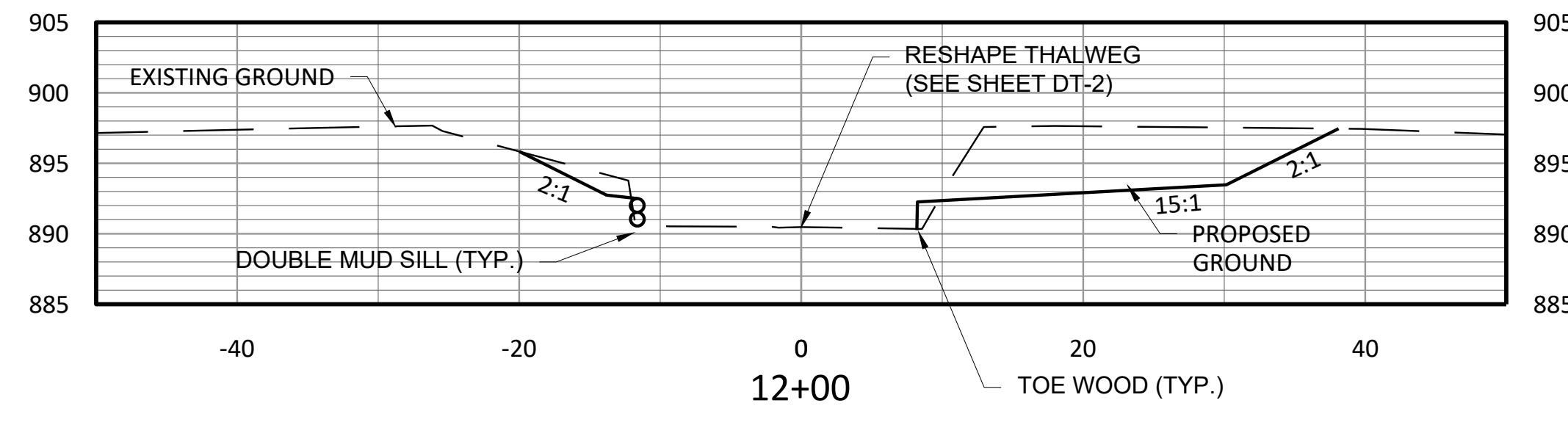
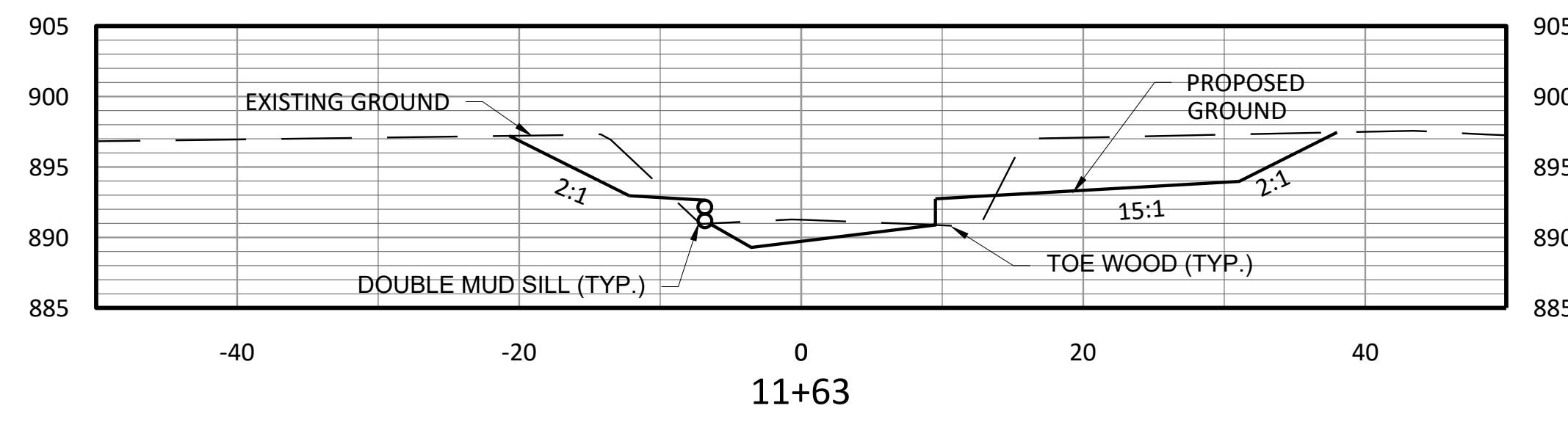
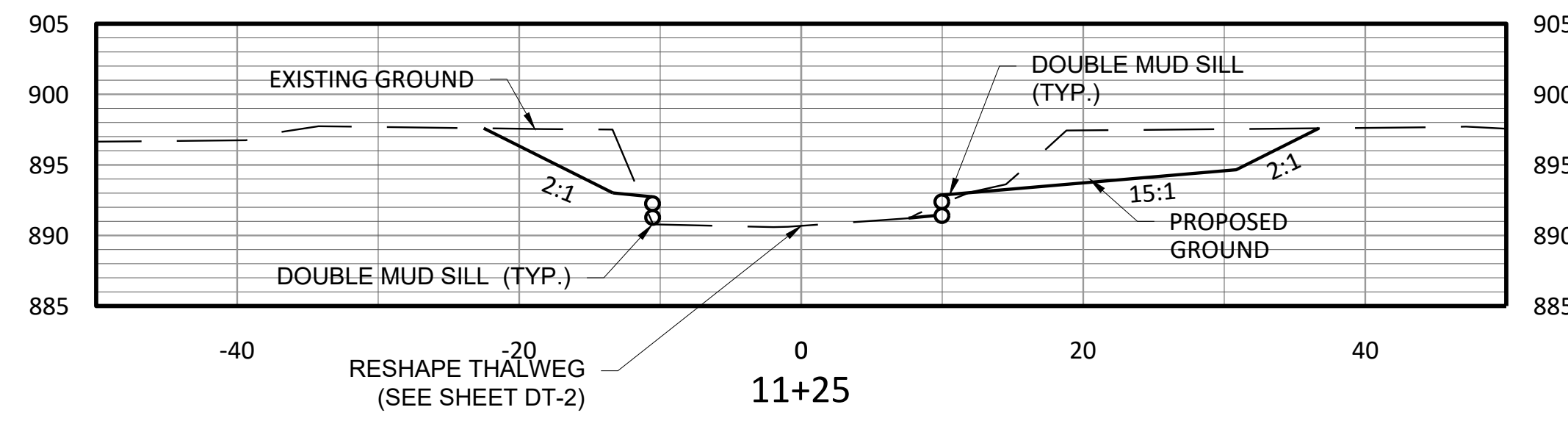
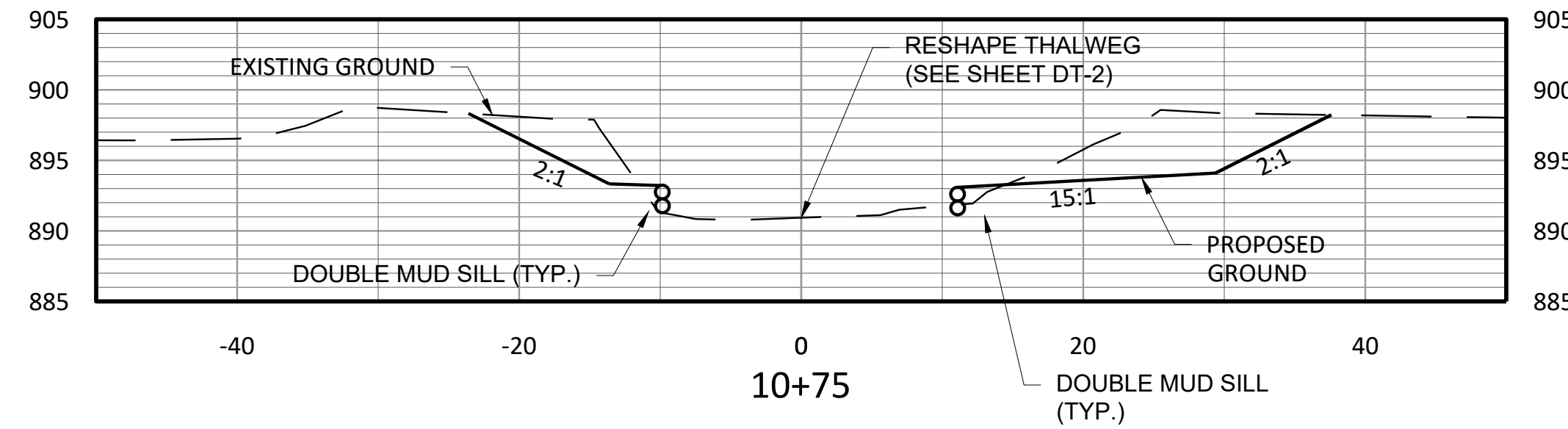
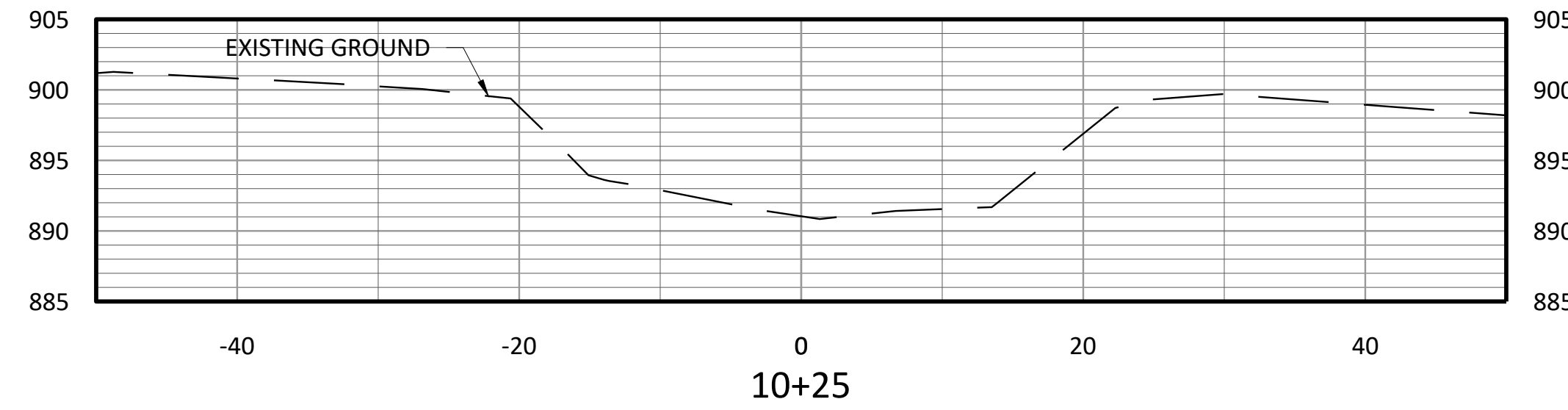
Freese and Nichols, Inc.  
 Georgia Registered Engineering Firm PEF-00433  
 9-14-23  
 PROFESSIONAL ENGINEER  
 BR/AN/INTL/CL/CK

**FREES & NICHOLS**  
 360 Interstate North Parkway,  
 Suite 230 Atlanta, GA 30339  
 Phone: (404) 334-4310  
 Web: www.freese.com

CITY OF BROOKHAVEN  
**N. FORK NANCY CREEK STREAMBANK RESTORATION FROM I-285 TO MURPHEY CANDLER LAKE**  
 CIVIL  
**NORTH FORK NANCY CREEK STA 26+00 TO END**

NO.	ISSUE	BY	DATE	F&N JOB NO.	BGA20127
1	ISSUE	JPS	09/15/2022	DATE	07/05/2023
2	REVISED	JPS	12/2/2022	DESIGNED	JM/BCM
3	CHECKED	JPS	09/15/2022	DRAWN	JM/JPJ
4	BMD	JPS	09/15/2022	REVIEWED	###
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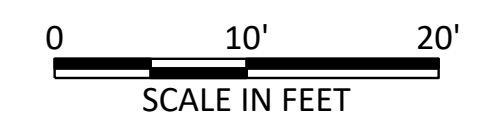




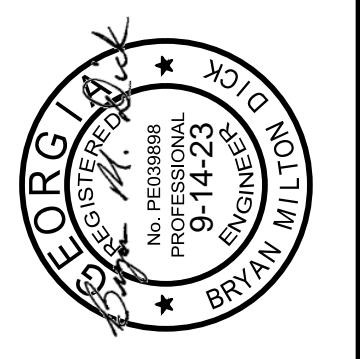
- NOTES:
1. ALL GRADED SLOPES SHALL BE LINED WITH COIR MATTING PER THE DETAIL (SEE SHEET DT-1).
  2. ALL TOE PROTECTION WILL BE BLENDED TO EXISTING GROUND AT THE TOP OF LOG TO LIMIT EROSION ALONG THE TOP OF DOUBLE MUD SILL.
  3. SEE PLAN VIEW SHEET FOR PROPOSED BENCH WIDTHS AND BLENDING.

LEGEND	
---	EXISTING GROUND PROFILE ALONG ALIGNMENT
—	PROPOSED GROUND

24 HOUR CONTACT:  
 CITY OF BROOKHAVEN  
 PUBLIC WORKS DEPARTMENT  
 TOM ROBERTS  
 TOM.ROBERTS@BROOKHAVENGA.GOV  
 404-637-0540



Freese and Nichols, Inc.  
 Georgia Registered Engineering Firm PEF-004433  
 Expires 09/30/2025



**FREES & NICHOLS**  
 360 Interstate North Parkway,  
 Atlanta, GA 30339  
 Phone: (404) 334-4310  
 Web: www.freese.com

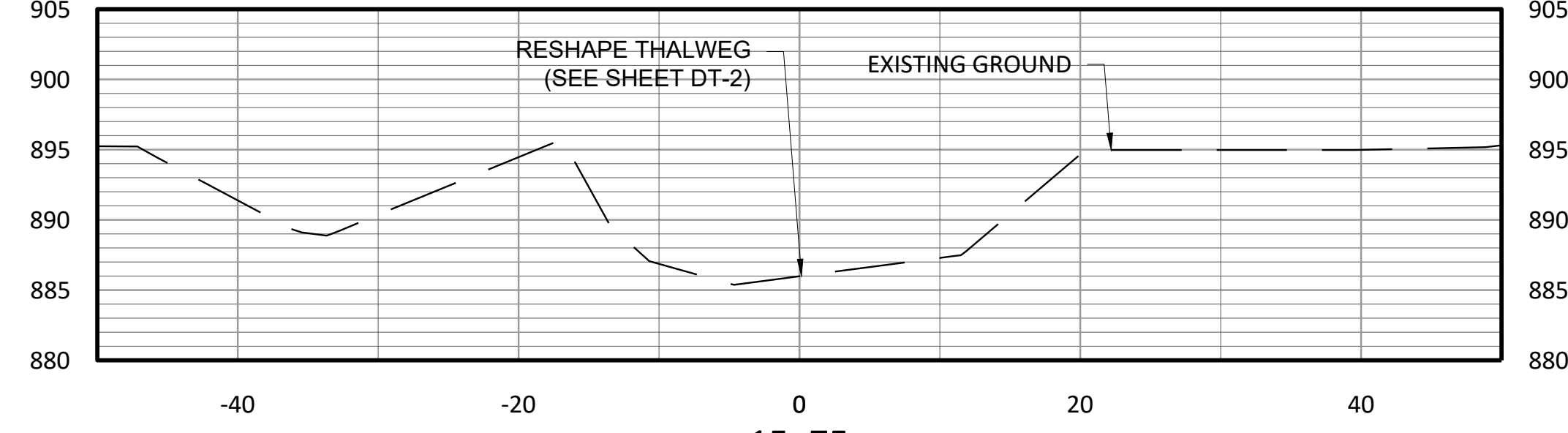
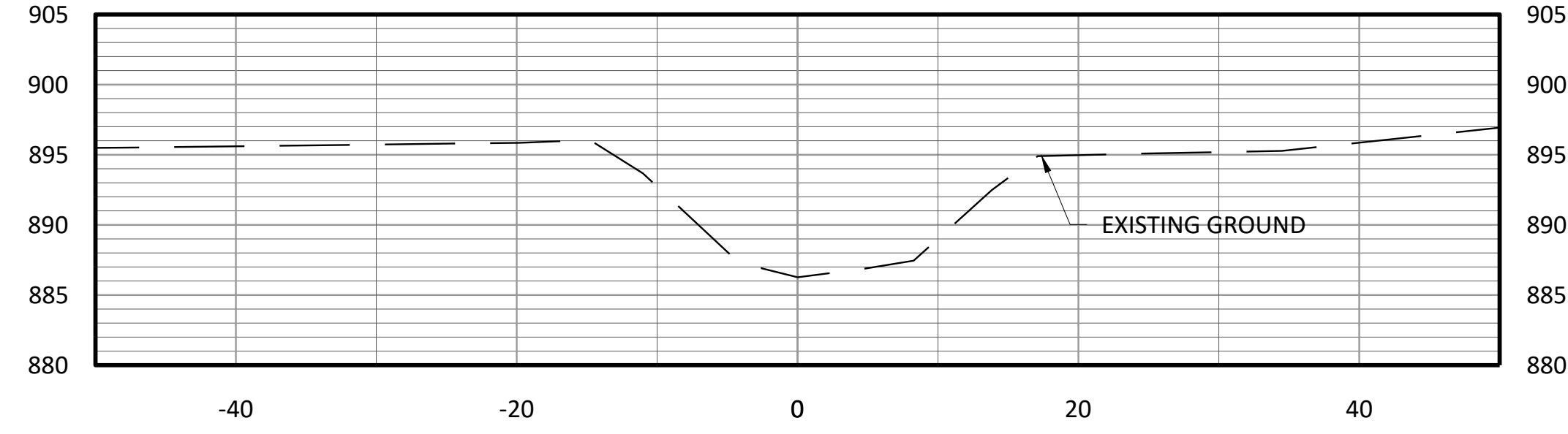
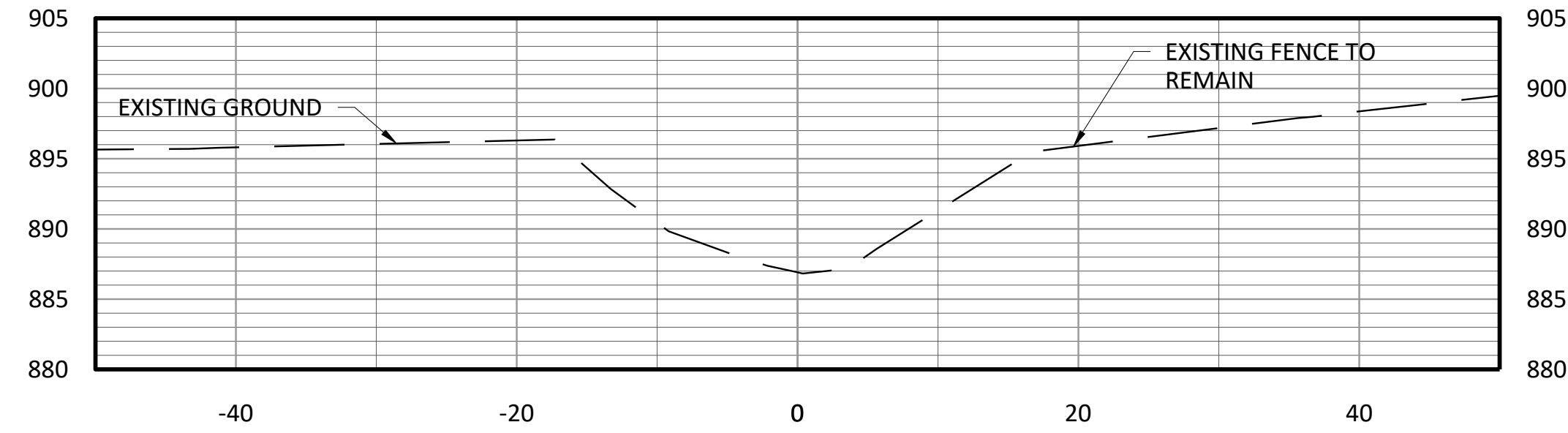
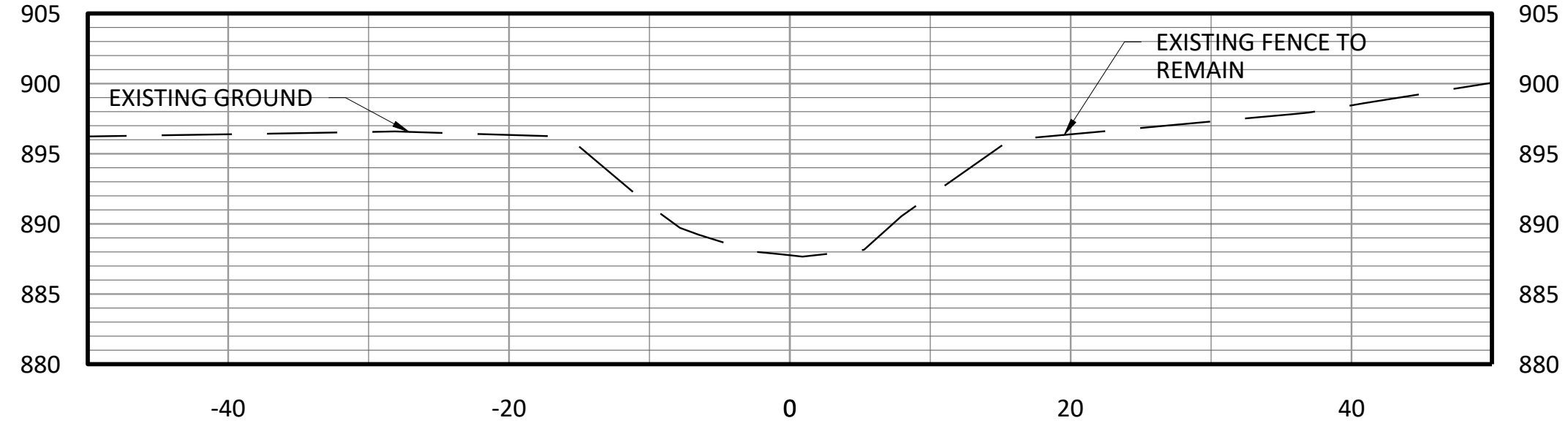
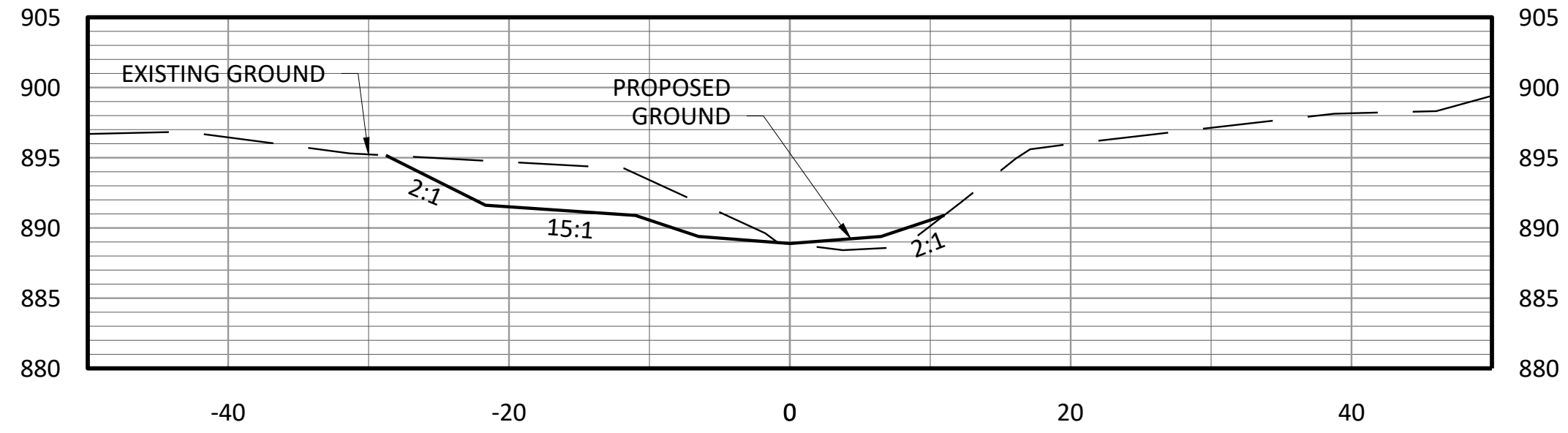
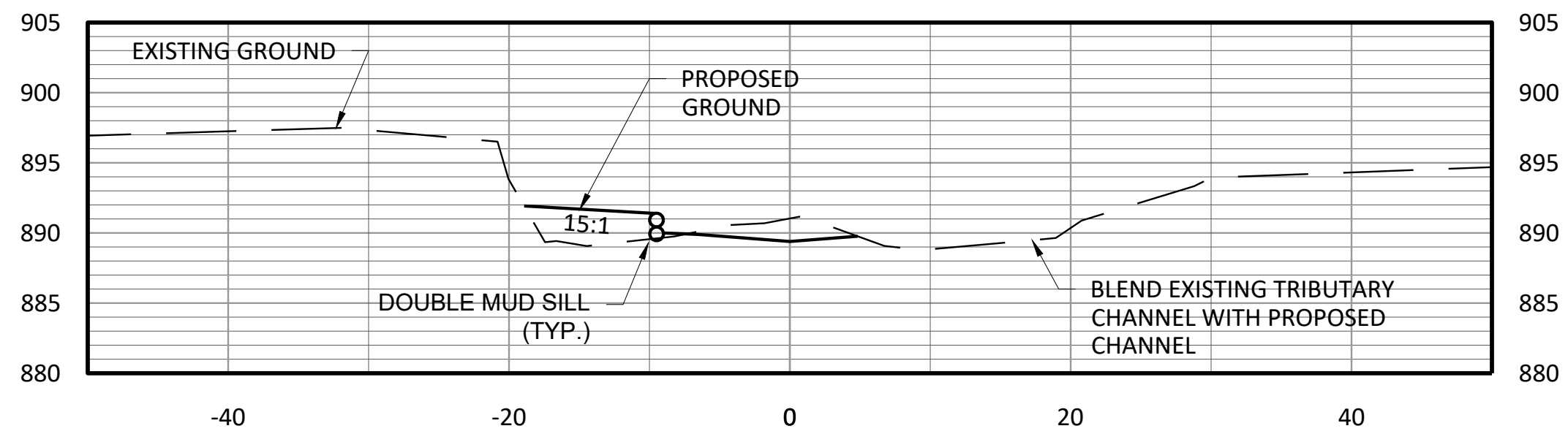
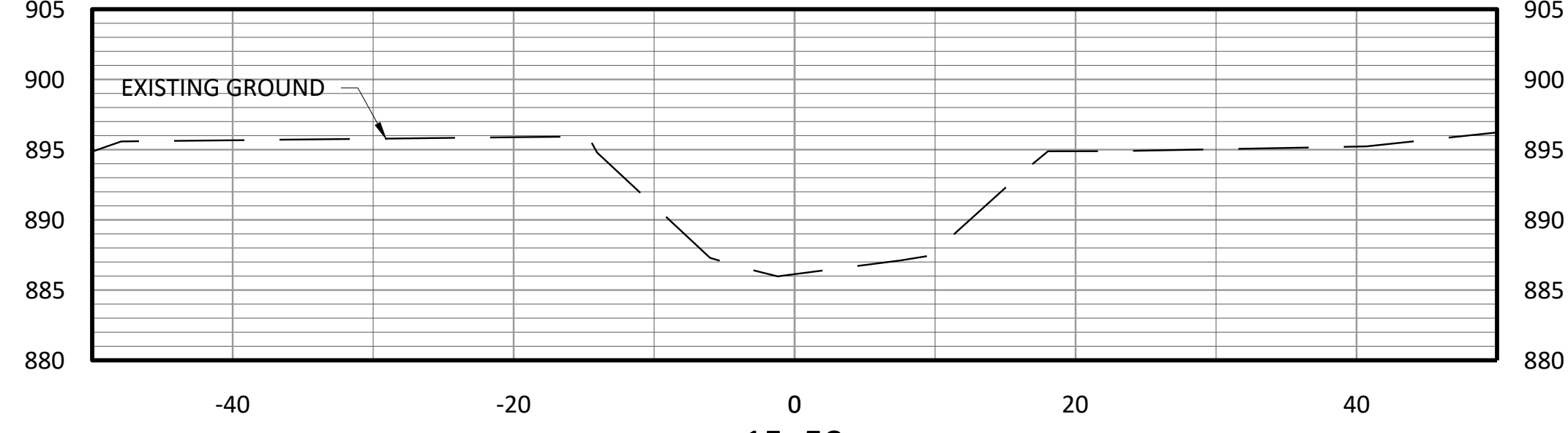
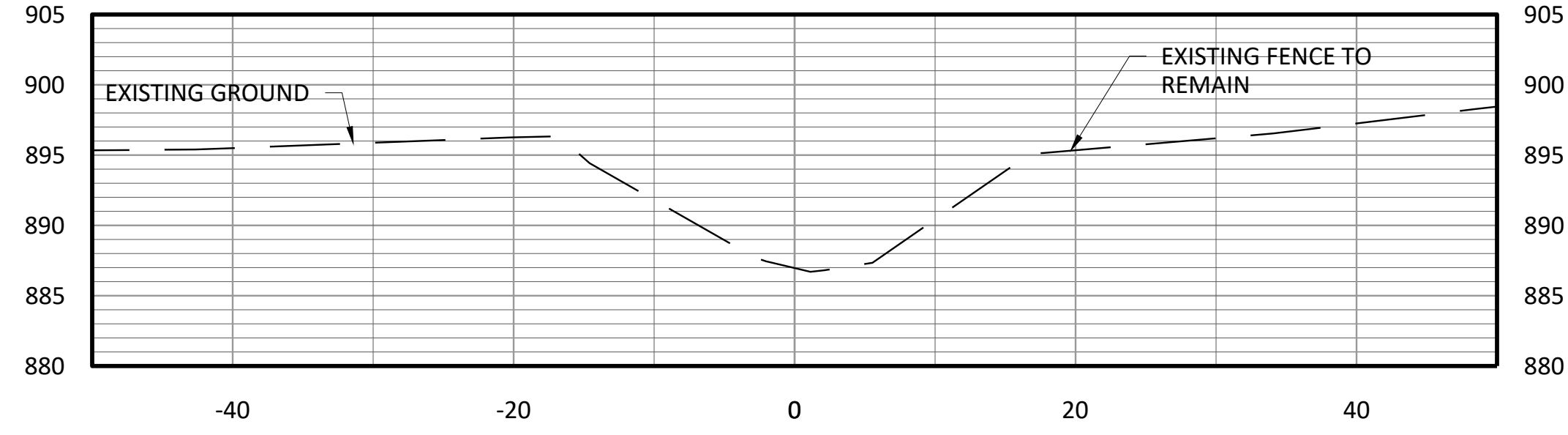
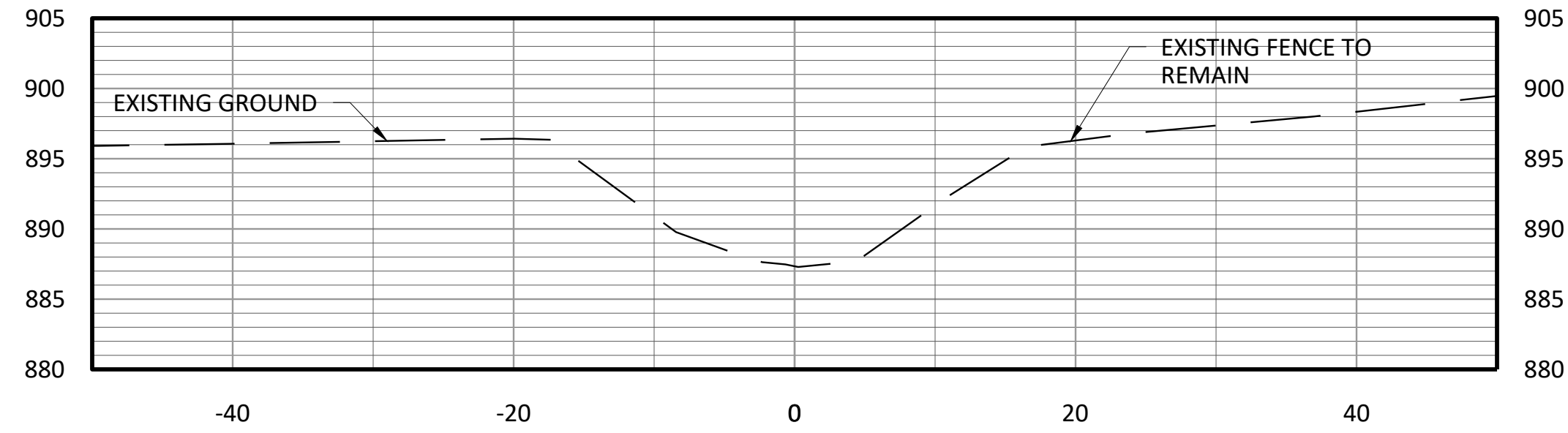
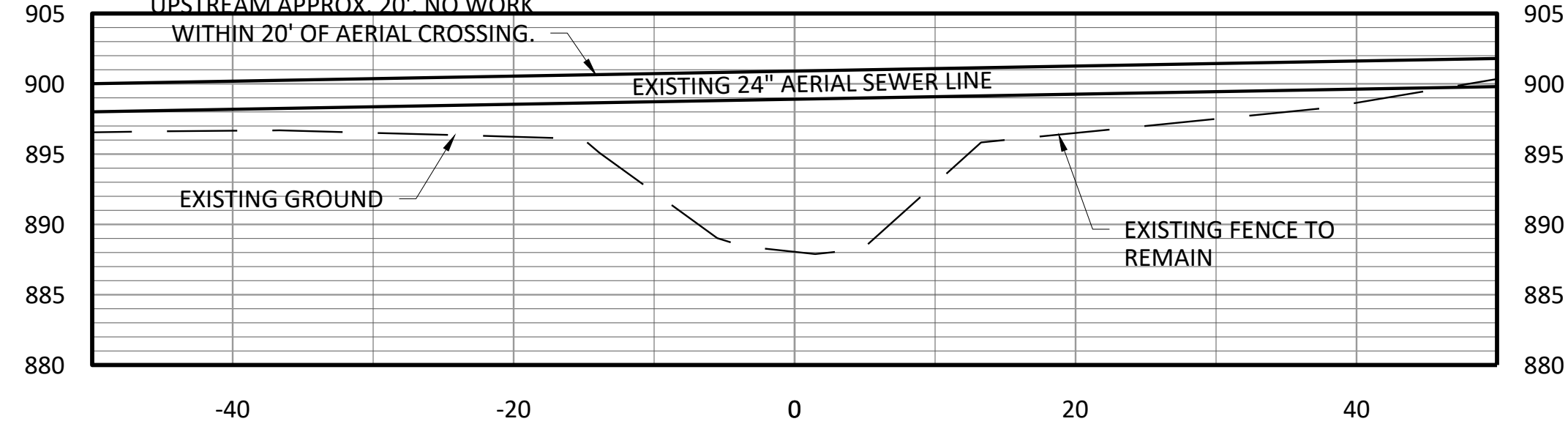
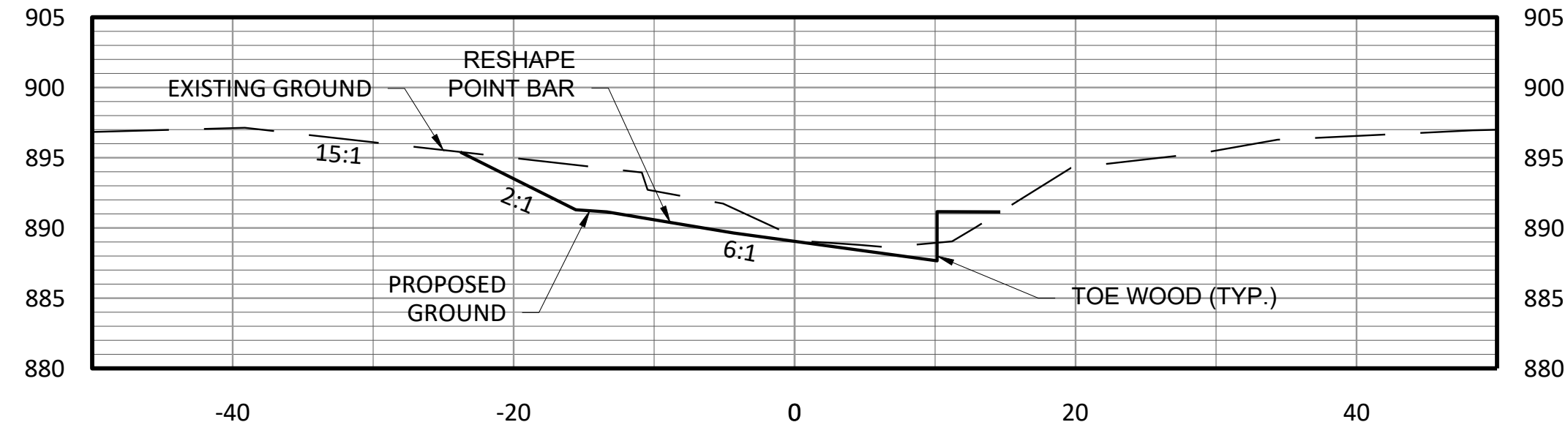
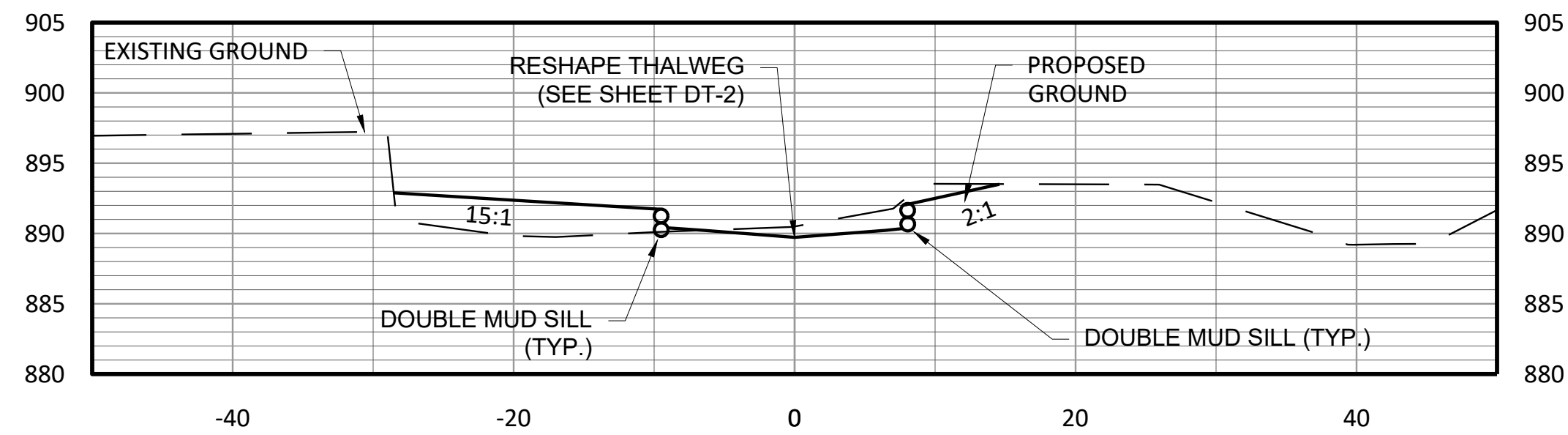
**N. FORK NANCY CREEK STREAMBANK RESTORATION  
 FROM I-285 TO MURPHEY CANDLER LAKE**

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1											

SHEET **CS-1**  
 SEQ. APPROVED PLAN 01/17/2023  
 Permit # LDP22-0016

ISSUED FOR PERMIT  
 NOT FOR CONSTRUCTION

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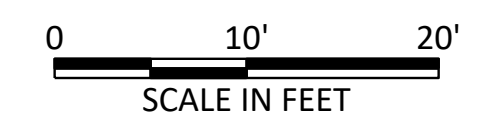
- NOTES:
1. ALL GRADED SLOPES SHALL BE LINED WITH COIR MATTING PER THE DETAIL (SEE SHEET DT-1).
  2. ALL TOE PROTECTION WILL BE BLENDED TO EXISTING GROUND AT THE TOP OF LOG TO LIMIT EROSION ALONG THE TOP OF DOUBLE MUD SILL.
  3. SEE PLAN VIEW SHEET FOR PROPOSED BENCH WIDTHS AND BLENDING.

