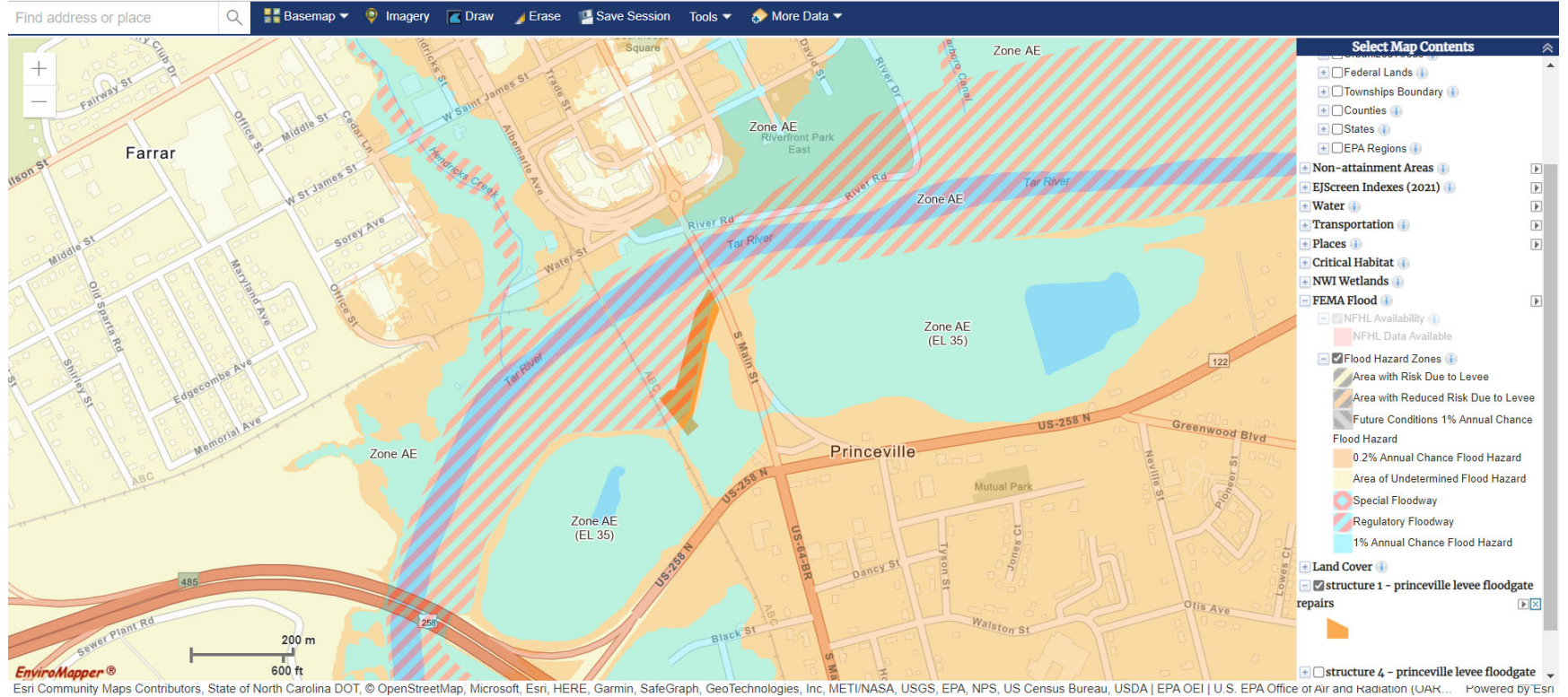


# ***PRINCEVILLE LEVEE FLOODGATE REPAIRS PROJECT***

## **EARLY NOTICE FLOODPLAIN AND WETLANDS MAPS**

- **FEMA FIRMs data**
- **USACE Jurisdictional Determination**
- **National Wetlands Inventory Maps**
- **Design Plans**
- **Floodplain Development Permit**
- **No Rise Certification**

# Princeville Levee Floodgate Repairs – Structure 1

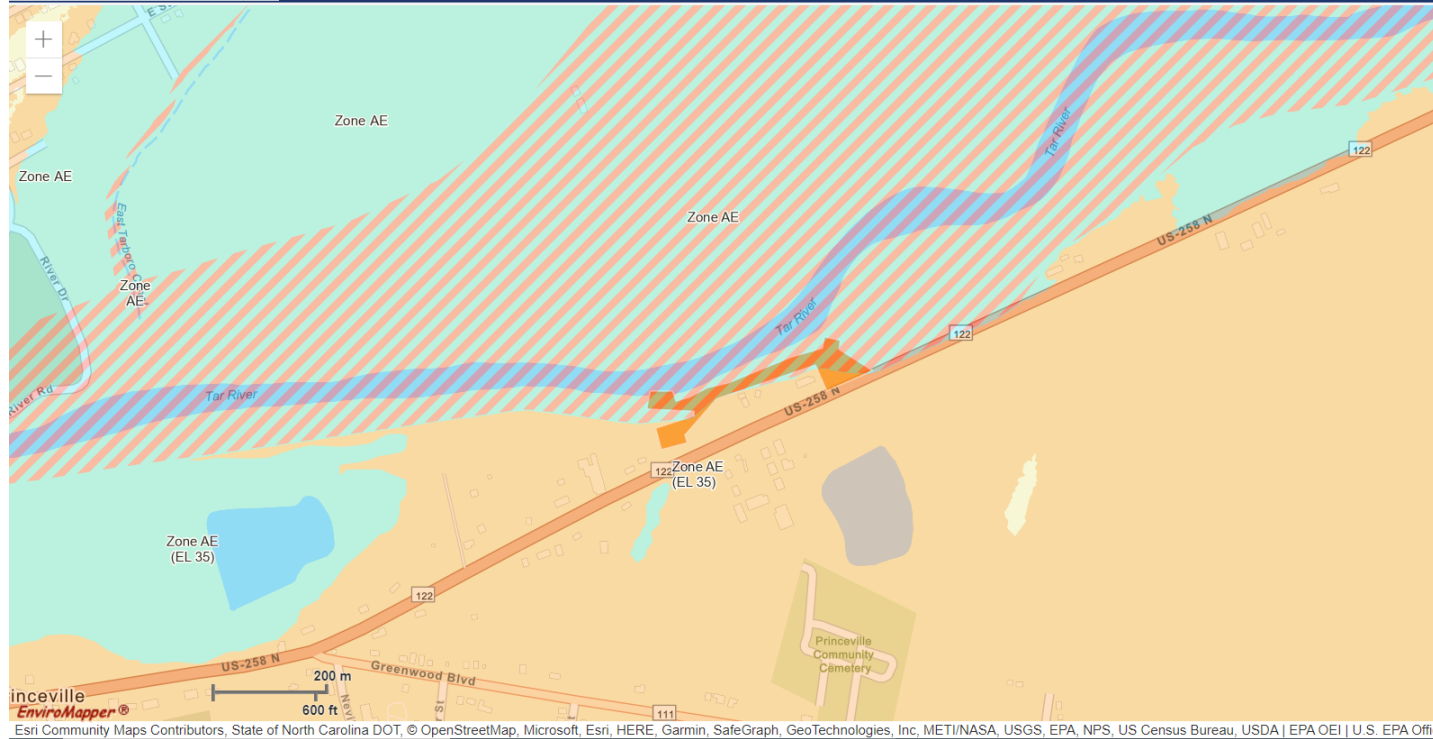




# Princeville Levee Floodgate Repairs – Structures 2 & 3

Find address or place

Basemap Imagery Draw Erase Save Session Tools More Data

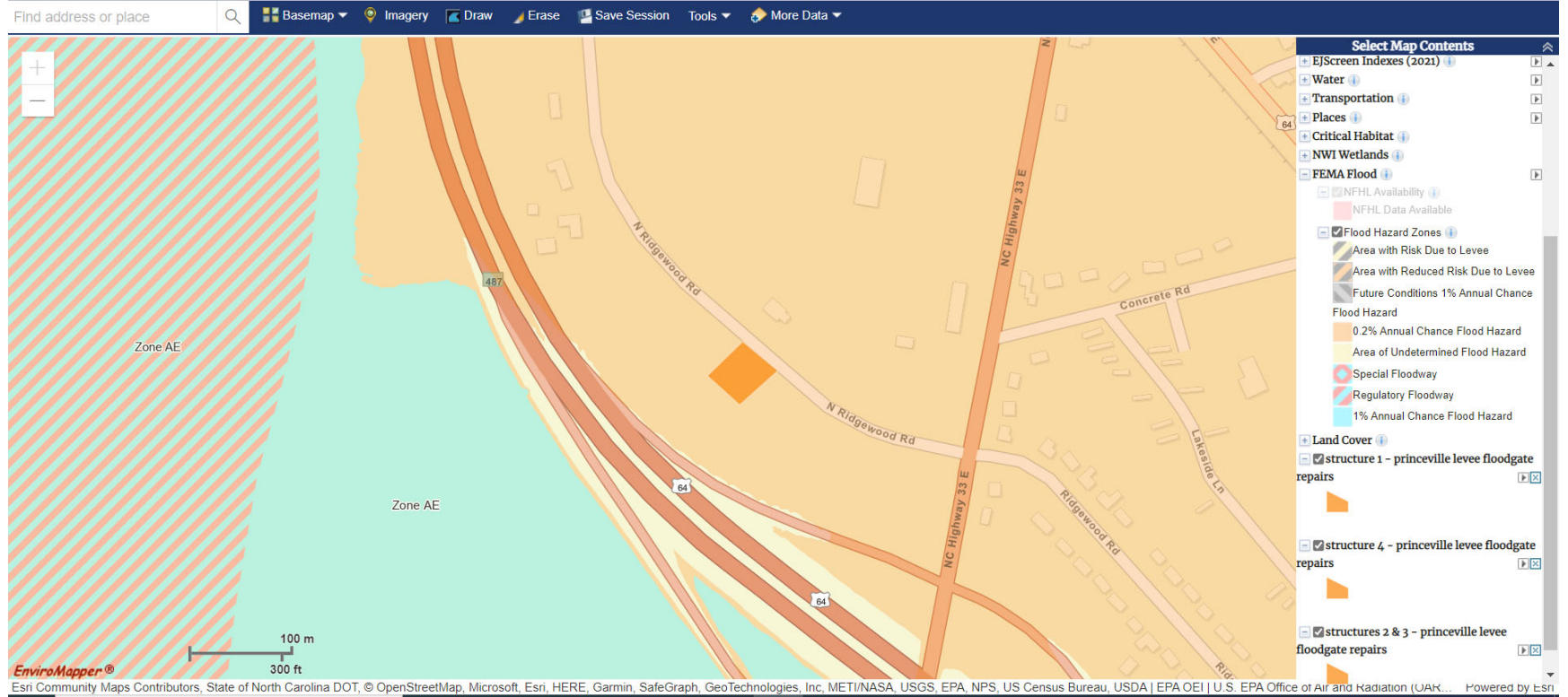


### Select Map Contents

- Federal Lands
- Townships Boundary
- Counties
- States
- EPA Regions
- Non-attainment Areas
- EJScreen Indexes (2021)
- Water
- Transportation
- Places
- Critical Habitat
- NWI Wetlands
- FEMA Flood
  - NFHL Availability
  - NFHL Data Available
- Flood Hazard Zones
  - Area with Risk Due to Levee
  - Area with Reduced Risk Due to Levee
  - Future Conditions 1% Annual Chance Flood Hazard
  - 0.2% Annual Chance Flood Hazard
  - Area of Undetermined Flood Hazard
  - Special Floodway
  - Regulatory Floodway
  - 1% Annual Chance Flood Hazard
- Land Cover
  - structure 1 - princeville levee floodgate repairs
  - structure 4 - princeville levee floodgate repairs
  - structures 2 & 3 - princeville levee floodgate repairs

Princeville  
EnviroMapper®

# Princeville Levee Floodgate Repairs – Structure 4



**U.S. ARMY CORPS OF ENGINEERS**  
**WILMINGTON DISTRICT**

Action Id. SAW-2021-00964

County: Edgecombe

**NOTIFICATION OF JURISDICTIONAL DETERMINATION**

Requestor: Town of Princeville  
Dr. Glenda Knight  
Address: 201 South Main Street  
Princeville, North Carolina 27886  
Telephone Number: (252) 783-1057  
E-mail: gknight@townofprinceville.com

Size (acres)	<u>7.7</u>	Nearest Town	<u>Princeville</u>
Nearest Waterway	<u>Tar River</u>	River Basin	<u>Pamlico</u>
USGS HUC	<u>03020103</u>	Coordinates	Latitude: <u>35.89087</u> Longitude: <u>-77.53317</u>

Location description: The review area for this Jurisdictional Determination includes four project sites of the Princeville Dike in the Town of Princeville, Edgecombe County, North Carolina. Site 1 (35.890816, -77.532662), Site 2 (35.894597, -77.516820), Site 3 (35.895364, -77.513700), Site 4 (35.873450, -77.525434).

**Indicate Which of the Following Apply:**

**A. Preliminary Determination**

- There appear to be **waters, including wetlands** on the above described project area/property, that may be subject to Section 404 of the Clean Water Act (CWA)(33 USC § 1344) and/or Section 10 of the Rivers and Harbors Act (RHA) (33 USC § 403). The **waters, including wetlands** have been delineated, and the delineation has been verified by the Corps to be sufficiently accurate and reliable. The approximate boundaries of these waters are shown on the enclosed delineation map dated April 2021. Therefore this preliminary jurisdiction determination may be used in the permit evaluation process, including determining compensatory mitigation. For purposes of computation of impacts, compensatory mitigation requirements, and other resource protection measures, a permit decision made on the basis of a preliminary JD will treat all waters and wetlands that would be affected in any way by the permitted activity on the site as if they are jurisdictional waters of the U.S. This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331). However, you may request an approved JD, which is an appealable action, by contacting the Corps district for further instruction.
- There appear to be **waters, including wetlands** on the above described project area/property, that may be subject to Section 404 of the Clean Water Act (CWA)(33 USC § 1344) and/or Section 10 of the Rivers and Harbors Act (RHA) (33 USC § 403). However, since the **waters, including wetlands** have not been properly delineated, this preliminary jurisdiction determination may not be used in the permit evaluation process. Without a verified wetland delineation, this preliminary determination is merely an effective presumption of CWA/RHA jurisdiction over all of the **waters, including wetlands** at the project area, which is not sufficiently accurate and reliable to support an enforceable permit decision. We recommend that you have the **waters, including wetlands** on your project area/property delineated. As the Corps may not be able to accomplish this wetland delineation in a timely manner, you may wish to obtain a consultant to conduct a delineation that can be verified by the Corps.

**B. Approved Determination**

- There are Navigable Waters of the United States within the above described project area/property subject to the permit requirements of Section 10 of the Rivers and Harbors Act (RHA) (33 USC § 403) and Section 404 of the Clean Water Act (CWA)(33 USC § 1344). Unless there is a change in law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- There are **waters, including wetlands** on the above described project area/property subject to the permit requirements of Section 404 of the Clean Water Act (CWA) (33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- We recommend you have the **waters, including wetlands** on your project area/property delineated. As the Corps may not be able to accomplish this wetland delineation in a timely manner, you may wish to obtain a consultant to conduct a delineation that can be verified by the Corps.
- The **waters, including wetlands** on your project area/property have been delineated and the delineation has been verified by the Corps. The approximate boundaries of these waters are shown on the enclosed delineation map dated . We strongly suggest

**SAW-2021-00964**

you have this delineation surveyed. Upon completion, this survey should be reviewed and verified by the Corps. Once verified, this survey will provide an accurate depiction of all areas subject to CWA jurisdiction on your property which, provided there is no change in the law or our published regulations, may be relied upon for a period not to exceed five years.

- The **waters, including wetlands** have been delineated and surveyed and are accurately depicted on the plat signed by the Corps Regulatory Official identified below on. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- There are no waters of the U.S., to include wetlands, present on the above described project area/property which are subject to the permit requirements of Section 404 of the Clean Water Act (33 USC 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- The property is located in one of the 20 Coastal Counties subject to regulation under the Coastal Area Management Act (CAMA). You should contact the Division of Coastal Management in **Morehead City, NC, at (252) 808-2808** to determine their requirements.

Placement of dredged or fill material within waters of the US, including wetlands, without a Department of the Army permit may constitute a violation of Section 301 of the Clean Water Act (33 USC § 1311). Placement of dredged or fill material, construction or placement of structures, or work within navigable waters of the United States without a Department of the Army permit may constitute a violation of Sections 9 and/or 10 of the Rivers and Harbors Act (33 USC § 401 and/or 403). If you have any questions regarding this determination and/or the Corps regulatory program, please contact **Billy W. Standridge at (252) 251-4595 or Billy.w.standridge@usace.army.mil.**

**C. Basis For Determination: Basis For Determination: See the preliminary jurisdictional determination form dated 06/28/2021.**

**D. Remarks: All aquatic resources within the review area are depicted on the attached *Potential Jurisdictional Features (sites 1-4)* exhibits dated April 2021.**

**E. Attention USDA Program Participants**

This delineation/determination has been conducted to identify the limits of Corps' Clean Water Act jurisdiction for the particular site identified in this request. The delineation/determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA Program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

**F. Appeals Information (This information applies only to approved jurisdictional determinations as indicated in B. above)**

If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the following address:

US Army Corps of Engineers  
South Atlantic Division  
Attn: Mr. Philip A. Shannin  
Administrative Appeal Review Officer  
60 Forsyth Street SW, Floor M9  
Atlanta, Georgia 30303-8803  
**AND**  
**PHILIP.A.SHANNIN@USACE.ARMY.MIL**

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by **Not applicable.**

\*\*It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this correspondence.\*\*

Corps Regulatory Official: *Billy W. Standridge*

Date of JD: **06/28/2021** Expiration Date of JD: **Not applicable**

**SAW-2021-00964**

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete the Customer Satisfaction Survey located at <https://regulatory.ops.usace.army.mil/customer-service-survey/>.

Copy furnished:

Agent: **Axiom Environmental, Inc.**  
**Sandy Smith**  
Address: **218 Snow Avenue**  
**Raleigh, North Carolina 27603**  
Telephone Number: **(919) 215-1693**  
E-mail: **ssmith@axiomenvironmental.org**





Prepared for:  
**Sungate Design Group**

Project:  
**PRINCEVILLE FLOODGATES**

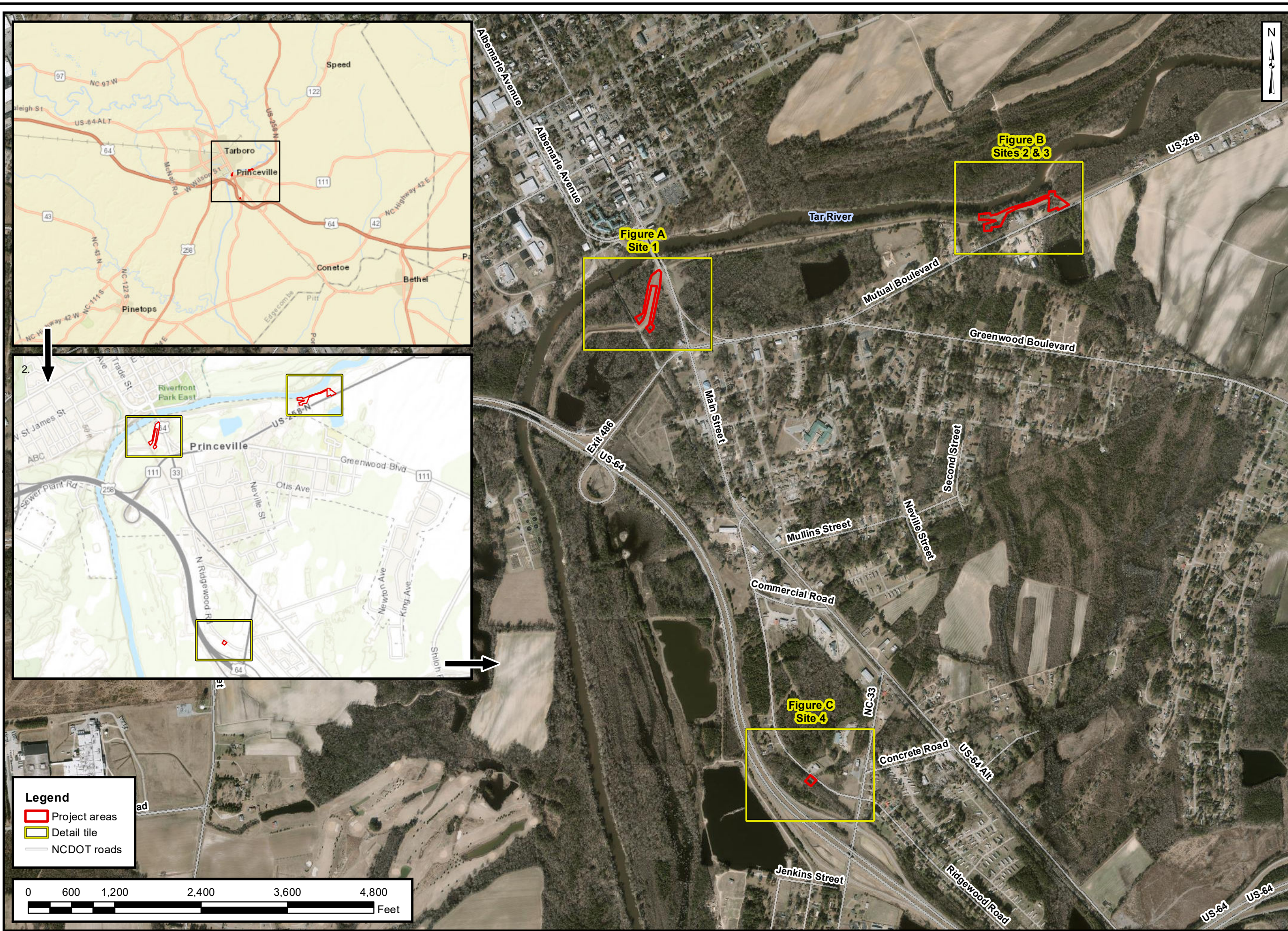
Edgecombe County

Title:  
**Site Locations**

Notes:  
1. Background imagery source: 2017 aerial photography provided by the NC OneMap Program (online, supported by the NC Geographic Information Coordination Council).  
2. Background imagery source: Tarboro and Old Sparta, NC 7.5-minute topographic quadrangles provided by the U.S. Geological Survey (USGS).

Drawn by: AEK  
Date: Apr. 2021  
Scale: 1:15,000  
Project No.: 20-029

**FIGURE 1**



**Legend**  
Project areas  
Detail tile  
NCDOT roads

0 600 1,200 2,400 3,600 4,800 Feet





Prepared for:

**Sungate Design Group**

Project:

**PRINCEVILLE FLOODGATES**

Edgecombe County

Title:

**Site 1  
Potential  
Jurisdictional  
Features**

Notes:

1. Background imagery source: 2017 aerial photography provided by the NC OneMap Program (online, supported by the NC Geographic Information Coordination Council).

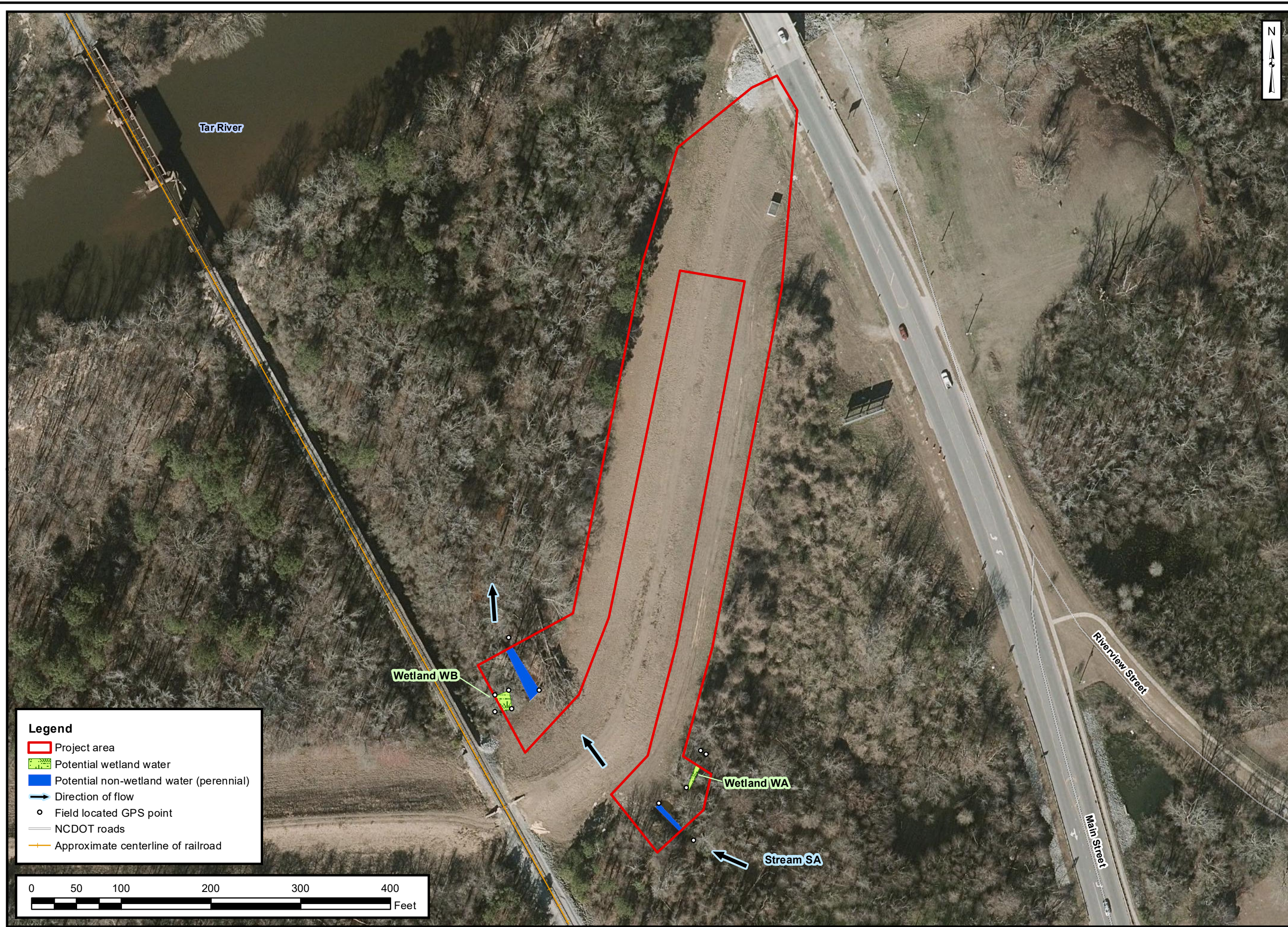
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Date: Apr 2021

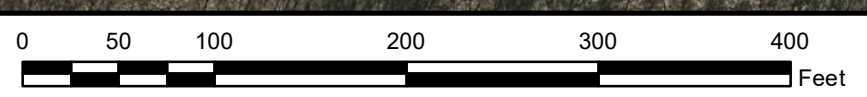
Scale: 1:1200

Project No.: 20-029

**FIGURE  
A**



- Legend**
- Project area
  - Potential wetland water
  - Potential non-wetland water (perennial)
  - Direction of flow
  - Field located GPS point
  - NCDOT roads
  - Approximate centerline of railroad







Prepared for:  
**Sungate Design Group**

Project:  
**PRINCEVILLE FLOODGATES**

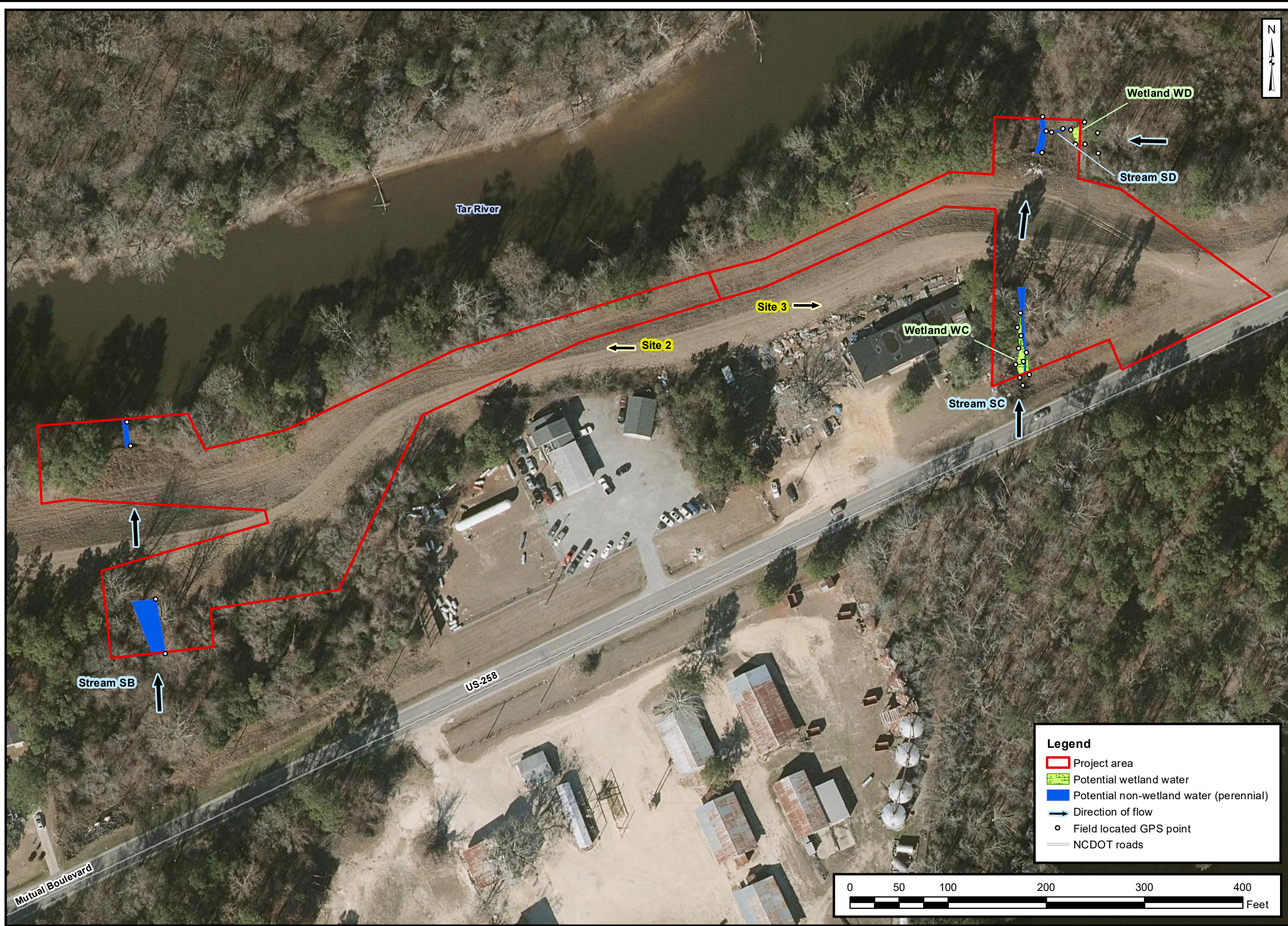
Edgecombe County

Title:  
**Sites 2 & 3 Potential Jurisdictional Features**

Notes:  
1. Background imagery source: 2017 aerial photography provided by the NC OneMap Program (online, supported by the NC Geographic Information Coordination Council).

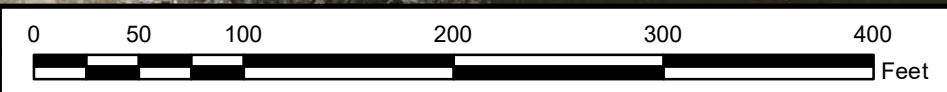
Drawn by: AEK  
Date: Apr. 2021  
Scale: 1:1000  
Project No.: 20-029

**FIGURE B**



**Legend**

- Project area
- Potential wetland water
- Potential non-wetland water (perennial)
- Direction of flow
- Field located GPS point
- NCDOT roads







Prepared for:

**Sungate Design Group**

Project:

**PRINCEVILLE FLOODGATES**

Edgecombe County

Title:

**Site 3  
Potential  
Jurisdictional  
Features**

Notes:

1. Background imagery source: 2017 aerial photography provided by the NC OneMap Program (online, supported by the NC Geographic Information Coordination Council).

Drawn by: AEK

Date: Apr 2021

Scale: 1:900

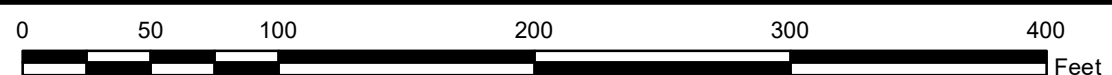
Project No.: 20-029

**FIGURE  
C**



**Legend**

- Project area
- Potential wetland water
- Potential non-wetland water (perennial)
- Direction of flow
- Field located GPS point
- NCDOT roads





**NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND  
REQUEST FOR APPEAL**

Applicant: **Town of Princeville, Dr. Glenda Knight**      File Number: **SAW-2021-00964**      Date: **06/28/2021**

Attached is:      See Section below

<input type="checkbox"/>	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
<input type="checkbox"/>	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
<input type="checkbox"/>	PERMIT DENIAL	C
<input type="checkbox"/>	APPROVED JURISDICTIONAL DETERMINATION	D
<input checked="" type="checkbox"/>	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits.aspx> or the Corps regulations at 33 CFR Part 331.

**A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.**

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

**B: PROFFERED PERMIT: You may accept or appeal the permit**

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**C: PERMIT DENIAL:** You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**D: APPROVED JURISDICTIONAL DETERMINATION:** You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the district engineer. This form must be received by the division engineer within 60 days of the date of this notice.



**E: PRELIMINARY JURISDICTIONAL DETERMINATION:** You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

**SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT**

**REASONS FOR APPEAL OR OBJECTIONS:** (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

**ADDITIONAL INFORMATION:** The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

**POINT OF CONTACT FOR QUESTIONS OR INFORMATION:**

If you have questions regarding this decision and/or the appeal process you may contact:

**District Engineer, Wilmington Regulatory Division  
Attn: Billy W. Standridge  
Washington Regulatory Office  
U.S Army Corps of Engineers  
2407 West Fifth Street  
Washington, North Carolina 27889**

If you only have questions regarding the appeal process you may also contact:

**MR. PHILIP A. SHANNIN  
ADMINISTRATIVE APPEAL REVIEW OFFICER  
CESAD-PDS-O  
60 FORSYTH STREET SOUTHWEST, FLOOR M9  
ATLANTA, GEORGIA 30303-8803**

PHONE: (404) 562-5136; FAX (404) 562-5138  
EMAIL: [PHILIP.A.SHANNIN@USACE.ARMY.MIL](mailto:PHILIP.A.SHANNIN@USACE.ARMY.MIL)

**RIGHT OF ENTRY:** Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15-day notice of any site investigation, and will have the opportunity to participate in all site investigations.

_____	Date:	Telephone number:
Signature of appellant or agent.		

*For appeals on Initial Proffered Permits send this form to:*

**District Engineer, Wilmington Regulatory Division, Attn: Billy W. Standridge, 69 Darlington Avenue, Wilmington, North Carolina 28403**

*For Permit denials, Proffered Permits and Approved Jurisdictional Determinations send this form to:*

**Division Engineer, Commander, U.S. Army Engineer Division, South Atlantic, Attn: Mr. Philip Shannin, Administrative Appeal Officer, CESAD-PDO, 60 Forsyth Street, Room 10M15, Atlanta, Georgia 30303-8801  
Phone: (404) 562-5137**

**PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM**

**BACKGROUND INFORMATION**

- A. REPORT COMPLETION DATE FOR PJD:** 06/28/2021
- B. NAME AND ADDRESS OF PERSON REQUESTING PJD:** Town of Princeville, Dr. Glenda Knight, 201 South Main Street, Princeville, North Carolina 27886
- C. DISTRICT OFFICE, FILE NAME, AND NUMBER:** Wilmington District, Princeville Dike Floodgate Repairs, SAW-2021-00964
- D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:** The review area for this Jurisdictional Determination includes four project sites of the Princeville Dike in the Town of Princeville, Edgecombe County, North Carolina. Site 1 (35.890816, -77.532662), Site 2 (35.894597, -77.516820), Site 3 (35.895364, -77.513700), Site 4 (35.873450, -77.525434).

**(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)**

State: NC County: Edgecombe City: Princeville  
 Center coordinates of site (lat/long in degree decimal format): Latitude: 35.89087 Longitude: -77.53317

Universal Transverse Mercator:

Name of nearest waterbody: Tar River

**E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

- Office (Desk) Determination. Date:
- Field Determination. Date(s): 06/24/2021

**TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION**

Site number	Latitude	Longitude	Cowardin Class	Estimated amount of aquatic resource in review area	Class of aquatic resource
1. Stream SA	35.890763	-77.53268	R3UB1/2	96 feet length, 6-20 feet avg width	non-section 10 – non-wetland
2. Stream SB	35.894311	-77.516767	R3UB1/2	83 feet length, 4-25 feet avg width	non-section 10 – non-wetland
3. Stream SC	35.895243	-77.313787	R3UB1/2	144 feet length, 2-15 feet avg width	non-section 10 – non-wetland
4. Stream SD	35.895719	-77.513607	R3UB1/2	26 feet length, 2-3 feet avg width	non-section 10 – non-wetland
5. Stream SE	35.873382	-77.525495	R3UB1/2	49 feet length, 6-15 feet avg width	non-section 10 – non-wetland
6. Wetland WA	35.890842	-77.532557	PFO	0.003 acre	non-section 10 wetland
7. Wetland WB	35.891083	-77.533262	PSS	0.006 acre	non-section 10 wetland
8. Wetland WC	35.895081	-77.513791	PFO	0.007 acre	non-section 10 wetland
9. Wetland WD	35.895713	-77.513588	PFO	0.003 acre	non-section 10 wetland
10. Wetland WE	35.873529	-77.525413	PSS	0.002 acre	non-section 10 wetland
11. Wetland WF	35.873471	-77.525339	PSS	0.002 acre	non-section 10 wetland
12. Wetland WG	35.873316	-77.525563	PFO	0.004 acre	non-section 10 wetland

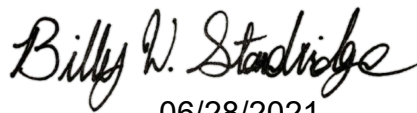
1. The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.
2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre- construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there "*may be*" waters of the U.S. and/or that there "*may be*" navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

**SUPPORTING DATA. Data reviewed for preliminary JD (check all that apply**

- checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: .
- Corps navigable waters' study: .
- U.S. Geological Survey Hydrologic Atlas: .
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: Tarboro and Old Sparta (2019) 7.5-minute topographic quadrangle.
- USDA Natural Resources Conservation Service Soil Survey. Citation: Web Soil Survey (online at <http://websoilsurvey.nrcs.usda.gov>), and the most recent published Soil Survey of Edgecombe County (1979) Maps 18 and 19.
- National wetlands inventory map(s). Cite name: .
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: .
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): NC OneMap 2017 Orthoimagery. or  Other (Name & Date): .
- Previous determination(s). File no. and date of response letter: .
- Other information (please specify): .

**IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.**

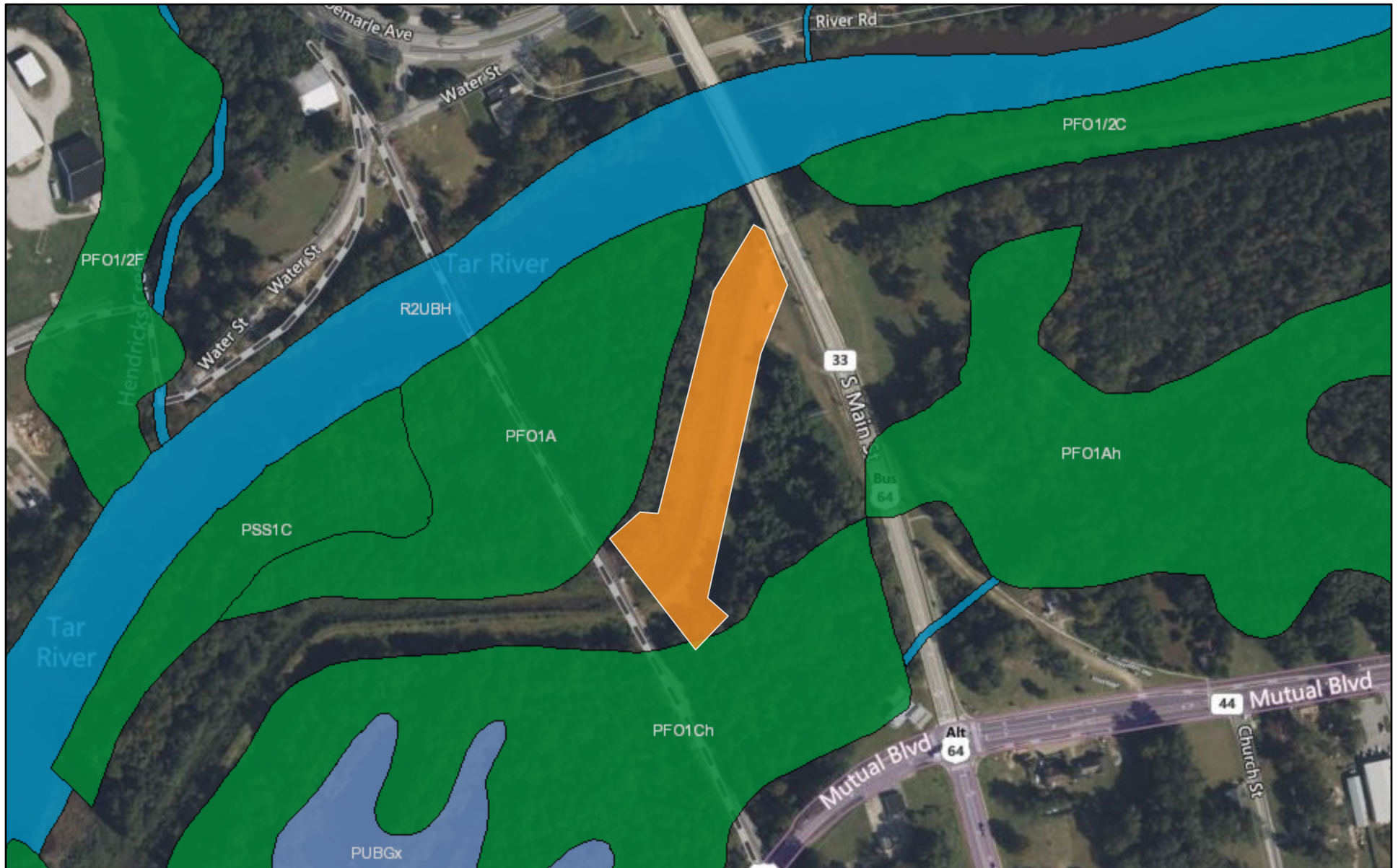
  
06/28/2021

\_\_\_\_\_  
Signature and date of  
Regulatory Project Manager  
(REQUIRED)

  
5/03/2021

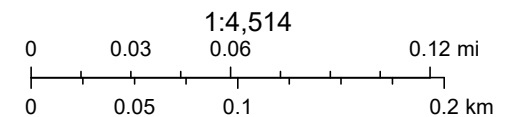
\_\_\_\_\_  
Signature and date of  
person requesting preliminary JD  
(REQUIRED, unless obtaining  
the signature is impracticable)

# Princeville Levee Floodgate Repairs NWI Map - Structure 1



August 16, 2022

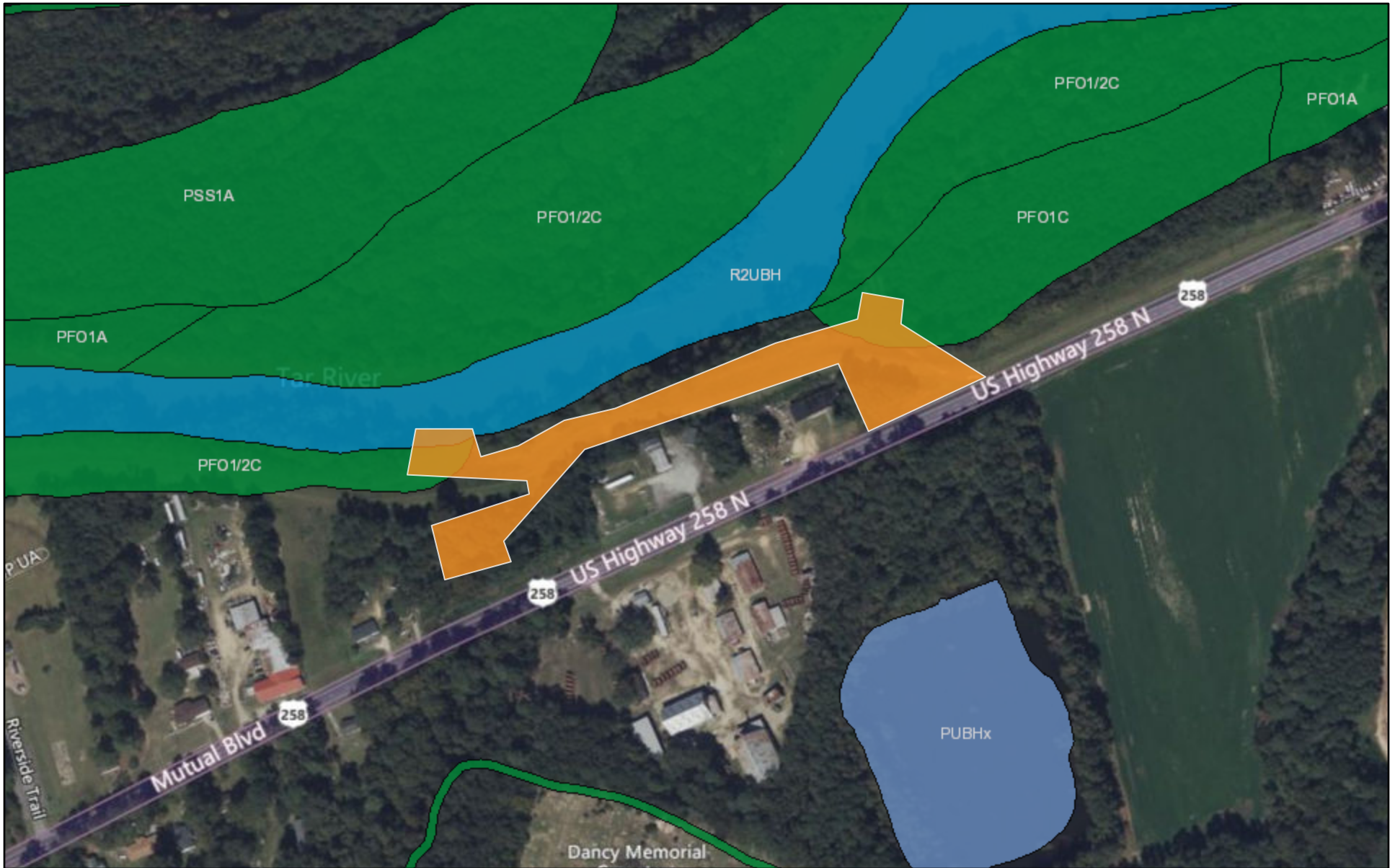
- |  |   |   |
|--|---|---|
|  structure 1 - princeville levee floodgate repairs |  Estuarine and Marine Wetland      |  Freshwater Pond |
| <b>Wetlands</b>  |  Freshwater Emergent Wetland       |  Lake            |
|  Estuarine and Marine Deepwater                    |  Freshwater Forested/Shrub Wetland |  Other           |



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# Princeville Levee Floodgate Repairs NWI Map - Structures 2 & 3



August 16, 2022

structures 2 & 3 - princeville levee floodgate repairs

Wetlands

Estuarine and Marine Deepwater

Estuarine and Marine Wetland

Freshwater Emergent Wetland

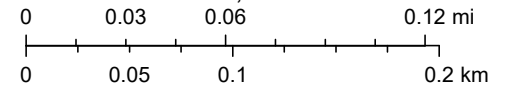
Freshwater Forested/Shrub Wetland

Freshwater Pond

Lake

Other

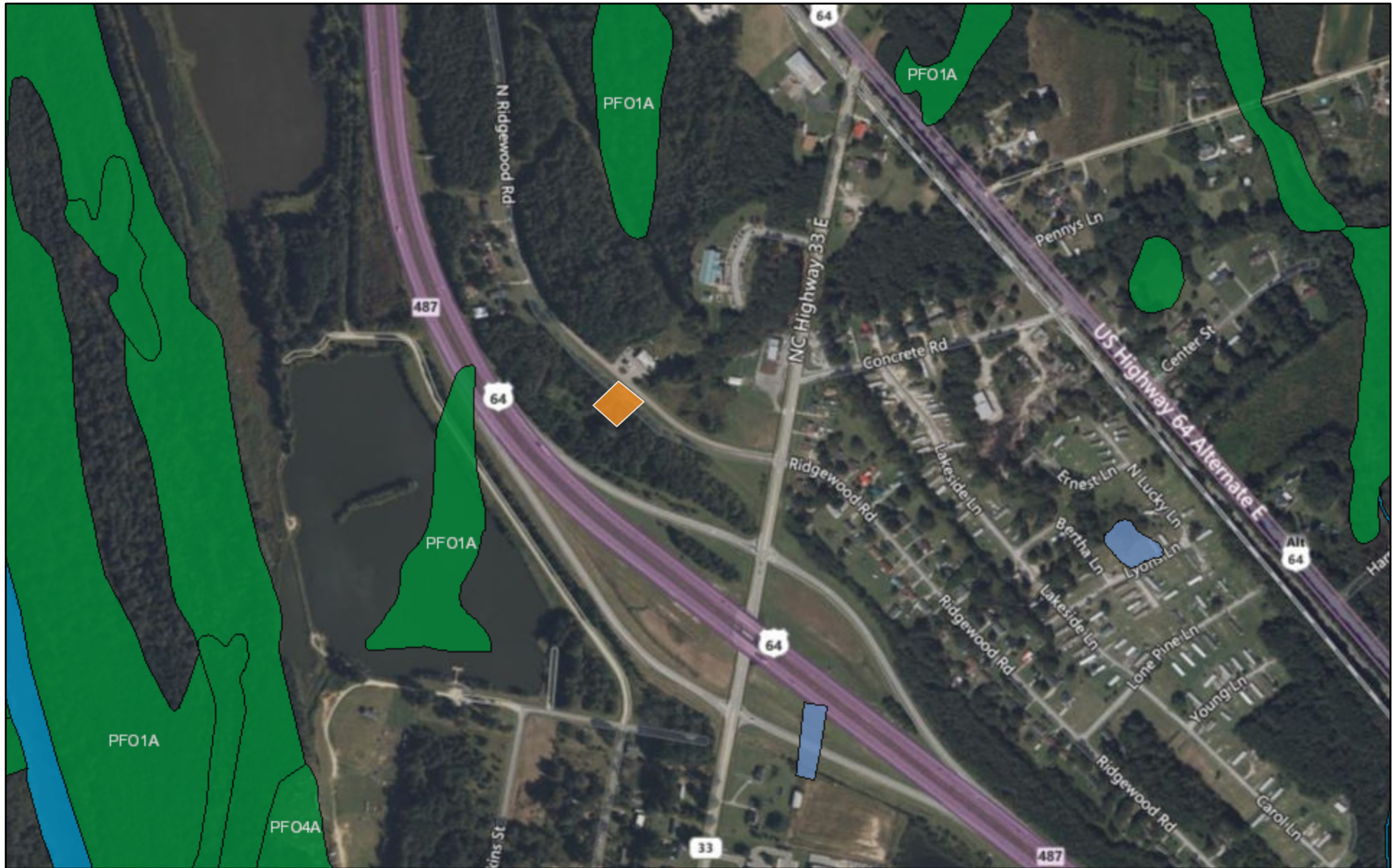
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# Princeville Levee Floodgate Repairs NWI Map - Structure 4

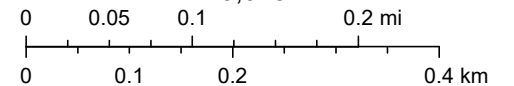


August 16, 2022

## Wetlands

- |   |   |   |
|---|---|---|
|  Estuarine and Marine Deepwater |  Freshwater Emergent Wetland       |  Lake     |
|  Estuarine and Marine Wetland   |  Freshwater Forested/Shrub Wetland |  Other    |
|   |  Freshwater Pond                   |  Riverine |

1:9,028



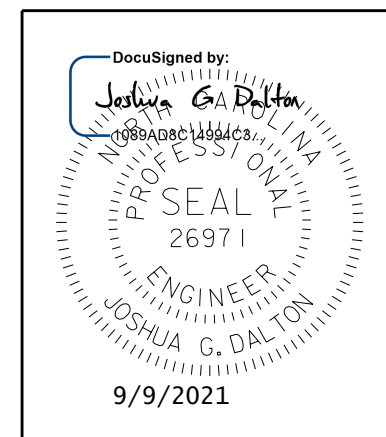


# PROJECT: COMMUNITY DEVELOPMENT BLOCK GRANT DISASTER RECOVERY PROJECT: PRINCEVILLE LEVEE FLOODGATE REPAIRS CONSTRUCTION DOCUMENTATION

CLIENT: TOWN OF PRINCEVILLE  
DR. GLENDA KNIGHT  
201 SOUTH MAIN STREET  
PRINCEVILLE, NC 27886

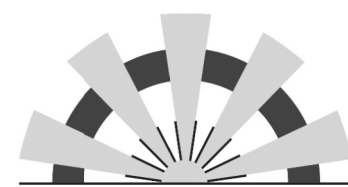


DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



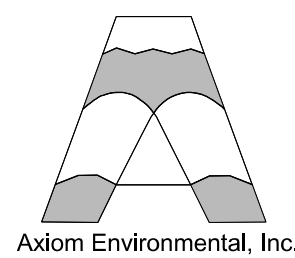
Originally Sealed  
on 06-17-2021

DESIGN TEAM  
COORDINATOR:



SUNGATE DESIGN GROUP.P.A.  
905 JONES FRANKLIN ROAD  
RALEIGH, NC 27606  
919-859-2243

DESIGN TEAM:



Axiom Environmental  
218 Snow Ave  
Raleigh, NC 27603

**Wooten**

The Wooten Company  
120 N. Boylan Ave  
Raleigh, NC 27603  
919-828-0531

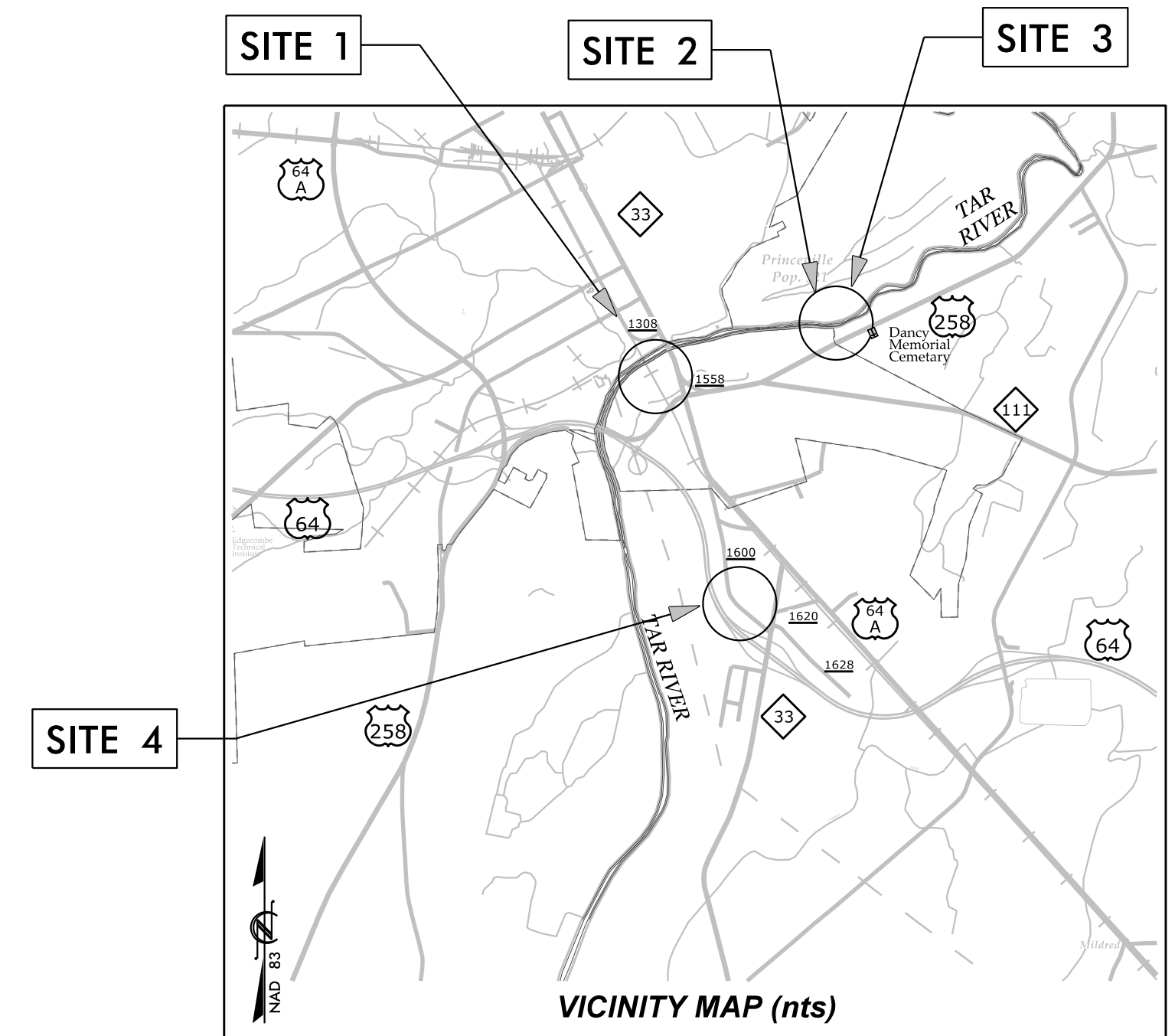
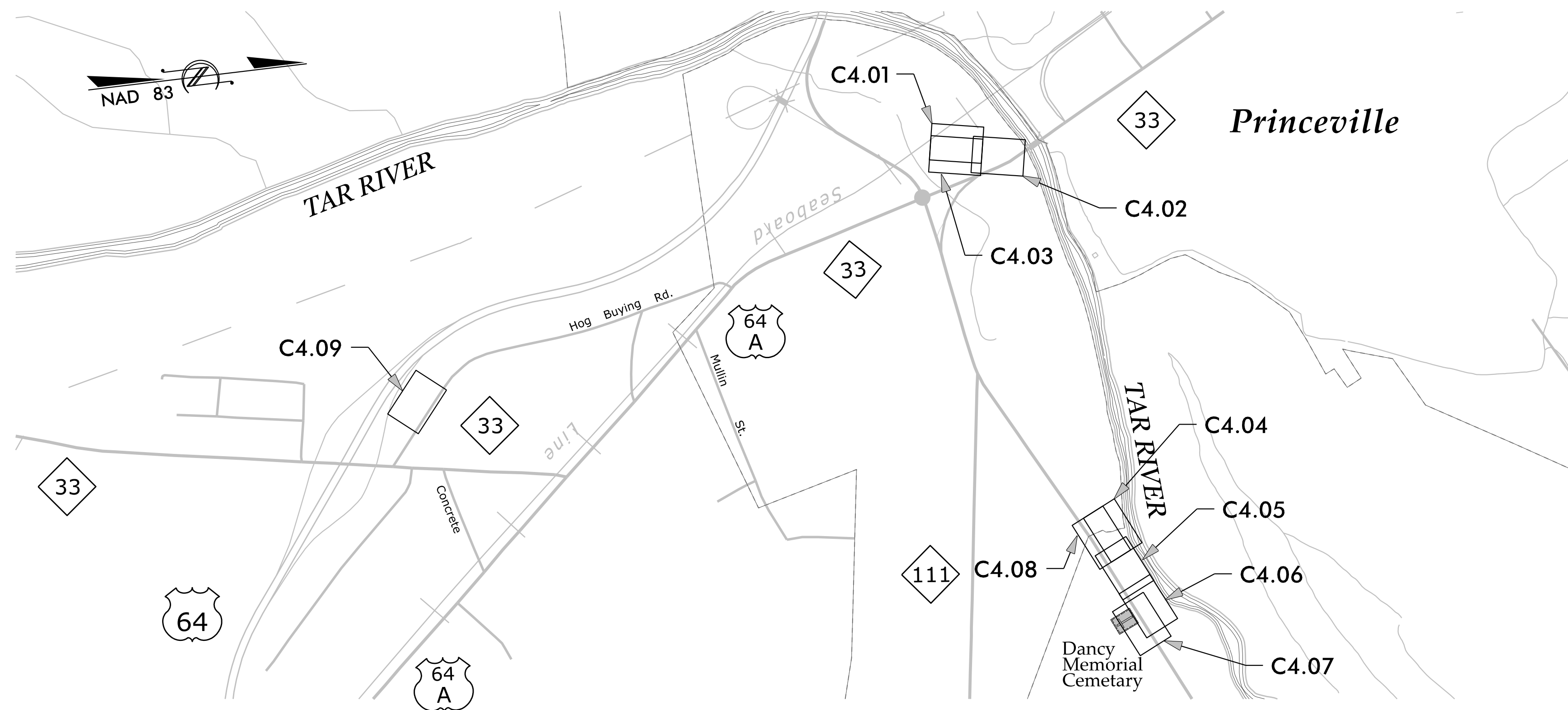
**N|V|5**

NV5 Engineers and  
Consultants, Inc.  
4905 Professional Court  
Raleigh, NC 27609  
919-876-9799

TOTAL DISTURBED AREA = 4.4 ACRES  
TAR-PAMLICO RIVER BASIN

SHEET NUMBER	SHEET
C1.00	Title Sheet
C1.01	Symbology
C1.02 THRU C1.03	General Notes, Typicals
C2.01	Overall Existing Conditions
C2.02	Existing Drainage Flow – Site 1
C2.03	Existing Drainage Flow – Site 2, 3
C2.04	Existing Drainage Flow – Site 4
C3.01 THRU C3.03	Erosion and Sediment Control Plan – Site 1
C3.04 THRU C3.08	Erosion and Sediment Control Plan – Site 2, 3
C3.09	Erosion and Sediment Control Plan – Site 4
C4.01 THRU C4.03	Grading and Storm Drainage/ Profile - Site 1
C4.04 THRU C4.08	Grading and Storm Drainage/ Profile - Site 2, 3
C4.09	Grading and Storm Drainage/ Profile - Site 4
C5.01 THRU C5.07	Cross Sections - Site 1
C5.08 THRU C5.16	Cross Sections – Site 2, 3
C5.17 THRU C5.19	Cross Sections – Site 4
C6.01 THRU C6.12	Details

- Revisions:
1. 06-24-2021 – USACE Comment:  
– Relocated Spec. Stilling Basin on PSH C3.06 from East to West Side of Stream to Eliminate Temp. Stream Crossing.
  2. 07-01-2021 – Added Removable Steel Bollard and Detail at Site 2 / 3 Entrance.
  3. 07-26-2021 – NCDOT Comments:  
– Revised Detail 7.1 to Include 4' Shoulder.  
– Revised Site 4 to Replace Two Existing 12" CMP with Two 18" RCP-IV.





# CONVENTIONAL PLAN SHEET SYMBOLS

## BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EIP
Computed Property Corner	✕
Property Monument	□ ECM
Parcel/Sequence Number	⑫③
Existing Fence Line	✕-✕-✕-✕
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	WLB -----
Proposed Wetland Boundary	WLB -----
Existing Endangered Animal Boundary	EAB -----
Existing Endangered Plant Boundary	EPB -----
Existing Historic Property Boundary	HPB -----
Known Contamination Area: Soil	☠ S ☠
Potential Contamination Area: Soil	☠ S ☠
Known Contamination Area: Water	☠ W ☠
Potential Contamination Area: Water	☠ W ☠
Contaminated Site: Known or Potential	☠ ?

## BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○ S
Well	○ W
Small Mine	✕
Foundation	□
Area Outline	□
Cemetery	□ †
Building	□
School	□
Church	□
Dam	□

## HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	-----
Jurisdictional Stream	JS -----
Buffer Zone 1	BZ 1 -----
Buffer Zone 2	BZ 2 -----
Flow Arrow	←
Disappearing Stream	-----
Spring	○
Wetland	-----
Proposed Lateral, Tail, Head Ditch	-----
False Sump	-----

## RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ MILEPOST 35
Switch	□ SWITCH
RR Abandoned	-----
RR Dismantled	-----

## RIGHT OF WAY & PROJECT CONTROL:

Secondary Horiz and Vert Control Point	◇
Primary Horiz Control Point	○
Primary Horiz and Vert Control Point	◇
Exist Permanent Easment Pin and Cap	◇
New Permanent Easement Pin and Cap	◇
Vertical Benchmark	⊠
Existing Right of Way Marker	△
Existing Right of Way Line	-----
New Right of Way Line	-----
New Right of Way Line with Pin and Cap	-----
New Right of Way Line with Concrete or Granite R/W Marker	-----
New Control of Access Line with Concrete C/A Marker	-----
Existing Control of Access	-----
New Control of Access	-----
Existing Easement Line	-----
New Temporary Construction Easement	-----
New Temporary Drainage Easement	-----
New Permanent Drainage Easement	-----
New Permanent Drainage / Utility Easement	-----
New Permanent Utility Easement	-----
New Temporary Utility Easement	-----
New Aerial Utility Easement	-----

## ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	C -----
Proposed Slope Stakes Fill	F -----
Proposed Curb Ramp	CR -----
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	-----

## VEGETATION:

Single Tree	☼
Single Shrub	☼

Note: Not to Scale

\*S.U.E. = Subsurface Utility Engineering

## EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	-----
Bridge Wing Wall, Head Wall and End Wall	-----
MINOR:	
Head and End Wall	-----
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	-----
Paved Ditch Gutter	-----
Storm Sewer Manhole	-----
Storm Sewer	-----

## UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊕
Power Line Tower	⊠
Power Transformer	⊠
U/G Power Cable Hand Hole	-----
H-Frame Pole	-----
U/G Power Line LOS B (S.U.E.*)	-----
U/G Power Line LOS C (S.U.E.*)	-----
U/G Power Line LOS D (S.U.E.*)	-----

## TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Pedestal	⊠
Telephone Cell Tower	⊠
U/G Telephone Cable Hand Hole	-----
U/G Telephone Cable LOS B (S.U.E.*)	-----
U/G Telephone Cable LOS C (S.U.E.*)	-----
U/G Telephone Cable LOS D (S.U.E.*)	-----
U/G Telephone Conduit LOS B (S.U.E.*)	-----
U/G Telephone Conduit LOS C (S.U.E.*)	-----
U/G Telephone Conduit LOS D (S.U.E.*)	-----
U/G Fiber Optics Cable LOS B (S.U.E.*)	-----
U/G Fiber Optics Cable LOS C (S.U.E.*)	-----
U/G Fiber Optics Cable LOS D (S.U.E.*)	-----

## WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
U/G Water Line LOS B (S.U.E.*)	-----
U/G Water Line LOS C (S.U.E.*)	-----
U/G Water Line LOS D (S.U.E.*)	-----
Above Ground Water Line	A/G Water -----

## TV:

TV Pedestal	⊠
TV Tower	⊗
U/G TV Cable Hand Hole	-----
U/G TV Cable LOS B (S.U.E.*)	-----
U/G TV Cable LOS C (S.U.E.*)	-----
U/G TV Cable LOS D (S.U.E.*)	-----
U/G Fiber Optic Cable LOS B (S.U.E.*)	-----
U/G Fiber Optic Cable LOS C (S.U.E.*)	-----
U/G Fiber Optic Cable LOS D (S.U.E.*)	-----

## GAS:

Gas Valve	◇
Gas Meter	⊕
U/G Gas Line LOS B (S.U.E.*)	-----
U/G Gas Line LOS C (S.U.E.*)	-----
U/G Gas Line LOS D (S.U.E.*)	-----
Above Ground Gas Line	A/G Gas -----

## SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	A/G Sanitary Sewer -----
SS Forced Main Line LOS B (S.U.E.*)	-----
SS Forced Main Line LOS C (S.U.E.*)	-----
SS Forced Main Line LOS D (S.U.E.*)	-----

## MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊠
Utility Unknown U/G Line LOS B (S.U.E.*)	-----
U/G Tank; Water, Gas, Oil	-----
Underground Storage Tank, Approx. Loc.	UST -----
A/G Tank; Water, Gas, Oil	-----
Geoenvironmental Boring	⊕
U/G Test Hole LOS A (S.U.E.*)	-----
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

**SUNGATE DESIGN GROUP, P.A.**  
 905 JONES FRANKLIN ROAD  
 FLOODGATE, CAROLINA 27606  
 TEL: (919) 852-2243  
 ENG FIRM LICENSE NO. C-890

DocuSigned by:  
 Joshua G. Dalton  
 26971  
 JOSHUA G. DALTON  
 ENGINEER  
 9/9/2021

PRINCEVILLE DIKE FLOODGATE REPAIRS  
PRINCEVILLE, EDGECOMBE COUNTY, NC

**SYMBOLGY**

PROJECT #: 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C101  
 DATE: 6-16-2021  
 DRAWN BY: RCH  
 REVIEWED BY: RCH  
 REVISIONS:  
 SHEET NO. **C1.01**



9/9/2021  
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**General Notes**

- All construction shall be in accordance with the latest edition of "NCDOT 2018 Standards and Specifications for Roads and Structures" and "NCDOT 2018 Roadway Standard Drawings" and with the standards and specifications of the Town of Princeville.
- Existing utilities noted at the time of the field survey are shown for size, material, type, and relative location only. This plan is not a comprehensive inventory or an as-built survey of existing site utilities. The Contractor is to determine the existence and location of all utilities within the work area.
- The Contractor shall be responsible for the location and/or relocation of all utilities in coordination with the appropriate utility agency or company. The Contractor is required to call The NC One Call Center (1-800-632-4949) before digging.
- The Contractor shall be responsible for repairing or replacing any existing site features, facilities or improvements that are damaged during the demolition or construction operation that are not indicated to be removed or abandoned.
- Install tree protection fence and clearing and grubbing erosion control measures prior to any demolition and/or construction activity on site.
- All disturbed slopes must be stabilized within the time frame indicated on the Ground Stabilization Table (see Erosion Control Plan). All other disturbed areas must be stabilized with the time frame indicated on the Ground Stabilization Table.
- Contractor is to field locate proposed site improvements that require demolition of existing structures for verification by the Engineer prior to demolition.
- Construction debris to be removed from the site and properly disposed of by the Contractor. All project waste and demolition materials to be disposed of in accordance with applicable NCDEQ Standards. Contractor to provide written verification of proper disposal to owner.
- Any buried waste, construction debris or trash which is found during the construction operation shall be thoroughly excavated and removed from the site to an approved facility prior to the placement of any permanent fill material or pavement construction.
- Contractor to prevent surface and air movement of dust from disturbed soil surfaces through sprinkling until it is wet. Contractor is to maintain dust control measures through dry weather periods until all disturbed areas have been stabilized.
- All stockpile areas and temporary spoil areas shall be protected by silt fence.
- All site work shall produce surface grades adequate for storm water runoff to prevent standing water on all developed areas and to meet existing grades in smooth transition.
- To minimize damage to existing trees, the Contractor shall cut, rather than tear roots.
- The Contractor is responsible for furnishing and maintaining all work zone signage relative to the work to be performed for the location indicated on the project plan set. All barricading and signage shall conform to the latest edition of "NC-Manual on Uniform Traffic Control Devices for Work Zone."
- An on-site pre-construction meeting must be held prior to any construction activity.
- All existing site features shall remain unless noted to be removed or demolished.
- Construction staging and access limits to be approved by the Owner prior to any construction activity on site.
- The Contractor shall be responsible for all construction staking. Horizontal and vertical site control coordinates and elevations are shown on sheet C2.01. The contractor is responsible for all site layout, construction staking, and as-built surveys.
- Topography, existing conditions, easement, and right-of-way survey conducted by Sungate Design Group, PA on 4/6/2021, 4/8/2021, 4/9/2021, and 5/19/2021. Coordinates shown on plan are referenced to NAD 83 (2011) horizontal datum and NAVD 88 vertical datum.
- The contractor shall note that the drawings may not show every offset, transition, fitting, etc. that may be required. The contractor shall install such standard appurtenances as required to closely follow the grades and alignments depicted on the plans.
- If departures from the specifications or drawings are deemed necessary by the contractor, details of such departures and reasons therefore shall be submitted to the Owner for review. No departures from contract documents shall be made without the written permission of the Owner.
- All dimensions and grades shown on the plans shall be field verified by the Contractor prior to the start of construction in the area. The Contractor shall notify the Owner if any errors or discrepancies exist between the project plans and the field conditions that require plan or grade modification prior to the start of construction of the improvements in the area. No extra compensation shall be paid to the Contractor for any work redone due to grades or dimensions shown incorrectly on these plans, if such notification is not provided to the Owner prior to the initiation of the subject construction and receipt of authorization to proceed with the plans construction as revised by the Engineer.**
- Construction operations shall be limited to the hours during the day as specified by the Owner.
- Site access and construction shall be limited to the areas shown on the construction drawings. Any damage or excavation of the existing levee is prohibited.

Riprap Gradation Requirements						
Weight (lbs)	Size (in)	% Finer by Weight				
		Class of Riprap				
		A	B	I	II	III
2000	30					100
1000	24				100	
650	21					75
400	18		100			
250	15			75		50
120	12		100	75	50	
50	9			75	50	
15	6	100	50			10
5	4				10	
2	3	50		10		
	2		10			
	1	10				

\*Weight to size conversion based on a riprap specific gravity of 2.6 and a volume average between a sphere and cube.

**SUNGATE DESIGN GROUP, P.A.**  
 905 JONES FRANKLIN ROAD  
 PRINCEVILLE, NORTH CAROLINA 27606  
 TEL: (819) 852-2243  
 ENG FIRM LICENSE NO. C-890



DocuSigned by:  
 Joshua C. Dalton  
 26971  
 PROFESSIONAL SEAL  
 ENGINEER  
 JOSHUA C. DALTON  
 9/9/2021

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**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC

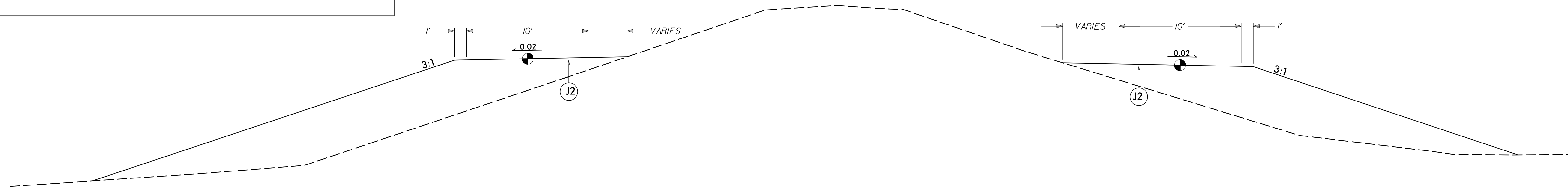
**GENERAL NOTES**

PROJECT # : 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C201  
 DATE: 6-16-2021  
 DRAWN BY: RCH  
 REVIEWED BY:  
 REVISIONS:

SHEET NO. **C1.02**



J2 PROP. 6" AGGREGATE BASE COURSE.

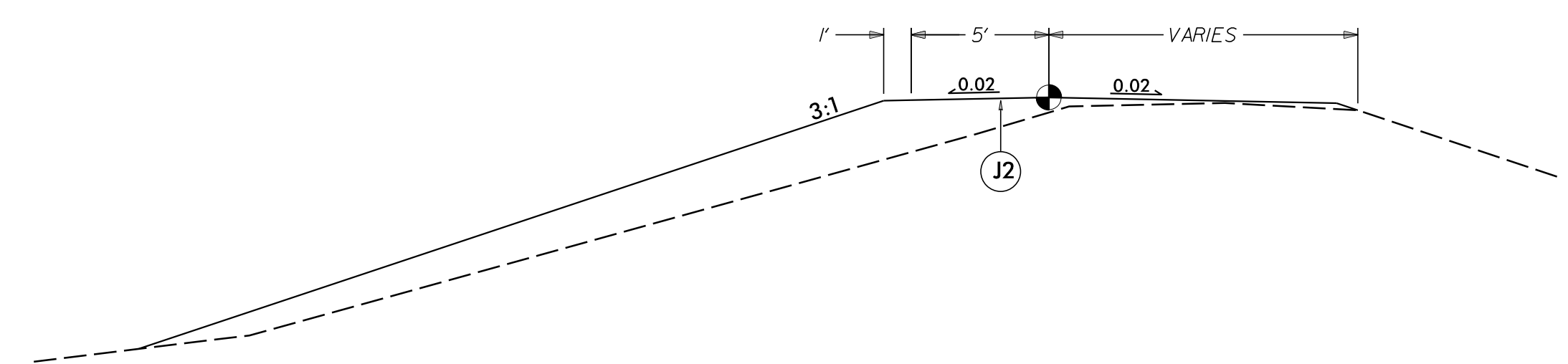


TYPICAL SECTION NO. 1

- 10+00 to 16+20 -AR1-
- 10+00 to 12+80 -AR3-
- 16+10 to 21+80 -AR3-
- 10+00 to 10+50 -AR5-

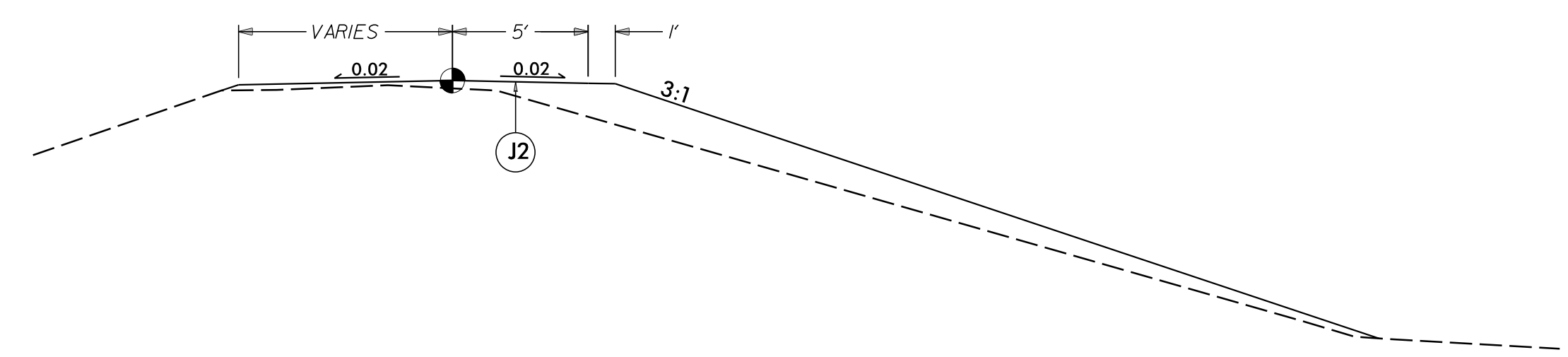
TYPICAL SECTION NO. 2

- 10+30 to 12+30 -AR2-
- 22+30 to 22+70 -AR3-
- 10+10 to 10+15 -AR3B-
- 10+20 to 10+25 -AR3B-
- 10+30 to 10+35 -AR3B-
- 10+60 to 10+70 -AR5-
- 10+80 to 13+20 -AR5-



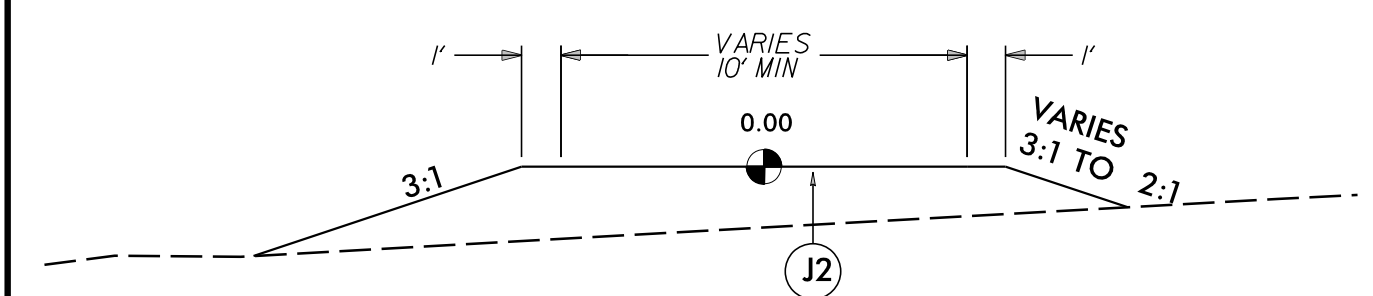
TYPICAL SECTION NO. 3

- 16+20 to 16+70 -AR1-
- 12+80 to 13+20 -AR3-
- 15+60 to 16+10 -AR3-
- 21+80 to 22+20 -AR3-



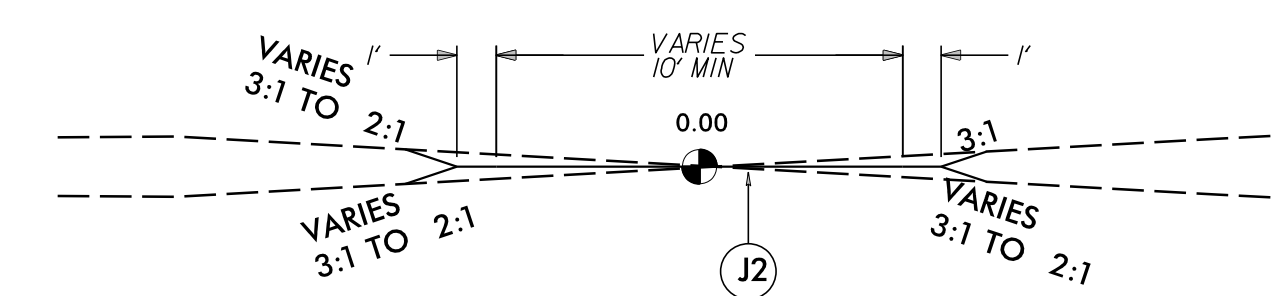
TYPICAL SECTION NO. 4

- 12+30 to 12+80 -AR2-
- 22+20 to 22+30 -AR3-
- 13+20 to 13+70 -AR5-



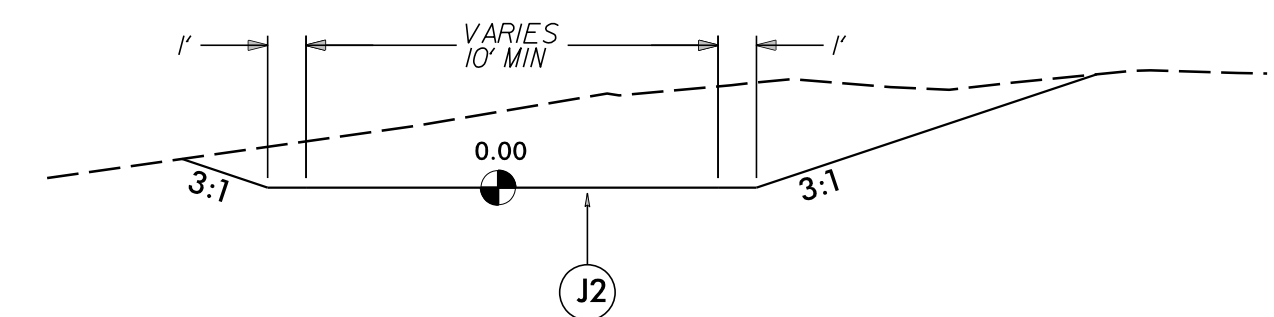
TYPICAL SECTION NO. 5

- 10+10 to 10+60 -AR1A-
- 10+10 to 10+40 -AR2A-
- 22+70 to 23+17 -AR3-
- 10+10 to 10+80 -AR3A-
- 10+15 to 10+20 -AR3B-
- 10+35 to 10+50 -AR3B-
- 10+15 to 10+30 -AR4-
- 10+10 to 10+40 -AR5A-



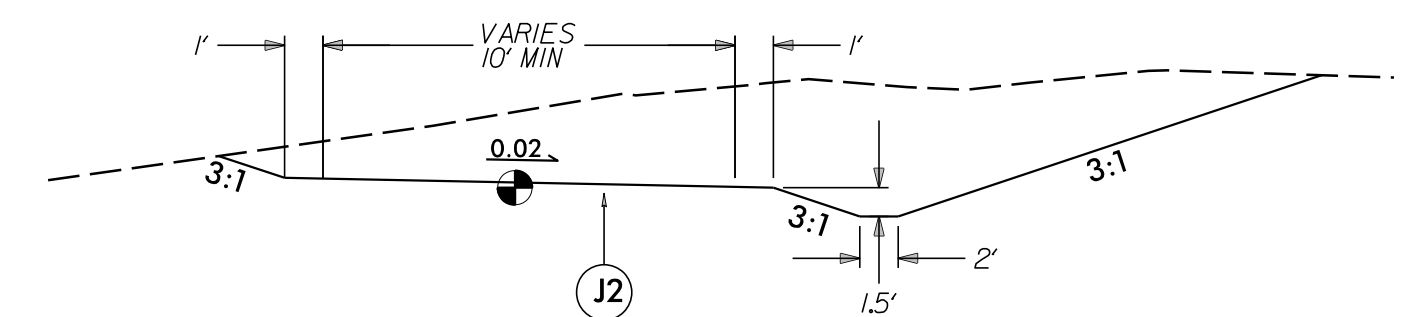
TYPICAL SECTION NO. 6

- 10+40 to 10+70 -AR2A-
- 10+25 to 10+30 -AR3B-
- 10+50 to 10+60 -AR3B-
- 10+30 to 10+50 -AR4-
- 10+50 to 10+60 -AR5-
- 10+70 to 10+80 -AR5-
- 10+40 to 10+50 -AR5A-



TYPICAL SECTION NO. 7

- 10+50 to 10+70 -AR4-
- 10+50 to 11+00 -AR4A-



TYPICAL SECTION NO. 8

- 10+05 to 10+50 -AR4A-

9/9/2021  
F:\ocdata\psh\_C103.dgn  
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**SUNGATE DESIGN GROUP, P.A.**  
 905 JONES FRANKLIN ROAD  
 JULIUSBURG, CAROLINA 27606  
 TEL: (919) 852-2243  
 ENG FIRM LICENSE NO. C-890

Designed by  
**Joshua G. Dalton**  
 Professional Engineer  
 PRE SEAL  
 26971  
 ENGINEER  
 JOSHUA G. DALTON  
 9/9/2021

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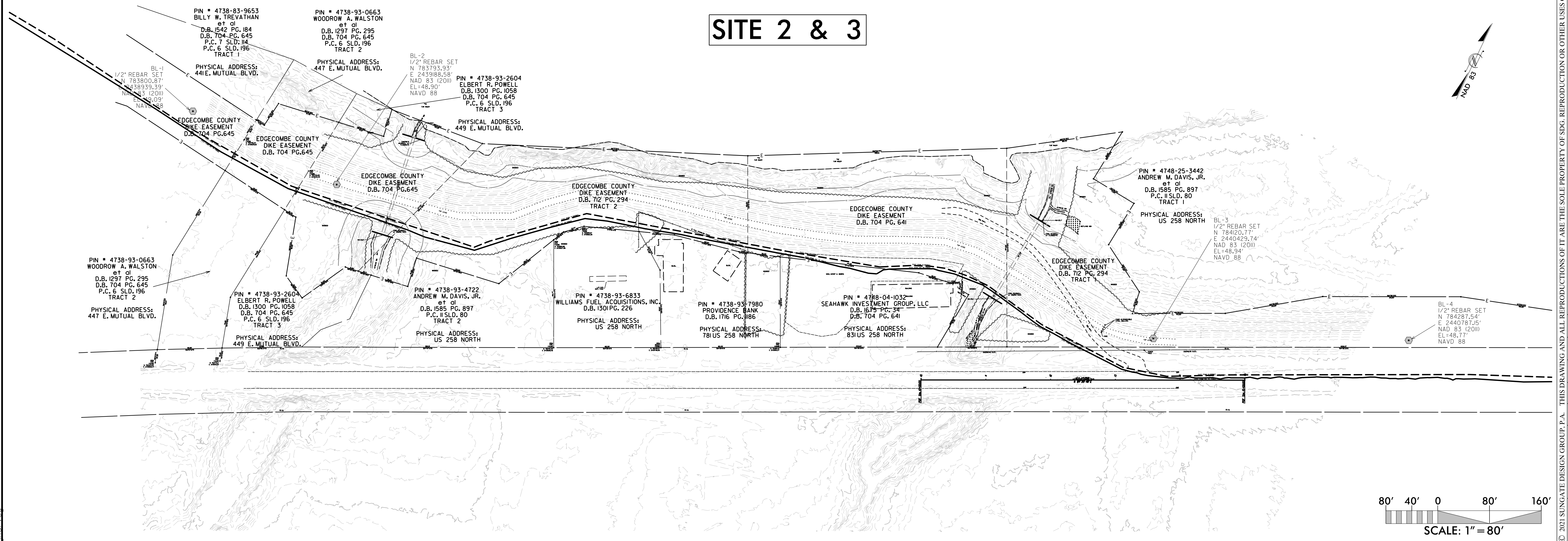
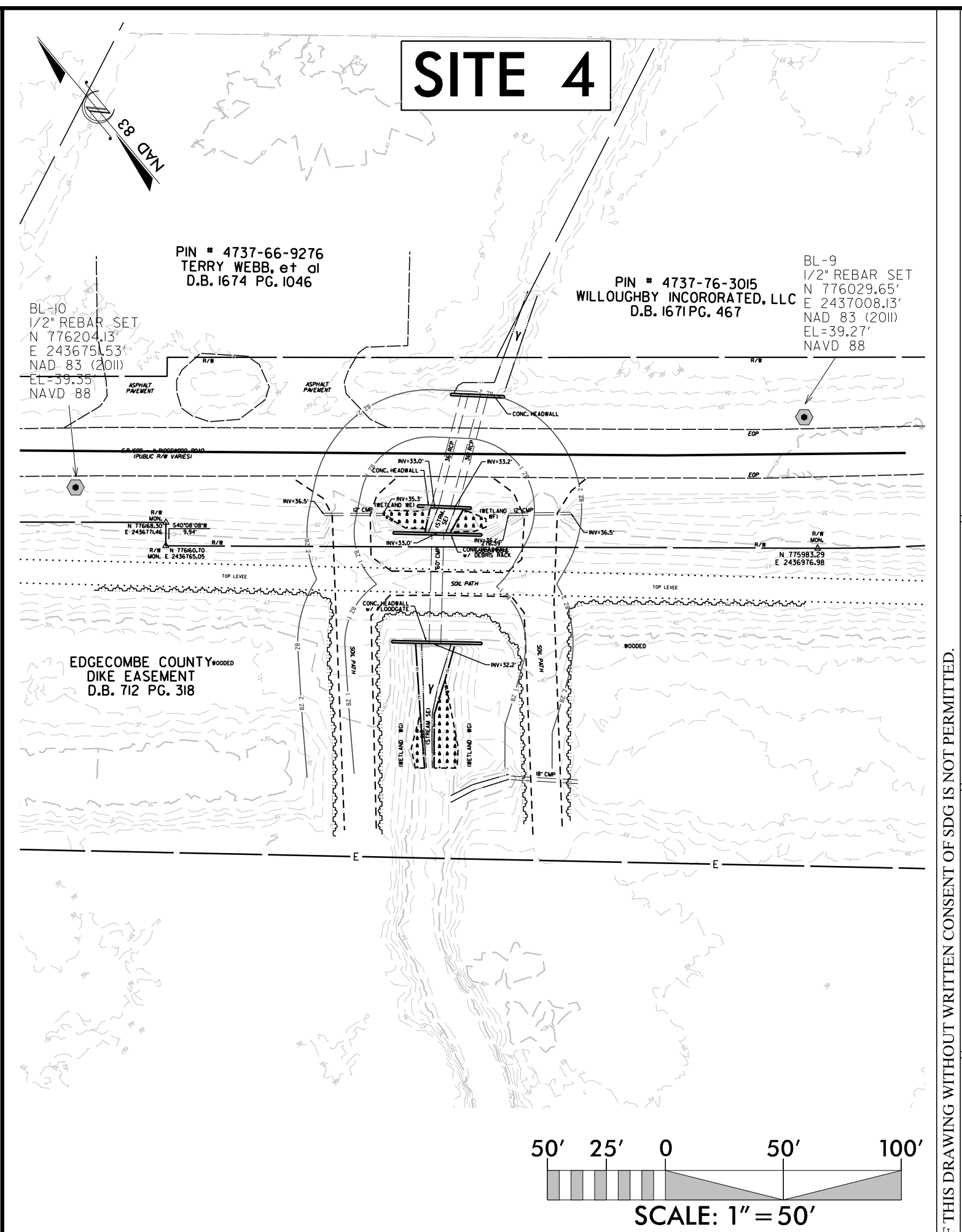
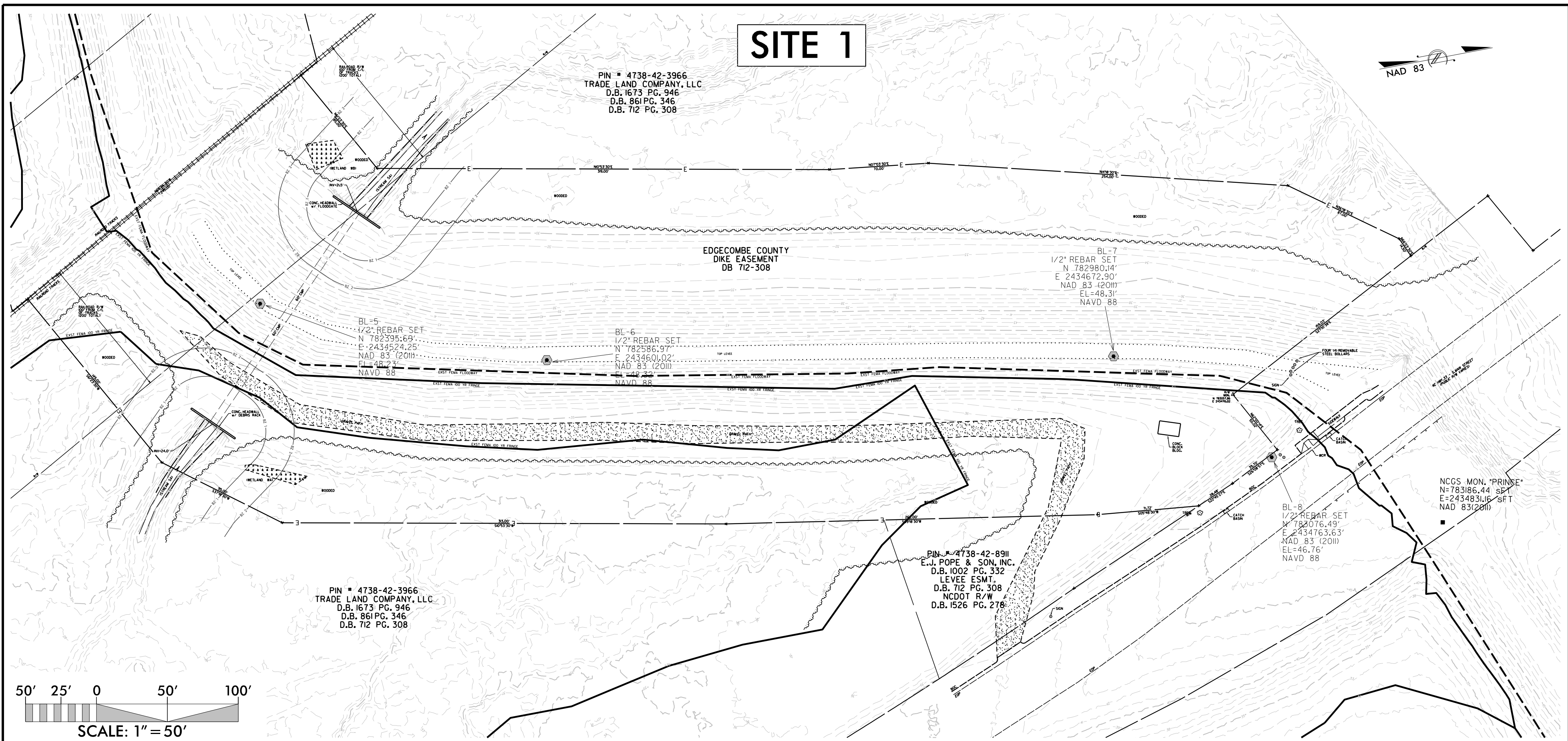
**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC

TYPICALS

PROJECT # : 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C103  
 DATE: 6-16-2021  
 DRAWN BY: RCH  
 REVIEWED BY: RCH  
 REVISIONS:

SHEET NO.  
**C1.03**





**SUNGATE DESIGN GROUP, P.A.**  
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GREENVILLE, SOUTH CAROLINA 27606  
TEL: (815) 852-2243  
ENG FIRM LICENSE NO. C-890

DocuSigned by:  
Randal C. Howard, P.E.  
SEAL  
L-5015  
PROF. SURVEYOR  
RANDAL C. HOWARD

9/9/2021

**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
PRINCEVILLE, EDGECOMBE COUNTY, NC

**EXISTING CONDITIONS**

PROJECT # :  
1284-20041

DRAWING NAME:  
FLOODGATE RDY PSH C201

DATE:  
6-16-2021

DRAWN BY:  
RCH

REVIEWED BY:  
RCH

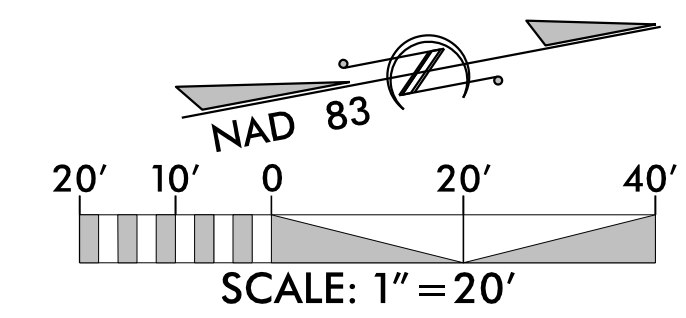
REVISIONS:

SHEET NO.  
**C2.01**

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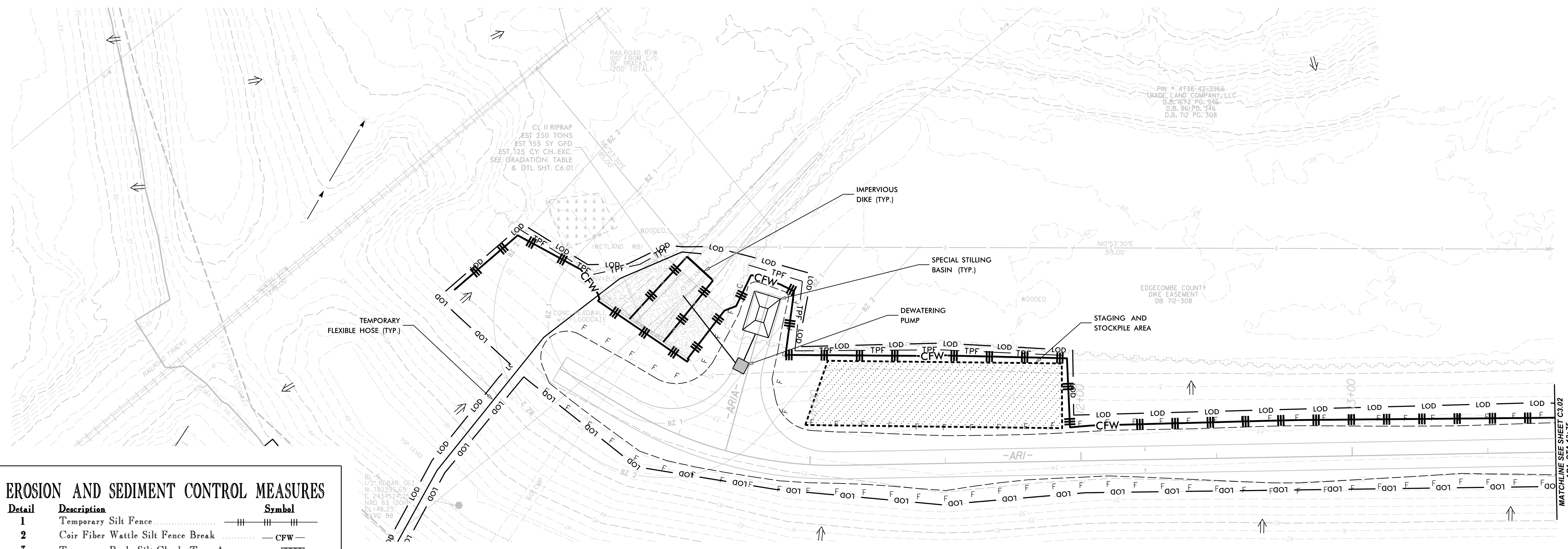
9/9/2021  
F:\Loc\state\_Rd\j\_psh\_c201.dgn





PHASING FOR SHEETS C3.01 AND C3.03:

- 1.) INSTALL SPECIAL STILLING BASIN(S).
- 2.) INSTALL PUMPS AND TEMPORARY FLEXIBLE HOSES.
- 3.) INSTALL IMPERVIOUS DIKES, AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
- 4.) DEWATER CONSTRUCTION AREA, USING SPECIAL STILLING BASIN(S) FOR PUMPED EFFLUENT.
- 5.) KEY IN CLASS II RIP RAP AT INLET AND OUTLET CHANNELS.
- 6.) EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES.
- 7.) REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSES, AND ANY REMAINING SPECIAL STILLING BASIN(S).
- 8.) COMPLETE CONSTRUCTION OF ACCESS ROADS.



Detail	Description	Symbol
1	Temporary Silt Fence	
2	Coir Fiber Wattle Silt Fence Break	- CFW -
3	Temporary Rock Silt Check Type-A	▣
4	Temporary Rock Silt Check Type-B	▣
5	Wattle / Coir Fiber Wattle	—
6	Special Stilling Basin	□
7	Temp. Tree Prot. Fence	- TPF -
8	Limits of Disturbance	- LOD -

NOTE:  
 EROSION AND SEDIMENT CONTROL MEASURES SYMBOLOGY ARE GRAPHICALLY SHOWN OUTSIDE OF THE LIMITS OF DISTURBANCE ONLY FOR THE PURPOSE OF VISUAL CLARITY. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WITHIN LIMITS OF DISTURBANCE.

**SUNGATE DESIGN GROUP, P.A.**  
 905 JONES FRANKLIN ROAD  
 CHARLOTTE, NORTH CAROLINA 27606  
 TEL: (704) 850-2243  
 ENG FIRM LICENSE NO. C-890

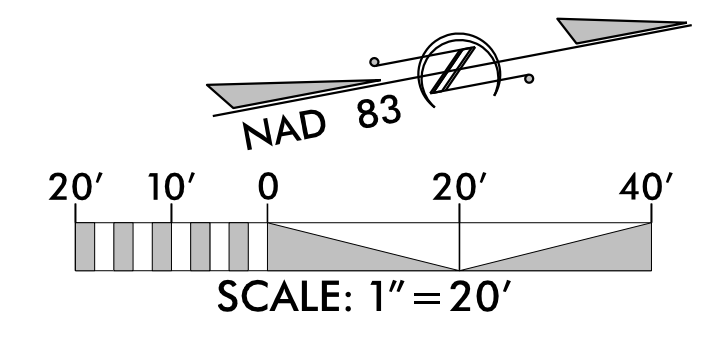
DocuSigned by:  
 Joshua G. Dalton  
 26971  
 SEAL  
 ENGINEER  
 JOSHUA G. DALTON  
 9/9/2021

**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC  
 EROSION AND SEDIMENT CONTROL - SITE 1

PROJECT # :  
 1284-20041  
 DRAWING NAME:  
 FLOODGATE RDY PSH C301  
 DATE:  
 6-16-2021  
 DRAWN BY:  
 RCH  
 REVIEWED BY:  
 RCH  
 REVISIONS:

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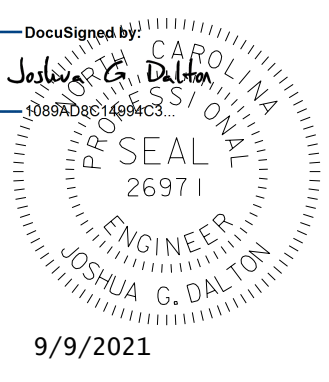
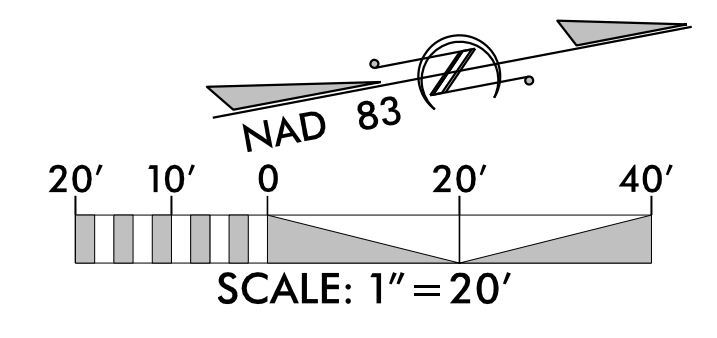
Place Matting for Erosion Control  
 on Slope as Work Allows.  
 Sta. 15+30 to Sta. 16+70 -AR1- LT (570 SY)  
 Sta. 10+50 to Sta. 12+80 -AR2- RT (450 SY)

NOTE:  
 EROSION AND SEDIMENT CONTROL MEASURES  
 SYMBOLOGY ARE GRAPHICALLY SHOWN OUTSIDE  
 OF THE LIMITS OF DISTURBANCE ONLY FOR  
 THE PURPOSE OF VISUAL CLARITY. ALL  
 EROSION AND SEDIMENT CONTROL MEASURES  
 SHALL BE INSTALLED WITHIN LIMITS OF  
 DISTURBANCE.

**EROSION AND SEDIMENT CONTROL MEASURES**

Detail	Description	Symbol
1	Temporary Silt Fence	
2	Coir Fiber Wattle Silt Fence Break	- CFW -
3	Temporary Rock Silt Check Type-A	▣
4	Temporary Rock Silt Check Type-B	▷
5	Wattle / Coir Fiber Wattle	⤿
6	Special Stilling Basin	◻
7	Temp. Tree Prot. Fence	- TPF - TPF - TPF -
8	Limits of Disturbance	- LOD - LOD -

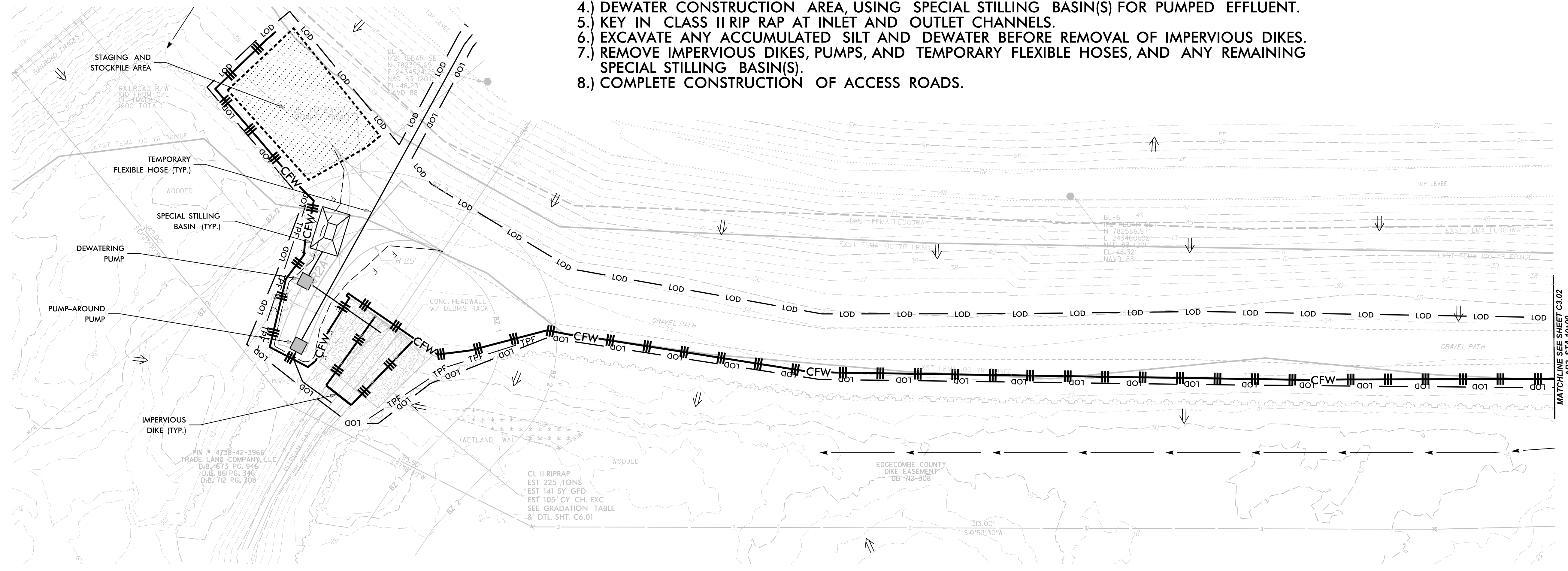




9/9/2021

**PHASING FOR SHEETS C3.01 AND C3.03:**

- 1.) INSTALL SPECIAL STILLING BASIN(S).
- 2.) INSTALL PUMPS AND TEMPORARY FLEXIBLE HOSES.
- 3.) INSTALL IMPERVIOUS DIKES, AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
- 4.) DEWATER CONSTRUCTION AREA, USING SPECIAL STILLING BASIN(S) FOR PUMPED EFFLUENT.
- 5.) KEY IN CLASS II RIP RAP AT INLET AND OUTLET CHANNELS.
- 6.) EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES.
- 7.) REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSES, AND ANY REMAINING SPECIAL STILLING BASIN(S).
- 8.) COMPLETE CONSTRUCTION OF ACCESS ROADS.



NOTE:  
 EROSION AND SEDIMENT CONTROL MEASURES SYMBOLOGY ARE GRAPHICALLY SHOWN OUTSIDE OF THE LIMITS OF DISTURBANCE ONLY FOR THE PURPOSE OF VISUAL CLARITY. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WITHIN LIMITS OF DISTURBANCE.

EROSION AND SEDIMENT CONTROL MEASURES		
Detail	Description	Symbol
1	Temporary Silt Fence	
2	Coir Fiber Wattle Silt Fence Break	CFW
3	Temporary Rock Silt Check Type-A	▣
4	Temporary Rock Silt Check Type-B	▶
5	Wattle / Coir Fiber Wattle	—
6	Special Stilling Basin	□
7	Temp. Tree Prot. Fence	TPF — TPF — TPF —
8	Limits of Disturbance	— LOD — LOD —

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**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC  
 EROSION AND SEDIMENT CONTROL - SITE 1

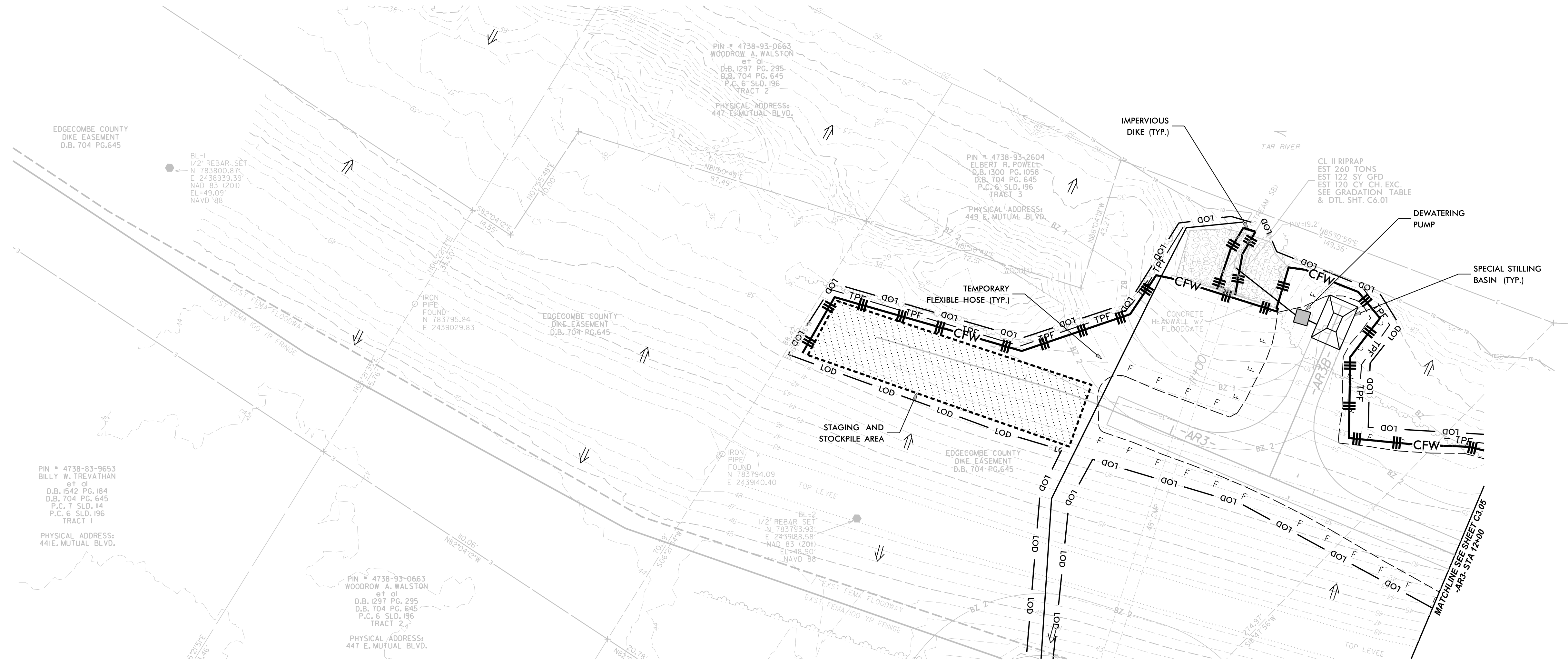
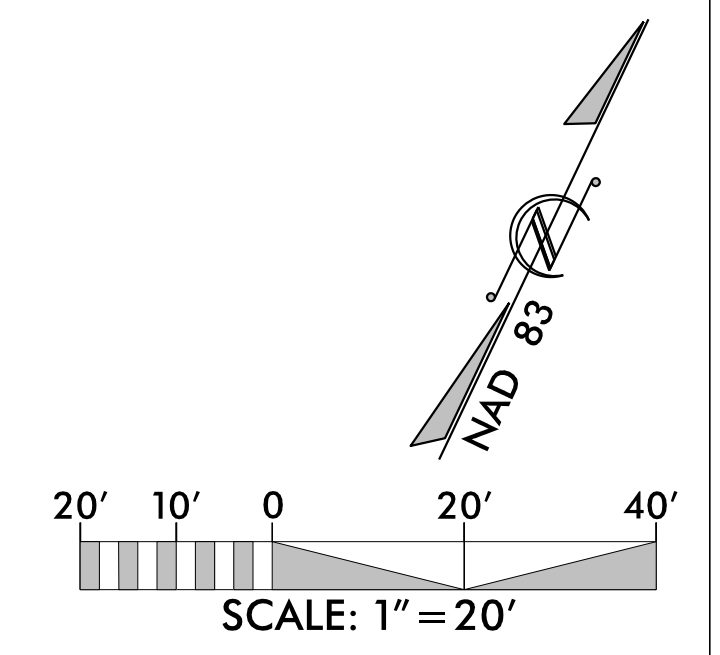
PROJECT # : 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C303  
 DATE: 6-16-2021  
 DRAWN BY: RCH  
 REVIEWED BY: RCH  
 REVISIONS:

SHEET NO.  
**C3.03**



PHASING FOR SHEETS C3.04 AND C3.08:

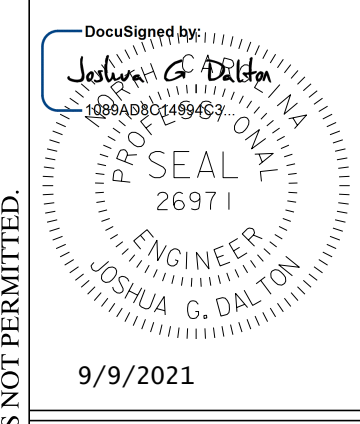
- 1.) INSTALL SPECIAL STILLING BASIN(S).
- 2.) INSTALL PUMPS AND TEMPORARY FLEXIBLE HOSES.
- 3.) INSTALL IMPERVIOUS DIKES, AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
- 4.) DEWATER CONSTRUCTION AREA, USING SPECIAL STILLING BASIN(S) FOR PUMPED EFFLUENT.
- 5.) KEY IN CLASS II RIP RAP AT INLET AND OUTLET CHANNELS.
- 6.) EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES.
- 7.) REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSES, AND ANY REMAINING SPECIAL STILLING BASIN(S).
- 8.) COMPLETE CONSTRUCTION OF ACCESS ROADS.



Place Matting for Erosion Control  
on Slope as Work Allows.  
Sta. 11+80 to Sta. 12+00 -AR3- LT (55 SY)

NOTE:  
EROSION AND SEDIMENT CONTROL MEASURES  
SYMBOLY ARE GRAPHICALLY SHOWN OUTSIDE  
OF THE LIMITS OF DISTURBANCE ONLY FOR  
THE PURPOSE OF VISUAL CLARITY. ALL  
EROSION AND SEDIMENT CONTROL MEASURES  
SHALL BE INSTALLED WITHIN LIMITS OF  
DISTURBANCE.

Detail	Description	Symbol
1	Temporary Silt Fence	
2	Coir Fiber Wattle Silt Fence Break	- CFW -
3	Temporary Rock Silt Check Type-A	▣
4	Temporary Rock Silt Check Type-B	▶
5	Wattle / Coir Fiber Wattle	—
6	Special Stilling Basin	◻
7	Temp. Tree Prot. Fence	- TPF - TPF - TPF -
8	Limits of Disturbance	- LOD - LOD -

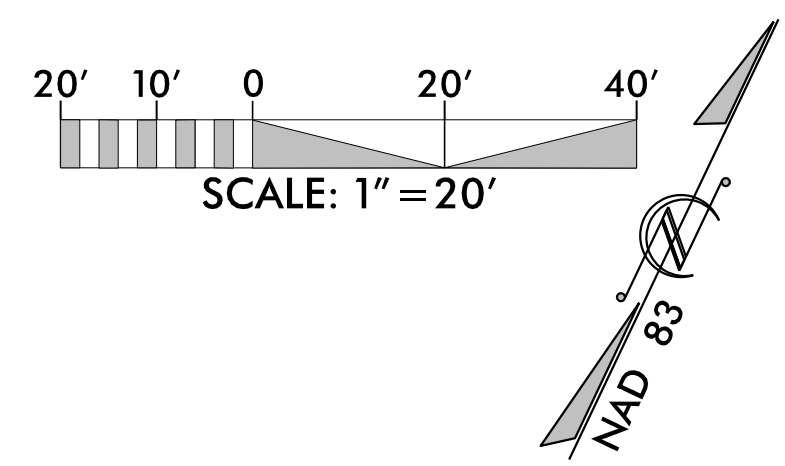


DocuSigned By:  
Joshua C. Dalton  
9/9/2021

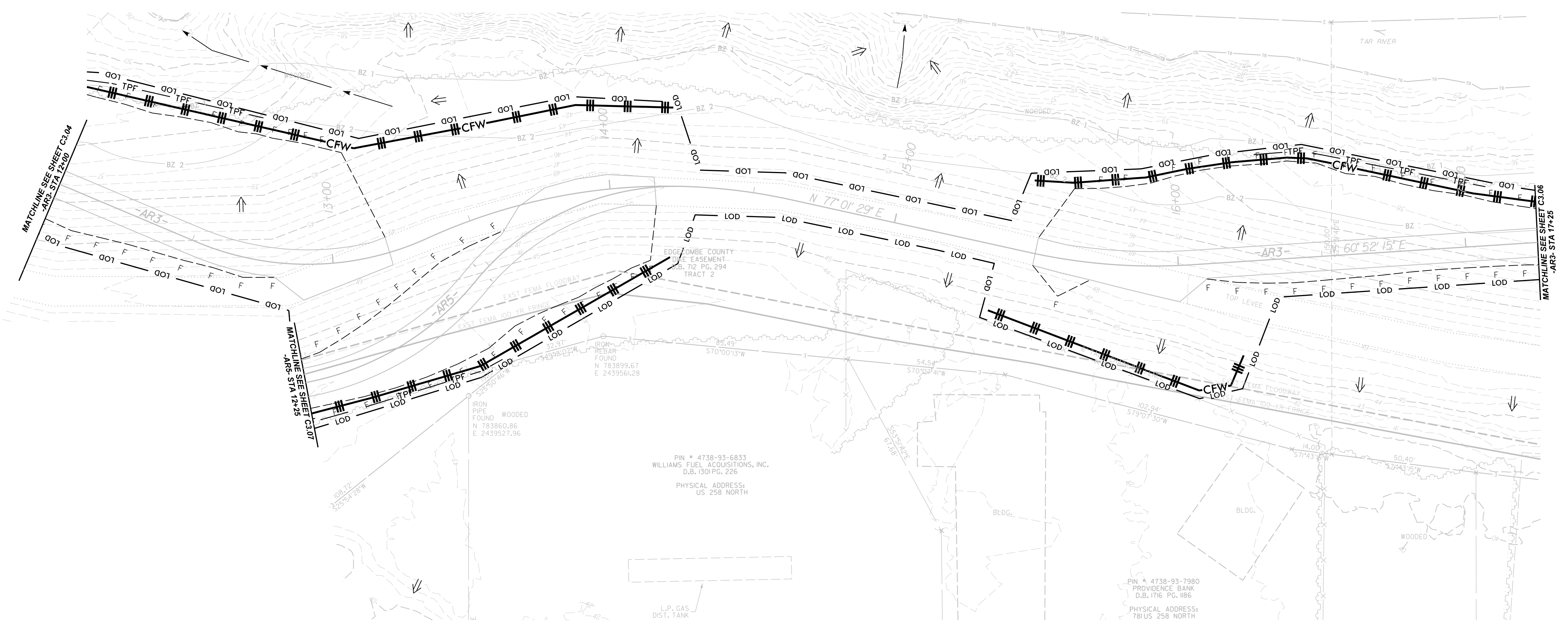
**PRINCETON DIKE FLOODGATE REPAIRS**  
PRINCETON, EDGECOMBE COUNTY, NC  
**EROSION AND SEDIMENT CONTROL - SITE 2 & 3**

PROJECT # : 1284-20041  
DRAWING NAME: FLOODGATE RDY PSH C304  
DATE: 6-16-2021  
DRAWN BY: RCH  
REVIEWED BY:  
REVISIONS:  
SHEET NO. **C3.04**





Place Matting for Erosion Control  
on Slope as Work Allows.  
Sta. 12+00 to Sta. 13+10 -AR3- LT (355 SY)  
Sta. 15+90 to Sta. 16+60 -AR3- LT (200 SY)



NOTE:  
EROSION AND SEDIMENT CONTROL MEASURES  
SYMBOLS ARE GRAPHICALLY SHOWN OUTSIDE  
OF THE LIMITS OF DISTURBANCE ONLY FOR  
THE PURPOSE OF VISUAL CLARITY. ALL  
EROSION AND SEDIMENT CONTROL MEASURES  
SHALL BE INSTALLED WITHIN LIMITS OF  
DISTURBANCE.

EROSION AND SEDIMENT CONTROL MEASURES		
Detail	Description	Symbol
1	Temporary Silt Fence	
2	Coir Fiber Wattle Silt Fence Break	- CFW -
3	Temporary Rock Silt Check Type-A	▣
4	Temporary Rock Silt Check Type-B	▷
5	Wattle / Coir Fiber Wattle	⤿
6	Special Stilling Basin	◻
7	Temp. Tree Prot. Fence	- TPF - TPF - TPF -
8	Limits of Disturbance	- LOD - LOD -

**SUNGATE DESIGN GROUP, P.A.**  
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TEL (919) 852-2243  
ENG FIRM LICENSE NO. C-890

DocuSign  
Seal  
Professional Engineer  
JOSHUA G. DALTON  
9/9/2021

PRINCETON, NORTH CAROLINA 27606  
9/9/2021

**PRINCETON DIKE FLOODGATE REPAIRS**  
PRINCETON, EDGEcombe COUNTY, NC  
**EROSION AND SEDIMENT CONTROL - SITE 2 & 3**

PROJECT # : 1284-20041  
DRAWING NAME: FLOODGATE RDY PSH C305  
DATE: 6-16-2021  
DRAWN BY: RCH  
REVIEWED BY: RCH  
REVISIONS:

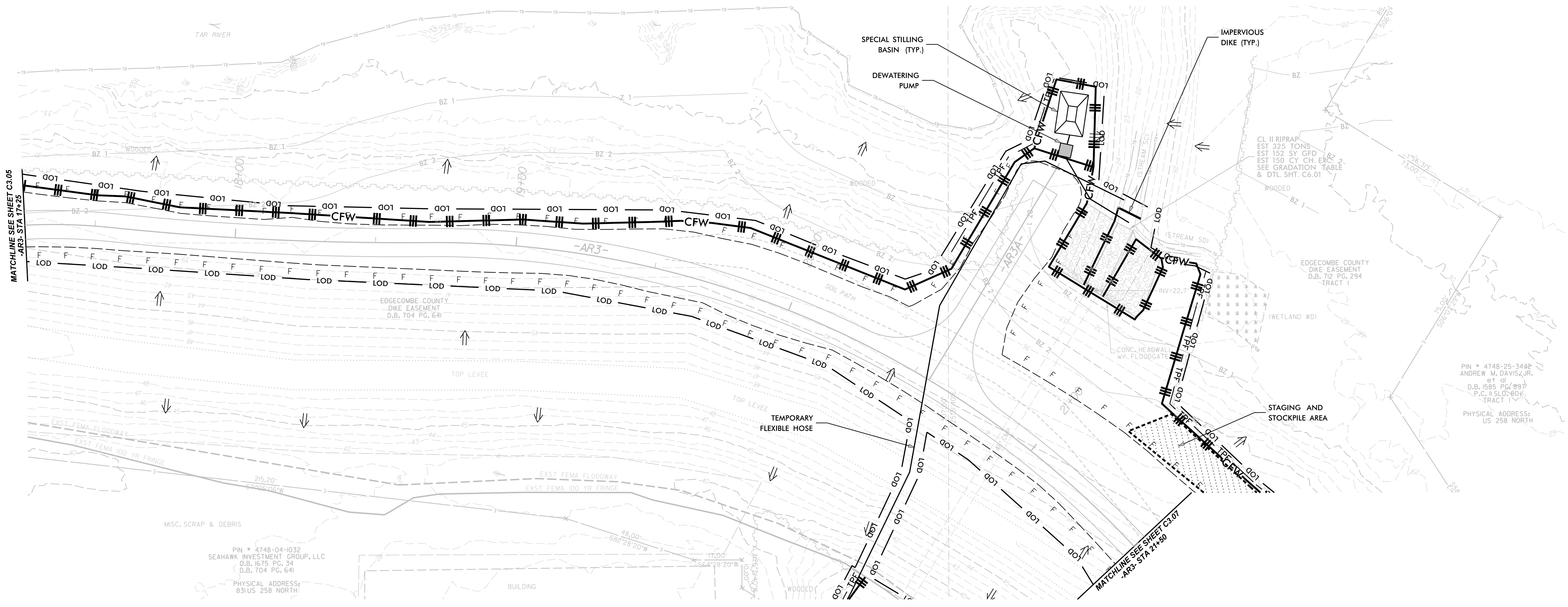
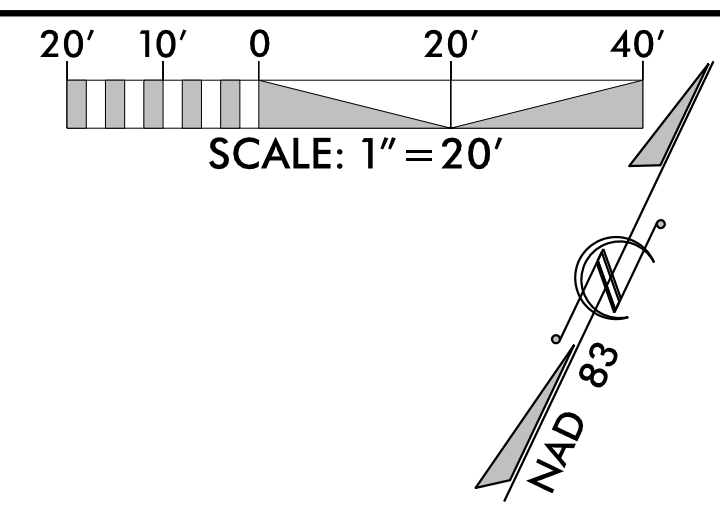
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PHASING FOR SHEETS C3.06 AND C3.07:

- 1.) INSTALL SPECIAL STILLING BASIN(S).
- 2.) INSTALL PUMPS AND TEMPORARY FLEXIBLE HOSES.
- 3.) INSTALL IMPERVIOUS DIKES, AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
- 4.) DEWATER CONSTRUCTION AREA, USING SPECIAL STILLING BASIN(S) FOR PUMPED EFFLUENT.
- 5.) KEY IN CLASS II RIP RAP AT INLET AND OUTLET CHANNELS.
- 6.) EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES.
- 7.) REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSES, AND ANY REMAINING SPECIAL STILLING BASIN(S).
- 8.) COMPLETE CONSTRUCTION OF ACCESS ROADS.