**LEGEND**

--- EXISTING GROUND PROFILE ALONG ALIGNMENT

— PROPOSED GROUND

24 HOUR CONTACT:  
CITY OF BROOKHAVEN  
PUBLIC WORKS DEPARTMENT  
TOM ROBERTS  
TOM.ROBERTS@BROOKHAVENGA.GOV  
404-637-0540



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Expires 09/30/2025



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**N. FORK NANCY CREEK STREAMBANK RESTORATION FROM I-285 TO MURPHEY CANDLER LAKE**

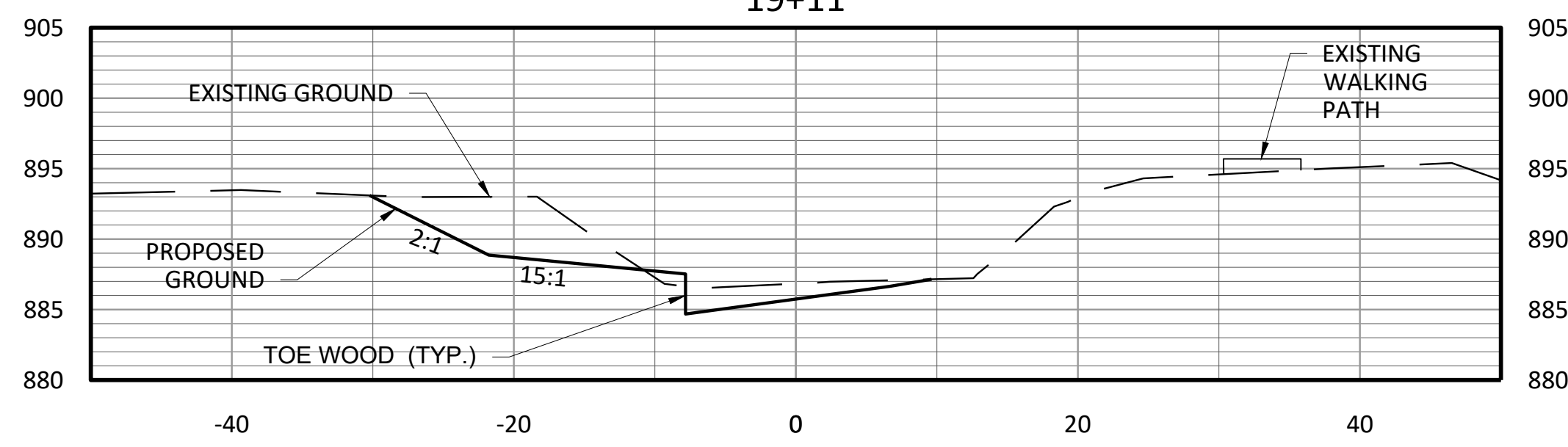
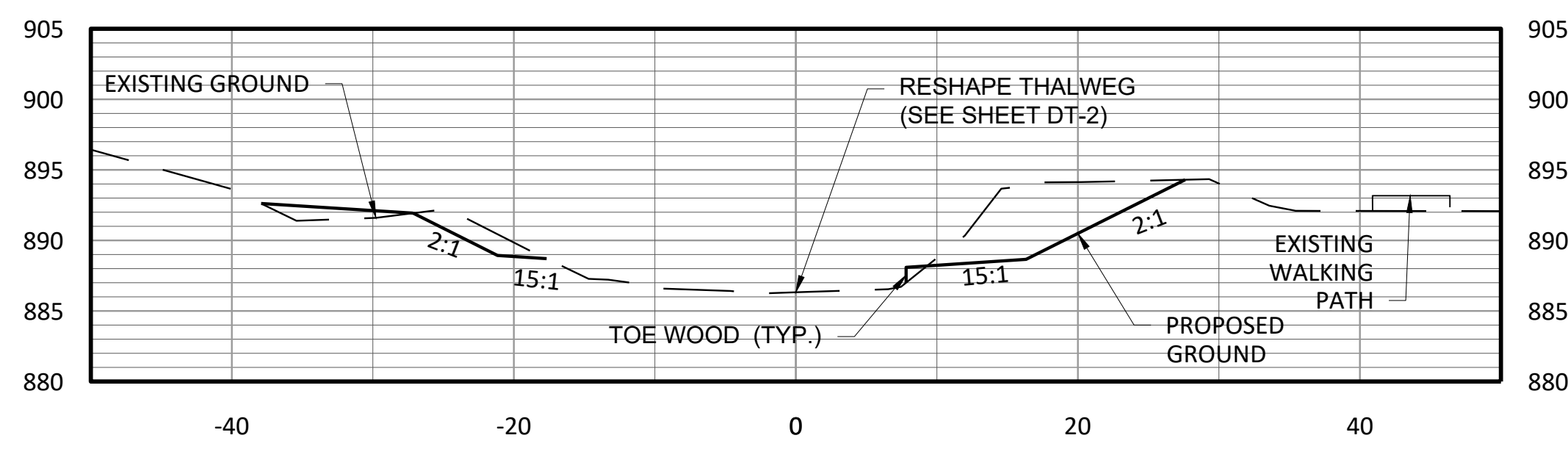
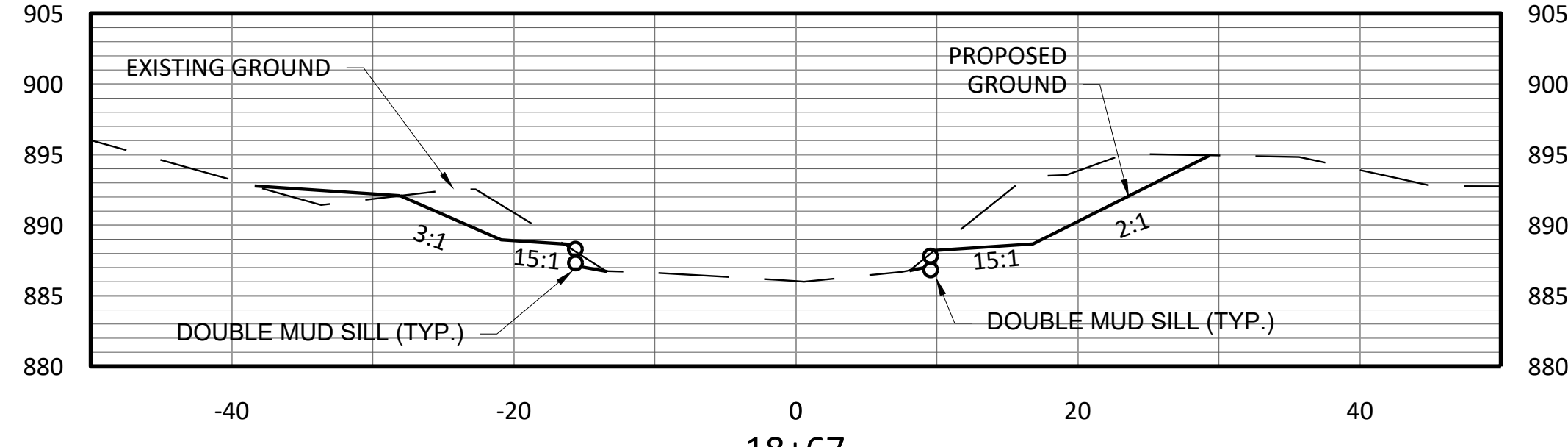
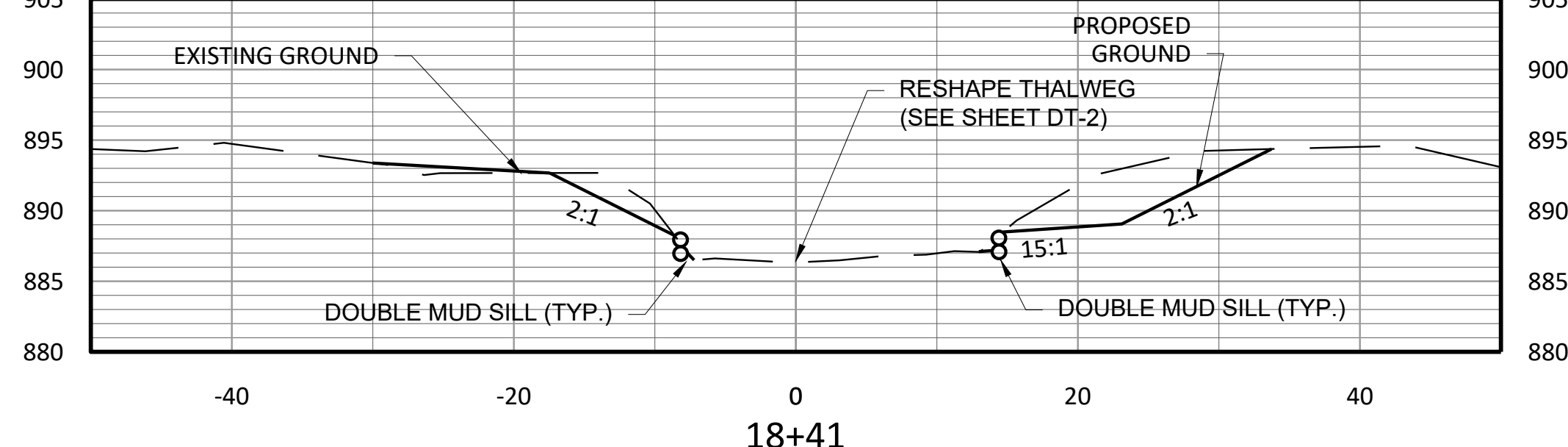
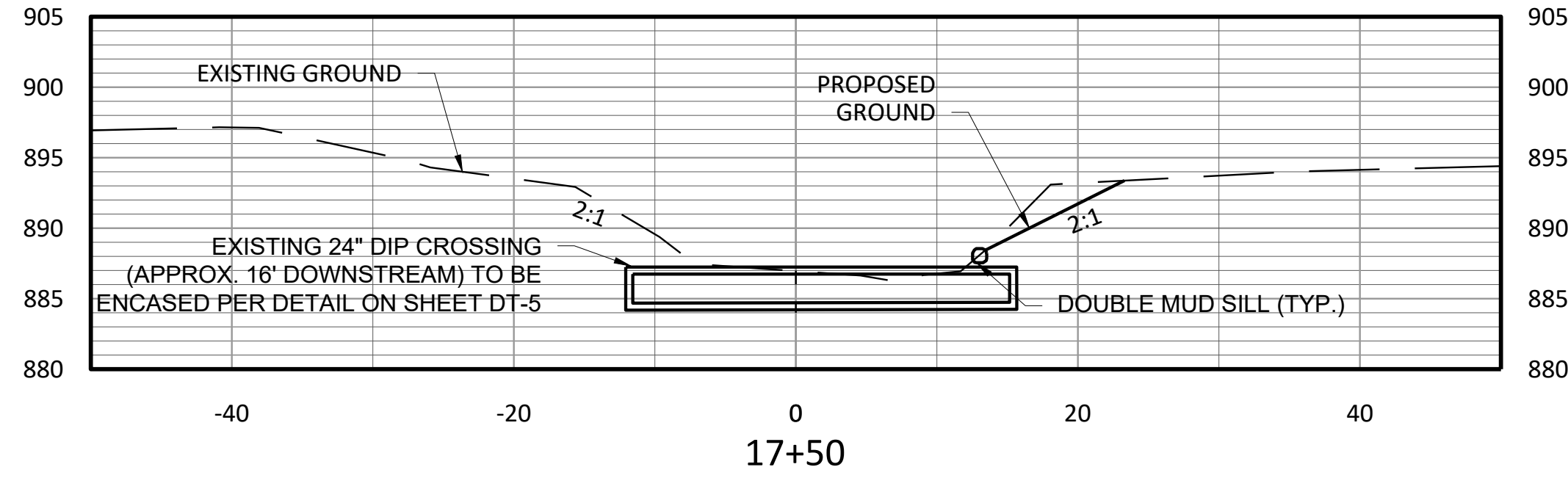
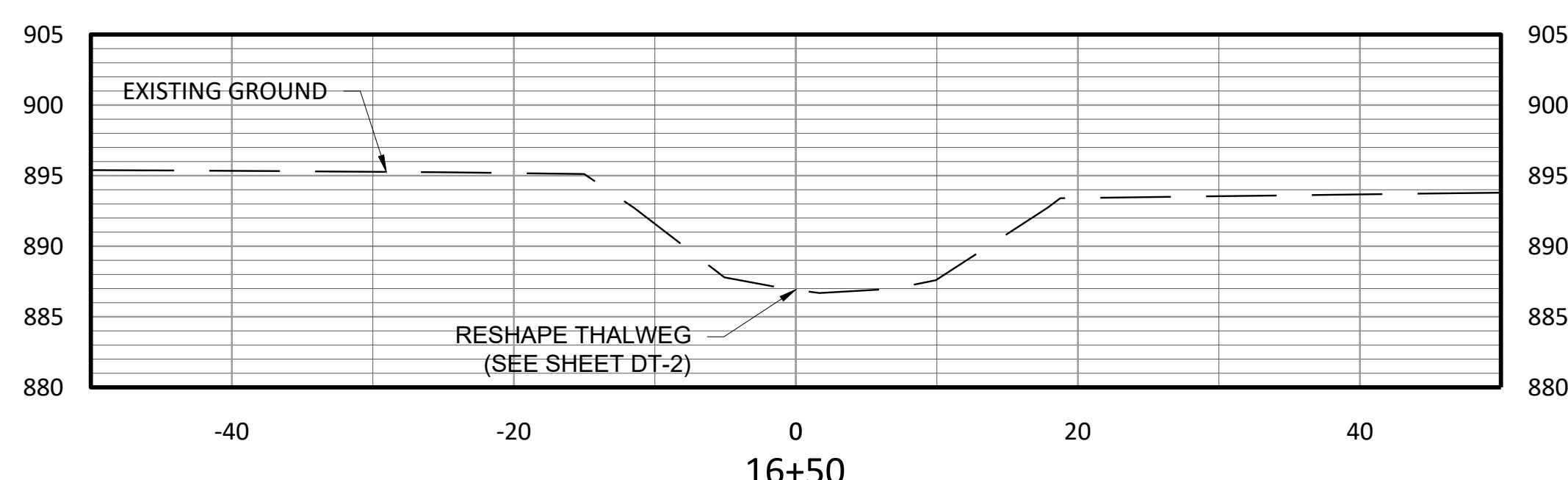
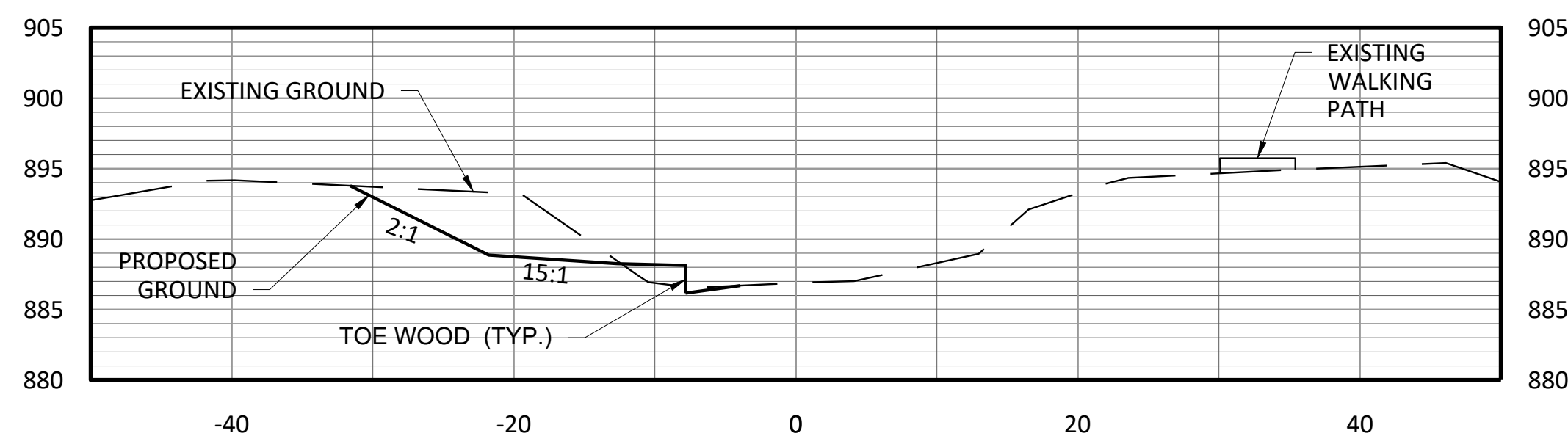
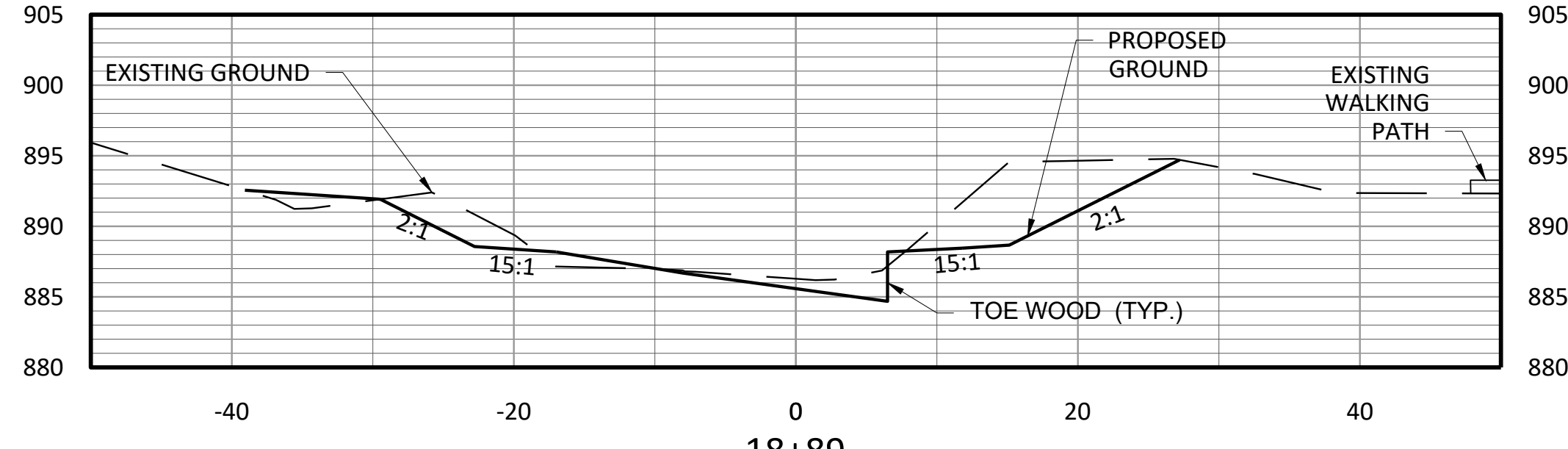
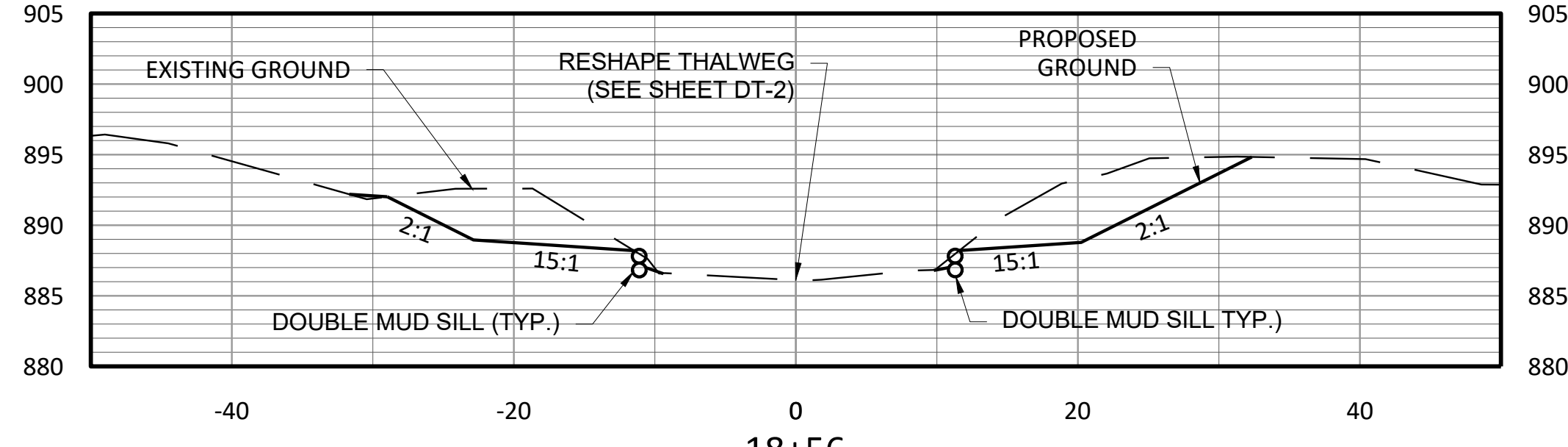
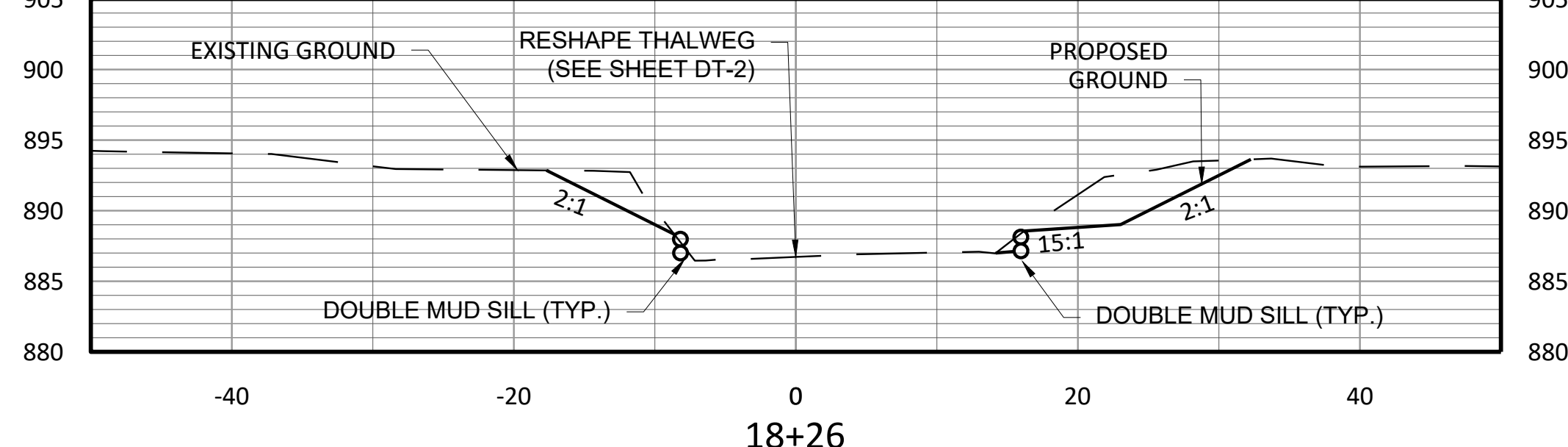
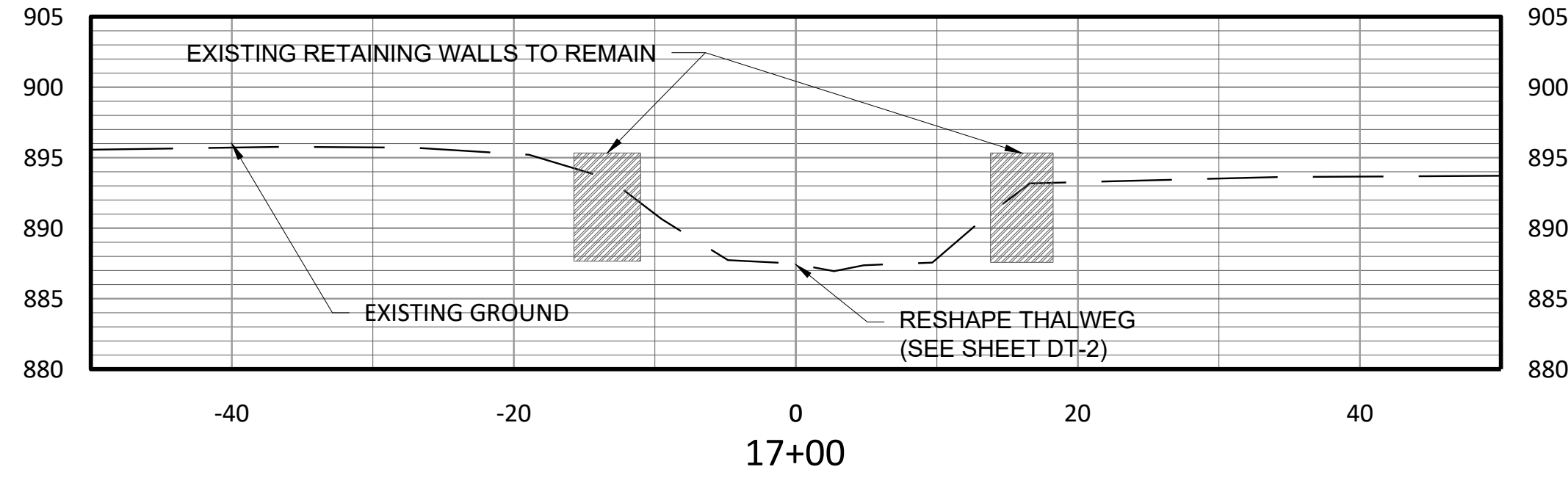
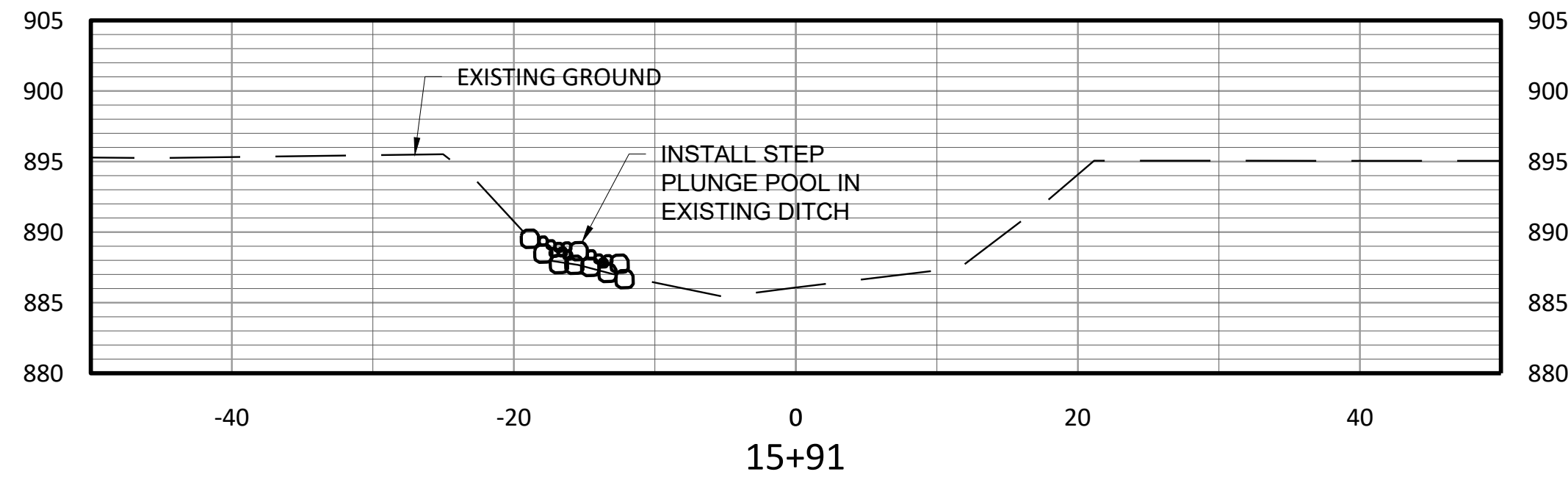
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**CROSS SECTION VIEWS**

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2		JPS	09/15/2022	
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SHEET **CS-2**  
SEQ. APPROVED PLAN 10/17/2023  
NOT FOR CONSTRUCTION  
Permit # LDP22-001/16

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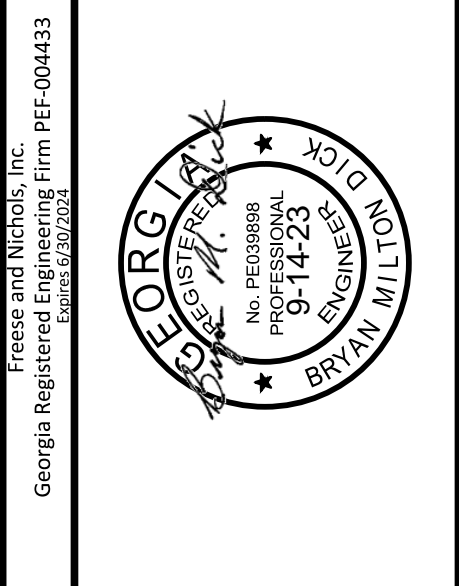
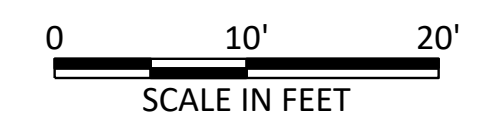
- NOTES:
- ALL GRADED SLOPES SHALL BE LINED WITH COIR MATTING PER THE DETAIL (SEE SHEET DT-1).
  - ALL TOE PROTECTION WILL BE BLENDED TO EXISTING GROUND AT THE TOP OF LOG TO LIMIT EROSION ALONG THE TOP OF DOUBLE MUD SILL.
  - SEE PLAN VIEW SHEET FOR PROPOSED BENCH WIDTHS AND BLENDING.

**LEGEND**

--- EXISTING GROUND PROFILE ALONG ALIGNMENT

— PROPOSED GROUND

24 HOUR CONTACT:  
 CITY OF BROOKHAVEN  
 PUBLIC WORKS DEPARTMENT  
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**N. FORK NANCY CREEK STREAMBANK RESTORATION FROM I-285 TO MURPHEY CANDLER LAKE**

CITY OF BROOKHAVEN

CROSS SECTION VIEWS

CROSS SECTION VIEWS

NO.	ISSUE	DATE	BY	DATE	BY	FILE NAME	###	BMD
0	ISSUE					CV-SECTION-VIEW.dwg		
1	DESIGNED	07/05/2023	JPS	07/05/2023	JPS			
2	DRAWN	12/22/2022	JPS	12/22/2022	JPS			
3	REVIEWED	09/15/2022	JPS	09/15/2022	JPS			

SHEET **CS-3**

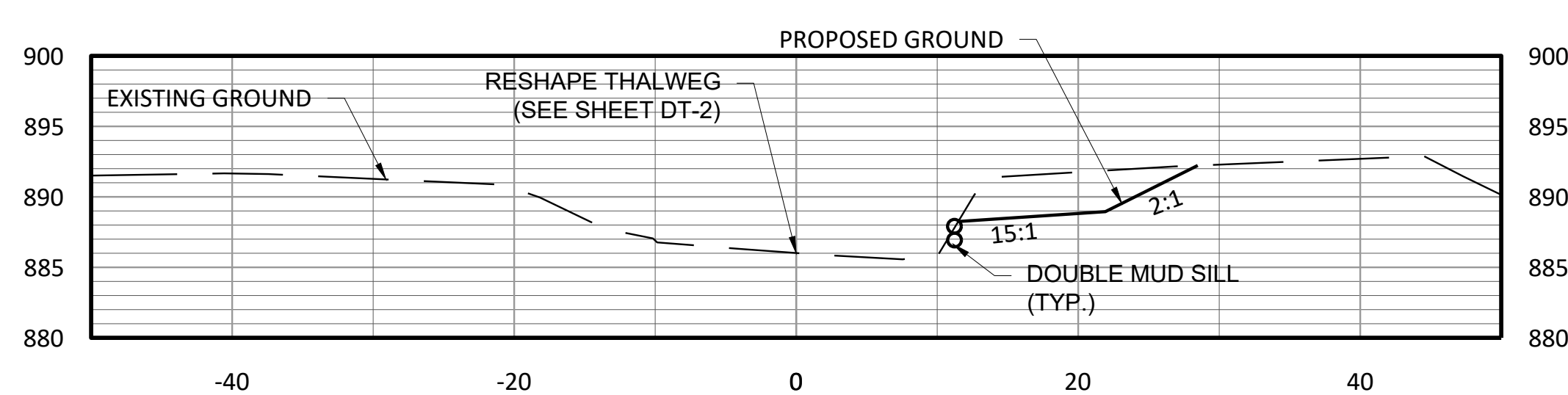
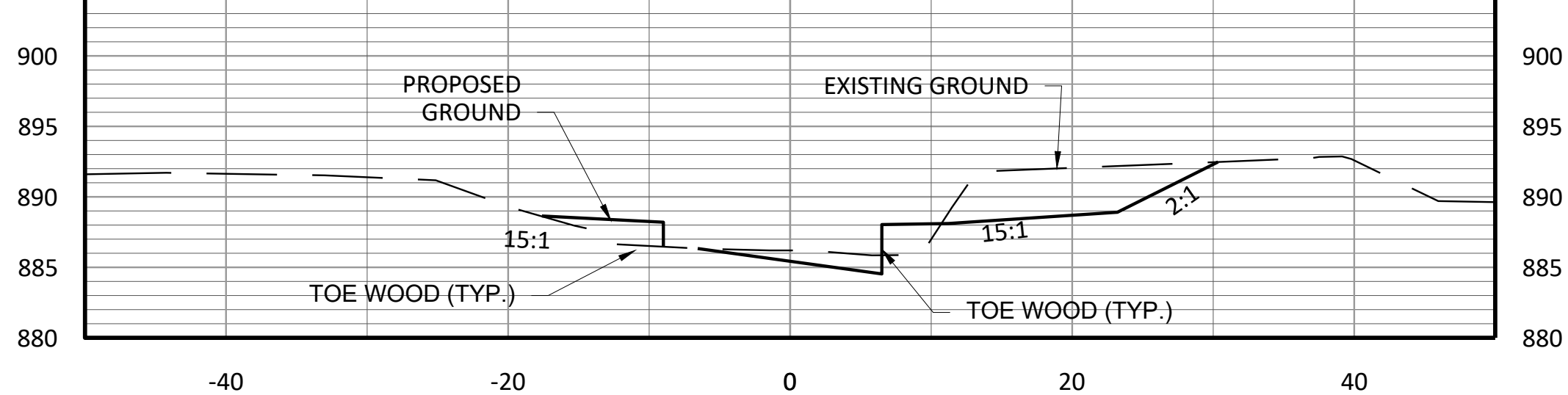
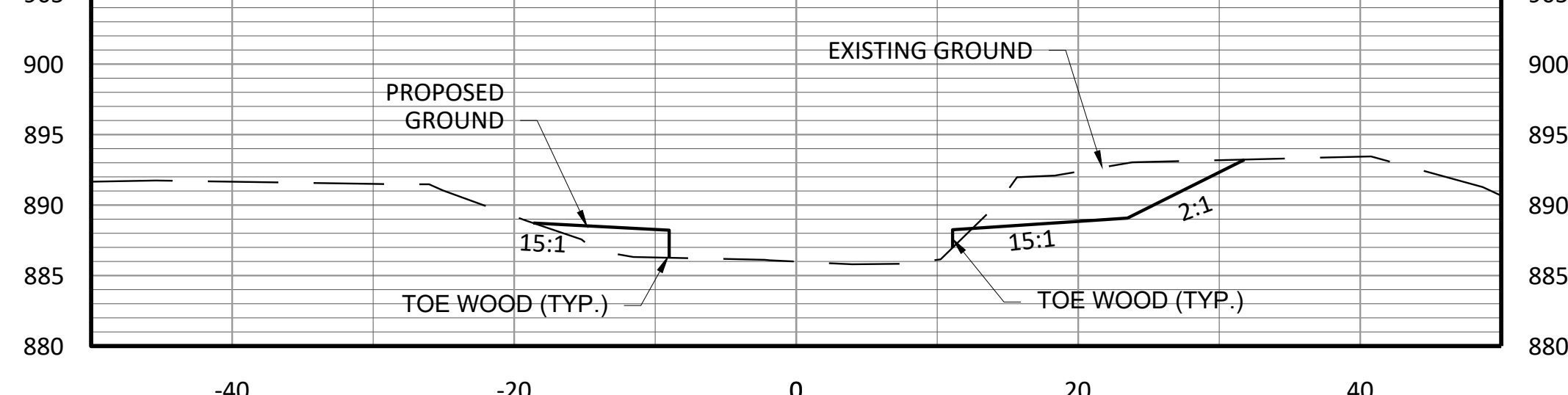
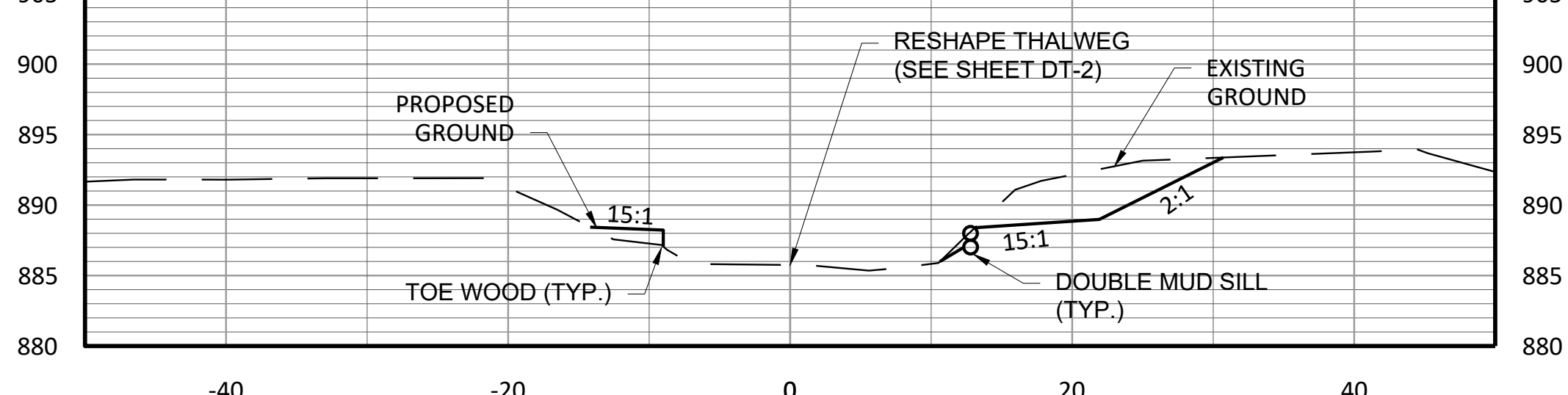
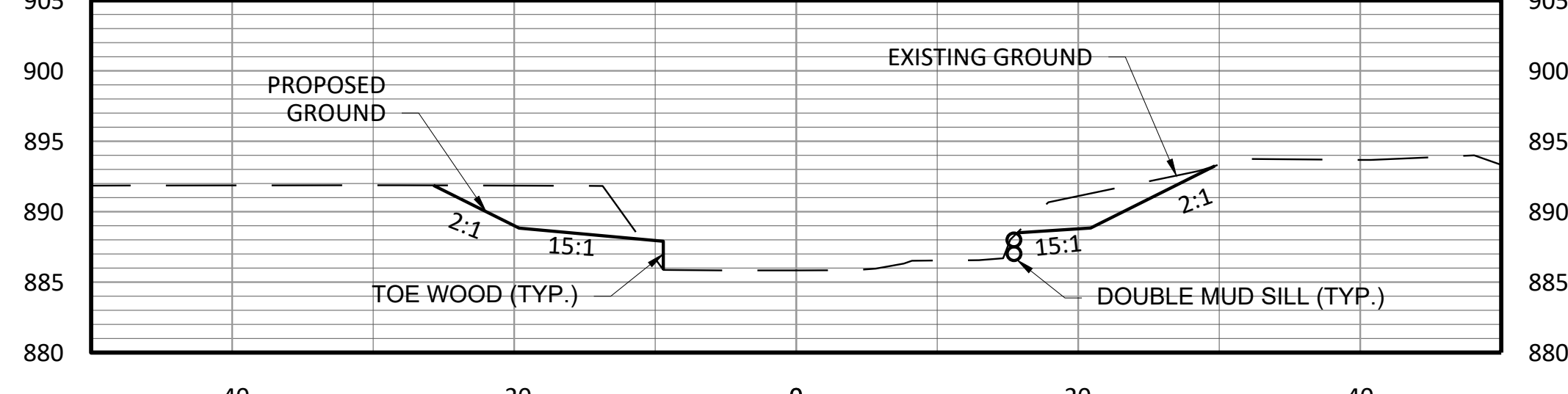
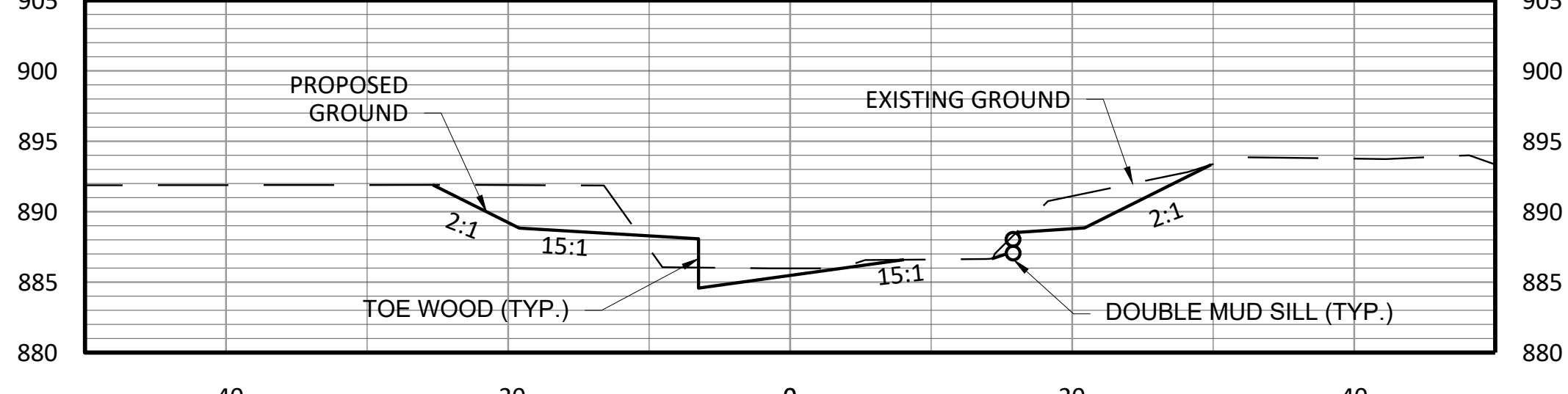
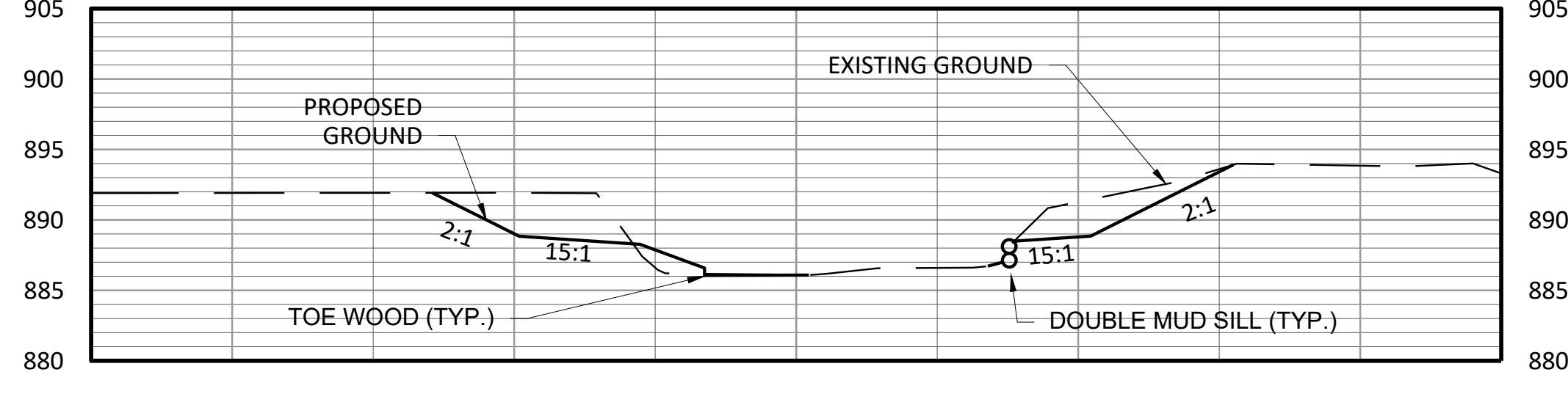
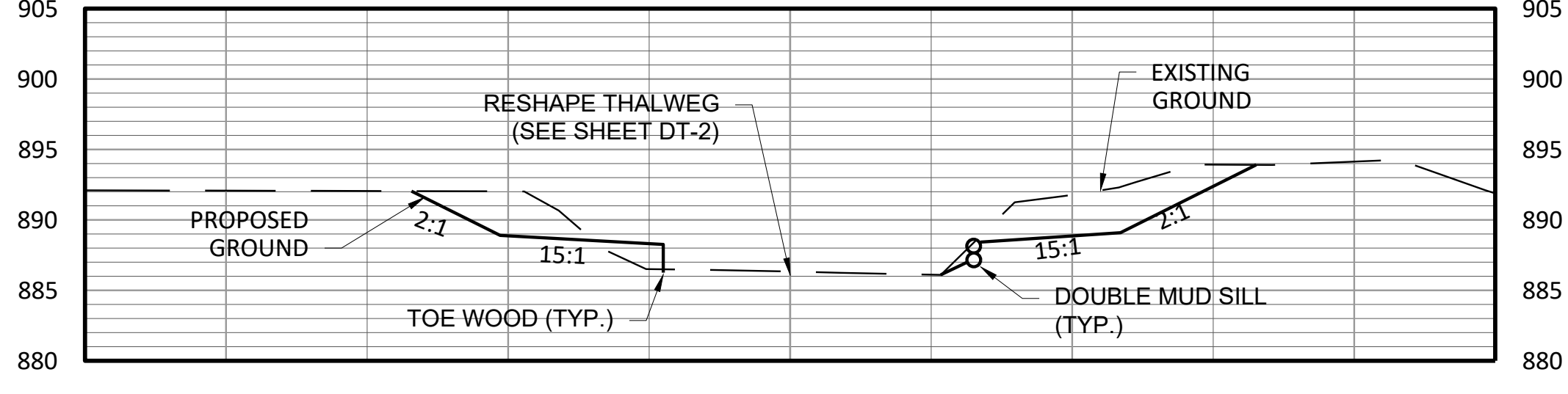
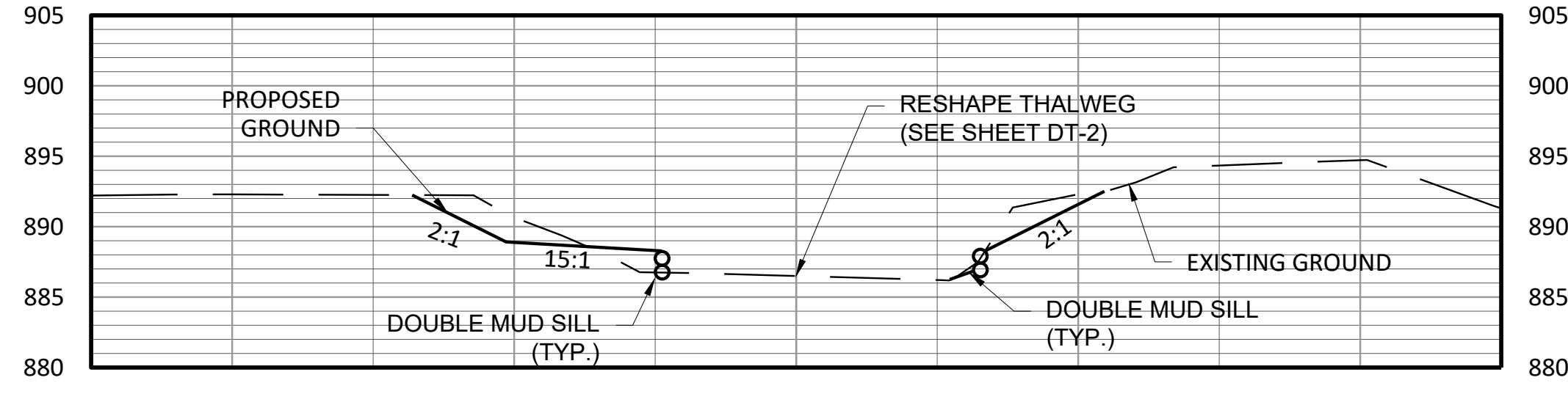
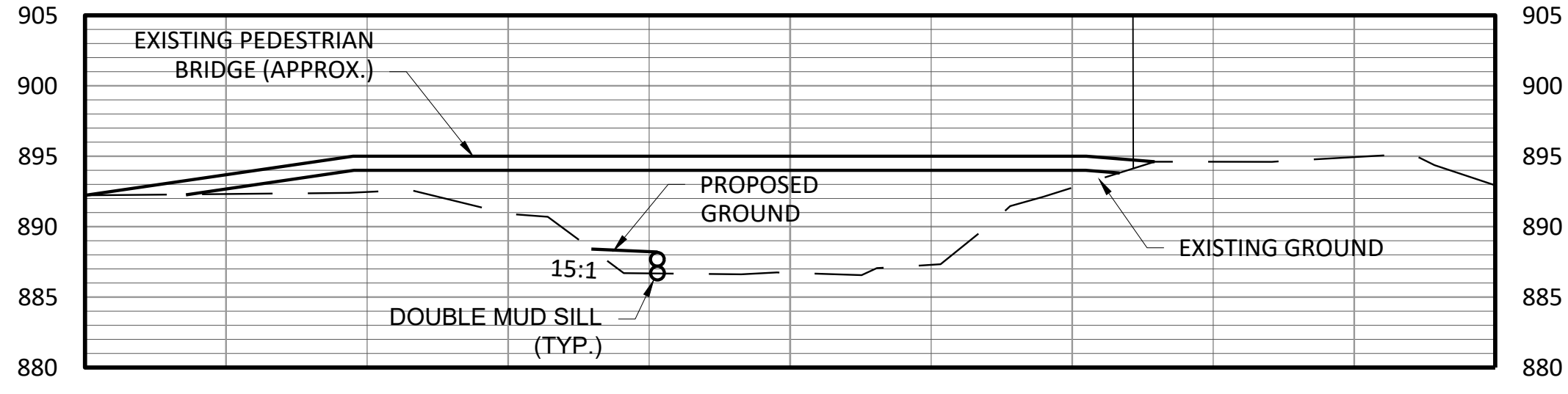
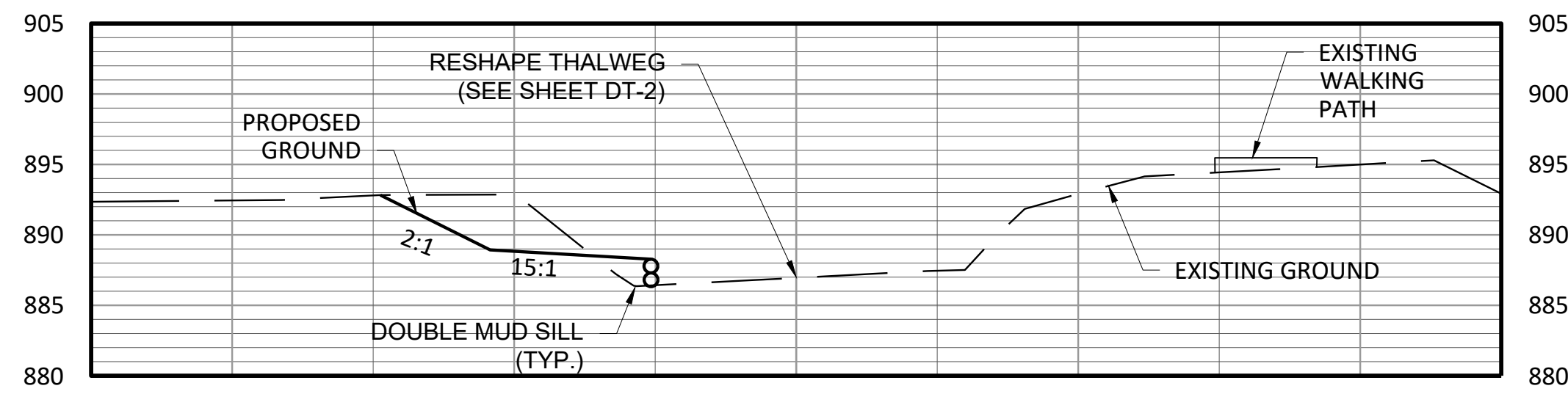
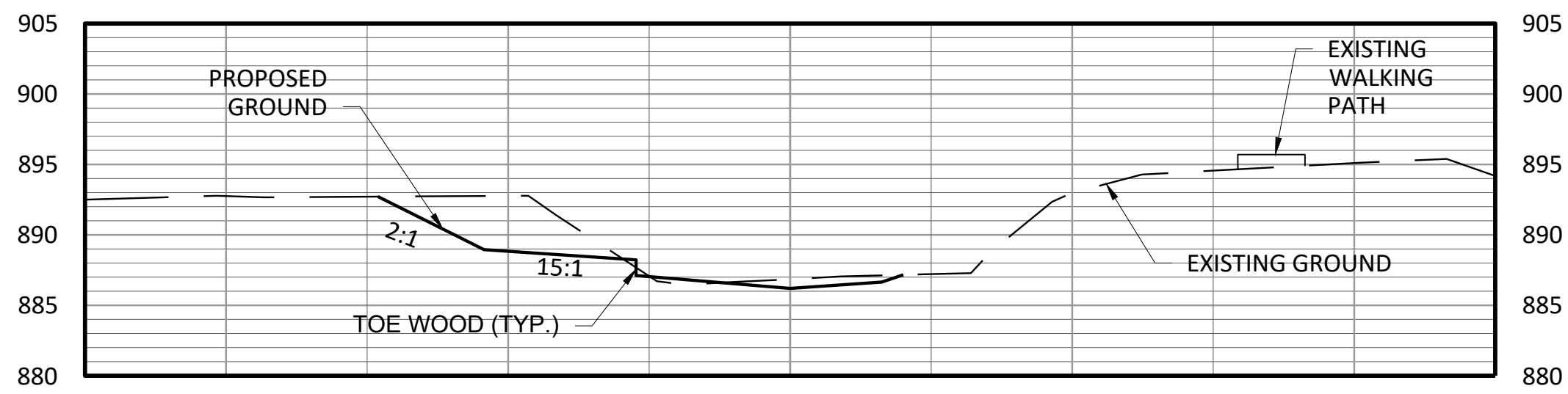
SEQ. **11**

APPROVED PLAN 10/17/2023

Permit # LDP22-00116

ACAD Ref: 24.1s (LMS Tech)  
 Filename: N:\WTD\Drawings\CV-SECTION-VIEW.dwg  
 Last Saved: 7/20/2023 12:40 PM Saved By: 02875

ISSUED FOR PERMIT  
 NOT FOR CONSTRUCTION



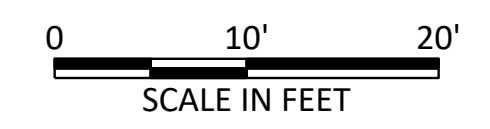
- NOTES:
1. ALL GRADED SLOPES SHALL BE LINED WITH COIR MATTING PER THE DETAIL (SEE SHEET DT-1).
  2. ALL TOE PROTECTION WILL BE BLENDED TO EXISTING GROUND AT THE TOP OF LOG TO LIMIT EROSION ALONG THE TOP OF DOUBLE MUD SILL.
  3. SEE PLAN VIEW SHEET FOR PROPOSED BENCH WIDTHS AND BLENDING.

**LEGEND**

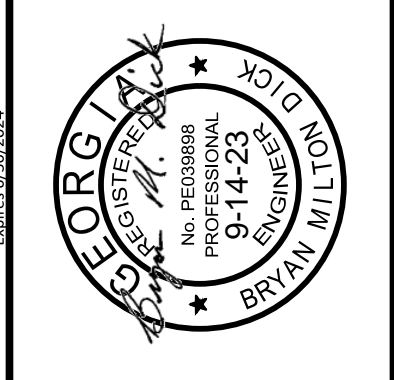
--- EXISTING GROUND PROFILE ALONG ALIGNMENT

— PROPOSED GROUND

24 HOUR CONTACT:  
 CITY OF BROOKHAVEN  
 PUBLIC WORKS DEPARTMENT  
 TOM ROBERTS  
 TOM.ROBERTS@BROOKHAVENGA.GOV  
 404-637-0540



Freese and Nichols, Inc.  
 Georgia Registered Engineering Firm PEF-004433  
 9-14-23



**FREES & NICHOLS**  
 360 Interstate North Parkway,  
 Atlanta, GA 30339  
 Phone: (404) 334-4310  
 Web: www.freese.com

**N. FORK NANCY CREEK STREAMBANK RESTORATION FROM I-285 TO MURPHEY CANDLER LAKE**

CITY OF BROOKHAVEN

CROSS SECTION VIEWS

CROSS SECTION VIEWS

NO.	ISSUE	BY	DATE	REVISED	FILE NAME	###	BMD
0		JPS	12/22/2022	REVIEW	CITY OF BROOKHAVEN LDP REVIEW	###	BMD
1		JPS	09/15/2022	REVIEW	DEKALB COUNTY LDP REVIEW	###	BMD

VERIFY SCALE: 1" = 10'

Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

SHEET **CS-4**

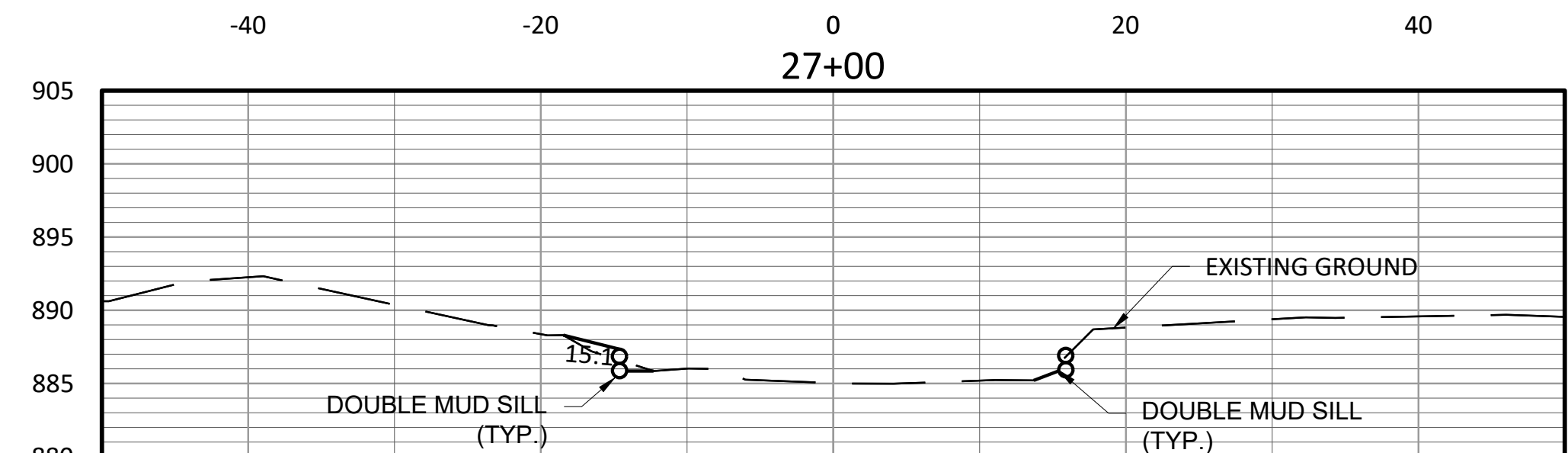
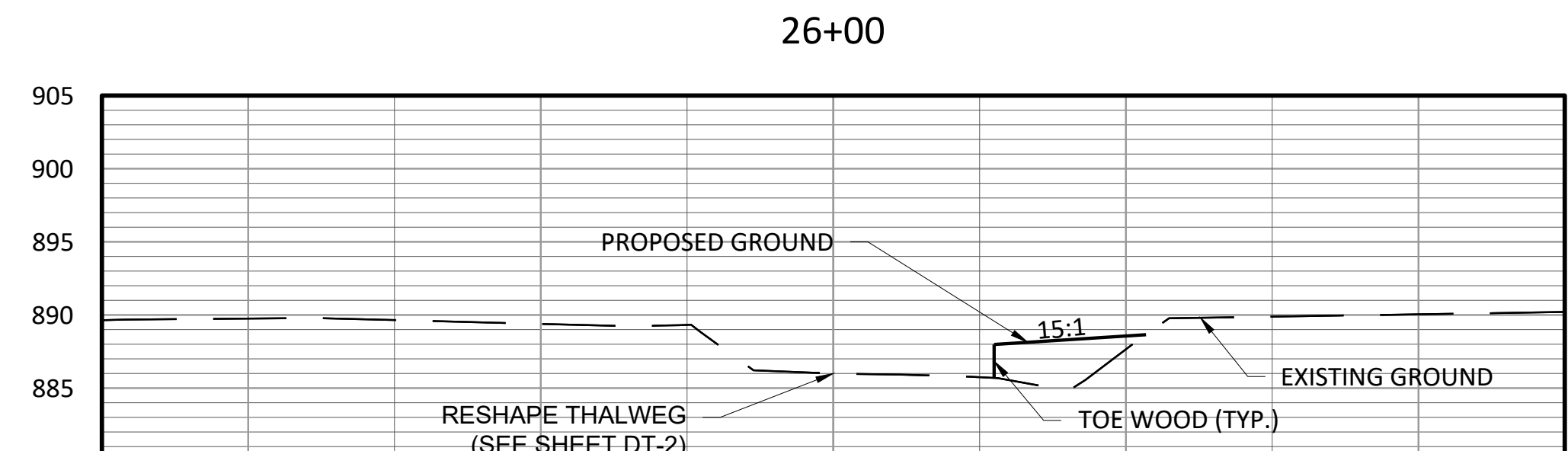
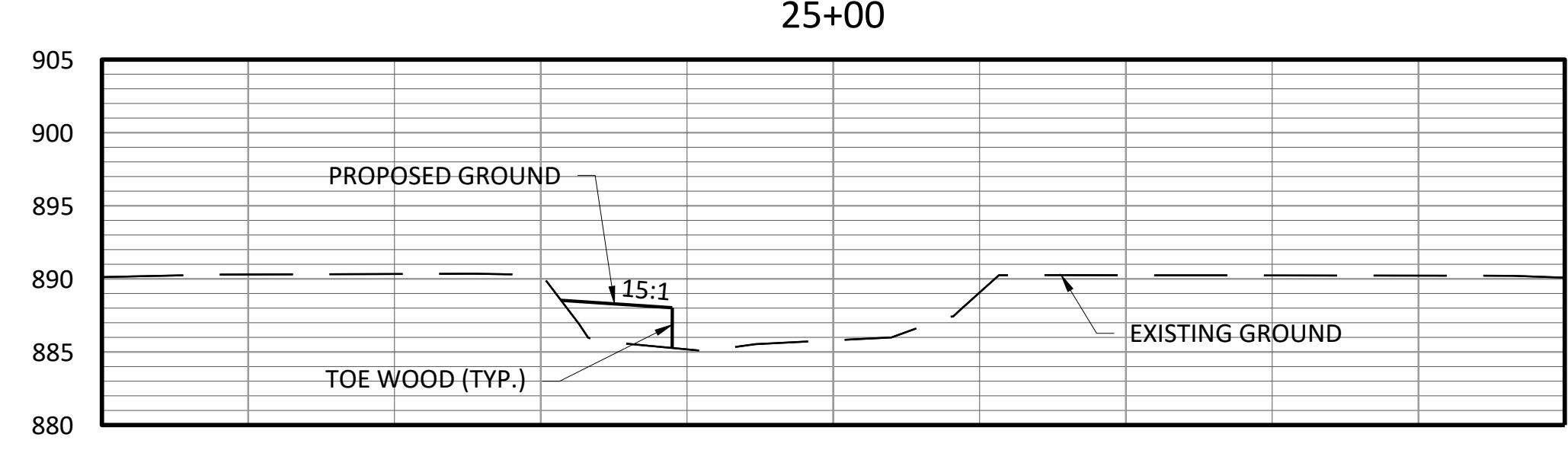
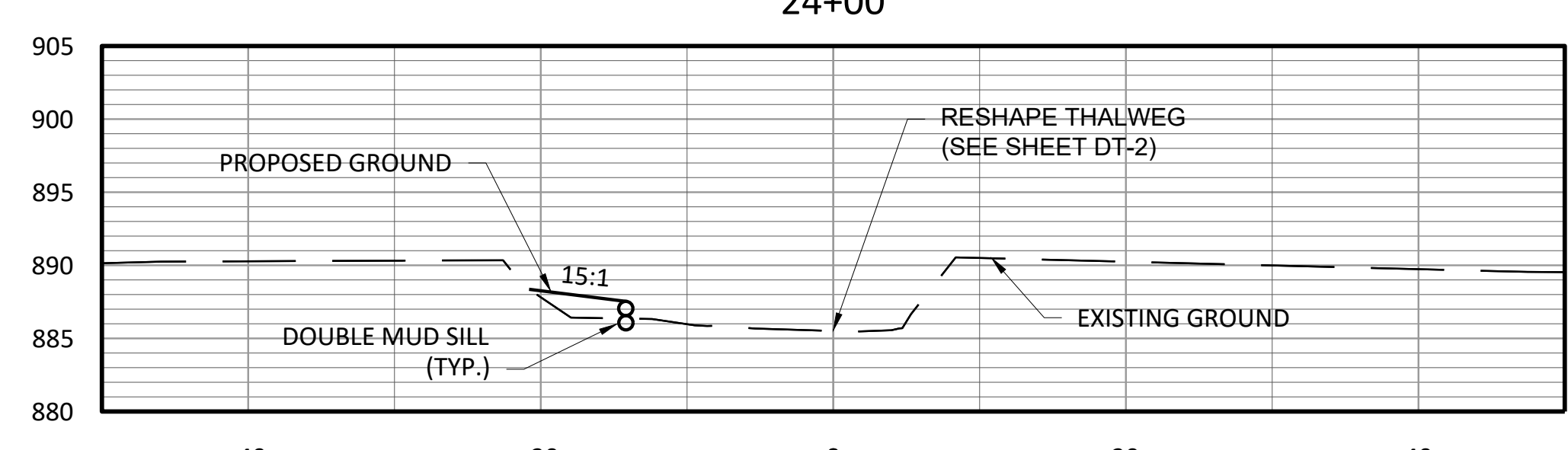
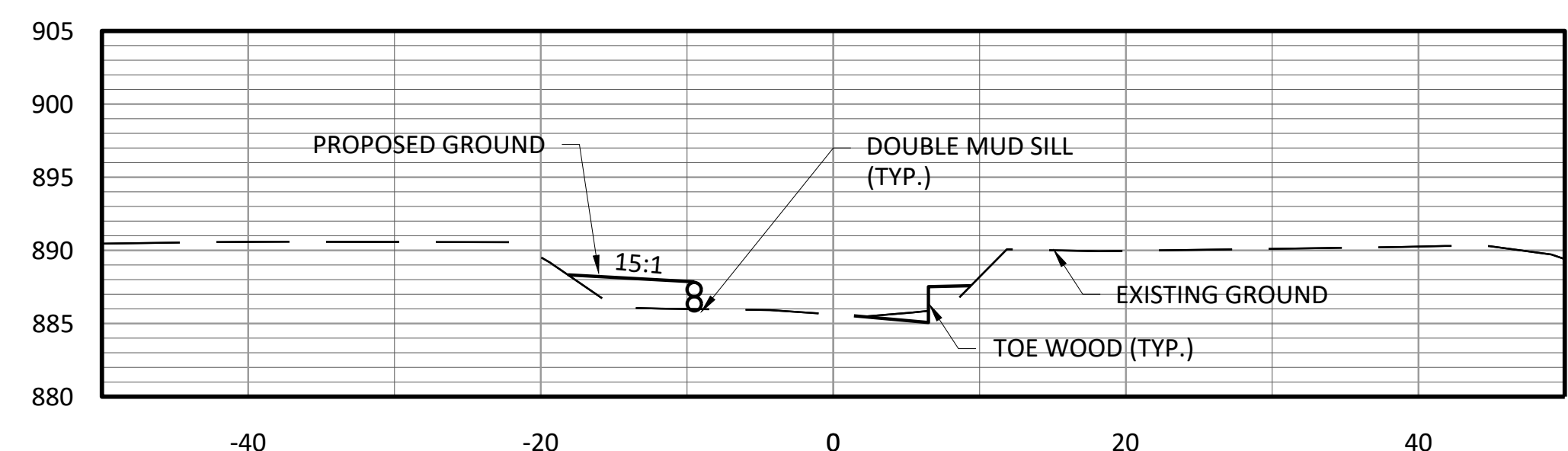
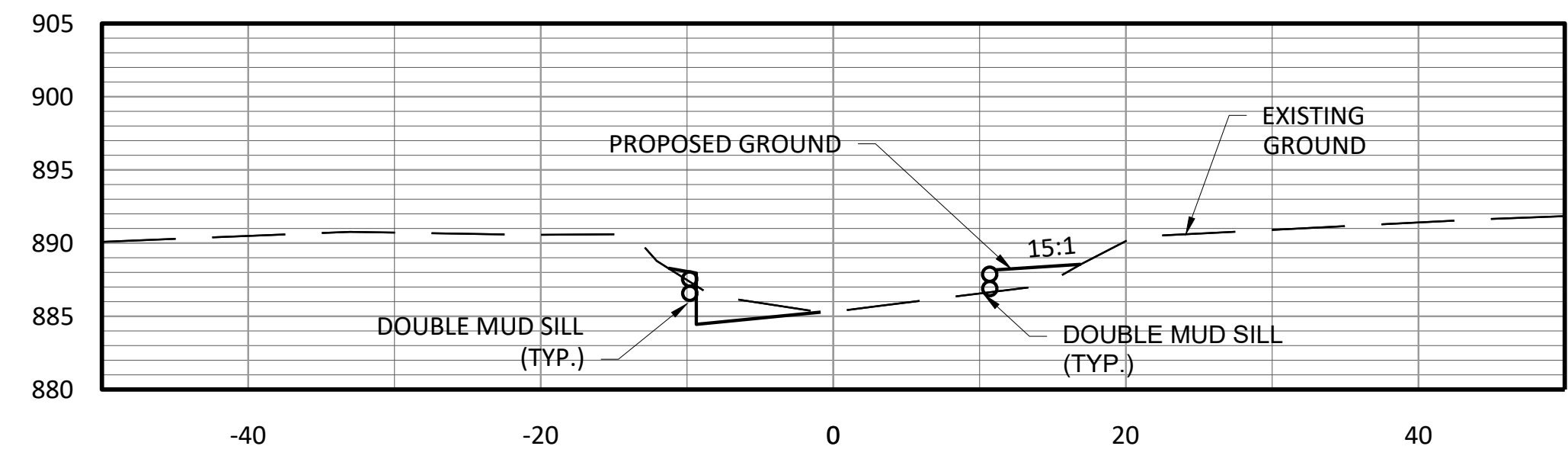
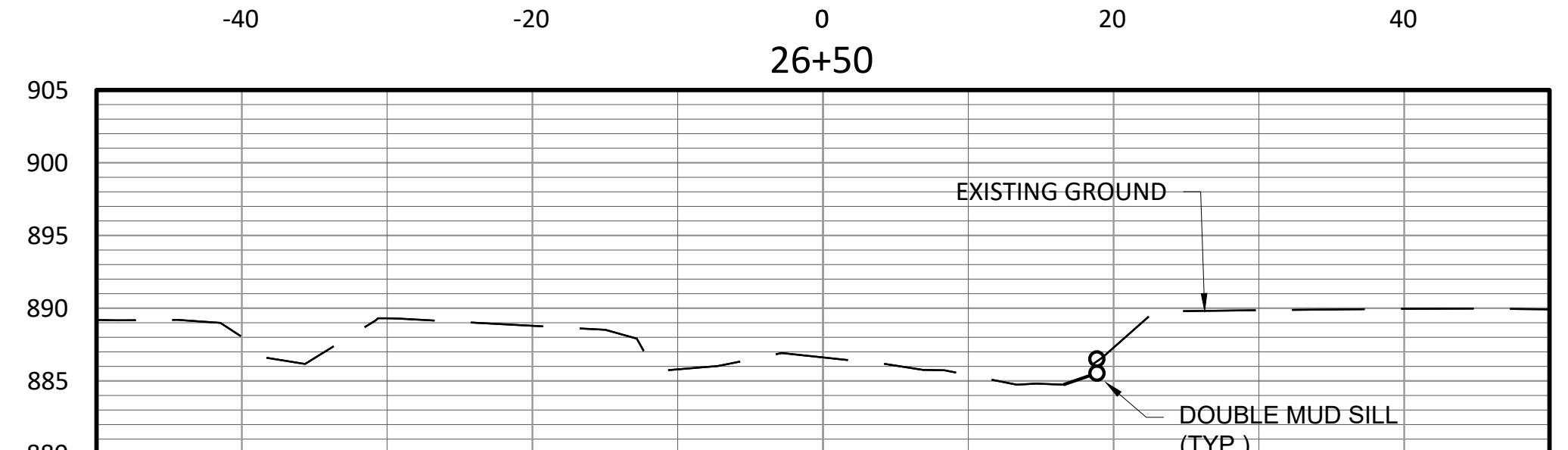
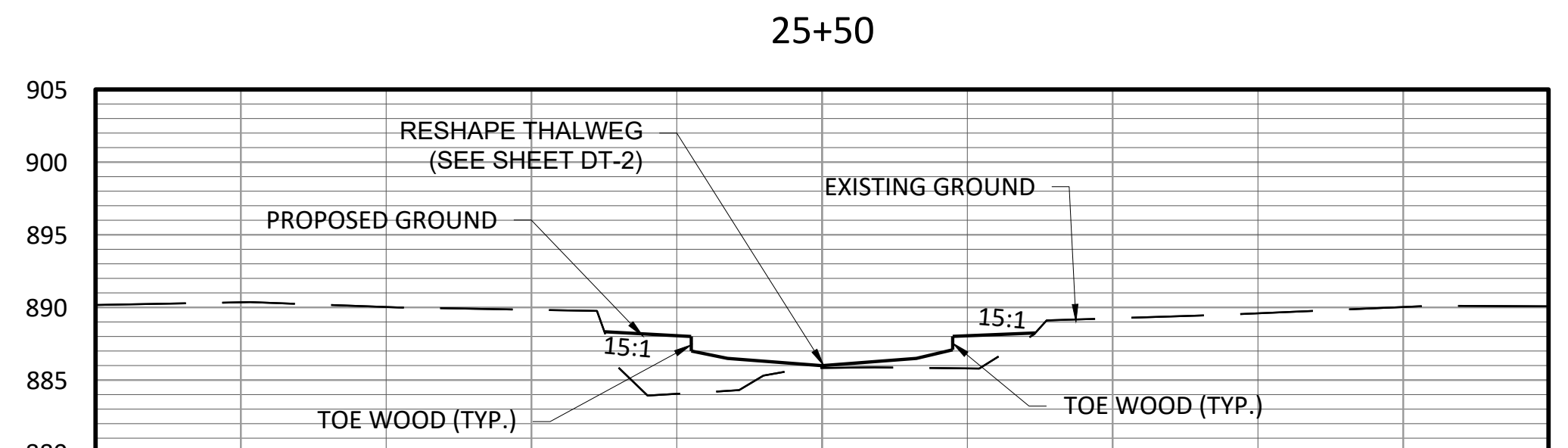
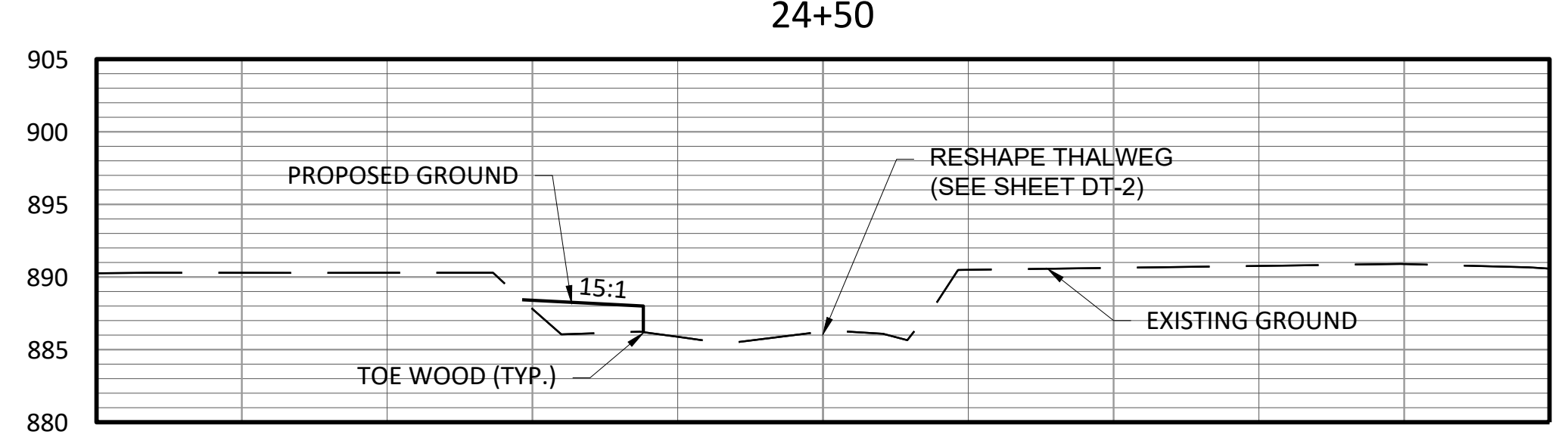
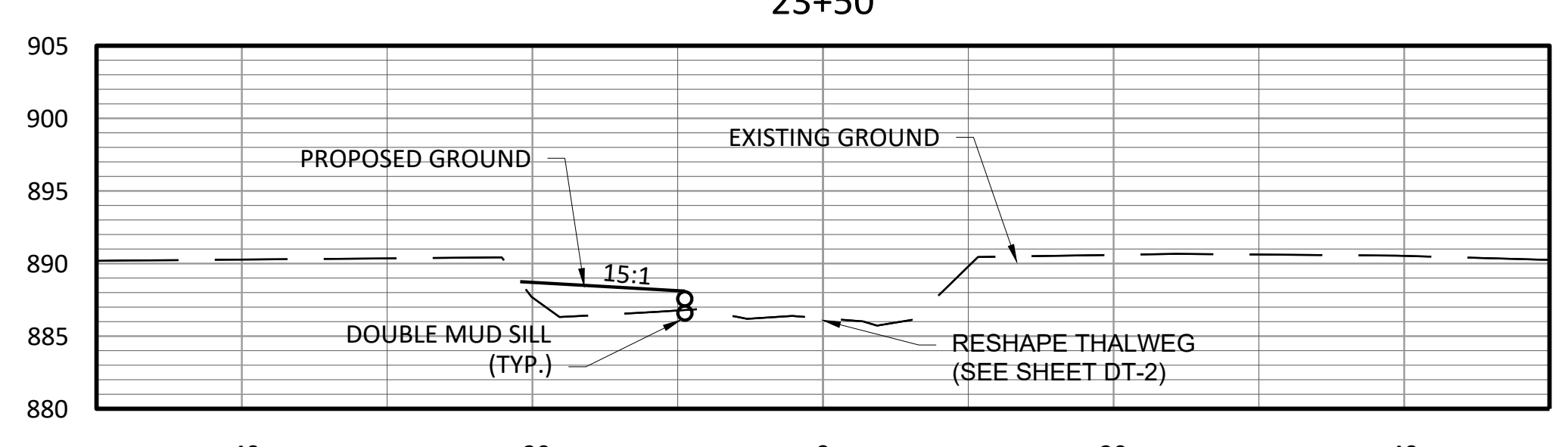
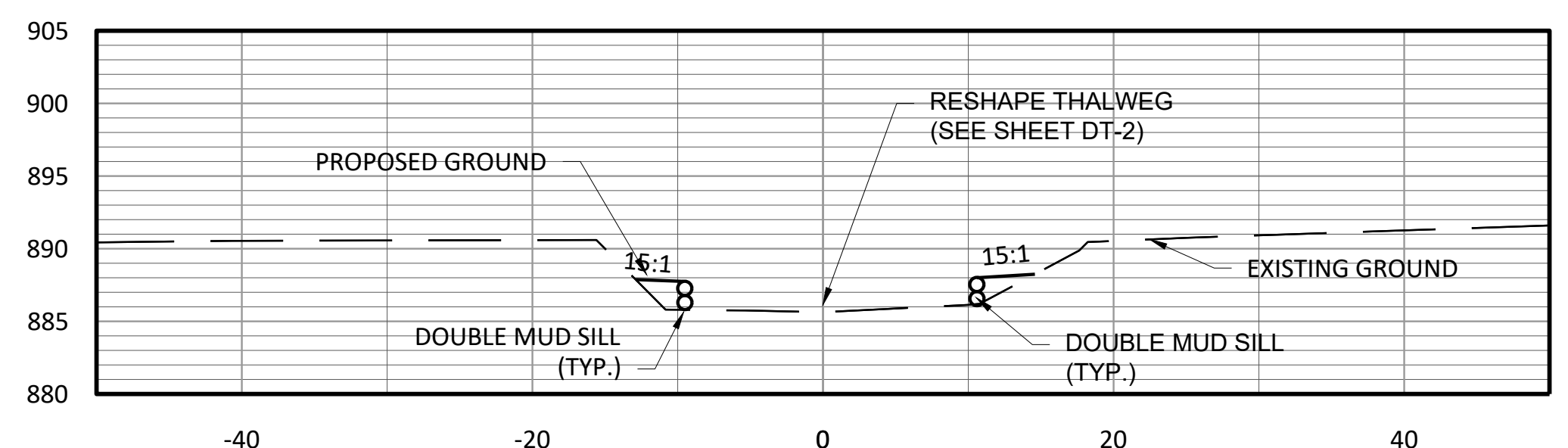
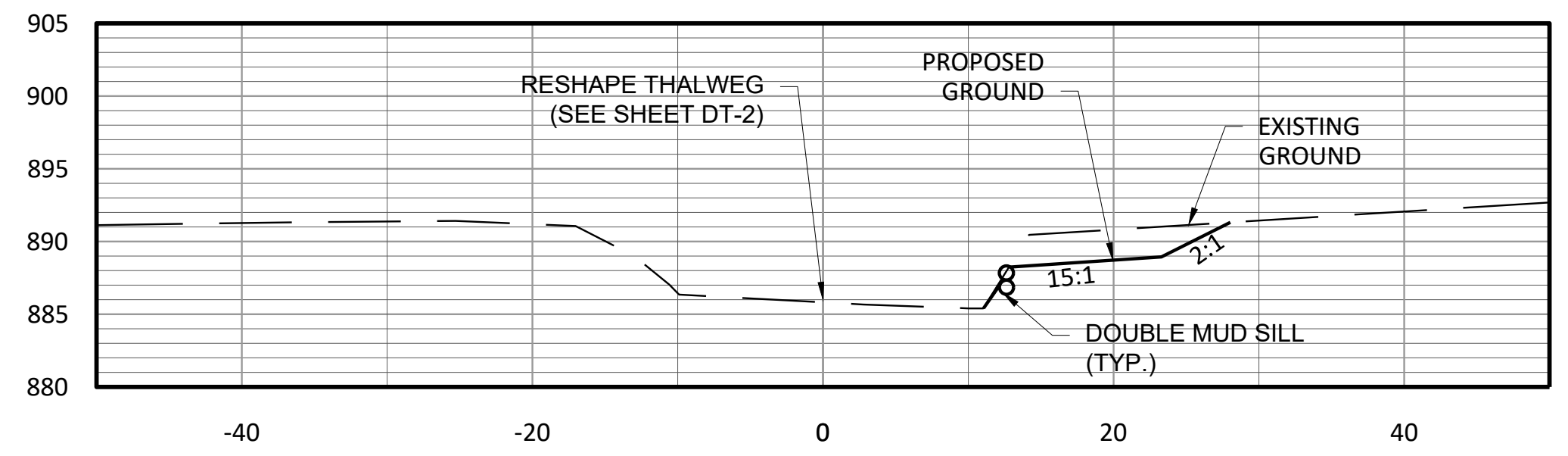
SEQ. **12**

APPROVED PLAN 10/17/2023

Permit # LDP22-00116

ACAD Ref: 24.1s (LMS Tech)  
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 Last Saved: 7/20/2023 12:40 PM Saved By: 02875

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 NOT FOR CONSTRUCTION



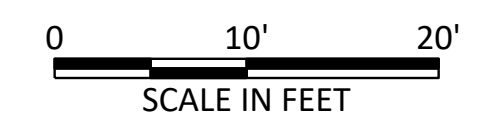
- NOTES:
- ALL GRADED SLOPES SHALL BE LINED WITH COIR MATTING PER THE DETAIL (SEE SHEET DT-1).
  - ALL TOE PROTECTION WILL BE BLENDED TO EXISTING GROUND AT THE TOP OF LOG TO LIMIT EROSION ALONG THE TOP OF DOUBLE MUD SILL.
  - SEE PLAN VIEW SHEET FOR PROPOSED BENCH WIDTHS AND BLENDING.

**LEGEND**

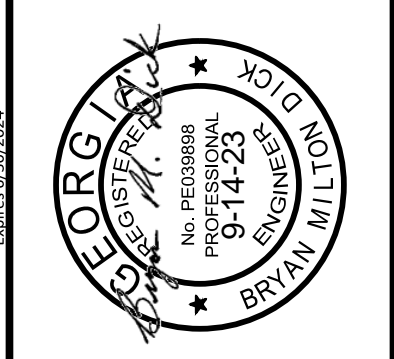
--- EXISTING GROUND PROFILE ALONG ALIGNMENT

— PROPOSED GROUND

24 HOUR CONTACT:  
 CITY OF BROOKHAVEN  
 PUBLIC WORKS DEPARTMENT  
 TOM ROBERTS  
 TOM.ROBERTS@BROOKHAVENGA.GOV  
 404-637-0540



Freese and Nichols, Inc.  
 Georgia Registered Engineering Firm PEF-004433  
 Expires 09/2025



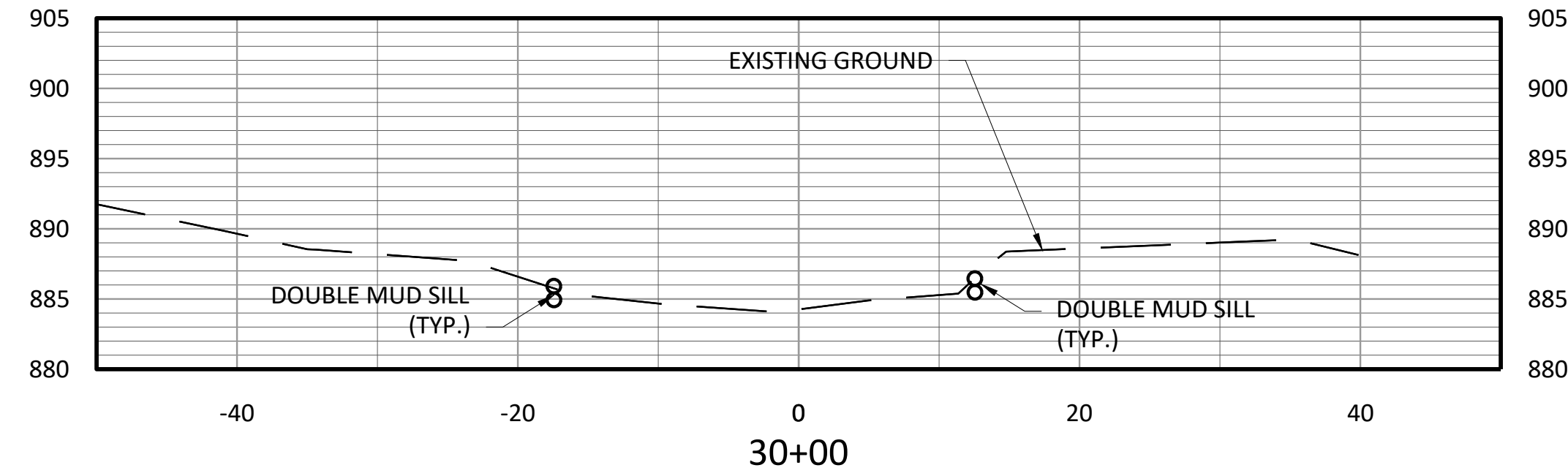
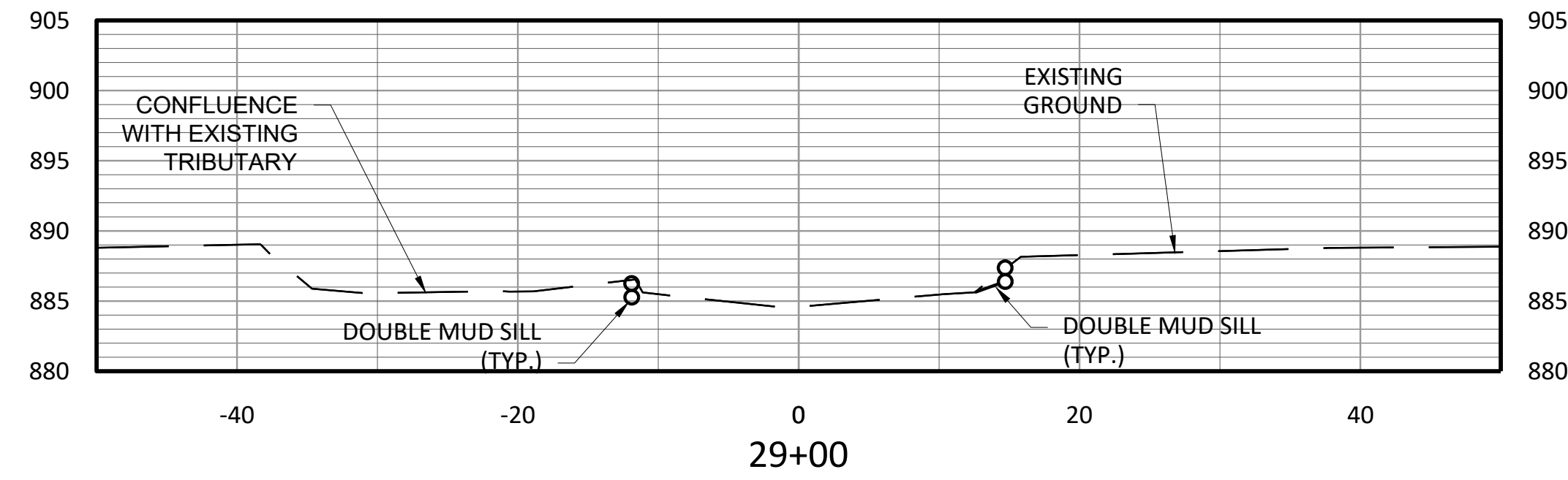
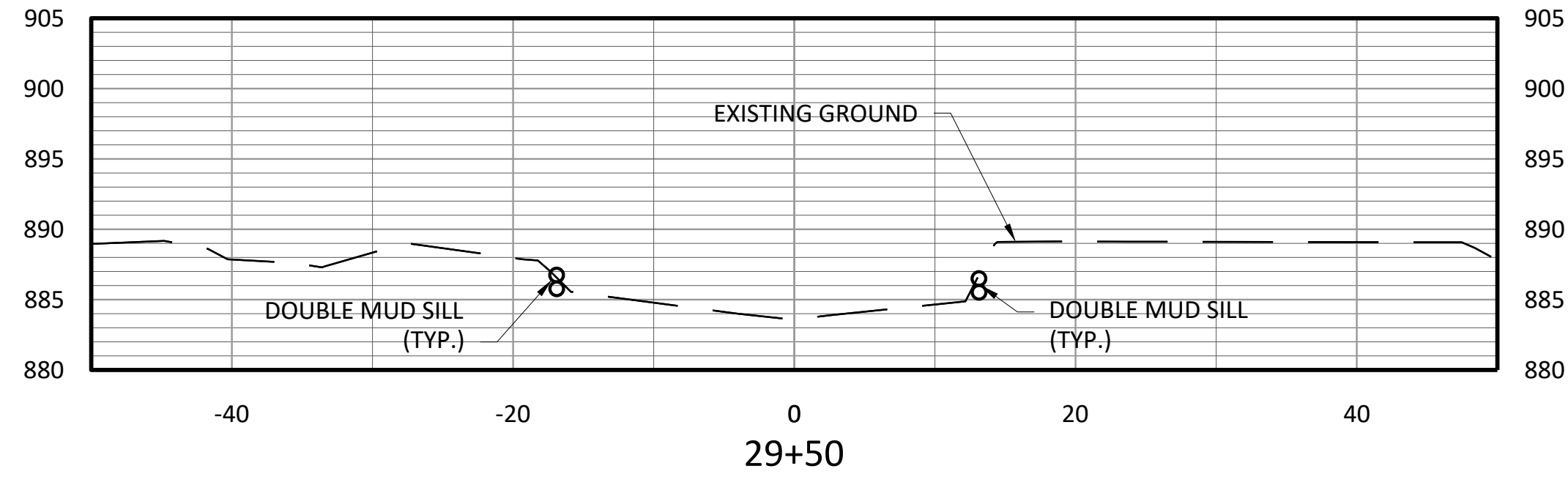
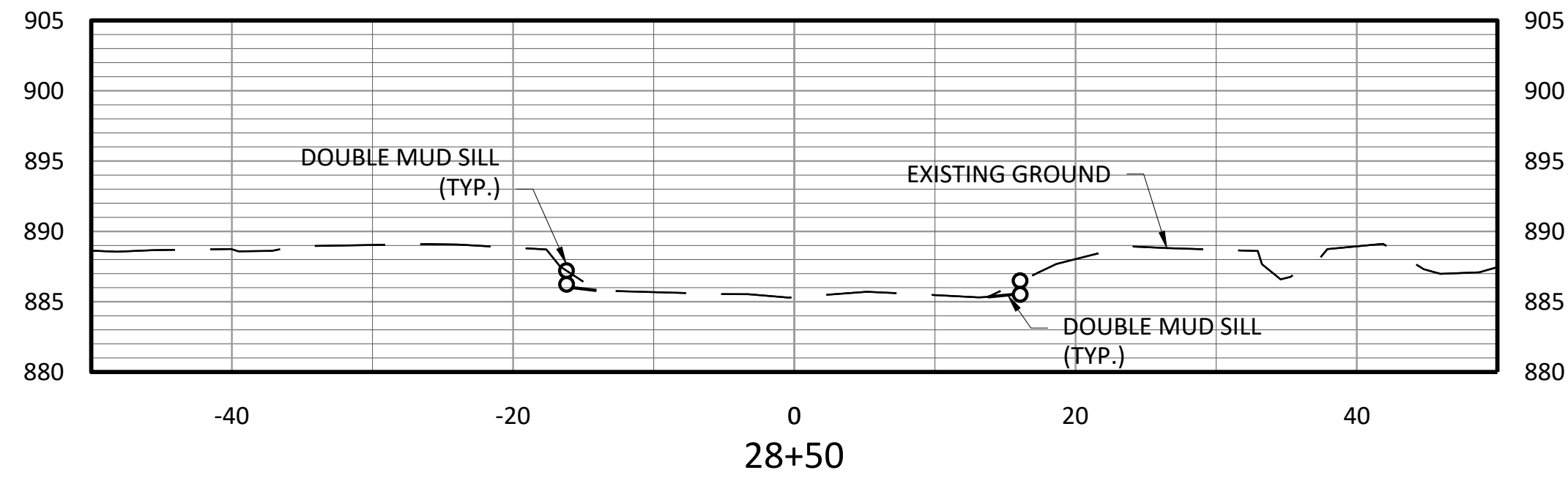
**FREES & NICHOLS**  
 360 Interstate North Parkway,  
 Suite 230 Atlanta, GA 30339  
 Phone: (404) 334-4310  
 Web: www.freese.com

CITY OF BROOKHAVEN  
**N. FORK NANCY CREEK STREAMBANK RESTORATION FROM I-285 TO MURPHEY CANDLER LAKE**  
 CROSS SECTION VIEWS

NO.	ISSUE	BY	DATE	REV. NO.	DESCRIPTION	FILE NAME	DATE	DESIGNED	DRAWN	CHECKED	REVISION	DATE	FILE NAME	DATE
1		JPS	12/2/2022	1	CITY OF BROOKHAVEN LDP REVIEW	CV-SECTION-VIEW.dwg	09/15/2022	JIM/JPS	JIM/JPS	###	###	###		
2		JPS	09/15/2022	2	DEKALB COUNTY LDP REVIEW	CV-SECTION-VIEW.dwg								

SHEET **CS-5**  
 SEQ. **13**  
 APPROVED PLAN 10/17/2023  
 NOT FOR CONSTRUCTION  
 Permit # LDP22-00116

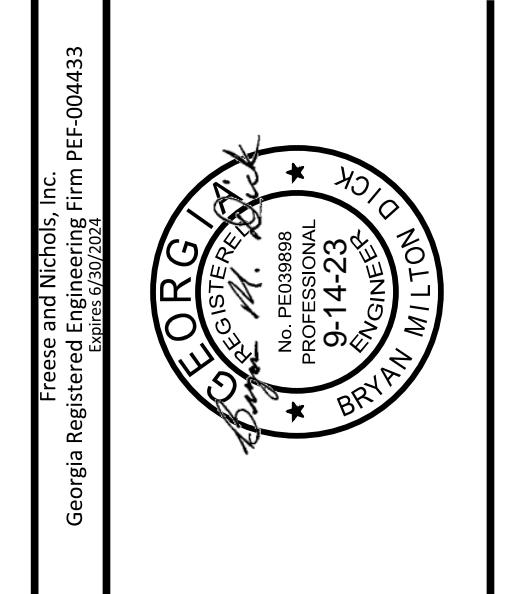
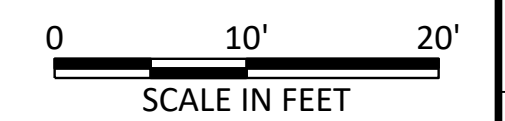
ACAD Ref: 24.1s (LMS Tech)  
 Filename: N:\WTU\Drawings\CV-SECTION-VIEW.dwg  
 Last Saved: 7/20/2023 12:40 PM Saved By: 02875



- NOTES:
1. ALL GRADED SLOPES SHALL BE LINED WITH COIR MATTING PER THE DETAIL (SEE SHEET DT-1).
  2. ALL TOE PROTECTION WILL BE BLENDED TO EXISTING GROUND AT THE TOP OF LOG TO LIMIT EROSION ALONG THE TOP OF DOUBLE MUD SILL.
  3. SEE PLAN VIEW SHEET FOR PROPOSED BENCH WIDTHS AND BLENDING.