NOTE:  
EROSION AND SEDIMENT CONTROL MEASURES SYMBOLOGY ARE GRAPHICALLY SHOWN OUTSIDE OF THE LIMITS OF DISTURBANCE ONLY FOR THE PURPOSE OF VISUAL CLARITY. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WITHIN LIMITS OF DISTURBANCE.

Detail	Description	Symbol
1	Temporary Silt Fence	
2	Coir Fiber Wattle Silt Fence Break	- CFW -
3	Temporary Rock Silt Check Type-A	▣
4	Temporary Rock Silt Check Type-B	▸
5	Wattle / Coir Fiber Wattle	⤿
6	Special Stilling Basin	⊠
7	Temp. Tree Prot. Fence	- TPF - TPF - TPF -
8	Limits of Disturbance	- LOD - LOD -

**SUNGATE DESIGN GROUP, P.A.**  
 905 JONES FRANKLIN ROAD  
 FAYETTEVILLE, CAROLINA 27606  
 TEL: (919) 852-2243  
 ENG. FIRM LICENSE NO. C-890

Documented by:  
  
 9/9/2021

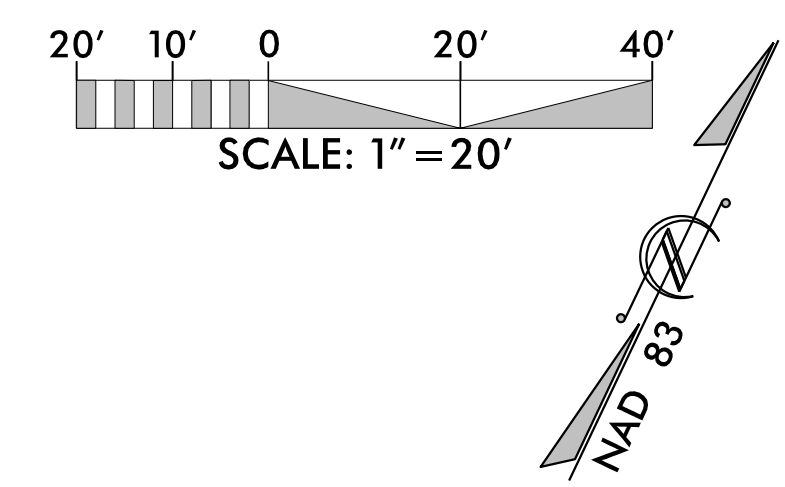
PRINCEVILLE DIKE FLOODGATE REPAIRS  
 PRINCEVILLE, EDGECOMBE COUNTY, NC

EROSION AND SEDIMENT CONTROL - SITE 2 & 3

PROJECT # : 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C306  
 DATE: 6-16-2021  
 DRAWN BY: RCH  
 REVIEWED BY: RCH  
 REVISIONS:

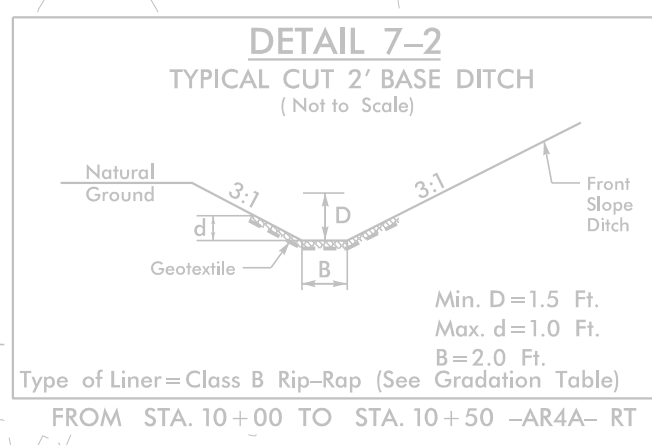
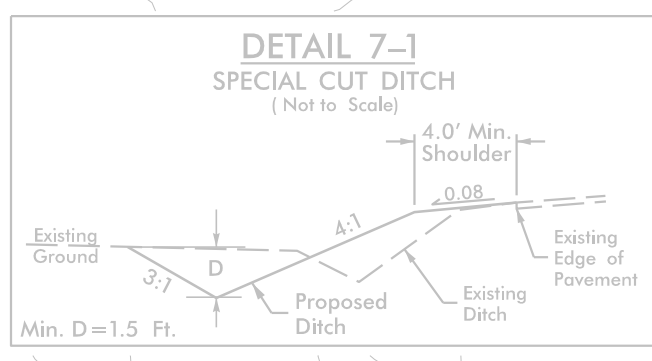
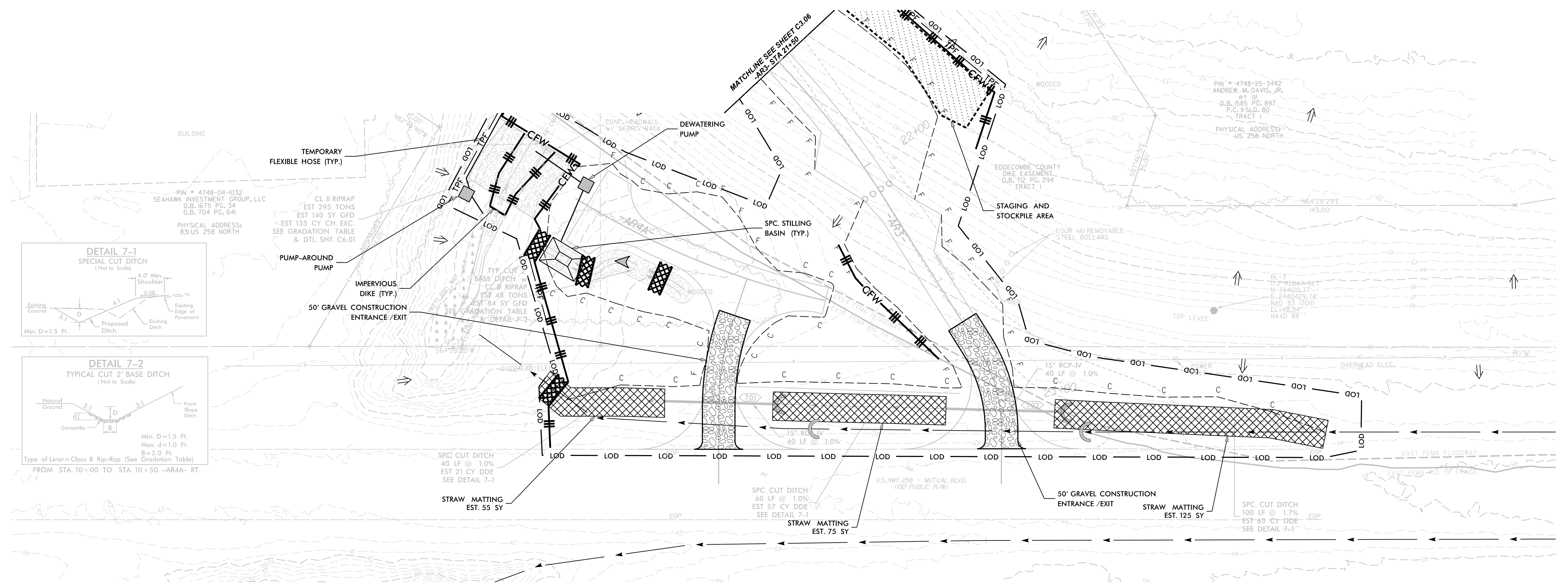
SHEET NO.  
**C3.06**





**PHASING FOR SHEETS C3.06 AND C3.07:**

- 1.) INSTALL SPECIAL STILLING BASIN(S).
- 2.) INSTALL PUMPS AND TEMPORARY FLEXIBLE HOSES.
- 3.) INSTALL IMPERVIOUS DIKES, AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
- 4.) DEWATER CONSTRUCTION AREA, USING SPECIAL STILLING BASIN(S) FOR PUMPED EFFLUENT.
- 5.) KEY IN CLASS II RIP RAP AT INLET AND OUTLET CHANNELS.
- 6.) EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES.
- 7.) REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSES, AND ANY REMAINING SPECIAL STILLING BASIN(S).
- 8.) COMPLETE CONSTRUCTION OF ACCESS ROADS.



Place Straw Matting for Erosion Control on Slope as Work Allows.  
Sta. 21+50 to Sta. 22+10 -AR3- LT (185 SY)

NOTE:  
EROSION AND SEDIMENT CONTROL MEASURES SYMBOLS ARE GRAPHICALLY SHOWN OUTSIDE OF THE LIMITS OF DISTURBANCE ONLY FOR THE PURPOSE OF VISUAL CLARITY. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WITHIN LIMITS OF DISTURBANCE.

EROSION AND SEDIMENT CONTROL MEASURES		
Detail	Description	Symbol
1	Temporary Silt Fence	
2	Coir Fiber Wattle Silt Fence Break	- CFW -
3	Temporary Rock Silt Check Type-A	▣
4	Temporary Rock Silt Check Type-B	▣
5	Wattle / Coir Fiber Wattle	~
6	Special Stilling Basin	▣
7	Temp. Tree Prot. Fence	- TPF - TPF - TPF -
8	Limits of Disturbance	- LOD - LOD -

**SUNGATE DESIGN GROUP, P.A.**  
 905 JONES FRANKLIN ROAD  
 FLORENCE, SOUTH CAROLINA 29506  
 TEL: (815) 852-2243  
 ENG. FIRM LICENSE NO. C-890

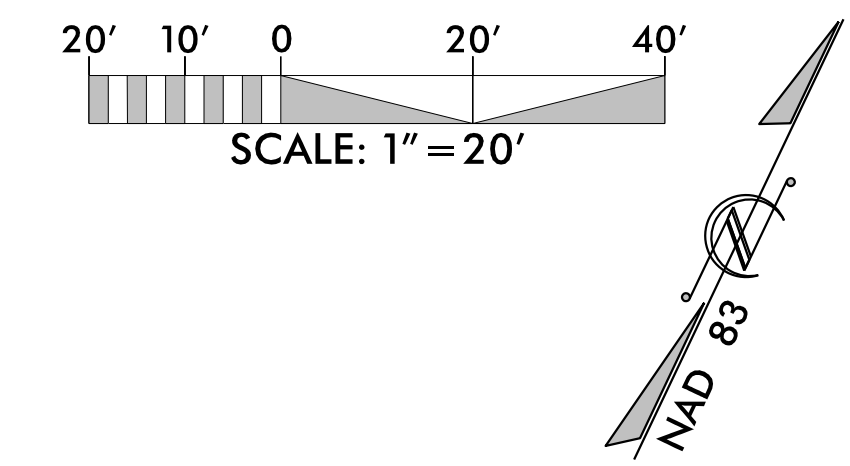
Professional Seal  
 Joshua G. Dalton  
 ENGINEER  
 JOSHUA G. DALTON  
 26971  
 9/9/2021

PRINCEVILLE DIKE FLOODGATE REPAIRS  
 PRINCEVILLE, EDGECOMBE COUNTY, NC

EROSION AND SEDIMENT CONTROL - SITE 2 & 3

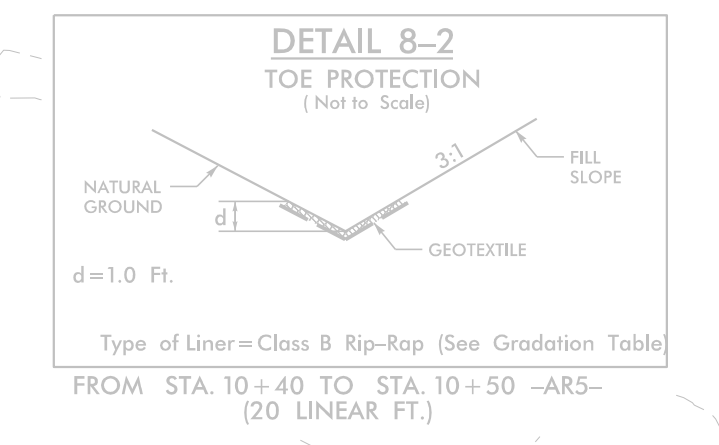
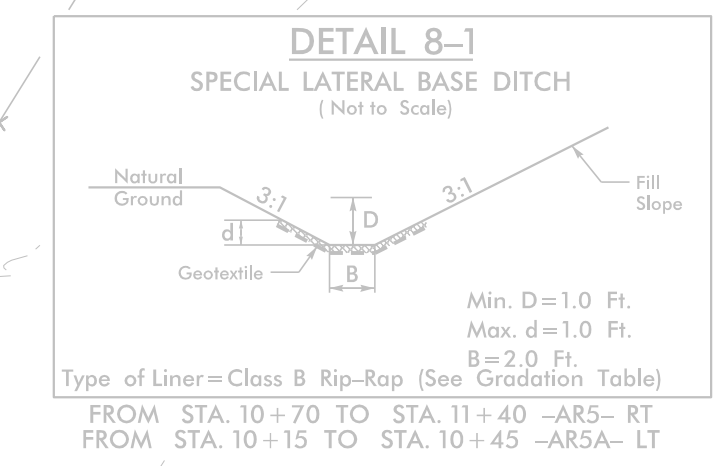
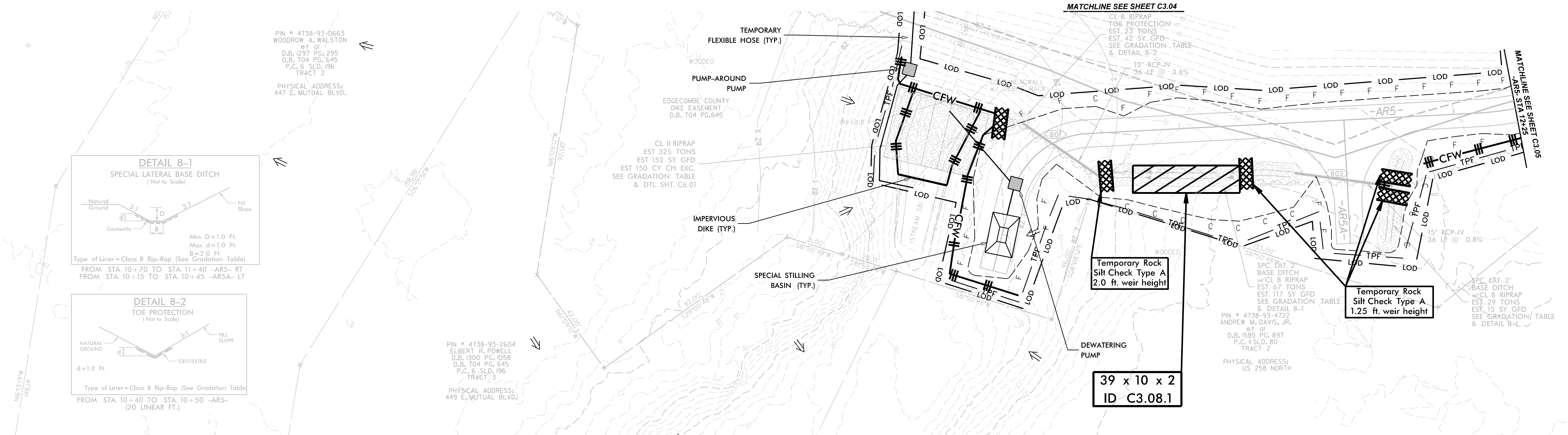
PROJECT #: 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C307  
 DATE: 6-16-2021  
 DRAWN BY: RCH  
 REVIEWED BY: RCH  
 REVISIONS:  
 SHEET NO. **C3.07**





**PHASING FOR SHEETS C3.04 AND C3.08:**

- 1.) INSTALL SPECIAL STILLING BASIN(S).
- 2.) INSTALL PUMPS AND TEMPORARY FLEXIBLE HOSES.
- 3.) INSTALL IMPERVIOUS DIKES, AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
- 4.) DEWATER CONSTRUCTION AREA, USING SPECIAL STILLING BASIN(S) FOR PUMPED EFFLUENT.
- 5.) KEY IN CLASS II RIP RAP AT INLET AND OUTLET CHANNELS.
- 6.) EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES.
- 7.) REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSES, AND ANY REMAINING SPECIAL STILLING BASIN(S).
- 8.) COMPLETE CONSTRUCTION OF ACCESS ROADS.



**EROSION AND SEDIMENT CONTROL MEASURES**

Detail	Description	Symbol
1	Temporary Silt Fence	
2	Coir Fiber Wattle Silt Fence Break	— CFW —
3	Temporary Rock Silt Check Type-A	▣
4	Temporary Rock Silt Check Type-B	▷
5	Wattle / Coir Fiber Wattle	—
6	Special Stilling Basin	⊠
7	Temp. Tree Prot. Fence	— TPF — TPF — TPF —
8	Limits of Disturbance	— LOD — LOD —

**NOTE:**  
EROSION AND SEDIMENT CONTROL MEASURES SYMBOLS ARE GRAPHICALLY SHOWN OUTSIDE OF THE LIMITS OF DISTURBANCE ONLY FOR THE PURPOSE OF VISUAL CLARITY. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WITHIN LIMITS OF DISTURBANCE.

**SUNGATE DESIGN GROUP, P.A.**  
 905 JONES FRANKLIN ROAD  
 PRINCETON, NORTH CAROLINA 27606  
 TEL: (919) 852-2243  
 ENG. FIRM LICENSE NO. C-890

DocuSigned By:  
 Joshua G. Dalton  
 SEAL  
 26971  
 ENGINEER  
 JOSHUA G. DALTON  
 9/9/2021

PROJECT # :  
 1284-20041  
 DRAWING NAME:  
 FLOODGATE RDY PSH C308  
 DATE:  
 6-16-2021  
 DRAWN BY:  
 RCH  
 REVIEWED BY:  
 RCH  
 REVISIONS:

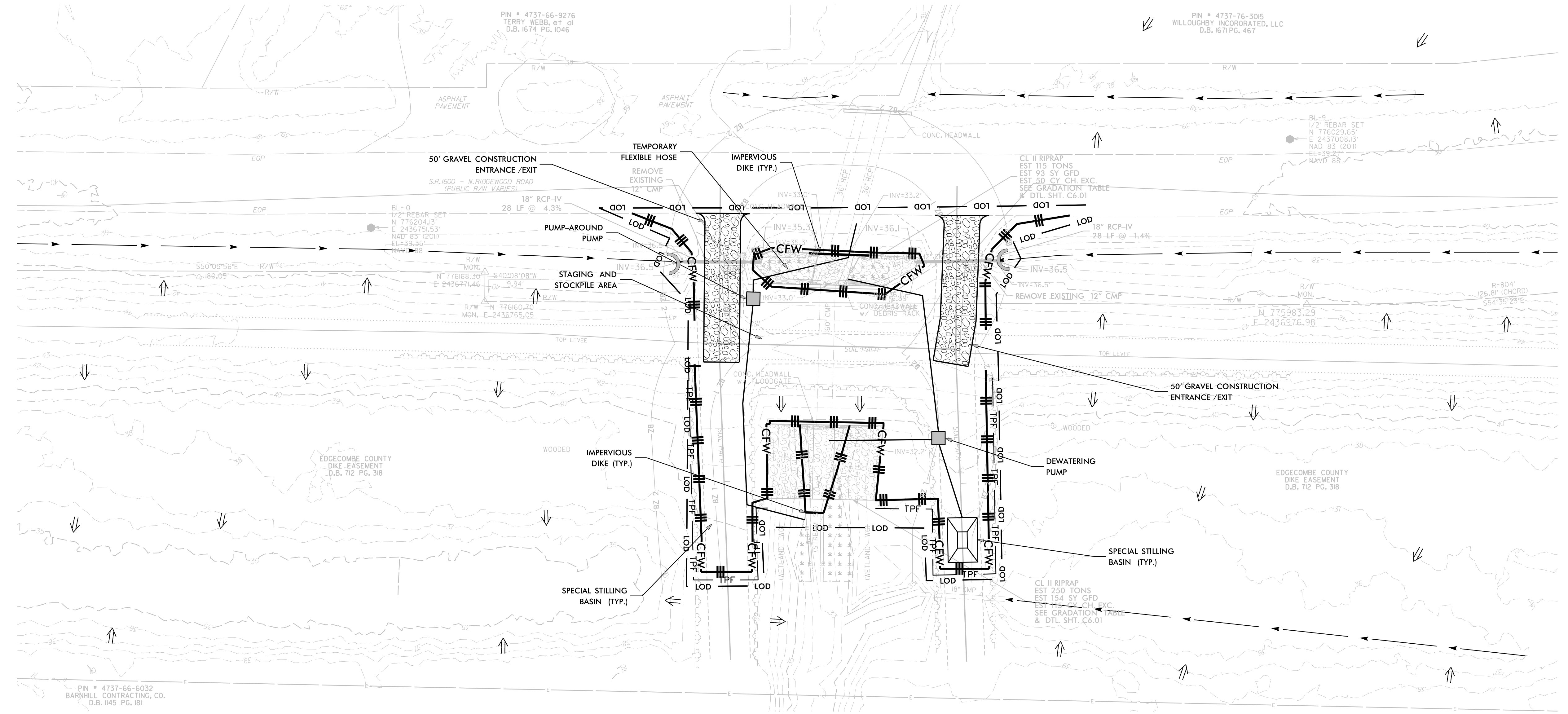
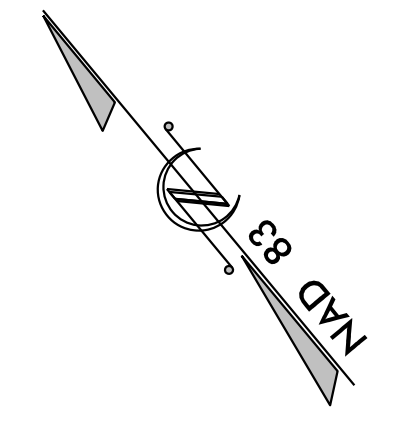
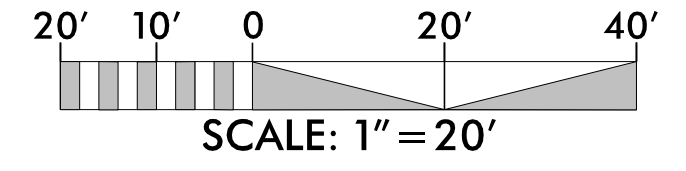
**PRINCETONVILLE DIKE FLOODGATE REPAIRS**  
 PRINCETONVILLE, EDGEcombe COUNTY, NC  
**EROSION AND SEDIMENT CONTROL - SITE 2 & 3**

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 SHEET NO.  
**C3.08**



PHASING FOR SHEET C3.09:

- 1.) INSTALL SPECIAL STILLING BASIN(S).
- 2.) INSTALL PUMPS AND TEMPORARY FLEXIBLE HOSES.
- 3.) INSTALL IMPERVIOUS DIKES, AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
- 4.) DEWATER CONSTRUCTION AREA, USING SPECIAL STILLING BASIN(S) FOR PUMPED EFFLUENT.
- 5.) KEY IN CLASS II RIP RAP AT INLET AND OUTLET CHANNELS.
- 6.) EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES.
- 7.) REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSES, AND ANY REMAINING SPECIAL STILLING BASIN(S).
- 8.) COMPLETE CONSTRUCTION OF ACCESS ROADS.



NOTE:  
EROSION AND SEDIMENT CONTROL MEASURES SYMBOLOGY ARE GRAPHICALLY SHOWN OUTSIDE OF THE LIMITS OF DISTURBANCE ONLY FOR THE PURPOSE OF VISUAL CLARITY. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WITHIN LIMITS OF DISTURBANCE.

**EROSION AND SEDIMENT CONTROL MEASURES**

Detail	Description	Symbol
1	Temporary Silt Fence	— III — III — III —
2	Coir Fiber Wattle Silt Fence Break	— CFW —
3	Temporary Rock Silt Check Type-A	— X — X — X —
4	Temporary Rock Silt Check Type-B	— > —
5	Wattle / Coir Fiber Wattle	— ( ) —
6	Special Stilling Basin	— [ ] —
7	Temp. Tree Prot. Fence	— TPF — TPF — TPF —
8	Limits of Disturbance	— LOD — LOD —

**SUNGATE DESIGN GROUP, P.A.**  
 905 JONES FRANKLIN ROAD  
 FLORENCE, CAROLINA 27606  
 TEL (815) 852-2243  
 ENG FIRM LICENSE NO. C-890

DocuSign by  
  
 SEAL  
 26971  
 ENGINEER  
 JOSHUA G. DALTON  
 9/9/2021

**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC  
**EROSION AND SEDIMENT CONTROL - SITE 4**

PROJECT # : 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C309  
 DATE: 6-16-2021  
 DRAWN BY: RCH  
 REVIEWED BY: RCH  
 REVISIONS:

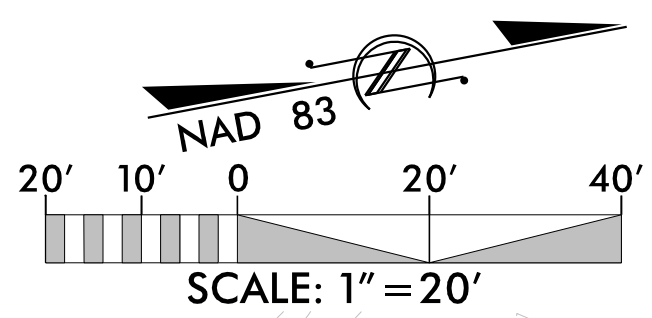
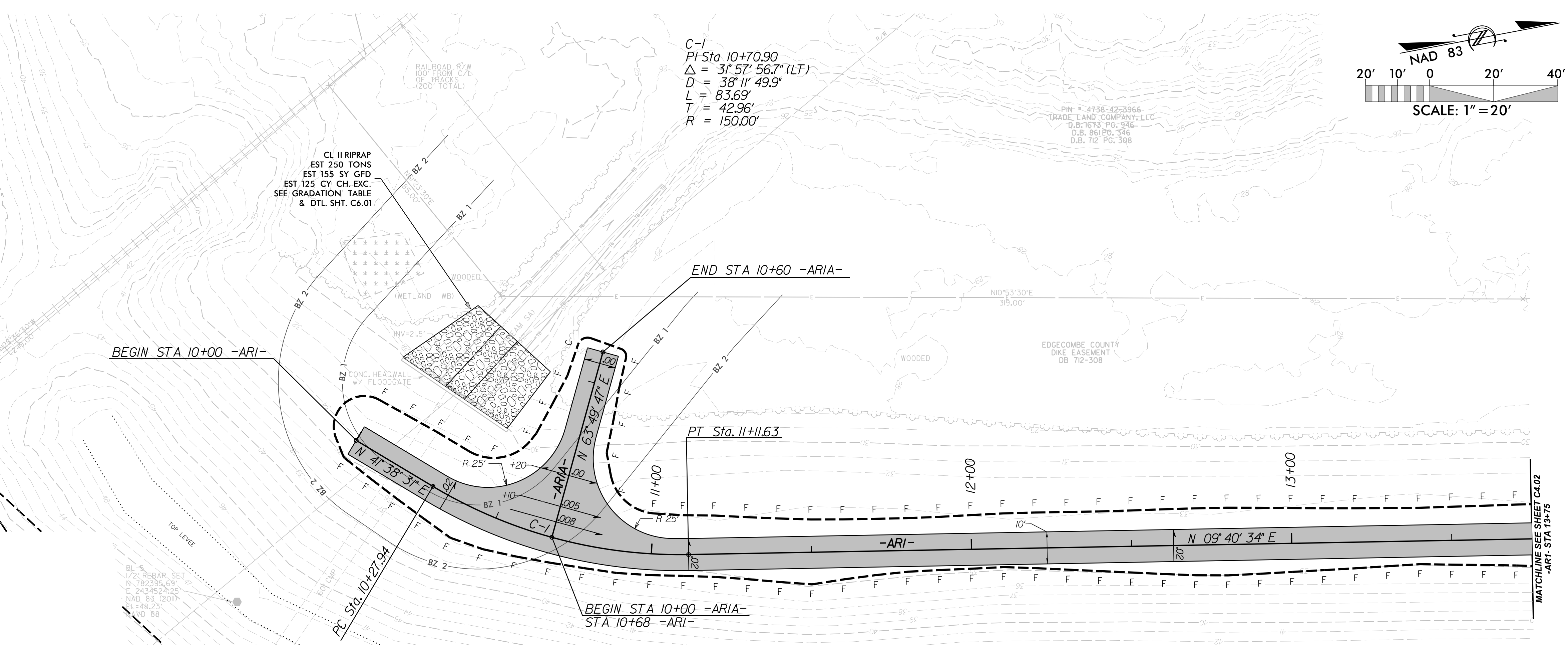
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Riprap Gradation Requirements						
Weight (lbs)	Size (in)	% Finer by Weight Class of Riprap				
		A	B	I	II	III
2000	30					100
1000	24				100	
650	21					75
400	18			100		
250	15				75	50
120	12		100	75	50	
50	9			75	50	
15	6	100	50			10
5	4				10	
2	3	50		10		
	1	10				

\*Weight to size conversion based on a riprap specific gravity of 2.6 and a volume average between a sphere and cube.

CONSTRUCTION NOTE(S):  
 1. BENCHING OR EXCAVATING INTO EXISTING LEVEE IS PROHIBITED. ONLY GRUBBING OF EXISTING VEGETATION AND PLACEMENT OF FILL MATERIAL IS ALLOWED ON LEVEE SLOPES.



PIN # 4738-42-3966  
 TRADE LAND COMPANY, LLC  
 D.B. 1673 PG. 946  
 D.B. 361 PG. 346  
 D.B. 712 PG. 308

CL. II RIPRAP  
 EST 250 TONS  
 EST 155 SY GFD  
 EST 125 CY CH. EXC.  
 SEE GRADATION TABLE  
 & DTL. SHT. C6.01

C-1  
 PI Sta 10+70.90  
 $\Delta = 31^\circ 57' 56.7''$  (LT)  
 $D = 38^\circ 11' 49.9''$   
 $L = 83.69'$   
 $T = 42.96'$   
 $R = 150.00'$

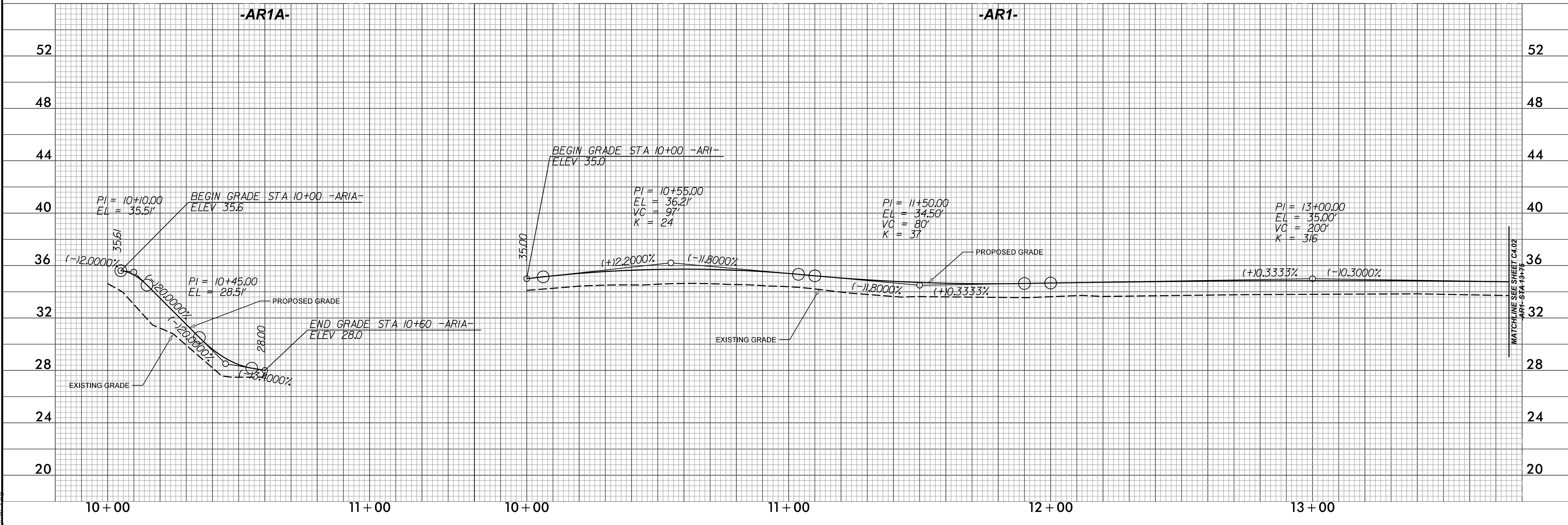
9/9/2021  
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 rdjh

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 905 JONES FRANKLIN ROAD  
 PRINCETON, NORTH CAROLINA 27606  
 TEL: (919) 852-2243  
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 ENG. FIRM LICENSE NO. C-890

Designed by:  
 Joshua G. Dalton  
 PROFESSIONAL SEAL  
 26971  
 ENGINEER  
 JOSHUA G. DALTON  
 9/9/2021

**PRINCETON DIKE FLOODGATE REPAIRS**  
 PRINCETON, EDGEcombe COUNTY, NC  
**GRADING & DRAINAGE - SITE 1**

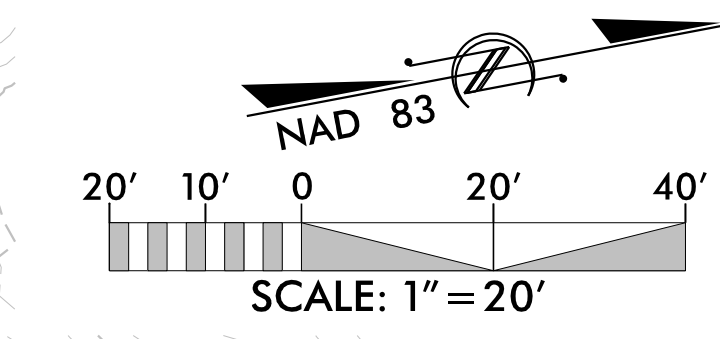
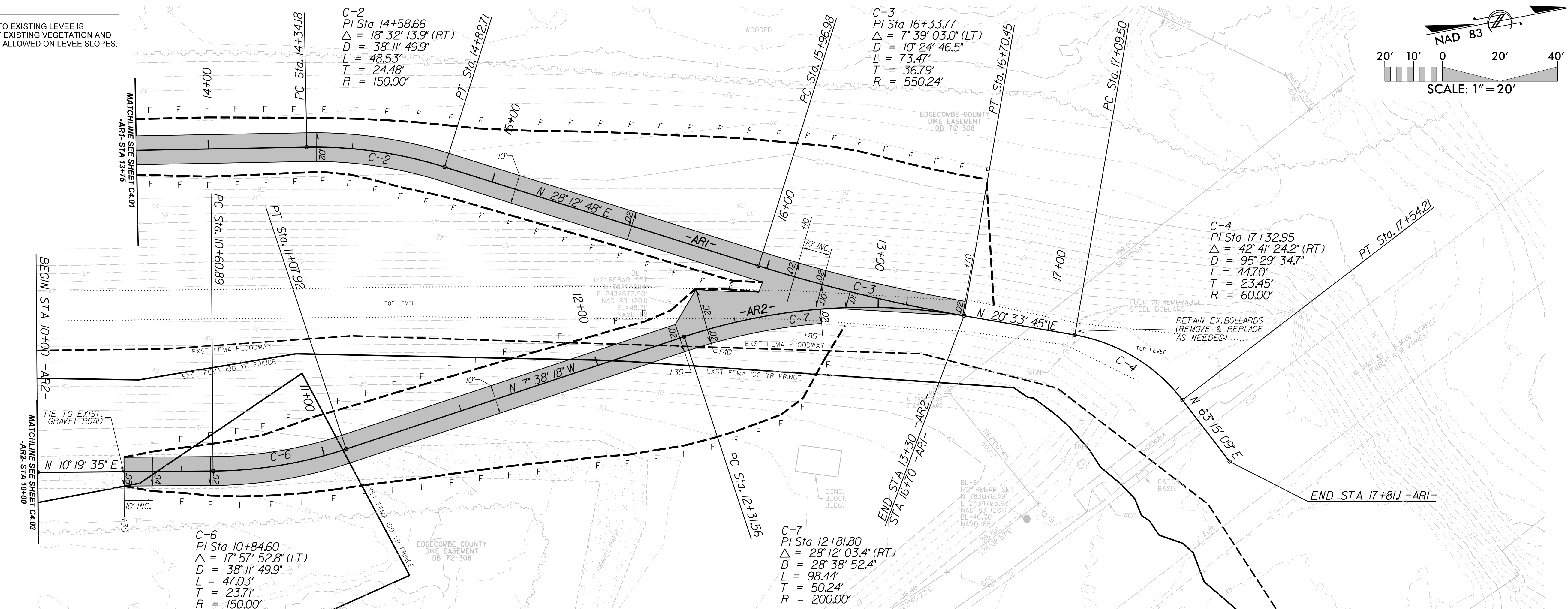
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 DRAWING NAME: FLOODGATE RDY PSH C401  
 DATE: 6-16-2021  
 DRAWN BY: RCH  
 REVIEWED BY: RCH  
 REVISIONS:  
 SHEET NO. **C4.01**



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CONSTRUCTION NOTE(S):  
 1. BENCHING OR EXCAVATING INTO EXISTING LEVEL IS PROHIBITED. ONLY GRUBBING OF EXISTING VEGETATION AND PLACEMENT OF FILL MATERIAL IS ALLOWED ON LEVEE SLOPES.

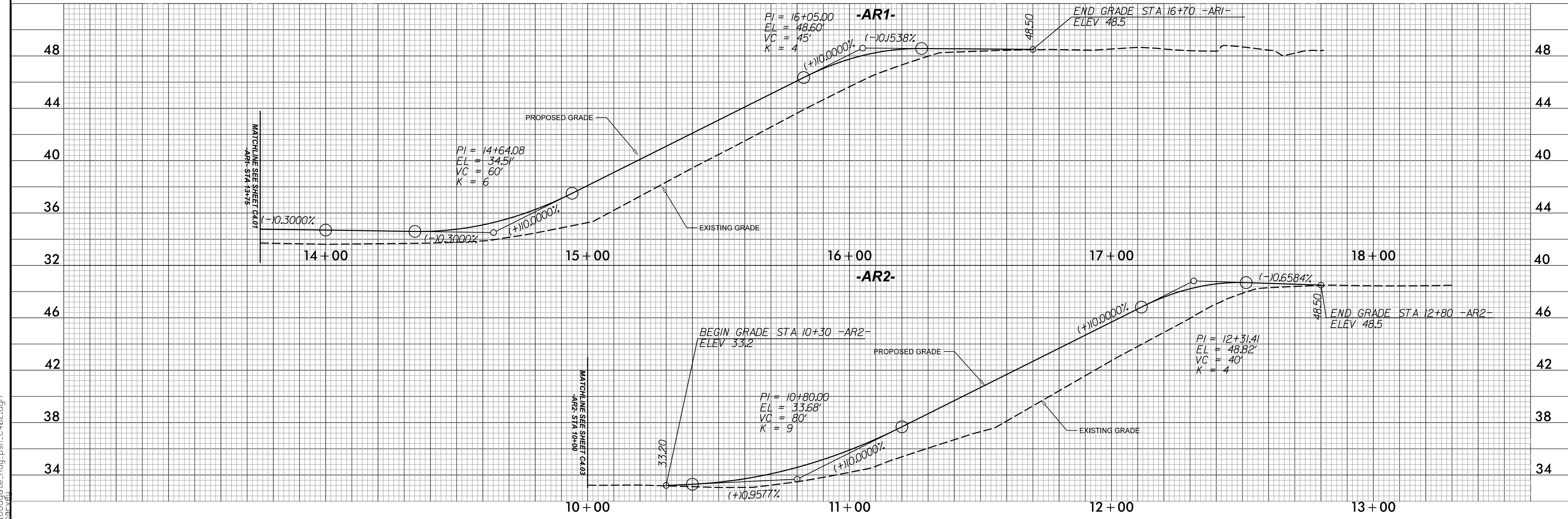


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 Joshua G. Dalton  
 PROFESSIONAL SEAL  
 26971  
 ENGINEER  
 JOSHUA G. DALTON  
 9/9/2021

**PRINCETON DIKE FLOODGATE REPAIRS**  
 PRINCETON, EDGEcombe COUNTY, NC  
**GRADING & DRAINAGE - SITE 1**

PROJECT #: 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C402  
 DATE: 6-16-2021  
 DRAWN BY: RCH  
 REVIEWED BY:  
 REVISIONS:  
 SHEET NO. **C4.02**



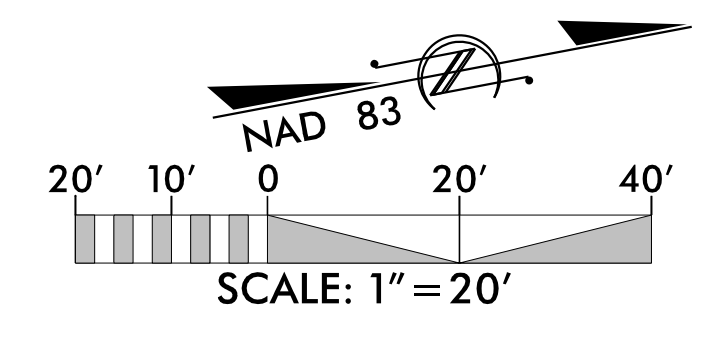
9/9/2021  
 F:\cadd\site\_Rdy\_psh\_C402.dgn  
 jdalton

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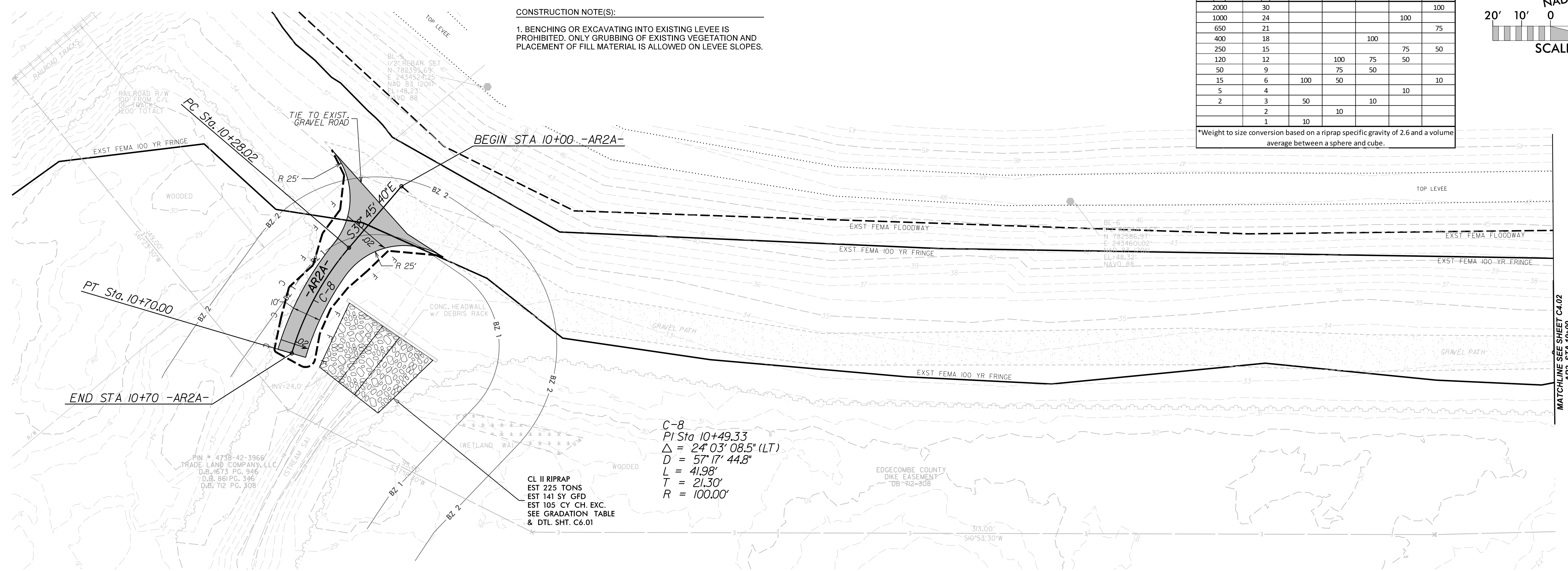


Weight (lbs)	Size (in)	Riprap Gradation Requirements			
		% Finer by Weight			
		Class of Riprap			
2000	30				100
1000	24				100
650	21				75
400	18			100	75
250	15				50
120	12		100	75	50
50	9		75	50	50
15	6	100	50		10
5	4				10
2	3	50	10		
1	2		10		
	1	10			

\*Weight to size conversion based on a riprap specific gravity of 2.6 and a volume average between a sphere and cube.



**CONSTRUCTION NOTE(S):**  
 1. BENCHING OR EXCAVATING INTO EXISTING LEVEL IS PROHIBITED. ONLY GRUBBING OF EXISTING VEGETATION AND PLACEMENT OF FILL MATERIAL IS ALLOWED ON LEVEE SLOPES.



CL II RIPRAP  
 EST 225 TONS  
 EST 141 SY GFD  
 EST 105 CY CH. EXC.  
 SEE GRADATION TABLE  
 & DTL SHT. C6.01

C-8  
 PI Sta 10+49.33  
 $\Delta = 24^\circ 03' 08.5''$  (LT)  
 D = 57' 17" 44.8"  
 L = 41.98'  
 T = 21.30'  
 R = 100.00'



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 FAYETTEVILLE, CAROLINA 27606  
 TEL: (719) 852-2243  
 ENG FIRM LICENSE NO. C-4890

DocuSign by  
 Joshua G. Dalton  
 PROFESSIONAL SEAL  
 26971  
 ENGINEER  
 JOSHUA G. DALTON  
 9/9/2021

PROJECT # :  
 1284-20041  
 DRAWING NAME:  
 FLOODGATE RDY PSH C403  
 DATE:  
 6-16-2021  
 DRAWN BY:  
 RCH  
 REVIEWED BY:  
 RCH  
 REVISIONS:

**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC  
**GRADING & DRAINAGE - SITE 1**

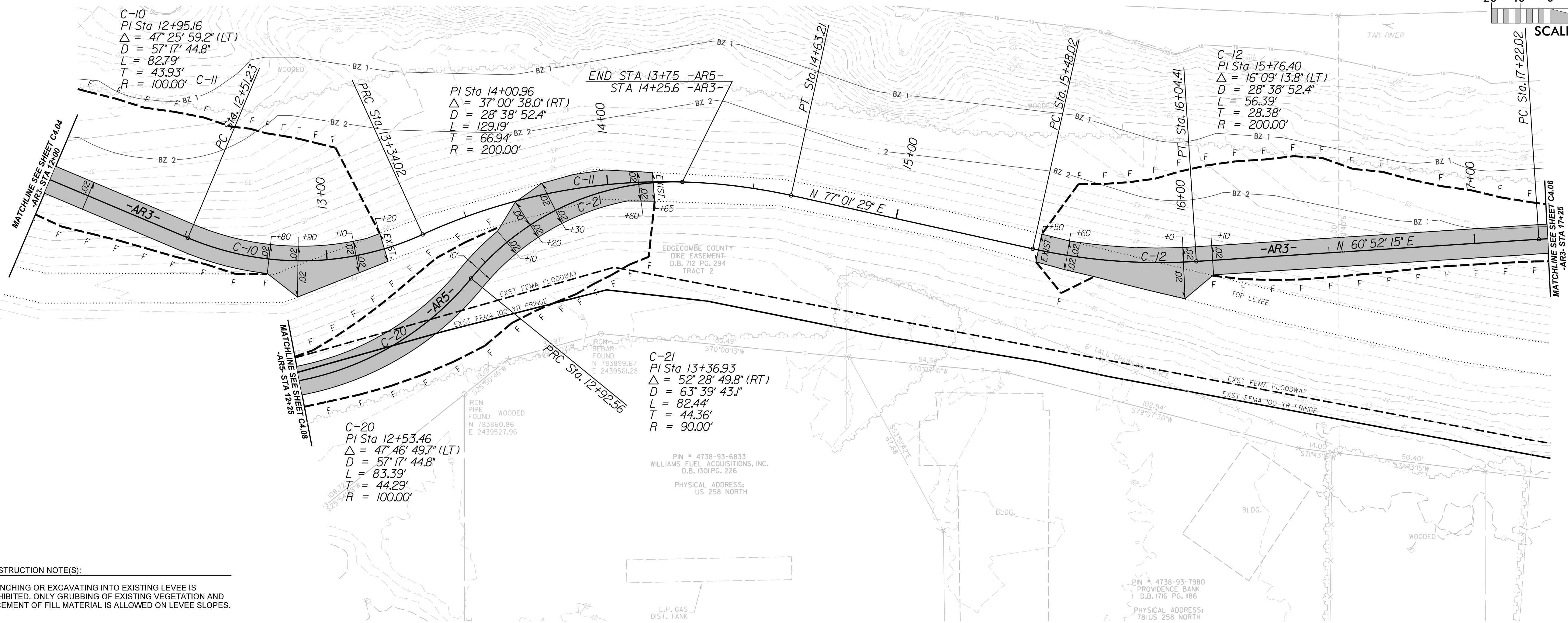
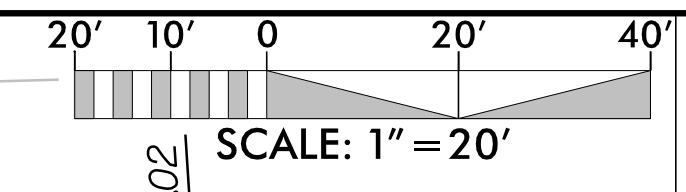
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 DATE:  
 6-16-2021  
 DRAWN BY:  
 RCH  
 REVIEWED BY:  
 RCH  
 REVISIONS:  
 SHEET NO.  
**C4.03**

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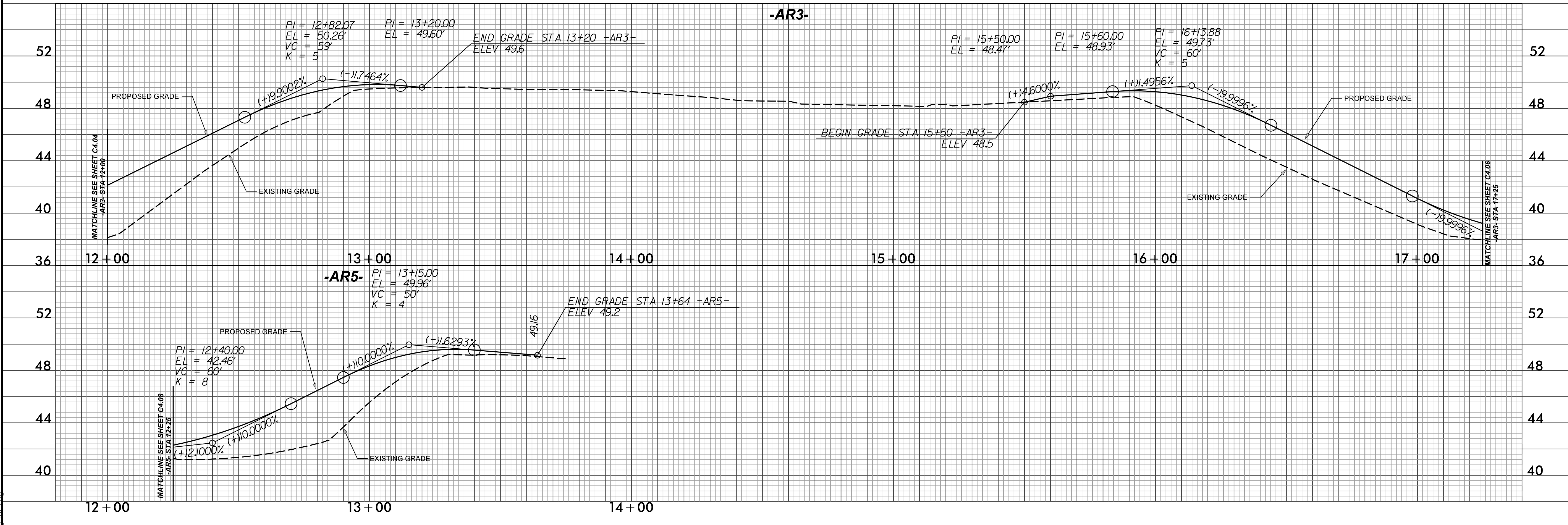








**CONSTRUCTION NOTE(S):**  
 1. BENCHING OR EXCAVATING INTO EXISTING LEVEE IS PROHIBITED. ONLY GRUBBING OF EXISTING VEGETATION AND PLACEMENT OF FILL MATERIAL IS ALLOWED ON LEVEE SLOPES.



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 ENG FIRM LICENSE NO. C-890

DocuSign by  
 Joshua G. Dalton  
 ENGINEER  
 26971  
 9/9/2021

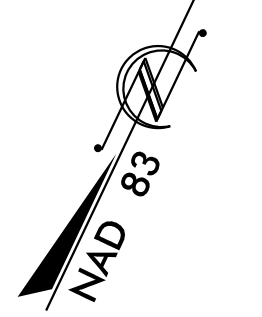
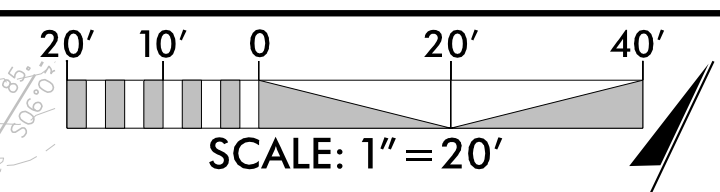
**PRINCETON DIKE FLOODGATE REPAIRS**  
 PRINCETON, EDGECOMBE COUNTY, NC  
**GRADING & DRAINAGE - SITE 2 & 3**

PROJECT # : 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C405  
 DATE: 6-16-2021  
 DRAWN BY: RCH  
 REVIEWED BY:  
 REVISIONS:  
 SHEET NO. **C4.05**

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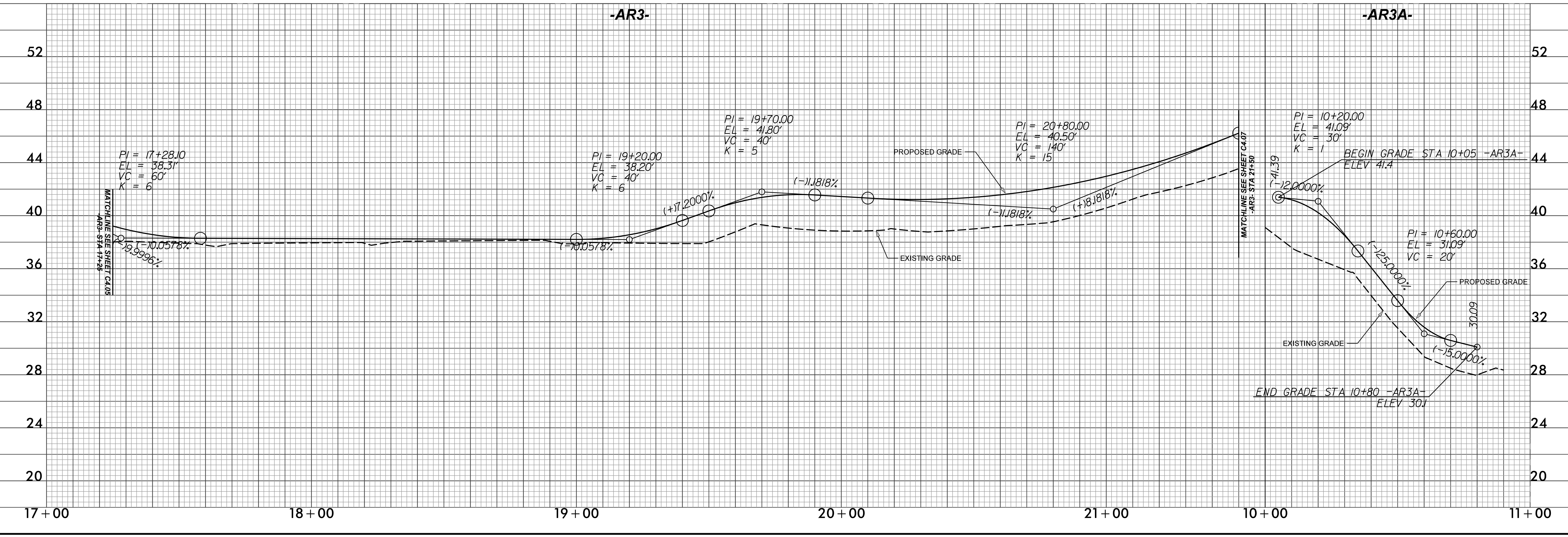
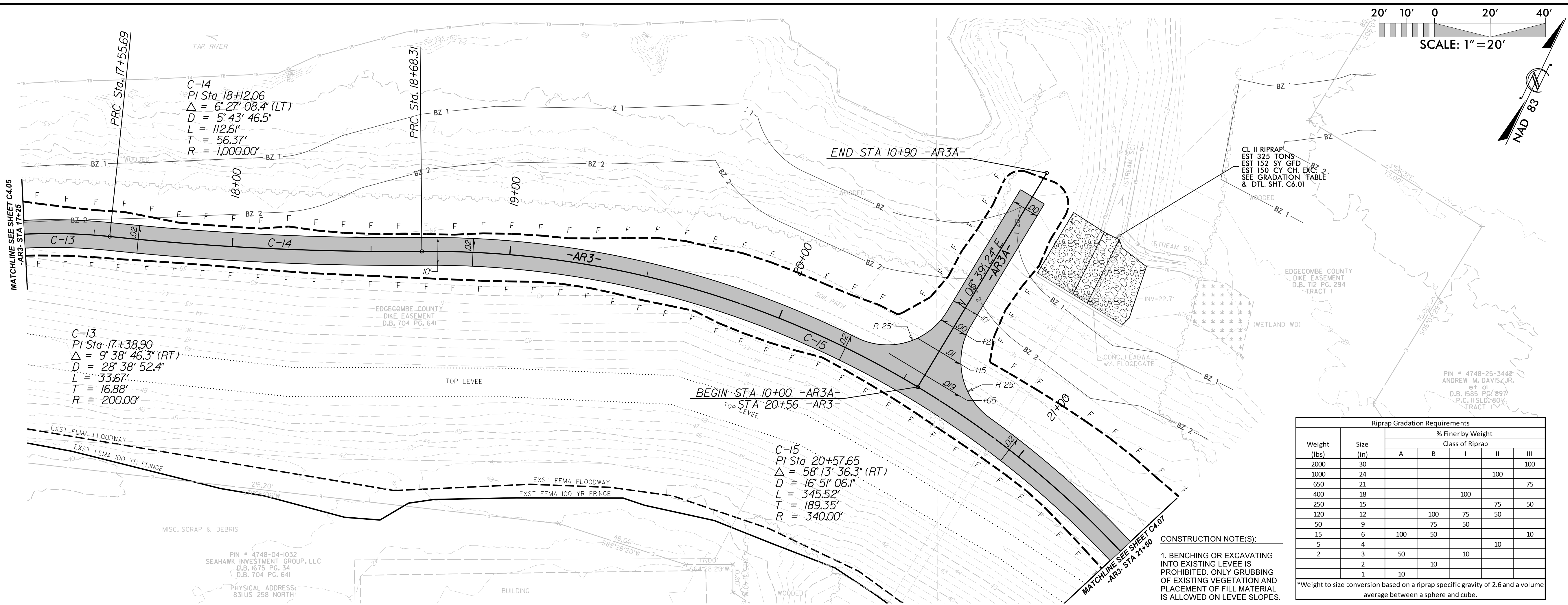
DocuSigned by:  
 Joshua C. Dalton  
 PROFESSIONAL SEAL  
 26971  
 ENGINEER  
 JOSHUA C. DALTON  
 9/9/2021

PRINCETON, NORTH CAROLINA 27606  
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**PRINCETON DIKE FLOODGATE REPAIRS**  
 PRINCETON, EDGEcombe COUNTY, NC  
**GRADING & DRAINAGE - SITE 2 & 3**

PROJECT #: 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C406  
 DATE: 6-16-2021  
 DRAWN BY: RCH  
 REVIEWED BY:  
 REVISIONS:  
 SHEET NO. **C4.06**

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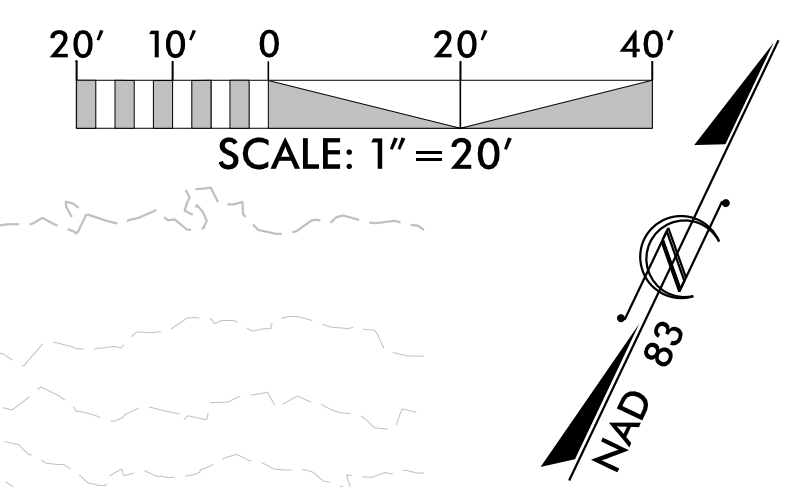
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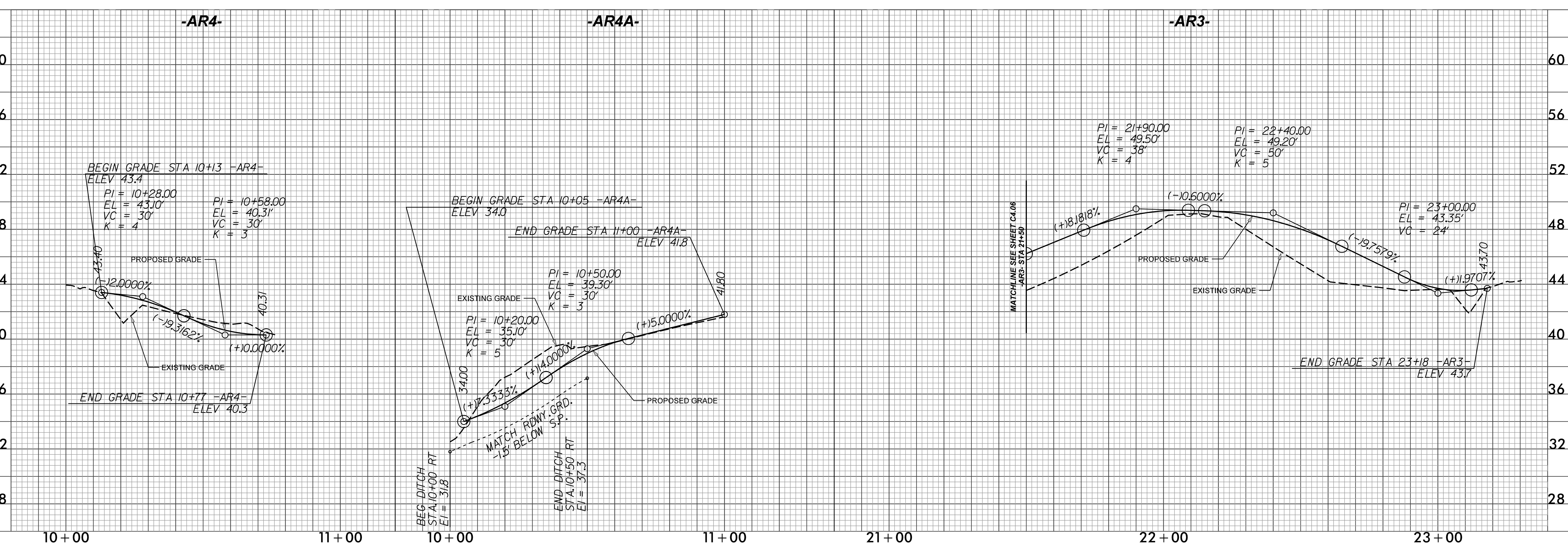
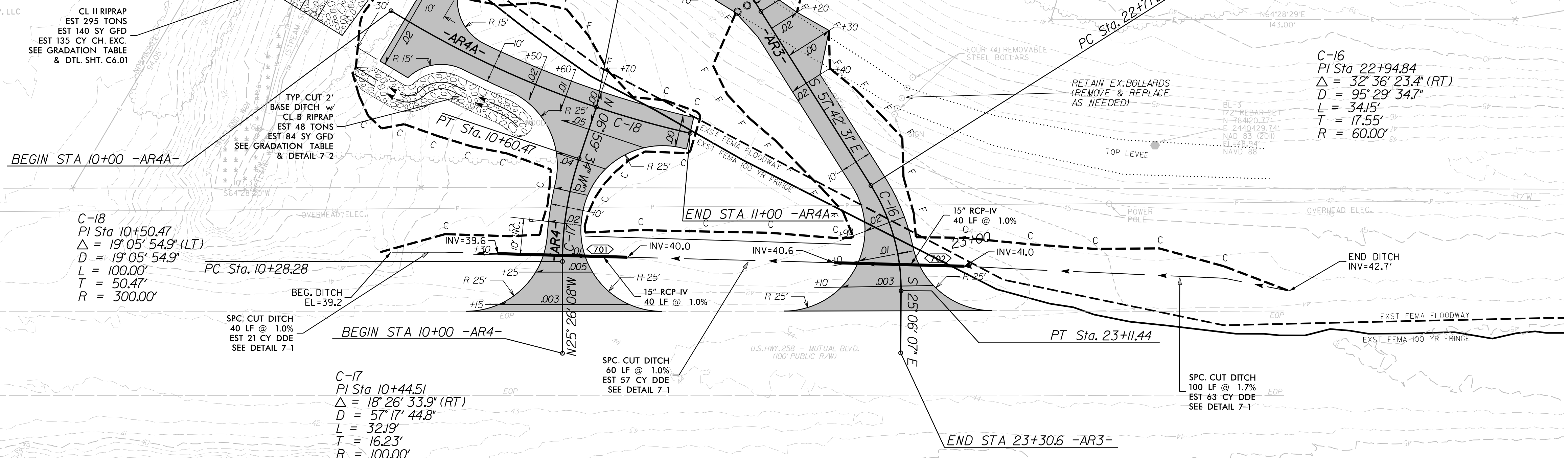
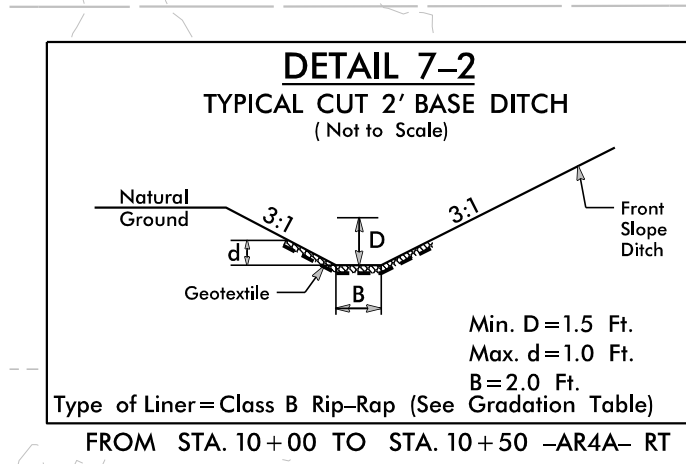
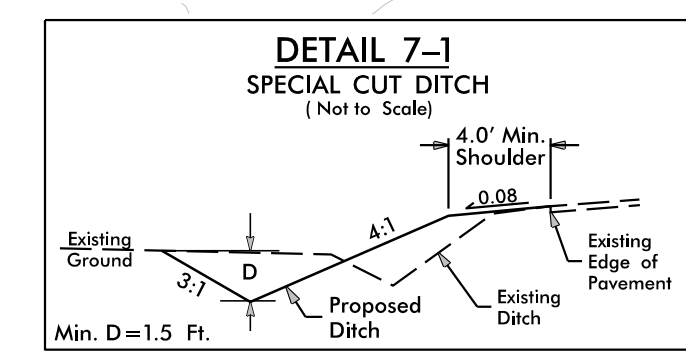
Riprap Gradation Requirements					
Weight (lbs)	Size (in)	% Finer by Weight Class of Riprap			
		A	B	I	III
2000	30				100
1000	24				100
650	21				75
400	18			100	
250	15			75	50
120	12	100	75	50	
50	9		75	50	
15	6	100	50		10
5	4				10
2	3	50			
1	2		10		

\*Weight to size conversion based on a riprap specific gravity of 2.6 and a volume average between a sphere and cube.