LEGEND	
---	EXISTING GROUND PROFILE ALONG ALIGNMENT
—	PROPOSED GROUND

24 HOUR CONTACT:  
 CITY OF BROOKHAVEN  
 PUBLIC WORKS DEPARTMENT  
 TOM ROBERTS  
 TOM.ROBERTS@BROOKHAVENGA.GOV  
 404-637-0540



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 360 Interstate North Parkway,  
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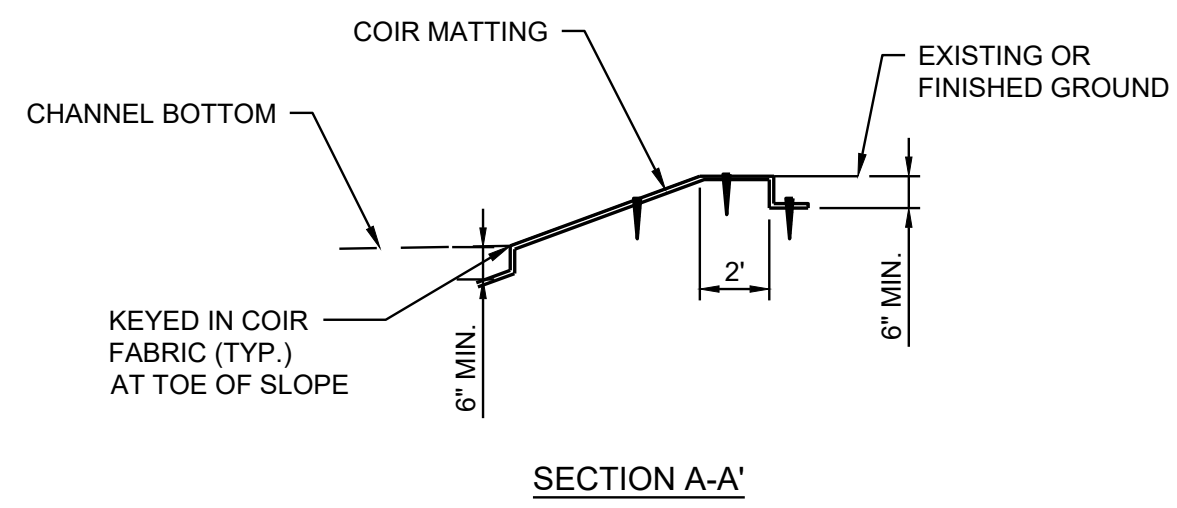
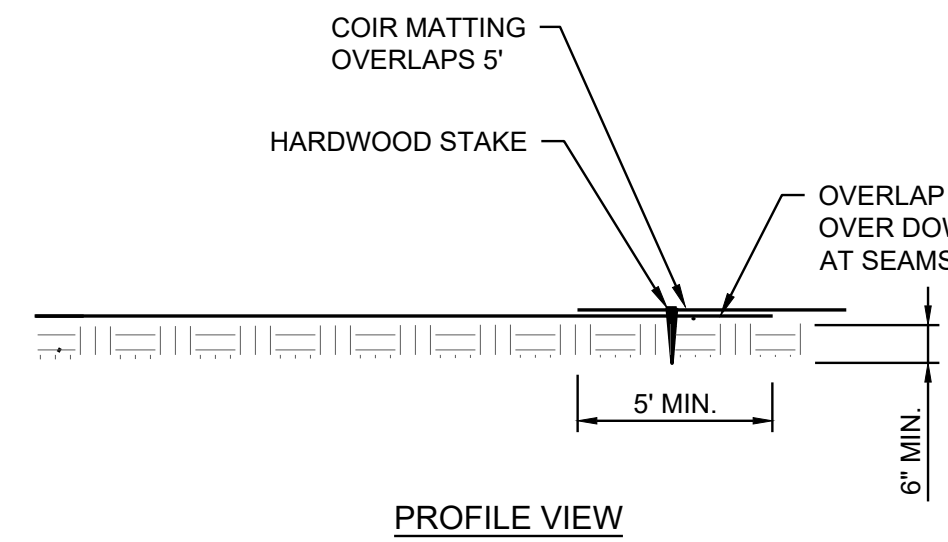
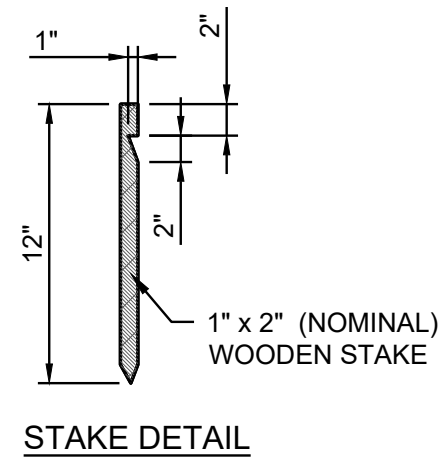
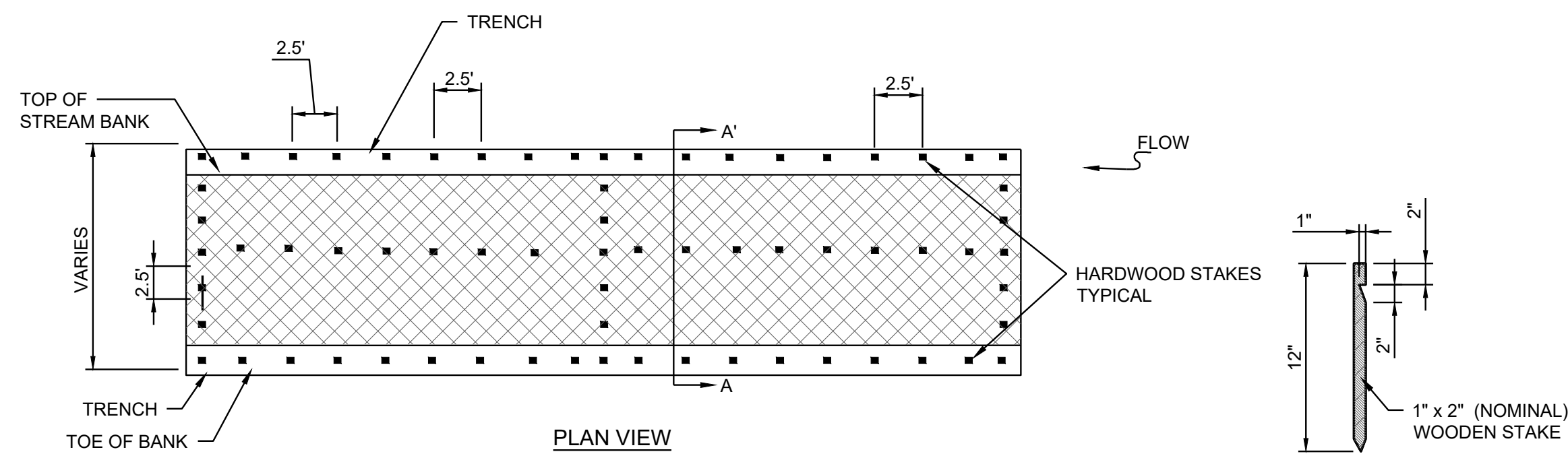
**N. FORK NANCY CREEK STREAMBANK RESTORATION  
 FROM I-285 TO MURPHEY CANDLER LAKE**

CITY OF BROOKHAVEN  
 CROSS SECTION VIEWS  
 CROSS SECTION VIEWS

NO.	ISSUE	BY	DATE	FRN JOB NO.
1	CITY OF BROOKHAVEN LDP REVIEW	JPS	12/2/2022	BGA20127
2	DEKALB COUNTY LDP REVIEW	JPS	09/15/2022	DATE 07/05/2023
3	VERIFY SCALE	JPS	09/15/2022	DESIGNED JMR/CM
4	FILE NAME	JPS	09/15/2022	DRAWN JMW/JPS
5	CV-SECTION-VIEW.dwg	JPS	09/15/2022	CHECKED ###/##
6		JPS	09/15/2022	REVISION ###/##
7		JPS	09/15/2022	REVISION ###/##
8		JPS	09/15/2022	REVISION ###/##
9		JPS	09/15/2022	REVISION ###/##
10		JPS	09/15/2022	REVISION ###/##
11		JPS	09/15/2022	REVISION ###/##
12		JPS	09/15/2022	REVISION ###/##
13		JPS	09/15/2022	REVISION ###/##
14		JPS	09/15/2022	REVISION ###/##
15		JPS	09/15/2022	REVISION ###/##
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17		JPS	09/15/2022	REVISION ###/##
18		JPS	09/15/2022	REVISION ###/##
19		JPS	09/15/2022	REVISION ###/##
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37		JPS	09/15/2022	REVISION ###/##
38		JPS	09/15/2022	REVISION ###/##
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46		JPS	09/15/2022	REVISION ###/##
47		JPS	09/15/2022	REVISION ###/##
48		JPS	09/15/2022	REVISION ###/##
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50		JPS	09/15/2022	REVISION ###/##

ISSUED FOR PERMIT  
 NOT FOR CONSTRUCTION

ACAD Ref: 24.1s (LMS Tech)  
 Filename: N:\WTU\Drawings\CV-SECTION-VIEW.dwg  
 Last Saved: 7/20/2023 12:40 PM Saved By: 02875

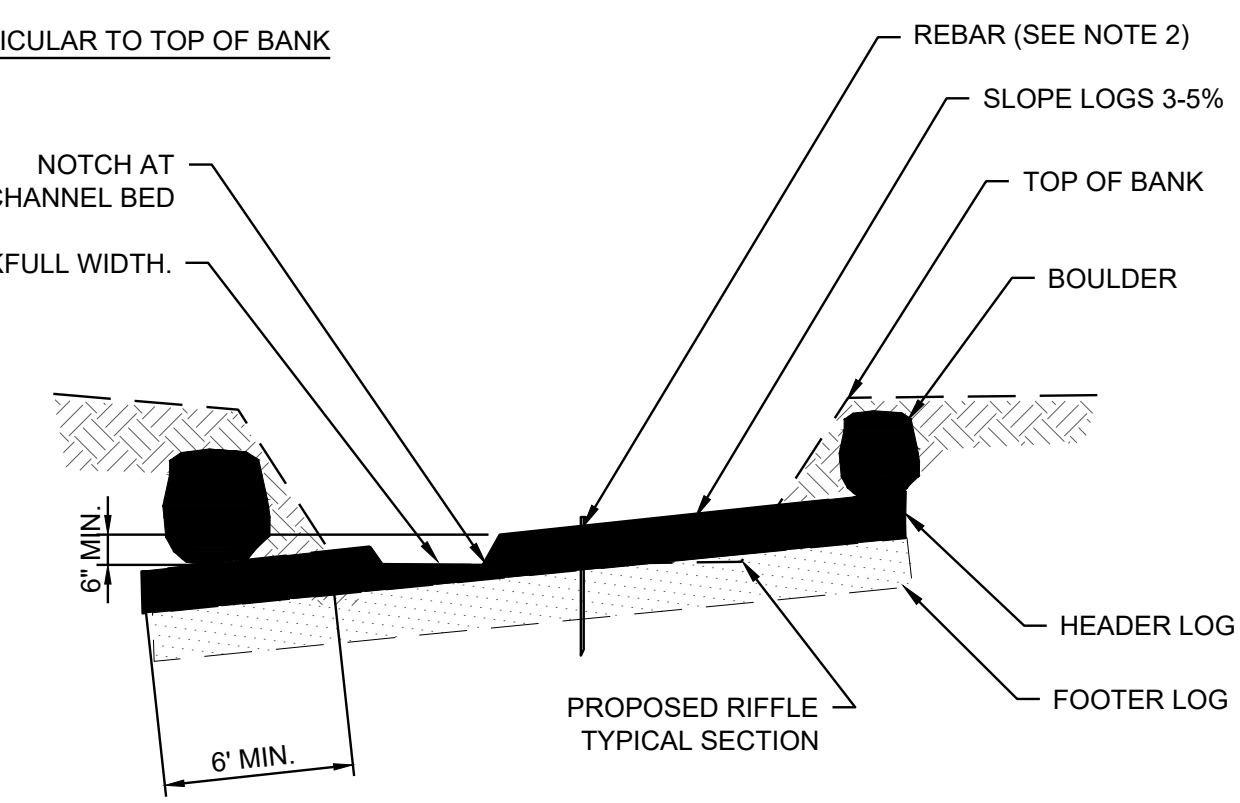
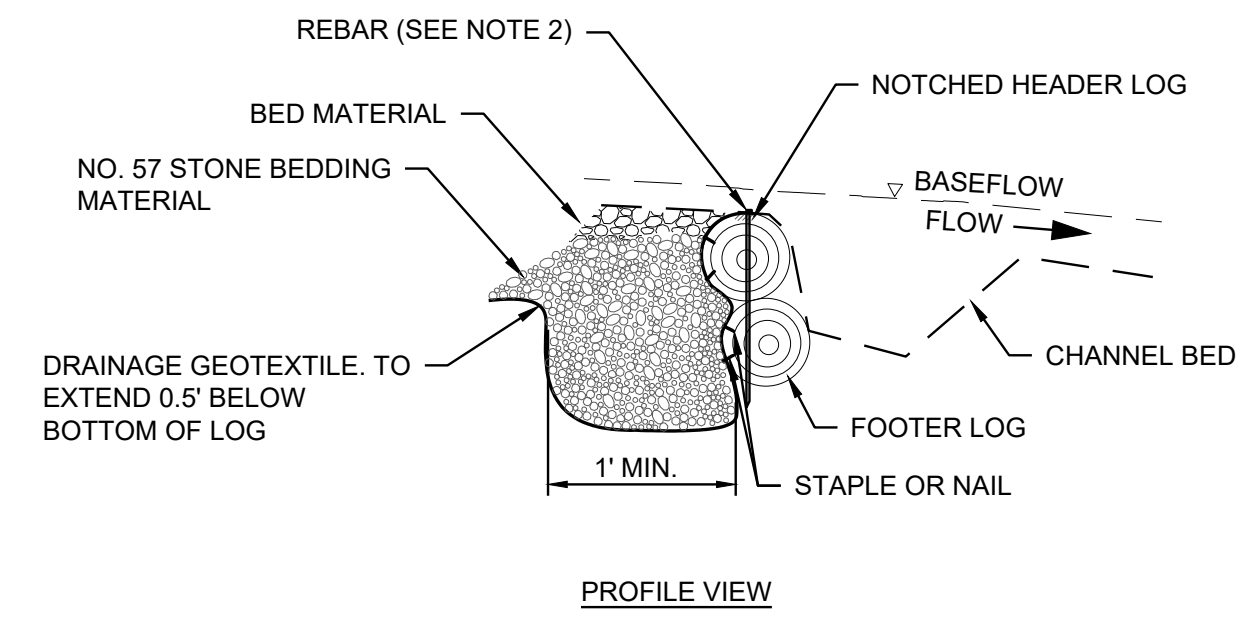
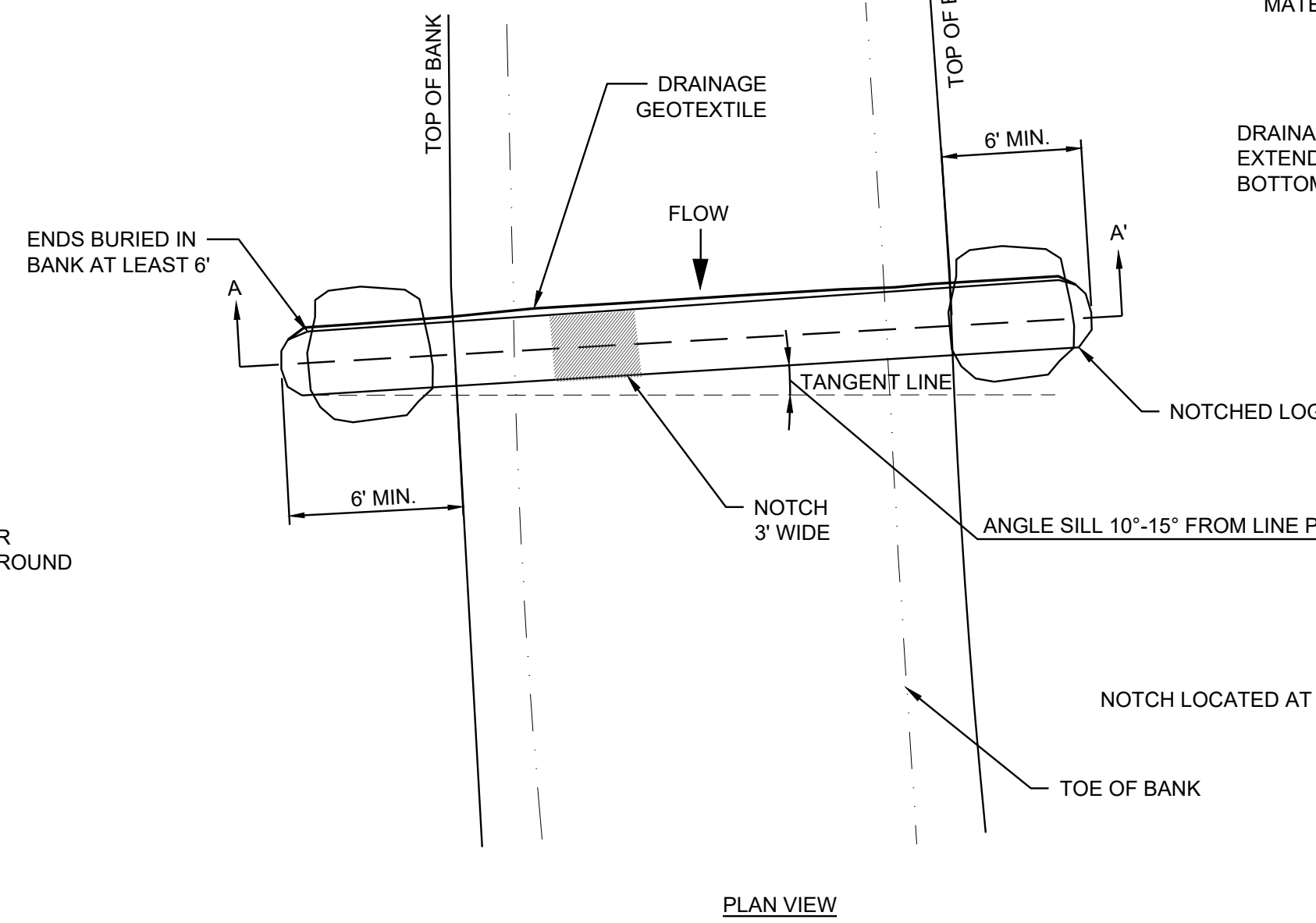


**NOTES:**

1. MAXIMUM SINGLE LENGTH OF MATTING/MESH IS 100'.
2. TOP AND BOTTOM EDGES OF MATTING/MESH SHALL BE KEYED IN.
3. COIR MATTING DETAIL SHOWN IS FOR PERMANENT INSTALLATION. TEMPORARY INSTALLATION FOR EROSION CONTROL PROTECTION AS STIPULATED SHALL BE TO THE EXTENT THAT THE PROJECT SITE NEEDS TO BE PROTECTED FOR EROSION AND SEDIMENT CONTROL DURING NON-WORKING HOURS.
4. SEE SPECIFICATION FOR MATERIAL REQUIREMENTS.

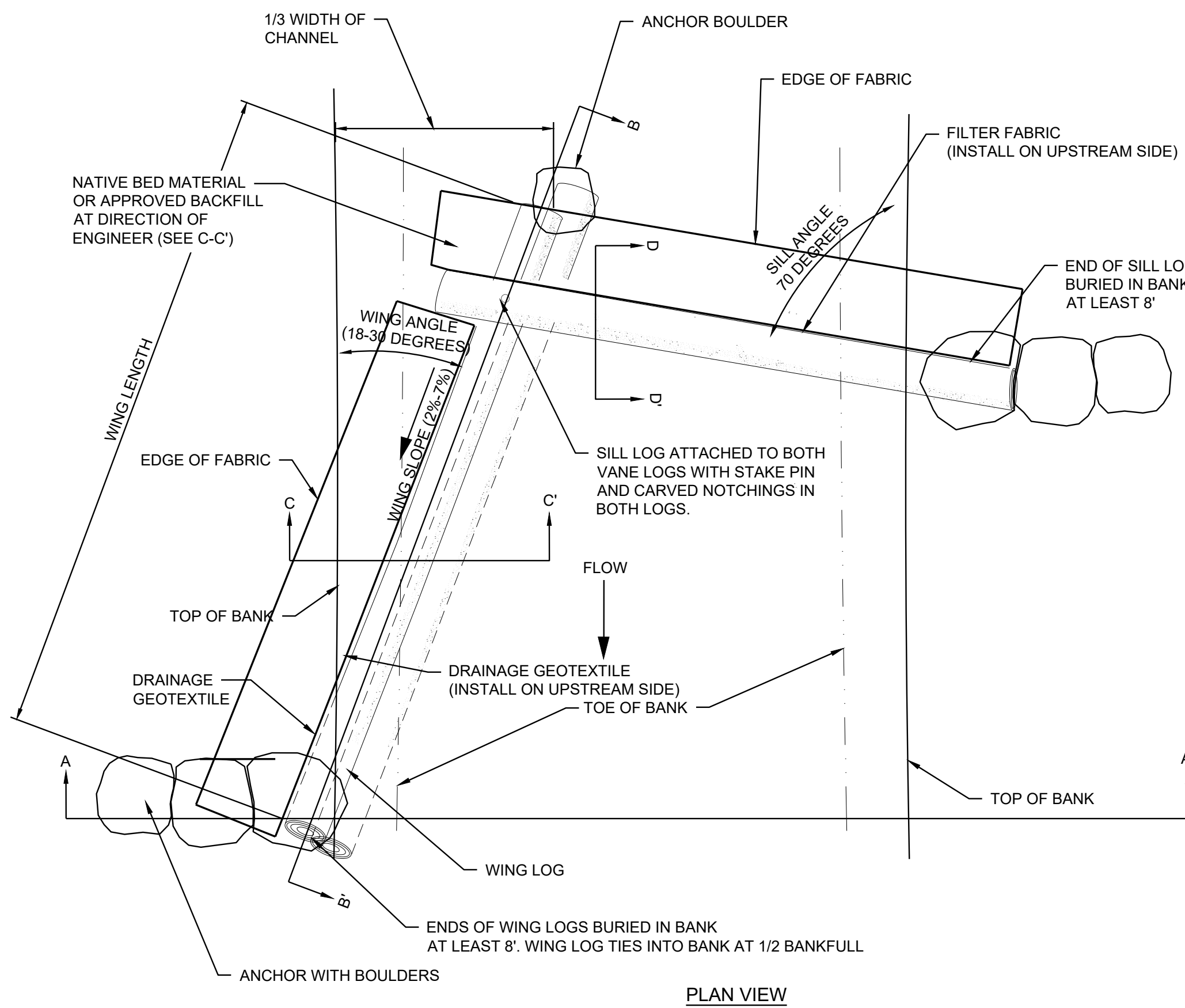
**COIR FIBER MATTING  
SCALE: NTS**

- NOTE:**
1. ALTERNATE SILL DIRECTION AND SLOPE IN ACCORDANCE WITH PLANS.
  2. DRILL 1-1/8" DIAMETER HOLE IN LOGS AND DRIVE #8 REBAR THROUGH. BEND AT TOP.
  3. NOTCH LOCATED AT 1/3 BANKFULL, ALTERNATING IN RIFFLE, OR LOCATED AT MIDDLE AT THE HEAD OF POOL.
  4. LOG SHALL BE EMBEDDED IN BANK A MINIMUM OF 6'.

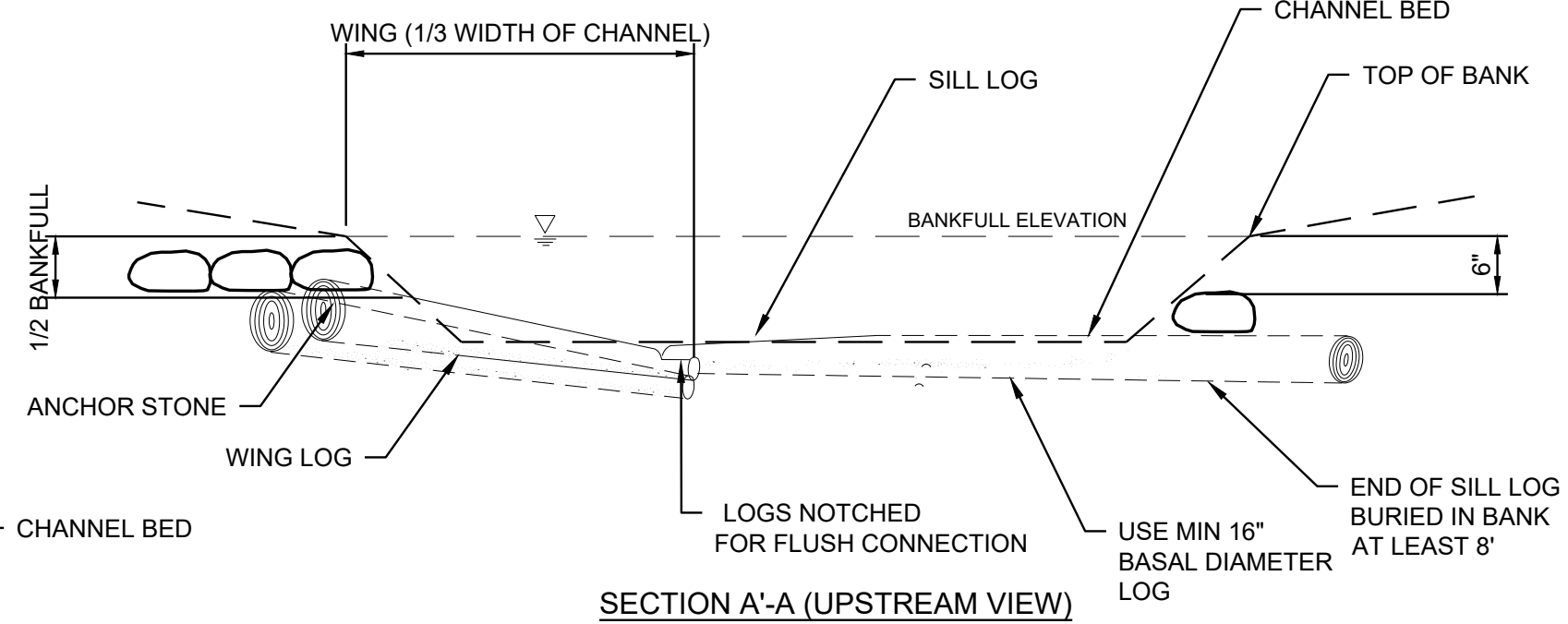
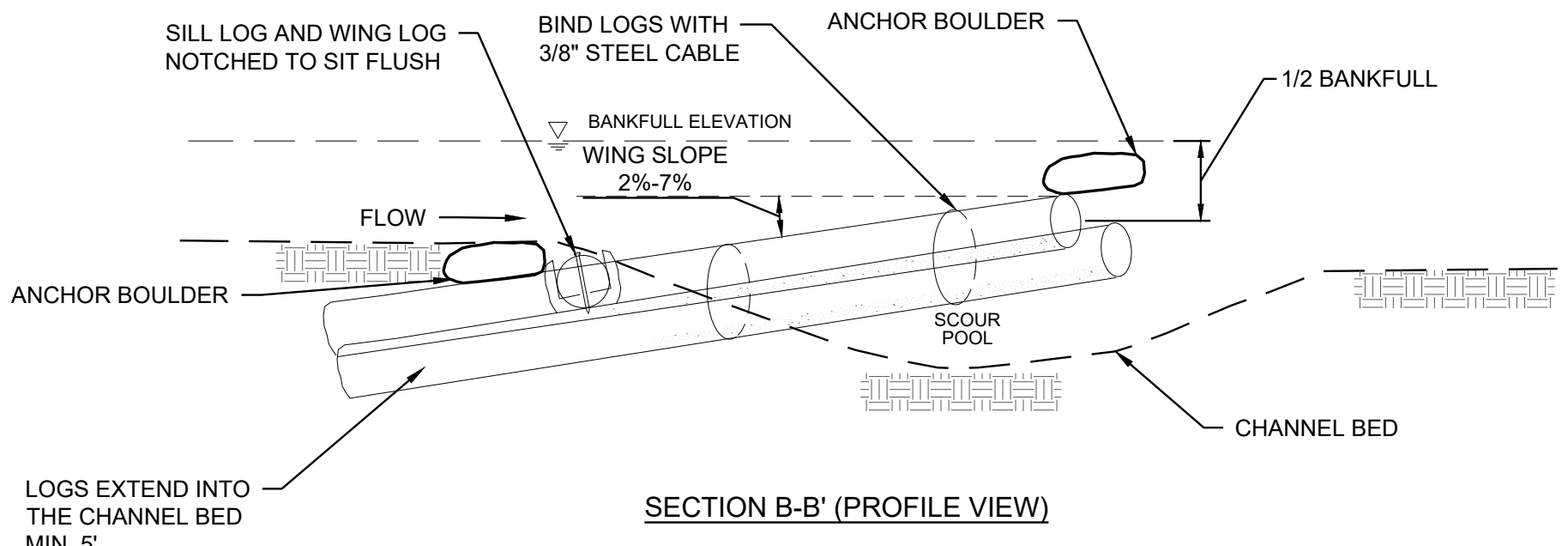
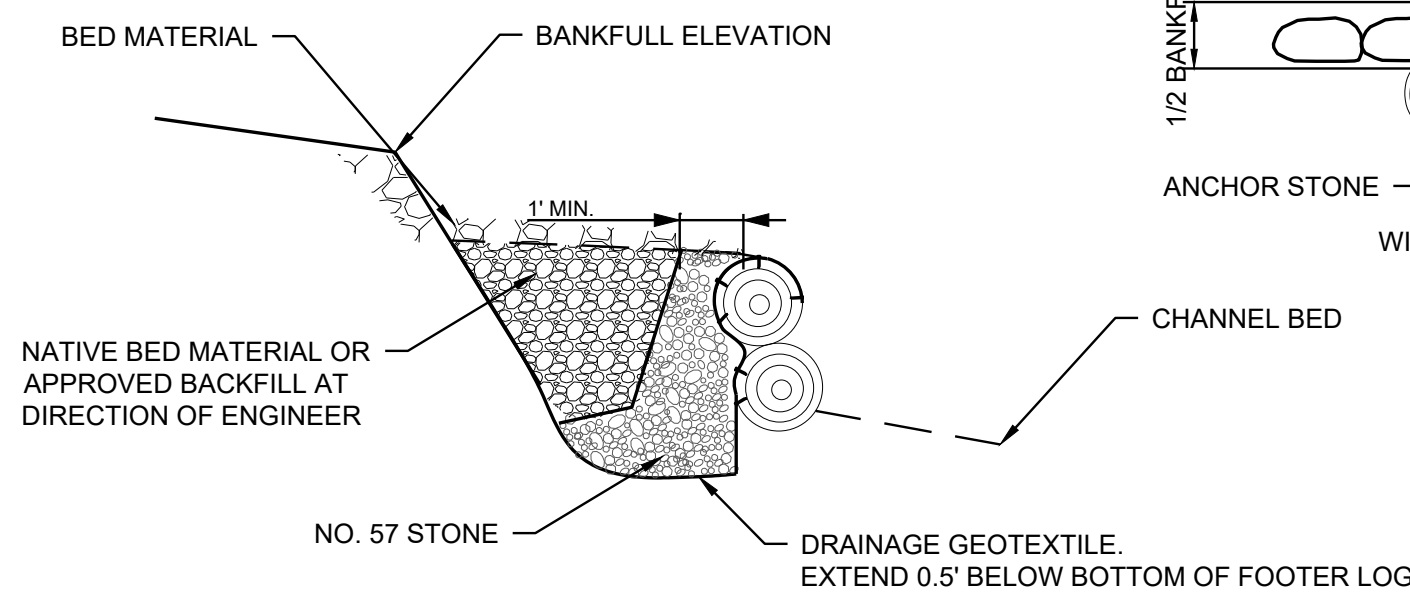
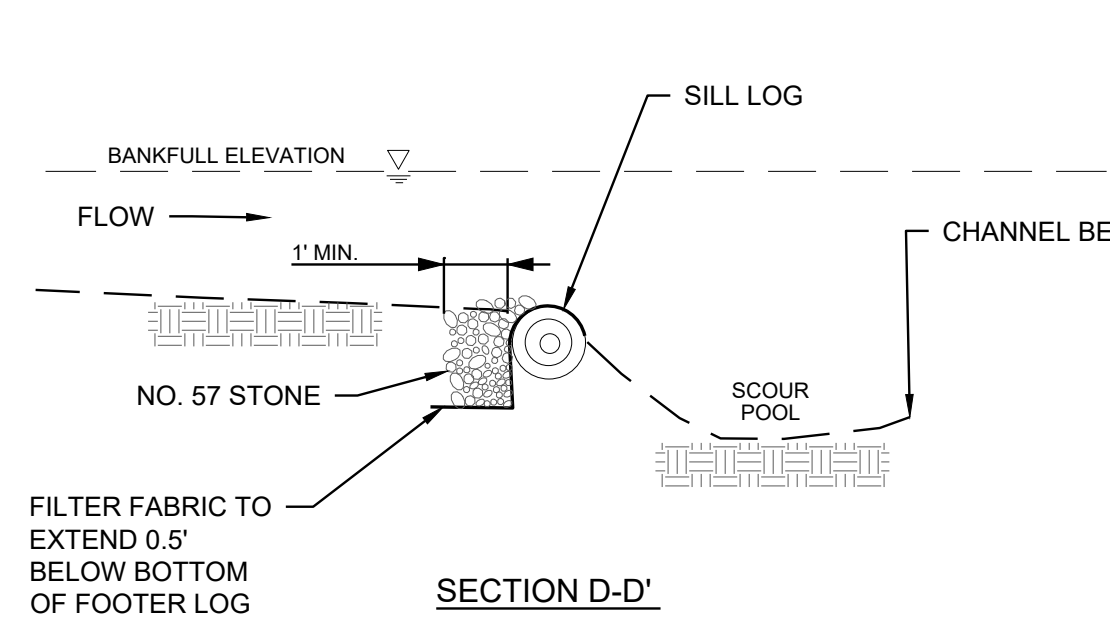


**ANGLED NOTCHED LOG SILL  
SCALE: NTS**

24 HOUR CONTACT:  
CITY OF BROOKHAVEN  
PUBLIC WORKS DEPARTMENT  
TOM ROBERTS  
TOM.ROBERTS@BROOKHAVENGA.GOV  
404-637-0540

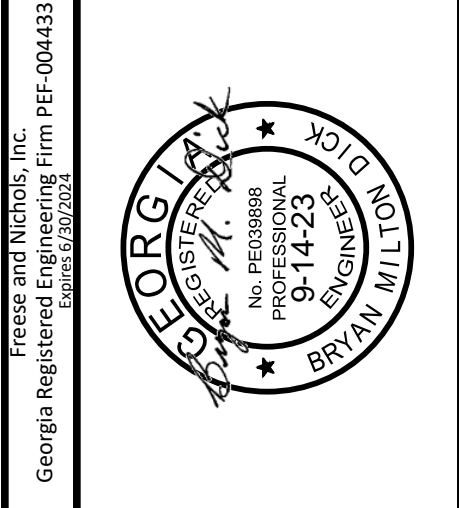


**LOG GRADE CONTROL VANE  
SCALE: NTS**



**NOTES:**

1. VANE ARMS BACKFILLED WITH NATIVE BED MATERIAL OR APPROVED BACKFILL AT DIRECTION OF ENGINEER.
2. BANKFULL CHANNEL WIDTH INDICATES THE WIDTH OF THE PROPOSED CHANNEL AT THE SPECIFIC STRUCTURE LOCATION. THIS WIDTH MAY NOT NECESSARILY BE THE SAME AT ALL LOCATIONS.



**FREES & NICHOLS**  
360 Interstate North Parkway  
Atlanta, GA 30339  
Phone - (404) 334-4310  
Web - www.frees.com

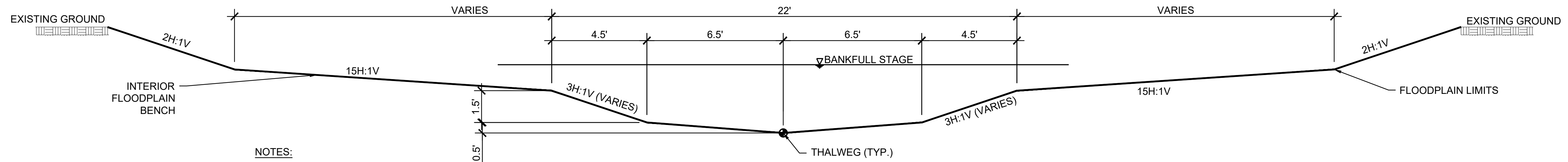
**N. FORK NANCY CREEK STREAMBANK RESTORATION  
FROM I-285 TO MURPHEY CANDLER LAKE**

CITY OF BROOKHAVEN  
CIVIL - DETAILS  
DETAILS

NO.	ISSUE	BY	DATE	REVISED	FILE NAME	NO.	SCALE	VERIFY
0		JPS	12/2/2022	09/15/2022	CV-ALL-DETAILS.dwg	1	AS SHOWN	NO

SHEET **DT-1**  
15  
ISSUED FOR PERMIT  
NOT FOR CONSTRUCTION  
APPROVED PLAN 10/17/2023  
Permit # LDP22-00016

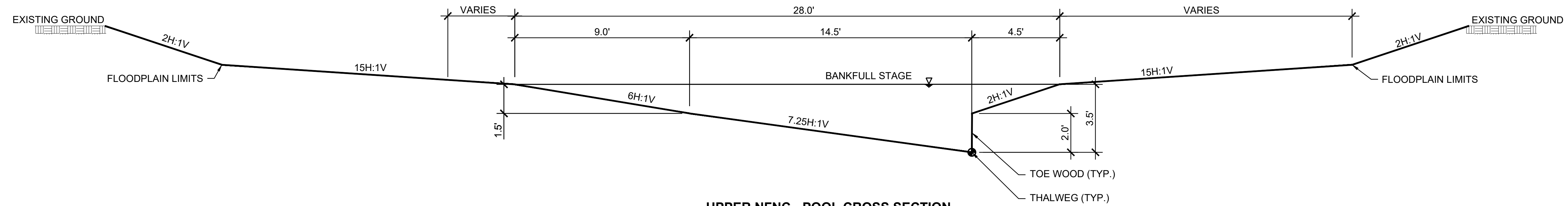
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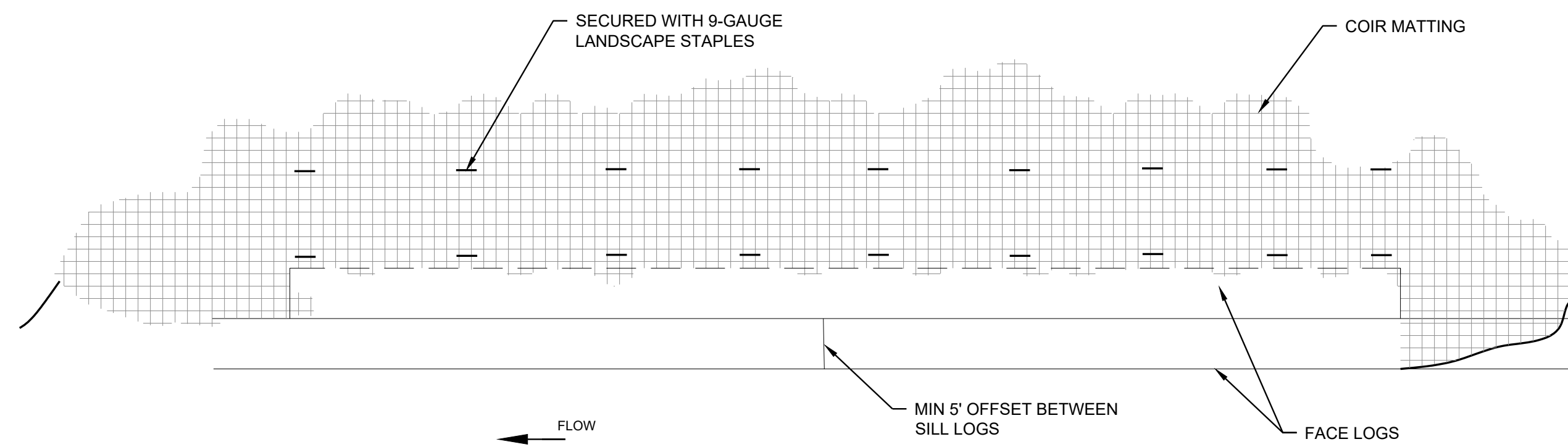
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SCALE: NTS

**NOTES:**

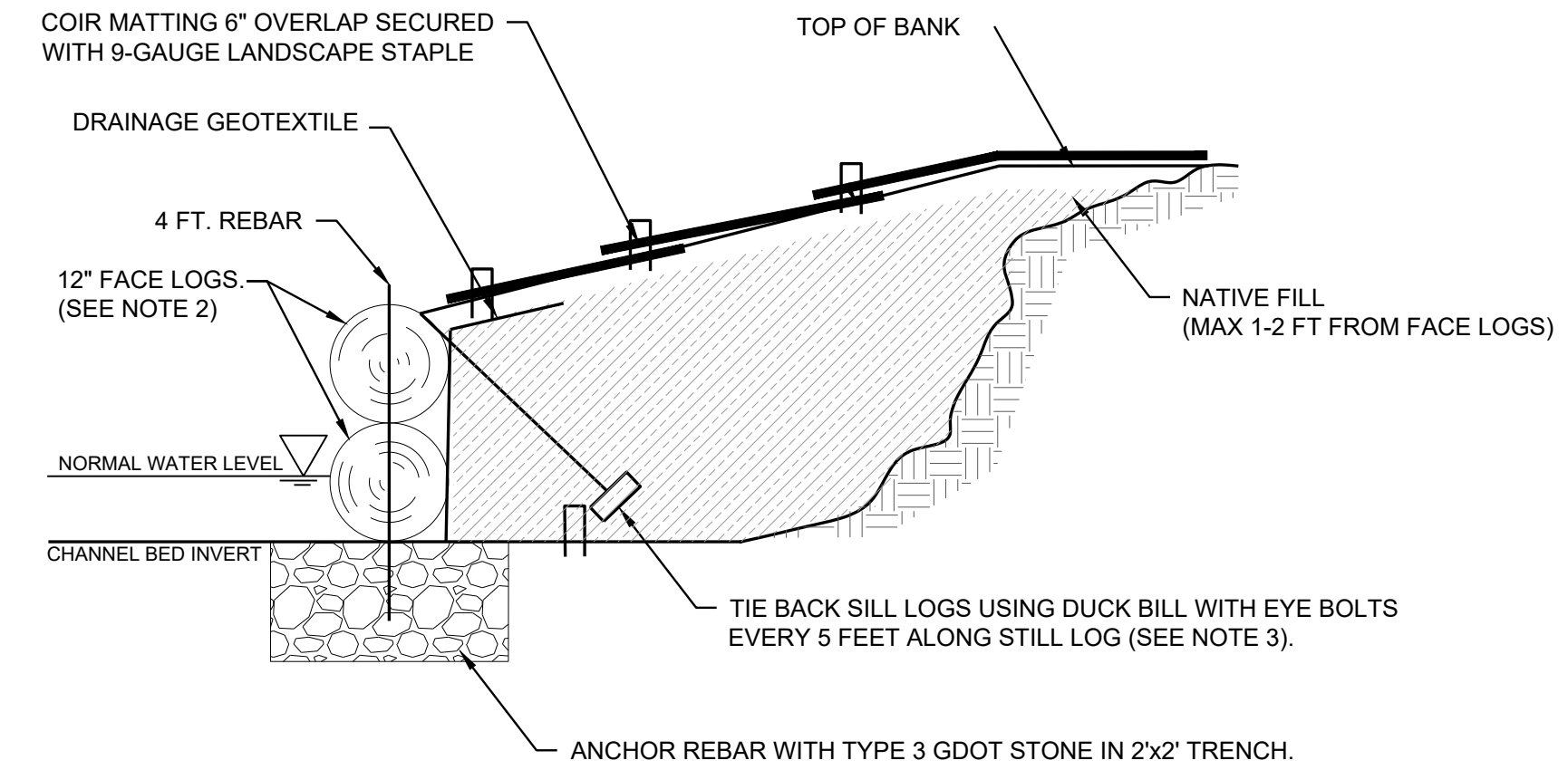
1. RIFFLE CROSS-SECTION TYPICALLY OCCURS AT MID-RIFFLE AND POOL CROSS-SECTION AT THE MID-POOL. CHANNEL DEPTH AND SIDE SLOPES WILL VARY ALONG TRANSITION FROM POOL CROSS-SECTION TO RIFFLE CROSS-SECTION.



**UPPER NFNC - POOL CROSS SECTION**  
SCALE: NTS



**DOUBLE MUD SILL - PLAN VIEW**



**DOUBLE MUD SILL WITH COIR MATTING - SECTION VIEW**

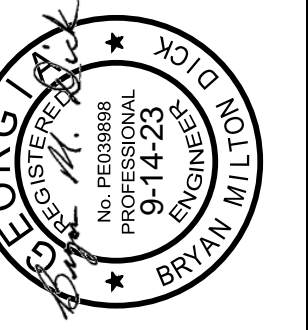
**NOTES:**

1. SILL LOGS SHOULD BE PLACED EVERY 15 FT.
2. COIR TO BE WRAPPED IN BETWEEN SILL LOGS BEFORE TRANSITION TO BANK.
3. TIEBACKS TO BE TRENCHED IN AND NOT OVER-EXCAVATED (I.E. 2-4 FT) INTO THE BANK.

**DOUBLE MUD SILL**  
SCALE: NTS

**24 HOUR CONTACT:**  
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**FREES & NICHOLS**  
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**N. FORK NANCY CREEK STREAMBANK RESTORATION FROM I-285 TO MURPHEY CANDLER LAKE**

NO.	ISSUE	DATE	BY	DATE	BY	FILE NAME
0	VERIFY SCALE	09/15/2022	JPS	07/05/2023	JPS	CV-ALL-DETAILS.dwg
1	Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.					

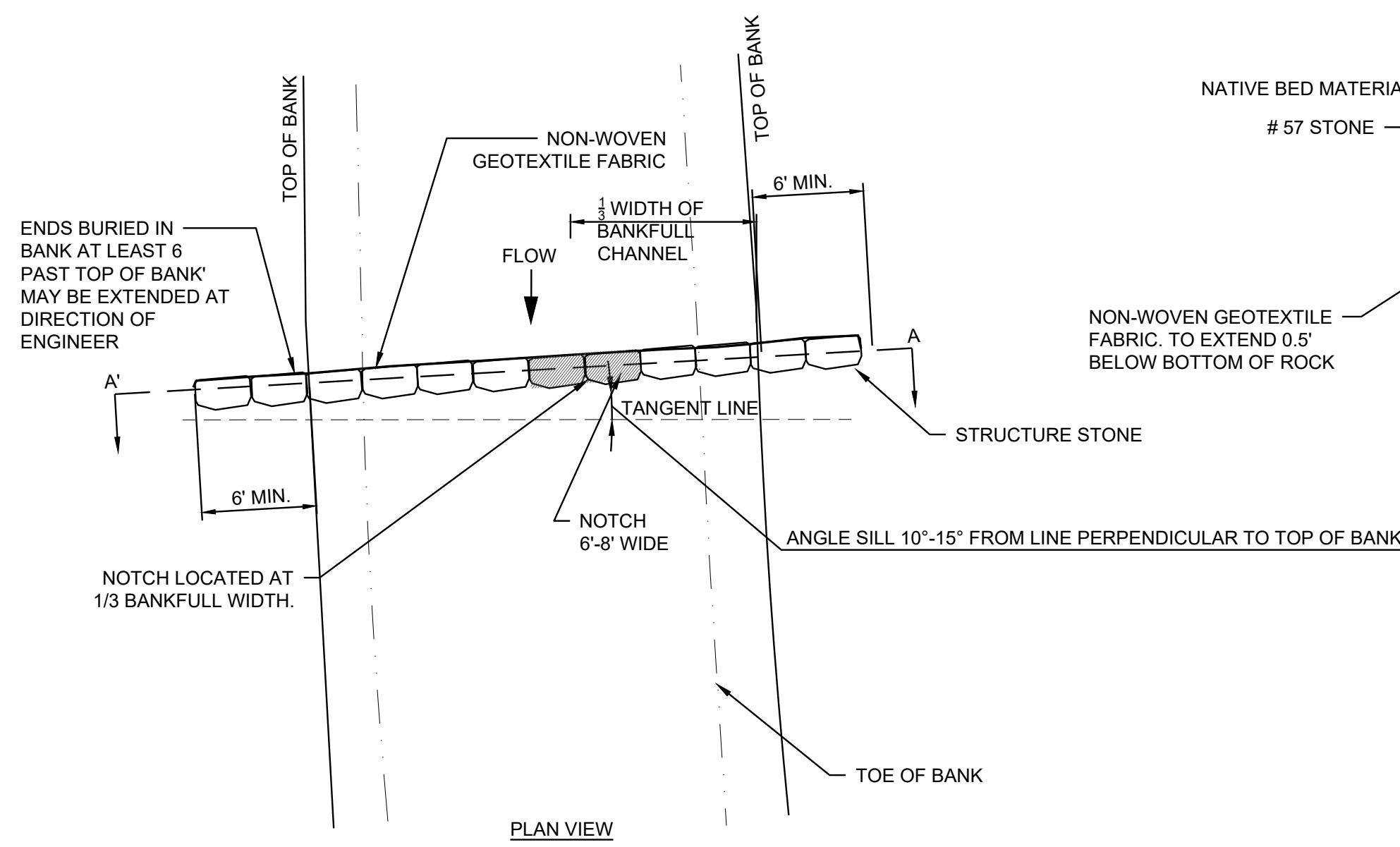
SHEET **DT-2**

SEQ. **16**

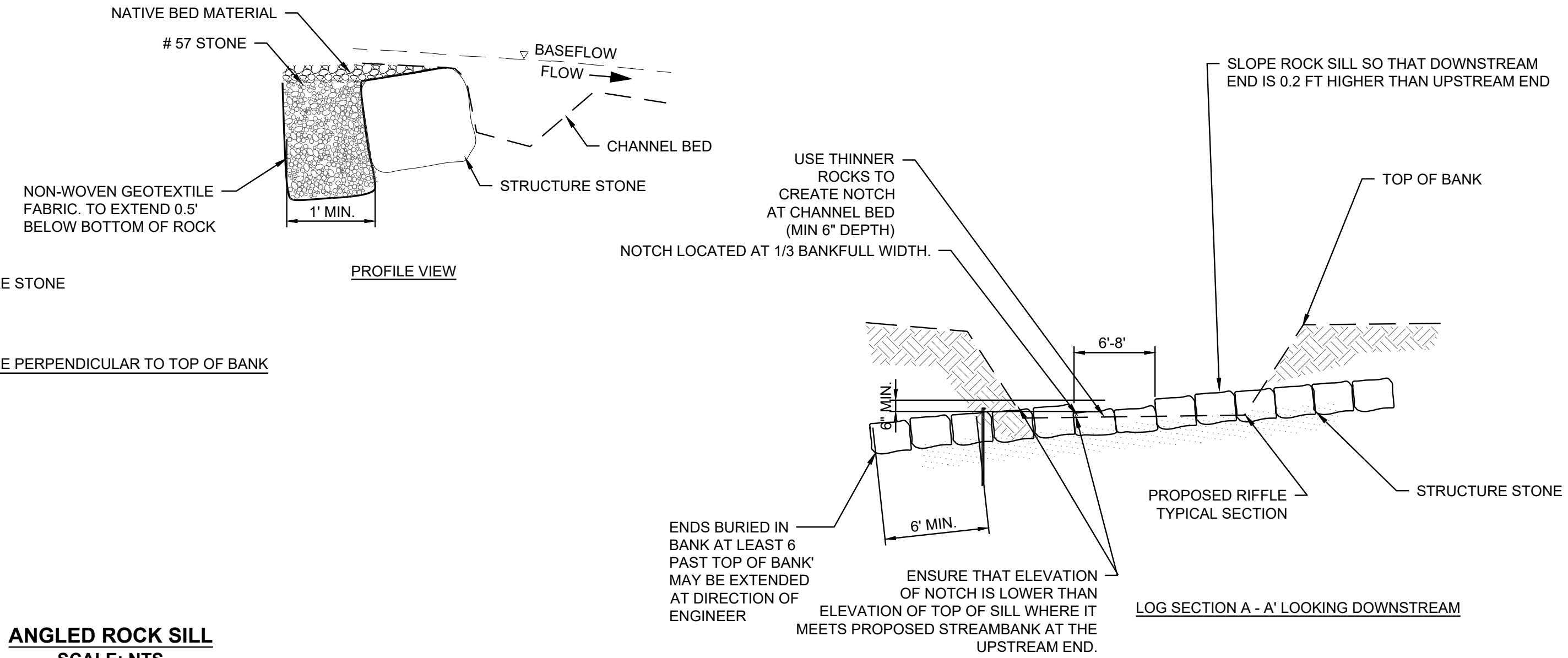
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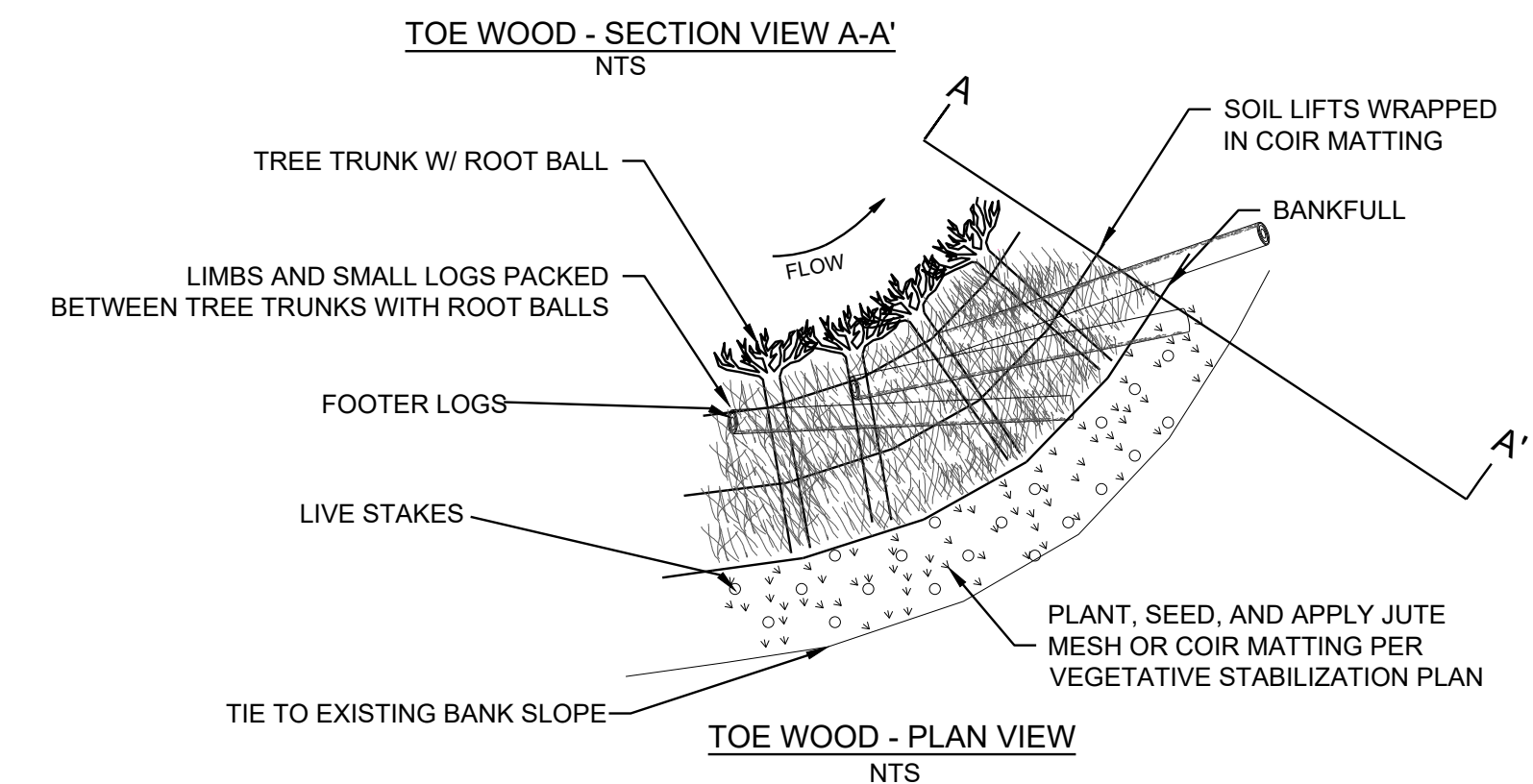
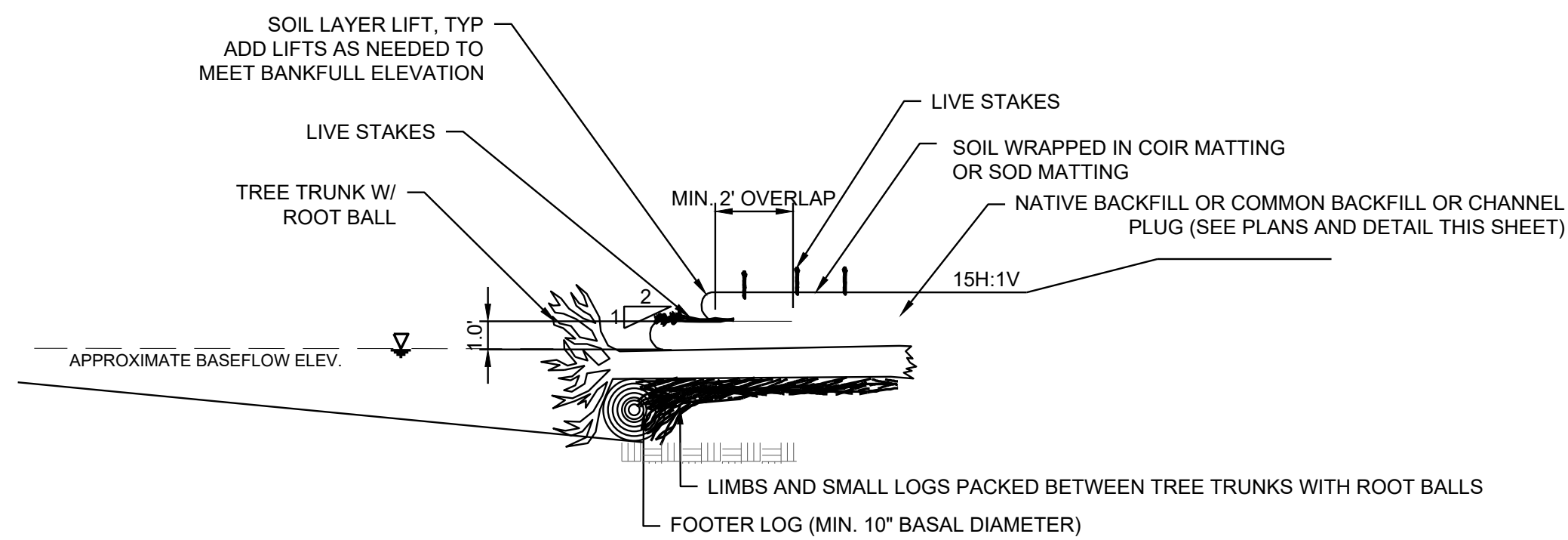
- NOTE:**
1. ALTERNATE SILL DIRECTION AND SLOPE IN ACCORDANCE WITH PLANS.
  2. SILL ROCKS TO BE STRUCTURE STONE.
  3. CREATE LOW-FLOW NOTCH OF AT LEAST 6" DEPTH USING THINNER ROCK. LOCATE AT 1/3 BANKFULL, ALTERNATING IN RIFFLE, OR LOCATED AT MIDDLE AT THE HEAD OF POOL.
  4. ENDS OF SILL SHALL BE EMBEDDED INTO BANK AT LEAST 6' PAST TOP OF BANK. MAY BE EXTENDED AT DIRECTION OF ENGINEER.
  5. IN STEP-POOL AREAS, ANGLED ROCKS SILLS TO BE ALTERNATED IN DIRECTION IN SAME MANNER SHOWN IN THE ANGLED LOG STEP POOL DETAIL (SEE DETAIL THIS SHEET).
  6. ENSURE THAT ELEVATION OF BOTTOM OF NOTCH IS LOWER THAN ELEVATION OF TOP OF SILL WHERE IT MEETS THE PROPOSED BANK AT THE UPSTREAM END.



**ANGLED ROCK SILL**  
SCALE: NTS

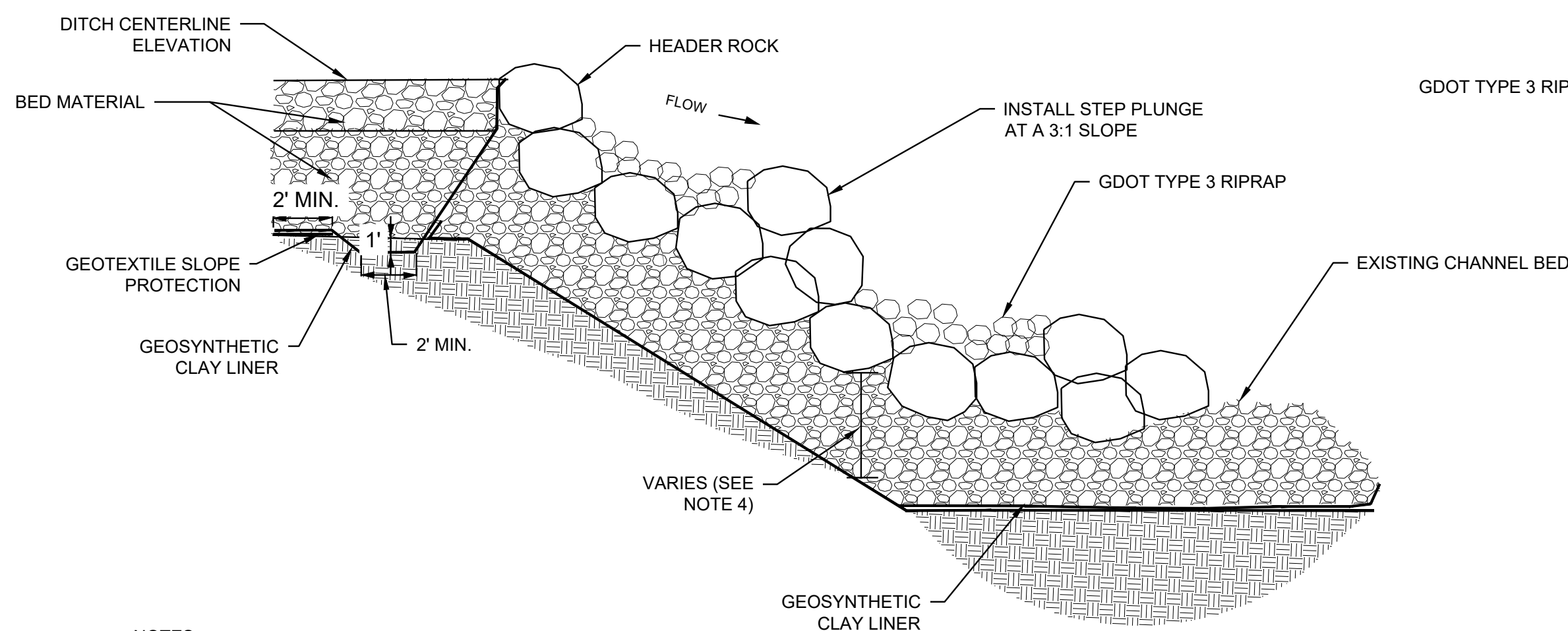


**STEP PLUNGE POOL**  
SCALE: NTS

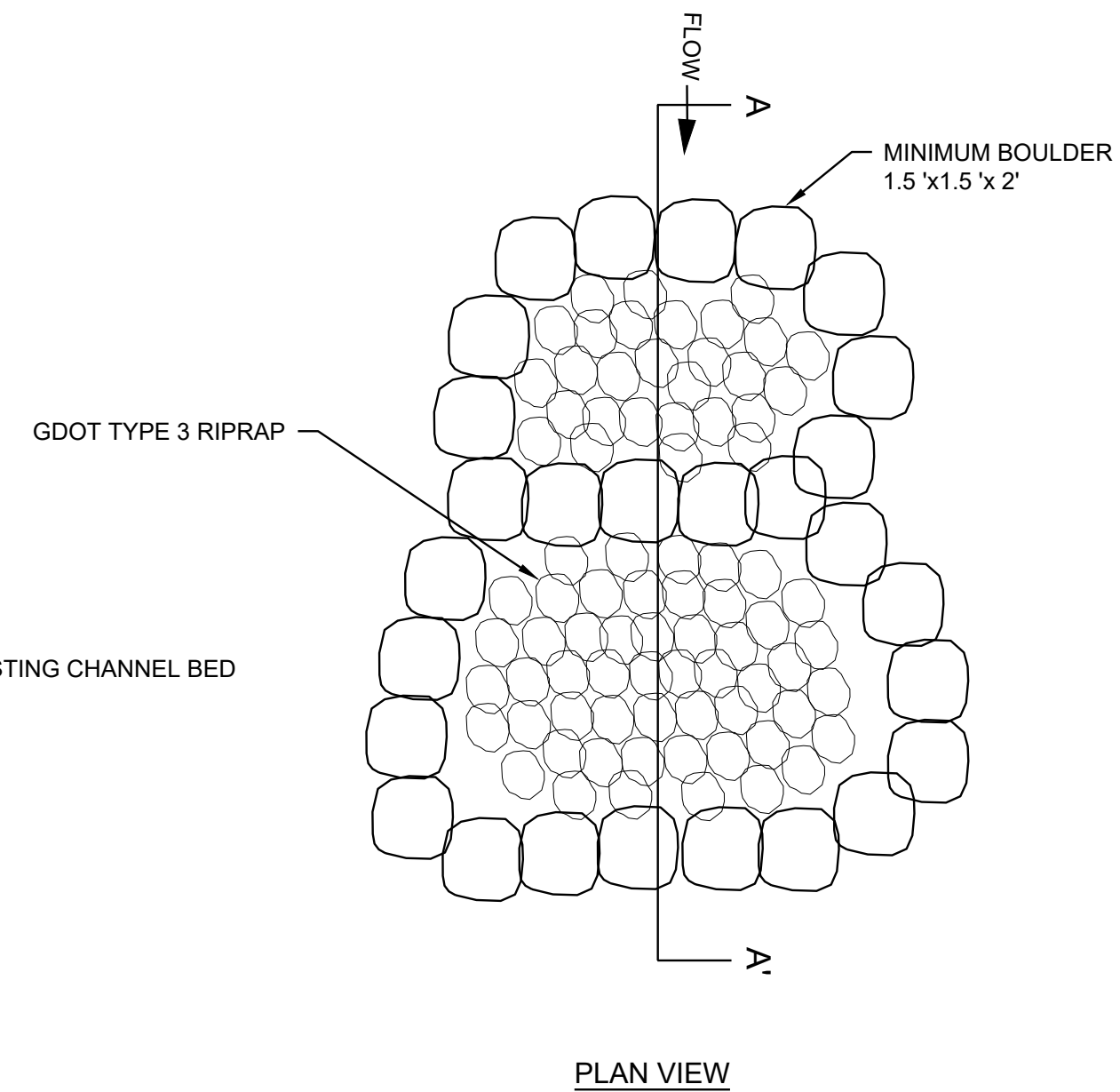


- NOTES:**
1. THE CONTRACTOR SHALL USE LOGS, TRUNKS WITH ROOTS, AND BRANCHES TO FORM THE "TOE WOOD" STREAMBANK TOE PROTECTION.
  2. THE STREAMBANKS ABOVE THE TOE WOOD SHALL BE FORMED FROM SOIL LIFTS WRAPPED IN COIR MATTING.
  3. TOP OF LOG FOR ROOT WAD SET AT NORMAL BASE FLOW ELEVATION OF CHANNEL.

**TOE WOOD**  
SCALE: NTS



- NOTES:**
1. HEADER AND FOOTER ROCKS SHALL BE ABLE TO BE STACKED.
  2. SEE PROFILE FOR THALWEG SLOPES.
  3. STEP PLUNGE POOL SHALL EXTEND ALONG THE BANK AND KEY INTO TOE OF SLOPE.
  4. BASE OF FOOTER ROCKS SHALL BE ATOP BED MATERIAL.
  5. REFER TO TYPICAL SECTION FOR CHANNEL WIDTH AND DEPTH DIMENSIONS.
  6. ROCKS SHALL BE INSTALLED TIGHTLY AGAINST EACH OTHER; GAPS ARE NOT ACCEPTABLE.



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CITY OF BROOKHAVEN  
**N. FORK NANCY CREEK STREAMBANK RESTORATION  
FROM I-285 TO MURPHEY CANDLER LAKE**  
CIVIL - DETAILS  
DETAILS

NO.	ISSUE	DATE	BY	DATE	BY	DATE	BY	DATE	BY	DATE	BY
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SHEET DT-3

SEQ. 17

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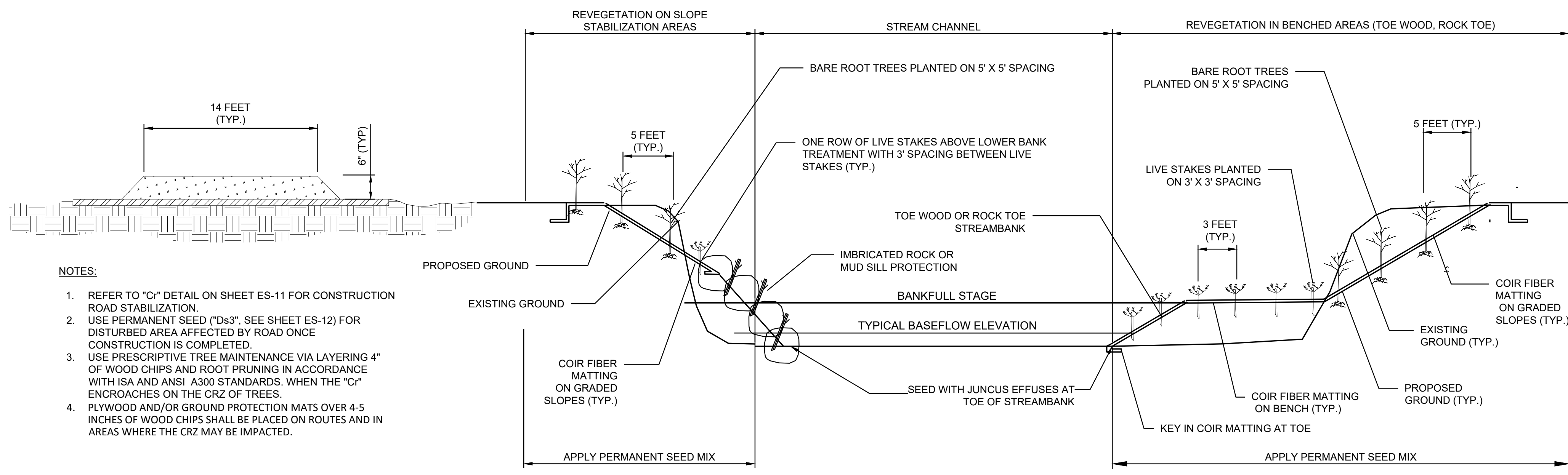
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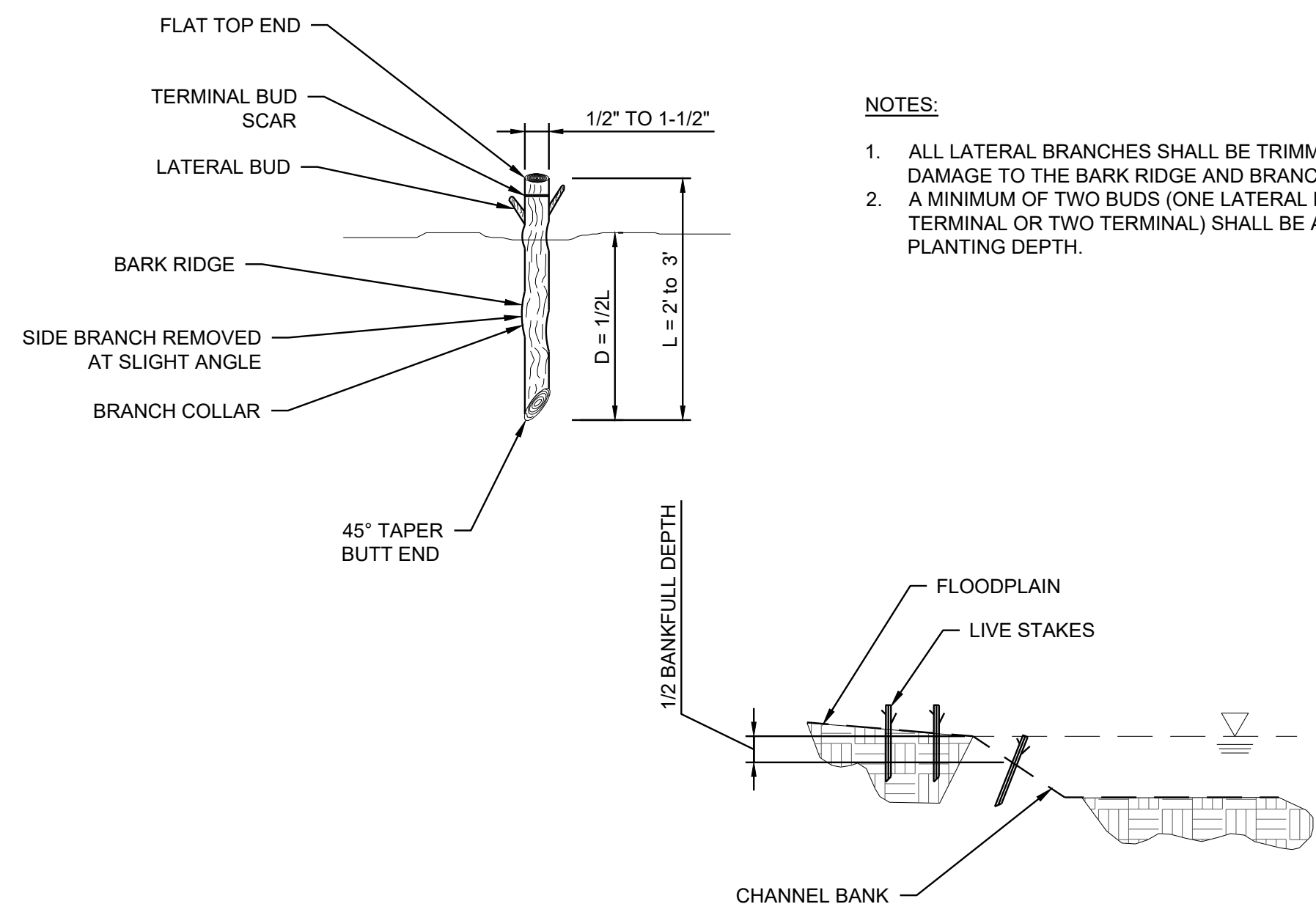
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- NOTES:**
1. THE LEFT SIDE OF THIS SECTION SHOWS PLANTING APPROACH TO BE APPLIED FOR STREAMBANKS WHERE ROCK TOE PROTECTION, STACKED ROCK WALL, OR MUD SILLS ARE TO BE USED ON THE LOWER BANK WITH GRADING OR GEOBAG WALL ON THE UPPER BANK.
  2. THE RIGHT SIDE OF THIS SECTION SHOWS PLANTING APPROACH TO BE APPLIED WHERE TOE WOOD IS USED TO CREATE A BENCH WITH GRADING OR GEOBAG WALL ON THE UPPER BANK.
  3. IF CROSS-SECTIONS SHOW NO GRADING OR OTHER TREATMENT ON PARTS OF THE EXISTING STREAMBANKS (UPPER BANK, LOWER BANK OR BOTH) THEN EXISTING VEGETATION IS TO REMAIN UNDISTURBED.
  4. SEE PLANT LIST FOR SPECIES AND SIZE.

**REVEGETATION TYPICAL SECTION  
 SCALE: NTS**



- NOTES:**
1. ALL LATERAL BRANCHES SHALL BE TRIMMED TO AVOID DAMAGE TO THE BARK RIDGE AND BRANCH COLLAR.
  2. A MINIMUM OF TWO BUDS (ONE LATERAL PLUS ONE TERMINAL OR TWO TERMINAL) SHALL BE ABOVE THE PLANTING DEPTH.

**LIVE STAKE  
 SCALE: NTS**

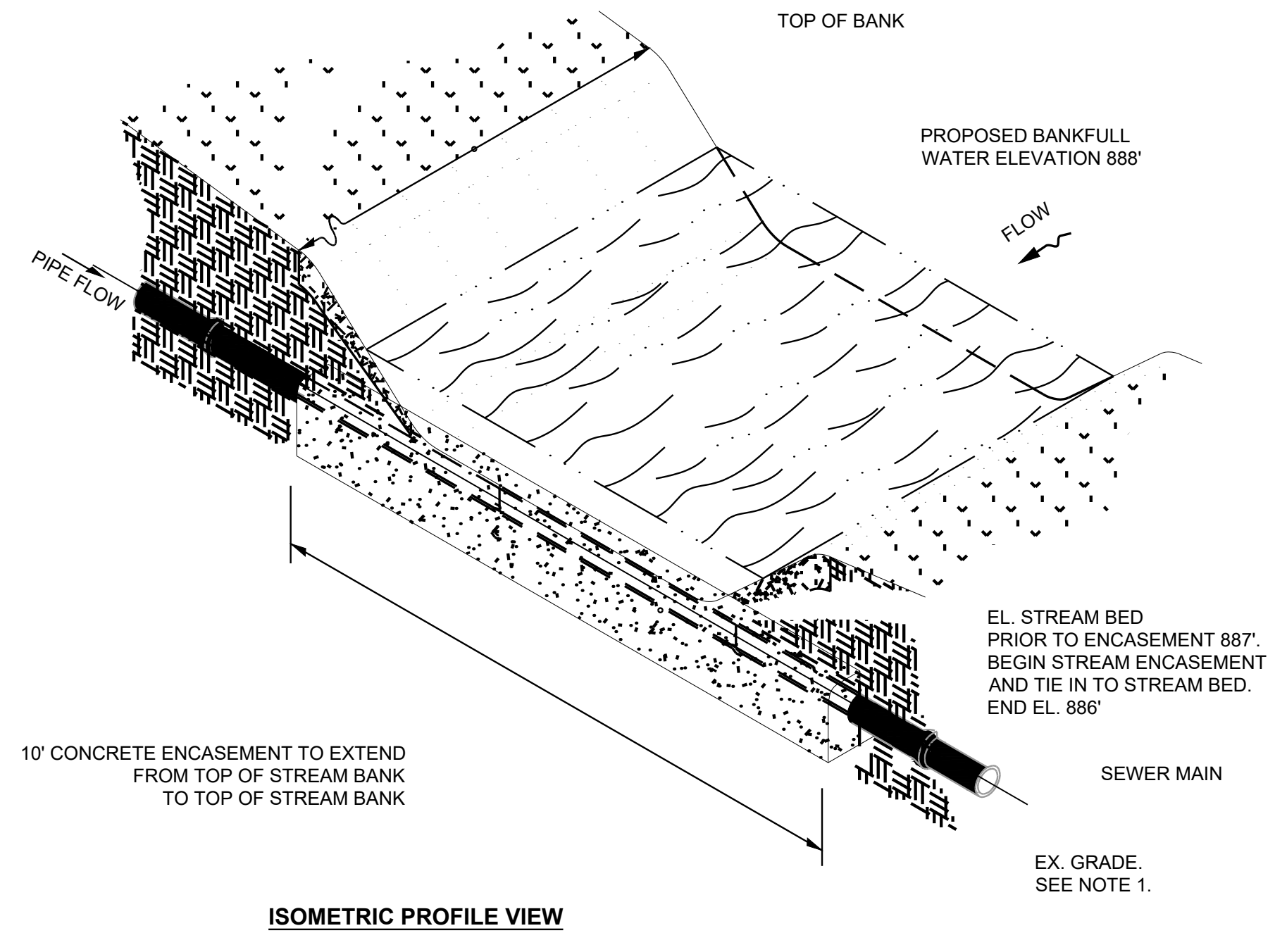
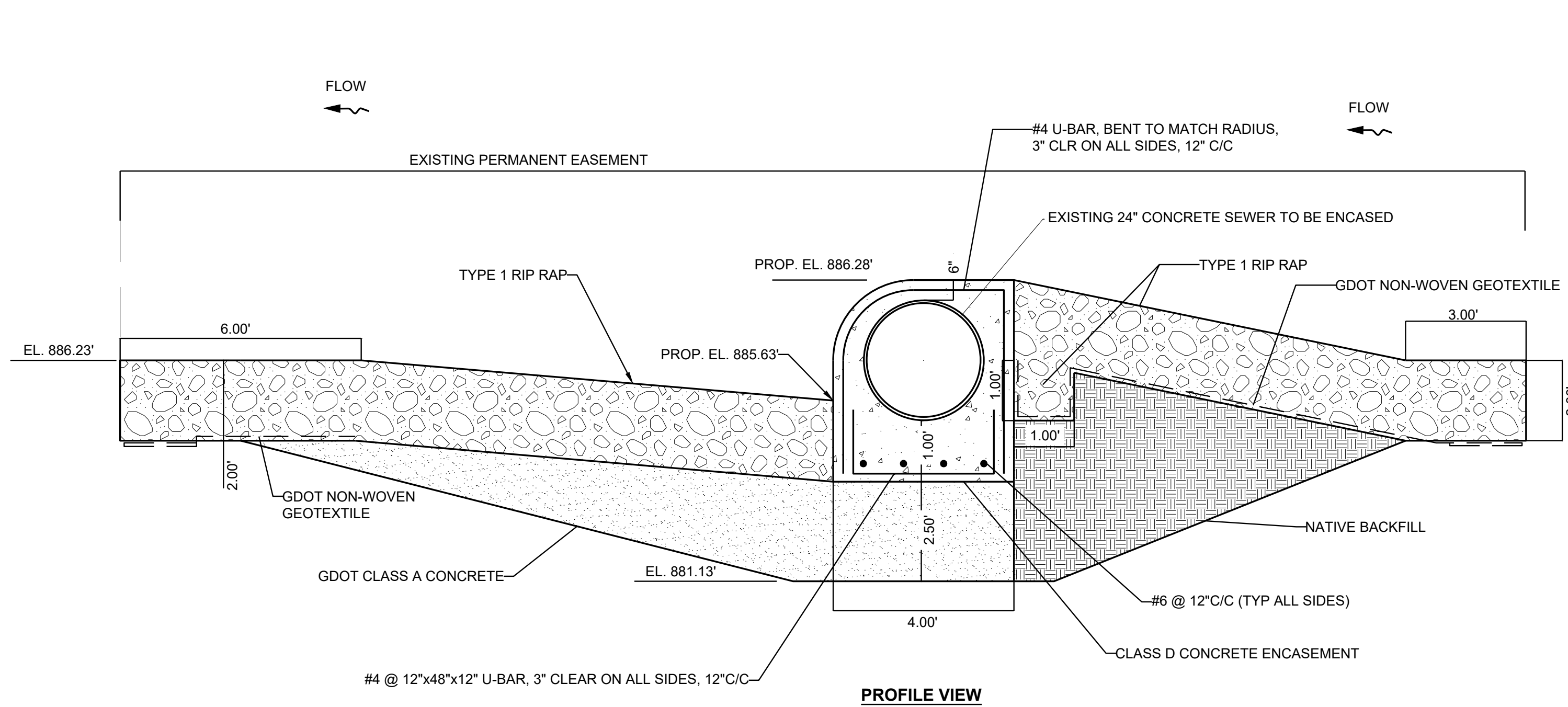
- NOTES:**
1. UTILIZE JUNCUS EFFUSES MORE HEAVILY IN AREAS AROUND PEDESTRIAN BRIDGE.
  2. SOIL TESTS SHALL BE CONDUCTED TO DETERMINE FERTILIZER NEEDS.

	Scientific Name	Common Name	Quantity	Remarks
BARE ROOT TREES	<i>Acer rubrum</i>	Red maple	109	Bare root 1/0 seedlings placed on 5-ft centers, alternating plants between rows and species randomly distributed.
	<i>Platanus occidentalis</i>	American sycamore	218	
	<i>Quercus pagoda</i>	Cherry Bark oak	109	
	<i>Linodendron tulipifera</i>	Yellow poplar	109	
	<i>Fagus grandifolia</i>	American beech	109	
BARE ROOT SHRUBS	<i>Betula nigra</i>	River birch	73	Stakes placed on 3' centers, alternating stakes between rows and with species randomly distributed. One row of live stakes planted above staked rock wall and rock toe protection, with stakes spaced 3' apart.
	<i>Hamamelis virginiana</i>	Witch hazel	363	
	<i>Lindera benzoin</i>	Spice bush	363	
LIVE STAKES	<i>Alnus serrulata</i>	Tag alder	242	Stakes placed on 3' centers, alternating stakes between rows and with species randomly distributed. One row of live stakes planted above staked rock wall and rock toe protection, with stakes spaced 3' apart.
	<i>Salix sericea</i>	Silky willow	242	
	<i>Comus amomum</i>	Silky dogwood	242	
PERMANENT SEEDING	Mellow Marsh Fams Piedmont Shade Mix or Equivalent			Apply at 25 lbs/acre
	Manually apply seed of Juncus effuses at toe of streambed in areas of bank treatment			
TEMPORARY SEEDING	Summer: Brown-top millet			Apply at 50 lbs/acre to all disturbed areas
	Winter: Wrens-abruzzi winter rye or Winter Wheat			

**PLANT LIST**

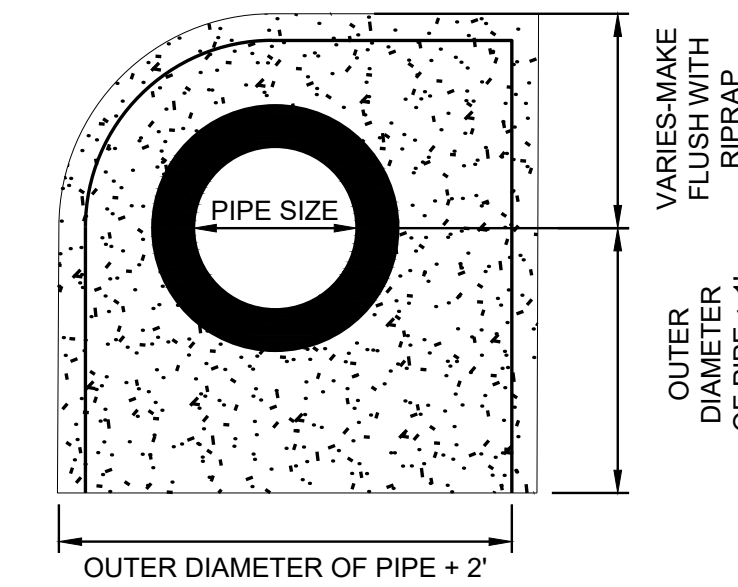
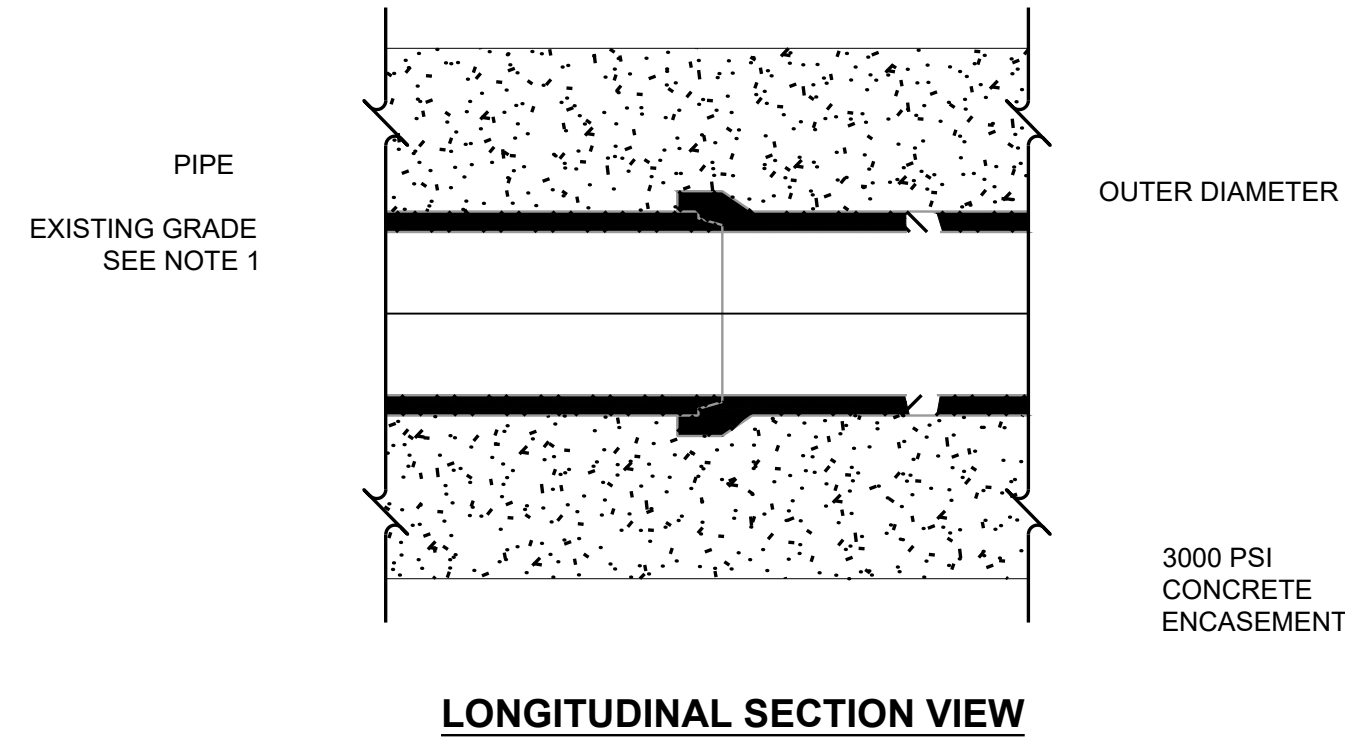
**24 HOUR CONTACT:**  
 CITY OF BROOKHAVEN  
 PUBLIC WORKS DEPARTMENT  
 TOM ROBERTS  
 TOM.ROBERTS@BROOKHAVENGA.GOV  
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**NOTES:**

1. UPPER HALF OF EXISTING PIPE CURRENTLY ABOVE GRADE. PIPE MUST BE ENCASED BY CONCRETE FULLY.
2. FINAL PROPOSED BED ELEVATION 886'.
3. CONCRETE TO BE 3000 PSI.
4. ENCASEMENT TO BE USED ONLY WHERE SPECIFIED ON PLANS.