CONSTRUCTION NOTE(S):  
 1. BENCHING OR EXCAVATING INTO EXISTING LEVEE IS PROHIBITED. ONLY GRUBBING OF EXISTING VEGETATION AND PLACEMENT OF FILL MATERIAL IS ALLOWED ON LEVEE SLOPES.



PIN # 4748-04-1032  
 SEAHAWK INVESTMENT GROUP, LLC  
 D.B. 1675 PG. 34  
 D.B. 704 PG. 641  
 PHYSICAL ADDRESS:  
 831 US 258 NORTH



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DocuSign by:  
 Joshua G. Dalton  
 PROFESSIONAL ENGINEER  
 STATE OF NORTH CAROLINA  
 SEAL 26971  
 ENGINEER  
 JOSHUA G. DALTON  
 9/9/2021

DocuSign by:  
 Joshua G. Dalton  
 PROFESSIONAL ENGINEER  
 STATE OF NORTH CAROLINA  
 SEAL 26971  
 ENGINEER  
 JOSHUA G. DALTON  
 9/9/2021

PRINCEVILLE DIKE FLOODGATE REPAIRS  
 PRINCEVILLE, EDGECOMBE COUNTY, NC

GRADING & DRAINAGE - SITE 2 & 3

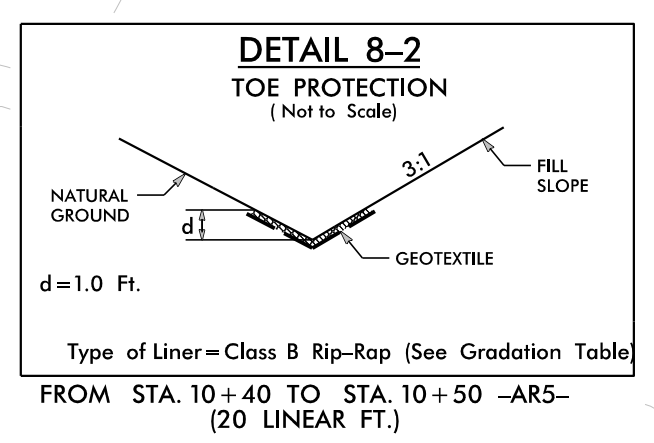
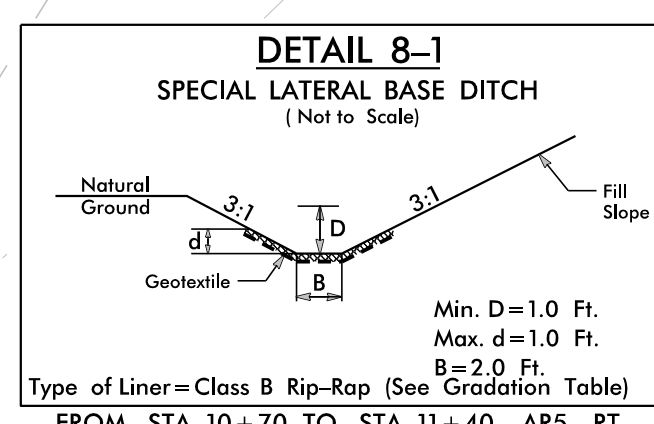
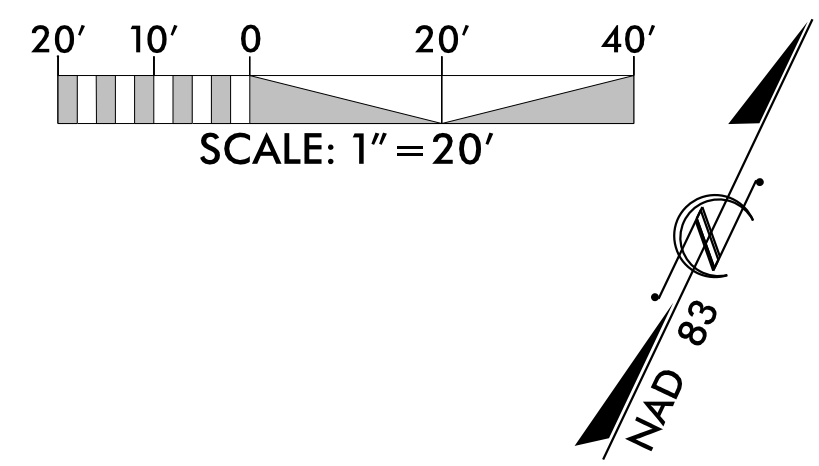
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 DRAWING NAME: FLOODGATE RDY PSH C407  
 DATE: 6-16-2021  
 DRAWN BY: RCH  
 REVIEWED BY:  
 REVISIONS:  
 SHEET NO. **C4.07**



Riprap Gradation Requirements						
Weight (lbs)	Size (in)	% Finer by Weight Class of Riprap				
		A	B	I	II	III
2000	30					100
1000	24				100	
650	21					75
400	18			100		
250	15				75	50
120	12		100	75	50	
50	9		75	50		
15	6	100	50			10
5	4				10	
2	3	50		10		
	2		10			
	1	10				

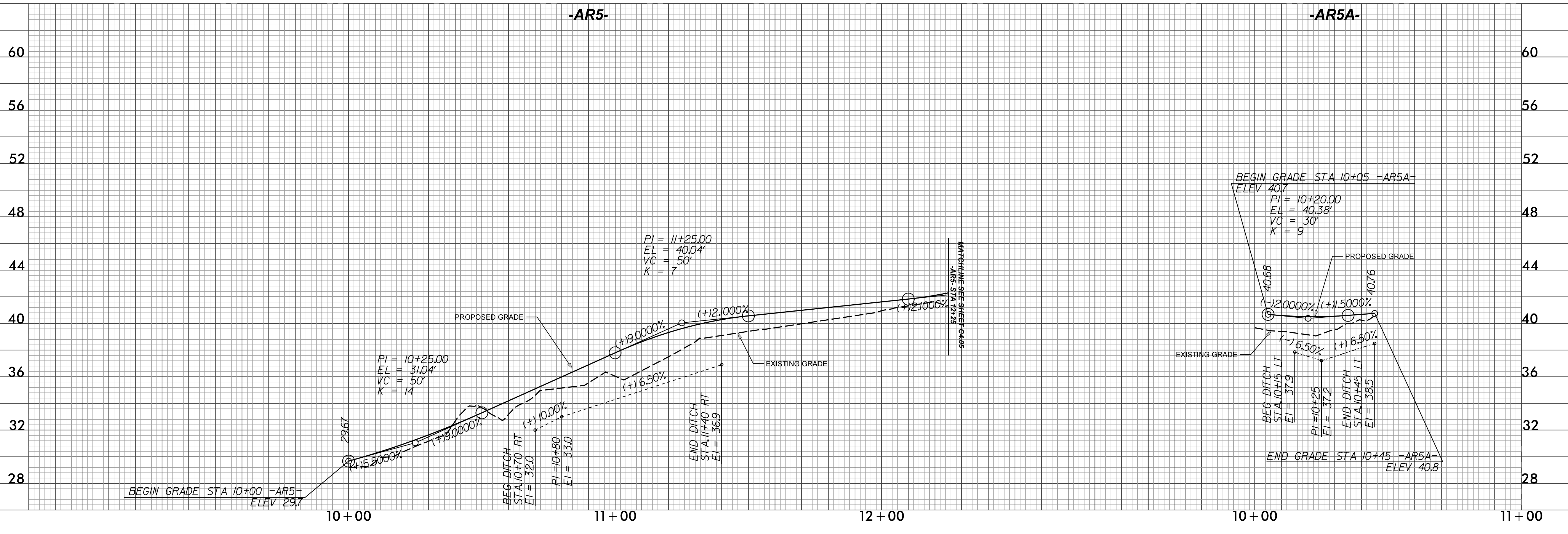
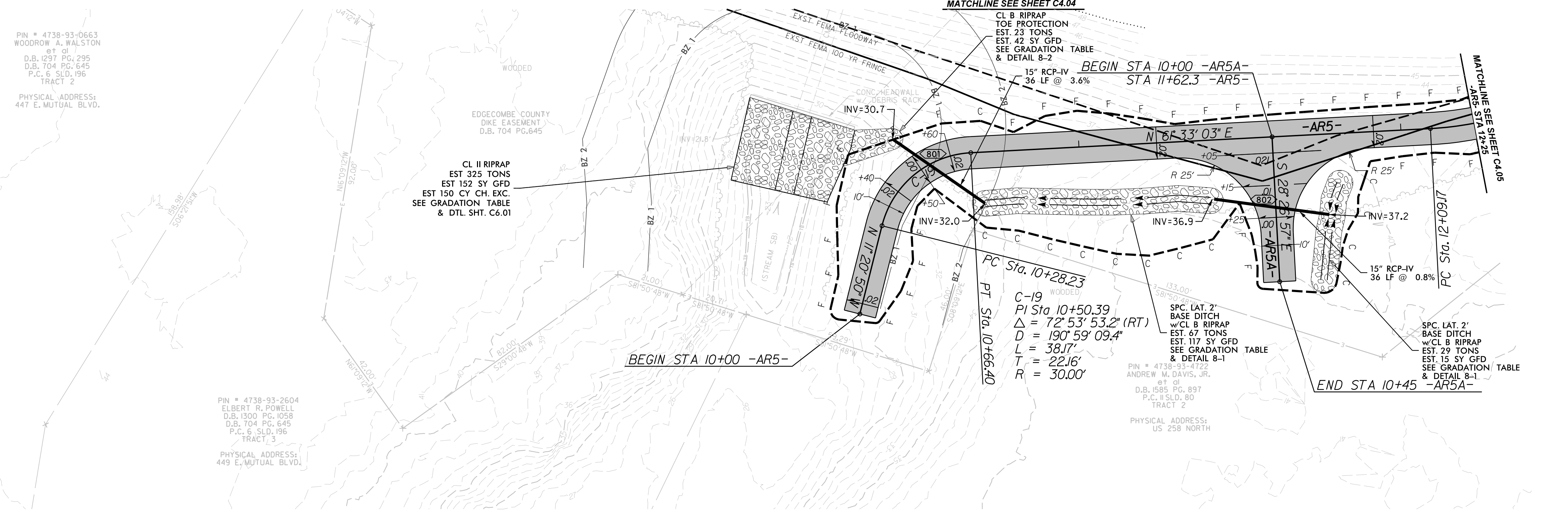
\*Weight to size conversion based on a riprap specific gravity of 2.6 and a volume average between a sphere and cube.

CONSTRUCTION NOTE(S):  
 1. BENCHING OR EXCAVATING INTO EXISTING LEVEE IS PROHIBITED. ONLY GRUBBING OF EXISTING VEGETATION AND PLACEMENT OF FILL MATERIAL IS ALLOWED ON LEVEE SLOPES.



PIN # 4738-93-0663  
 WOODROW A. WALSTON  
 67 G1  
 D.B. 1297 PG. 295  
 D.B. 704 PG. 645  
 P.C. 6 SLD. 196  
 TRACT 2  
 PHYSICAL ADDRESS:  
 447 E. MUTUAL BLVD.

PIN # 4738-93-2604  
 ELBERT R. POWELL  
 D.B. 1300 PG. 1058  
 D.B. 704 PG. 645  
 P.C. 6 SLD. 196  
 TRACT 3  
 PHYSICAL ADDRESS:  
 449 E. MUTUAL BLVD.



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Designed by:  
 Joshua G. Dalton  
 PROJECT SEAL  
 26971  
 ENGINEER  
 JOSHUA G. DALTON  
 9/9/2021

PRINCETON, NORTH CAROLINA 27606  
 TEL (819) 852-2243  
 ENG FIRM LICENSE NO. C-890

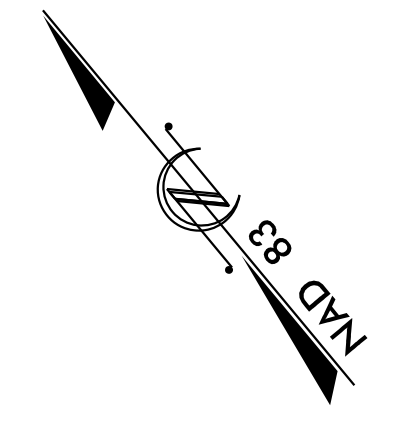
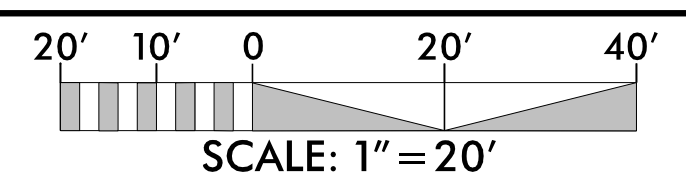
PRINCETON, NORTH CAROLINA 27606  
 TEL (819) 852-2243  
 ENG FIRM LICENSE NO. C-890

PROJECT # : 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C408  
 DATE: 6-16-2021  
 DRAWN BY: RCH  
 REVIEWED BY: RCH  
 REVISIONS:  
 SHEET NO. **C4.08**

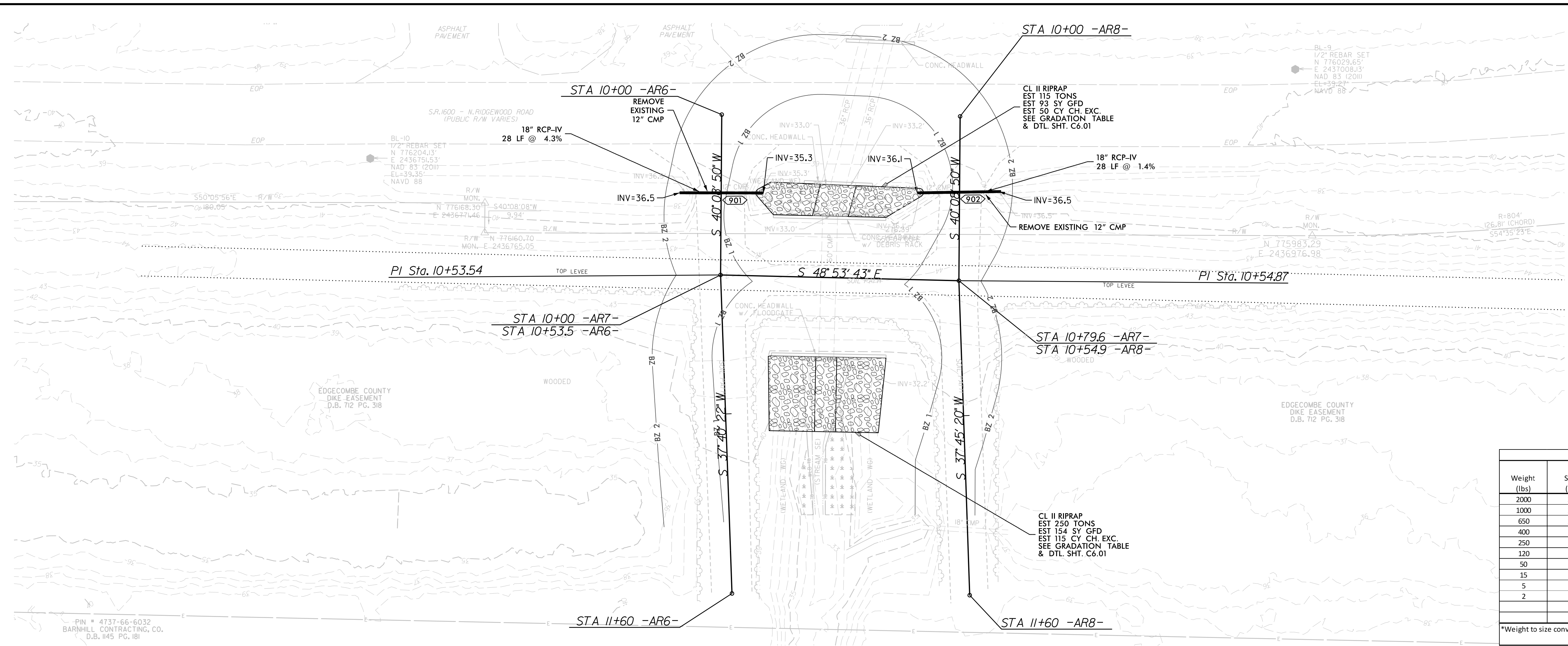
9/9/2021  
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 jrd

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Riprap Gradation Requirements					
Weight (lbs)	Size (in)	% Finer by Weight			
		Class of Riprap			
		A	B	II	III
2000	30				100
1000	24			100	
650	21				75
400	18			100	
250	15				75
120	12		100	75	50
50	9		75	50	
15	6	100	50		10
5	4				10
2	3	50		10	
	2		10		
	1	10			

\*Weight to size conversion based on a riprap specific gravity of 2.6 and a volume average between a sphere and cube.



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 FLORENCE, SOUTH CAROLINA 29506  
 TEL: (815) 852-2243  
 ENG FIRM LICENSE NO. C-890

Designed by:  
 Joshua G. Dalton  
 Professional Engineer  
 State of North Carolina  
 License No. 26971  
 SEAL  
 26971  
 ENGINEER  
 JOSHUA G. DALTON  
 9/9/2021

DocuSigned by:  
 Joshua G. Dalton  
 Professional Engineer  
 State of North Carolina  
 License No. 26971  
 SEAL  
 26971  
 ENGINEER  
 JOSHUA G. DALTON  
 9/9/2021

**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC  
**GRADING & DRAINAGE - SITE 4**

PROJECT # :  
 1284-20041  
 DRAWING NAME:  
 FLOODGATE RDY PSH C409  
 DATE:  
 6-16-2021  
 DRAWN BY:  
 RCH  
 REVIEWED BY:  
 RCH  
 REVISIONS:

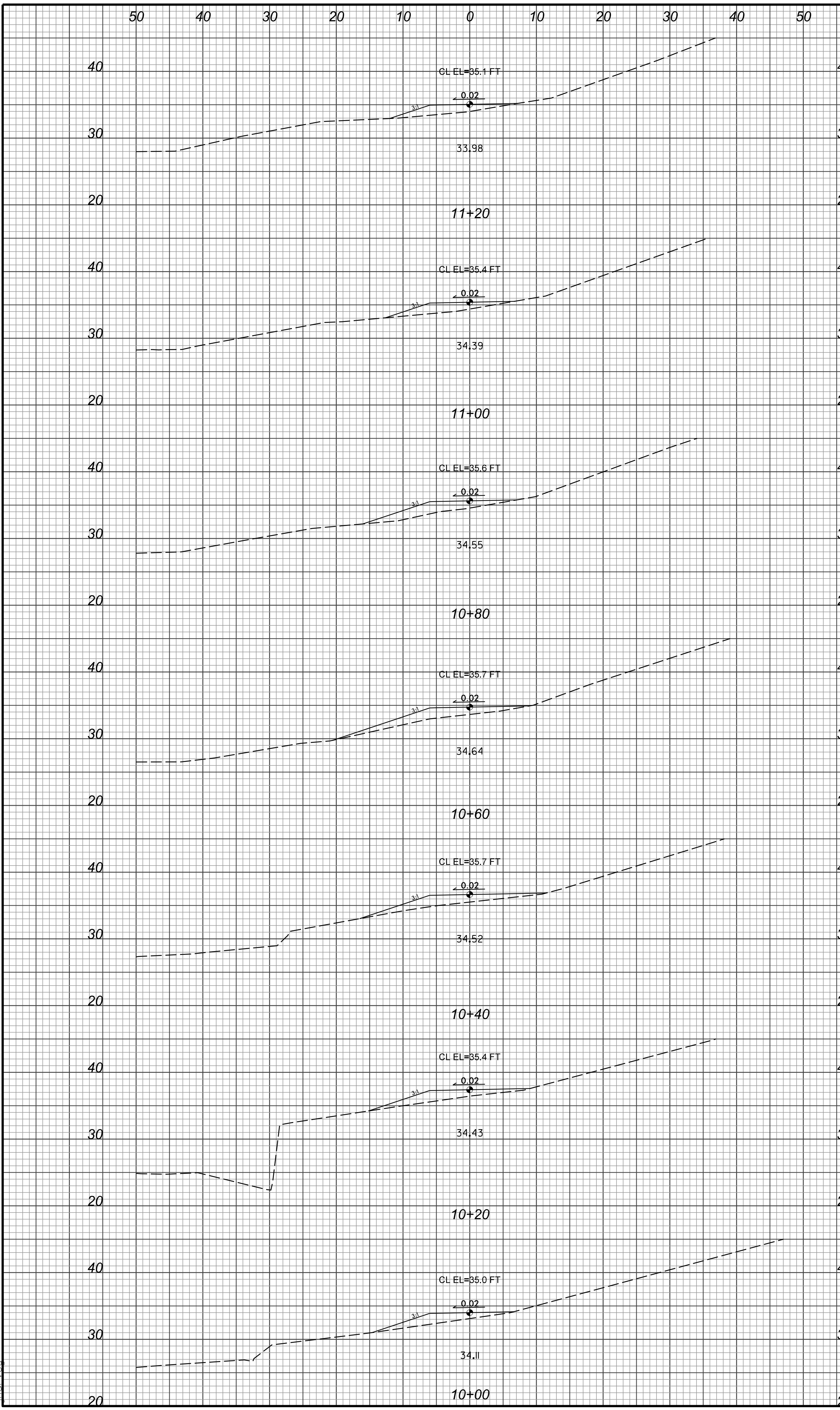
SHEET NO.  
**C4.09**

9/9/2021  
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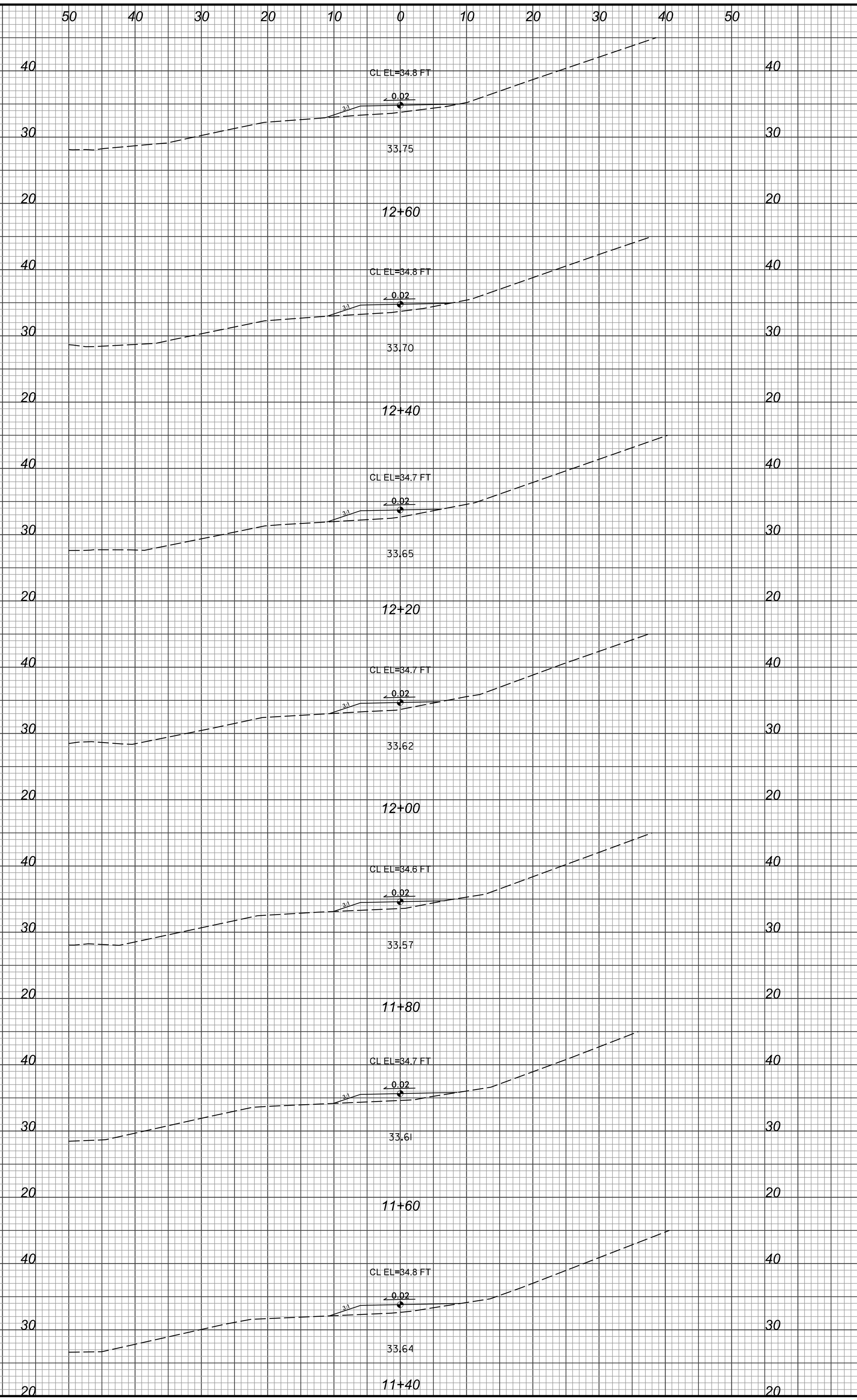
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12:45:41



-AR1-



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 PRINCETON, NORTH CAROLINA 27606  
 TEL: (919) 852-2243  
 ENG. FIRM LICENSE NO. C-890

Designed by  
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 PROFESSIONAL SEAL  
 ENGINEER  
 JOSHUA G. DALTON  
 26971  
 9/9/2021

PRINCETONVILLE DIKE FLOODGATE REPAIRS  
PRINCETONVILLE, EDGECOMBE COUNTY, NC

CROSS SECTIONS - SITE 1 -AR1-

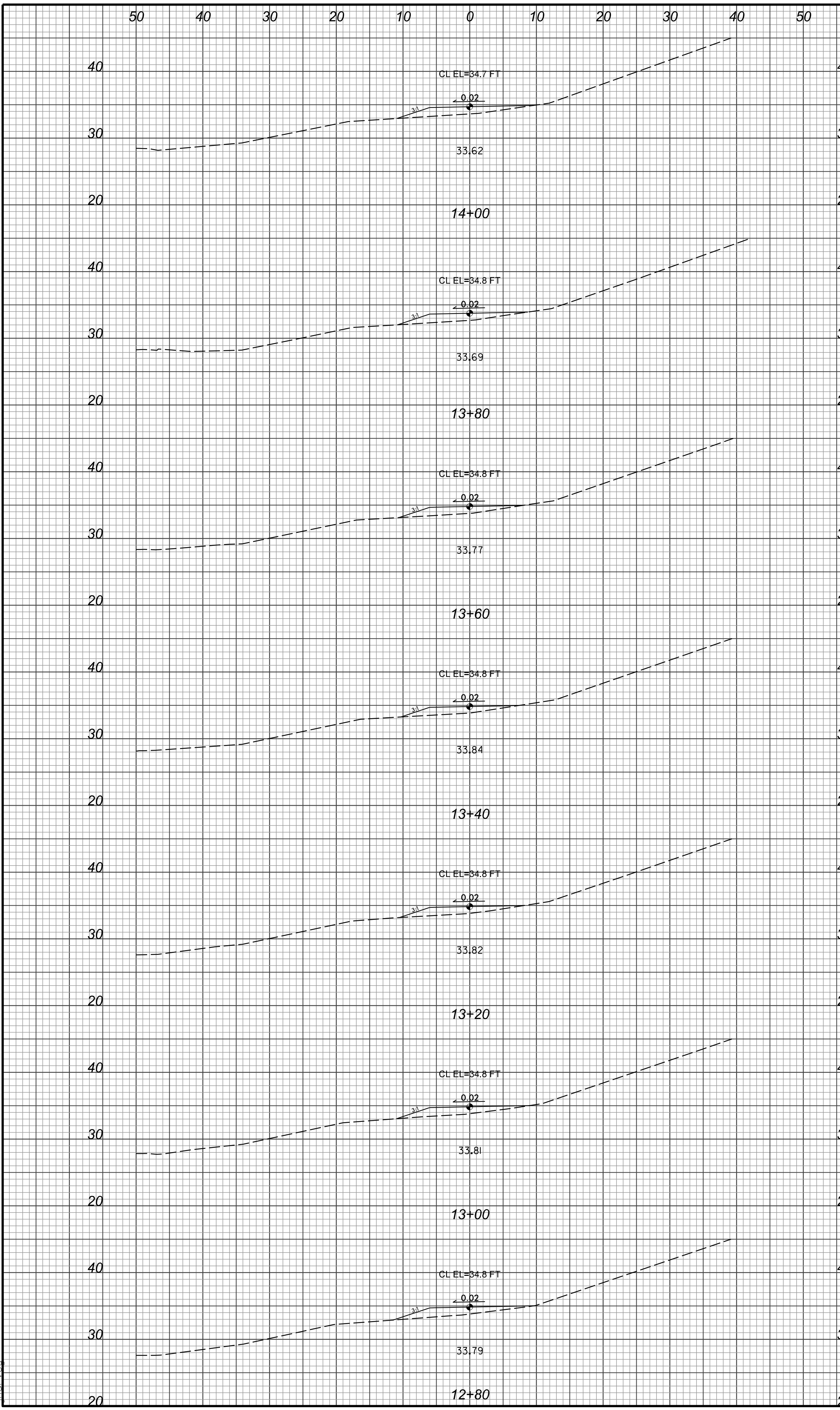
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 DRAWING NAME: FLOODGATE RDY PSH C501  
 DATE: 6-16-2021  
 DRAWN BY: RCH  
 REVIEWED BY: RCH  
 REVISIONS:

SHEET NO.  
**C5.01**

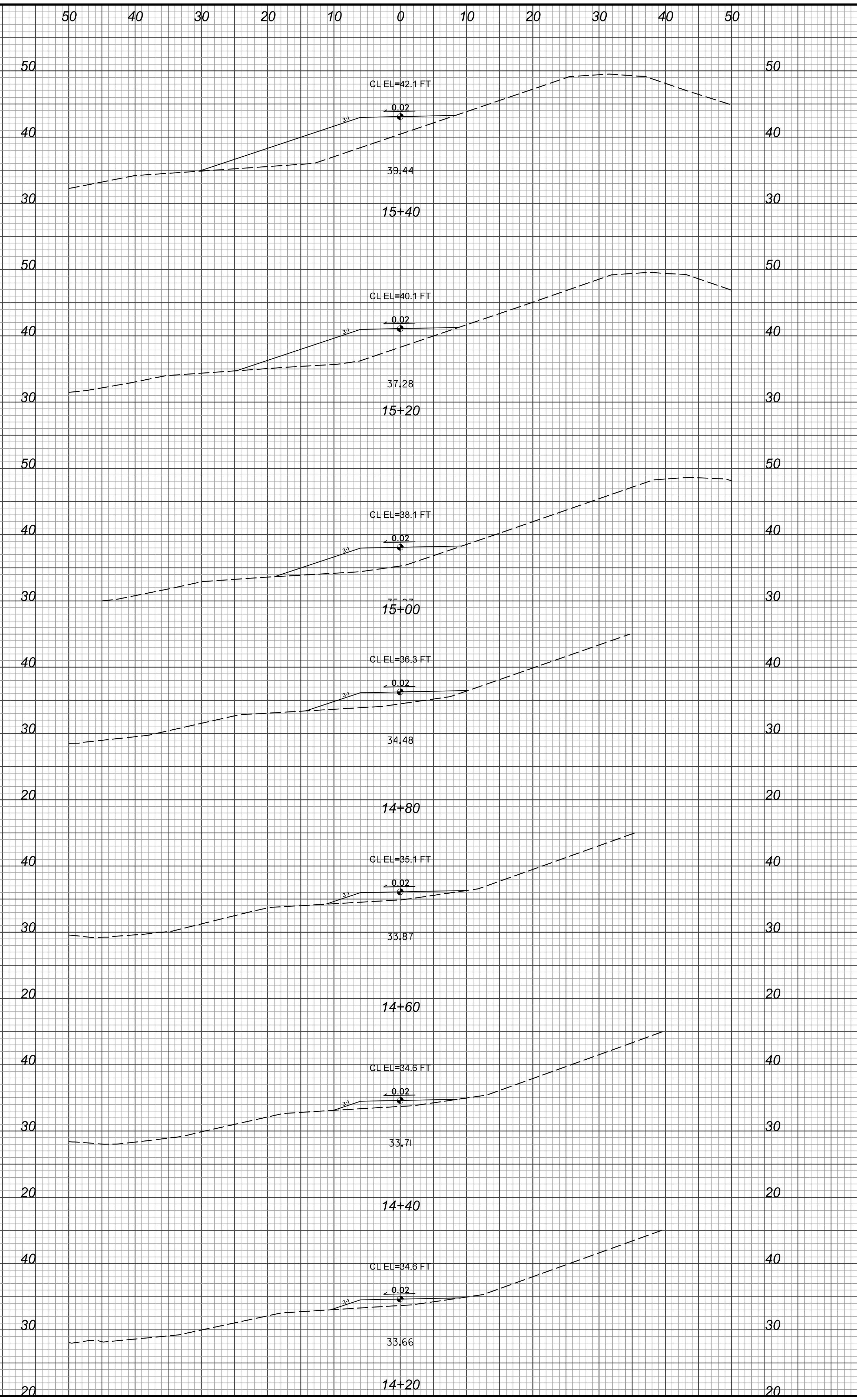
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10:46:41 AM



-AR1-



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**Joshua G. Dalton**  
 PROFESSIONAL SEAL  
 ENGINEER  
 JOSHUA G. DALTON  
 26971  
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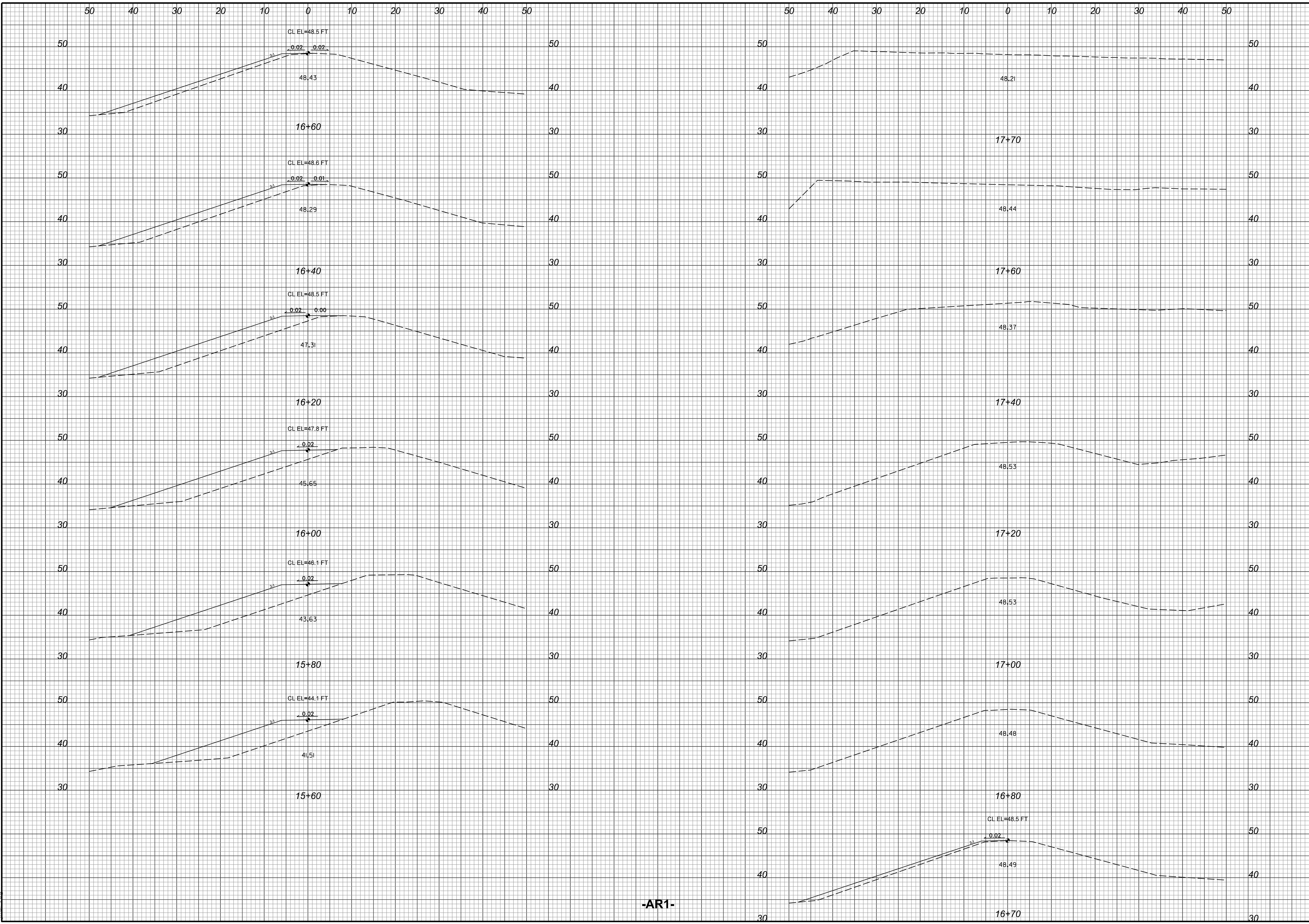
**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC  
**CROSS SECTIONS - SITE 1 -AR1-**

PROJECT # : 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C502  
 DATE: 6-16-2021  
 DRAWN BY: RCH  
 REVIEWED BY:  
 REVISIONS:  
 SHEET NO. **C5.02**

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-AR1-

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PRINCEVILLE DIKE FLOODGATE REPAIRS  
PRINCEVILLE, EDGECOMBE COUNTY, NC

CROSS SECTIONS - SITE 1 -AR1-

PROJECT # : 1284-20041  
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 DATE: 6-16-2021  
 DRAWN BY: RCH  
 REVIEWED BY: RCH  
 REVISIONS:

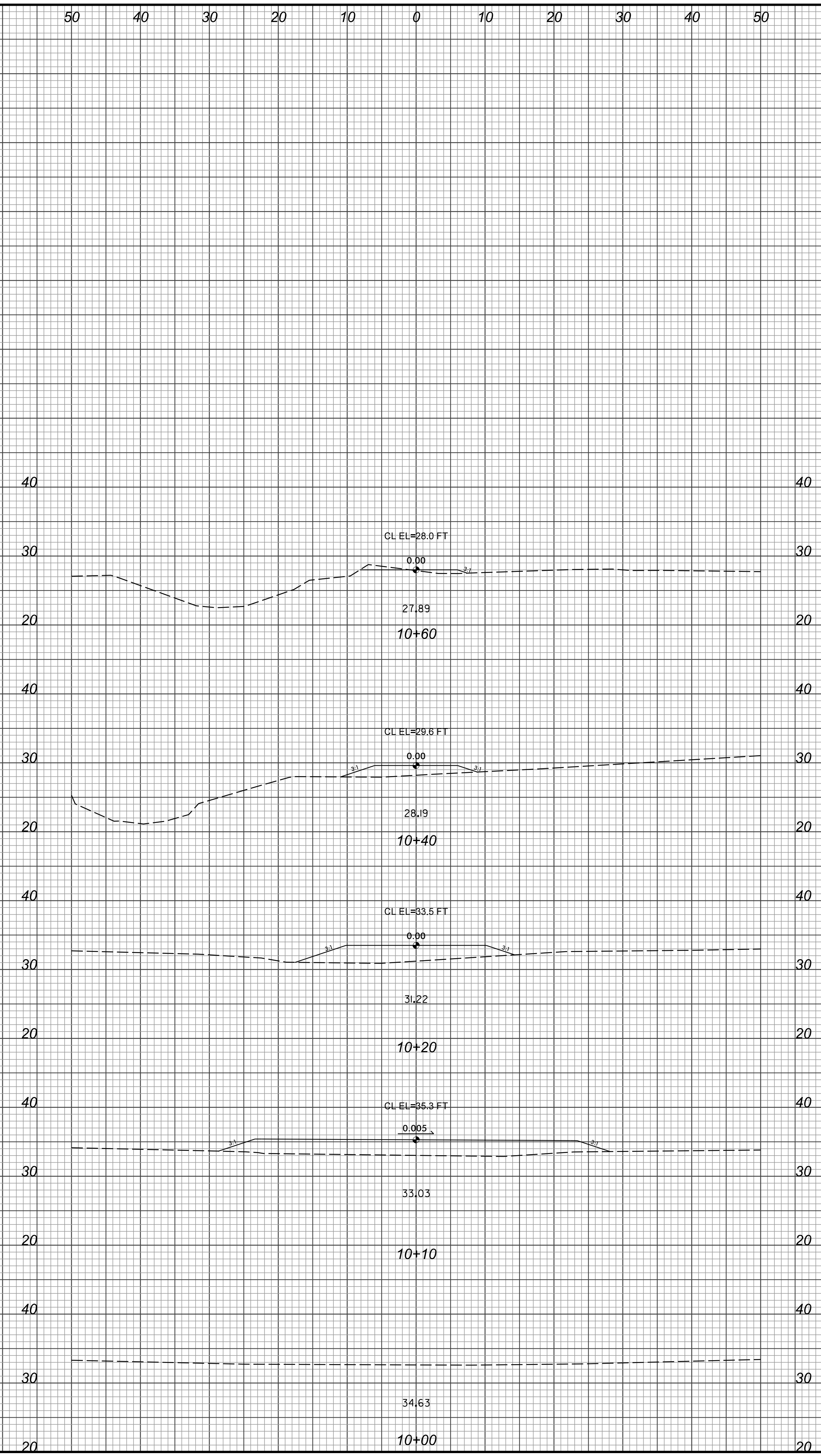
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-AR1A-



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**CROSS SECTIONS - SITE 1 -AR1A-**

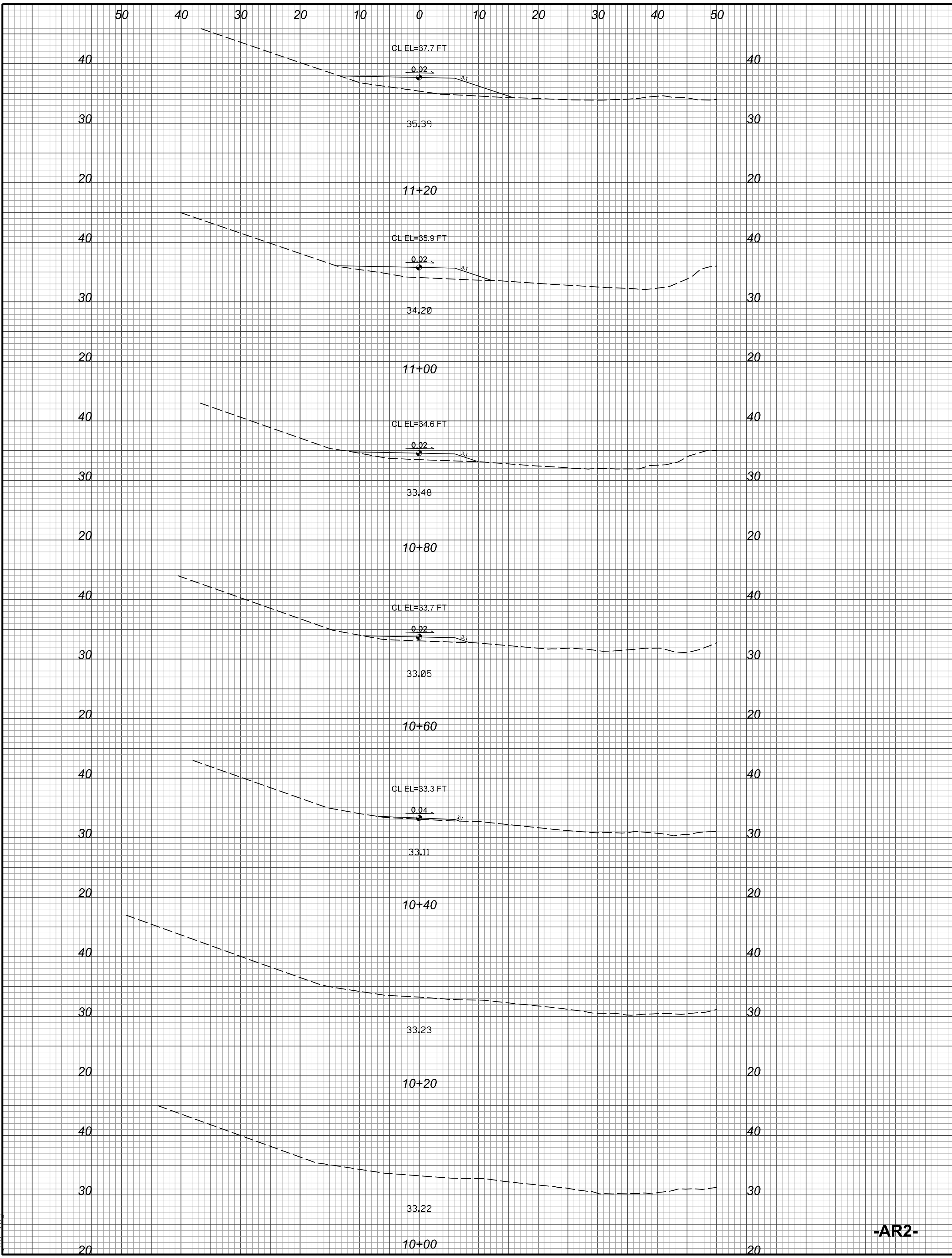
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DRAWING NAME:	FLOODGATE RDY PSH C504
DATE:	6-16-2021
DRAWN BY:	RCH
REVIEWED BY:	RCH
REVISIONS:	

SHEET NO.  
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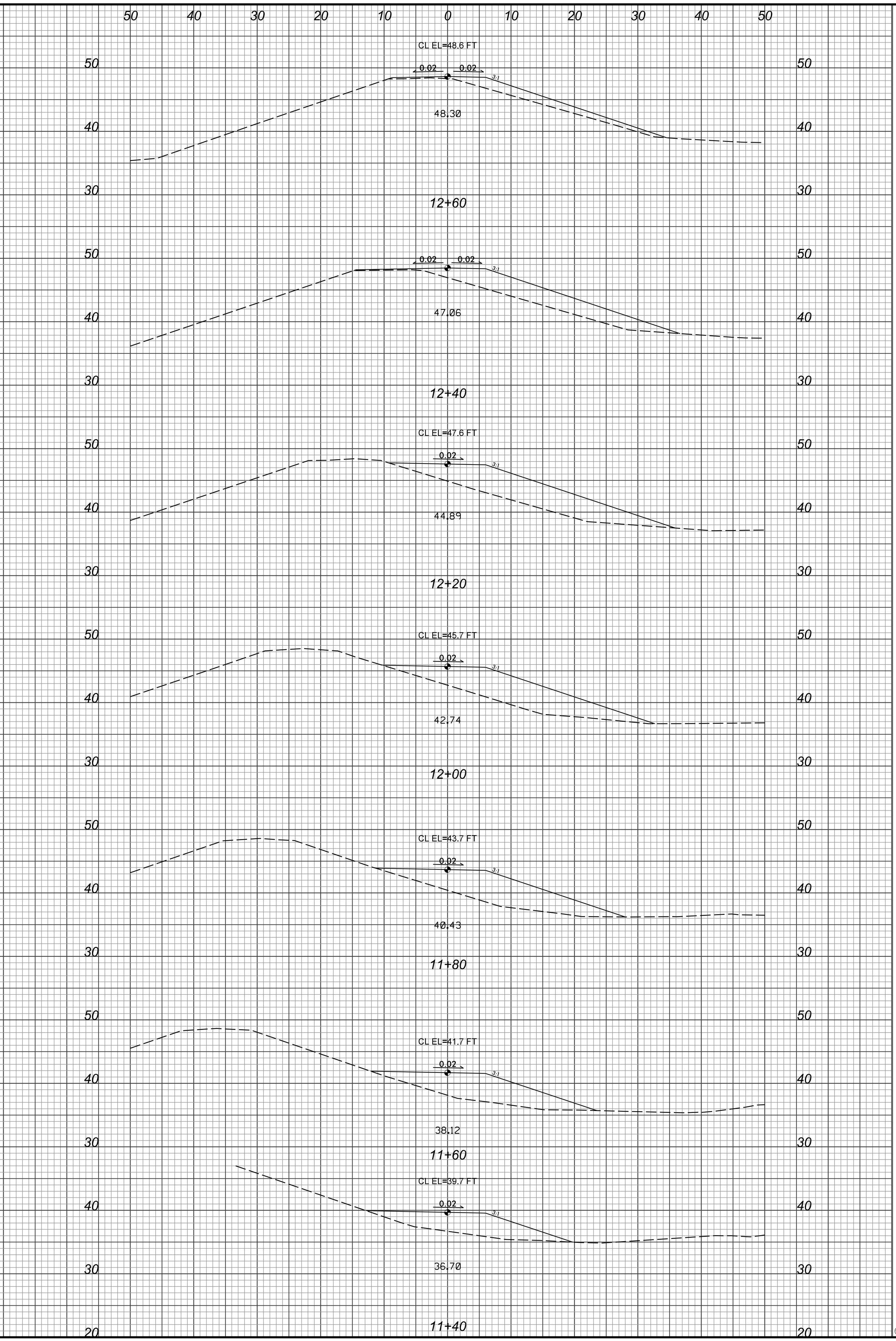
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Professional Engineer  
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JOSHUA G. DALTON  
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PRINCEVILLE, EDGECOMBE COUNTY, NC

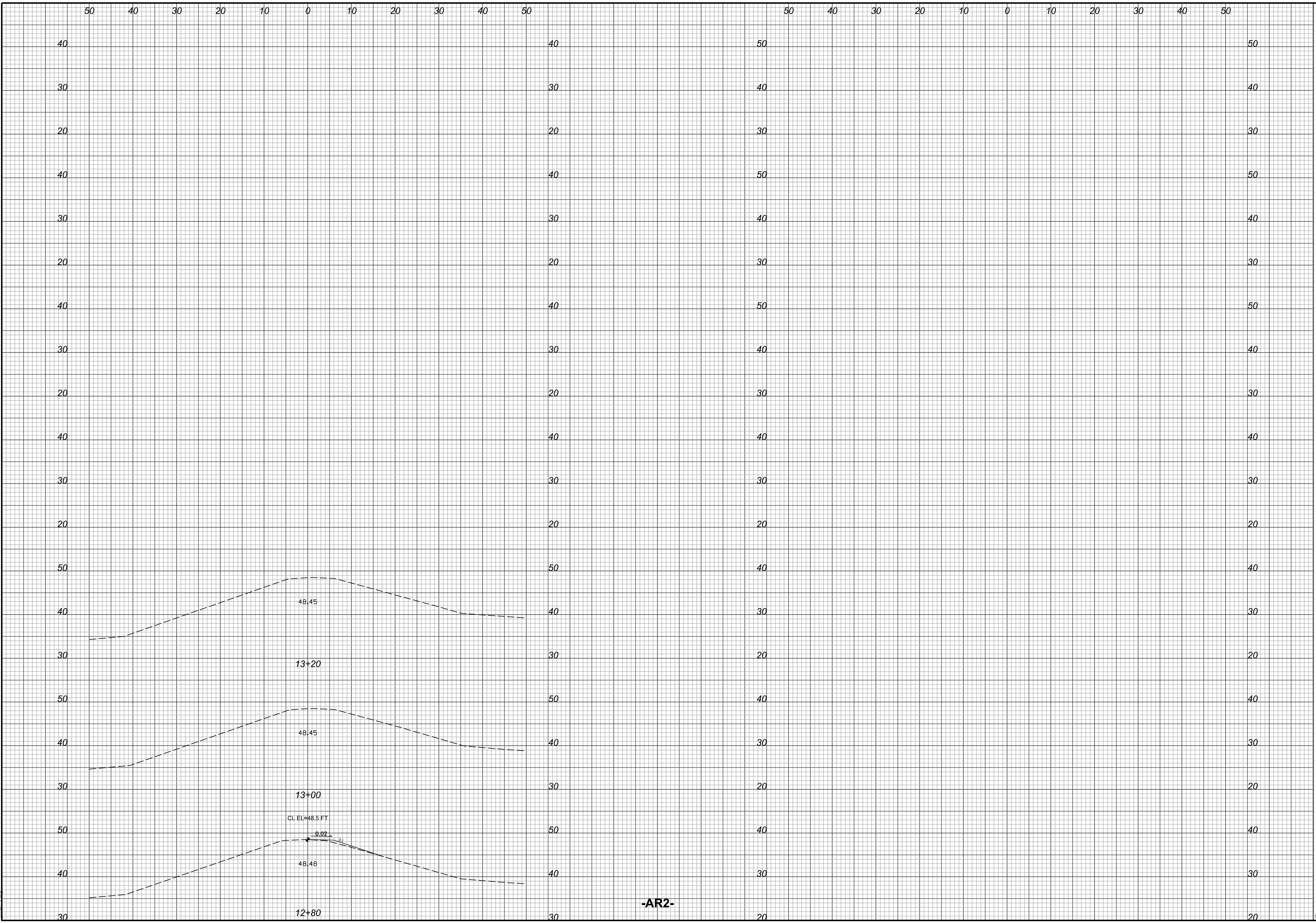
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DRAWING NAME:	FLOODGATE RDY PSH C505
DATE:	6-16-2021
DRAWN BY:	RCH
REVIEWED BY:	RCH
REVISIONS:	

SHEET NO.  
**C5.05**



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-AR2-

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 PRINCEVILLE, EDGECOMBE COUNTY, NC  
**CROSS SECTIONS - SITE 1 -AR2-**

PROJECT # :  
 1284-20041  
 DRAWING NAME:  
 FLOODGATE RDY PSH C506  
 DATE:  
 6-16-2021  
 DRAWN BY:  
 RCH  
 REVIEWED BY:  
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 REVISIONS:

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**C5.06**

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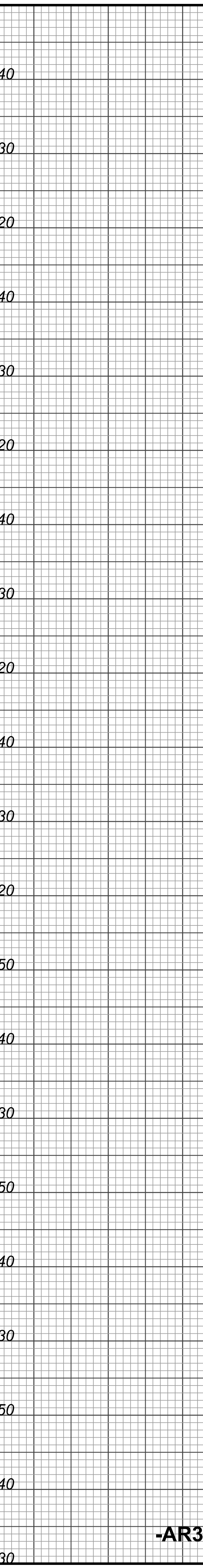
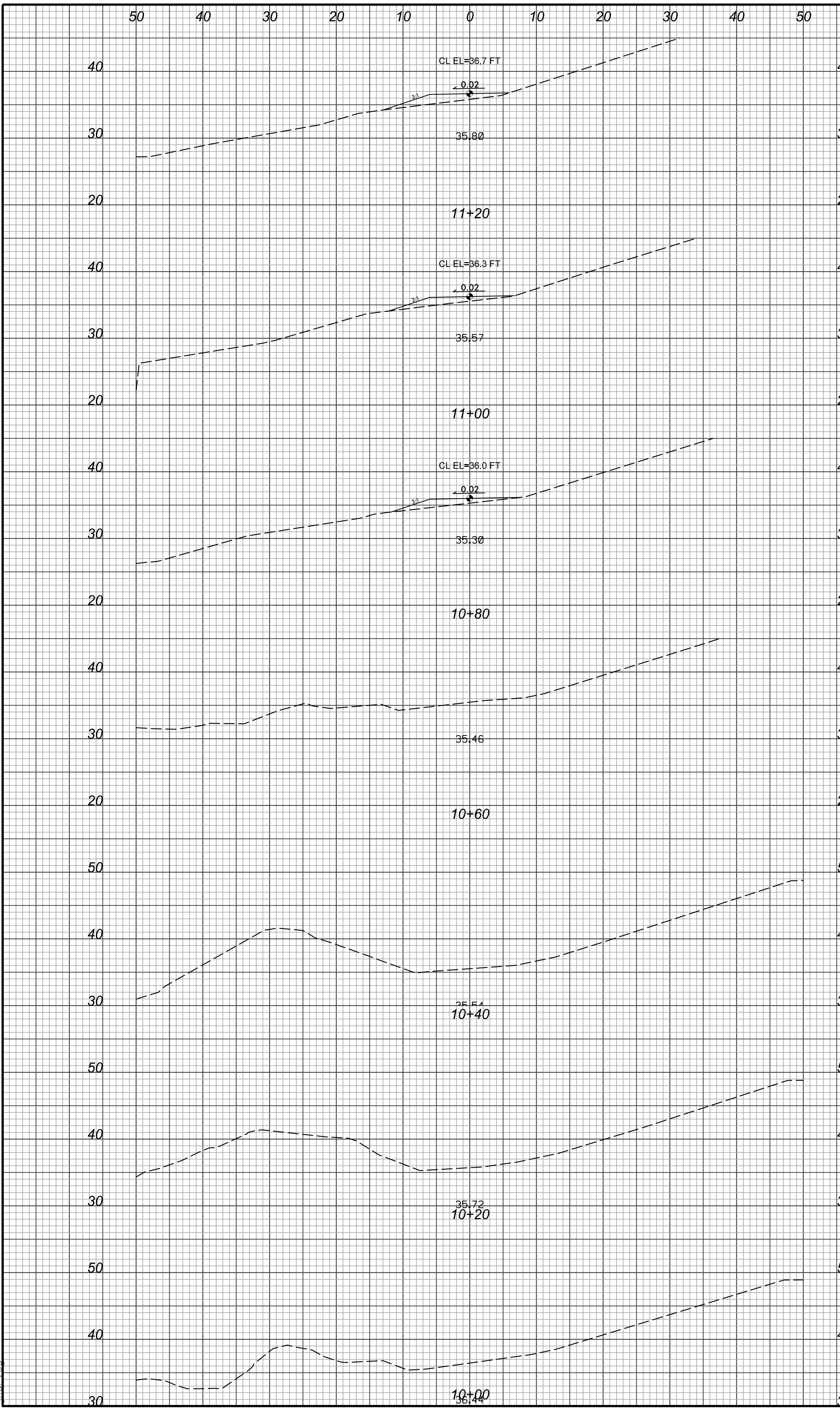
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 PRINCEVILLE, EDGECOMBE COUNTY, NC  
**CROSS SECTIONS - SITE 1 -AR2A-**

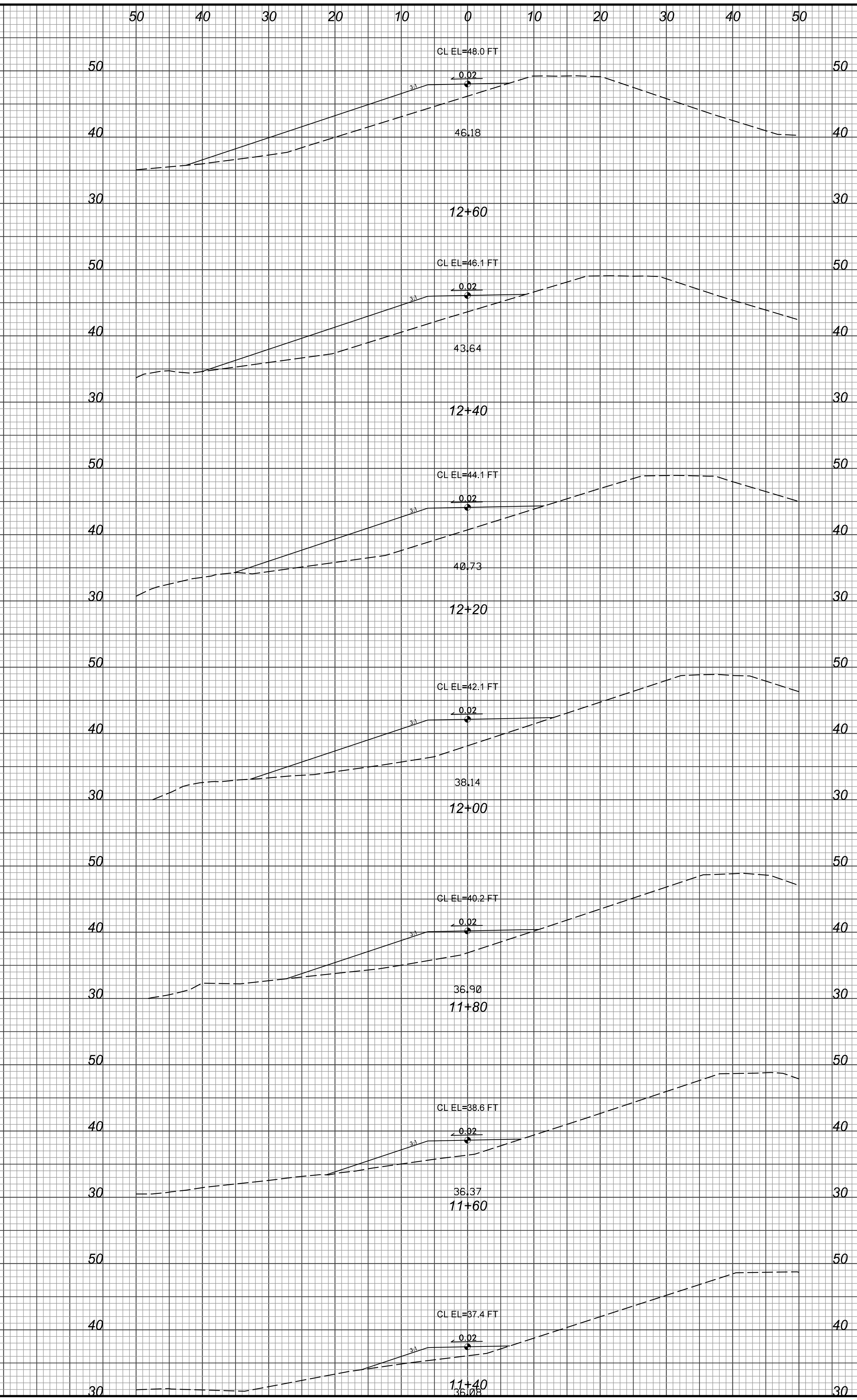
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DATE:	6-16-2021
DRAWN BY:	RCH
REVIEWED BY:	RCH
REVISIONS:	
SHEET NO.	<b>C5.07</b>



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**-AR3-**



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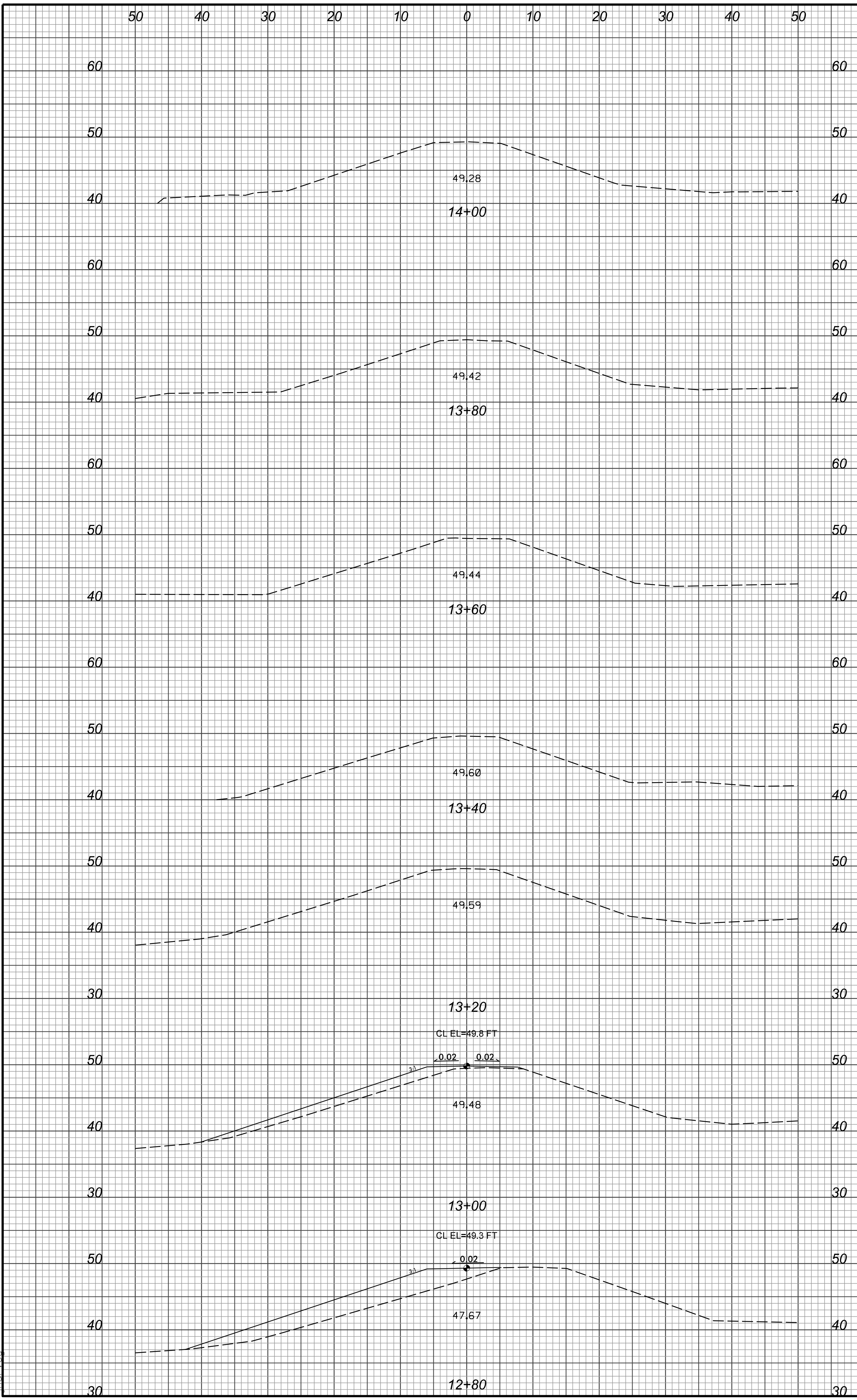
**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC  
**CROSS SECTIONS - SITE 2-3 -AR3-**

PROJECT # :	1284-20041
DRAWING NAME:	FLOODGATE RDY PSH C508
DATE:	6-16-2021
DRAWN BY:	JRH
REVIEWED BY:	RCH
REVISIONS:	

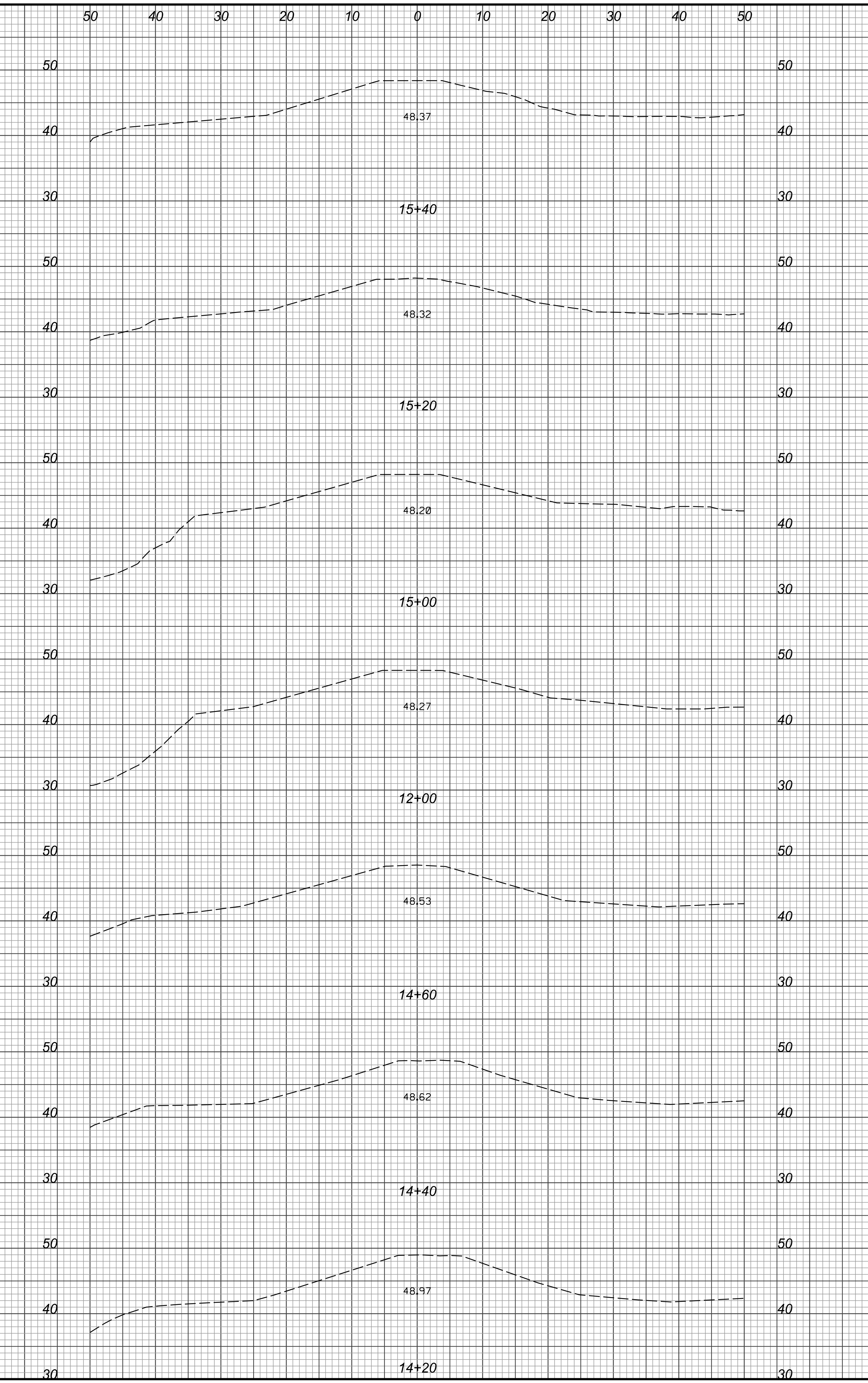
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**-AR3-**



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**CROSS SECTIONS - SITE 2-3 -AR3-**

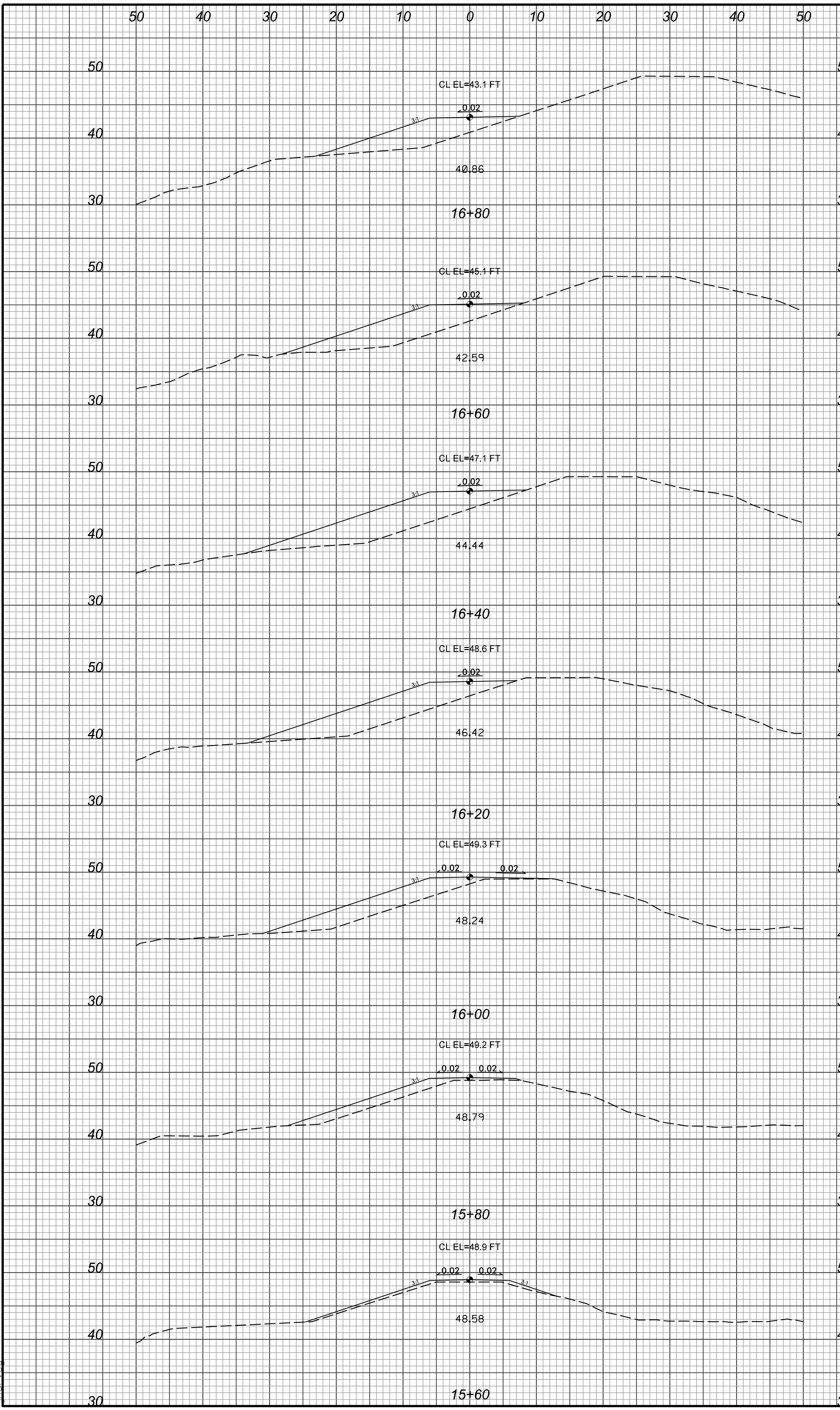
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 DATE: 6-16-2021  
 DRAWN BY: RCH

REVIEWED BY:  
 REVISIONS:

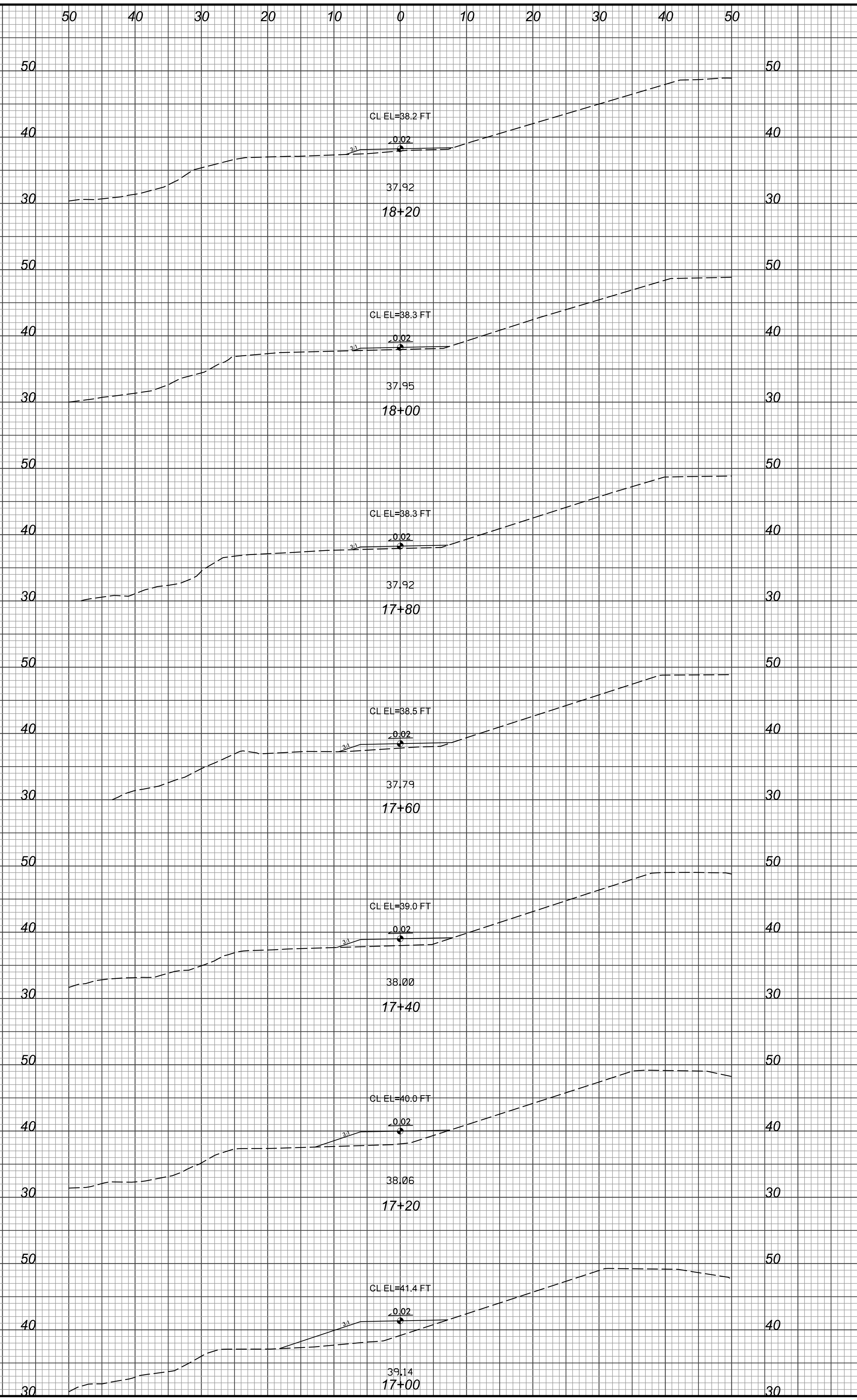
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-AR3-



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PRINCEVILLE DIKE FLOODGATE REPAIRS

PRINCEVILLE, EDGECOMBE COUNTY, NC

CROSS SECTIONS - SITE 2-3 -AR3-

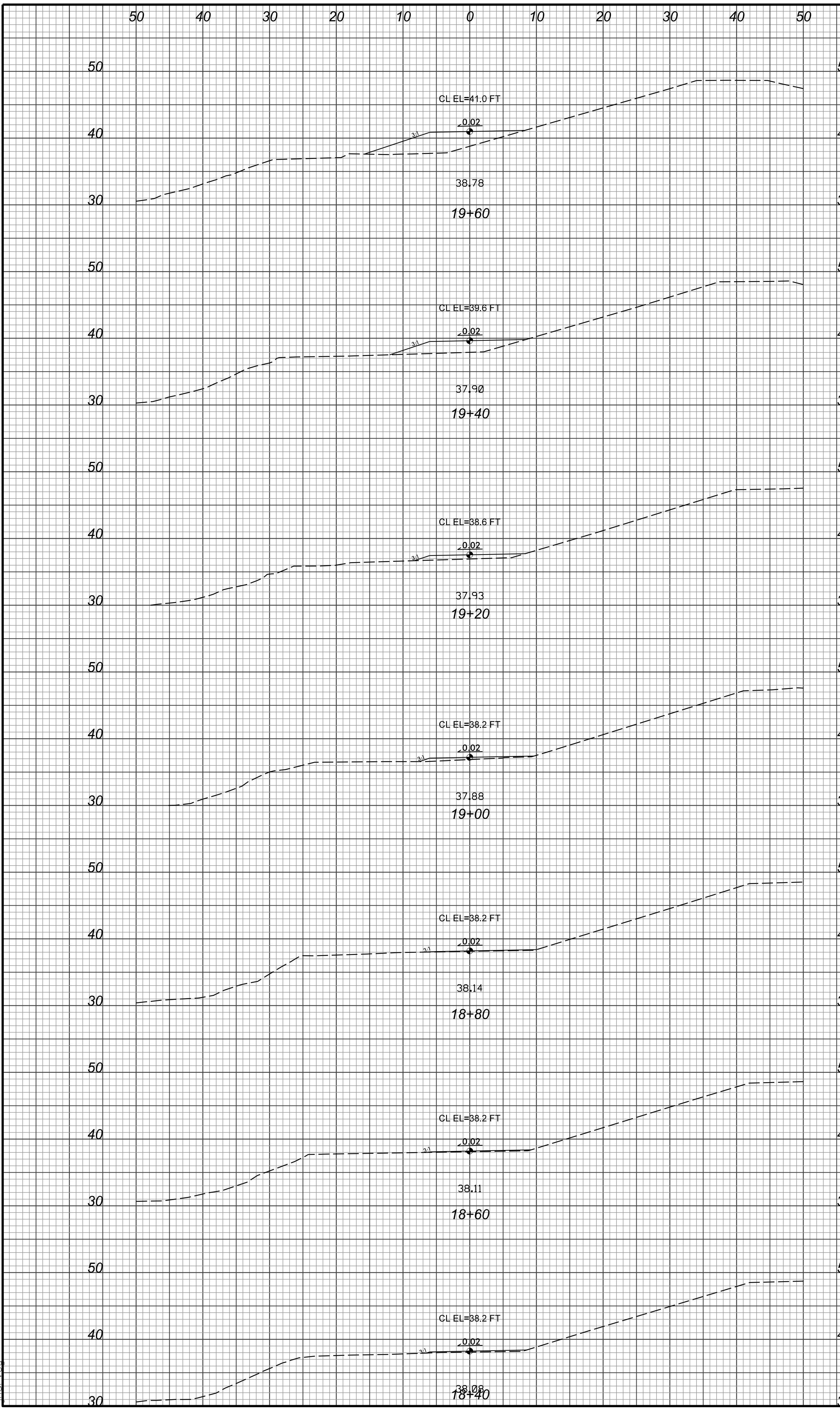
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 DATE: 6-16-2021  
 DRAWN BY: RCH  
 REVIEWED BY: RCH  
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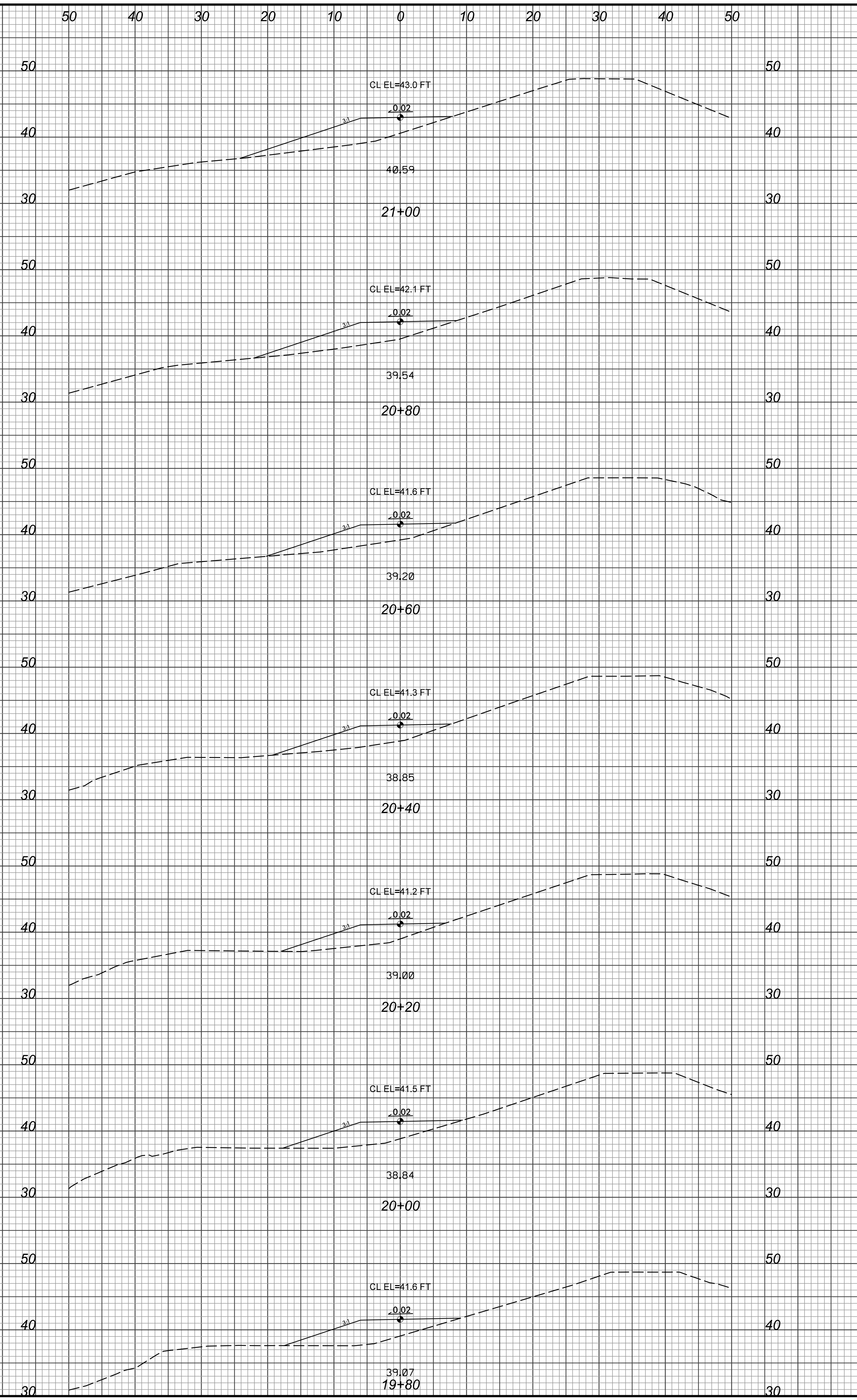
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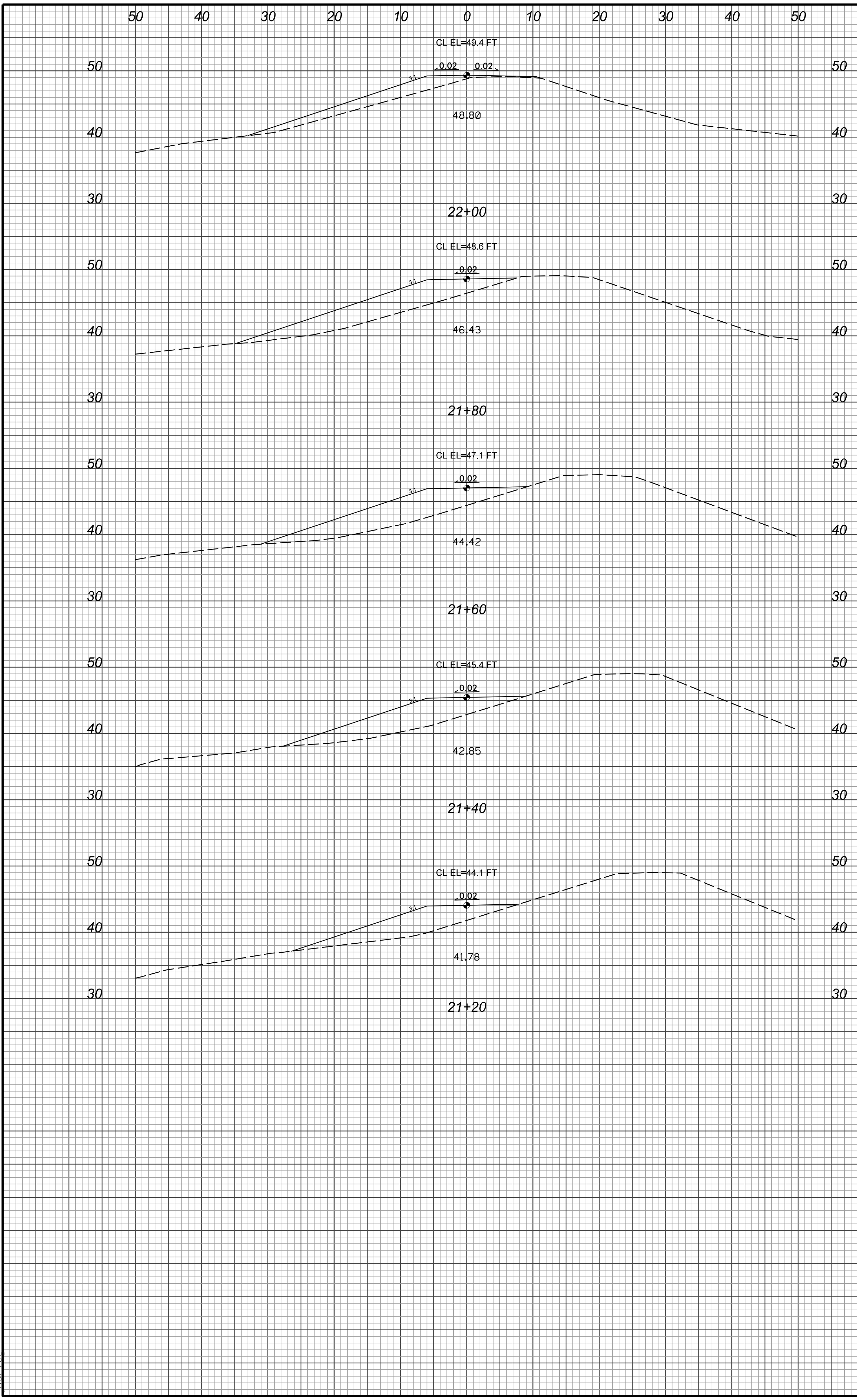
**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC  
**CROSS SECTIONS - SITE 2-3 -AR3-**

PROJECT # :	1284-20041
DRAWING NAME:	FLOODGATE ROY PSH C511
DATE:	6-16-2021
DRAWN BY:	RCH
REVIEWED BY:	RCH
REVISIONS:	

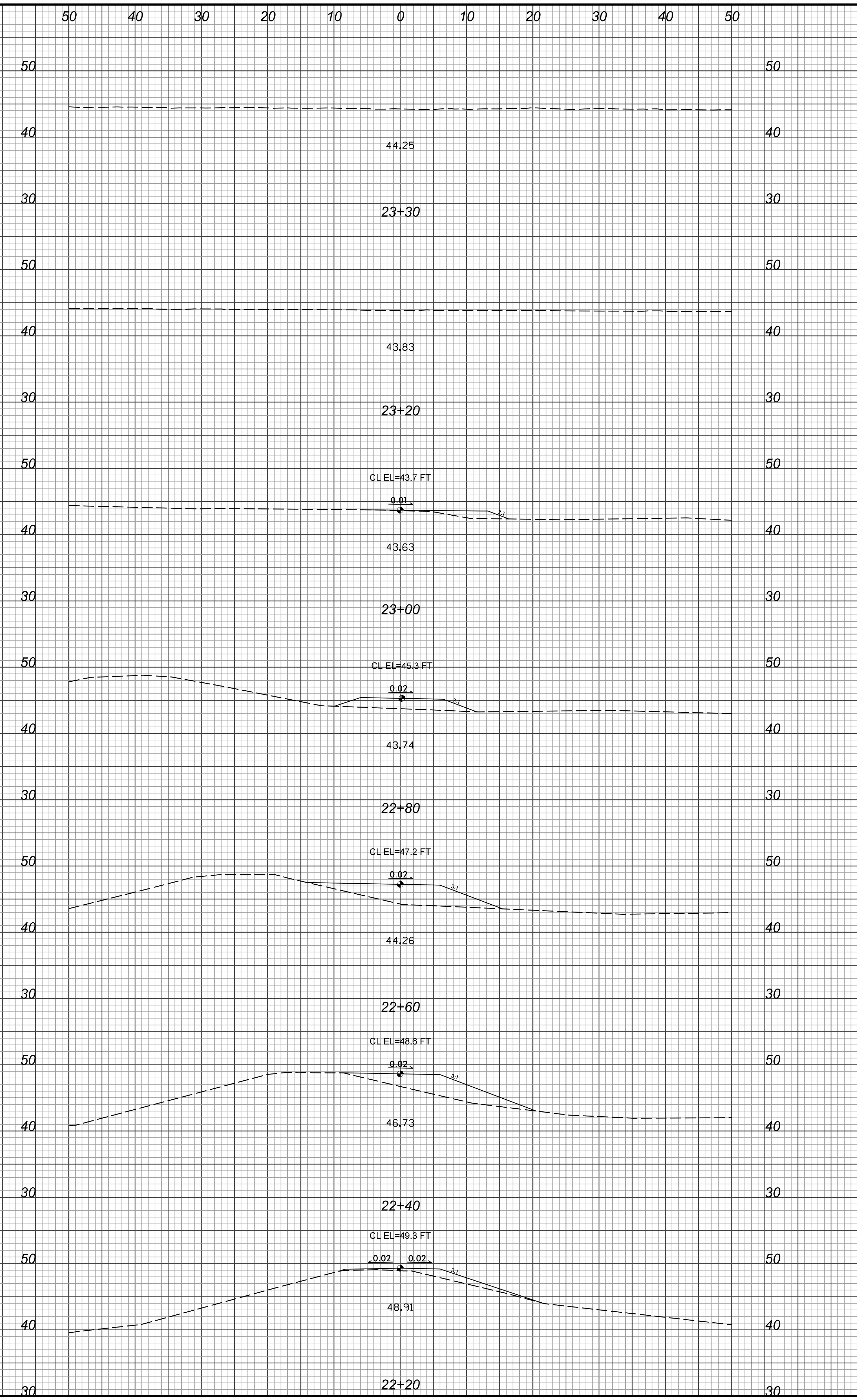
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-AR3-



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PRINCEVILLE, EDGECOMBE COUNTY, NC

CROSS SECTIONS - SITE 2-3 -AR3-

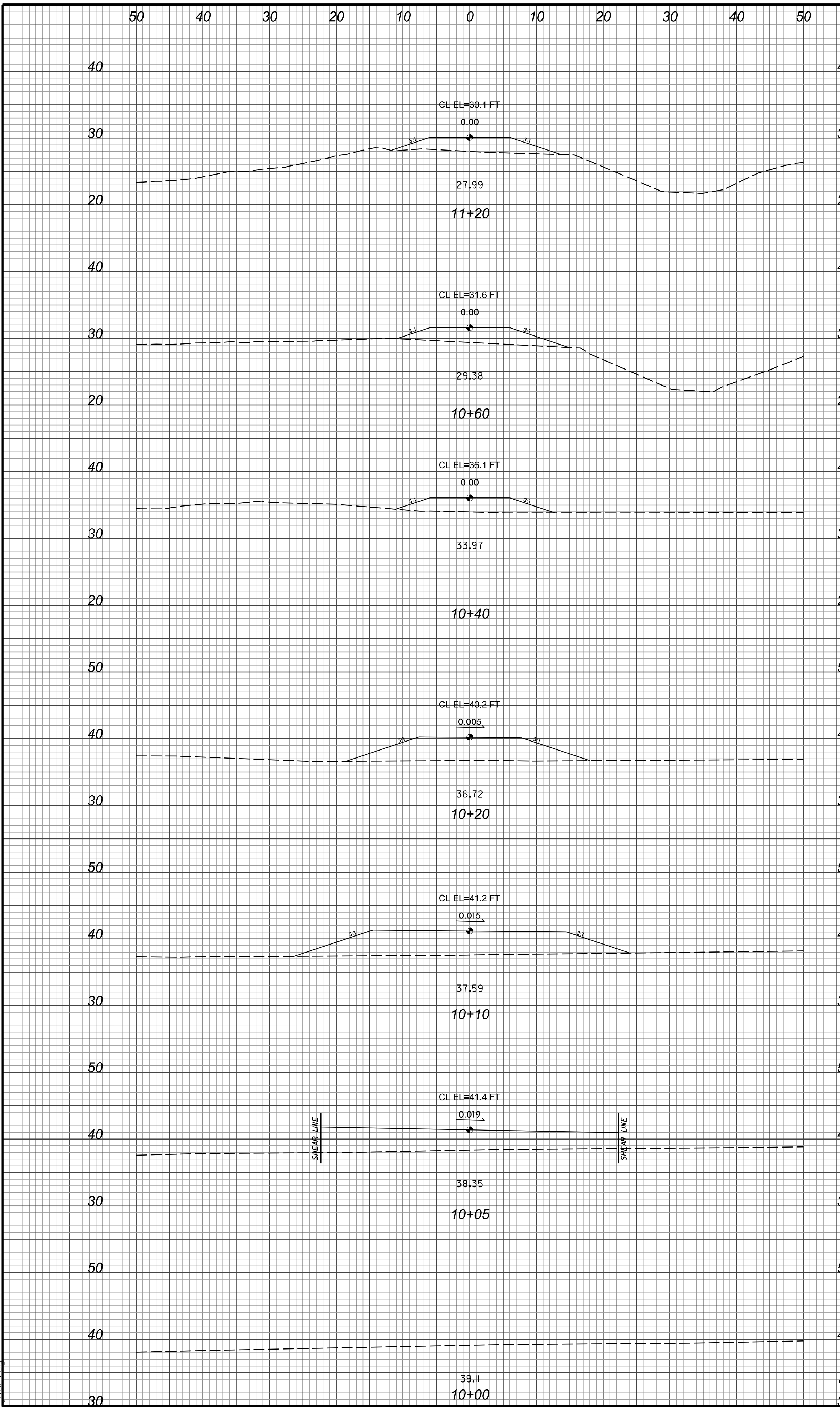
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 DRAWING NAME: FLOODGATE RDY PSH C512  
 DATE: 6-16-2021  
 DRAWN BY: RCH  
 REVIEWED BY: RCH  
 REVISIONS:

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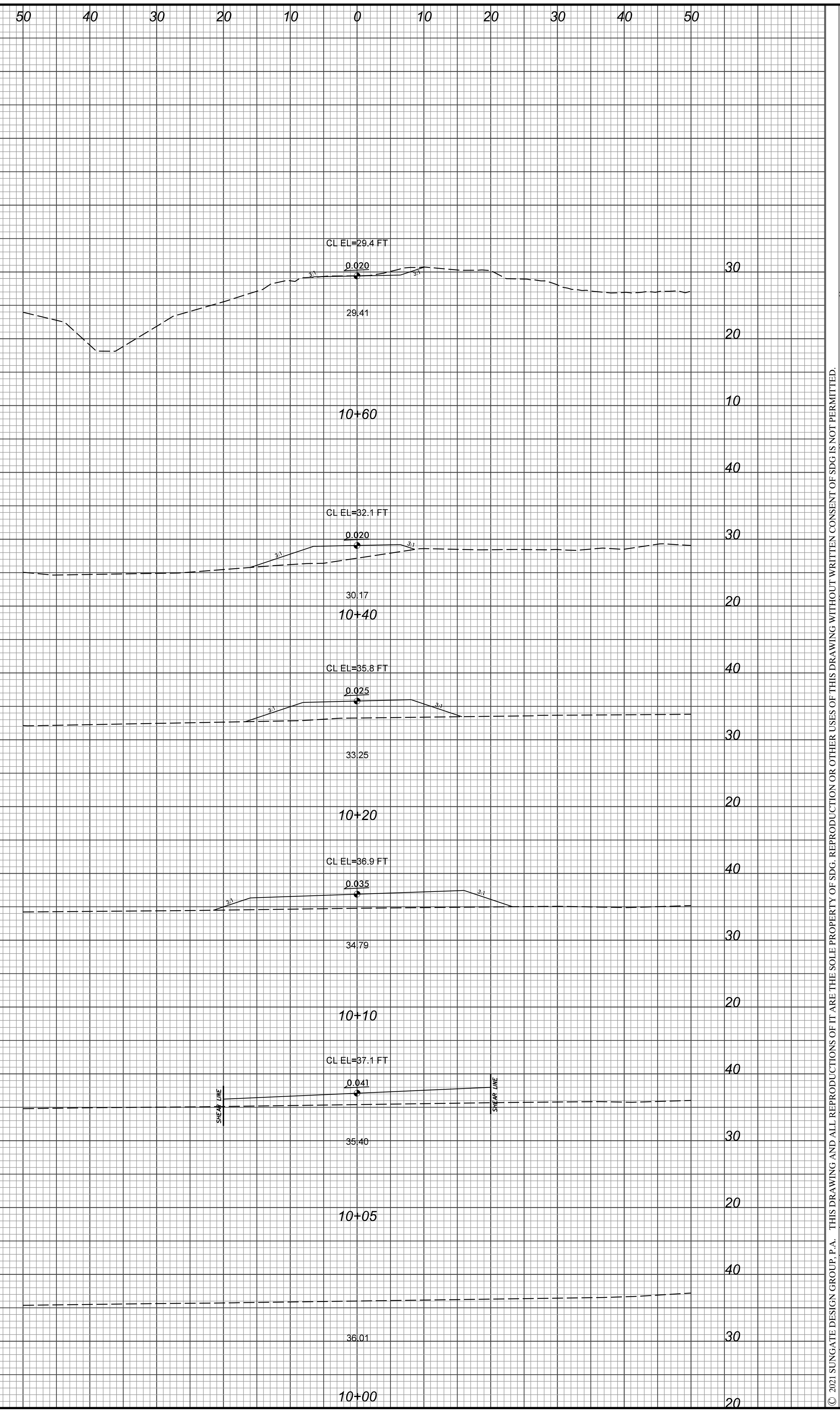


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-AR3A-

-AR3B-



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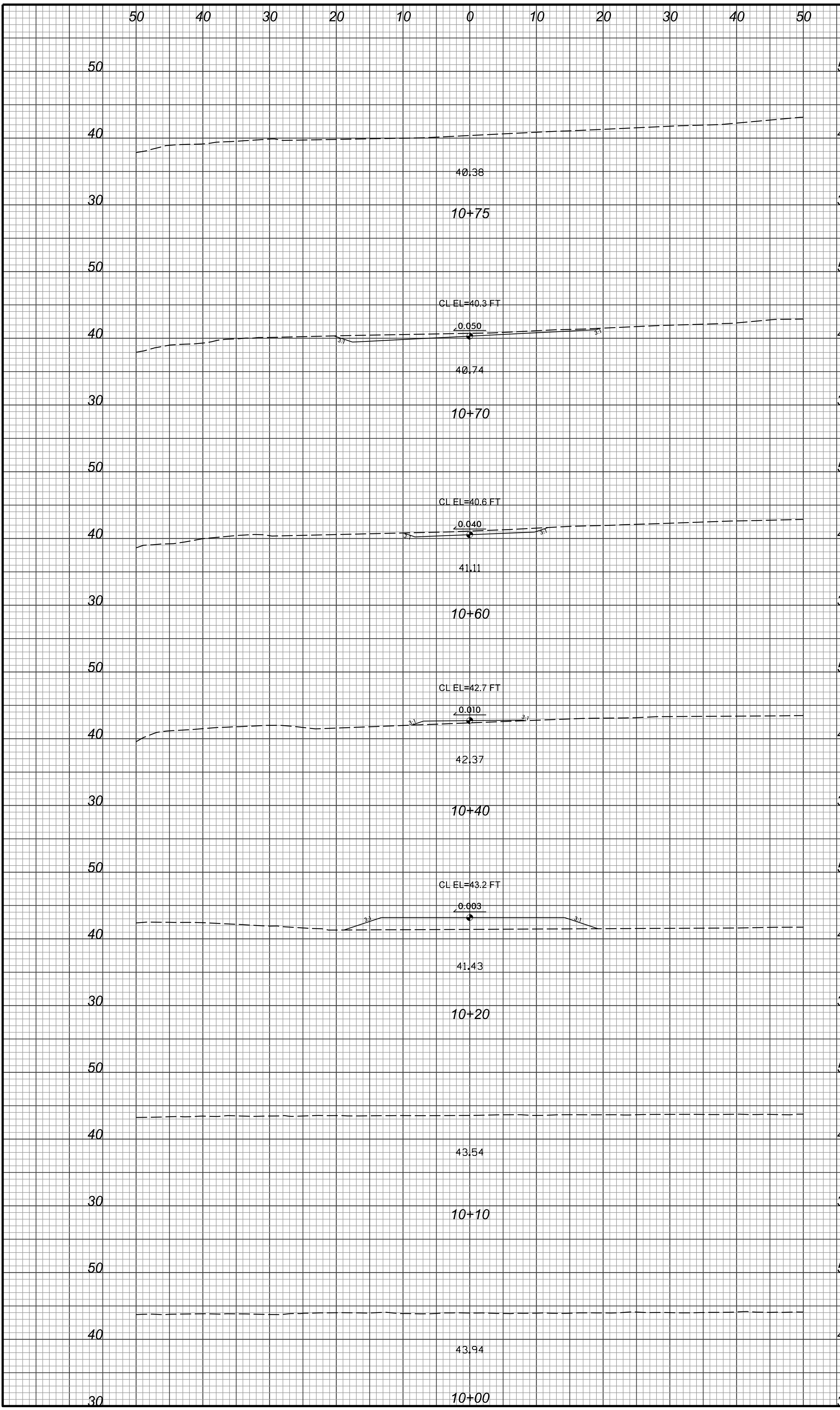
**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC  
**CROSS SECTIONS - SITE 2-3 -AR3A-, -AR3B-**

PROJECT # : 1284-20041  
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 DATE: 6-16-2021  
 DRAWN BY: RCH  
 REVIEWED BY:  
 REVISIONS:

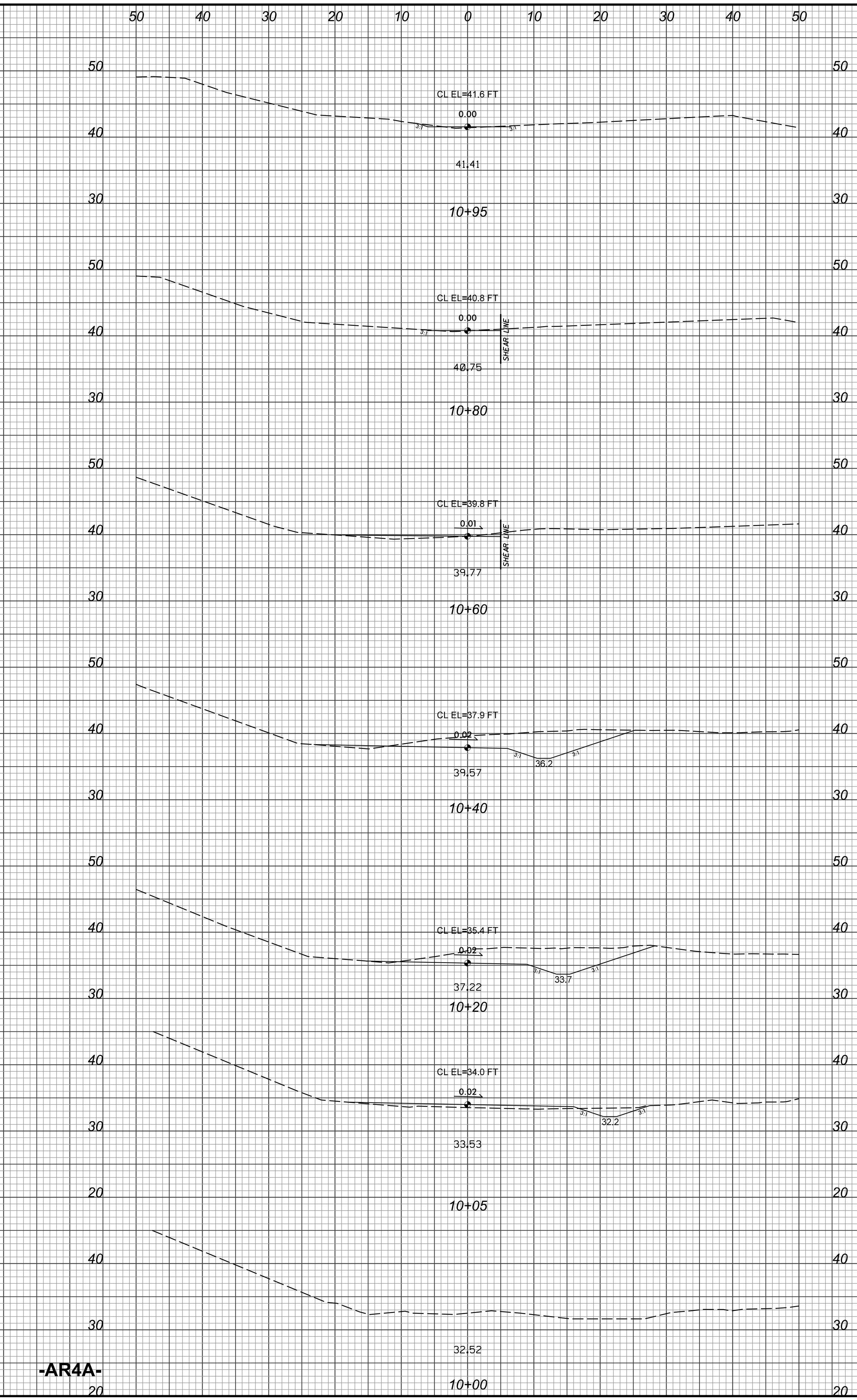
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-AR4-



-AR4A-

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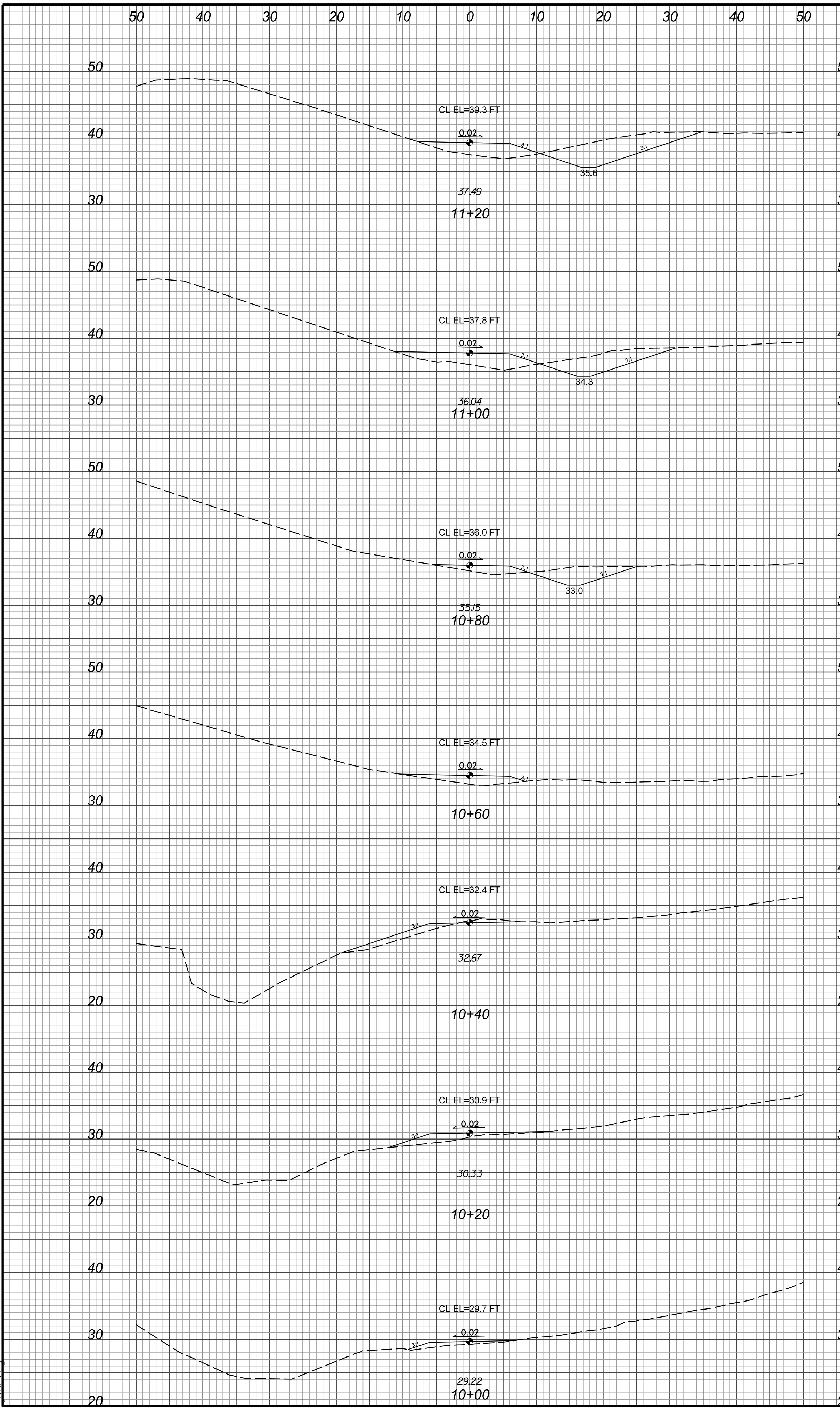
**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC  
**CROSS SECTIONS - SITE 2-3 -AR4- -AR4A-**

PROJECT # : 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C514  
 DATE: 6-16-2021  
 DRAWN BY: RCH  
 REVIEWED BY: RCH  
 REVISIONS:

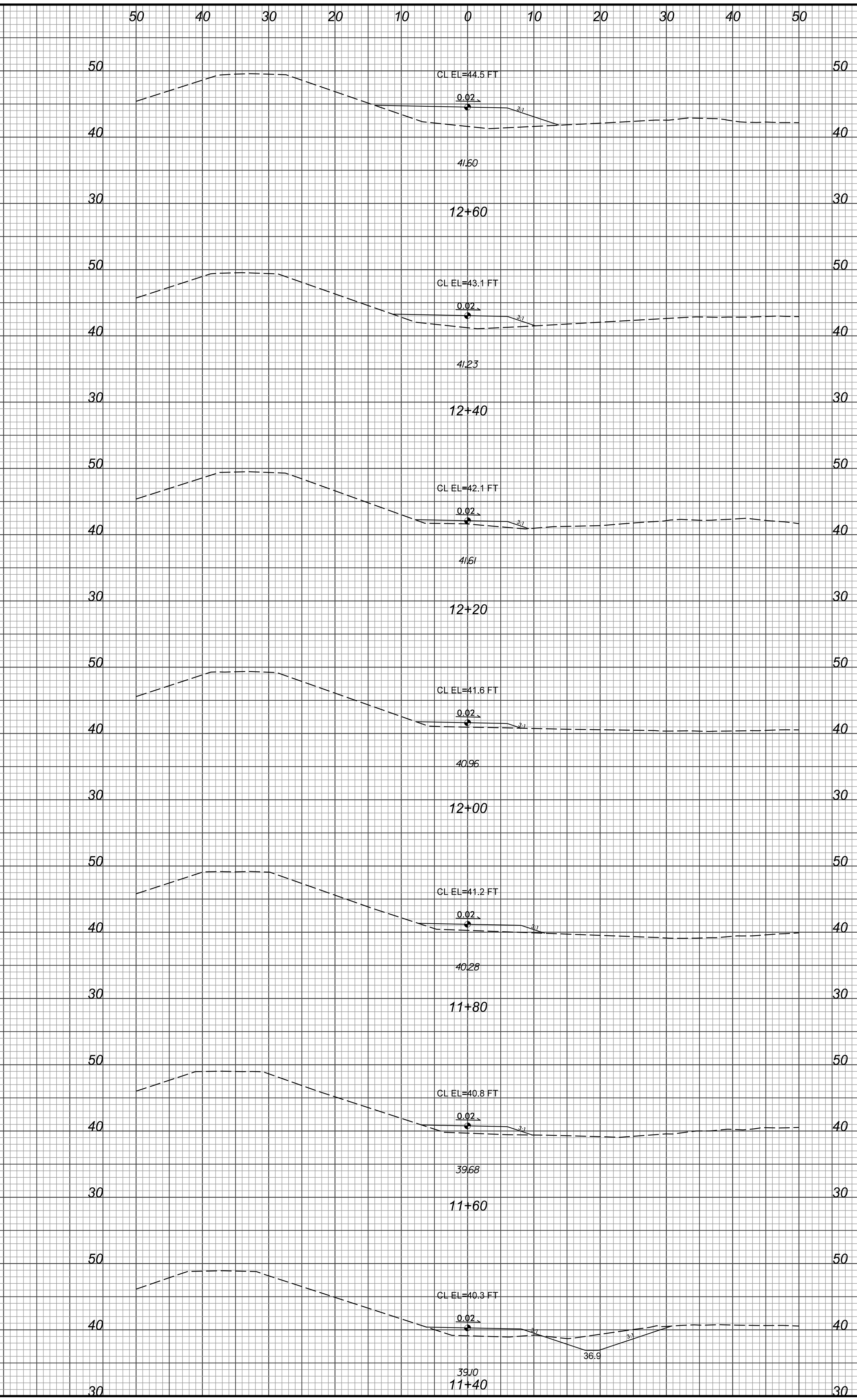
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-AR5-



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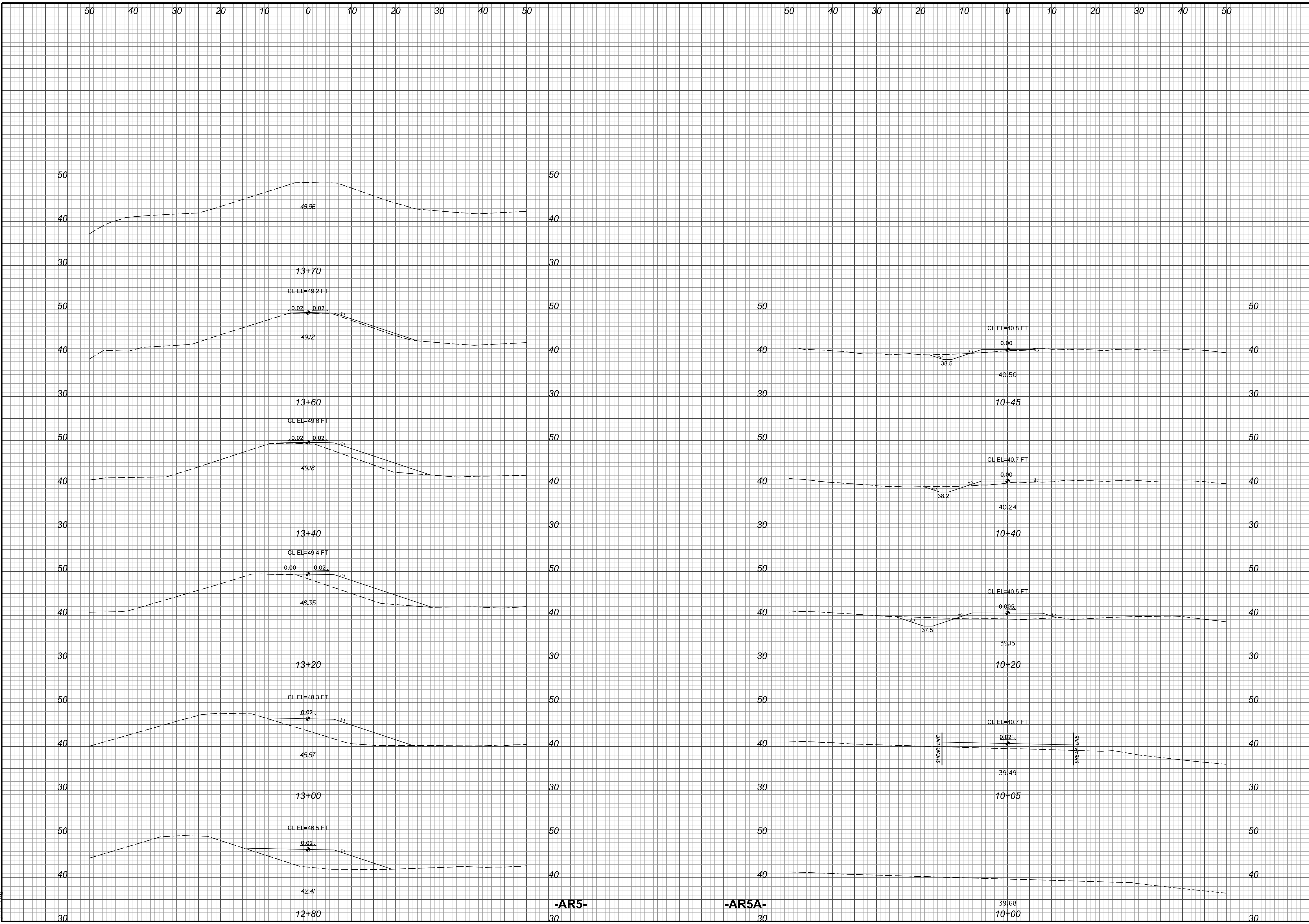
**PRINCETON DIKE FLOODGATE REPAIRS**  
 PRINCETON, EDGECOMBE COUNTY, NC  
**CROSS SECTIONS - SITE 2-3 -AR5-**

PROJECT # : 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C515  
 DATE: 6-16-2021  
 DRAWN BY: RCH  
 REVIEWED BY: RCH  
 REVISIONS:

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**C5.15**



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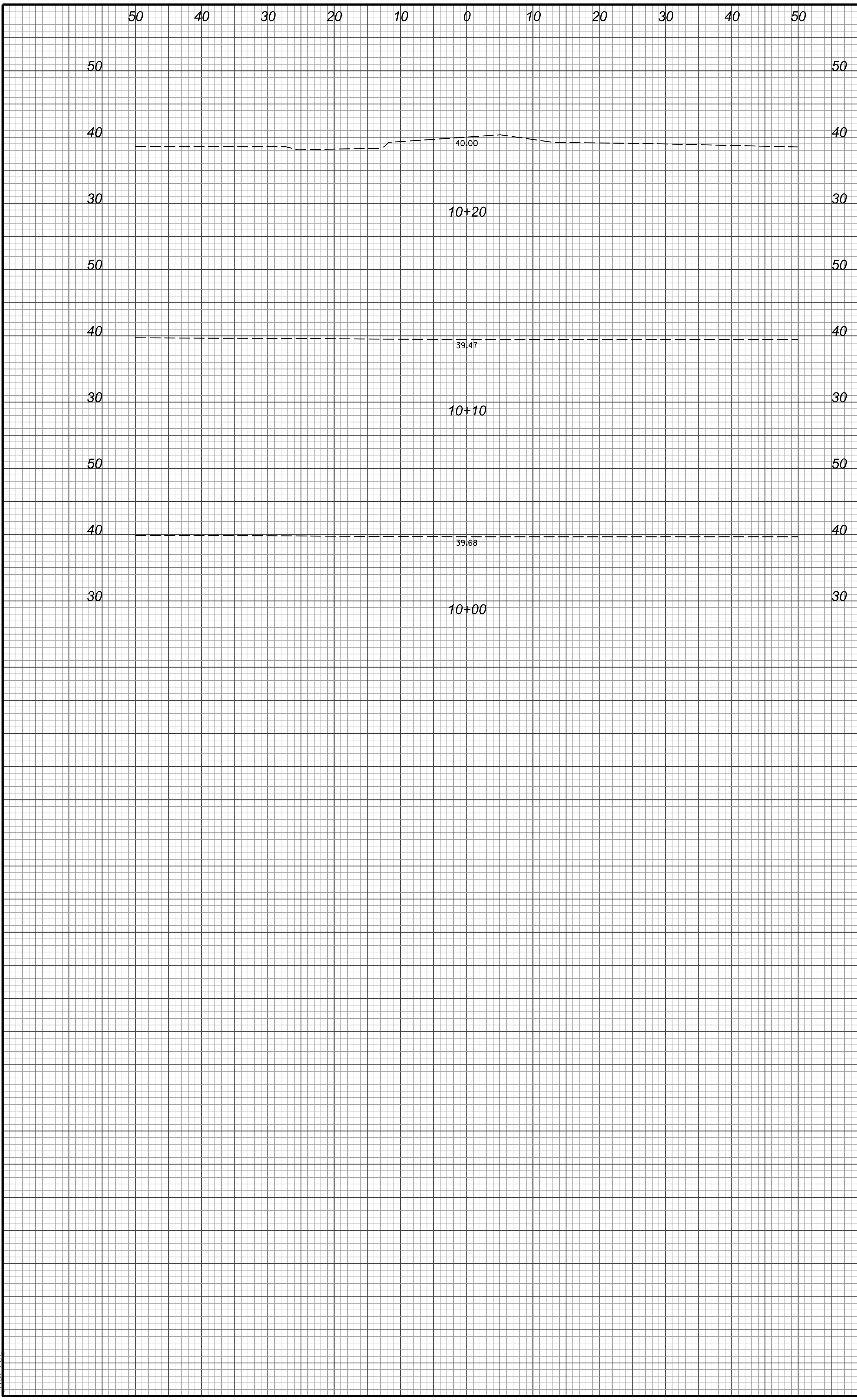
**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC  
**CROSS SECTIONS - SITE 2-3 -AR5-, -AR5A-**