**CONCRETE SEWER ENCASEMENT**  
SCALE: NTS

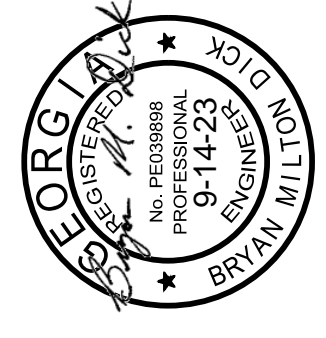
**TRANSVERSE SECTION VIEW**

**ROCK PLACEMENT NOTES:**

1. PLACE ROCK MATERIAL IN SUCH MANNER AS TO PRODUCE A REASONABLY WELL-GRADED MASS OF ROCK WITH THE MINIMUM PRACTICABLE PERCENTAGE OF VOIDS.
2. A TOLERANCE OF PLUS 6 OR MINUS 0 INCHES FROM THE SLOPE LINES AND GRADES SHOWN ON THE PLANS SHALL BE ALLOWED IN THE FINISHED SURFACE OF THE ROCK.
3. PLACE ROCK MATERIAL TO ITS FULL COURSE THICKNESS AT ONE OPERATION.
4. DISTRIBUTE THE LARGER STONES EVENLY AND CONFORM THE ENTIRE MASS OF STONES IN THEIR FINAL POSITION TO THE SPECIFIED GRADATION.
5. FINISHED ROCK MATERIAL SHALL BE FREE FROM OBJECTIONABLE POCKETS OF SMALL STONES AND CLUSTERS OF LARGER STONES.
6. PLACING ROCK MATERIAL IN LAYERS SHALL NOT BE PERMITTED.
7. PLACING MATERIAL BY DUMPING FROM TOP OF SLOPE, DUMPING INTO CHUTES, OR BY SIMILAR METHODS LIKELY TO CAUSE SEGREGATION OF THE VARIOUS SIZES SHALL NOT BE PERMITTED.
8. THE DESIRED DISTRIBUTION OF THE VARIOUS SIZES OF STONES THROUGHOUT THE MASS SHALL BE OBTAINED BY METHODS OF PLACEMENT WHICH PRODUCES THE SPECIFIED RESULTS.
9. REARRANGE INDIVIDUAL STONES BY MECHANICAL EQUIPMENT OR BY HAND TO THE EXTENT NECESSARY TO OBTAIN A REASONABLY WELL GRADED DISTRIBUTION OF STONE SIZES.
10. MAINTAIN THE MATERIAL PROTECTION UNTIL ACCEPTED AND REPLACE ANY MATERIAL DISPLACED DURING CONSTRUCTION.
11. NON-WOVEN GEOTEXTILE AND CONCRETE ITEMS SHALL MEET GDOT SPECIFICATIONS

**24 HOUR CONTACT:**  
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**CITY OF BROOKHAVEN**  
**N. FORK NANCY CREEK STREAMBANK RESTORATION**  
**FROM I-285 TO MURPHEY CANDLER LAKE**  
CIVIL - DETAILS  
**DETAILS**

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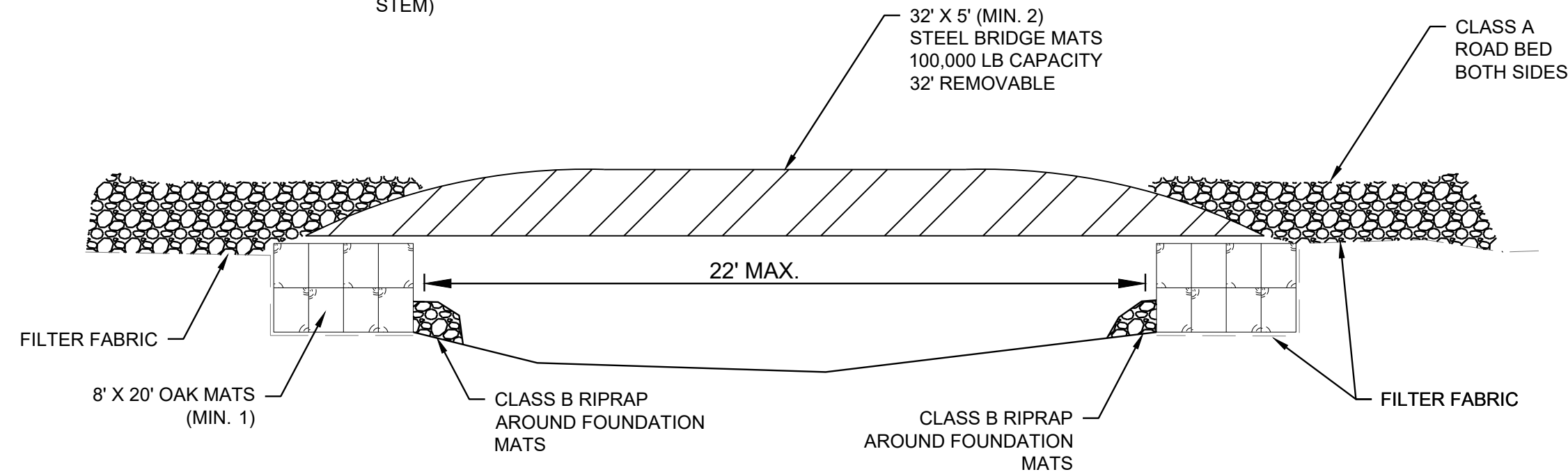
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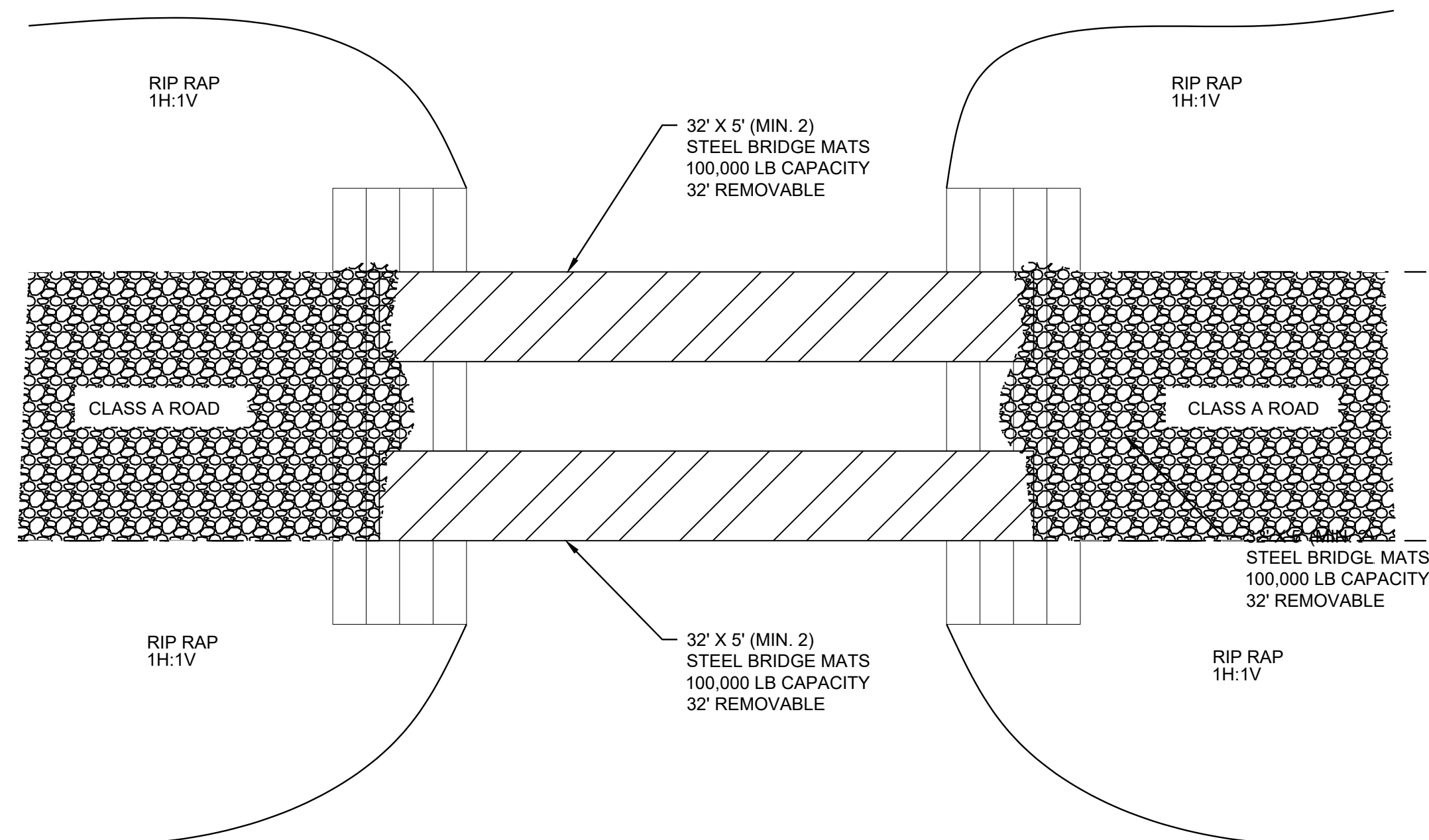
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**NOTES:**

- EXACT LOCATION TO BE DETERMINED BY ENGINEER IN FIELD. ONLY ONE CROSSING LOCATION TO BE INSTALLED AT A TIME.
- SPANS TO BE REMOVED PRIOR TO HIGH WATER FLOWS OR INCREMENT WEATHER. SPANS WILL BE REMOVED FROM FLOODPLAIN OR ANCHORED TO PREVENT FLOTATION.
- IF STEEL OR LOG SPANS ARE TO REMAIN DURING INCREMENT WEATHER, THEN THEY ARE TO BE ANCHORED AT ONE END WITH A STEEL CABLE OR CHAIN, LARGE TREES OR BOULDERS, OR DRIVEN STEEL ANCHORS IN ACCORDANCE WITH GSWCC REQUIREMENTS.
- ALL STREAM CROSSINGS TO BE SIZED TO SPAN ENTIRE WIDTH OF STREAM AND PROVIDE MINIMUM OVERHANG WIDTH TO MEET ALL GSWCC REQUIREMENTS. CONTRACTOR IS RESPONSIBLE FOR ENSURING THE CROSSING IS ADEQUATELY INSTALLED AND MAINTAINED PER GSWCC STANDARDS.
- DRAINAGE AREA = 1190 ACRES.
- AVG. WATERSHED SLOPE = 9.89%
- EST. STREAMFLOW AT BANKFULL:
  - UNNAMED TRIB TO NFNC = 165 CFS. (HAUL ROAD JUST U/S OF TRASH RACK ON UNNAMED TRIB)
  - UNNAMED TRIB TO NFNC = 382 CFS (HAUL ROAD JUST UPSTREAM OF CONFLUENCE WITH UNNAMED TRIB)
  - NORTH FORK NANCY CREEK = 1410 CFS (AT TRASH RACK ON MAIN STEM)



STREAM CROSSING - PROFILE VIEW  
NTS

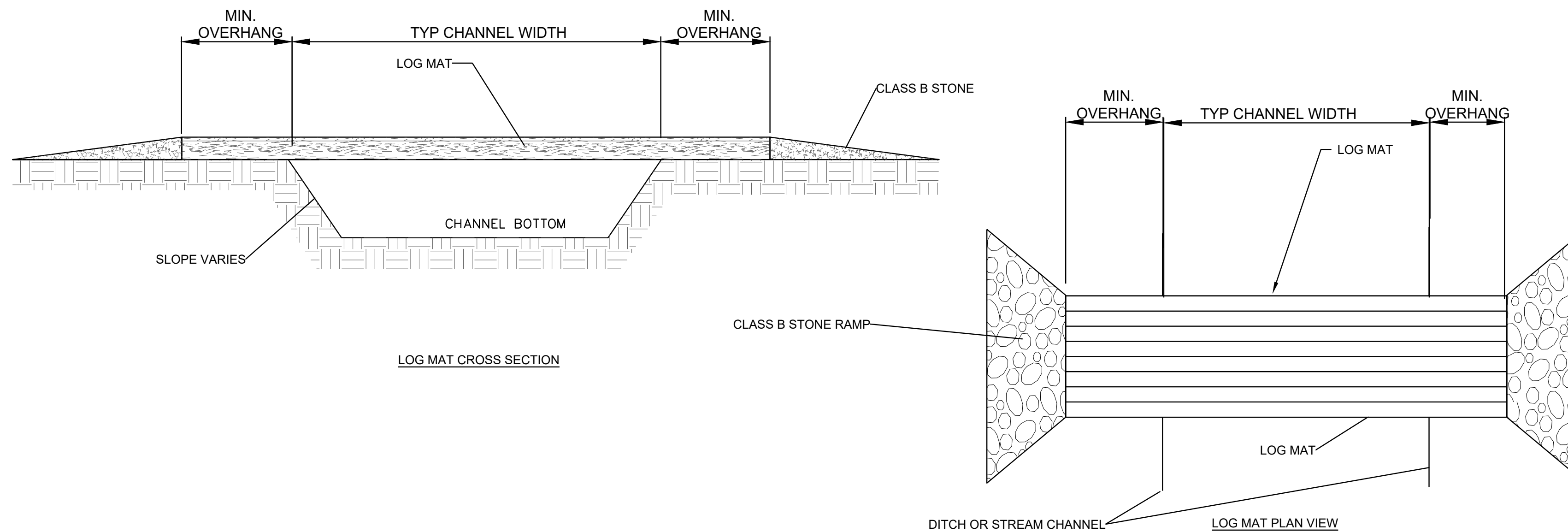


STREAM CROSSING - PLAN VIEW  
NTS

**NOTES:**

- CONSTRUCT STREAM CROSSING WHEN FLOW IS LOW.
- HAVE ALL NECESSARY MATERIALS AND EQUIPMENT ON-SITE BEFORE WORK BEGINS.
- MINIMIZE CLEARING AND EXCAVATION OF STREAMBANKS. DO NOT EXCAVATE CHANNEL BOTTOM.
- LINE STREAMBANK AND ACCESS RAMP AREA WITH NON-WOVEN FILTER FABRIC.
- INSTALL STREAM CROSSING AT RIGHT ANGLE TO THE FLOW. THE CROSSING SHALL ALLOW FLOW TO ENTER THE CHANNEL UNIMPEDED.
- MAINTAIN CROSSING SO THAT RUNOFF IN THE CONSTRUCTION ROAD DOES NOT ENTER EXISTING CHANNEL BY INSTALLING SILT FENCE ON ALL FOUR CORNERS ADJACENT TO THE STREAM. SEE SILT FENCE DETAIL.
- STABILIZE AN ACCESS RAMP OF CLASS B STONE TO THE EDGE OF THE MUD MAT.
- THE LOG MAT SHALL BE OF SUFFICIENT SIZE AND WIDTH TO SUPPORT THE LARGEST VEHICLE CROSSING THE CHANNEL.
- CONTRACTOR SHALL DETERMINE AN APPROPRIATE RAMP ANGLE ACCORDING TO EQUIPMENT UTILIZED, RECOMMENDED AT A 5:1 SLOPE.
- FOR REMOVAL OF TEMPORARY IMPACTS, THE FOLLOWING SEQUENCING SHOULD BE OBSERVED:
  - IN ALL FORESTED WETLANDS, CLEARING WILL BE DONE BY HAND & GRUBBING WILL OCCUR AS NEEDED TO INSTALL TEMPORARY HAUL ROADS.
  - IMPACTS AT STREAM CROSSING LOCATIONS WILL BE MINIMIZED BY USE OF APPROPRIATE EROSION CONTROL & FLOW DIVERSION MEASURES DURING CONSTRUCTION.
  - DIRECT IMPACTS FROM CONSTRUCTION TO THESE FEATURES WILL BE TEMPORARY, & ANY IMPACTED AREAS WILL BE RESTORED TO ORIGINAL GRADE & STABILIZED FOLLOWING CONSTRUCTION. THE CONTRACTOR SHALL LINE THE LOD WITH TREE PROTECTION FENCE TO PREVENT THE UNNECESSARY REMOVAL OF VEGETATION.
  - PRIOR TO EXCAVATING IN JURISDICTIONAL STREAMS, RIP-RAP COFFERDAMS WILL BE INSTALLED UPSTREAM & DOWNSTREAM OF THE EXCAVATION AREA TO ISOLATE THE DISTURBED AREA AND CONTAIN SEDIMENT. STREAM FLOW ON THE UPSTREAM SIDE OF THE EXCAVATION WILL BE POOLED ABOVE THE COFFERDAM AND PUMPED AROUND THE EXCAVATION AREA. THE PUMPED WATER WILL BE DISCHARGED ON THE DOWNSTREAM SIDE OF THE EXCAVATION BELOW THE LOWER COFFERDAM THROUGH SEDIMENT BAGS TO FILTER THE DISCHARGE WATER OF SEDIMENT BEFORE ALLOWING THE WATER TO BE RETURNED TO THE STREAM CHANNEL. A COFFERDAM (I.E. IMPERVIOUS DIKE) AND BYPASS PUMP DETAIL IS ATTACHED IN THE DESIGN PLANS ON SHEET ES-13.
  - ALL MATERIAL TEMPORARILY SIDE CAST INTO WETLAND AREAS WILL BE PLACED ON FILTER FABRIC.
  - HAUL ROADS AND OTHER TEMPORARY WORK AREAS WILL BE BACKFILLED AND PROPERLY COMPACTED TO THE ORIGINAL (PRE-CONSTRUCTION) GROUND ELEVATION, AND THE RE-ESTABLISHED GRADE WILL BE STABILIZED WITH A SEED MIX MADE UP OF NATIVE SPECIES APPROPRIATE FOR RESTORATION & STABILIZATION OF WETLAND & UPLAND SOILS.
  - TEMPORARY EROSION SEED MIXES WILL ALSO BE USED TO STABILIZE DISTURBED AREAS WITHIN THE REQUIRED STABILIZATION TIME FRAMES. SPECIFICS ABOUT THIS SEED MIX IS INCLUDED IN SPECIFICATION SECTION 6.01 "PERMANENT AND TEMPORARY SEEDING".
  - AT COMPLETION OF STREAM CONSTRUCTION ACTIVITIES, ANY GRAVEL AND FILTER MEDIA ON TEMPORARY HAUL ROADS SHALL BE REMOVED AND THE SOILS RIPPED/LOOSENED TO THE DEPTH OF THE COMPACTED LAYER (MINIMUM OF 6-INCHES). AVOID RIPPING IN AREAS THAT HAVE BURIED UTILITIES, WIRES, PIPES, CULVERTS, OR DIVERSION CHANNELS.

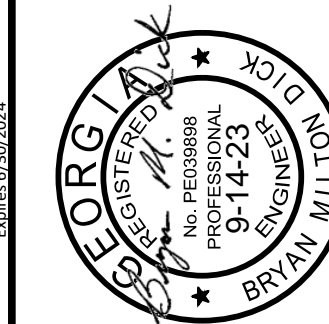
**TEMPORARY STREAM CROSSING (Sr-B)**  
SCALE: NTS



LOG MAT - TEMPORARY STREAM CROSSING (Sr-B)  
SCALE: NTS

24 HOUR CONTACT:  
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**DETAILS**

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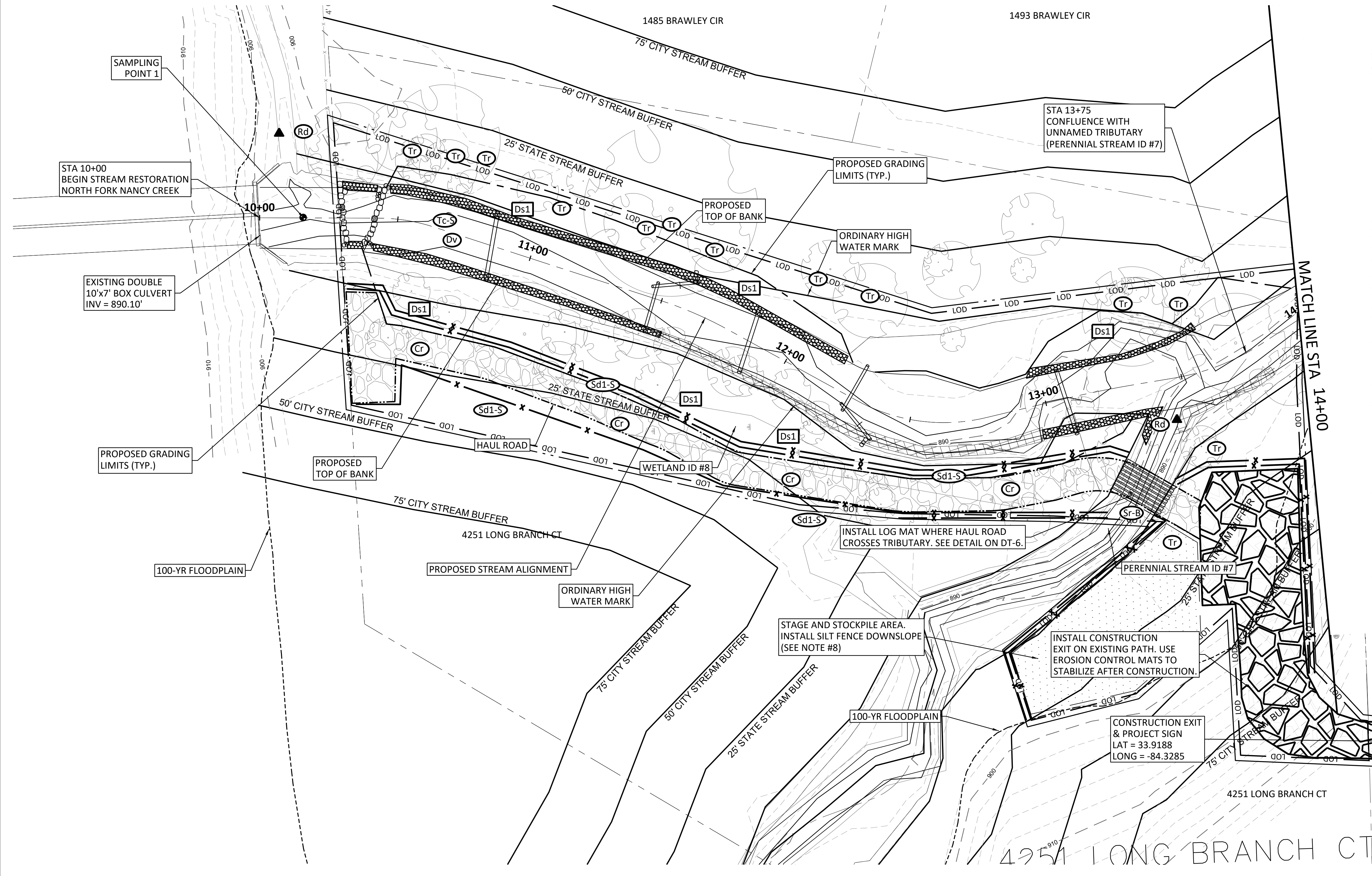
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- NOTES:
1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.
  2. ALL TREES ON THE SITE GREATER THAN 6" DBH AND NOT MARKED AS REMOVED ON THE TREE PLAN SHALL BE PROTECTED USING TREE PROTECTION FENCING AND THE DESIGNATED TREE PRESCRIPTION, PER ES-11. REFER TO SUPPLEMENTAL TREE PLAN.
  3. INSTALL EROSION CONTROL MATS ON ALL SLOPES STEEPER THAN 2.5:1 OR GREATER THAN 10 FEET IN HEIGHT IN AREAS OF CONCENTRATED FLOW.
  4. A TURBIDITY CURTAIN SHALL BE USED DOWNSTREAM OF ACTIVE CHANNEL DISTURBING ACTIVITY, PER GDOT DETAIL D-51, IN CONJUNCTION WITH A PUMPED DIVERSION. BOTH CAN BE MOVED AS CONSTRUCTION SEQUENCING WARRANTS.
  5. WETLANDS TO BE RESTORED WITH NATIVE PLANTINGS AND ANY TEMPORARY FILLS REMOVED TO RE-ESTABLISH WETLAND ELEVATIONS TO PRE-CONSTRUCTION CONTOURS, SEE PLANTING PLAN FOR MORE DETAILS.
  6. NO MACHINE TRENCHING THROUGH CRITICAL ROOT ZONE (CRZ). HAND-DIG WHERE SILT FENCE CROSSES THE CRZ OF ANY TREE. ROOT PRUNE AS NEEDED ACCORDING TO ISA/ANSI PROFESSIONAL STANDARDS.
  7. HAUL RD SHALL BE CONSTRUCTED PER THE GSWCC REQUIREMENTS FOR CONSTRUCTION ROAD STABILIZATION.
  8. MATERIAL STORAGE OR CONSTRUCTION LAYOUT CAN TAKE PLACE IN THE LOCATION OF THE EXISTING SANITARY SEWER EASEMENT. MATERIAL PILES SHALL BE SURROUNDED BY SILT FENCING AND COVERED AT END OF DAY AND WHEN ACCESS IS NOT ACTIVELY NEEDED.
  9. ALL MATERIALS STORED IN FLOODPLAIN WILL BE ANCHORED TO PREVENT FLOTATION.
  10. PLYWOOD AND/OR GROUND PROTECTION MATS OVER 4-5 INCHES OF WOOD CHIPS SHALL BE PLACED ON ROUTES AND IN AREAS WHERE THE CRZ MAY BE IMPACTED.

- EXISTING WETLAND
- SURVEYED TREES (REFER TO APPENDED TREE PLAN)
- 100-YEAR FLOODPLAIN EXTENTS
- LOD LIMITS OF DISTURBANCE
- Ds1 DISTURBED AREA - MULCH
- Ss EROSION CONTROL MATS (SEE NOTE 3)
- Sd1-S SILT FENCE - TYPE S
- Rd ROCK FILTER DAM
- Tr TREE PROTECTION (SEE NOTE 2)
- Co CONSTRUCTION EXIT
- Cr CONSTRUCTION ROAD STABILIZATION
- Tc-S TURBIDITY CURTAIN - STAKED (SEE NOTE 5)
- Sr-B TEMP. STREAM CROSSING
- Dv DIVERSION-PUMPED

24 HOUR CONTACT:  
**TOM ROBERTS**  
 NAME  
 404-637-0540  
 PHONE  
 TOM.ROBERTS@BROOKHAVENGA.GOV  
 EMAIL

**GSWCC**  
 Georgia State and Water Construction Commission  
**JOHN P. SCHNEIDER**  
 Level II Certified Design Professional  
 CERTIFICATION NUMBER: 0000094149  
 ISSUED: 04/27/2021 EXPIRES: 04/27/2024



ISSUED FOR PERMIT  
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Freese & Nichols, Inc.  
 Georgia Registered Engineering Firm PEF-004433  
 Expires 09/29/2025

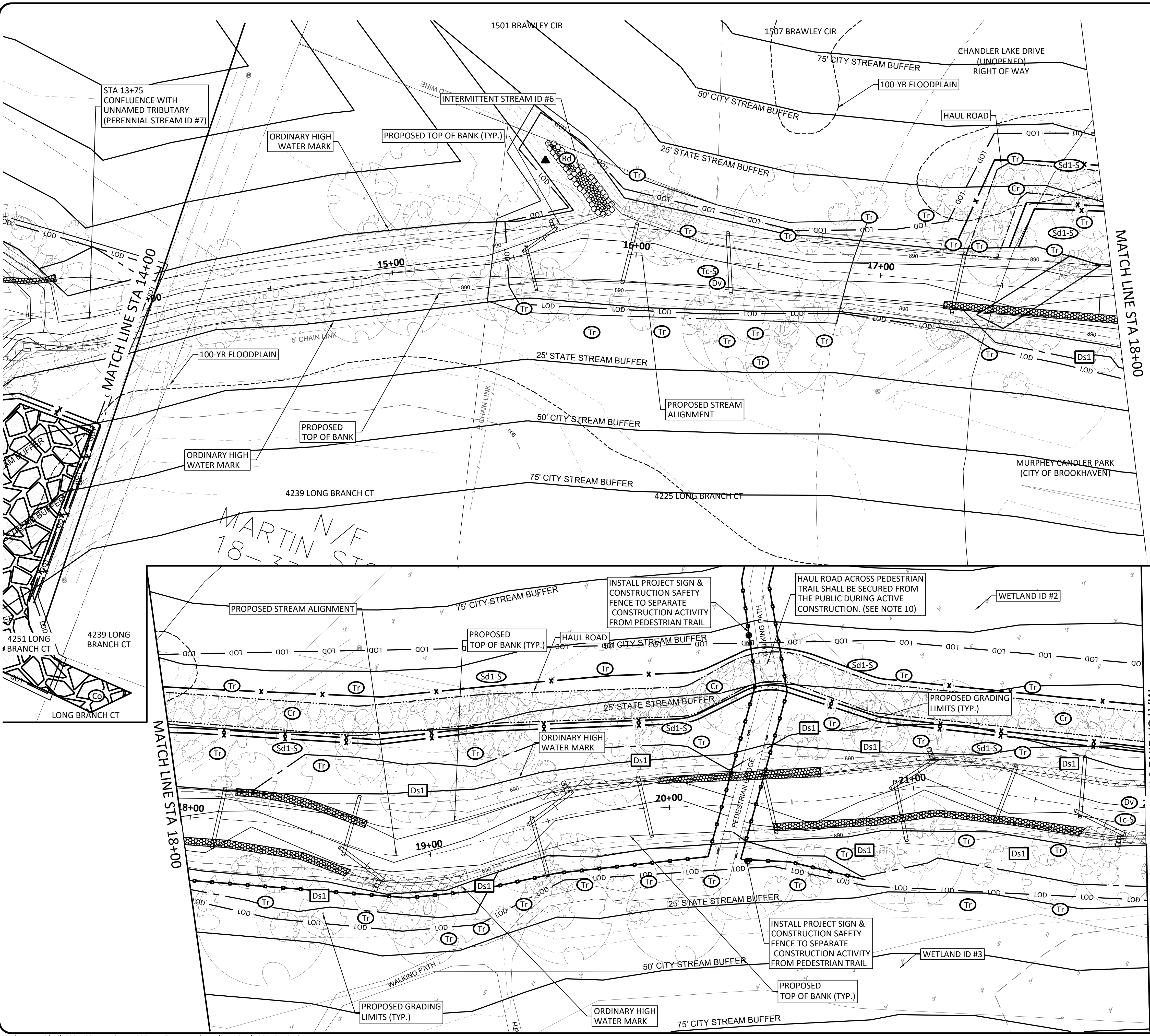
**FREES & NICHOLS**  
 360 Interstate North Parkway,  
 Atlanta, GA 30339  
 Phone: (404) 334-4310  
 Web: www.freese.com

CITY OF BROOKHAVEN  
**N. FORK NANCY CREEK STREAMBANK RESTORATION  
 FROM I-285 TO MURPHEY CANDLER LAKE**  
 E&S/C  
**START TO STA 14+00 - PHASE I & II**

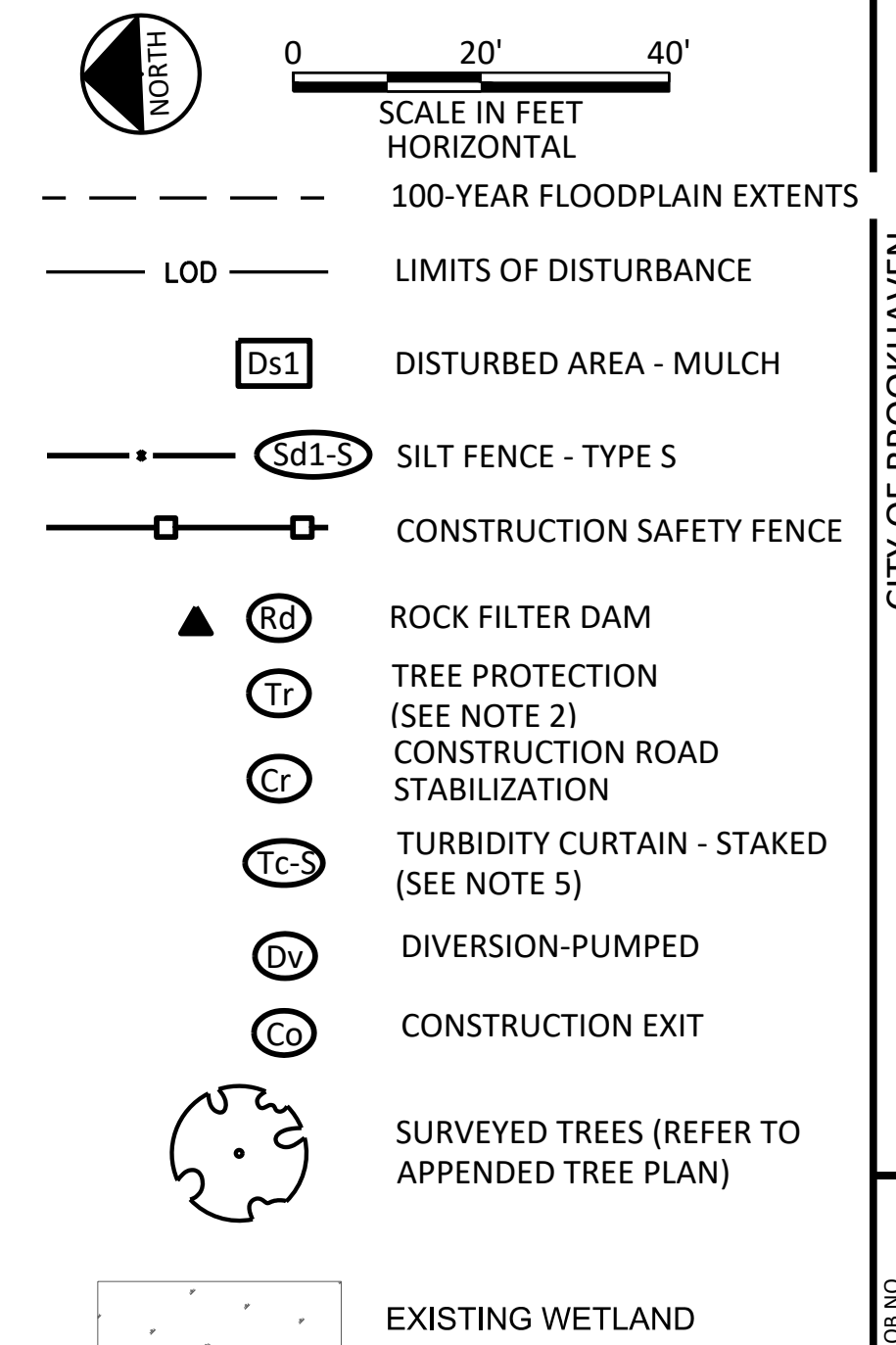
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SHEET **ES-3**  
 SEQ. 23  
 APPROVED PLAN 10/17/2023  
 Permit # LDP22-00016

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 Filename: N:\W\Drawings\ESC-P-SHTS1.dwg  
 Last Saved: 9/28/2023 4:13 PM. Saved By: 02875



- NOTES:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.
  - ALL TREES ON THE SITE GREATER THAN 6" DBH AND NOT MARKED AS REMOVED ON THE TREE PLAN SHALL BE PROTECTED USING TREE PROTECTION FENCING AND THE DESIGNATED TREE PRESCRIPTION, PER ES-11. REFER TO SUPPLEMENTAL TREE PLAN.
  - INSTALL EROSION CONTROL MATS ON ALL SLOPES STEEPER THAN 2.5:1 OR GREATER THAN 10 FEET IN HEIGHT IN AREAS OF CONCENTRATED FLOW.
  - A TURBIDITY CURTAIN SHALL BE USED DOWNSTREAM OF ACTIVE CHANNEL DISTURBING ACTIVITY, PER GDOT DETAIL D-51, IN CONJUNCTION WITH A PUMPED DIVERSION. BOTH CAN BE MOVED AS CONSTRUCTION SEQUENCING WARRANTS.
  - WETLANDS TO BE RESTORED WITH NATIVE PLANTINGS AND ANY TEMPORARY FILLS REMOVED TO RE-ESTABLISH WETLAND ELEVATIONS TO PRE-CONSTRUCTION CONTOURS, SEE PLANTING PLAN FOR MORE DETAILS.
  - NO MACHINE TRENCHING THROUGH CRITICAL ROOT ZONE (CRZ), HAND-DIG WHERE SILT FENCE CROSSES THE CRZ OF ANY TREE. ROOT PRUNE AS NEEDED ACCORDING TO ISA/ANSI PROFESSIONAL STANDARDS.
  - HAUL RD SHALL BE CONSTRUCTED PER THE GSWCC REQUIREMENTS FOR CONSTRUCTION ROAD STABILIZATION.
  - MATERIAL STORAGE OR CONSTRUCTION LAYOUT CAN TAKE PLACE IN THE LOCATION OF THE EXISTING SANITARY SEWER EASEMENT. MATERIAL PILES SHALL BE SURROUNDED BY SILT FENCING AND COVERED AT END OF DAY AND WHEN ACCESS IS NOT ACTIVELY NEEDED.
  - ALL MATERIALS STORED IN FLOODPLAIN WILL BE ANCHORED TO PREVENT FLOTATION.
  - PLYWOOD AND/OR GROUND PROTECTION MATS OVER 4-5 INCHES OF WOOD CHIPS SHALL BE PLACED ON ROUTES AND IN AREAS WHERE THE CRZ MAY BE IMPACTED.
  - CONTRACTOR SHALL HAVE A PLAN TO MAINTAIN PEDESTRIAN ACCESS THROUGH THE EXISTING WALKING PATH AND SHALL COORDINATE WITH THE CITY AND ENGINEER.



**24 HOUR CONTACT:**

**TOM ROBERTS**  
 NAME  
 404-637-0540  
 PHONE  
 TOM.ROBERTS@BROOKHAVENGA.GOV  
 EMAIL



**GSWCC**  
 Georgia Soil and Water Conservation Commission

**JOHN P. SCHNEIDER**  
 Level II Certified Design Professional  
 CERTIFICATION NUMBER: 0000094149  
 ISSUED: 04/27/2021 EXPIRES: 04/27/2024

Freese and Nichols, Inc.  
 Georgia Registered Engineering Firm PEF-004433  
 Expires 09/29/2025

**GEORGIA**  
 REGISTERED PROFESSIONAL ENGINEER  
 JOHN P. SCHNEIDER  
 09.14.2023  
 PULL UP!

**FREES & NICHOLS**  
 360 Interstate North Parkway,  
 Atlanta, GA 30339  
 Phone - (404) 334-4310  
 Web - www.freese.com

**N. FORK NANCY CREEK STREAMBANK RESTORATION FROM I-285 TO MURPHEY CANDLER LAKE**

CITY OF BROOKHAVEN  
 E&S

STA 14+00 TO STA 22+00 - PHASE I & II

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 DRAWN: JPS  
 REVISION: 09/15/2022  
 CHECKED: RCE  
 FILE NAME: ESC-P-SHTS1.dwg

SHEET ES-4

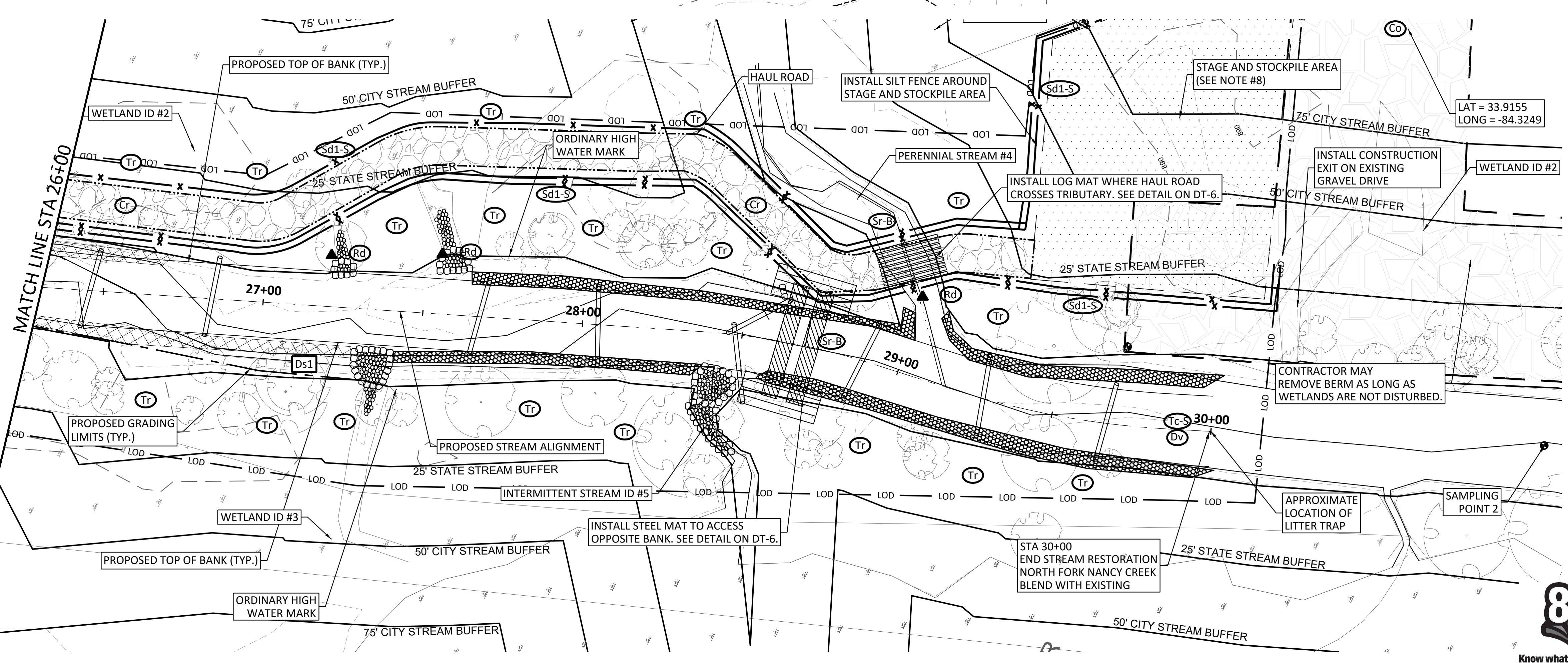
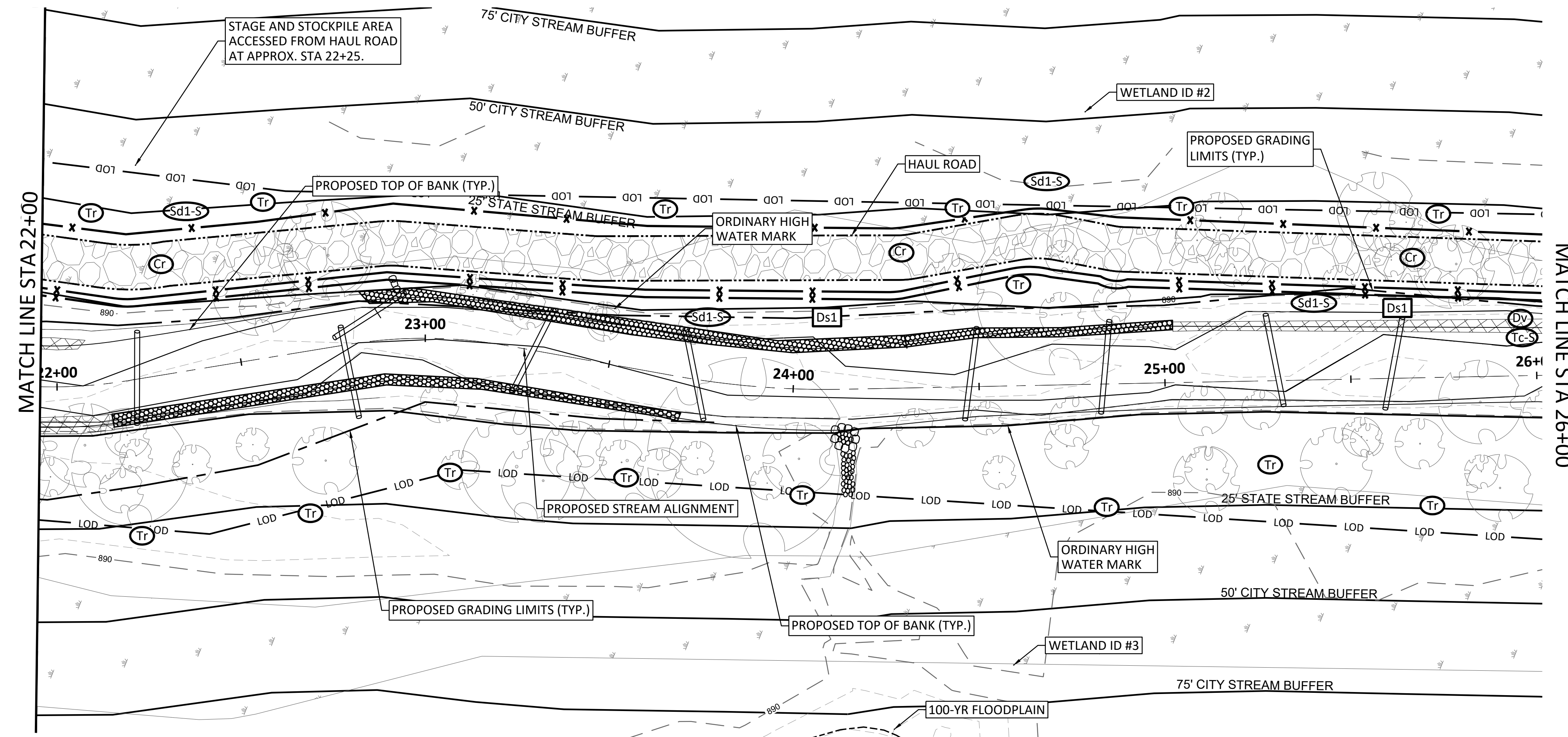
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APPROVED PLAN 10/17/2023  
 Permit # LDP22-00016

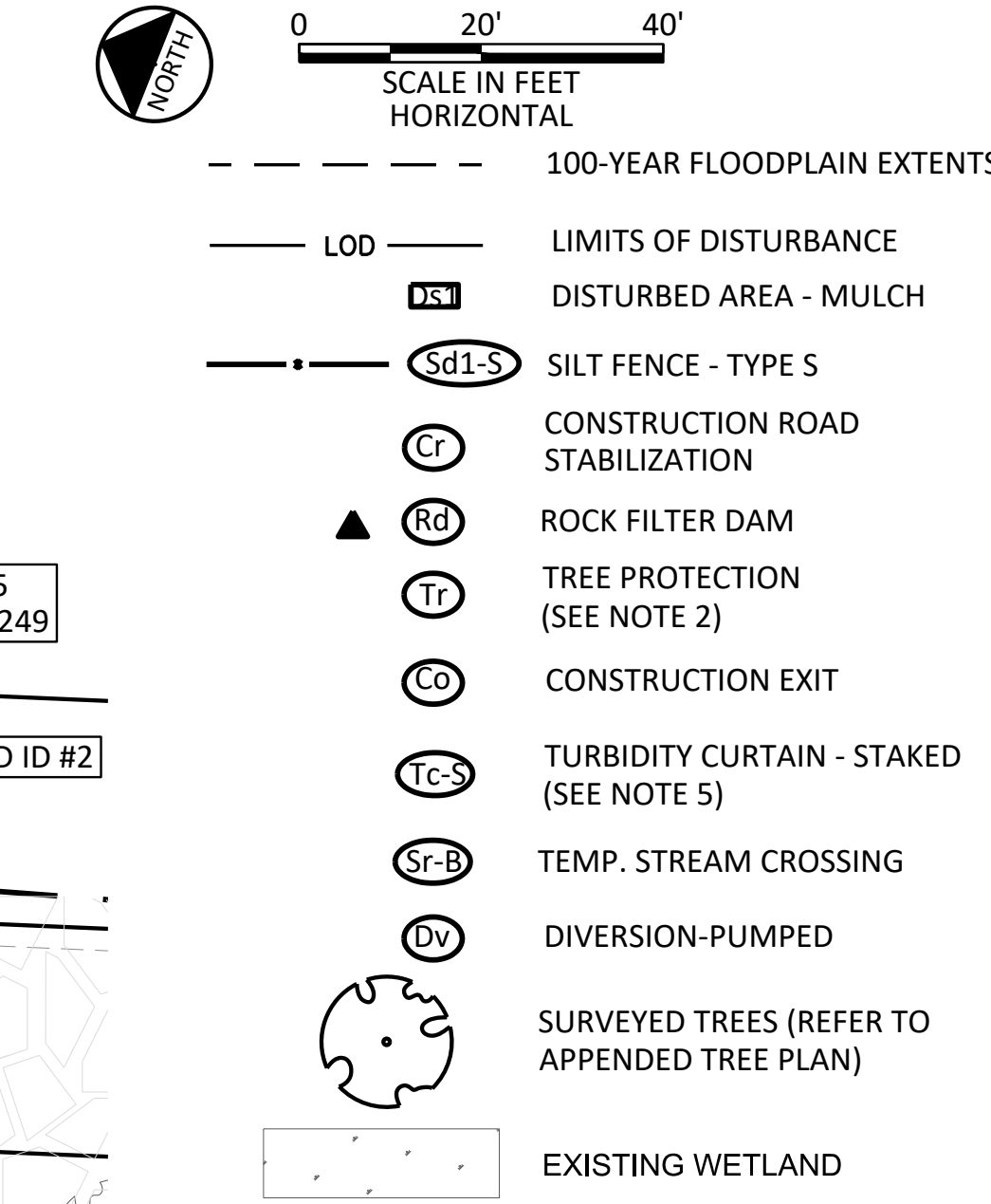


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- NOTES:
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  - ALL TREES ON THE SITE GREATER THAN 6" DBH AND NOT MARKED AS REMOVED ON THE TREE PLAN SHALL BE PROTECTED USING TREE PROTECTION FENCING AND THE DESIGNATED TREE PRESCRIPTION, PER ES-11. REFER TO SUPPLEMENTAL TREE PLAN.
  - INSTALL EROSION CONTROL MATS ON ALL SLOPES STEEPER THAN 2.5:1 OR GREATER THAN 10 FEET IN HEIGHT IN AREAS OF CONCENTRATED FLOW.
  - A TURBIDITY CURTAIN SHALL BE USED DOWNSTREAM OF ACTIVE CHANNEL DISTURBING ACTIVITY, PER GDOT DETAIL D-51, IN CONJUNCTION WITH A PUMPED DIVERSION. BOTH CAN BE MOVED AS CONSTRUCTION SEQUENCING WARRANTS.
  - WETLANDS TO BE RESTORED WITH NATIVE PLANTINGS AND ANY TEMPORARY FILLS REMOVED TO RE-ESTABLISH WETLAND ELEVATIONS TO PRE-CONSTRUCTION CONTOURS, SEE PLANTING PLAN FOR MORE DETAILS.
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  - ALL MATERIALS STORED IN FLOODPLAIN WILL BE ANCHORED TO PREVENT FLOTATION.
  - PLYWOOD AND/OR GROUND PROTECTION MATS OVER 4-5 INCHES OF WOOD CHIPS SHALL BE PLACED ON ROUTES AND IN AREAS WHERE THE CRZ MAY BE IMPACTED.