PROJECT #: 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C516  
 DATE: 6-16-2021  
 DRAWN BY: RCH  
 REVIEWED BY: RCH  
 REVISIONS:

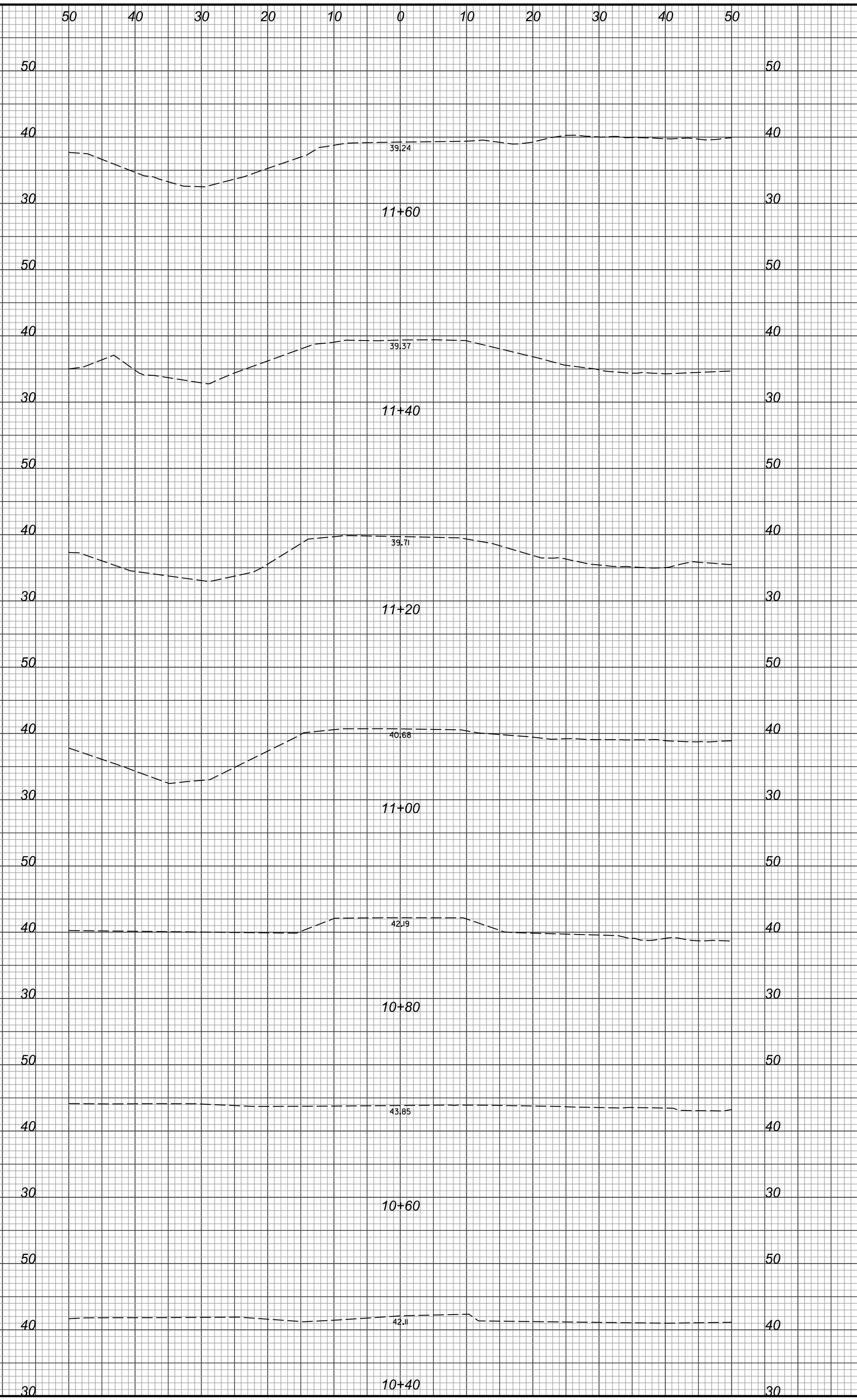
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-AR6-



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**CROSS SECTIONS - SITE 4 -AR6-**

PROJECT # : 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C517  
 DATE: 6-16-2021  
 DRAWN BY: RCH

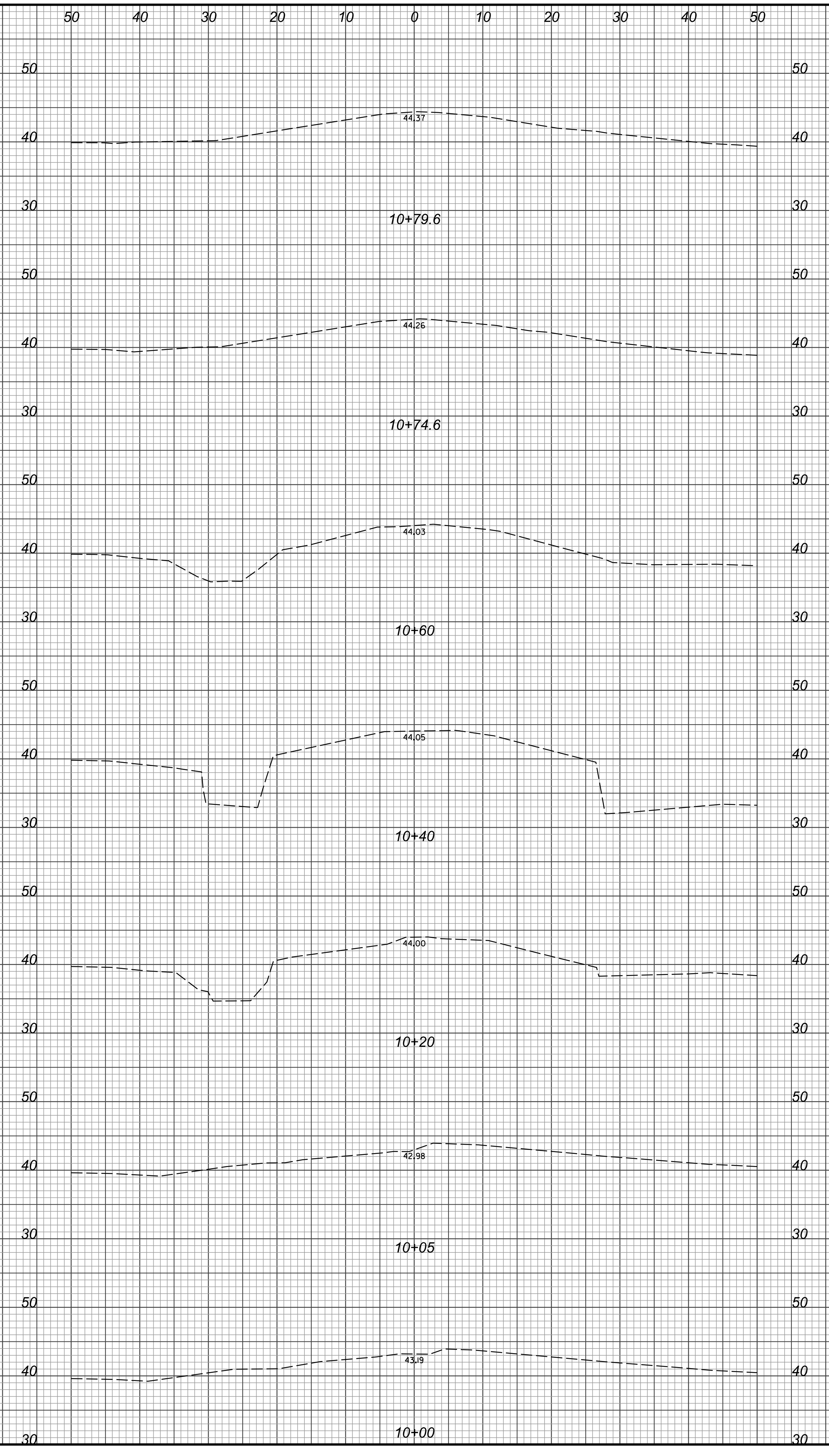
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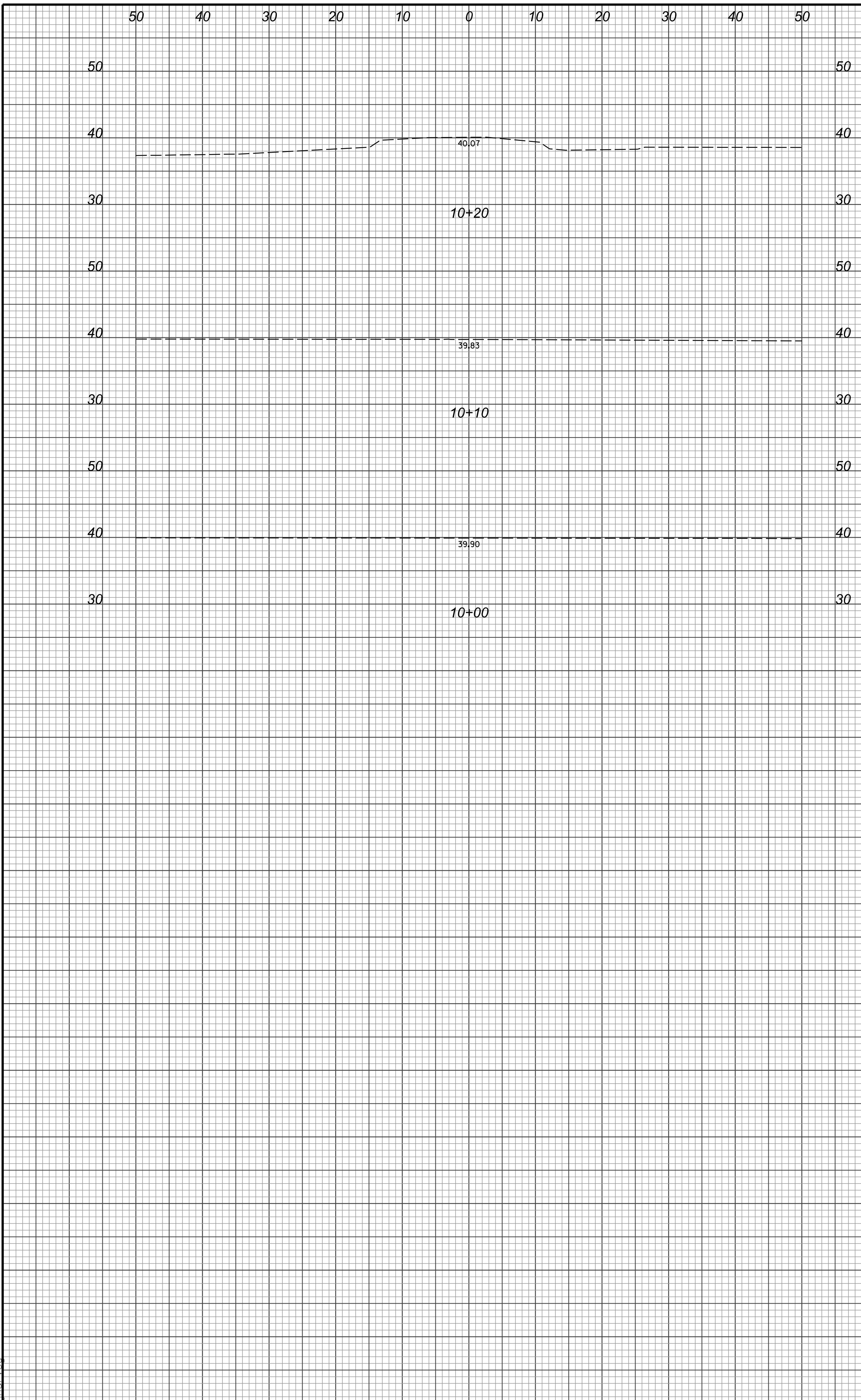
**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC  
**CROSS SECTIONS - SITE 4 --AR7--**

PROJECT # :	1284-20041
DRAWING NAME:	FLOODGATE RDY PSH C518
DATE:	6-16-2021
DRAWN BY:	RCH
REVIEWED BY:	RCH
REVISIONS:	

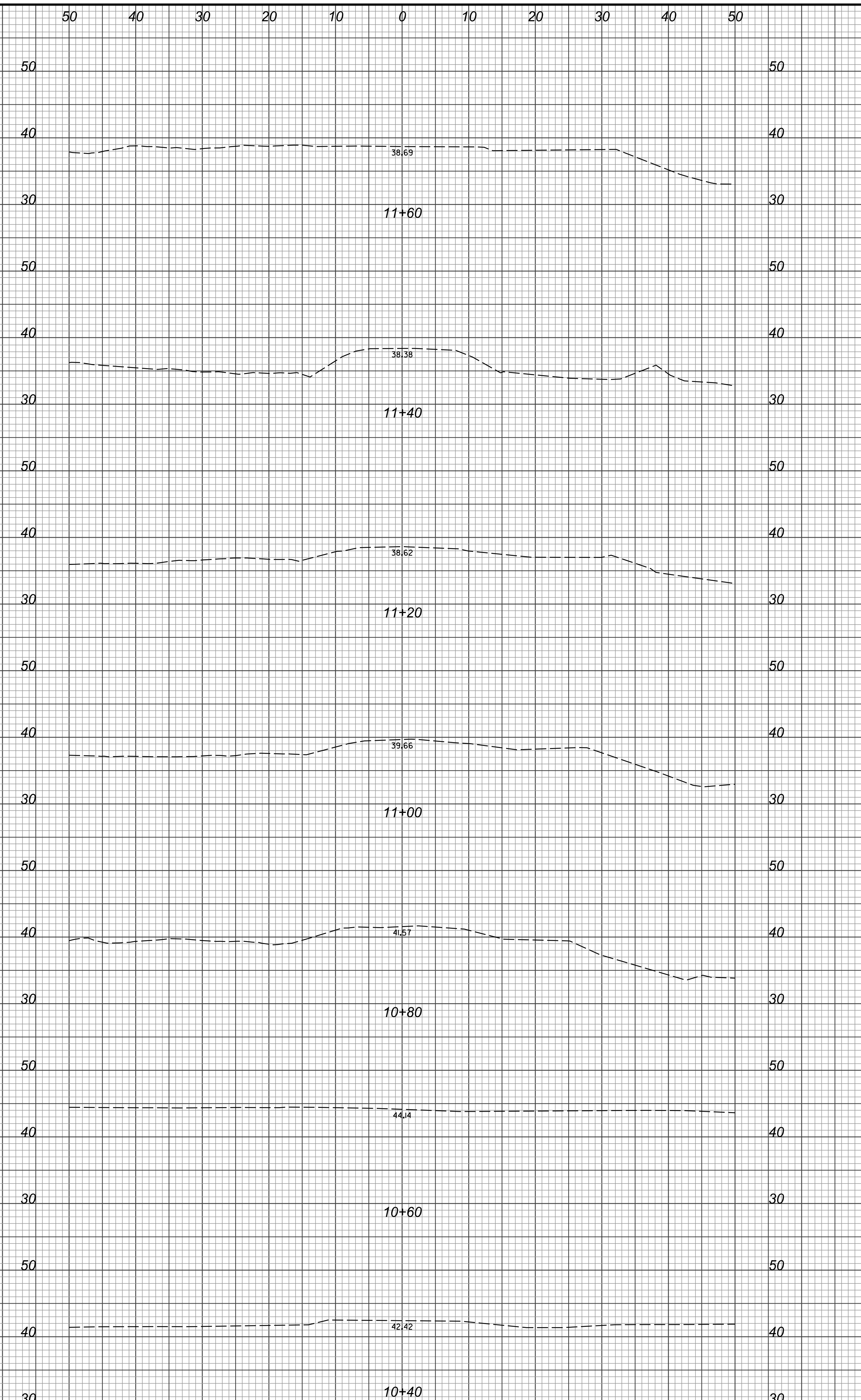
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**Joshua G. Dalton**  
 26971  
 PROFESSIONAL ENGINEER  
 STATE OF NORTH CAROLINA  
 JOSHUA G. DALTON  
 26971  
 9/9/2021

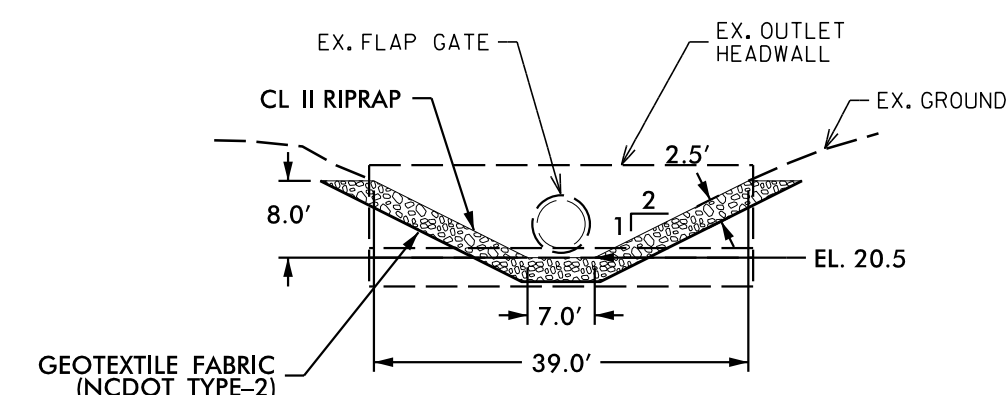
**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC  
**CROSS SECTIONS - SITE 4 -AR8-**

PROJECT # :	1284-20041
DRAWING NAME:	FLOODGATE RDY PSH C519
DATE:	6-16-2021
DRAWN BY:	RCH
REVIEWED BY:	RCH
REVISIONS:	

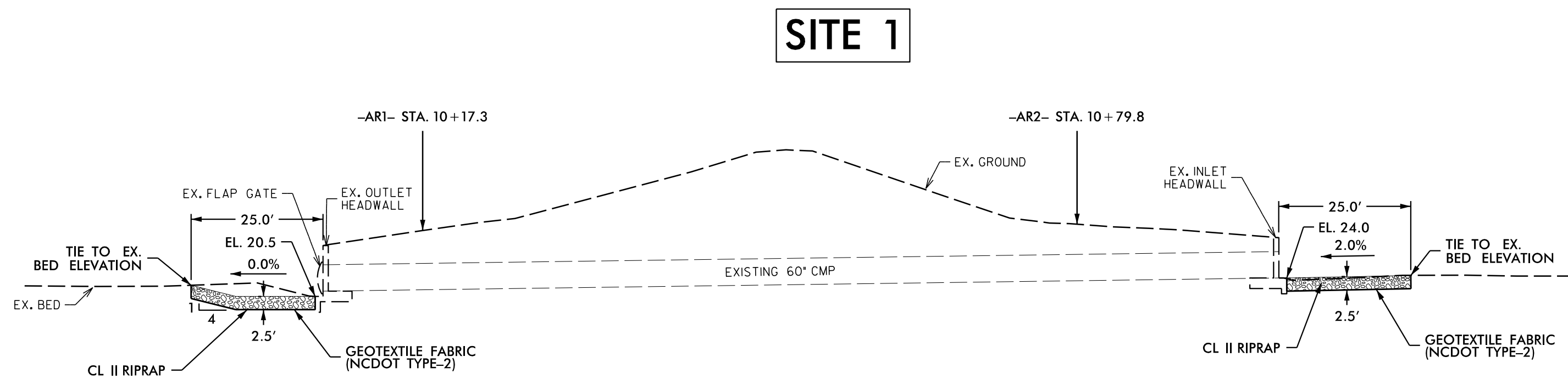
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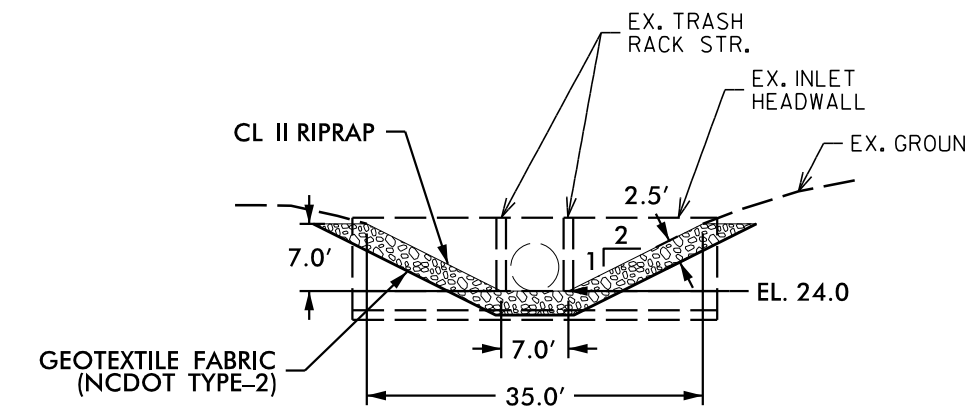
NOTE: RIP-RAP PLACEMENT SHALL NOT INTERFERE OR HINDER FLAP GATE OPERATION.



TYPICAL SECTION - OUTLET CHANNEL

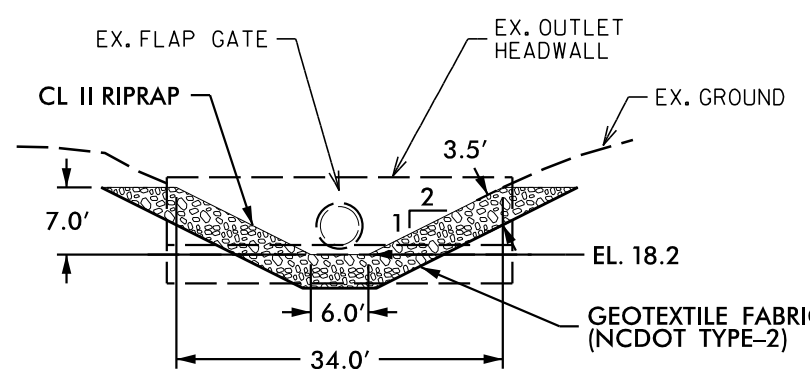


INLET & OUTLET CHANNEL PROFILE

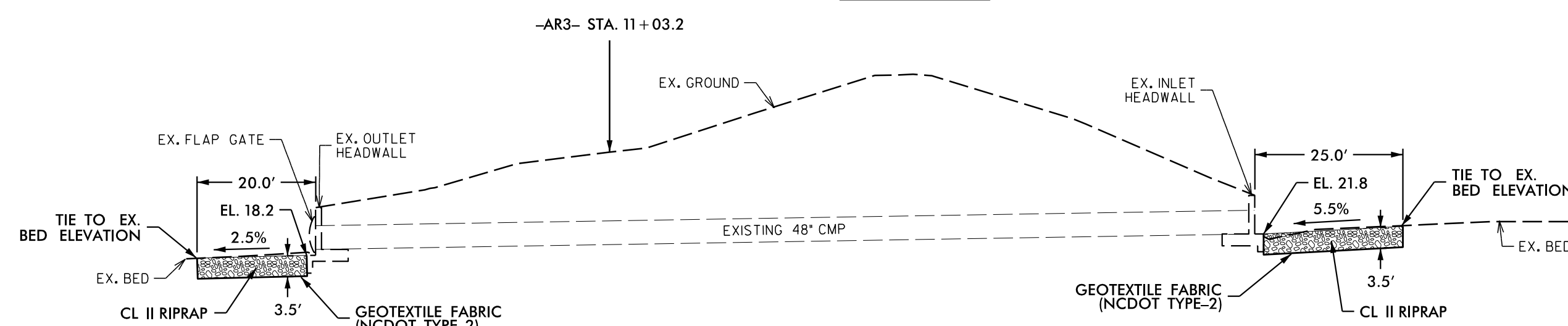


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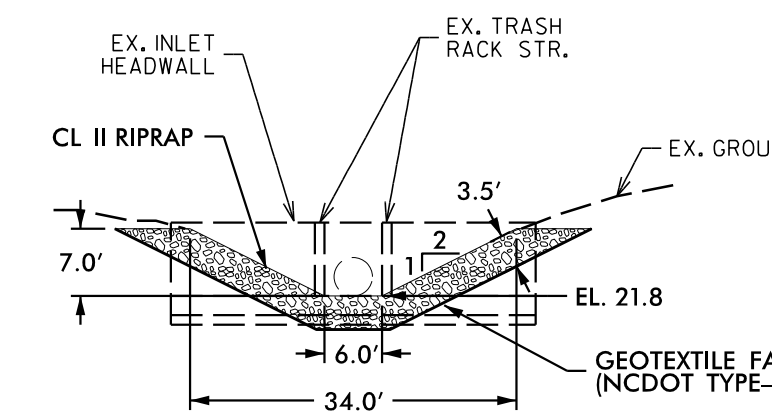
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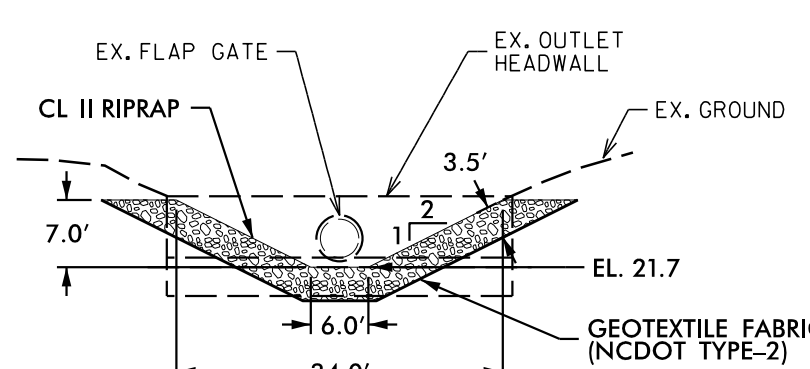


INLET & OUTLET CHANNEL PROFILE

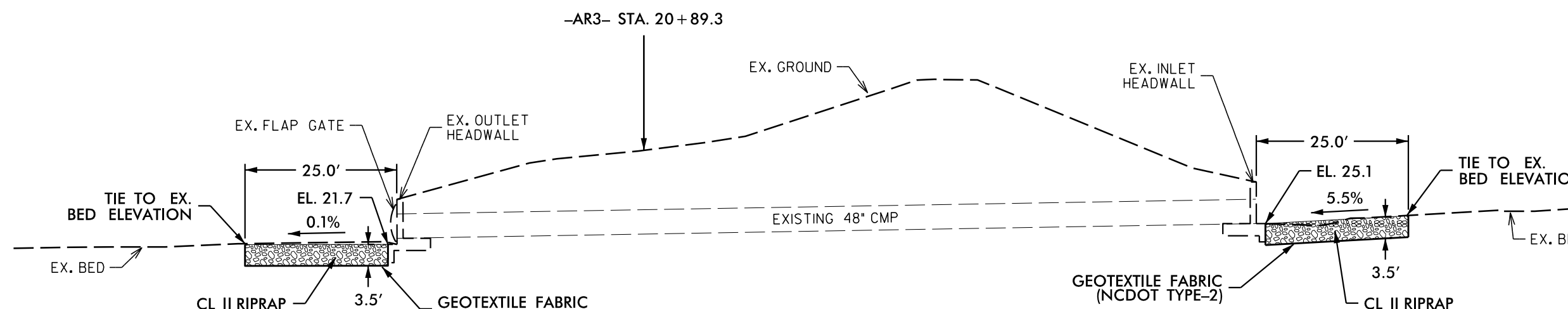


TYPICAL SECTION - INLET CHANNEL

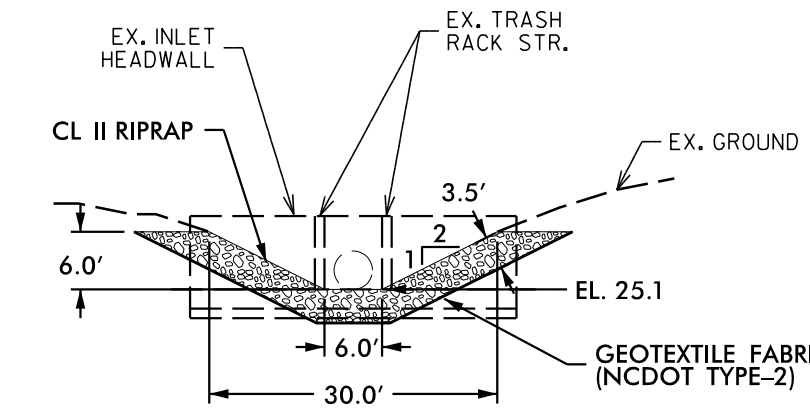
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TYPICAL SECTION - OUTLET CHANNEL



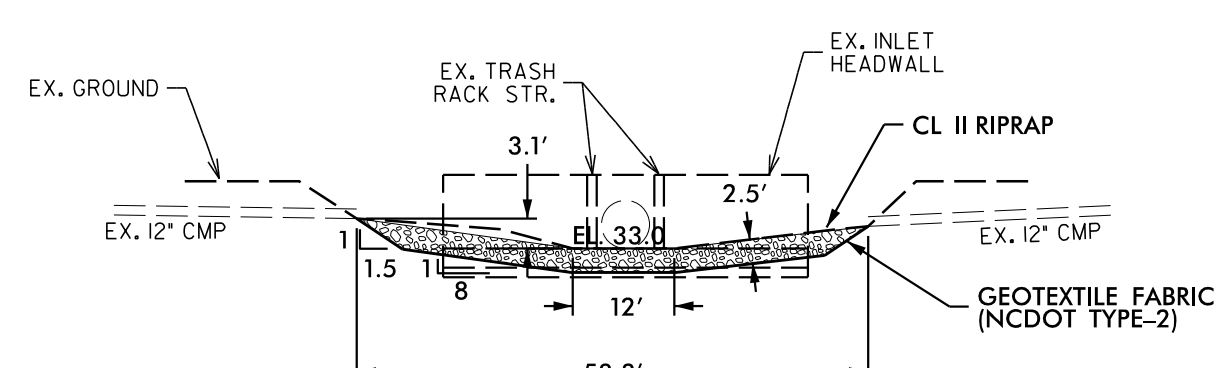
INLET & OUTLET CHANNEL PROFILE



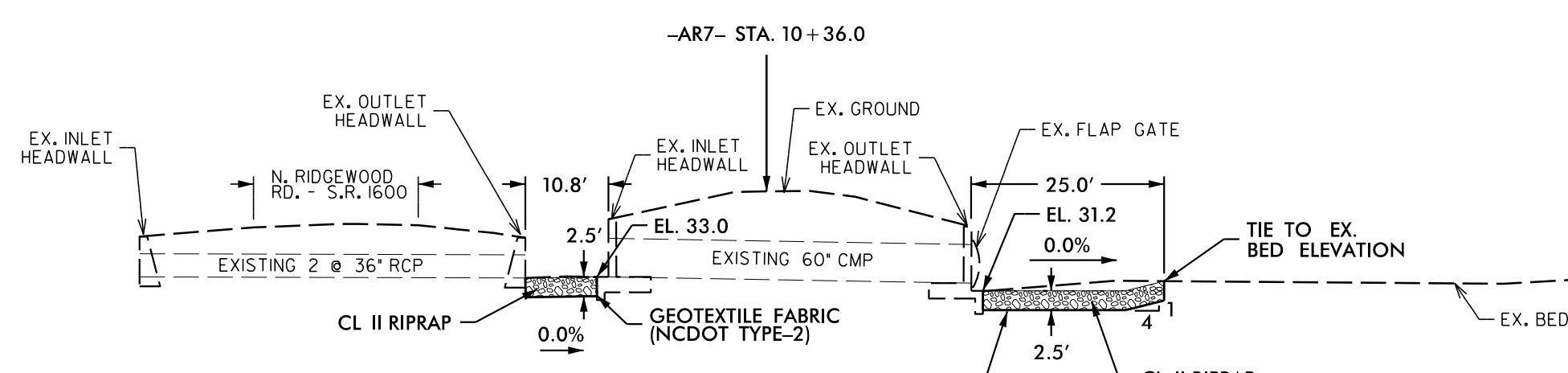
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SITE 4

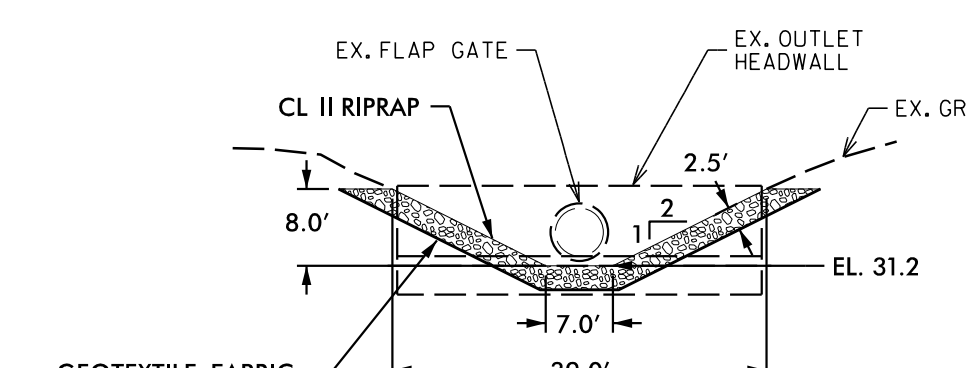
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TYPICAL SECTION - INLET CHANNEL



INLET & OUTLET CHANNEL PROFILE



TYPICAL SECTION - OUTLET CHANNEL

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Joshua G. Dalton  
Professional Engineer  
No. 26971  
9/9/2021

PRINCEVILLE DIKE FLOODGATE REPAIRS  
PRINCEVILLE, EDGEcombe COUNTY, NC

CHANNEL PROFILES & TYPICAL SECTIONS

PROJECT # : 1284-20041  
DRAWING NAME: FLOODGATE RDY PSH C600  
DATE: 6-16-2021  
DRAWN BY:

REVIEWED BY: RCH

REVISIONS:

SHEET NO. **C6.01**

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CONSTRUCTION SEQUENCE

- 1. Obtain a Land Disturbing Permit.
2. Submit documentation required under the site NPDES stormwater permit for construction activity (NCG010000) to Stormwater Inspections throughout the project.
3. Schedule a pre-construction conference with NCDEQ Erosion Control Officer and Erosion Control Design Engineer. Contact DEMLR Raleigh Regional Office at least 48 hours prior to commencing the land-disturbing activity at (919) 791-4200.
4. Erosion and Sediment Control (E&SC) permit and Certificate of Coverage (COC) must be obtained before any land disturbing activities occur.
5. Per NPDES requirements, a rain gauge, self-inspections records, permit, Certificate of Coverage, and E&SC Plan are required to be maintained on-site and accessible during inspection. It is recommended that these items be placed in a permits box at the beginning or entrance of project.
6. Construction activities that have an E&SC Plan approved on or after April 1, 2019 are required to fill out and submit an electronic Notice of Intent (e-NOI) form. All construction activities are required to follow the new NCG01 permit regardless of when plans were approved.
7. The contractor shall conduct self-inspections of the erosion and sediment control measures and complete the following combined self-inspection form found on the DEMLR website: https://files.nc.gov/ncdeq/Energy%20Mineral%20and%20Land%20Resources/Stormwater/NPDES%20General%20Permits/DEMLR-CSW-Monitoring-Form-Rev-August-8-2019.pdf Twelve months of complete inspection forms shall be kept on-site and available for inspection at all times. It is recommended a copy be kept in a permits box.
8. Self-inspections for erosion and sedimentation control measures are to be performed at least once every seven calendar days and within 24 hours of every rain event of greater than 1 inch. Any needed repairs shall be made immediately to maintain measures as details on this plan. A rain gauge shall be installed at the project site for monitoring.
9. Install all temporary erosion and sediment control measures including silt fence, tree protection, and inlet protection. Limit clearing and land disturbing activity to the area necessary to install the permitted measures.
10. Begin clearing and grubbing.
11. Stabilize any bare areas resulting from construction activity within times frames established by NCG-01 ground cover stabilization guidelines.
12. Increase maintenance frequency where approved measures fail to prevent accelerated erosion, off-site sedimentation, or repetitive non-compliance issues.
13. At sites 1 through 4:
a. Install special stilling basin(s).
b. Install pumps and temporary flexible hoses.
c. Install impervious dikes, and begin pumping operations for stream diversion.
d. Dewater construction area, using special stilling basin(s) for pumped effluent.
e. Key in Class II rip rap at inlet and outlet channels.
f. Excavate any accumulated silt and dewater before removal of impervious dikes.
g. Remove impervious dikes, pumps, and temporary flexible hoses, and any remaining special stilling basin(s).
h. Complete construction of access roads.

- 14. Maintain all erosion and sediment control measures in good working order. Silt fence, inlet protection and other similar measures must be cleaned out before they are half full. Clogged stone filters must be refreshed or replaced. Silt fence cannot have holes or tears.
15. Stabilize site as areas are brought up to finished grade with vegetation, paving, mulch, matting, etc. Seed and mulch denuded areas per Ground Stabilization.
16. Perimeter silt fence will be maintained throughout the project until permanent ground cover is established.
17. Once the site is completely stabilized, remove temporary erosion control measures and seed out any resulting bare areas.
18. When vegetation has become established, call for a final site inspection by the Erosion Control Design Engineer.
19. When the project is complete, the permittee shall contact DEMLR to close out the E&SC Plan. After DEMLR informs the permittee of the project close out, via inspection report, the permittee shall visit deq.nc.gov/NCG01 to submit an electronic Notice of Termination (e-NOT). A \$100 annual general permit fee will be charged until the e-NOT has been filled out.

General Maintenance Requirements:

- 1. All erosion and sediment control practices will be checked for stability and operation following every runoff producing rainfall, but in no case less than once every week. Any needed repairs will be made immediately to maintain all practices as designed.
-2. All seeded areas will be fertilized, reseeded as necessary, and mulched according to specifications in the vegetative plan to maintain a vigorous, dense vegetative cover.

VEGETATIVE PLAN

Seedbed Preparation

- 1. Chisel compacted areas and spread topsoil 2 to 3 inches deep over adverse soil conditions, if available.
2. Rip the entire area to a depth of not less than 5 inches, unless directed otherwise.
3. Remove all loose rock, roots and other obstructions 3 inches or larger on median, leaving surface reasonably smooth and uniform.
4. Apply agricultural lime, fertilizer and superphosphate uniformly and mix with soil (see mixture below).
5. Continue tillage until a well-pulverized, firm, reasonably uniform seedbed is prepared 2 to 3 inches deep.
6. Seed on a freshly prepared seedbed and cover seed lightly with seeding equipment or cultipack after seeding.
7. Mulch within 24 hours after seeding and anchor mulch.
8. Inspect all seeded areas and make necessary repairs or reseedings within the planting season, if possible. If stand should be more than 60% damaged, re-establish following the original lime, fertilizer and seeding rates.

Mixture

Table with 2 columns: Material and Rate. Agricultural Limestone: 2 tons/acre in sandy soils (3 tons/acre in clay soils or per soil tests); Fertilizer: 1,000 lbs/acre - 10-10-10; Superphosphate: 500 lbs/acre - 20% analysis; Mulch: 2 tons/acre - small grain straw; Anchor: Asphalt emulsion at 400 gals/acre.

Seeding Schedule

For Shoulders, Side Ditches, Slopes (Max 3:1):

Table with 3 columns: Date, Type, Planting Rate. Rows include Tall Fescue (300 lbs/acre), Tall Fescue & Abruzzi Rye (300 lbs/acre), Hulled Common Bermudagrass (25 lbs/acre), and Tall Fescue AND Browntop Millet or Sorghum-Sudan Hybrids (125 lbs/acre Tall Fescue; 35 lbs/acre Browntop Millet; 30 lbs/acre Sorghum-Sudan Hybrids).

For Shoulders, Side Ditches, Slopes (3:1 to 2:1):

Table with 3 columns: Date, Type, Planting Rate. Rows include Sericea Lespedeza (scarified) and use the following combinations (50 lbs/acre Sericea Lespedeza); Add Tall Fescue (120 lbs/acre); Or add Hulled Common Bermudagrass (25 lbs/acre); Tall Fescue AND Browntop Millet or Sorghum-Sudan Hybrids (120 lbs/acre Tall Fescue; 35 lbs/acre Browntop Millet; 30 lbs/acre Sorghum-Sudan Hybrids); Sericea Lespedeza (unhulled - unscarified) AND Tall Fescue (70 lbs/acre Sericea Lespedeza; 120 lbs/acre Tall Fescue); AND Abruzzi Rye (25 lbs/acre).

The Contractor shall select a nurse crop from the table below that is best suited to the specific site conditions and characteristics. The nurse crop shall be added to and applied along with the permanent vegetative mixture.

Consult Erosion Control Design Engineer for additional information concerning other alternatives for vegetation of denuded areas. The above vegetation rates are those that do well under local conditions; other seeding rate combinations are possible.

\*\*\* TEMPORARY: Reseed according to optimum season for desired permanent vegetation. Do not allow temporary cover to grow more than 12" in height before mowing; otherwise, fescue may be shaded out.

Riparian Seeding and Mulching

Riparian Seeding and Mulching shall be performed on the disturbed areas of riparian areas within a 50 foot zone on both sides of the stream or depression, measured from top of stream bank.

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined. All rates are in pounds per acre.

Table with 2 columns: Seed/Fertilizer/Limestone and Rate. August 1 - June 1: Creeping Red Fescue (18#), Big Bluestem (8#), Indiangrass (6#), Switchgrass (4#), Rye Grain (35#), Fertilizer (500#), Limestone (4000#). May 1 - September 1: Creeping Red Fescue (18#), Big Bluestem (8#), Indiangrass (6#), Switchgrass (4#), German or Browntop Millet (25#), Fertilizer (500#), Limestone (4000#).

Approved Creeping Red Fescue Cultivars:

Table with 4 columns: Aberdeen, Boreal, Epic, Cindy Lou.

Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.

Mulch within 24 hours of seeding and anchor mulch.

Table with 2 columns: Mulch/Anchor and Rate. Mulch: 2 tons/acre - small grain straw; Anchor: Asphalt emulsion at 400 gals/acre.

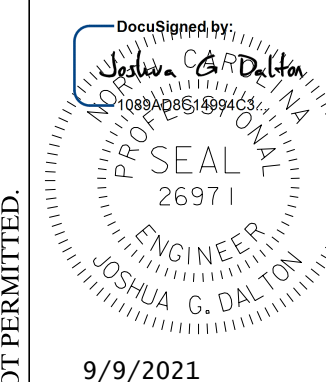
HERBACEOUS PLANTS-Seeding recommendations for immediate stabilization/nurse crops (2 to 5 weeks for development; effectiveness goal: 6 months to 1 year stabilization)

Table 6.11.a

Table with columns: Common Name, Botanical Name, Native/Introduced, Seeding Rates, Fertilization/Limestone, Optimal Planting Dates (Mountains, Piedmont, Coastal Plains, Sun/Shade tolerant), Wetlands, Riparian Buffers, Invasive Yes/No, Installation/Maintenance Considerations, and Other information/commentary. Rows include Rye Grain, Wheat, German Millet, Browntop Millet, Sudangrass (hybrids), Kobe Lespedeza, and Korean Lespedeza.

NOTES:

- 1. Seeding rates are for hulled seed unless otherwise noted.
2. Fertilizer & Limestone - rates to be applied in absence of soil tests. Recommended application rate assumes significantly disturbed site soils with little or no residual value.
3. NR means Species not recommended for this region or application area.
4. Invasive designation as determined by the N.C. Exotic Pest Plant Council and N.C. Native Plant Society.
5. Sprigging is not recommended for immediate stabilization unless terrain is flat heavy mulch is applied and no other immediate stabilization method is practical.



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PROJECT #: 1284-2004I DRAWING NAME: FLOODGATE RDY PSH C600 DATE: 6-16-2021

DRAWN BY: REVIEWED BY: RCH REVISIONS:



Date: **GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT**  
 Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

**SECTION E: GROUND STABILIZATION**

Required Ground Stabilization Timeframes		
Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10 feet or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

**Note:** After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

**GROUND STABILIZATION SPECIFICATION**

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
<ul style="list-style-type: none"> <li>Temporary grass seed covered with straw or other mulches and tackifiers.</li> <li>Hydroseeding</li> <li>Rolled erosion control products with or without temporary grass seed</li> <li>Appropriately applied straw or other mulch</li> <li>Plastic sheeting</li> </ul>	<ul style="list-style-type: none"> <li>Permanent grass seed covered with straw or other mulches and tackifiers</li> <li>Geotextile fabrics such as permanent soil reinforcement matting</li> <li>Hydroseeding</li> <li>Shrubs or other permanent plantings covered with mulch</li> <li>Uniform and evenly distributed ground cover sufficient to restrain erosion</li> <li>Structural methods such as concrete, asphalt or retaining walls</li> <li>Rolled erosion control products with grass seed</li> </ul>

**POLYACRYLAMIDES (PAMS) AND FLOCCULANTS**

- Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
- Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
- Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
- Provide ponding area for containment of treated Stormwater before discharging offsite.
- Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

**EQUIPMENT AND VEHICLE MAINTENANCE**

- Maintain vehicles and equipment to prevent discharge of fluids.
- Provide drip pans under any stored equipment.
- Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
- Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
- Remove leaking vehicles and construction equipment from service until the problem has been corrected.
- Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

**LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE**

- Never bury or burn waste. Place litter and debris in approved waste containers.
- Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
- Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
- Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
- Anchor all lightweight items in waste containers during times of high winds.
- Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
- Dispose waste off-site at an approved disposal facility.
- On business days, clean up and dispose of waste in designated waste containers.

**PAINT AND OTHER LIQUID WASTE**

- Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Contain liquid wastes in a controlled area.
- Containment must be labeled, sized and placed appropriately for the needs of site.
- Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

**PORTABLE TOILETS**

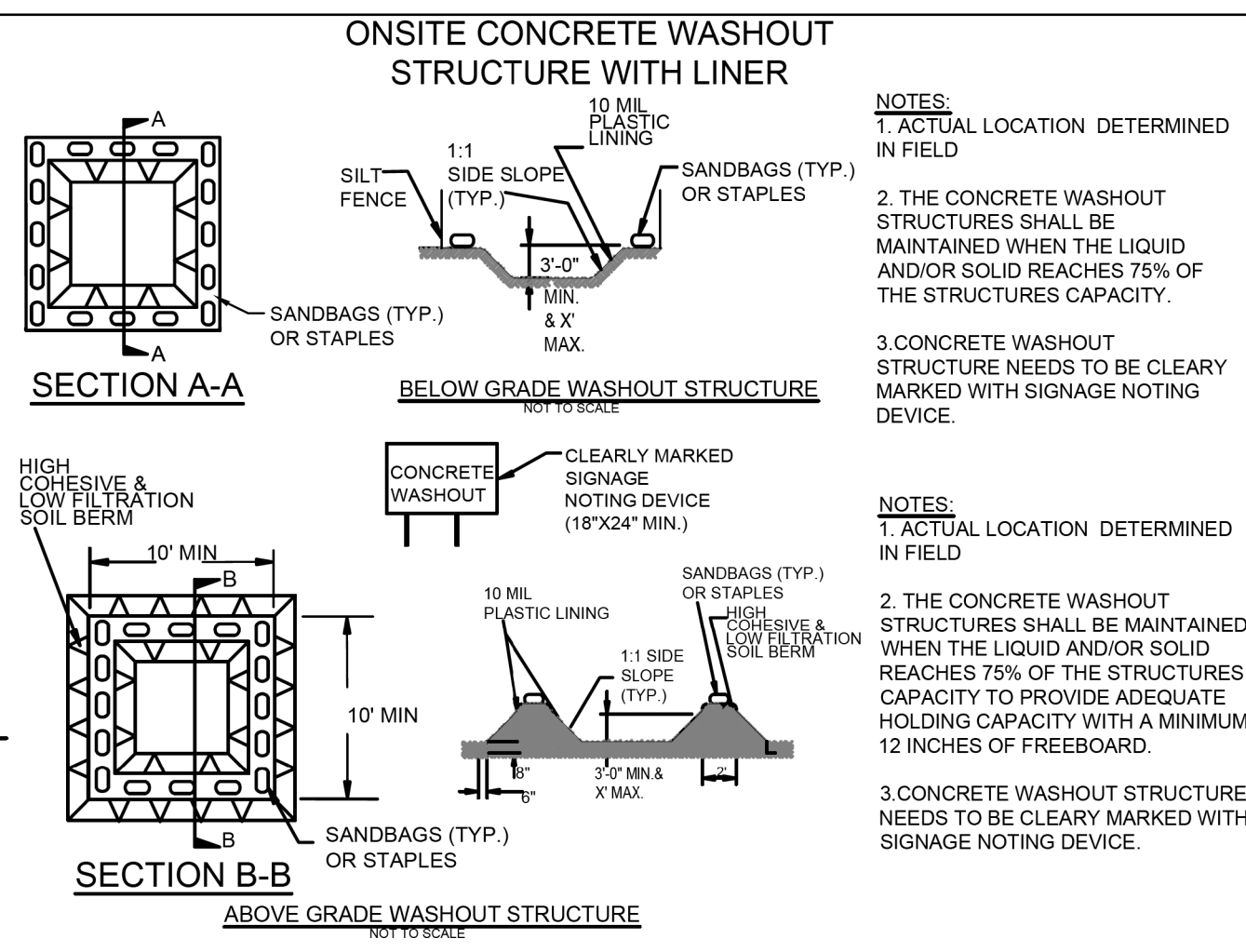
- Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
- Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
- Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

**EARTHEN STOCKPILE MANAGEMENT**

- Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
- Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
- Provide stable stone access point when feasible.
- Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.

**HAZARDOUS AND TOXIC WASTE**

- Create designated hazardous waste collection areas on-site.
- Place hazardous waste containers under cover or in secondary containment.
- Do not store hazardous chemicals, drums or bagged materials directly on the ground.



**CONCRETE WASHOUTS**

- Do not discharge concrete or cement slurry from the site.
- Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
- Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
- Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
- Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
- Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
- Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
- Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
- Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
- At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

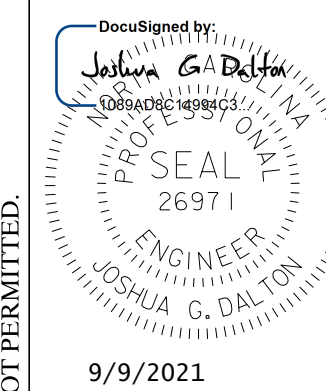
**HERBICIDES, PESTICIDES AND RODENTICIDES**

- Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
- Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
- Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
- Do not stockpile these materials onsite.

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**NCG-01 GROUND COVER & MATERIALS HANDLING**



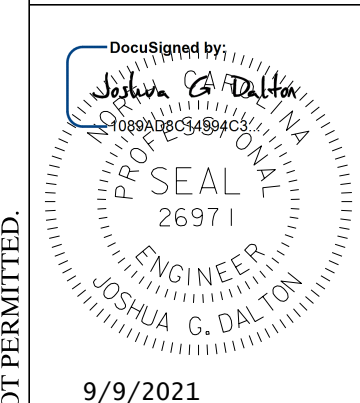
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PROJECT # : 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C600  
 DATE: 6-16-2021  
 DRAWN BY: RCH  
 REVIEWED BY:  
 REVISIONS:

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PRINCETONVILLE DIKE FLOODGATE REPAIRS  
PRINCETONVILLE, EDGECOMBE COUNTY, NC  
EROSION AND SEDIMENTATION CONTROL DETAILS

PROJECT # : 1284-20041  
DRAWING NAME: FLOODGATE RDY PSH C600  
DATE: 6-16-2021  
DRAWN BY: RCH  
REVIEWED BY:  
REVISIONS:  
SHEET NO. C6.04

Date: \_\_\_\_\_ Page: \_\_\_\_\_

**PART II, SECTION G, ITEM (4)**  
**DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT**

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

- (a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,
- (b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,
- (c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems
- (d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
- (e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
- (f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

**PART III**  
**SELF-INSPECTION, RECORDKEEPING AND REPORTING**  
**SECTION A: SELF-INSPECTION**

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend on holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those unattended days (this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "Zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours.	1. Identification of the measures inspected 2. Date and Time of the inspection 3. Name of the person performing the inspection 4. Indication of whether the measures were operating properly 5. Description of maintenance needs for the measure 6. Description, Evidence, and date of corrective actions taken
(3) Stormwater discharge outfalls(SDOs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours.	1. Identification of the discharge outfalls inspected 2. Date and Time of the inspection 3. Name of the person performing the inspection 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration 5. Indication of visible sediment leaving the site 6. Description, Evidence, and date corrective actions taken
(4) Perimeter of Site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours.	If visible Sedimentation is found outside site limits, then record of the following shall be made: 1) Actions taken to clean up or stabilize sediment that has left the site limits 2) Description, Evidence and date of corrective actions taken 3) An explanation as to the actions taken to control future releases
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours.	If the stream or wetland has increased visible sedimentation or has visible increased turbidity from the construction activity, then a record of the following shall be made: 1) Description, Evidence and date of corrective actions taken 2) Records of required reports to the appropriate Division Regional Office per Part III, Section C, Item(2)(a) of this permit
(6) Ground Stabilization Measures	After each phase of grading.	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

**PART III**  
**SELF-INSPECTION, RECORDKEEPING AND REPORTING**  
**SECTION B: RECORDKEEPING**

**1. E&SC Plan Documentation**  
The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on site and available for inspection at all times during normal business hours.

Item to Document	Document Requirements
(a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date and sign an inspection report that lists each E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC plan.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC measures.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

**2. Additional Documentation to be Kept on Site**  
In addition to the E&SC plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

- (a) This General Permit as well as the Certificate of Coverage, after it is received.
- (b) Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

**3. Documentation to be Retained for Three Years**  
All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

**PART III**  
**SELF-INSPECTION, RECORDKEEPING AND REPORTING**  
**SECTION C: REPORTING**

**1. Occurrences that Must be Reported**  
Permittees shall report the following occurrences:

- (a) Visible sediment deposition in a stream or wetland.
- (b) Oil spills if:
  - They are 25 gallons or more,
  - They are less than 25 gallons but cannot be cleaned up within 24 hours,
  - They cause sheen on surface waters (regardless of volume), or
  - They are within 100 feet of surface waters (regardless of volume).
- (c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.
- (d) Anticipated bypasses and unanticipated bypasses.
- (e) Noncompliance with the conditions of this permit that may endanger health or the environment.

**2. Reporting Timeframes and Other Requirements**  
After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

Occurrence	Reporting Timeframe (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	<ul style="list-style-type: none"> <li>• Within 24 hours, an oral or electronic notification.</li> <li>• Within 7 Calendar Days, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis.</li> <li>• If the stream is named on the NC 303(d) list as impaired for sediment-related caused, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.</li> </ul>
(b) Oil spills and release of hazardous substances per item 1(b)-(c) above	<ul style="list-style-type: none"> <li>• Within 24 Hours, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.</li> </ul>
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> <li>• A report at least ten days before the date of the bypass, if possible. The report shall include an evaluation of the anticipated quality and effect of the bypass.</li> </ul>
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> <li>• Within 24 Hours, an oral or electronic notification</li> <li>• Within 7 calendar days, a report that includes an evaluation of the quality and effect of the bypass.</li> </ul>
(e) Noncompliance with the conditions of this permit that may endanger health or the environment [40 CFR 122.41(l)(7)]	<ul style="list-style-type: none"> <li>• Within 24 Hours, an oral or electronic notification</li> <li>• Within 7 calendar days, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6).</li> <li>• Division staff may waive the requirement for a written report on a case-by-case basis.</li> </ul>



**NCG-01 SELF INSPECTION**

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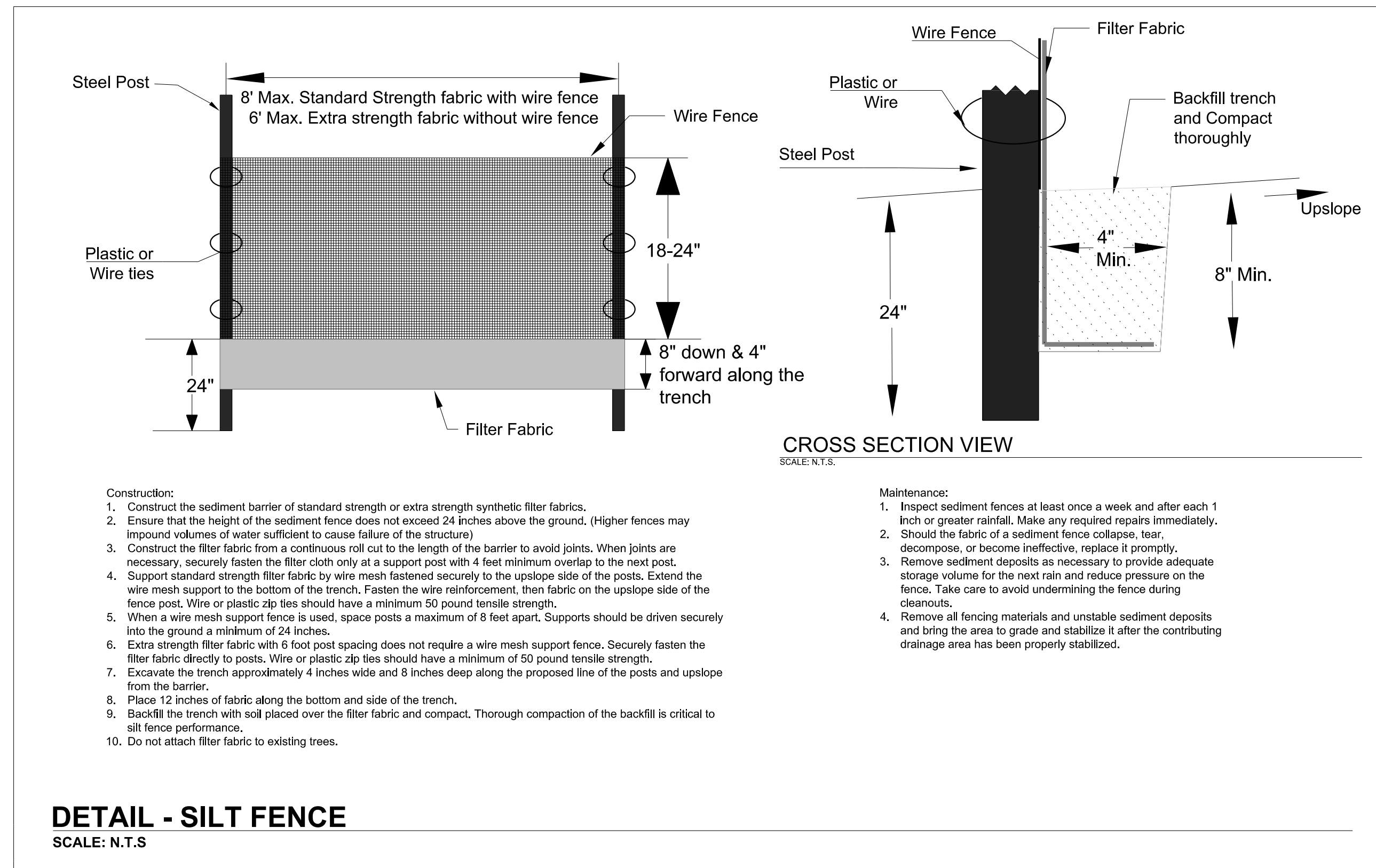
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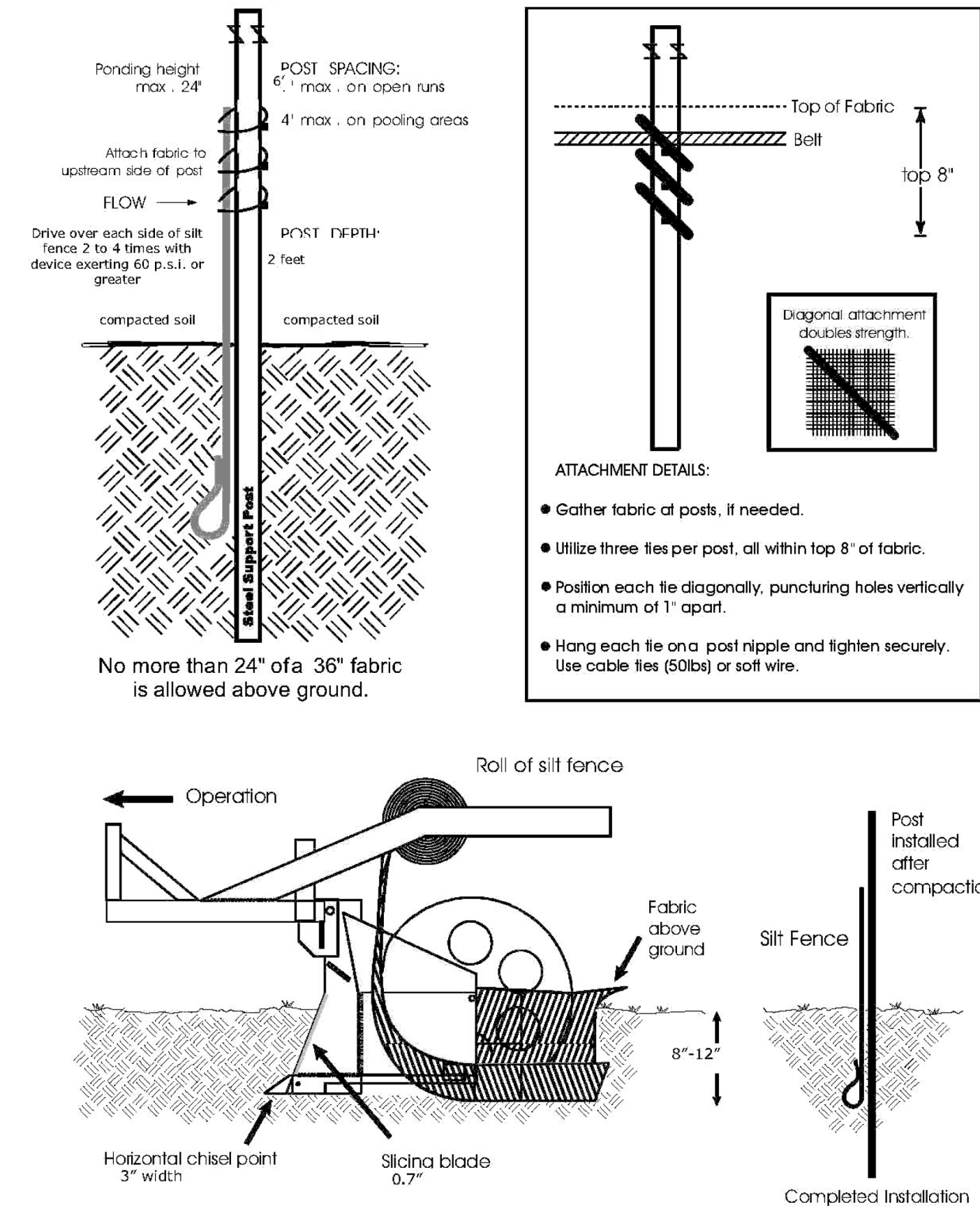
**Table 6.62b Specifications For Sediment Fence Fabric**

Temporary Silt Fence Material Property Requirements					
	Test Material	Units	Supported <sup>1</sup> Silt Fence	Un-Supported <sup>1</sup> Silt Fence	Type of Value
Grab Strength	ASTM D 4632	N (lbs)			
Machine Direction			400 (90)	550 (90)	MARV
X-Machine Direction			400 (90)	450 (90)	MARV
Permittivity <sup>2</sup>	ASTM D 4491	sec-1	0.05	0.05	MARV
Apparent Opening Size <sup>2</sup>	ASTM D 4751	mm (US Sieve #)	0.60 (30)	0.60 (30)	Max. ARV <sup>3</sup>
Ultraviolet Stability	ASTM D 4355	% Retained Strength	70% after 500h of exposure	70% after 500h of exposure	Typical

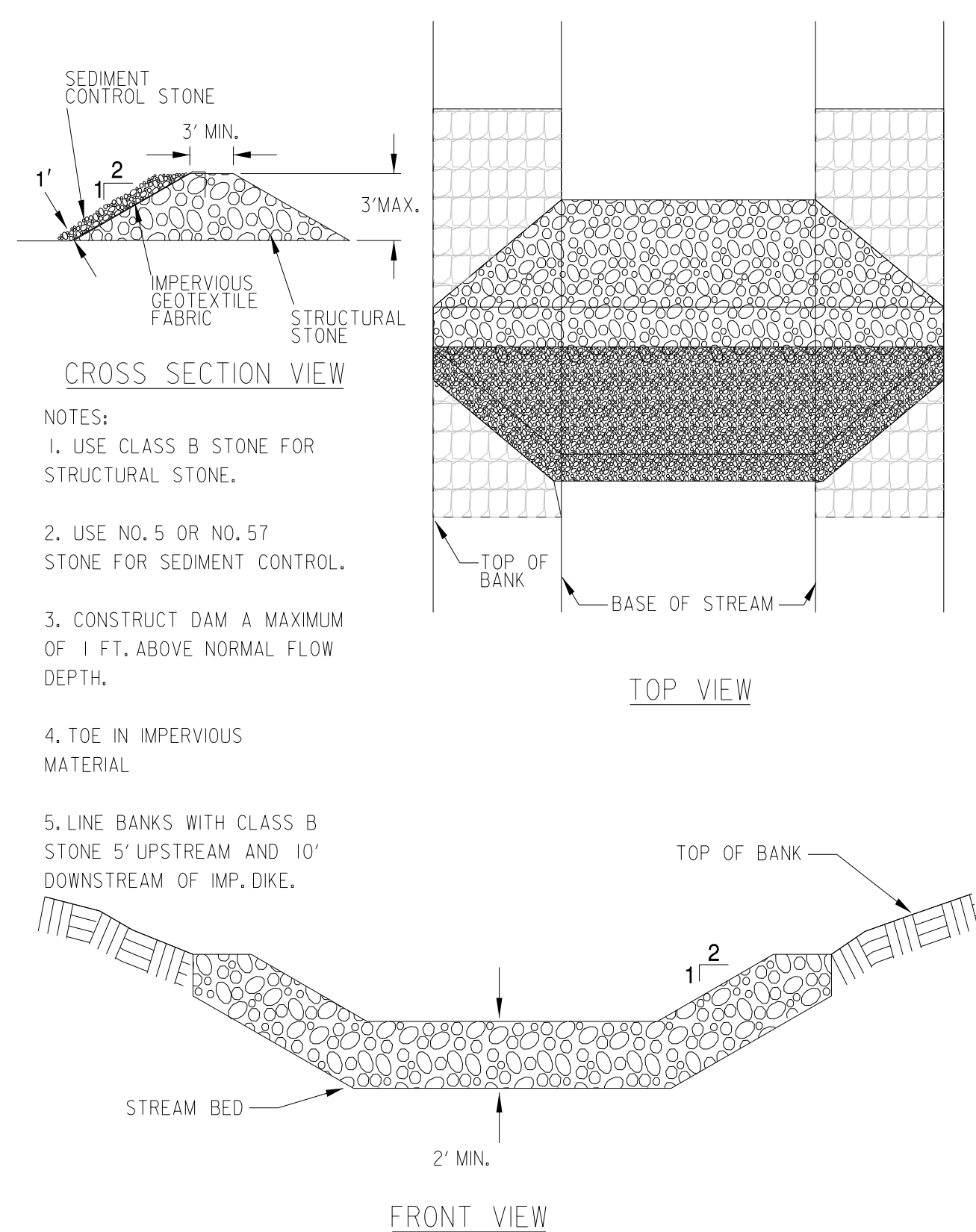
<sup>1</sup> Silt Fence support shall consist of 14 gage steel wire with a mesh spacing of 150 mm (6 inches), or prefabricated polymer mesh of equivalent strength.  
<sup>2</sup> These default values are based on empirical evidence with a variety of sediment. For environmentally sensitive areas, a review of previous experience and/or site or regionally specific geotextile tests in accordance with Test Method D 5141 should be performed by the agency to confirm suitability of these requirements.  
<sup>3</sup> As measured in accordance with Test Method D 4632.



**The Slicing Method**







CROSS SECTION VIEW

TOP VIEW

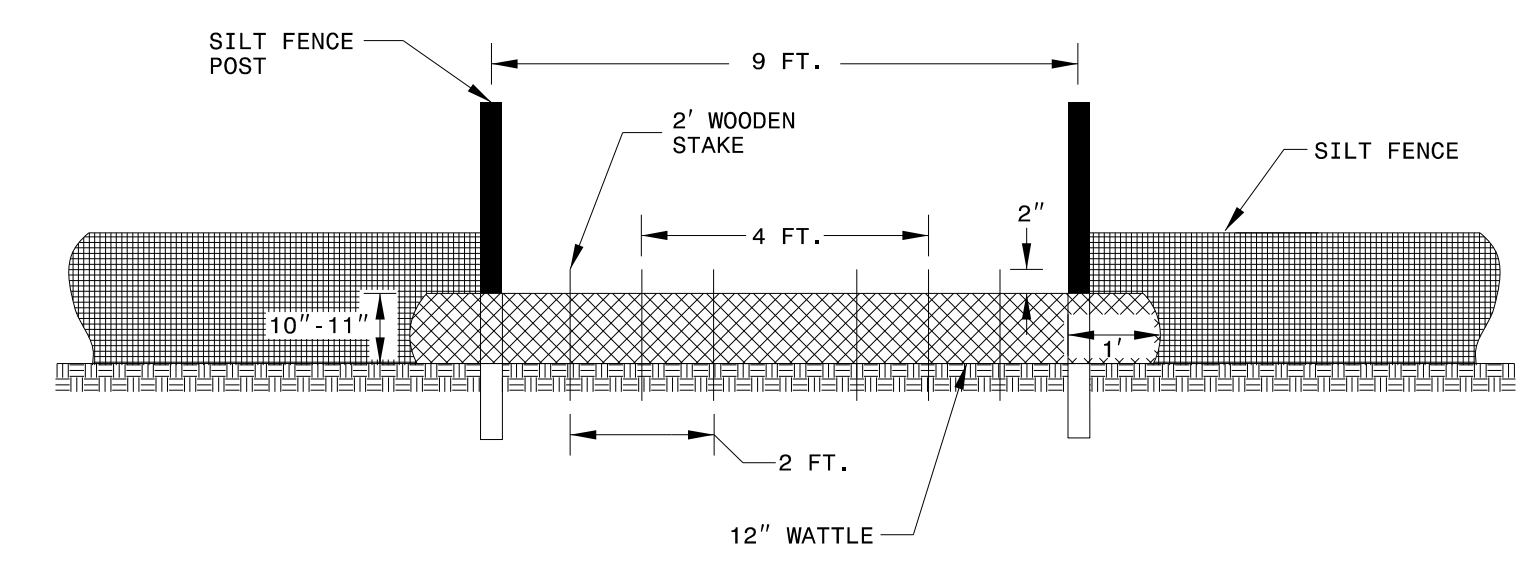
FRONT VIEW

NOTES:

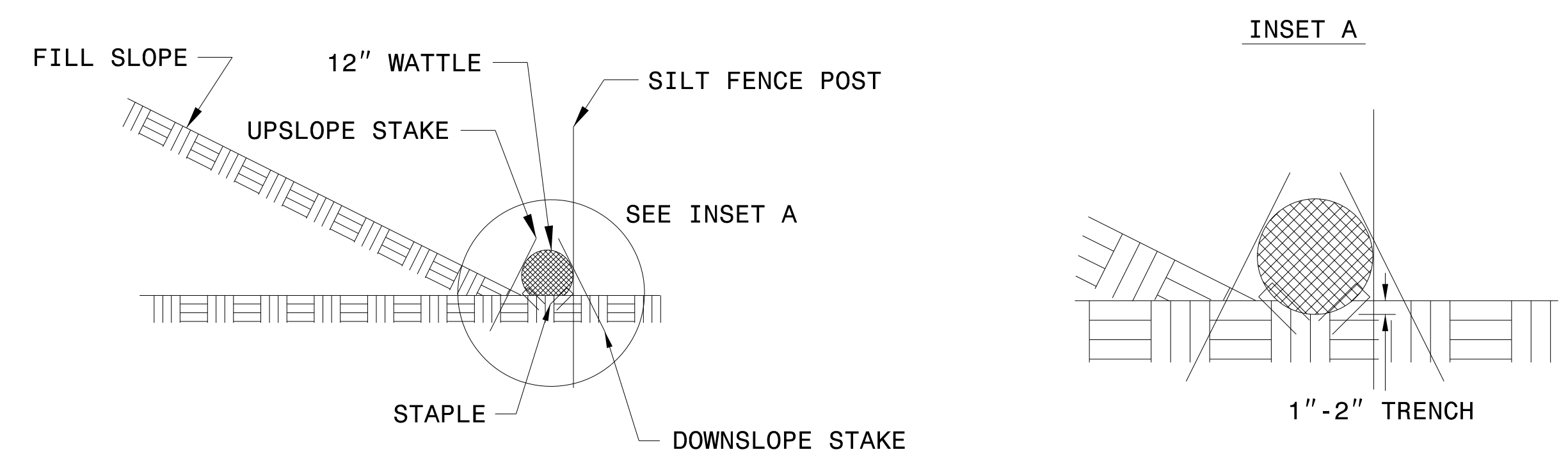
1. USE CLASS B STONE FOR STRUCTURAL STONE.
2. USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL.
3. CONSTRUCT DAM A MAXIMUM OF 1 FT. ABOVE NORMAL FLOW DEPTH.
4. TOE IN IMPERVIOUS MATERIAL
5. LINE BANKS WITH CLASS B STONE 5' UPSTREAM AND 10' DOWNSTREAM OF IMP. DIKE.

**DETAIL - IMPERVIOUS DIKE - STONE LINED WITH POLYPROPYLENE**  
SCALE: N.T.S

- CONSTRUCTION SEQUENCE:**
- PREPARE THE CHANNEL AND OVERBANKS FOR INSTALLATION.
  - REMOVE ALL BRANCHES AND DEBRIS FROM THE AREA WHERE THE STONE DIKE WILL BE PLACED.
  - MAKE SURE THAT THERE ARE NO SHARP ROCKS OR ROOTS THAT CAN PUNCTURE THE GEOTEXTILE.
  - DO NOT EXCAVATE THE EXISTING CHANNEL OR BANKS.
  - PLACE THE HIGH TENSILE IMPERVIOUS GEOTEXTILE WITH THE CENTER OVER THE PROPOSED DIKE UTILIZE A SMALL AMOUNT OF STONE TO HOLD DOWN THE GEOTEXTILE WHILE ADJUSTMENTS ARE BEING MADE.
  - THERE SHOULD BE ENOUGH EXTRA GEOTEXTILE ON EACH SIDE OF THE DIKE TO WRAP UP AND OVER THE STONE DIKE TO MAKE IT IMPERVIOUS.
  - PILE STONE ON TOP OF THE GEOTEXTILE TO CREATE THE DIKE STRUCTURE.
  - ROLL GEOTEXTILE UP OVER THE STONE TO FORM AN IMPERVIOUS DIKE.
  - ROLL THE TOP LAYER FROM THE UPSTREAM TO DOWNSTREAM DIRECTION. SECURE GEOTEXTILE WITH METAL FENCE STAKES OR OTHER SUITABLE MATERIAL.
- MAINTENANCE:**
- PERIODICALLY INSPECT DIKE FOR DAMAGE AND LEAKS AND REPAIR AS NEEDED.
  - REMOVE IMPOUNDED TRASH AND SEDIMENT.



VIEW FROM SLOPE



SIDE VIEW

INSET A

**DETAIL - SILT FENCE COIR FIBER WATTLE BREAK**  
SCALE: N.T.S

- MAINTENANCE:**
- IF THE NATURAL FIBERS OF THE WATTLE BECOME TOO SATURATED WITH DEBRIS AND SEDIMENT AND REMOVAL OF THE ITEMS IS NOT POSSIBLE, WATTLE BREAKS SHOULD BE REPLACED.
  - STAKES SHOULD BE USED TO ANCHOR THE WATTLE BREAKS ADEQUATELY TO THE GROUND TO PREVENT SCOURING AND WASHOUT DURING STORM EVENTS.

**CONSTRUCTION SPECIFICATIONS:**

INNER MATERIAL	- COCONUT FIBERS
DIMENSIONS	- MINIMUM DIAMETER OF 12 INCHES AND A MAXIMUM OF 20 INCHES - LENGTH OF 10 FEET - DENSITY OF 3.5 LB/FT <sup>3</sup>

**NOTES:**

- USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE AND LENGTH OF 10 FT.
- EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.
- DO NOT PLACE WATTLE ON TOE OF SLOPE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.
- PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
- INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
- WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.
- INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

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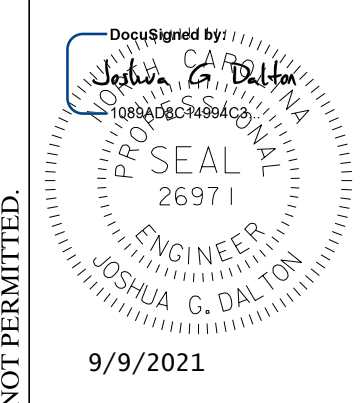
DocuSigned by:  
*Joshua G. Dalton*  
PROJECT SEAL  
26971  
ENGINEER  
JOSHUA G. DALTON  
9/9/2021

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**PRINCETONVILLE DIKE FLOODGATE REPAIRS**  
PRINCETONVILLE, EDGECOMBE COUNTY, NC  
**EROSION AND SEDIMENTATION CONTROL DETAILS**

PROJECT # : 1284-20041  
DRAWING NAME: FLOODGATE RDY PSH C606  
DATE: 6-16-2021  
DRAWN BY:  
REVIEWED BY: RCH  
REVISIONS:  
SHEET NO. **C6.06**



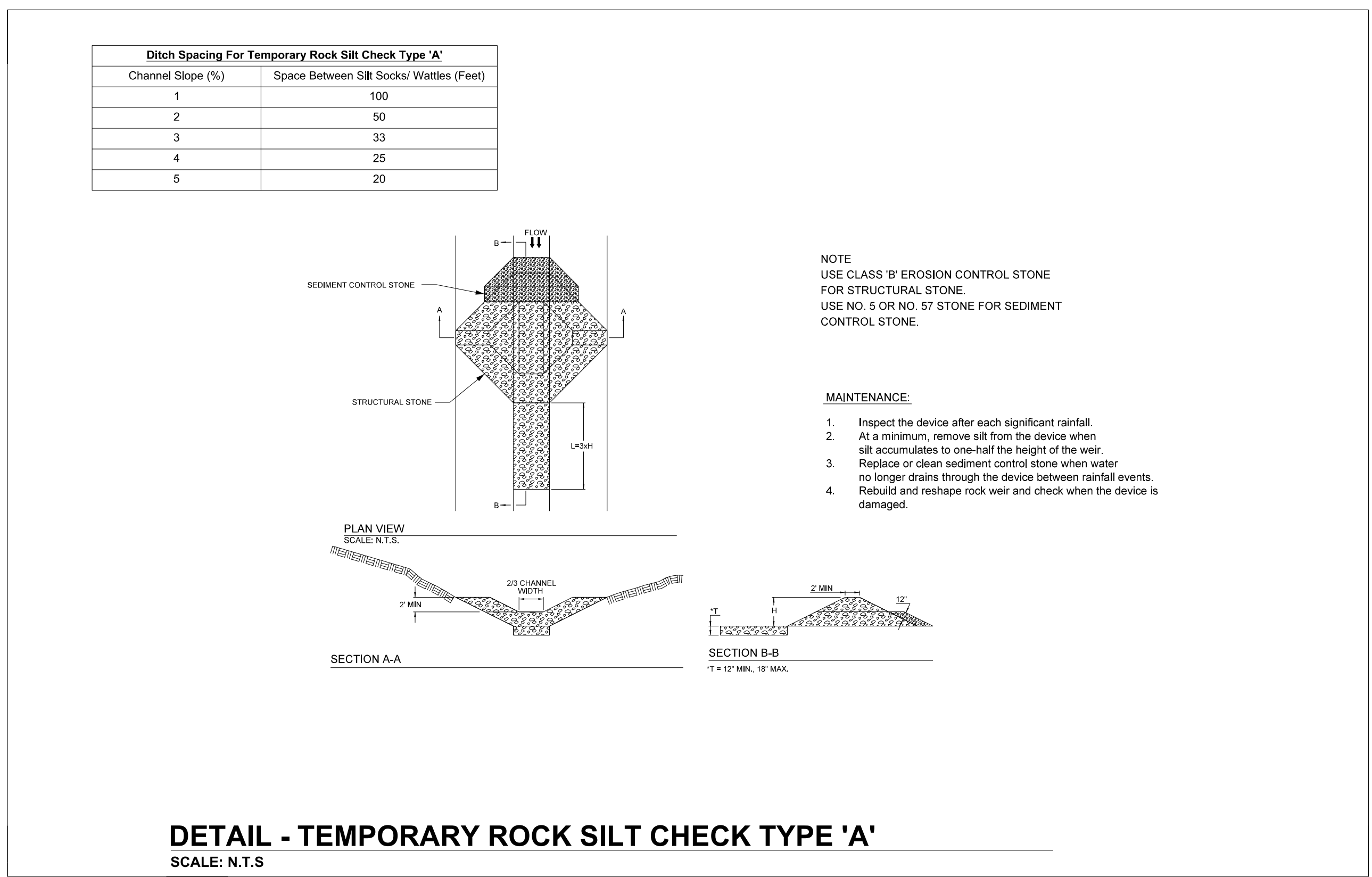


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**PRINCETONVILLE DIKE FLOODGATE REPAIRS**  
 PRINCETONVILLE, EDGEcombe COUNTY, NC  
**EROSION AND SEDIMENTATION CONTROL DETAILS**

PROJECT # : 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C600  
 DATE: 6-16-2021  
 DRAWN BY:  
 REVIEWED BY: RCH  
 REVISIONS:  
 SHEET NO. **C6.07**

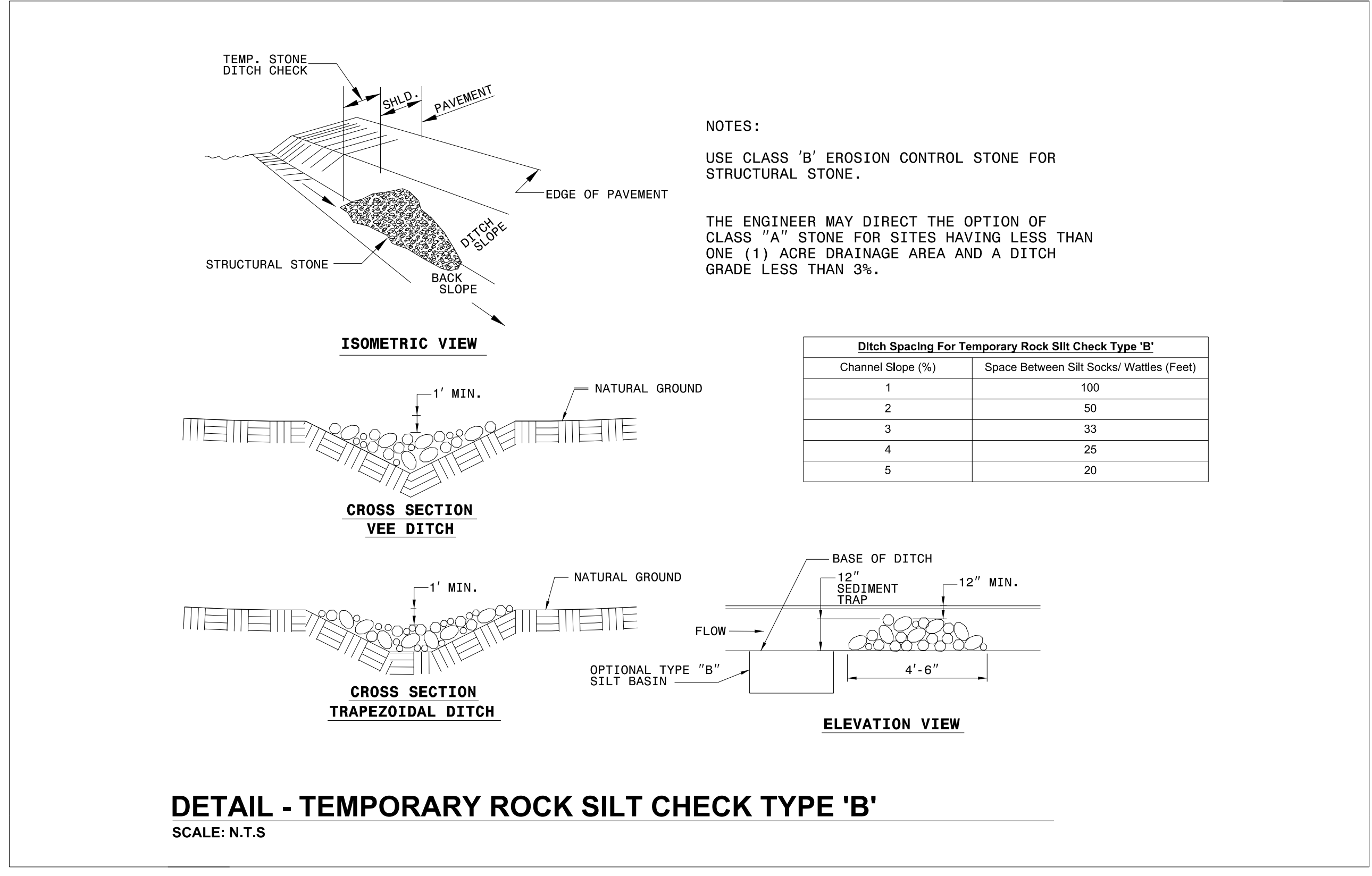
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Construction Specifications:

Structural Stone	- Use Class B structural stone. - Install stone at a minimum depth of 12 inches. - Install sediment control stone on the upgradient face of the structural stone.
Side Slopes	- 2:1 or flatter.
Weir	- Weir length should be $\frac{2}{3}$ of the channel width. - The weir height shall be a minimum of 1 foot. - The depth of the weir shall be a minimum of 1 foot.

- Maintenance:
- Inspect the device periodically and after each significant rainfall event for damage and sediment accumulation.
  - Remove sediment when accumulation reaches one-half the height of the weir.
  - Replace or clean sediment control stone when water no longer drains through the device between rainfall events.
  - Rebuild and reshape rock weir and check when the device is damaged.

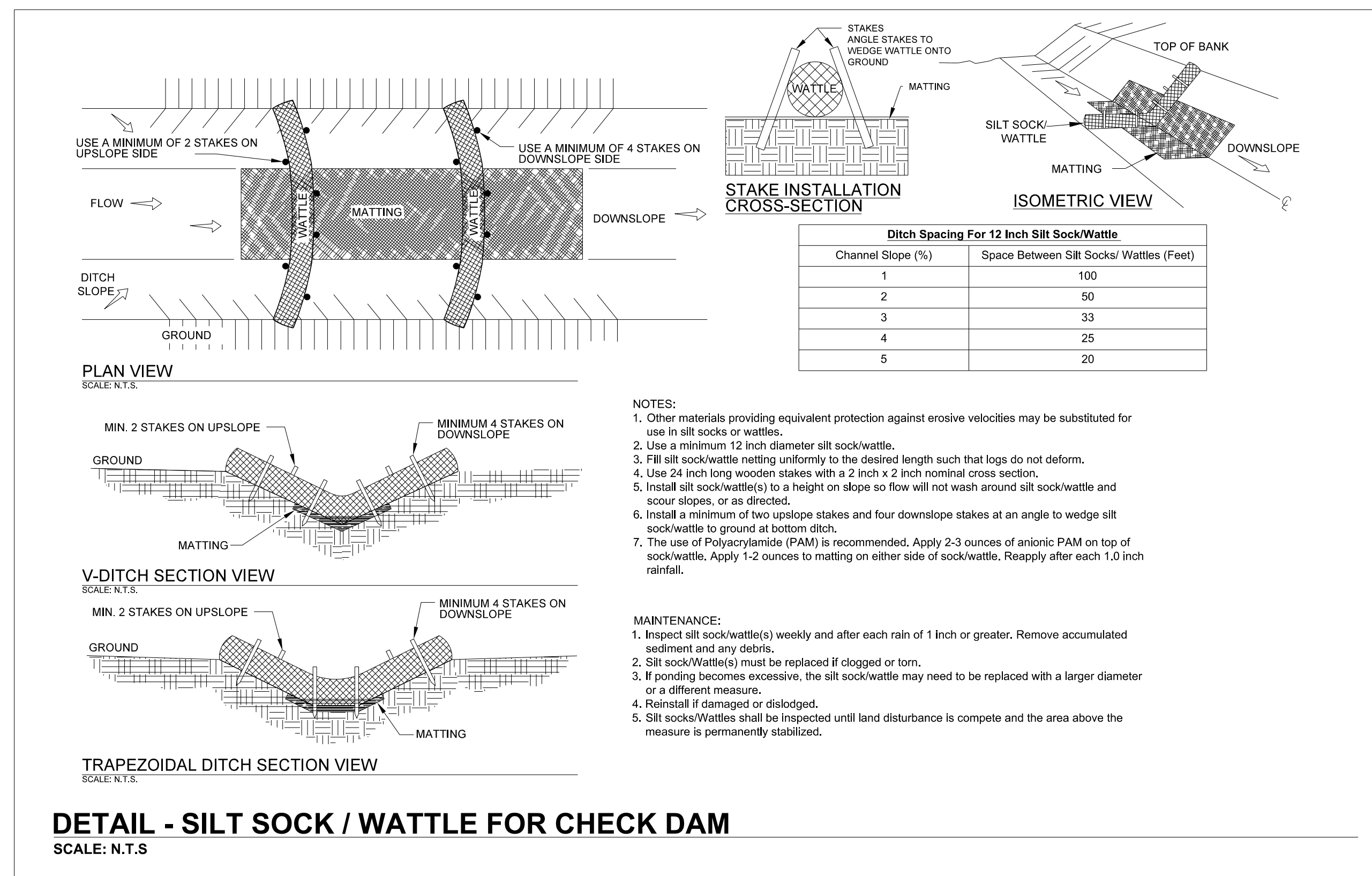


Construction Specifications:

Installation	- The center of the rock silt check shall be at least 1-foot lower than the outer edges (top of the channel sides). - The maximum height at the center of the rock check should not exceed 2 feet. - The side slopes of the check shall be 2:1 or flatter.
Slope	- Maximum spacing between the checks should place the toe of the upstream check at the top of the downstream check.

- Maintenance:
- Inspect the device periodically and after each significant rainfall event for damage and sediment accumulation.
  - Remove silt from device when it accumulates.
  - Rebuild and reshape device and weir when the device is damaged or as necessary.
  - Cleanout when clogged by straw, limbs, or other debris.



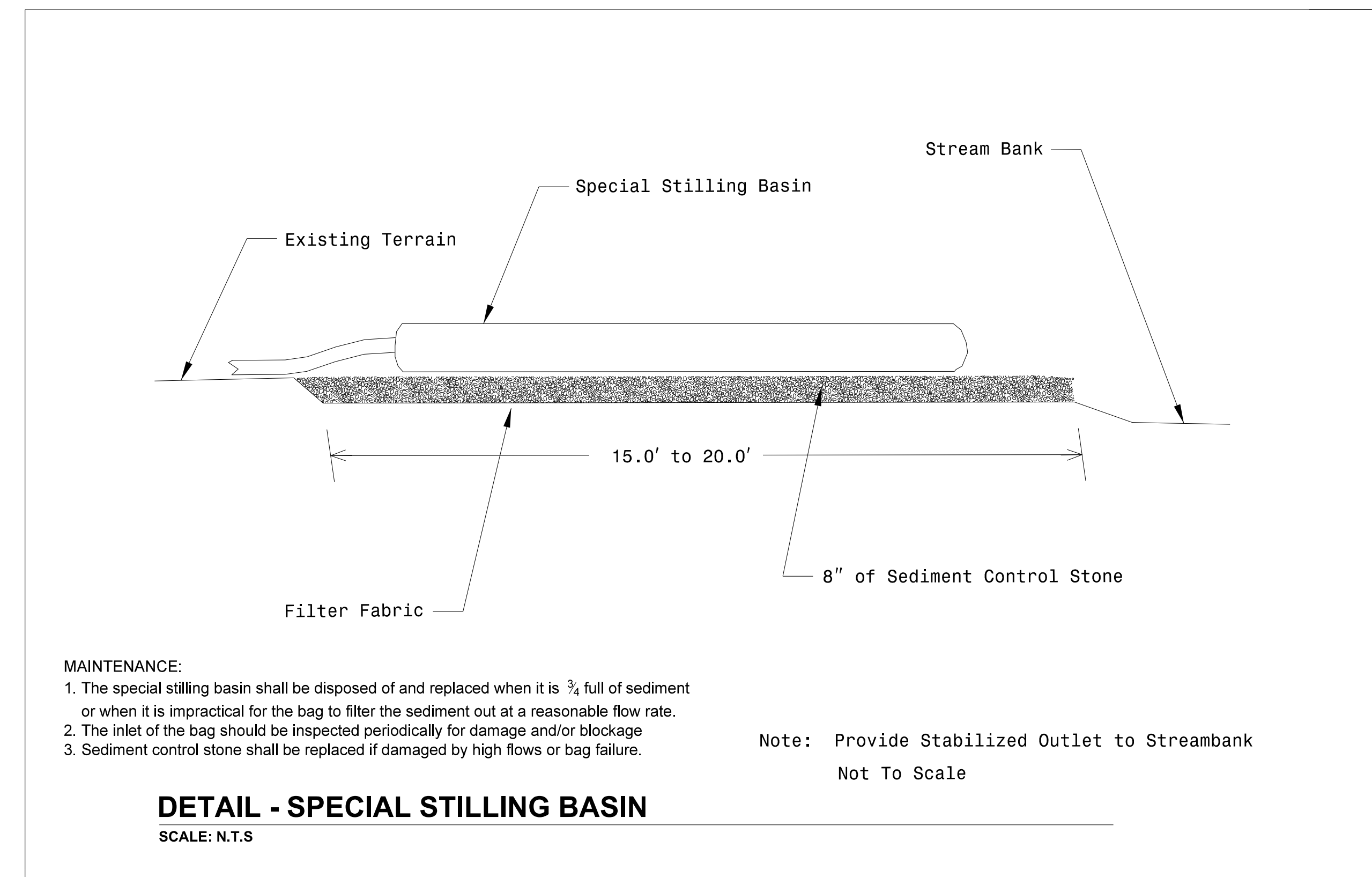


Construction Specifications:

Matting	- Install matting in accordance with Section 1631 of the Standard Specifications.
Staples	- Provide staples made of 0.125-inch diameter steel wire formed into a U-shape no less than 12 inches in length. - Install staples approximately every 1 foot on both sides of the wattle and at each end to secure it to the soil.
Stakes	- Use 2-foot wooden stakes with a 2-inch by 2-inch nominal cross section. - Install a minimum of 2 upslope stakes and 4 downslope stakes at an angle to wedge the wattle to the bottom of the ditch. - Drive stakes into the ground a minimum of 10 inches with no more than 2 inches projecting from the top of the wattle.
Flocculant	- Flocculant shall be in powder form and anionic and neutrally charged. - Soil samples should be obtained from areas where wattles will be placed and from off-site material used to construct the roadway. Samples should be analyzed to determine the appropriate flocculant to be used in each wattle. - Flocculant used should be listed on the NCDENR DWR website as an approved product for use in North Carolina. - Flocculant should be applied over the lower center portion of the wattle where the water will flow at a rate of 2 ounces per wattle. - Apply 1 ounce of flocculant on each side of the wattle. - Flocculant should be evaluated and applied after every rainfall event that is equal to or exceeds 0.5 inches.
Overlap	- Overlap adjoining sections of wattles a minimum of 1 foot.

Maintenance:

- The upstream side of the wattle should be maintained to allow the water to flow through, reduce velocity, distribute flocculant and allow sedimentation to occur.
- If the natural fibers of the wattle become too saturated with debris, sediment, etc., and removal of these items is not possible, the wattle should be replaced.
- Stakes should be used to anchor the wattle adequately to the ground to prevent scouring and washout during storm events.
- Maintain excelsior pad beneath the wattle.



MAINTENANCE:

1. The special stilling basin shall be disposed of and replaced when it is  $\frac{3}{4}$  full of sediment or when it is impractical for the bag to filter the sediment out at a reasonable flow rate.
2. The inlet of the bag should be inspected periodically for damage and/or blockage
3. Sediment control stone shall be replaced if damaged by high flows or bag failure.

Note: Provide Stabilized Outlet to Streambank  
Not To Scale

Construction Specifications:

Special Stilling Basin	- The bag shall be placed on a rock pad constructed of at least 8 inches of sediment control stone. The bag may also be placed on wooden pallets to elevate it above natural ground. - The rock pad should extend at least 1 foot past the bag on all sides. - The special stilling basin should be placed on level ground. - The special stilling basin shall be placed so that incoming water flows into the bag without causing erosion. - Temporary slope drain pipe(s) or pump discharge hoses will be attached to the special stilling basin(s) so that water is routed directly into the special stilling basin(s). - The special stilling basin may be cut to allow slope drain pipe to be inserted if needed and tied off tightly. The remaining sleeve or spout of the bag, if present, may be used to connect more than one special stilling basin in series, as directed. If not used in this manner, the sleeve shall be tied off tightly to allow the bag to contain the effluent and force it to filter through the sides of the special stilling basin. - When being utilized in drilled pier construction, the special stilling basin should be constructed such that it is portable and can be used adjacent to each drilled pier.
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Maintenance:

- The special stilling basin shall be disposed and replaced when it is  $\frac{3}{4}$  full of sediment or when it is impractical for the bag to filter the sediment out at a reasonable flow rate.
- The inlet of the bag should be inspected periodically for damage and/or blockage.
- Sediment control stone shall be replaced if damaged by high flows or bag failure.

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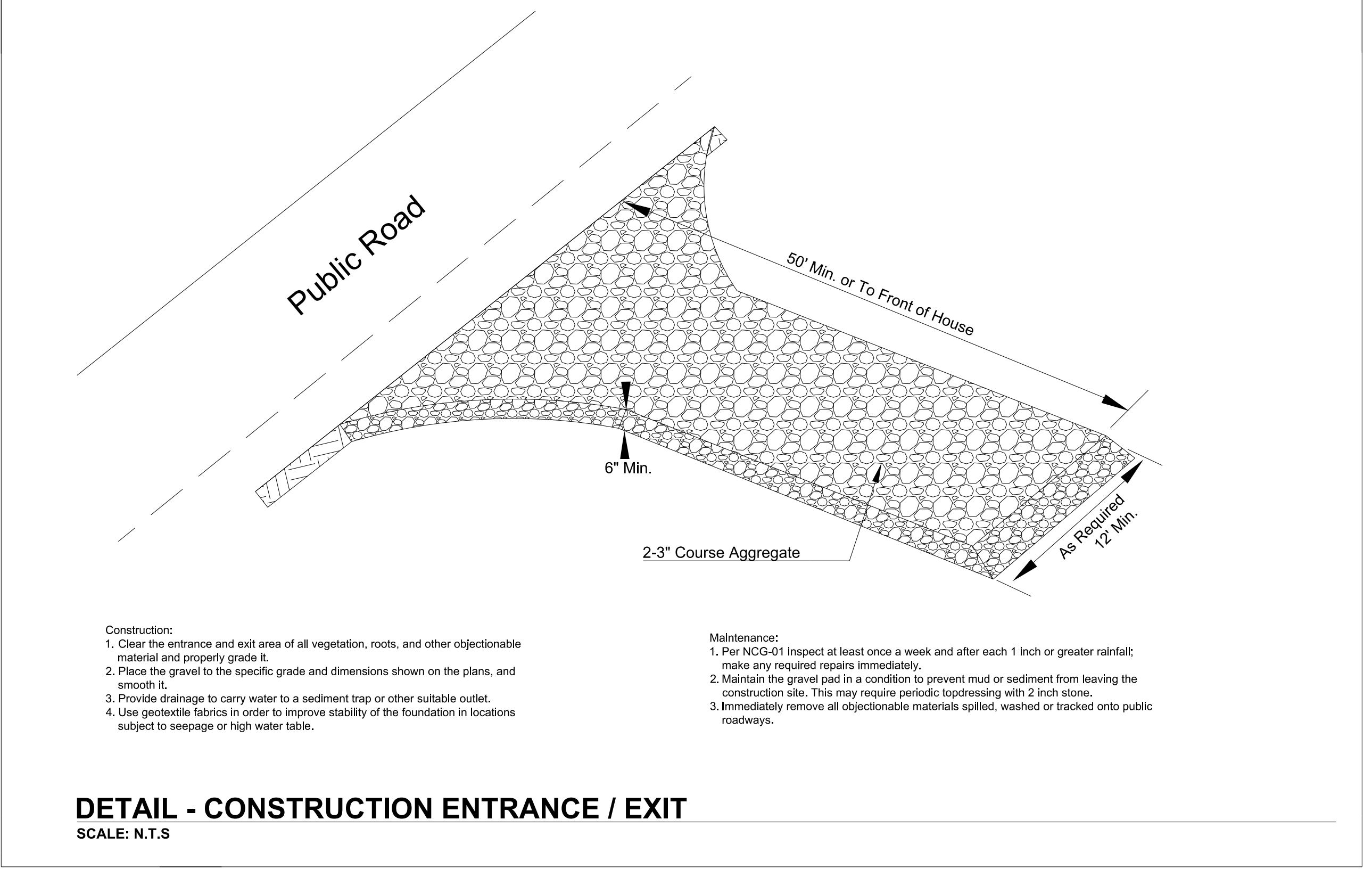
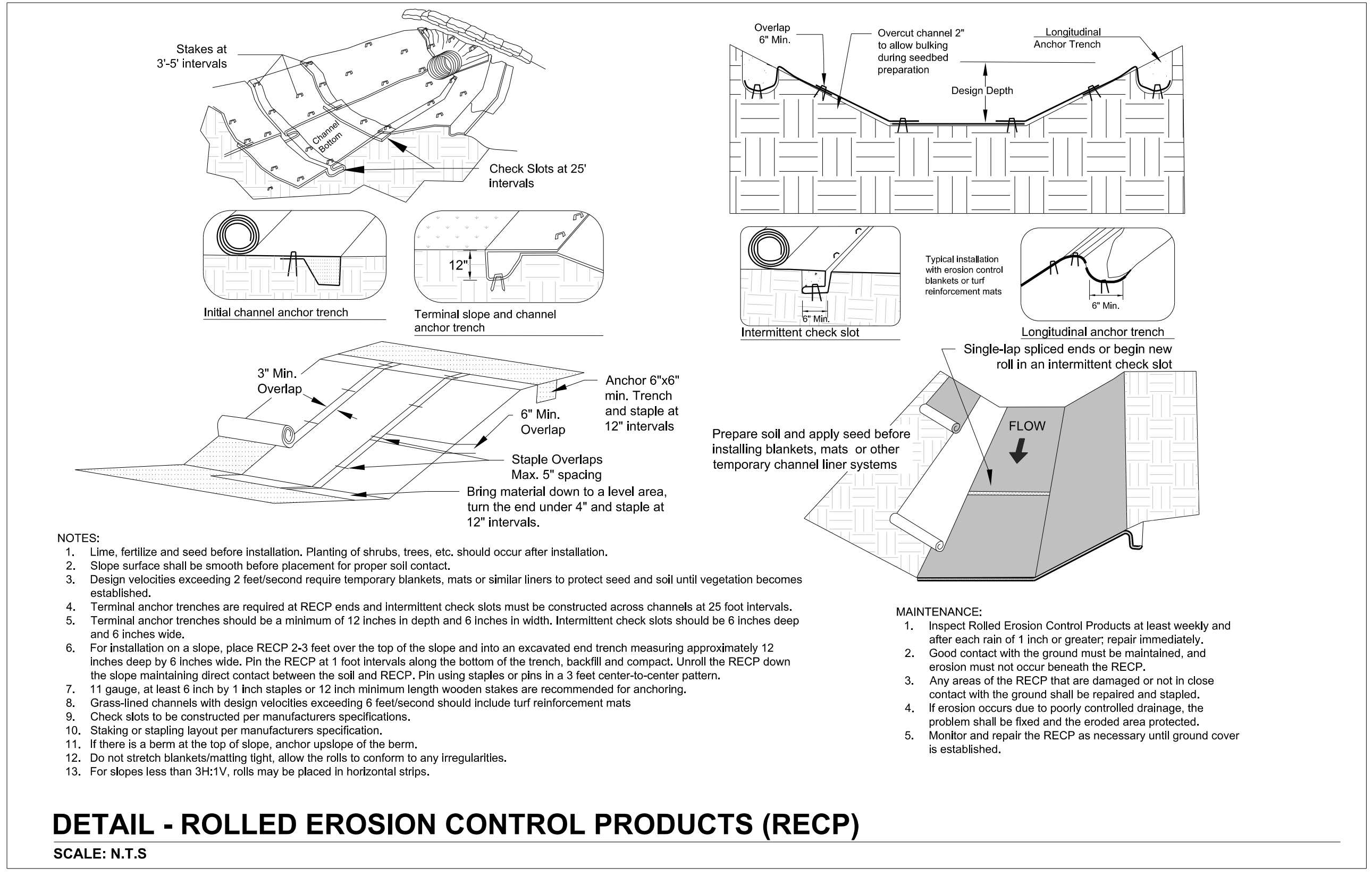
PRINCETONVILLE DIKE FLOODGATE REPAIRS  
PRINCETONVILLE, EDGECOMBE COUNTY, NC  
EROSION AND SEDIMENTATION CONTROL DETAILS

PROJECT # : 1284-2004I  
DRAWING NAME: FLOODGATE RDY PSH C600  
DATE: 6-16-2021  
DRAWN BY: RCH  
REVIEWED BY: RCH  
REVISIONS:

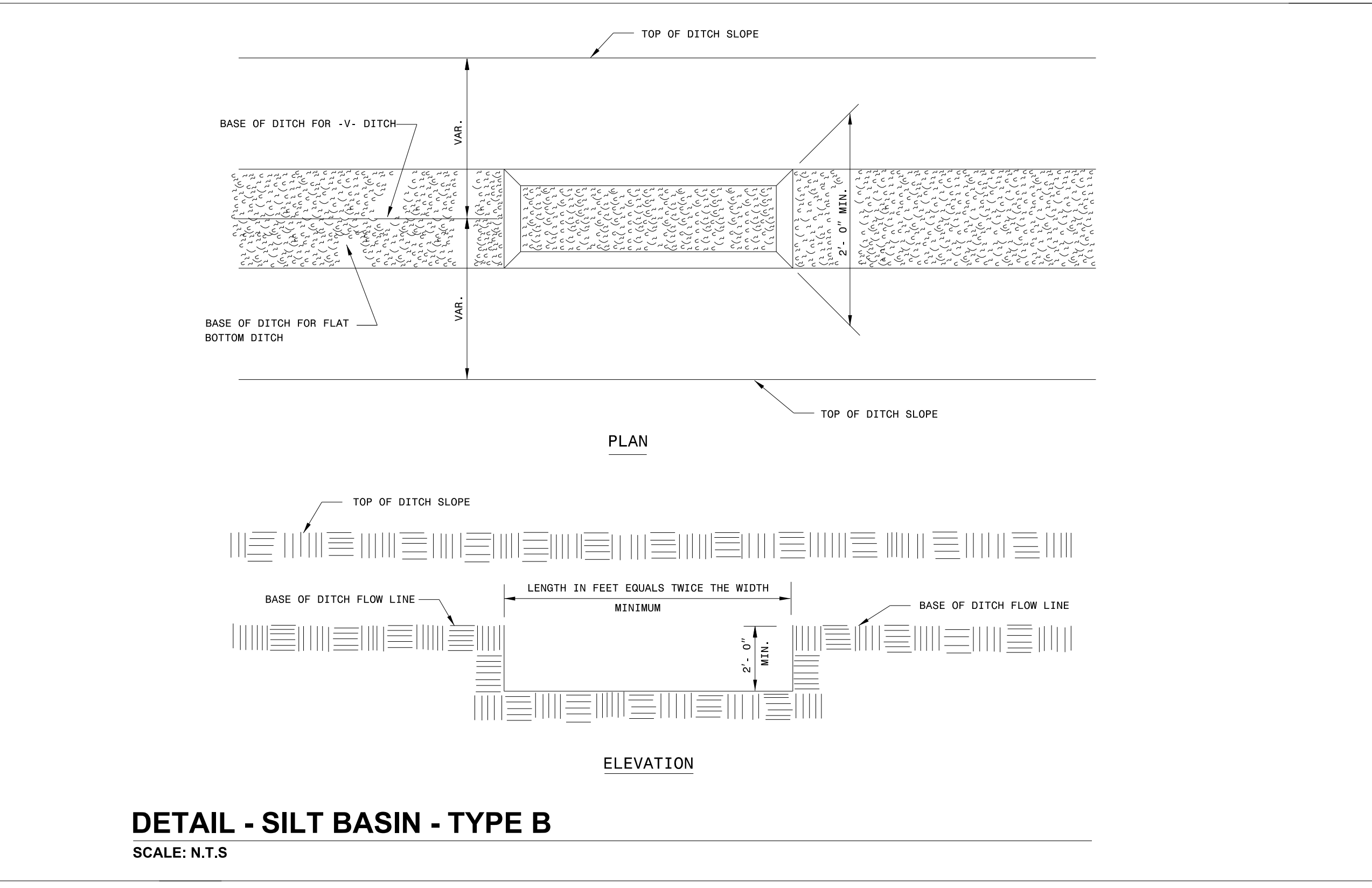
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**DETAIL - SILT BASIN - TYPE B**  
SCALE: N.T.S

**Construction Specifications:**

Silt Basin - Type B	<ul style="list-style-type: none"> <li>- Construct basins with an excavated depth of at least 2 feet from the base of the ditch flow line.</li> <li>- Construct basins with non-vertical side slopes and not greater than 1.5:1 slope.</li> <li>- For silt basins at drainage outlets, install a minimum of 3 coir fiber baffles in the basin, with a spacing of 1/4 the basin length and in accordance with Section 1640 of the Standard Specifications.</li> <li>- Install a minimum of 2 coir fiber baffles in basins with less than 20 feet of length at a spacing of 1/3 the basin length.</li> </ul>
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**Maintenance:**

- Inspect the basin on a regular basis and after every significant rainfall event (1/2 inch or greater).
- At a minimum, clean out the basins when they are approximately one-half full.
- Check for damage to coir fiber baffles and repair and/or replace the baffles.

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Designed by  
*Joshua G. Dalton*  
Checked by  
*Joshua G. Dalton*  
Professional Engineer  
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JOSHUA G. DALTON  
9/9/2021

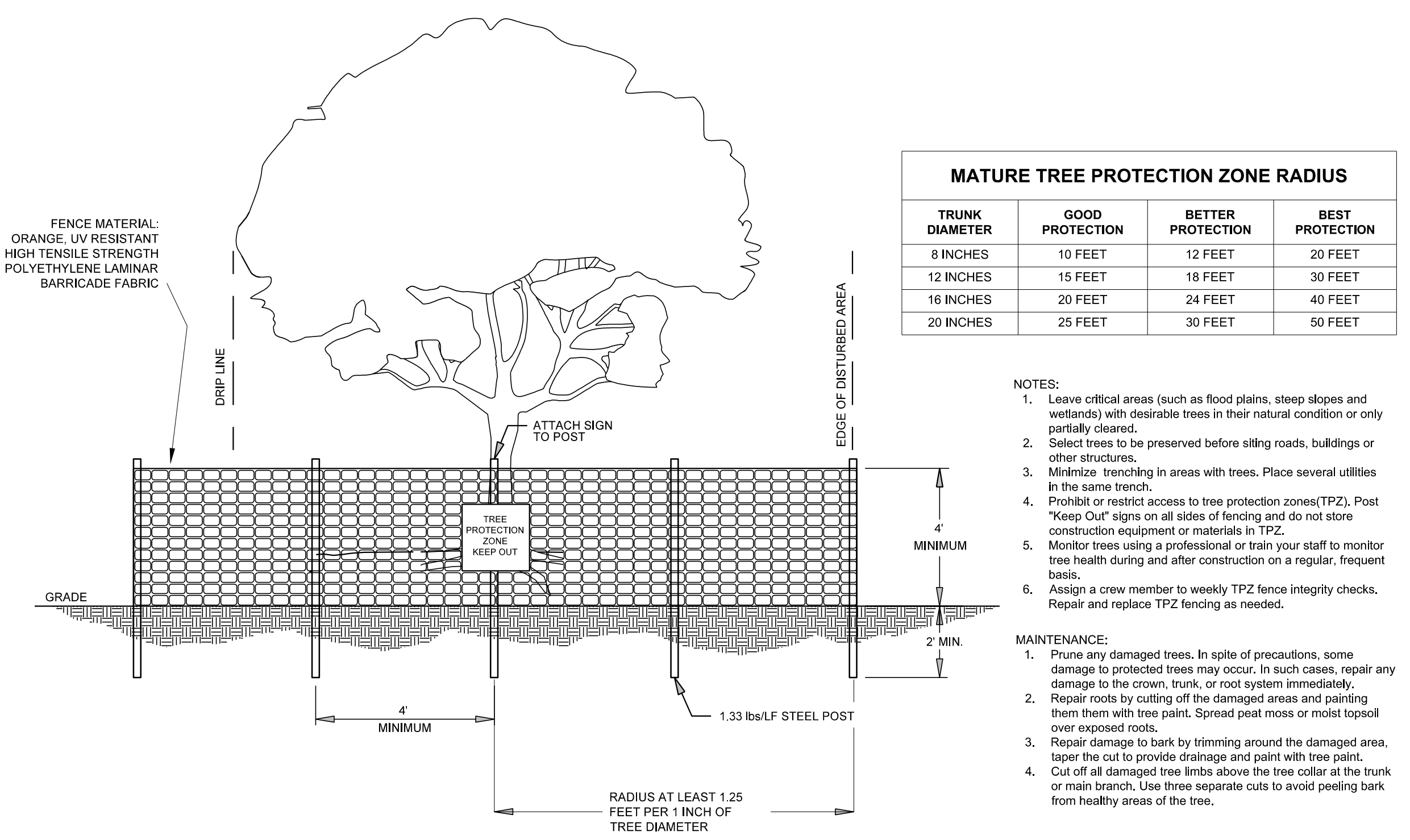
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**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
PRINCEVILLE, EDGECOMBE COUNTY, NC  
**EROSION AND SEDIMENTATION CONTROL DETAILS**

PROJECT # :	1284-20041
DRAWING NAME:	FLOODGATE RDY PSH C600
DATE:	6-16-2021
DRAWN BY:	RCH
REVIEWED BY:	RCH
REVISIONS:	

SHEET NO.  
**C6.10**





**DETAIL - TREE PROTECTION ZONES**  
SCALE: N.T.S.

**Design Criteria**

The following general criteria should be considered when developing sites in wooded areas:

- Leave critical areas (such as flood plains, steep slopes and wetlands) with desirable trees in their natural condition or only partially cleared.
- Locate roadways, storage areas, and parking pads away from valuable tree stands. Follow natural contours, where feasible, to minimize cutting and filling in the vicinity of trees.
- Select trees to be preserved before siting roads, buildings, or other structures.
- Minimize trenching in areas with trees. Place several utilities in the same trench.
- Designate groups of trees and individual trees to be saved on the erosion and sedimentation control plan.
- Do not excavate, traverse, or fill closer than the drip line, or perimeter of the canopy, of trees to be saved.**

**Construction Specifications**

- Erect TPZ fences.** Restrict access to TPZs, with tall, bright, protective fencing. Most fencing is inexpensive and durable enough to last throughout most construction projects. Temporary tree protection fencing should be erected before clearing, deliveries and other construction activities begin on the site.
- Prohibit or restrict access to TPZs.** All on-site workers should be aware of the TPZs and the restrictions on activities within the zones. Use these TPZ guidelines for the best effect:
  - Post "keep out" signs on all sides of fencing. Do not store construction equipment or materials in TPZs.
  - Prohibit construction activities near the most valuable trees, and restrict activities around others.
  - Assess crew and contractor penalties, if necessary, to keep the TPZs intact.
- Monitor trees.** Vigilance is required to protect trees on construction sites. Use a tree professional or train your staff to monitor tree health during and after construction on a regular, frequent basis. Watch for signs of tree stress, such as dieback, leaf loss, or general decline in tree health or appearance.
- Monitor TPZ fences.** Assign a crewmember the weekly responsibility of checking the integrity of TPZ fences. Repair and replace TPZ fencing as needed.
- Optimize tree health.** Assign a trained crewmember or hire a professional to complete regular tree maintenance tasks, including watering, fertilization, and mulching to protect tree roots. Consult a tree professional for advice on these practices if needed. Survival of protected trees will increase if these practices continue during construction. Healthy trees require undisturbed healthy soils. Do not cause injuries to trees and roots. Do not change the soil, grade, drainage, or aeration without protecting priority trees

Figure 6.05c Tree protection zone guidelines.

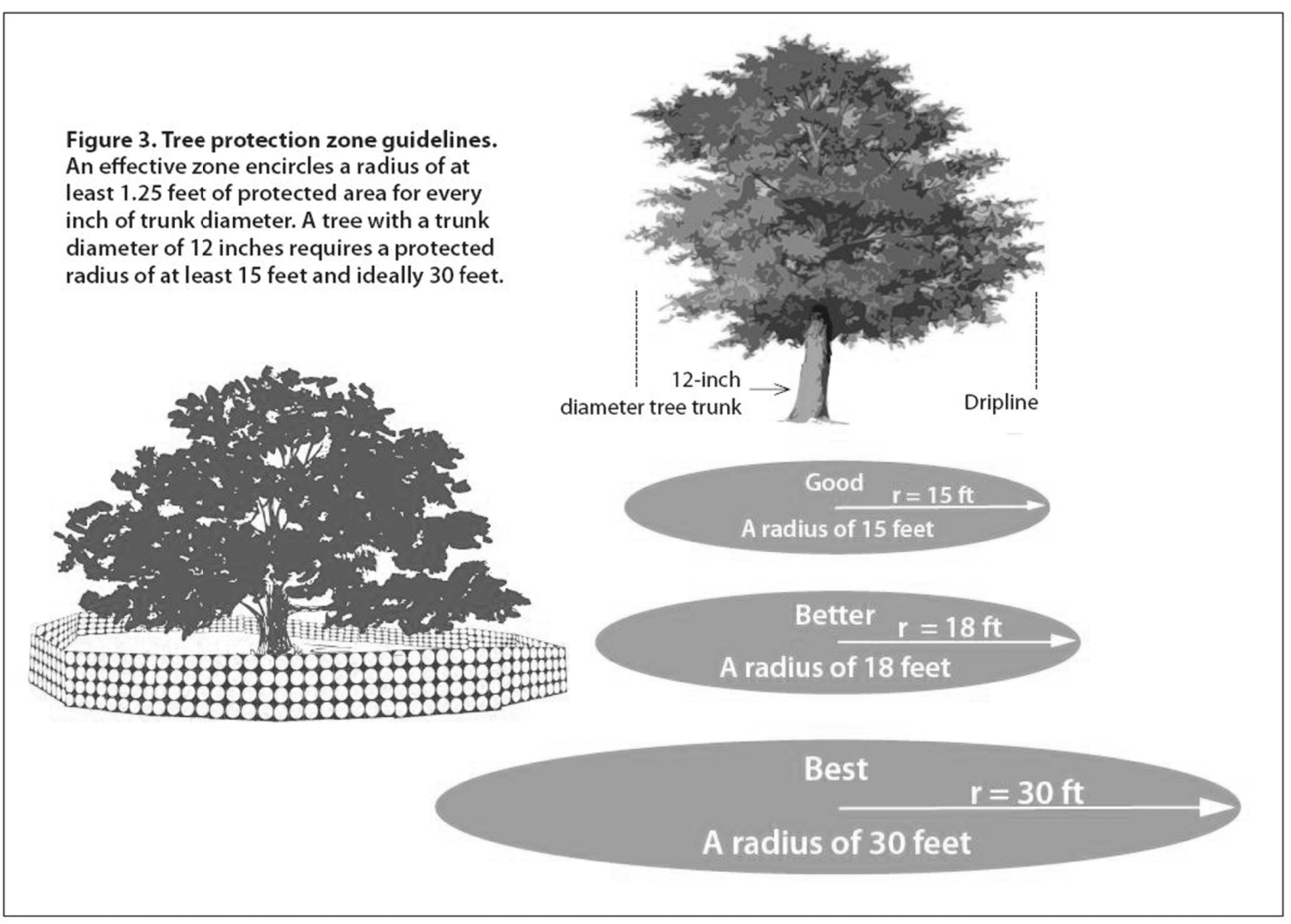
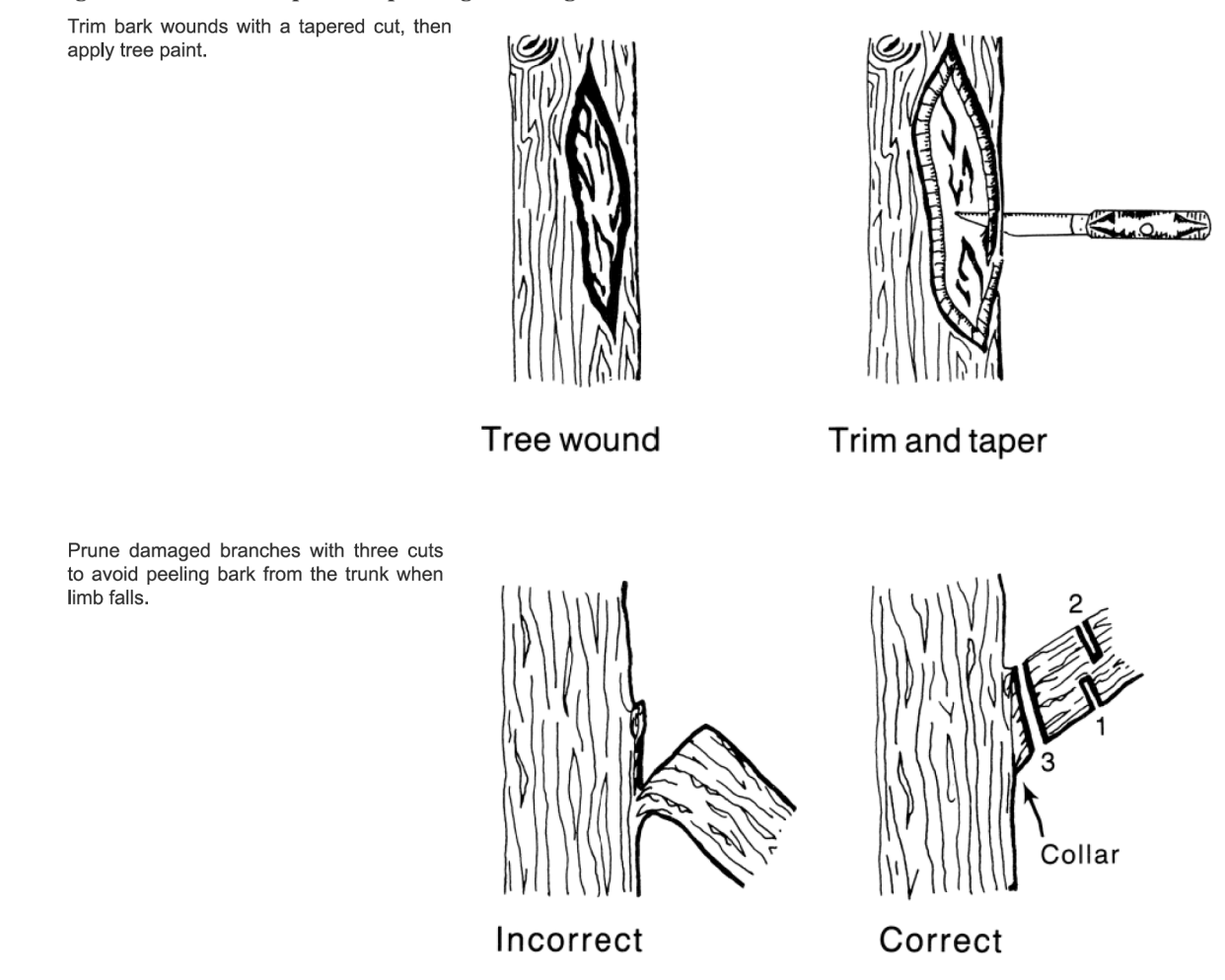
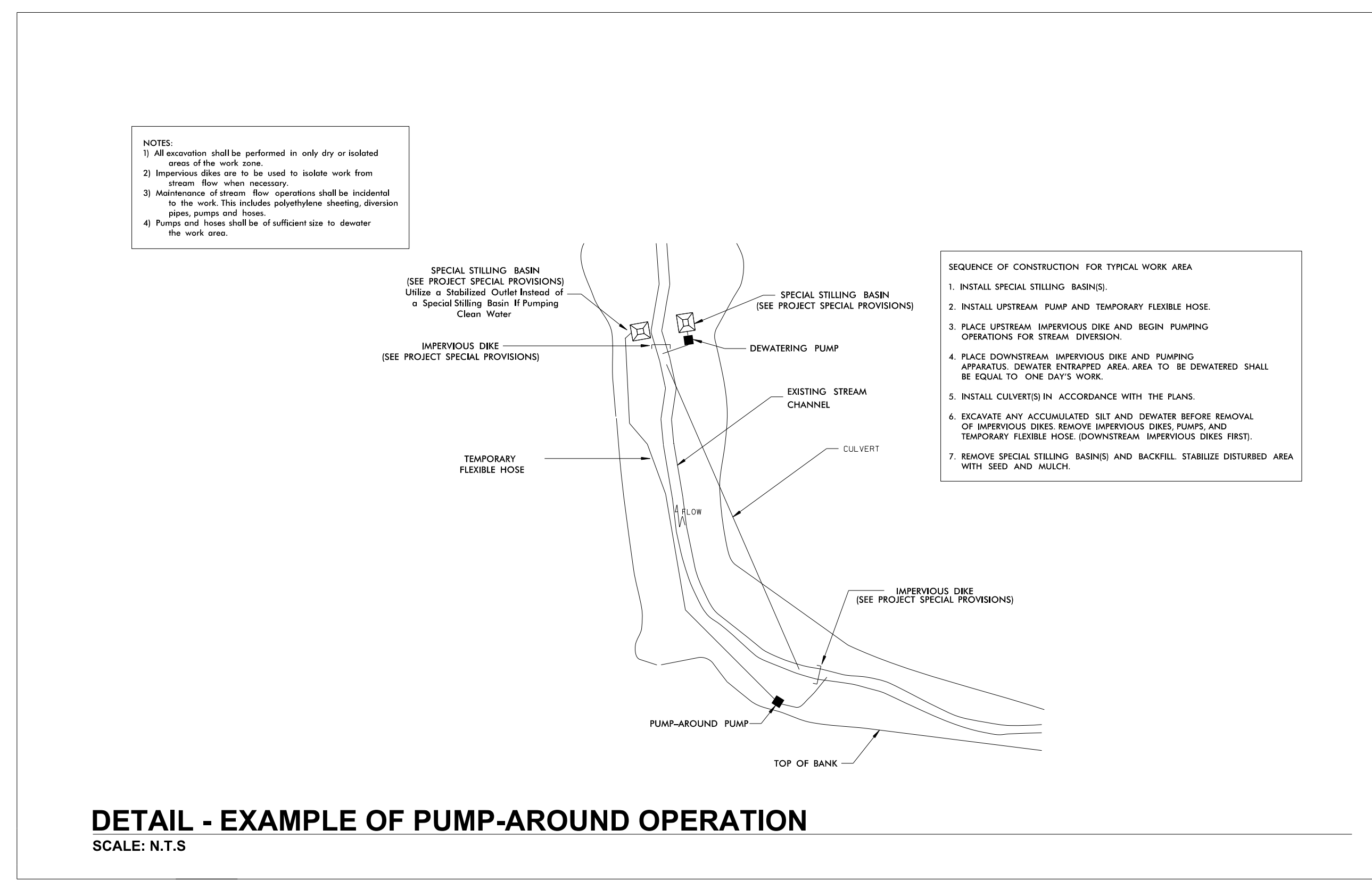


Figure 3. Tree protection zone guidelines. An effective zone encircles a radius of at least 1.25 feet of protected area for every inch of trunk diameter. A tree with a trunk diameter of 12 inches requires a protected radius of at least 15 feet and ideally 30 feet.

Figure 6.05d Wound repair and pruning of damaged trees.