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 TOM.ROBERTS@BROOKHAVENGA.GOV  
 EMAIL

**811**  
 Know what's below.  
 Call before you dig.

**GSWCC**  
 Georgia Soil and Water Conservation Commission  
**JOHN P. SCHNEIDER**  
 Level II Certified Design Professional  
 Certification Number: 0000094149  
 Issued: 04/27/2021 Expires: 04/27/2024

Georgia Registered Engineering Firm PEF-004433  
 GEORGIA PROFESSIONAL ENGINEERING SEAL  
 JOHN P. SCHNEIDER  
 PROFESSIONAL ENGINEER  
 09.14.2023

**FRESE NICHOLS**  
 360 Interstate North Parkway  
 Suwanee, GA 30039  
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**CITY OF BROOKHAVEN**  
**N. FORK NANCY CREEK STREAMBANK RESTORATION**  
**FROM I-285 TO MURPHEY CANDLER LAKE**  
**STA 22+00 TO END - PHASE I & II**

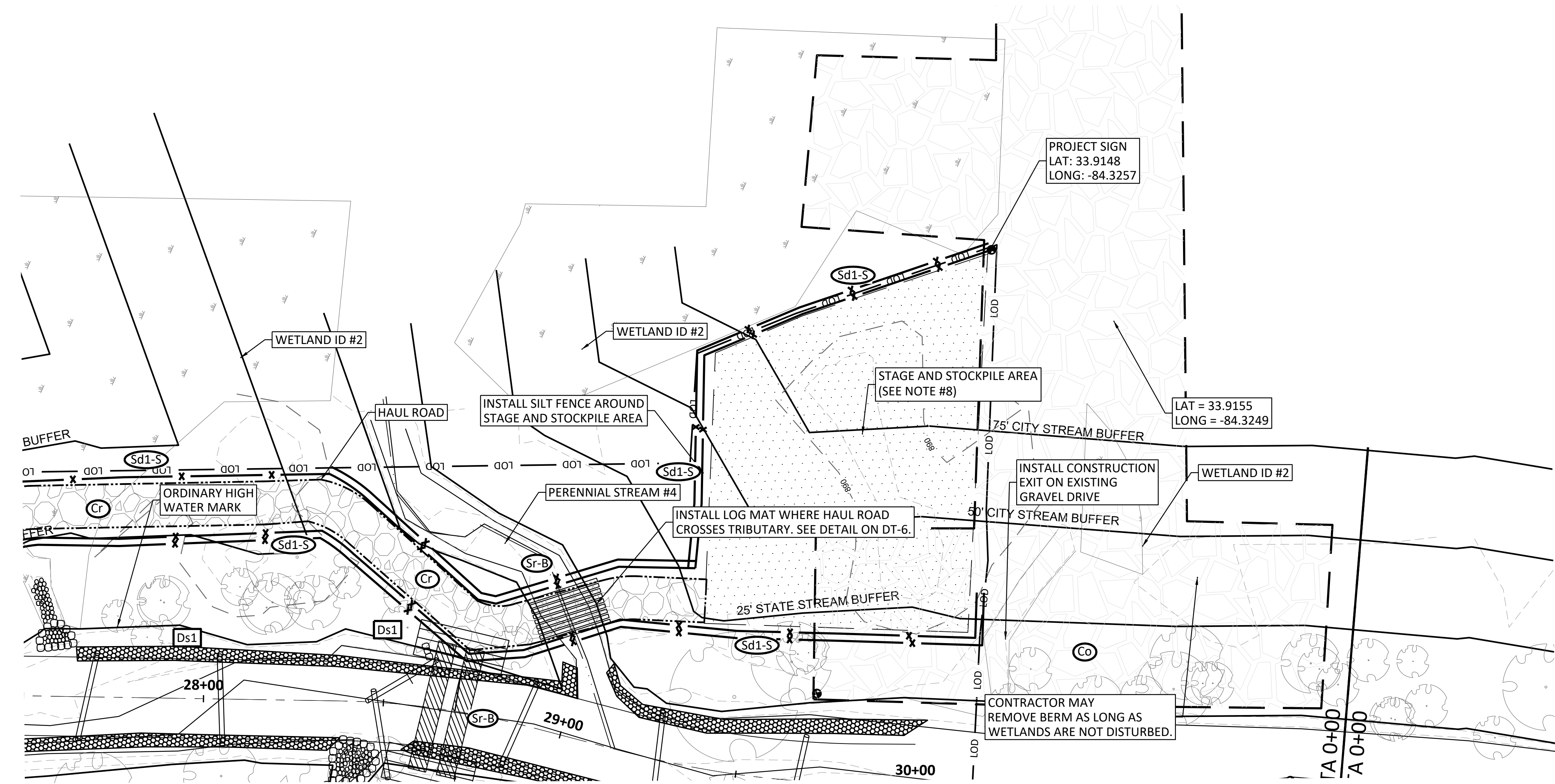
ES-5

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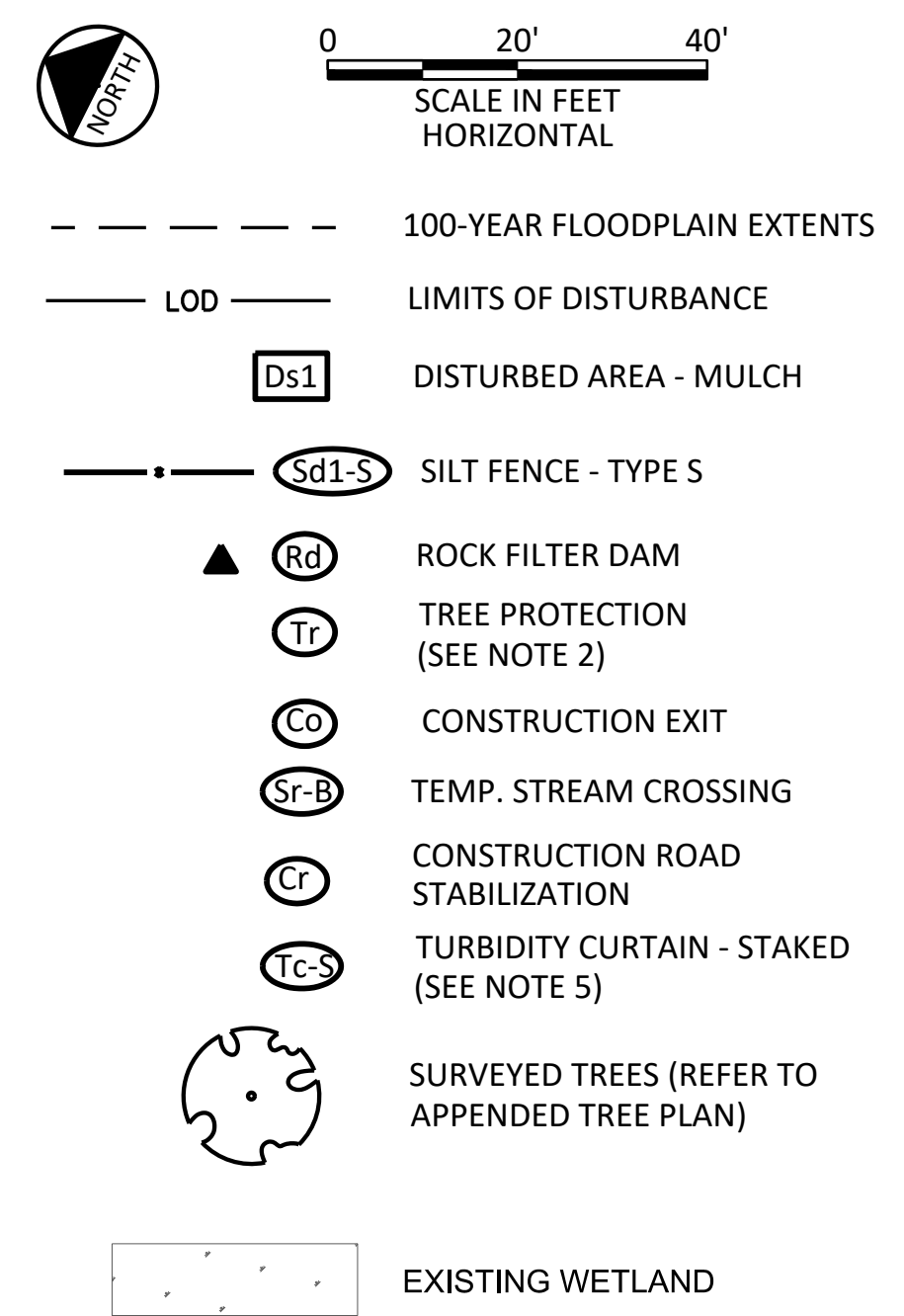
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 Permit # LDP22-00016

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  - ALL MATERIALS STORED IN FLOODPLAIN WILL BE ANCHORED TO PREVENT FLOTATION.
  - ALL WOOD CHIPS USED FOR HAUL ROAD AND/OR STORED ON SITE SHALL BE SPREAD AROUND THE SITE OR HAULED AWAY.
  - PLYWOOD AND/OR GROUND PROTECTION MATS OVER 4-5 INCHES OF WOOD CHIPS SHALL BE PLACED ON ROUTES AND IN AREAS WHERE THE CRZ MAY BE IMPACTED.



24 HOUR CONTACT:  
**TOM ROBERTS**  
 NAME  
 404-637-0540  
 PHONE  
 TOM.ROBERTS@BROOKHAVENGA.GOV  
 EMAIL

**GSWCC** Georgia Soil and Water Conservation Commission  
**JOHN P. SCHNEIDER**  
 Level II Certified Design Professional  
 CERTIFICATION NUMBER: 0000094149  
 ISSUED: 04/27/2021 EXPIRES: 04/27/2024



**ISSUED FOR PERMIT NOT FOR CONSTRUCTION**

Freese and Nichols, Inc.  
 Georgia Registered Engineering Firm PEF-004433  
 Expires 09/29/2025



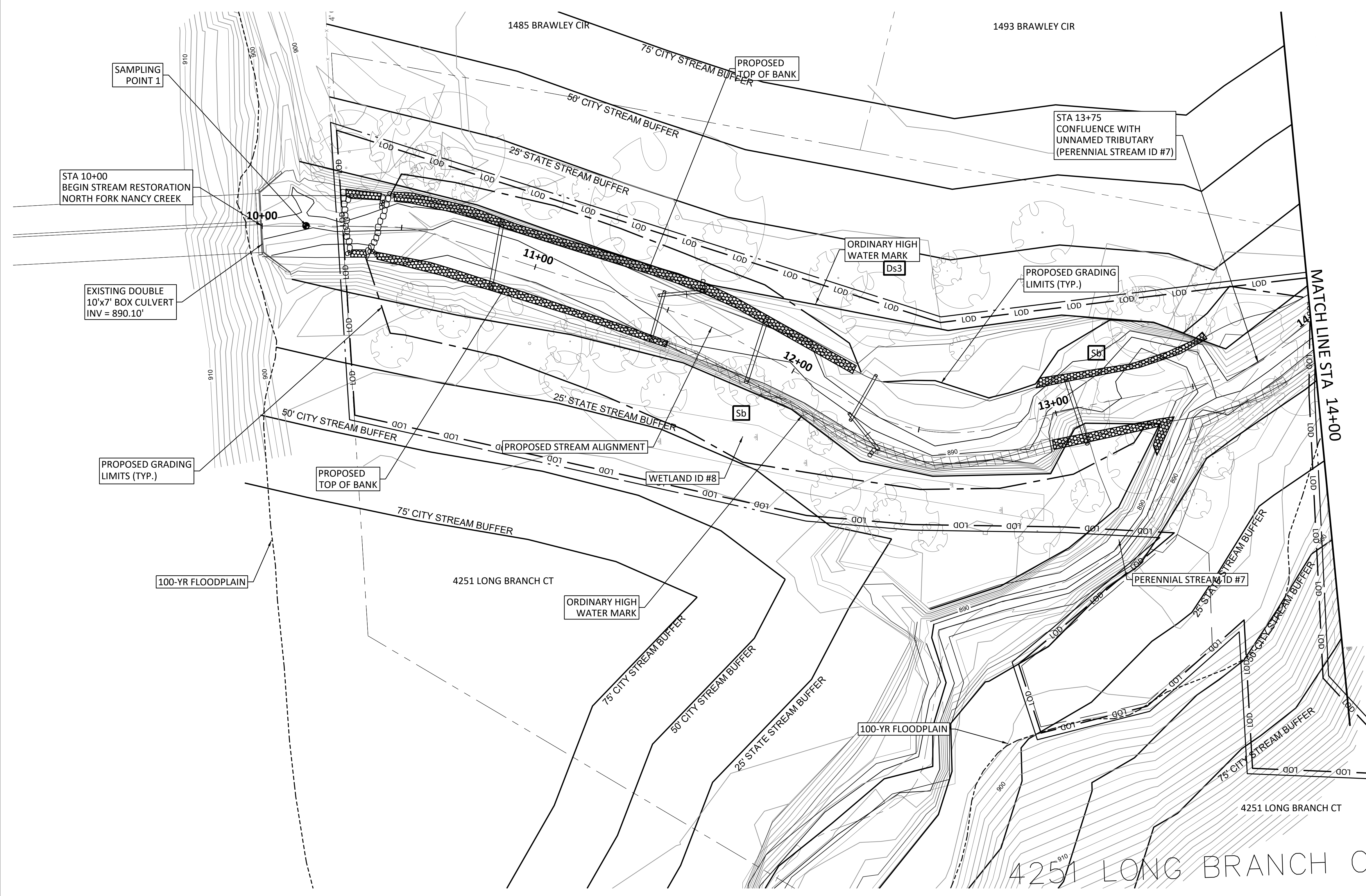
**FREESE & NICHOLS**  
 360 Interstate North Parkway,  
 Atlanta, GA 30339  
 Phone - (404) 334-4310  
 Web - www.freese.com

**CITY OF BROOKHAVEN**  
**N. FORK NANCY CREEK STREAMBANK RESTORATION FROM I-285 TO MURPHEY CANDLER LAKE**  
**DS STAGE & STOCK PILE AREA - PHASE I & II**  
 E&S

NO.	ISSUE	DATE	BY	DESCRIPTION	FILE NAME
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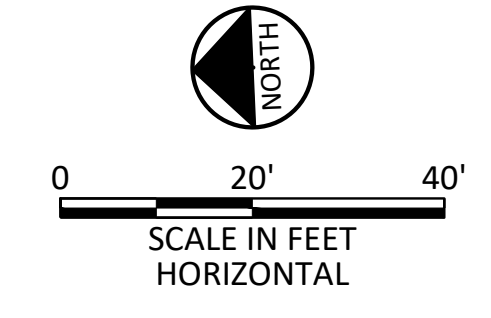
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 Permit # LDP22-00016

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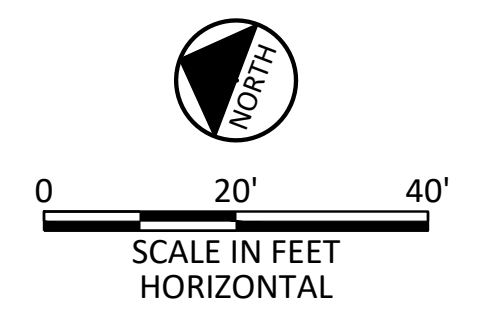


**NOTES:**

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- LOD — LIMITS OF DISTURBANCE
- Ds3 DISTURBED AREA - PERM SEED  
\*SEE PLANTING MIX DETAILS
- Sb STREAMBANK STABILIZATION (PERM VEGETATION)  
\*SEE PLANTING DETAILS



24 HOUR CONTACT:  
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 NAME  
 4-637-0540  
 PHONE  
 TOM.ROBERTS@BROOKHAVENGA.GOV  
 EMAIL

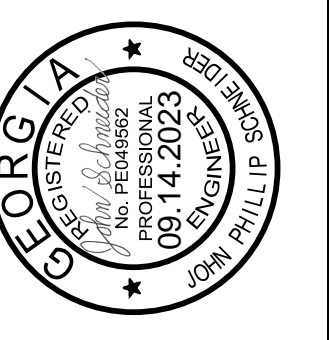
**GSWCC** Georgia Soil and Water Conservation Commission

**JOHN P. SCHNEIDER**  
 Level II Certified Design Professional  
 CERTIFICATION NUMBER 0000094149  
 ISSUED: 04/27/2021 EXPIRES: 04/27/2024



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 Georgia Registered Engineering Firm PEF-004433  
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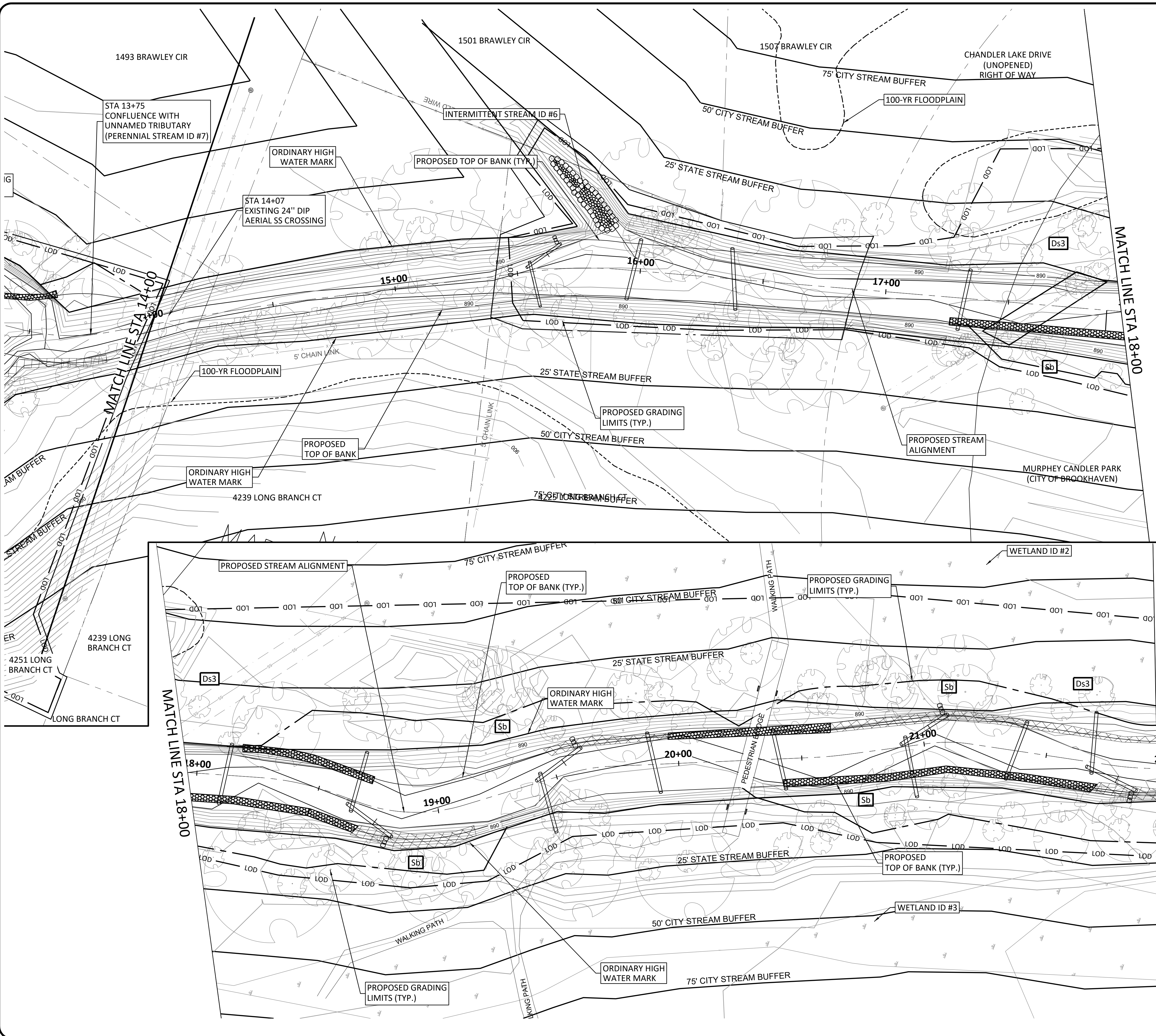
**FREES & NICHOLS**  
 360 Interstate North Parkway,  
 Atlanta, GA 30339  
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**N. FORK NANCY CREEK STREAMBANK RESTORATION  
 FROM I-285 TO MURPHEY CANDLER LAKE**

NO.	ISSUE	BY	DATE	DESCRIPTION	FILE NAME
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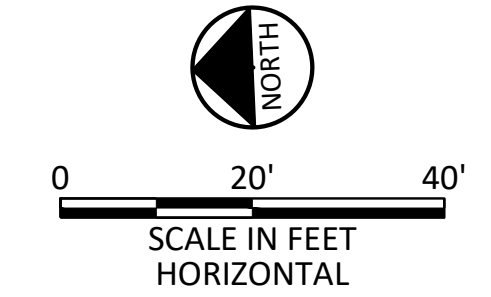
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 Permit # LDP22-00016

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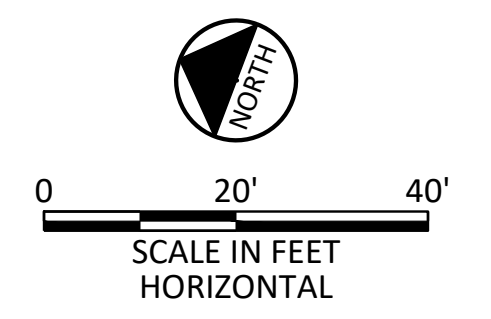


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- LOD — LIMITS OF DISTURBANCE
- Ds3 DISTURBED AREA - PERM SEED  
\*SEE PLANTING MIX DETAILS
- Sb STREAMBANK STABILIZATION (PERM VEGETATION)  
\*SEE PLANTING DETAILS



24 HOUR CONTACT:  
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 404-637-0540  
 PHONE  
 TOM.ROBERTS@BROOKHAVENGA.GOV  
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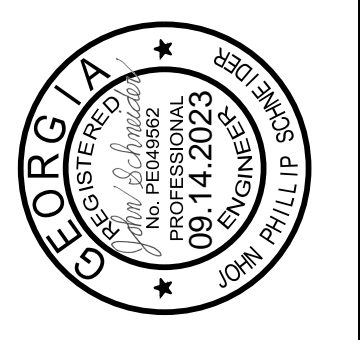
**GSWCC** Georgia Soil and Water Conservation Commission

**JOHN P. SCHNEIDER**  
 Level II Certified Design Professional

CERTIFICATION NUMBER: 0000094149  
 ISSUED: 04/27/2021 EXPIRES: 04/27/2024

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 Georgia Registered Engineering Firm P.E.#004433  
 Expires 09/20/2025

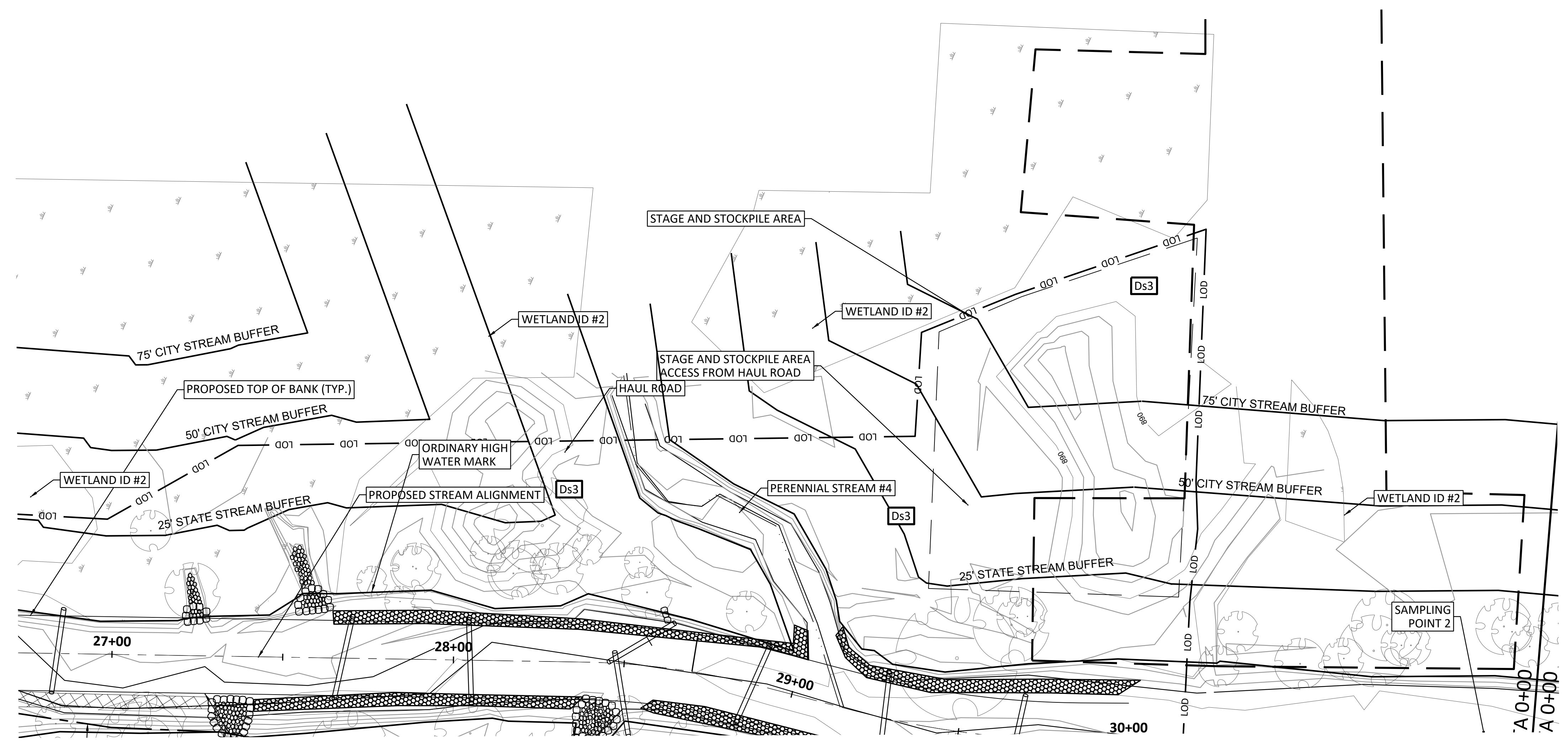


**FREES & NICHOLS**  
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CITY OF BROOKHAVEN  
**N. FORK NANCY CREEK STREAMBANK RESTORATION  
 FROM I-285 TO MURPHEY CANDLER LAKE**  
 E&S  
**STA 14+00 TO STA 22+00 - PHASE III**

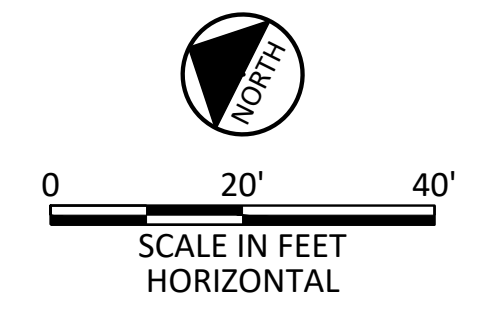
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3	RCE			DESIGNED	

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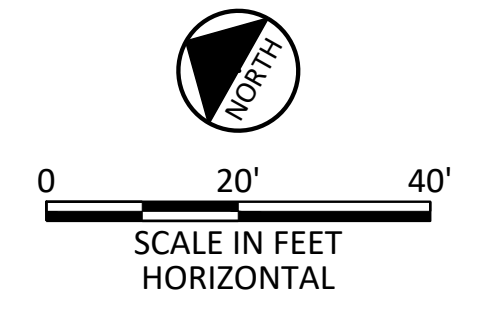


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- Ds3 DISTURBED AREA - PERM SEED  
\*SEE PLANTING MIX DETAILS
- Sb STREAMBANK STABILIZATION (PERM VEGETATION)  
\*SEE PLANTING DETAILS

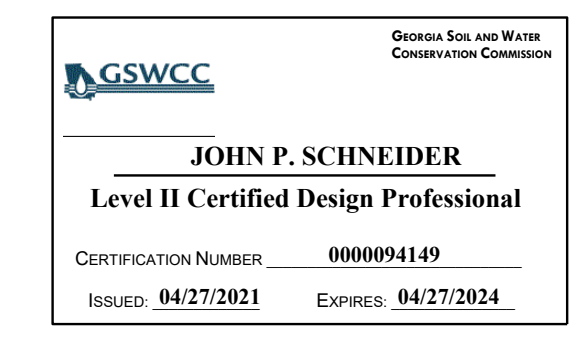


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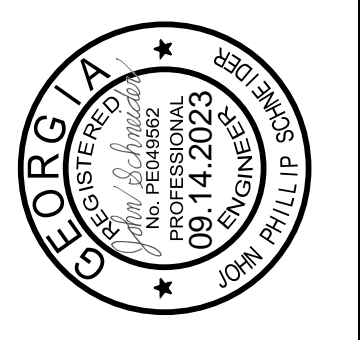
TOM ROBERTS  
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**Know what's below.  
 Call before you dig.**



Freese and Nichols, Inc.  
 Georgia Registered Engineering Firm PEF-004433  
 Expires 07/29/2025



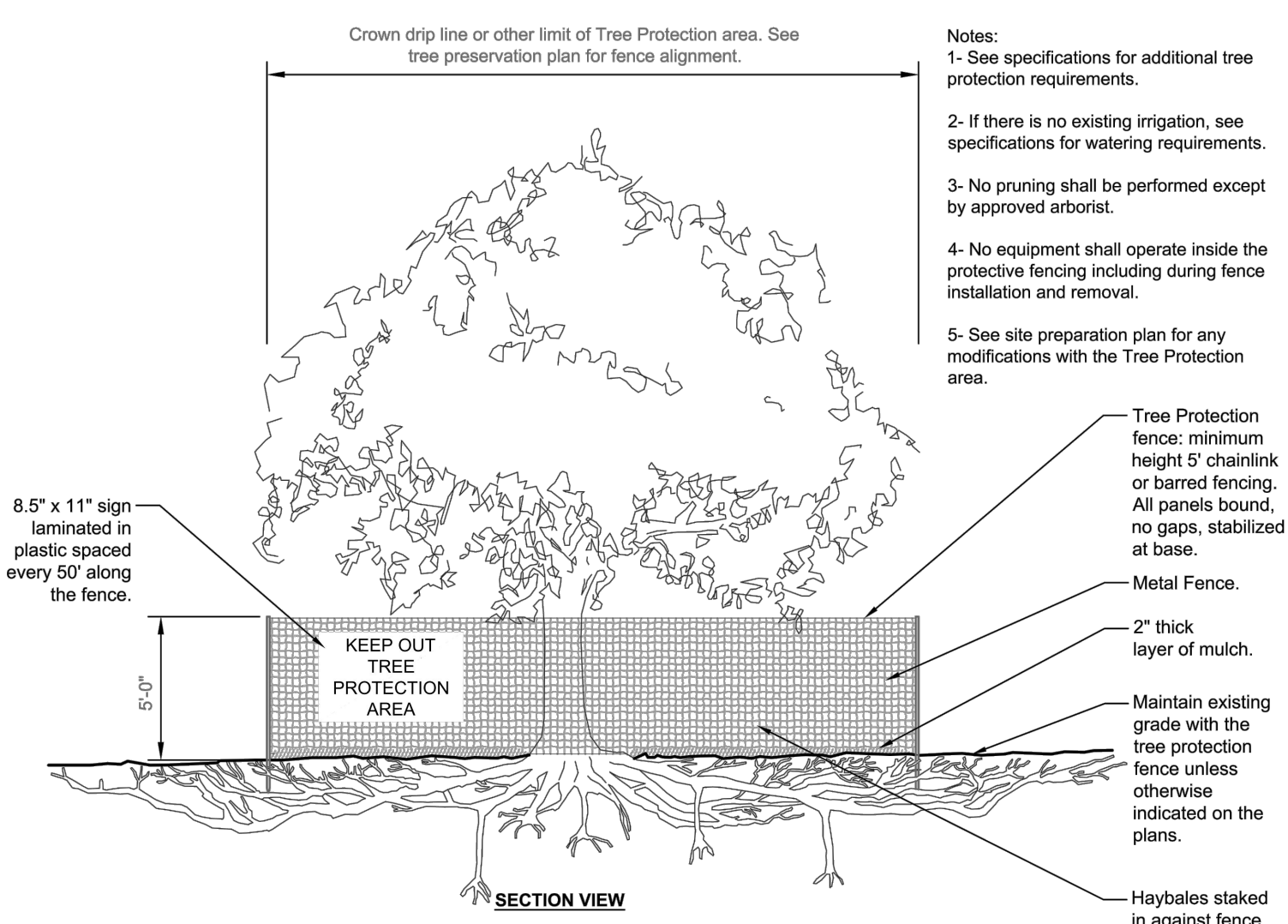
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CITY OF BROOKHAVEN  
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 FROM I-285 TO MURPHEY CANDLER LAKE**  
 E&S  
**DS STAGE & STOCKPILE AREA - PHASE III**

NO.	ISSUE	DATE	BY	DESCRIPTION	FILE NAME
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SHEET **ES-10**

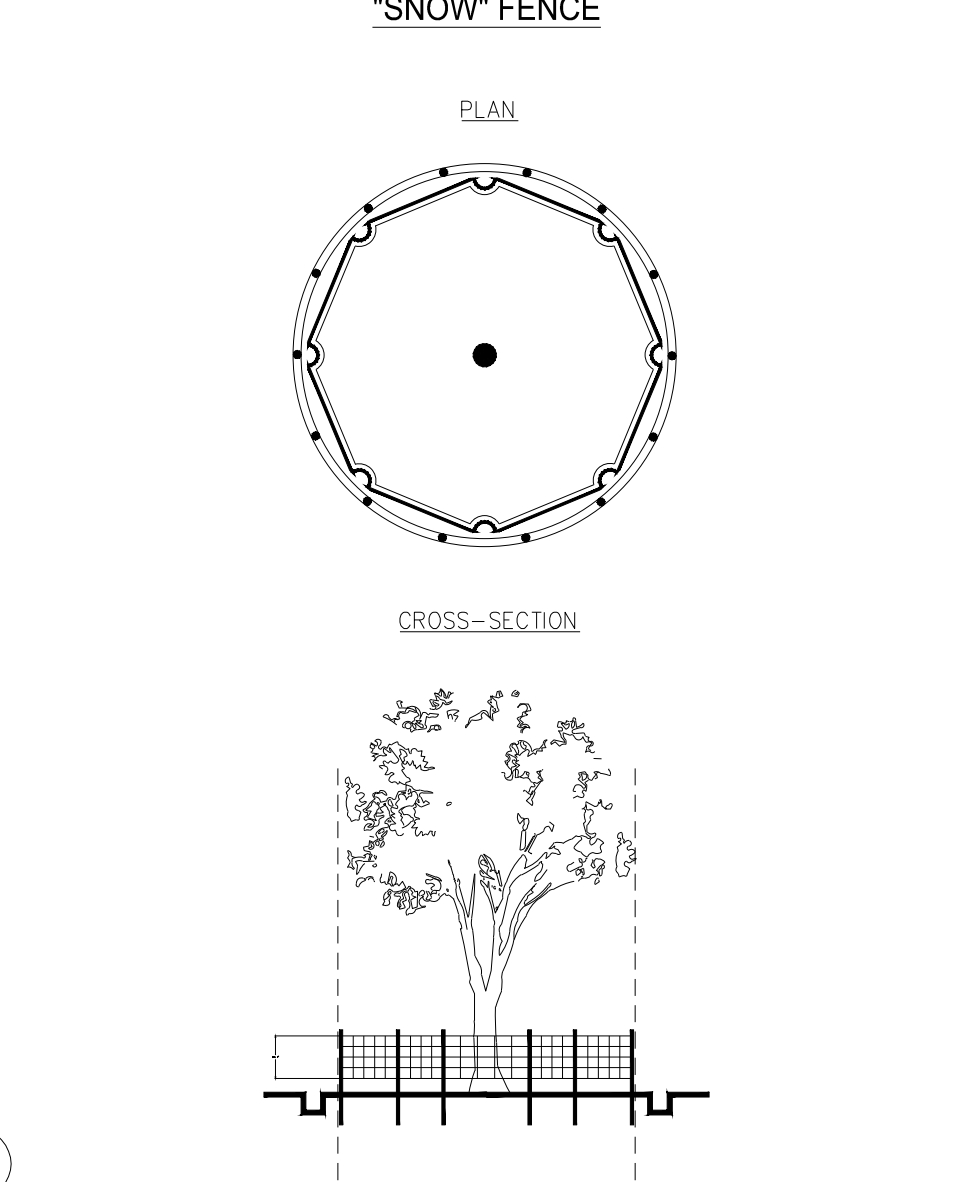
**ISSUED FOR PERMIT  
 NOT FOR CONSTRUCTION**



**Tr TREE PROTECTION**

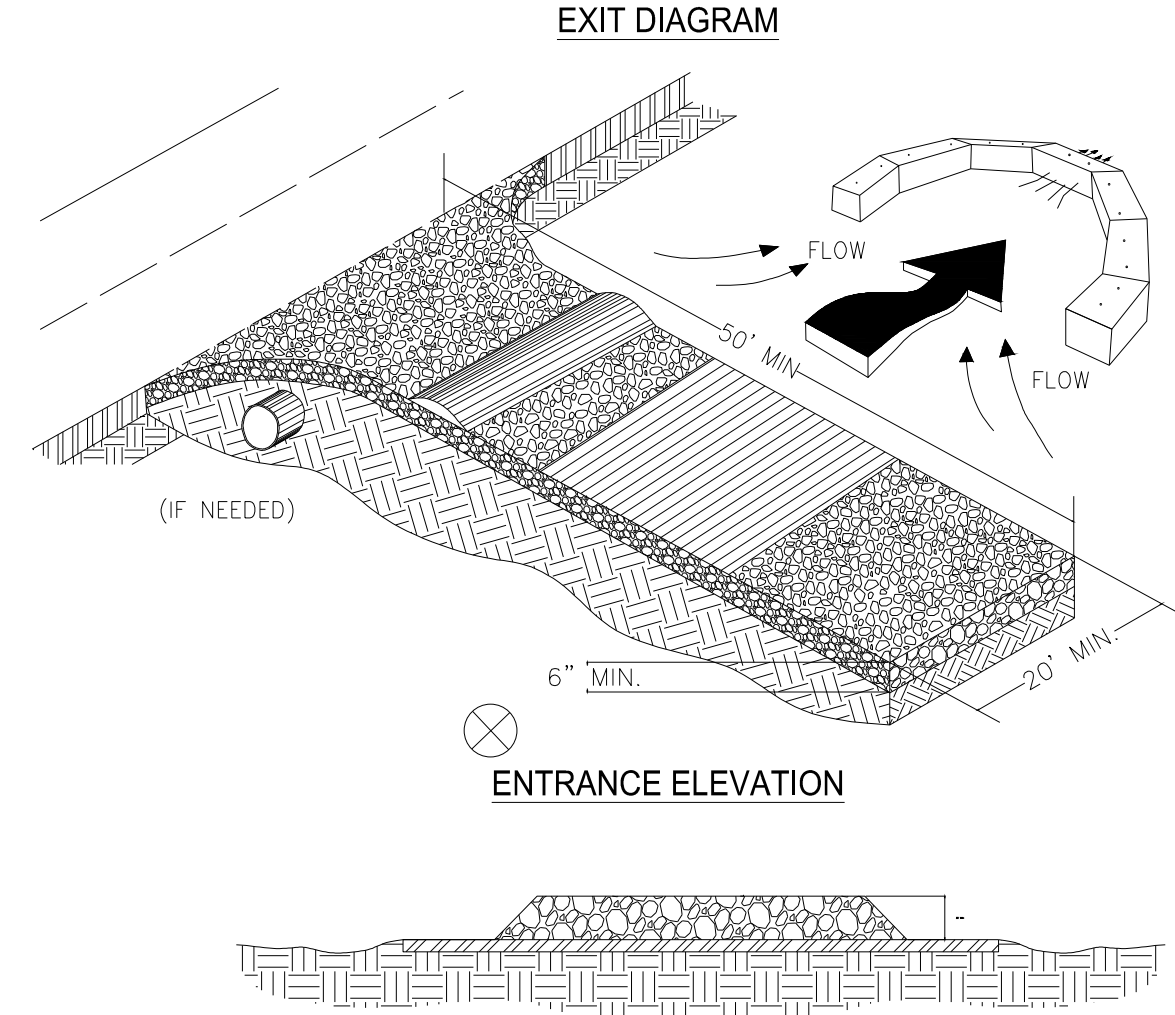
- NOTES:**
1. THE ABOVE DETAIL IS THE STANDARD CITY OF BROOKHAVEN TREE PROTECTION DETAIL. REFER TO THE DETAIL TO THE RIGHT FOR THE GSWCC ALTERNATE.
  2. SPACE STAKES AT INTERVALS SUFFICIENT TO MAINTAIN ALL FENCING OUT OF DRIP LINE OR AS SHOWN BY ENGINEER (SET STAKES NO GREATER THAN 6 FEET ON CENTER-REBAR IS NOT TO BE USED FOR STAKES).
  3. MAINTAIN FENCE BY REPAIRING AND/OR REPLACING DAMAGED FENCE. DO NOT REMOVE FENCING PRIOR TO LANDSCAPING OPERATIONS.
  4. DO NOT STORE OR STACK MATERIALS, EQUIPMENT, OR VEHICLES WITHIN FENCED AREA.
  5. THE CRITICAL ROOT ZONE (CRZ) IS DEFINED AS A 1.3-FT RADIUS PER EVERY DIAMETER-INCH OF THE TREE.
  6. THE STRUCTURAL ROOT PLATE (SRP) IS DEFINED AS A 0.5-FT RADIUS PER EVERY DIAMETER-INCH OF THE TREE.
  7. NO MACHINE TRENCHING THROUGH CRZ. HAND-DIG WHERE SILT FENCE (SD-1) CROSSES THE CRZ OF ANY TREE. ROOT PRUNE AS NEEDED ACCORDING TO ISA/ANSI PROFESSIONAL STANDARDS.
  8. IF IMPACTING THE CRZ WITH TRAFFIC FROM OPERATING EQUIPMENT, A 5" LAYER OF WOOD CHIPS WILL BE APPLIED OVER THE CRZ AS A TREE CARE PRESCRIPTION.
  9. PLYWOOD AND/OR GROUND PROTECTION MATS OVER 4-5 INCHES OF WOOD CHIPS SHALL BE PLACED ON ROUTES AND IN AREAS WHERE THE CRZ MAY BE IMPACTED.
  10. IF GRADING/DIGGING IMPACTS THE CRZ, THEN ROOT PRUNING IS PRESCRIBED AS A TREE CARE PRESCRIPTION.
  11. TREES WITHIN UPPER LIMITS OF GRADING EXTENTS SHALL HAVE THEIR ROOT BALL (OR SRP) PROTECTED BY STACKING GEOBAGS AROUND THE BASE OF THE TREE AS A TREE CARE PRESCRIPTION.

**"Tr" TREE PROTECTION (ALTERNATE)**



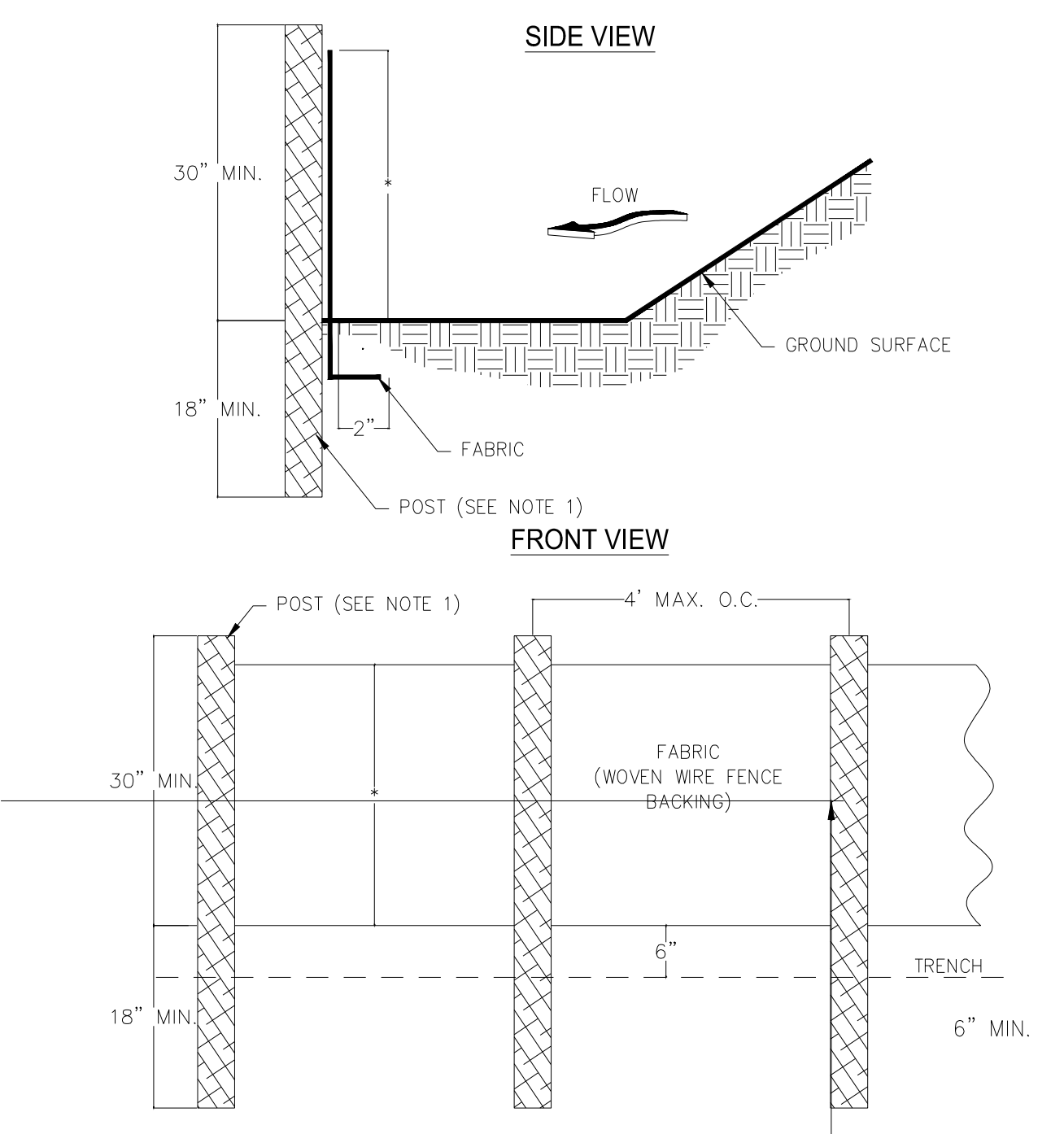
- NOTES:**
1. SPACE STAKES AT INTERVALS SUFFICIENT TO MAINTAIN ALL FENCING OUT OF DRIP LINE OR AS SHOWN BY ENGINEER (SET STAKES NO GREATER THAN 6 FEET ON CENTER-REBAR IS NOT TO BE USED FOR STAKES).
  2. MAINTAIN FENCE BY REPAIRING AND/OR REPLACING DAMAGED FENCE. DO NOT REMOVE FENCING PRIOR TO LANDSCAPING OPERATIONS.
  3. DO NOT STORE OR STACK MATERIALS, EQUIPMENT, OR VEHICLES WITHIN FENCED AREA.
  4. THE CRITICAL ROOT ZONE (CRZ) IS DEFINED AS A 1.3-FT RADIUS PER EVERY DIAMETER-INCH OF THE TREE.
  5. THE STRUCTURAL ROOT PLATE (SRP) IS DEFINED AS A 0.5-FT RADIUS PER EVERY DIAMETER-INCH OF THE TREE.
  6. NO MACHINE TRENCHING THROUGH CRZ. HAND-DIG WHERE SILT FENCE (SD-1) CROSSES THE CRZ OF ANY TREE. ROOT PRUNE AS NEEDED ACCORDING TO ISA/ANSI PROFESSIONAL STANDARDS.
  7. IF IMPACTING THE CRZ WITH TRAFFIC FROM OPERATING EQUIPMENT, A 5" LAYER OF WOOD CHIPS WILL BE APPLIED OVER THE CRZ AS A TREE CARE PRESCRIPTION.
  8. PLYWOOD AND/OR GROUND PROTECTION MATS OVER 4-5 INCHES OF WOOD CHIPS SHALL BE PLACED ON ROUTES AND IN AREAS WHERE THE CRZ MAY BE IMPACTED.
  9. IF GRADING/DIGGING IMPACTS THE CRZ, THEN ROOT PRUNING IS PRESCRIBED AS A TREE CARE PRESCRIPTION.
  10. TREES WITHIN UPPER LIMITS OF GRADING EXTENTS SHALL HAVE THEIR ROOT BALL (OR SRP) PROTECTED BY STACKING GEOBAGS AROUND THE BASE OF THE TREE AS A TREE CARE PRESCRIPTION.

**CRUSHED STONE CONSTRUCTION EXIT**



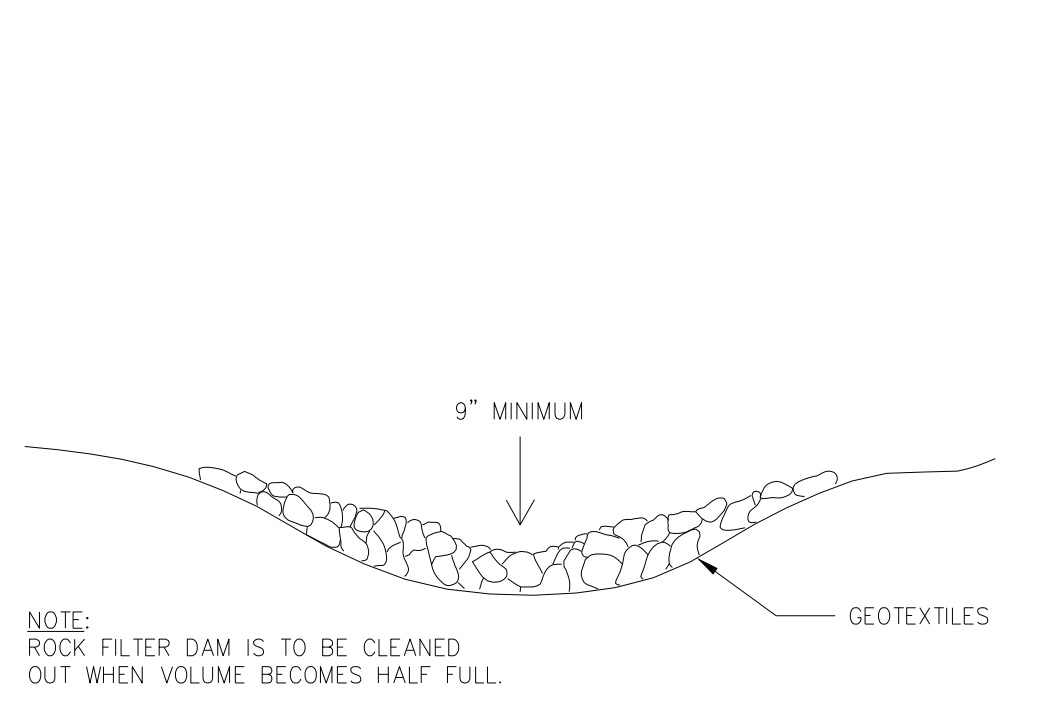
- NOTES:**
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
  2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
  3. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5"-3.5" STONE).
  4. 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.

**SILT FENCE - TYPE S (Sd1-S)**



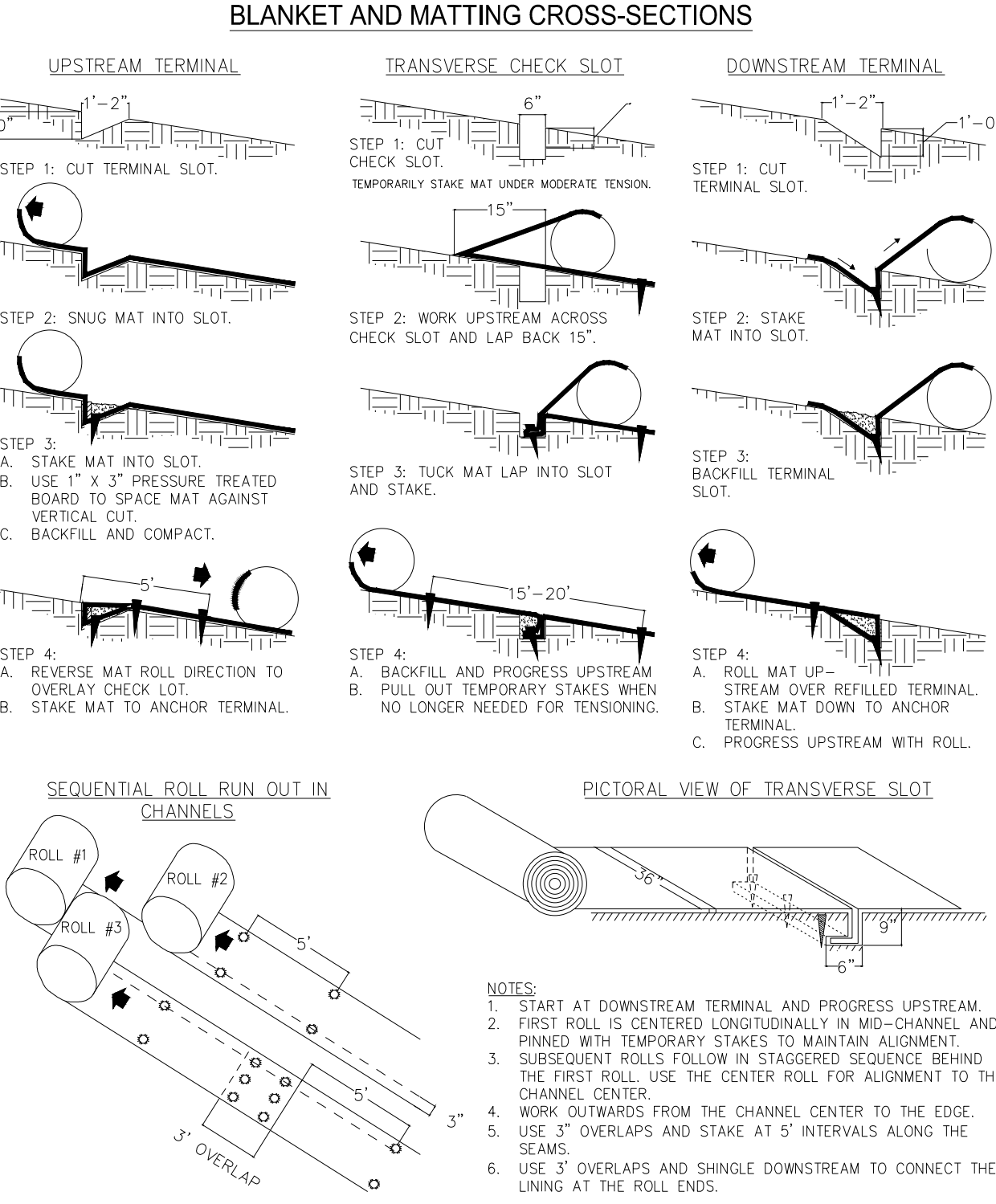
- NOTES:**
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
  2. HEIGHT (H) IS TO BE 30" MIN.
  3. NO MACHINE TRENCHING THROUGH CRITICAL ROOT ZONE (CRZ). HAND-DIG WHERE SILT FENCE (SD-1) CROSSES THE CRZ OF ANY TREE. ROOT PRUNE AS NEEDED ACCORDING TO ISA/ANSI PROFESSIONAL STANDARDS.

**"Rd" ROCK FILTER DAM**

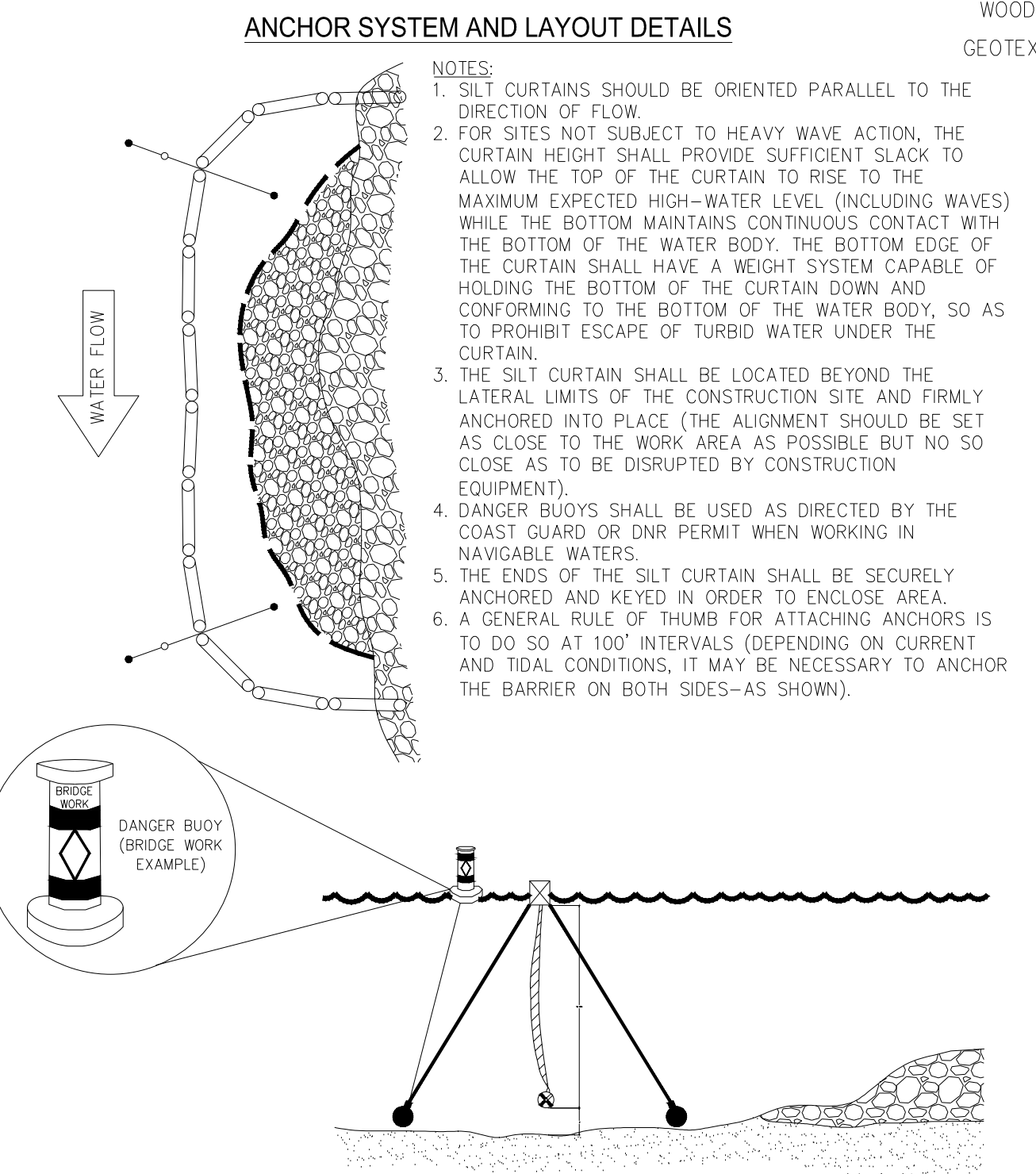


**NOTE:**  
ROCK FILTER DAM IS TO BE CLEANED OUT WHEN VOLUME BECOMES HALF FULL.

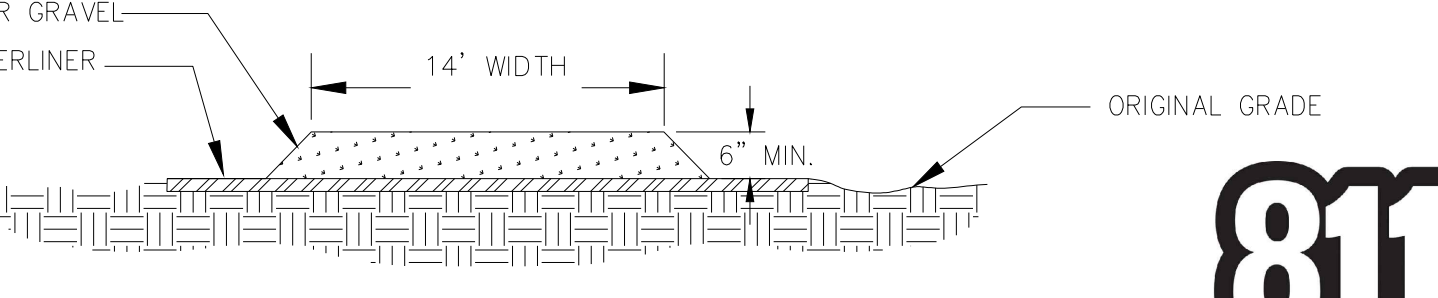
**"Ss" TYPICAL INSTALLATION GUIDELINES FOR ROLLED EROSION CONTROL PRODUCTS (RECP)**



**"Tc" TURBIDITY CURTAIN SYSTEM**



**"Cr" CONSTRUCTION ROAD STABILIZATION**



- NOTES:**
1. INSTALL ACCORDING TO THE APPROVED PLAN, PER SHEET DT-5, NOTE 10 ON SHEET DT-6, AND PER GSWCC REQUIREMENTS.
  2. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5"-3.5" STONE).
  3. TEMPORARY ROADS SHALL FOLLOW THE CONTOUR OF THE NATURAL TERRAIN TO MINIMIZE DISTURBANCE OF DRAINAGE PATTERNS.
  4. IF A TEMPORARY ROAD MUST CROSS A STREAM, REFER TO THE TEMPORARY STREAM CROSSING DETAIL (DT-6).
  5. GRADES FOR TEMPORARY ROADS SHOULD NOT EXCEED 10% EXCEPT FOR SHORT LENGTHS BUT MAXIMUM GRADES OF 20% MAY BE USED FOR SPECIAL USES.
  6. TEMPORARY ROAD BEDS SHALL BE AT LEAST 12 FT WIDE FOR ONE-WAY TRAFFIC.
  7. APPLY GEOTEXTILE TO THE ROADBED FOR ADDITIONAL STABILITY IN THE SAME MANNER AS A CONSTRUCTION ENTRANCE/EXIT.
  8. APPLY A 6-INCH LAYER OF AGGREGATE OR WOOD CHIPS ON GDOT APPROVED GEOTEXTILE FILTER FABRIC.
  9. STABILIZE ALL ROADSIDE DITCHES, CUTS, FILLS, AND OTHER DISTURBED AREAS ADJACENT TO PARKING AREAS AND ROADS WITH APPROPRIATE TEMPORARY OR PERMANENT VEGETATION.
  10. PERIODICALLY TOP DRESS ROADS WITH WOOD CHIPS OR GRAVEL TO MAINTAIN THE DEPTH AT 6-INCHES.
  11. CHECK VEGETATED AREAS PERIODICALLY TO ENSURE A GOOD STAND OF VEGETATION IS MAINTAINED.
  12. REMOVE ANY SILT OR OTHER DEBRIS CAUSING CLOGGING OF ROADSIDE. 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).
  13. IF ANY FILL IS BROUGHT INTO THE FLOODPLAIN, THEN AN EQUAL AMOUNT OF FILL MUST BE REMOVED FROM THE FLOODPLAIN.
  14. USE PRESCRIPTIVE TREE MAINTENANCE OF LAYERING 6" OF WOOD CHIPS OR GRAVEL AND ROOT PRUNING WHEN THE "Cr" ENDOACHES ON THE CRZ OF TREES.
  15. PLYWOOD AND/OR GROUND PROTECTION MATS OVER 4-5 INCHES OF WOOD CHIPS SHALL BE PLACED ON ROUTES AND IN AREAS WHERE THE CRZ MAY BE IMPACTED.

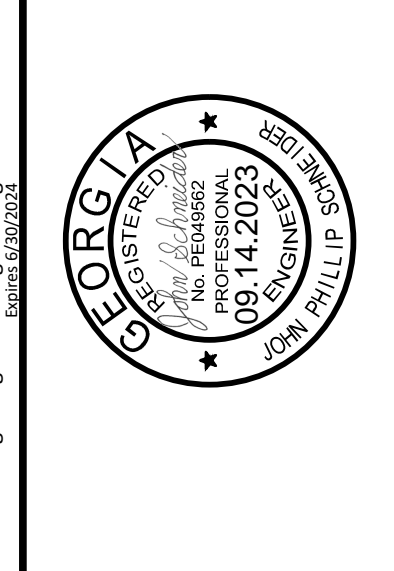


**Know what's below. Call before you dig.**

**24 HOUR CONTACT:**

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EMAIL

**GSWCC** Georgia Soil and Water Conservation Commission  
**JOHN P. SCHNEIDER**  
Level II Certified Design Professional  
CERTIFICATION NUMBER: 0000094149  
ISSUED: 04/27/2021 EXPIRES: 04/27/2024



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Atlanta, GA 30339  
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Web - www.frese.com

**CITY OF BROOKHAVEN**  
**N.FORK NANCY CREEK STREAMBANK RESTORATION**  
**FROM I-285 TO MURPHEY CANDLER LAKE**  
E-83C  
ESC DETAILS

NO.	ISSUE	DATE	BY	FILE NAME	DESCRIPTION
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SHEET **ES-11** SEQ.

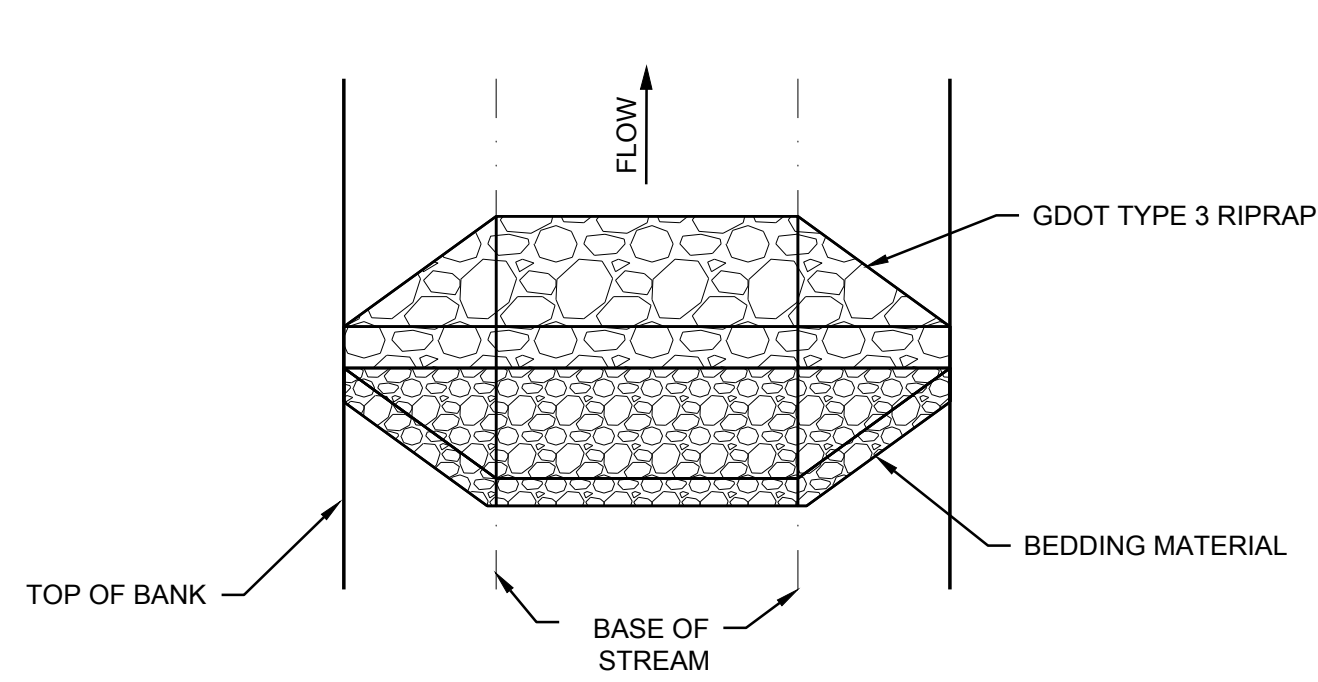
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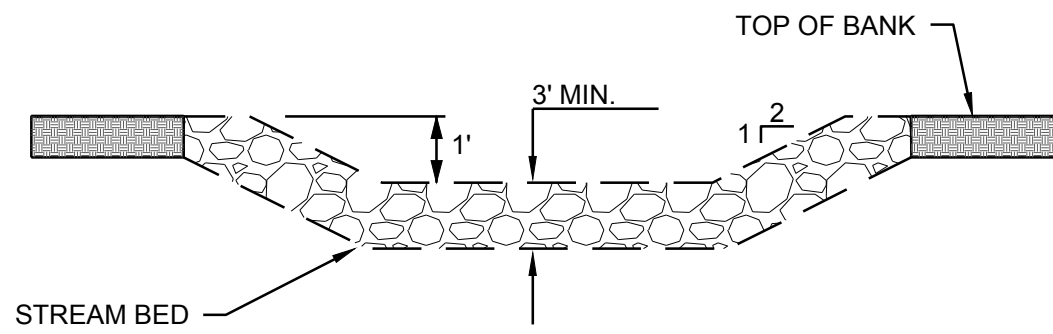


**NOTE:**

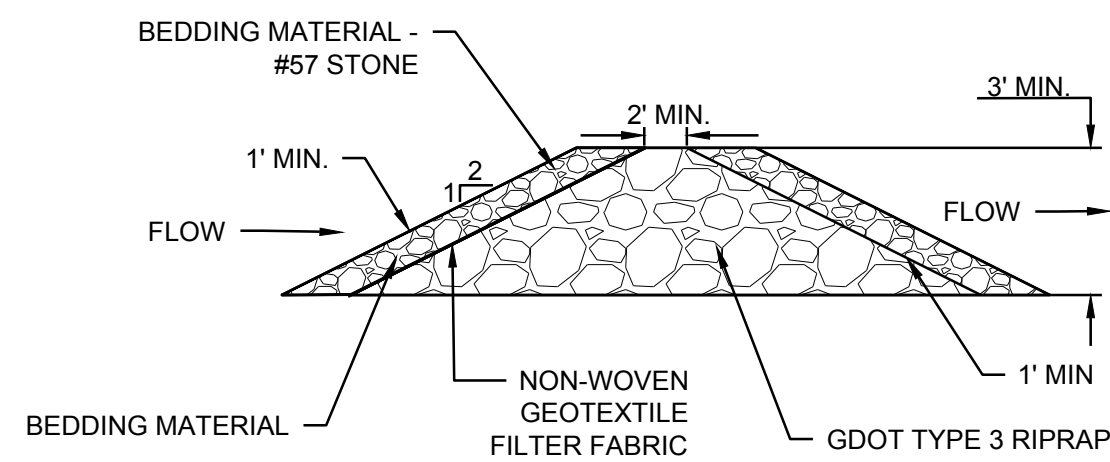
1. THE STRUCTURE SHALL BE USED FOR DIVERTING AND PUMPING ONLY. THE STRUCTURE SHALL BE RELOCATED OR REMOVED ONCE PUMPING/DIVERTING IS COMPLETE.
2. EITHER TYPE OF IMPERVIOUS DIKE (SANDBAG OR STONE) MAY BE USED.



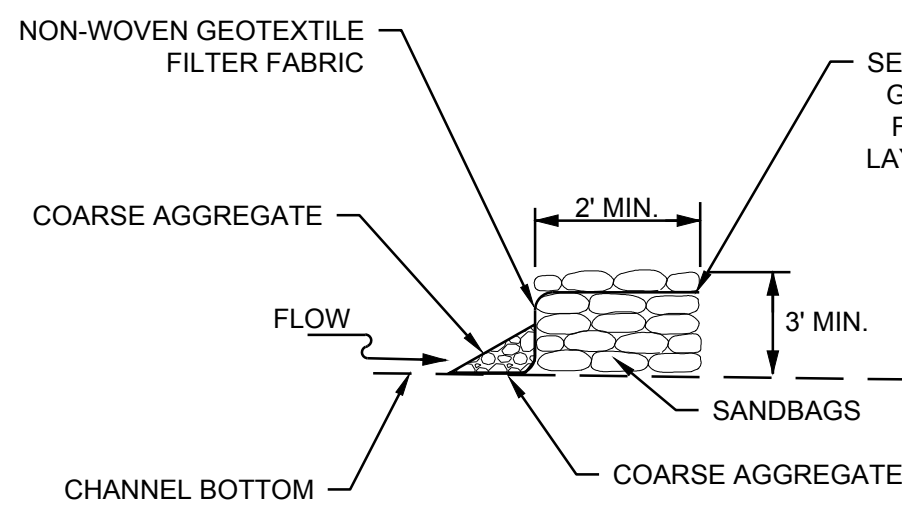
**STONE IMPERVIOUS DIKE  
PLAN VIEW**



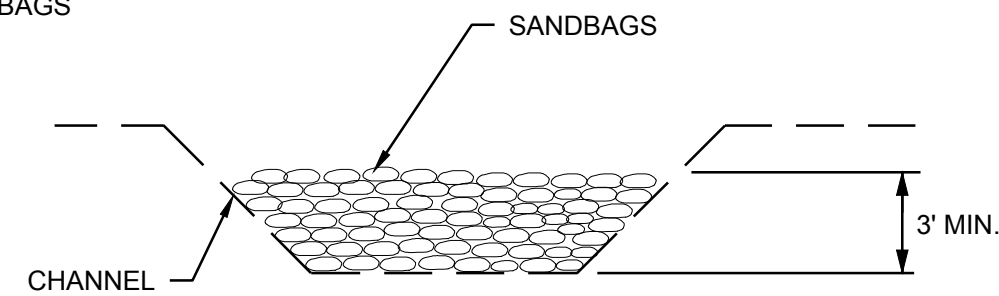
**STONE IMPERVIOUS DIKE  
CROSS SECTION**



**STONE IMPERVIOUS DIKE  
PROFILE**

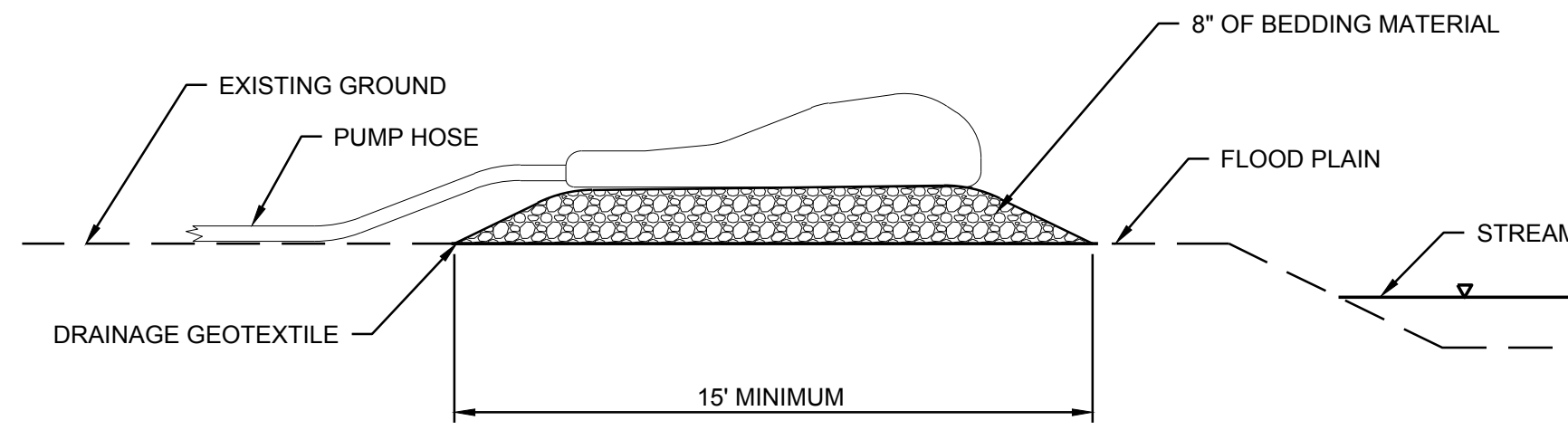


**SANDBAG IMPERVIOUS  
DIKE PROFILE**

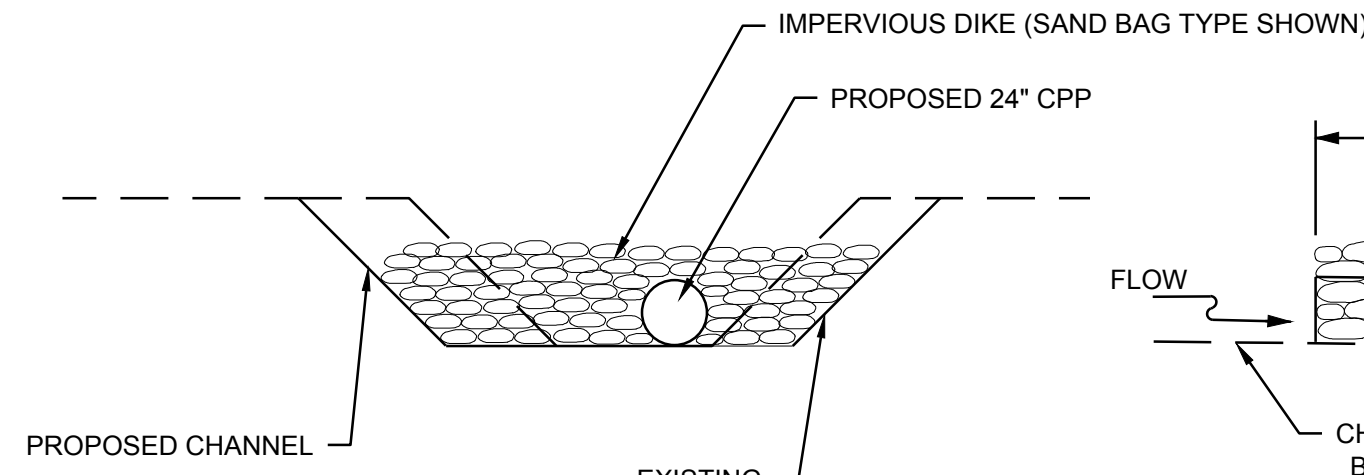


**SANDBAG IMPERVIOUS DIKE  
CROSS SECTION**

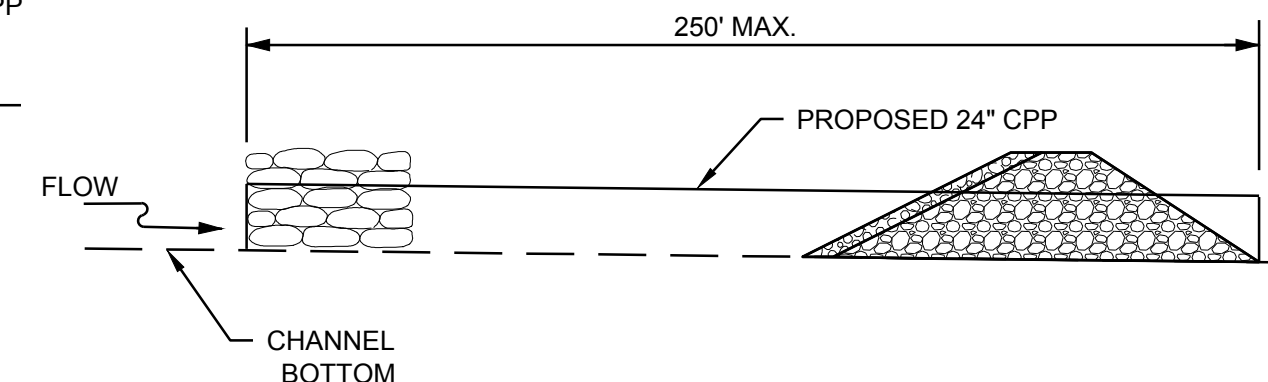
**IMPERVIOUS DIKE  
SCALE: NTS**



**SPECIAL STILLING BASIN  
SCALE: NTS**



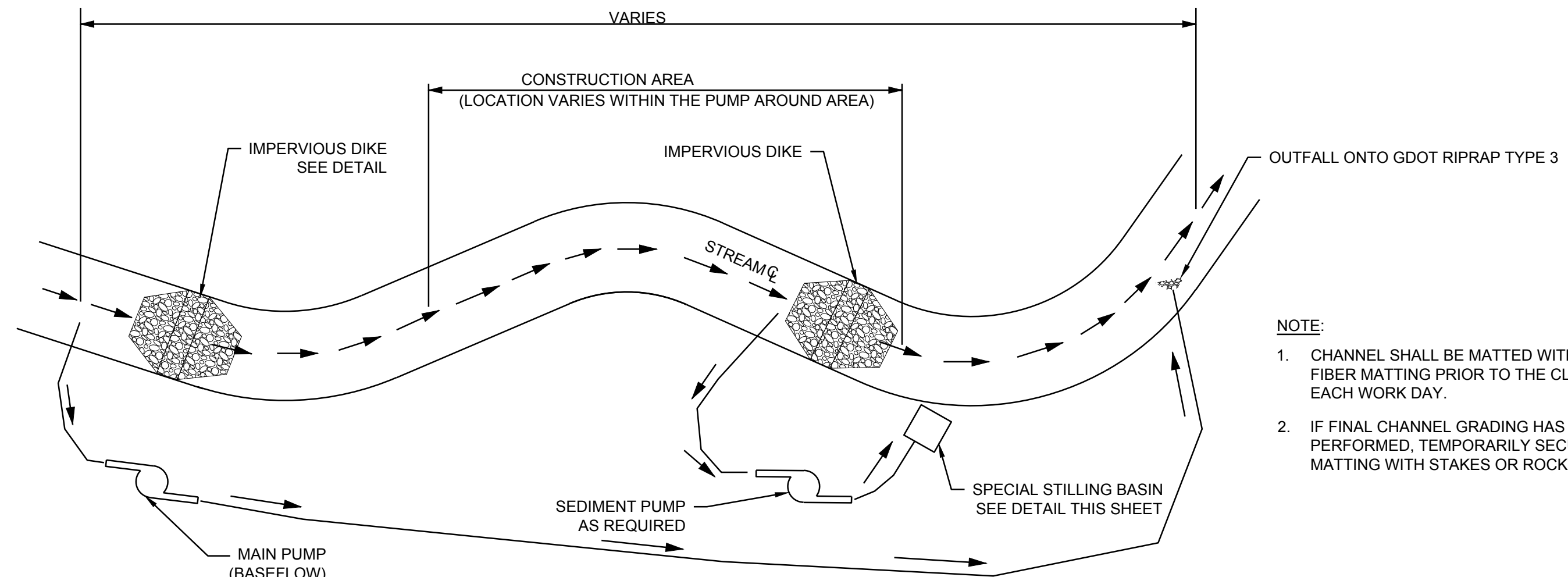
**PIPE DIVERSION CROSS SECTION**



**PIPE DIVERSION PROFILE**

**NOTE:**

1. PIPE MUST HAVE POSITIVE DRAINAGE WHEN USING DIVERSION (0.3% TO 2.0% PIPE SLOPE IS RECOMMENDED)

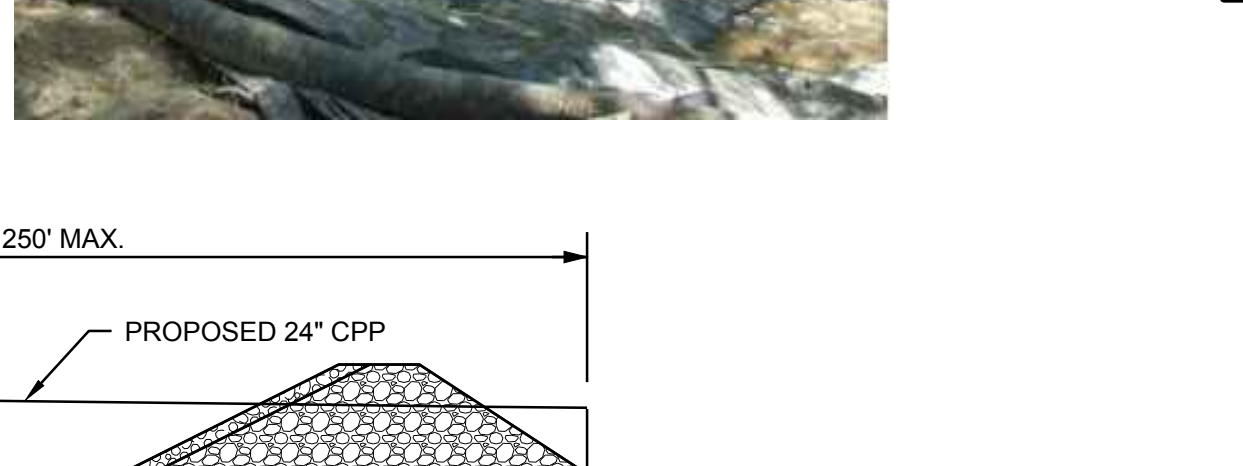


**PUMP-AROUND DIVERSION PLANVIEW**

**NOTE:**

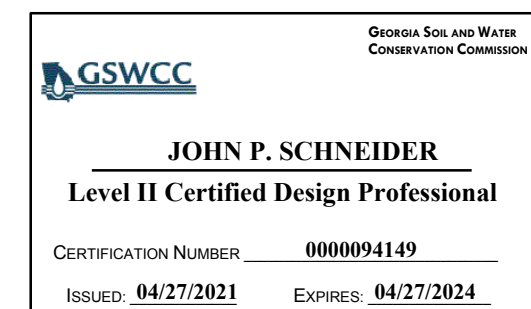
1. CHANNEL SHALL BE MATTED WITH COIR FIBER MATTING PRIOR TO THE CLOSE OF EACH WORK DAY.
2. IF FINAL CHANNEL GRADING HAS NOT BEEN PERFORMED, TEMPORARILY SECURE COIR MATTING WITH STAKES OR ROCK

**"Dv" PUMP-AROUND/PIPE DIVERSION  
SCALE: NTS**



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**CITY OF BROOKHAVEN  
N.FORK NANCY CREEK STREAMBANK RESTORATION  
FROM I-285 TO MURPHEY CANDLER LAKE**  
E&S  
E&S

NO.	ISSUE	DATE	BY	F&N JOB NO.	DATE	DESIGNED	DRAWN	REVIEWED	CHECKED	FILE NAME
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1			JPS							

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