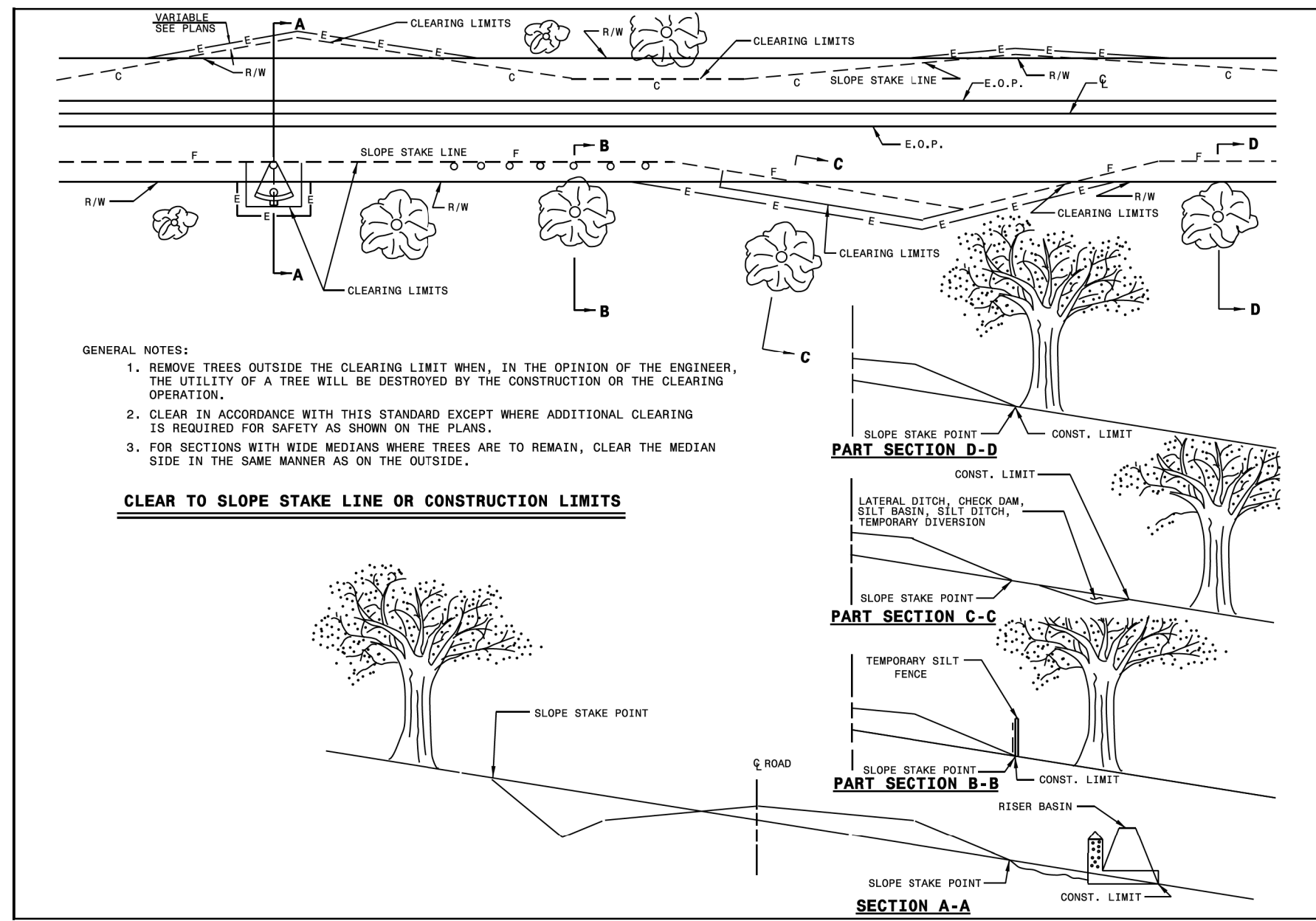


References  
Construction and Tree Protection, AG-685 (Revised) North Carolina Cooperative Extension Service



**DETAIL - EXAMPLE OF PUMP-AROUND OPERATION**  
SCALE: N.T.S.

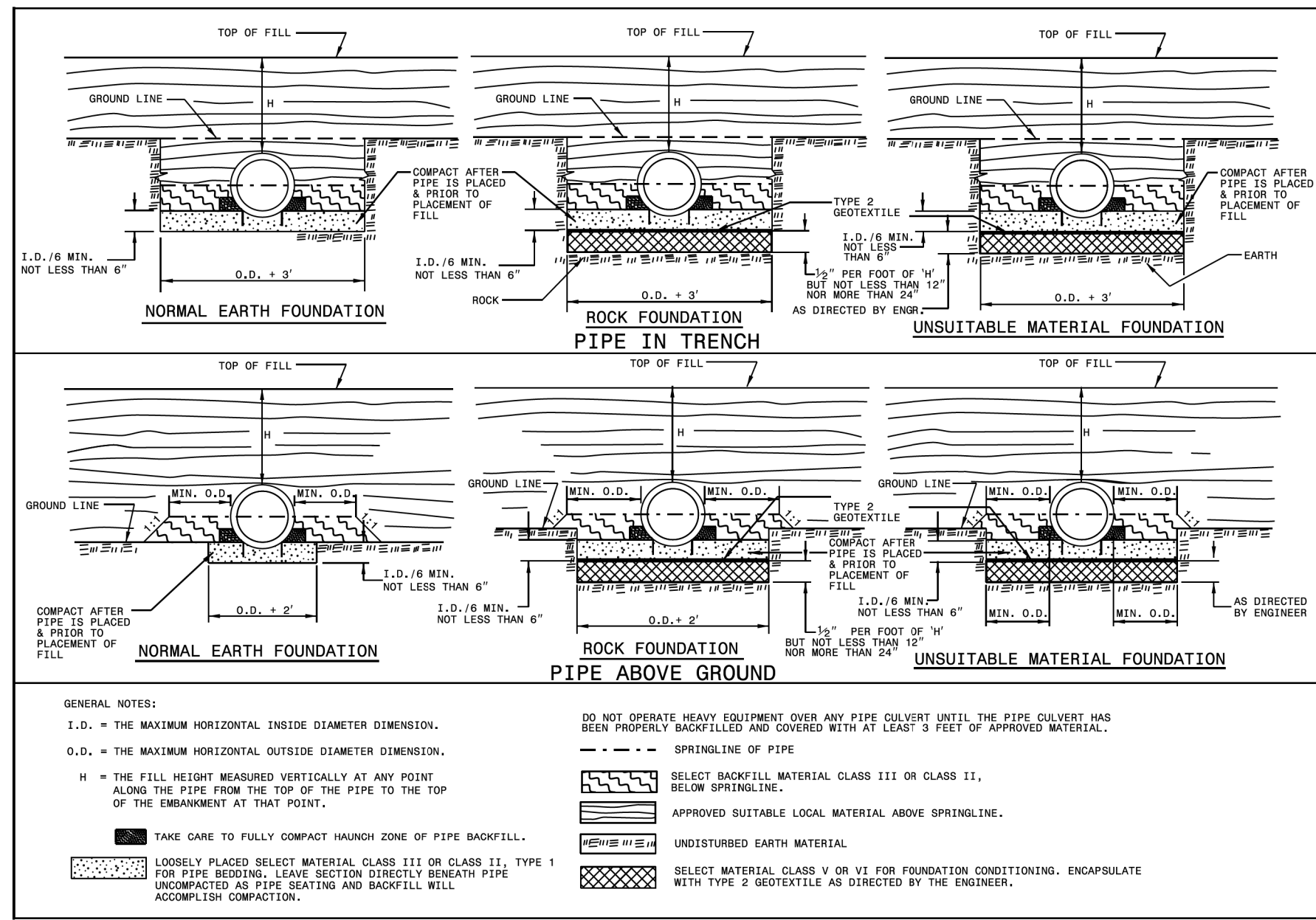




STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR  
**METHOD OF CLEARING**  
 METHOD - II

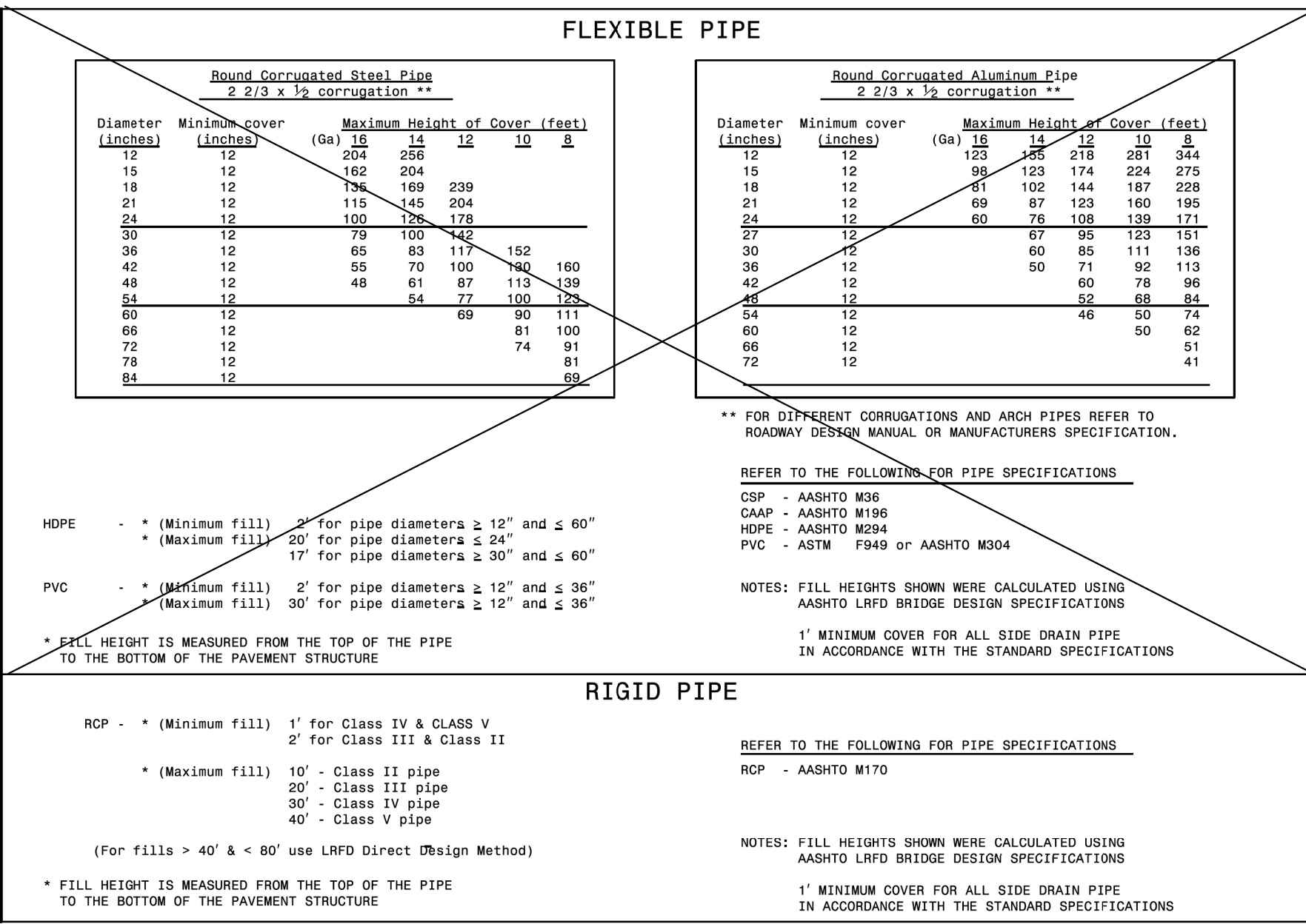
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STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR  
**METHOD OF PIPE INSTALLATION**  
 RIGID PIPE

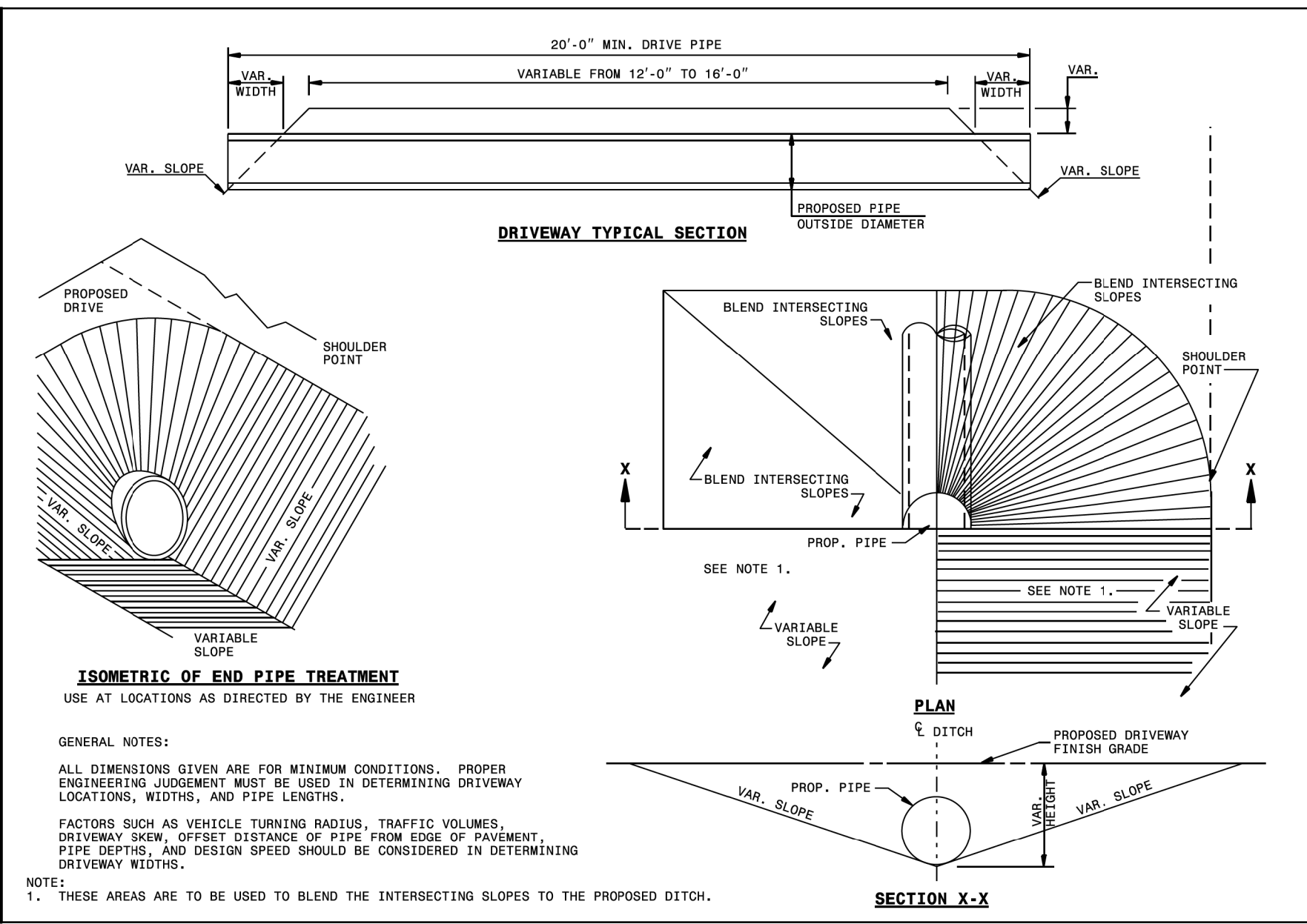
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STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR  
**METHOD OF PIPE INSTALLATION**  
 FILL HEIGHT TABLES

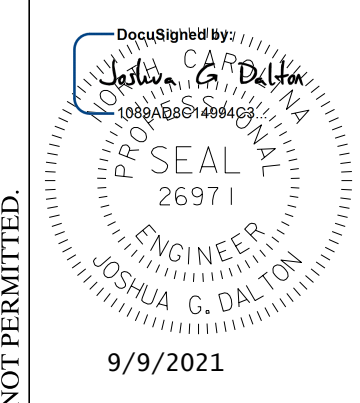
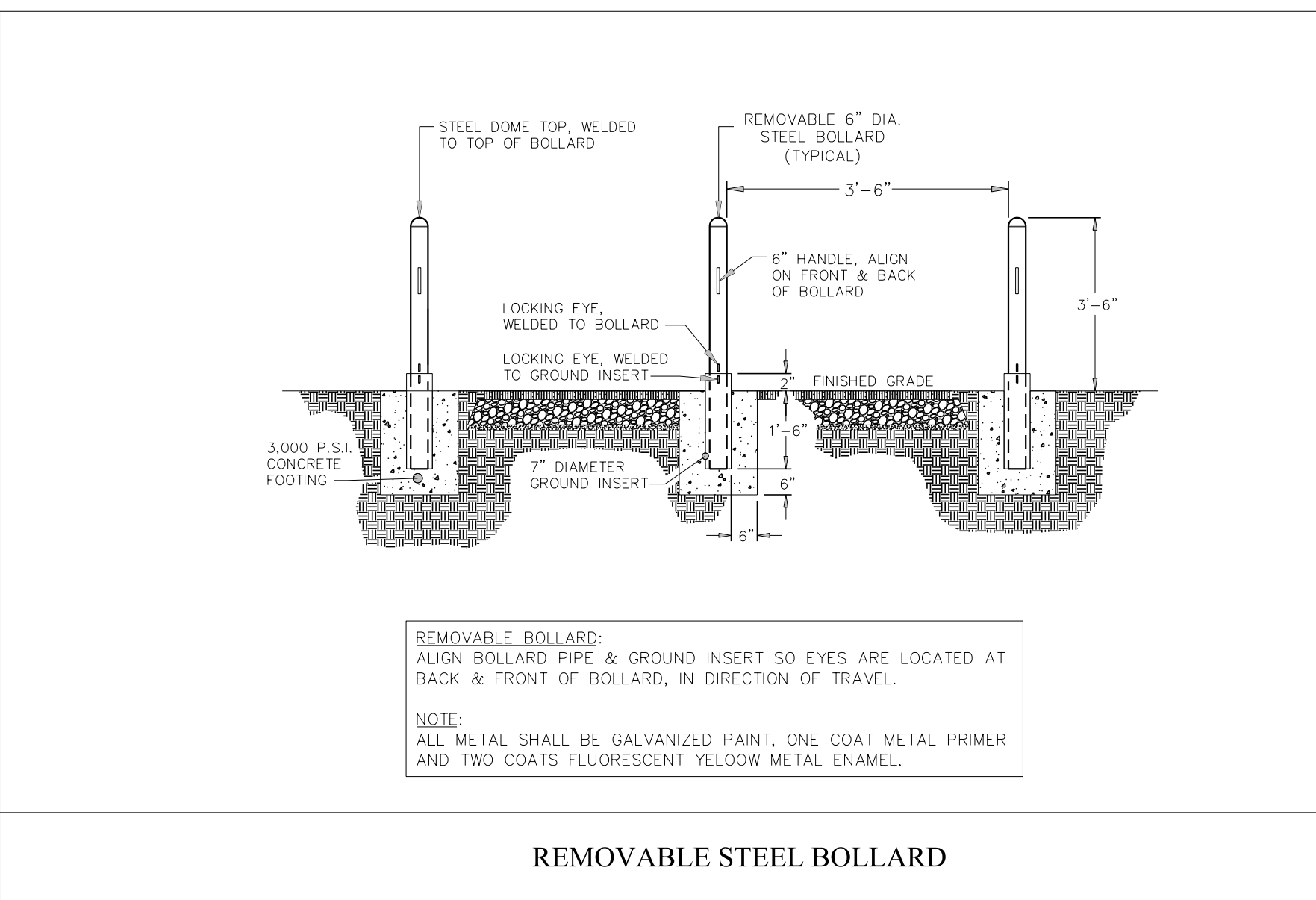
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STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR  
**DRIVEWAY PIPE CONSTRUCTION**  
 USING NO SPECIAL END SECTIONS

SHEET 1 OF 1  
**310.10**



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**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC

PROJECT # : 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C603  
 DATE: 6-16-2021  
 DRAWN BY: RCH  
 REVIEWED BY: RCH  
 REVISIONS:

SHEET NO.  
**C6.12**



THIS CARD MUST BE DISPLAYED ON OUTSIDE OF BUILDING OR PREMISES FOR WHICH IT IS ISSUED AND BE VISIBLE FROM STREET

EDGECOMBE COUNTY  
NORTH CAROLINA

FLOODPLAIN

DEVELOPMENT PERMIT

PERMIT #: 21-004

DATE: 8-26-21  
(This permit expires 180 days from this date)

HAS BEEN ISSUED TO

Randall C. Howard  
(NAME)

LOCATION: Edgecombe County / Princeville  
Dike Easement

TYPE OF CONSTRUCTION: Floodgate repairs

Edgecombe County Planning & Inspections  
252-641-7802



**EDGECOMBE COUNTY**  
**FLOODPLAIN DEVELOPMENT PERMIT**

Permit Number: 21-004 Issuance Date: 08/26/2021 PIN: N/A Dike Easement

In accordance with the Edgecombe County Flood Damage Prevention Ordinance, a Floodplain Development Permit is hereby granted to:

(Name) Randall C. Howard/Sungate Design Group  
to conduct development activities within the area of special flood hazard on property located at:

Edgecombe County Dike Easement

recorded in Book N/A Page N/A, Registry of Edgecombe County.

Planning Jurisdiction: Princeville  
This property is located in a Special Flood Hazard Area,

FIRM Data: Flood Zone: AE Floodway Map Panel No.: 3720473800 & 3720474800 Suffix K  
Map Panel Date: 6/2/15 Map Index Date: 6/2/15  
Base Flood Elevation(s) (1) 44.9 (2) 45.6 (3) 45.8 (NAVD 1988)  
Regulatory Flood Protection Elevation N/A (NAVD 1988)

Regulatory Floodway / Non Encroachment Area Info:  
Inside Regulatory Floodway / Non Encroachment Area X  
Outside Regulatory Floodway / Non Encroachment Area       
No Regulatory Floodway / Non Encroachment Area     

This Permit is issued to the aforementioned individual, firm, partnership, etc. for the purpose noted above and in accordance with the Edgecombe County Flood Damage Prevention Ordinance, Floodplain Development Permit No. 21-004 and attachments thereto; and is subject to the following modifications and/or performance reservations:

1. Permit issued for the following development only.  
Excavation:      Fill: X Grading: X Utility Construction:       
Road Construction: X Residential Construction:      Nonresidential Construction:       
Addition:      Renovation:      Other (specify): DWMH

(Comments/Limitations): No Rise Certification attached

2. The lowest floor and all attendant utilities shall be at or above N/A feet. (NAVD 1988)
3. Pursuant to Section 12-2.10(3) of the Edgecombe County Flood Damage Prevention Ordinance, it shall be the duty of the permit holder to submit to the Floodplain Administrator the Elevation/Floodproofing Certification within 21 calendar days after establishment of the lowest floor. Fill material shall not encroach into the floodway of Tar River (Name of Watercourse).
4. Proper Erosion and Sediment control measures shall be installed and maintained in accordance with North Carolina State Standards during fill operations.
5. Provide a minimum of two (2) openings in the foundation wall having a total area of **not less than** n/a square inches. The bottom of the openings shall not be greater than one (1) foot above the ground elevation at the perimeter of the foundation wall. The access area to the crawl space may be utilized to meet these criteria provided a mesh or screen door is used.  
Note: Vent opening area requirement is calculated at 1 sq. in. per sq. ft of structures footprint below BFE.
6. Mobile / Manufactured home shall be installed in accordance with the Edgecombe County Flood Hazard District Overlay Requirements Section B(3).
7. Any below BFE enclosures may only be used for parking vehicles, building access, and storage.
8. Upon completion of foundation construction, contact Floodplain Administrator's office for foundation inspection.  
Failure to comply with the Edgecombe County Flood Damage Prevention Ordinance including any modifications and/or performance reservations could result in assessment of civil penalties or initiation of civil or criminal court actions.

Revised this 26th day of August, 2021.

  
\_\_\_\_\_  
Floodplain Administrator for Edgecombe County



**SECTION 2 – NO-RISE CERTIFICATION**

This document is to certify that I am a duly qualified engineer licensed to practice in the State of North Carolina. It is to further certify that the attached technical data supports the fact that the proposed Princeville Levee Floodgate Repairs project will not increase the base flood elevations or floodway elevations, or impact the floodway widths, on the Tar River at published cross-sections in the Flood Insurance Study (FIS) for Town of Princeville, dated Revised: June 2, 2015, and will not increase the base flood elevations or floodway elevations, or impact the floodway widths at unpublished cross-sections in the area of the proposed development.

Joshua G. Dalton, PE

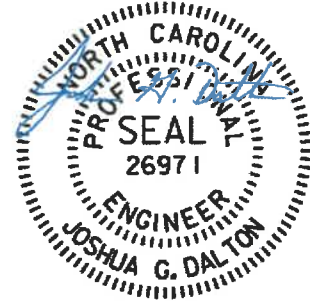
\_\_\_\_\_  
Name  
Project Manager

\_\_\_\_\_  
Title  
905 Jones Franklin Rd.

\_\_\_\_\_  
Address  
Raleigh, NC 27606

\_\_\_\_\_  
6-16-2021

\_\_\_\_\_  
Date



6-16-2021

Seal and Signature

**FOR COMMUNITY USE ONLY**

Approved       Disapproved

Katina Braswell  
Planning Director  
Name and Title

Katina Braswell  
Signature

8-16-21  
Date





# North Carolina Department of Public Safety

---

## Emergency Management

Roy Cooper, Governor  
Casandra Skinner Hoekstra, Interim Secretary

William C. Ray, Director

August 13, 2021

Katina Braswell  
Edgecombe County Planning Director  
201 St. Andrew Street  
Tarboro, NC 27886

Subject: No-Rise Certification Study for Proposed Princeville Levee Floodgate Repairs Project,  
Town of Princeville, Edgecombe County

Dear Ms. Braswell:

The North Carolina Department of Public Safety Division of Emergency Management Risk Management National Flood Insurance Program (NCNFIP) staff has reviewed the Engineering No-Rise Study Report and Certification for the proposed Princeville Levee Floodgate Repairs Project in Town of Princeville, Edgecombe County, North Carolina. The Report was prepared by Joshua G. Dalton, P.E., with Sungate Design Group, PA, dated on June 16, 2021. The report was received in this office on July 2, 2021.

Based on the information provided, the NCNFIP review indicates the report meets the requirements of the Federal Emergency Management Agency's (FEMA) guidance for a no-rise certification. The NCNFIP finds no objection to the conclusion of no increase in base flood elevation or floodway elevation as contained in the certification.

A Floodplain Development Permit will be required prior to construction.

If you have any questions or concerns with the items herein, please contact me at (919) 825-2317, by email at [jintao.wen@ncdps.gov](mailto:jintao.wen@ncdps.gov) or at the address shown on the footer of this document.

Sincerely,

Jintao Wen, Ph.D., P.E.

NC NFIP Engineer

NC Emergency Management

**MAILING ADDRESS:**  
4218 Mail Service Center  
Raleigh, NC 27699-4218  
[Flood.nc.gov](http://Flood.nc.gov)



*An Equal Opportunity Employer*

**OFFICE LOCATION:**  
4105 Reedy Creek Road  
Raleigh, NC 27607  
Telephone: (919) 825-2341



cc: Milton Carpenter, CFM, NC NFIP Central Branch Planner  
Steve Garrett, CFM, NC NFIP Coordinator

File



# Community Development Block Grant

## Disaster Recovery Project

### Princeville Levee Floodgate Repairs

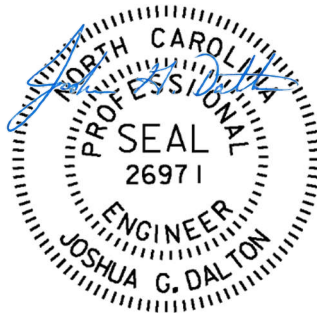
#### Tar River No-Rise Certification

for

#### Town of Princeville Edgecombe County, NC

201 South Main Street  
Tarboro, NC 27886

June 16, 2021



Prepared By:

#### SUNGATE DESIGN GROUP, PA

905 Jones Franklin Road  
Raleigh, N. C. 27606  
Firm License No. C-890



# **CLOMR for Tar River**

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<b>SECTION 3</b>	<b>EFFECTIVE FIRM</b> 3720473700J 3720473800K 3720474800K
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## SECTION 1 - REPORT

Tar River – No-Rise Certification  
Town of Princeville, Edgecombe Co, NC

Prepared by: Sungate Design Group, PA  
905 Jones Franklin Road  
Raleigh, North Carolina

For: Town of Princeville  
201 South Main Street  
Tarboro, NC 27886

Date: June 16, 2021

### Introduction

The Town of Princeville has received Community Development Block Grant - Disaster Recovery (CDBG-DR) funding from the U.S. Department of Housing and Urban Development (HUD) for repairs to the Princeville Levee along the Tar River in the Town of Princeville, Edgecombe County, NC. The Tar River flows along the north and west boundary of the Town and the town is protected from flooding by an earthen levee system built by the US Army Corps of Engineers (USACE) in 1965. Streams and channels conveying stormwater from the town are piped under the levee through corrugated metal pipes with flap gates on the outlet end to allow water out to the river, but not in from the river. The Tar River at this location is part of a FEMA Detailed Study, as shown in the Effective FIS # 37065CV000C for Edgecombe County and Incorporated Areas, dated Revised: June 2, 2015.

The Princeville Levee Floodgate Repairs project proposes to repair inlet and outlet channels at four existing floodgates along the Princeville Levee and construct permanent access roads to each floodgate for construction and future maintenance activities. The floodgate locations are described as Sites 1 thru 4 in the attached Construction Plans. Sites 1, 2, and 3 are partially located in a FEMA regulated floodplain. The repairs will consist of excavation and regrading approximately 25 linear feet of each inlet and outlet channel and the installation of a rip rap channel lining. Temporary impervious dikes and a pump-around system for dewatering are anticipated during channel repairs. Access roads leading from public right-of-way to each channel will also be constructed. The roads will be constructed using fill material at an elevation to avoid cutting into the existing levee but minimize the amount of fill placed in the regulated floodplain. Access road locations, typical sections, profiles, and cross-sections are shown in the included Construction Plans.

### Effective Model

The Effective HEC-RAS model (version 4.0), entitled Tar River – AUGUST 20,2010 4650, was downloaded from the NC FRIS website. The model contains two plans entitled Revised and Tar River. The Revised plan contains two profiles, a 100-YEAR, and 100-YEAR FW profile with



encroachment stations. The Tar River plan contains seven profiles, a 10-YEAR, 50-YEAR, 100-YEAR, 500-YEAR, FLOYD, 10%100-yr, and 95 % Conf. 100-yr profile. For this project the Revised plan will be used to establish the No-Rise Certification.

Site 1 is bounded by published cross-sections at RS 243633 and RS 247087, and Sites 2 and 3 are bounded by published cross-sections at RS 247087 and RS 252004, in the Effective FIS. The 100-YEAR profile and 100-YR FW water-surface elevations in the Effective model were compared to the Effective FIS between RS 243633 and RS 252004 and found to match exactly when rounded to the nearest tenth of a foot. Both the Effective model and FIS are reference to NAVD 88. No negative surcharges or surcharges greater than 1.00 feet were observed in the Effective model between the published project limits, however, surcharges greater than 1.00 feet were observed upstream of the project.

It was observed that the 100-YR FW encroachment widths in the Effective model do not match those shown on the Effective FIRM, with some locations being significantly different. It was also observed that the 100-year Flood Fringe and Floodway on the east side of the river, within the project limits, appear to be shown on the land side of the levee. Upon further review, the Floodway Data Table in the Effective FIS notes the floodway widths for RS 243633, RS 247087, and RS 252004 have been adjusted to ensure compliance with FEMA policy regarding the mapping of floodways on levees.

#### Duplicate Effective

The Revised plan in the Effective HEC-RAS model discussed above was used to create the Duplicate Effective plan (Duplicate). The plan was run in HEC-RAS (version 4.1) and ran without errors. The Duplicate 100-YEAR and 100-YR FW profiles were compared to the Effective model within the published project limits (RS 243633 to RS 252004). 100-YEAR water-surface elevations match exactly. 100-YR FW water-surface elevations varied by 0.01 feet at RS 247087 and RS 252004. The difference in 100-YR FW water-surface elevations between the Effective and Duplicate models is most likely due to computational differences between the two model versions. HEC-RAS version 4.1 will be used for this project.

#### Existing Conditions

The Duplicate Effective plan was used to create the Existing Conditions plan (Existing). The existing cross-section at RS 245050 was modified to cross perpendicular to the proposed access roads and levee. Geometry was also updated using field survey data collected by Sungate Design Group, PA (Sungate) and supplemented with 2014 QL2 bare-earth LiDAR downloaded from the NC Spatial Data Download website. New cross-sections at RS 245115, RS 245278, RS 250174, RS 250376, RS 250459, RS 250361, RS 250805, RS 250976, RS 251201, and RS 251452 were added to the Existing plan for comparison to the Proposed Conditions plan. Cross-section geometry for new sections was created using field survey data collected by Sungate and supplemented with 2014 QL2 bare-earth LiDAR data. All geometry data used is referenced to NAVD 88. Tar River bed elevations for new cross-sections were set by interpolating the bed elevation between existing sections.



Manning's n values for new cross-sections were set using values established by the effective model and referencing current ortho-imagery. Contraction and expansion coefficients were set to 0.1 and 0.3, respectively, for all new sections, per HEC-RAS modeling guidelines. Downstream reach lengths were set measuring along the effective streamline and match the difference in river stationing between sections. Encroachment stationing for new sections and modified section at RS 245050 were initially set based on the Effective FIRM, however numerous stations fell outside the 100-year floodplain width or inside the channel and had to be adjusted. Adjustments to encroachment stations for new sections from RS 250174 to RS 251452 were also required to remove surcharges greater than 1.00 feet. Existing sections at RS 247087 and RS 252004 have ineffective flow on the right side of the cross-section, as shown on the included work map. Ineffective flow for new sections bounded by the two existing sections was scaled from the work map and set accordingly at the new sections in the Existing plan.

### Proposed Conditions

The Existing Conditions plan was used to create the Proposed plan. Cross-section geometry for sections at RS 245050, RS 245115, RS 245278, RS 250376, RS 250459, RS 250805, RS 250967, RS 251201, and RS 251452 were revised to match proposed Construction Plans inside the floodplain. No other changes to the plan were made. No negative surcharges or surcharges greater than 1.00 feet were observed within the project limits.

### Results

When comparing the Proposed 100-YEAR profile to the Existing 100-YEAR profile, no increases in water-surface elevations were observed and a maximum decrease in water-surface elevations of 0.01 feet were observed at multiple sections. When comparing the Proposed 100-YR FW profile to the Existing 100-YR FW profile, no increases in water-surface elevations were observed and a maximum decrease of 0.01 feet was observed at RS 250376. Based on the results of the model, this project should qualify for a No-Rise Certification.



FLOODING SOURCE		FLOODWAY				BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD 88)		
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
<b>TAR RIVER</b>								
1956	195,588	1,950	31,542	1.6	38.2	38.2	39.2	1.0
1979	197,930	1,860	35,385	1.4	38.8	38.8	39.8	1.0
1999	199,932	2,300	40,100	1.2	39.2	39.2	40.2	1.0
2027	202,733	2,725	41,348	1.2	39.7	39.7	40.6	0.9
2089	208,947	1,675	33,153	1.4	40.6	40.6	41.6	1.0
2102	210,220	2,362	40,655	1.2	40.7	40.7	41.7	1.0
2128	212,787	2,175	43,909	1.1	41.0	41.0	42.0	1.0
2163	216,325	2,300	35,290	1.3	41.5	41.5	42.5	1.0
2195	219,544	1,980	46,809	1.0	41.9	41.9	42.9	1.0
2222	222,195	1,800	32,799	1.4	42.2	42.2	43.2	1.0
2254	225,423	1,550	32,569	1.5	42.4	42.4	43.4	1.0
2287	228,738	2,100	37,284	1.3	42.7	42.7	43.7	1.0
2323	232,255	2,200	37,444	1.3	42.9	42.9	43.9	1.0
2349	234,886	1,950	33,233	1.4	43.2	43.2	44.1	0.9
2375	237,457	2,180	37,902	1.2	43.5	43.5	44.5	1.0
2436	243,633	618 <sup>2</sup>	13,062	3.6	44.6	44.6	45.5	0.9
2471	247,087	926 <sup>2</sup>	18,120	2.6	45.4	45.4	46.4	1.0
2520	252,004	3,253 <sup>2</sup>	45,394	1.0	45.9	45.9	46.9	1.0
2540	253,976	3,200	45,831	1.0	46.0	46.0	47.0	1.0
2565	256,527	3,740	58,950	0.8	46.2	46.2	47.1	0.9
2585	258,478	4,000	55,165	0.9	46.3	46.3	47.3	1.0
2679	267,935	5,020	77,433	0.6	46.7	46.7	47.7	1.0
2699	269,891	3,430	52,511	0.9	46.8	46.8	47.7	0.9
2750	274,961	6,400	118,176	0.4	47.7	47.7	48.7	1.0
2784	278,394	6,413	115,122	0.4	47.7	47.7	48.7	1.0
2820	281,986	5,166	109,764	0.4	47.7	47.7	48.7	1.0

**Project Limits**

<sup>1</sup>Feet above mouth

<sup>2</sup>These widths consider adjustments made to ensure compliance with FEMA policy regarding the mapping of floodways on levees

**FEDERAL EMERGENCY MANAGEMENT AGENCY**  
**EDGECOMBE COUNTY, NC**  
**AND INCORPORATED AREAS**

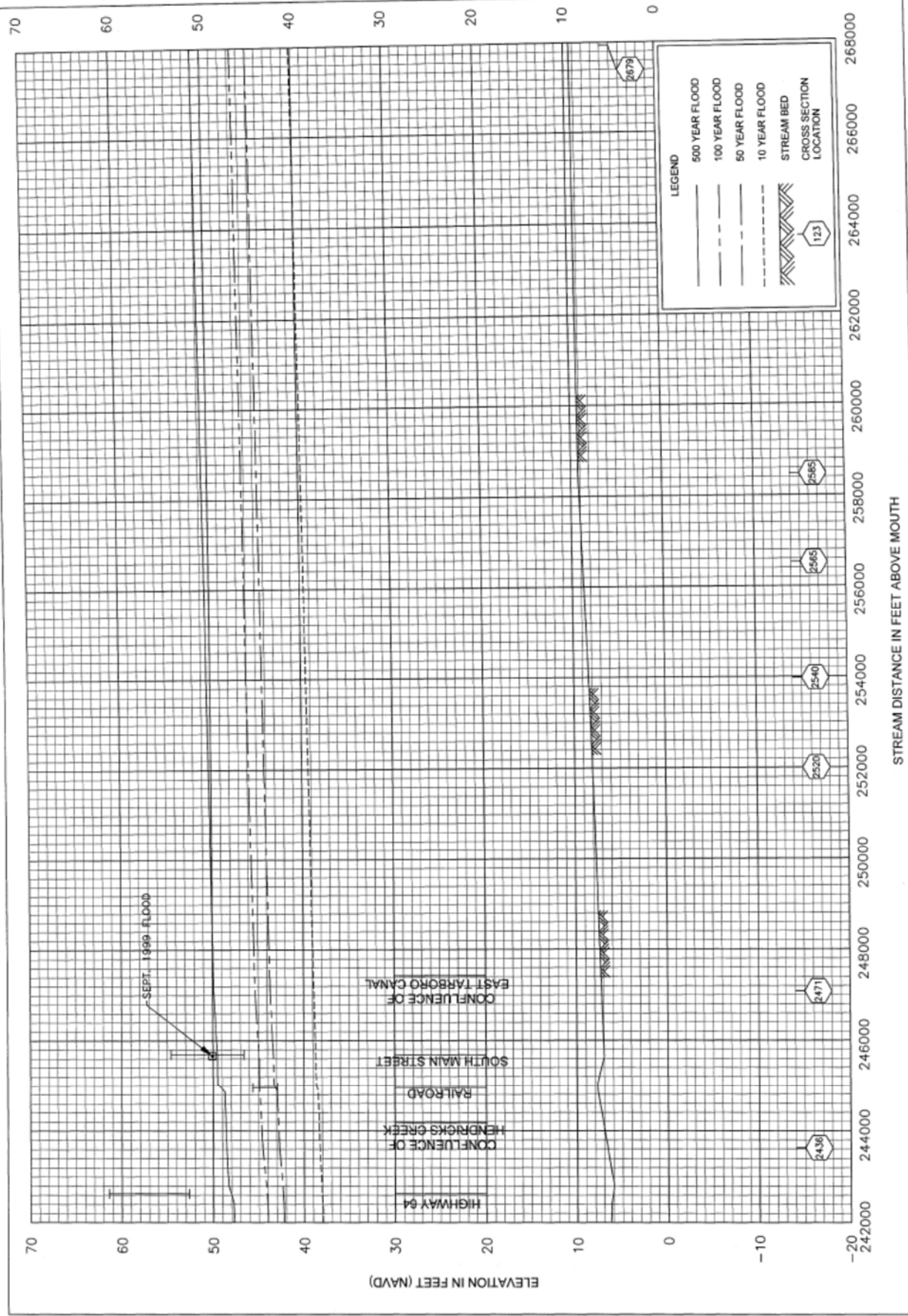
**TABLE 18**

**FLOODWAY DATA**

**TAR RIVER**



FLOOD PROFILES  
 TAR RIVER





Site Photos



**RS 245115 - Top of Levee Looking North Toward NC 33 Bridge over Tar River**



**RS 245115 - Top of Levee Looking South Toward R.R. Crossing over Tar River**





**RS 250294 – Top of Levee Looking East**



**RS – 251201 – Top of Levee Looking North Toward Tar River**



**SECTION 2 – NO-RISE CERTIFICATION**

This document is to certify that I am a duly qualified engineer licensed to practice in the State of North Carolina. It is to further certify that the attached technical data supports the fact that the proposed Princeville Levee Floodgate Repairs project will not increase the base flood elevations or floodway elevations, or impact the floodway widths, on the Tar River at published cross-sections in the Flood Insurance Study (FIS) for Town of Princeville, dated Revised: June 2, 2015, and will not increase the base flood elevations or floodway elevations, or impact the floodway widths at unpublished cross-sections in the area of the proposed development.

Iquj wc'I 0F cnqp.'RG

\_\_\_\_\_  
Name

Project Manager

\_\_\_\_\_  
Title

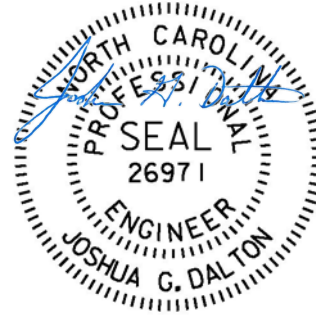
905 Jones Franklin Rd.

\_\_\_\_\_  
Address

Raleigh, NC 27606

\_\_\_\_\_  
6-16-2021

\_\_\_\_\_  
Date



8/38/4243

Seal and Signature

**FOR COMMUNITY USE ONLY**

Approved

Disapproved

\_\_\_\_\_  
Name and Title

\_\_\_\_\_  
Signature

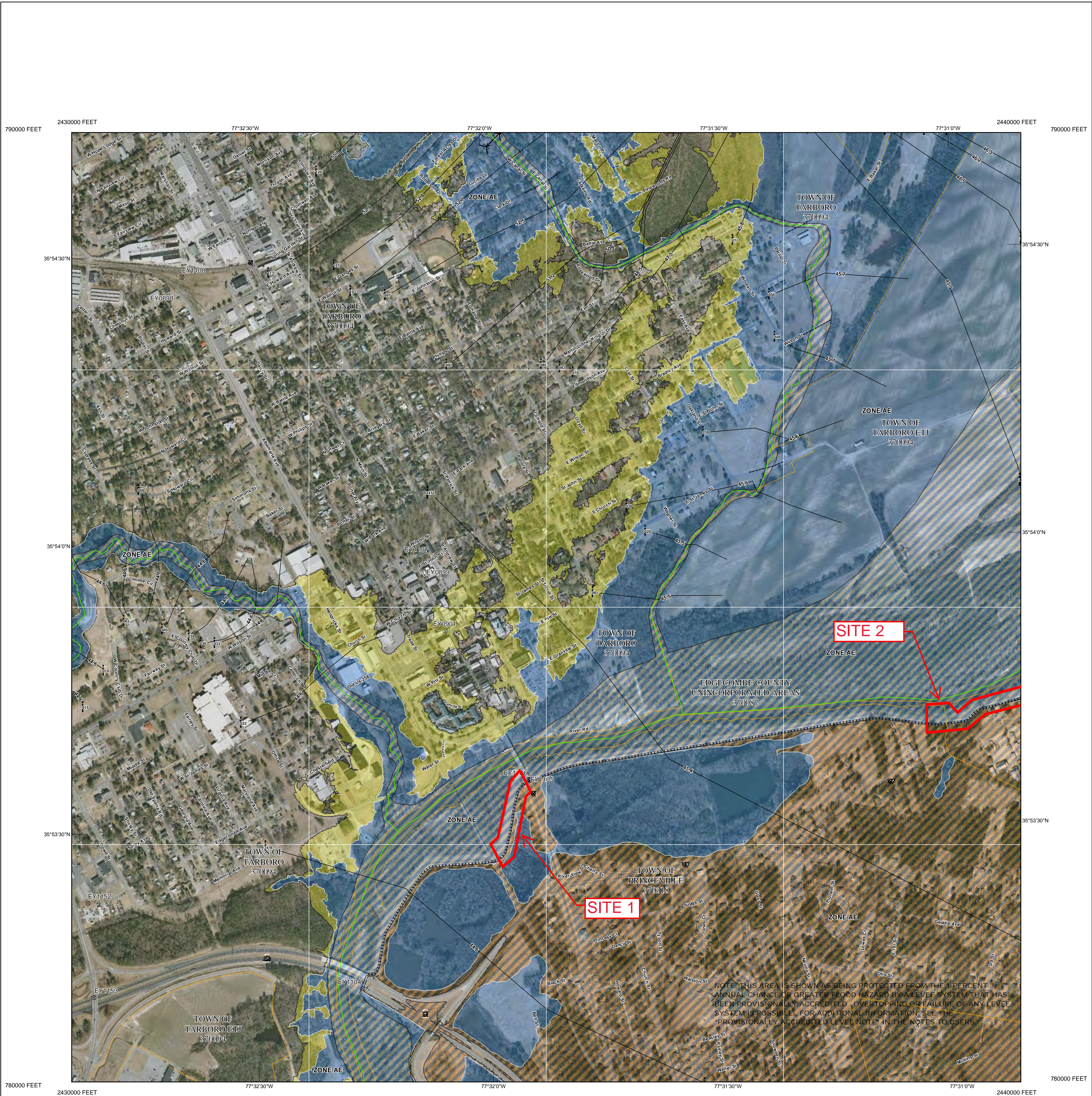
\_\_\_\_\_  
Date



**SECTION 3 – EFFECTIVE FIRM**

(See Attached)





This digital Flood Insurance Rate Map (FIRM) was produced through a unique cooperative partnership between the State of North Carolina and the Federal Emergency Management Agency (FEMA). The State of North Carolina has implemented a long term approach to floodplain management to decrease the costs associated with flooding. This is demonstrated by the State's commitment to map flood hazard areas at the local level. As a part of this effort, the State of North Carolina has joined in a Cooperative Technical State agreement with FEMA to produce and maintain this digital FIRM.

### FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR ZONE DESCRIPTIONS AND INDEX MAP THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT [HTTP://FRIS.NC.GOV/FRIS](http://FRIS.NC.GOV/FRIS)

	Without Base Flood Elevation (BFE)
	With BFE or Depth Zone AE, AO, AH, VE, AR
	Regulatory Floodway
	0.2% Annual Chance Flood Hazard, Areas of 1% Annual Chance Flood with Average Depth Less Than One Foot or With Drainage Areas of Less Than One Square Mile Zone X
	Future Conditions 1% Annual Chance Flood Hazard Zone X
	Area with Reduced Flood Risk due to Levee See Notes Zone X
	Areas Determined to be Outside the 0.2% Annual Chance Floodplain Zone X
	Channel, Culvert, or Storm Sewer Accredited or Provisionally Accredited Levee, Dike, or Floodwall
	Non-accredited Levee, Dike, or Floodwall
	North Carolina Geodetic Survey bench mark
	National Geodetic Survey bench mark
	Contractor Est. NCFMP Survey bench mark
	Cross Sections with 1% Annual Chance Water Surface Elevation (BFE)
	Coastal Transect
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	Limit of Study
	Jurisdiction Boundary

### NOTES TO USERS

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Map Service Center website at <http://msc.fema.gov>. An accompanying Flood Insurance Study report, Letter of Map Revision (LOMR) or Letter of Map Amendment (LOMA) revising portions of this panel, and digital versions of this FIRM may be available. Visit the North Carolina Floodplain Mapping Program website at <http://www.ncfloodmaps.com> or contact the FEMA Map Service Center.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in the community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was provided in digital format by the North Carolina Floodplain Mapping Program (NCFMP). The source of this information can be determined from the metadata available in the digital FLOOD database and in the Technical Support Data Notebook (TSDN).

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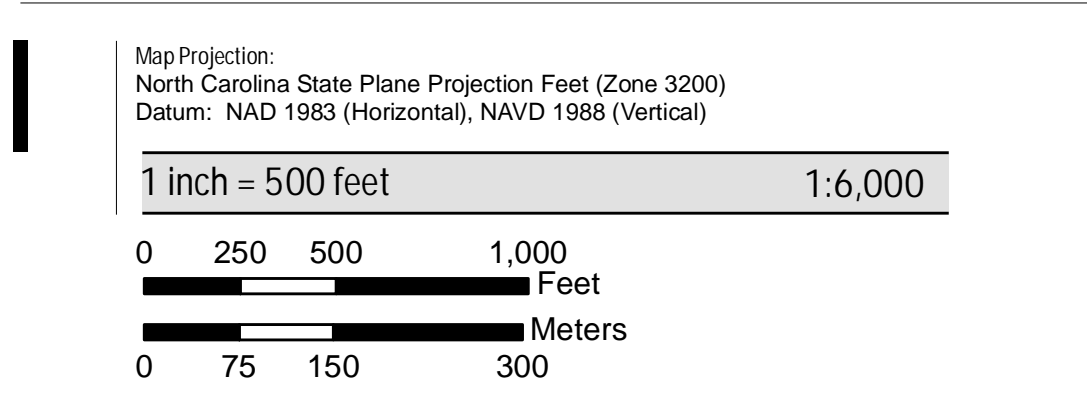
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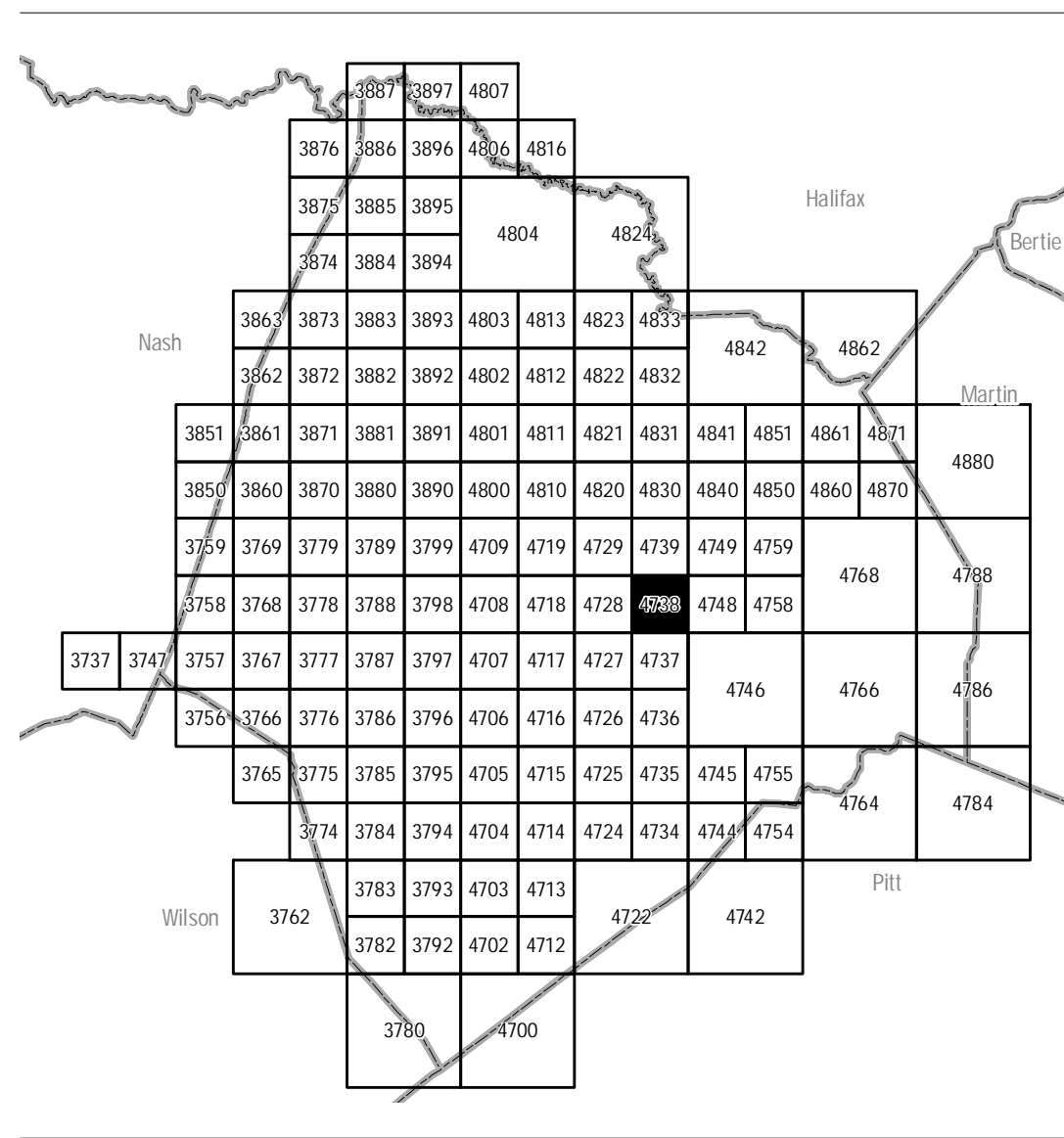
**COASTAL BARRIER RESOURCES SYSTEM (CBRS) NOTE**  
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CBRS Area Otherwise Protected Area

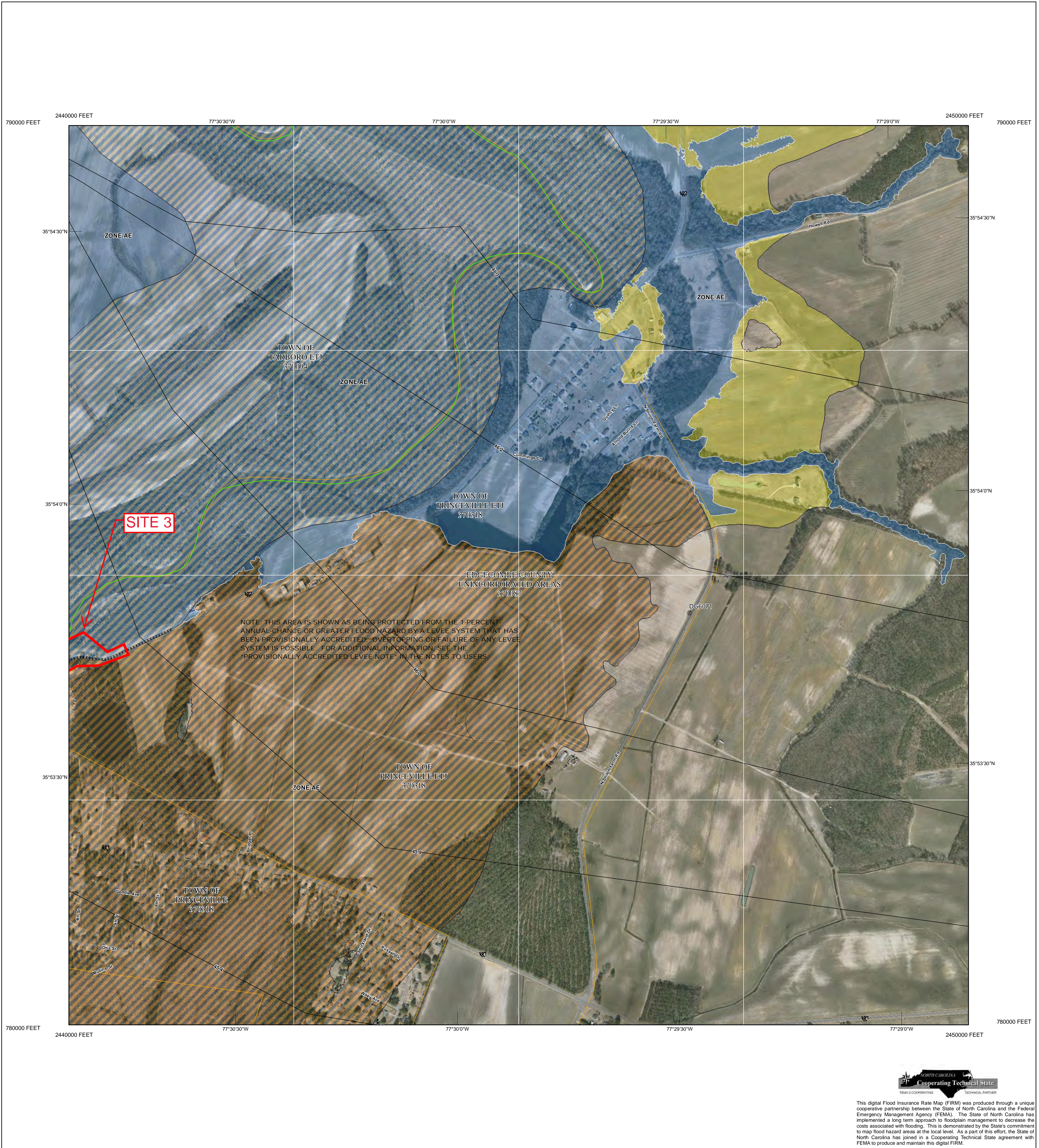
### SCALE



### PANEL LOCATOR







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<b>SPECIAL FLOOD HAZARD AREAS</b>		Without Base Flood Elevation (BFE)
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
		0.2% Annual Chance Flood Hazard, Areas of 1% Annual Chance Flood with Average Depth Less Than One Foot or With Drainage Areas of Less Than One Square Mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee See Notes Zone X
<b>OTHER AREAS OF FLOOD HAZARD</b>		Areas Determined to be Outside the 0.2% Annual Chance Floodplain Zone X
<b>OTHER AREAS</b>		Channel, Culvert, or Storm Sewer Accredited or Provisionally Accredited Levee, Dike, or Floodwall
<b>GENERAL STRUCTURES</b>		Non-accredited Levee, Dike, or Floodwall
		BM5510 <sub>D</sub> North Carolina Geodetic Survey bench mark
		BM5510 <sub>P</sub> National Geodetic Survey bench mark
		BM5510 <sub>Z</sub> Contractor Est. NCFMP Survey bench mark
		Cross Sections with 1% Annual Chance Water Surface Elevation (BFE)
		Cross Sections with 1% Annual Chance Water Surface Elevation (BFE)
		Coastal Transect
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
<b>OTHER FEATURES</b>		Limit of Study
		Jurisdiction Boundary

**NOTES TO USERS**

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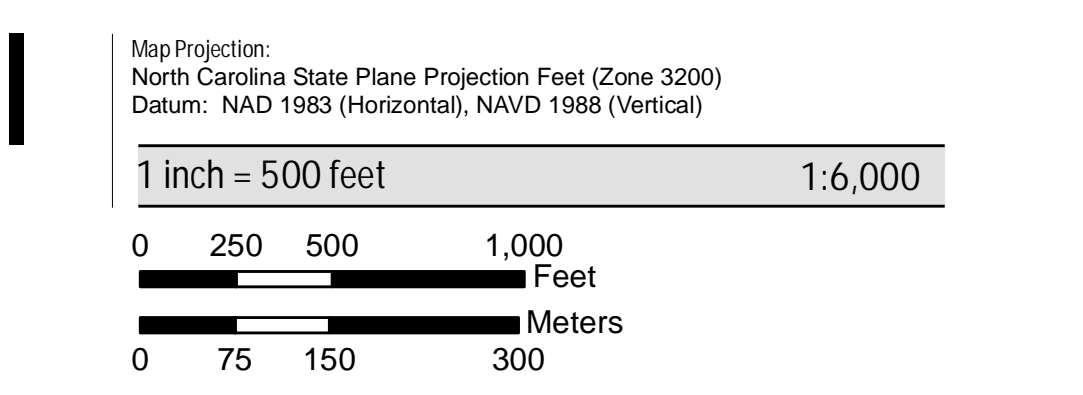
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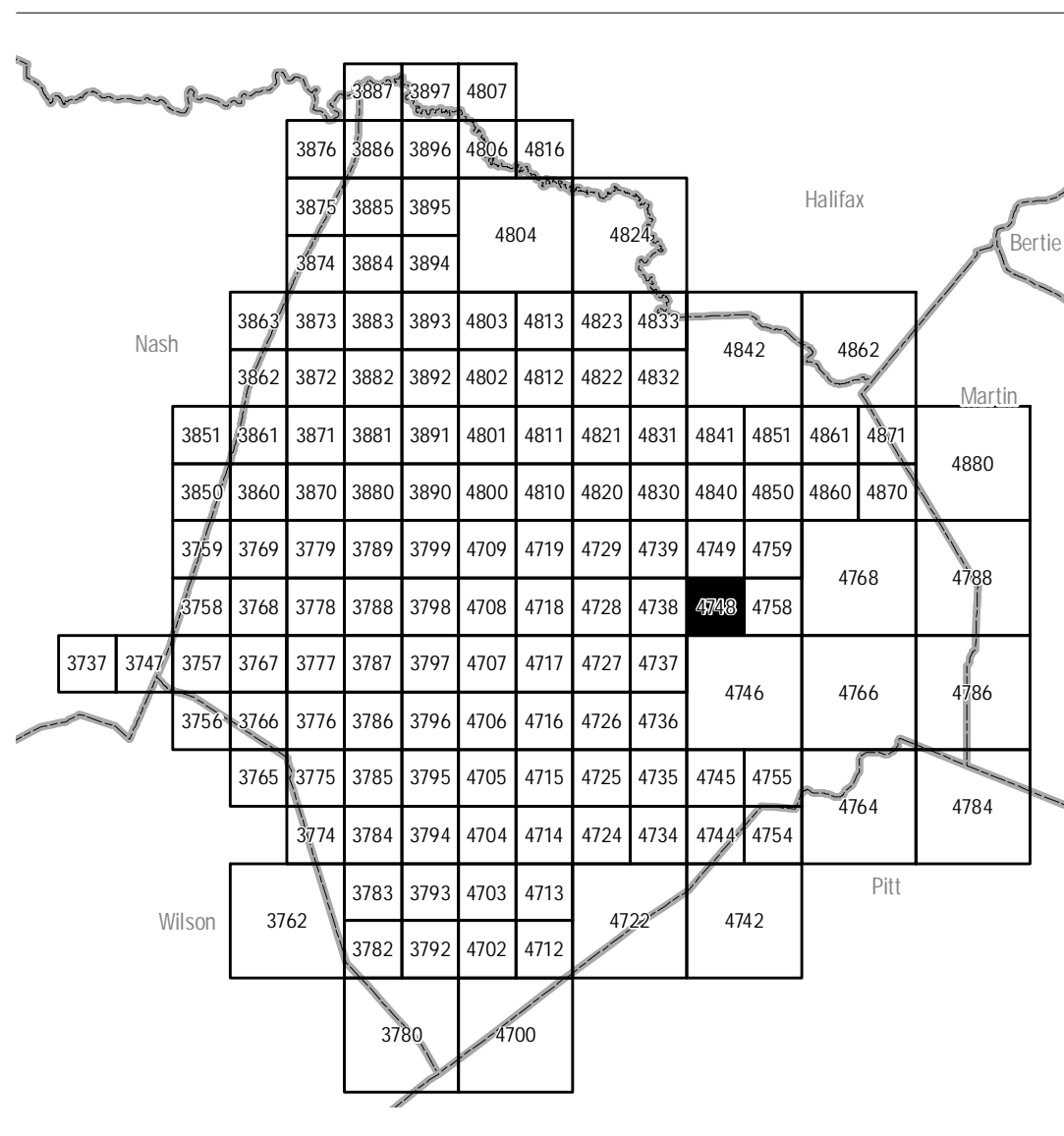
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CBRS Area Otherwise Protected Area

**SCALE**



**PANEL LOCATOR**



**FEMA**  
NATIONAL FLOOD INSURANCE PROGRAM  
FLOOD INSURANCE RATE MAP

**NORTH CAROLINA**  
FEDERAL EMERGENCY MANAGEMENT AGENCY

**National Flood Insurance Program**

**NORTH CAROLINA FLOODPLAIN MAPPING PROGRAM**  
NATIONAL FLOOD INSURANCE PROGRAM  
FLOOD INSURANCE RATE MAP

**NORTH CAROLINA**

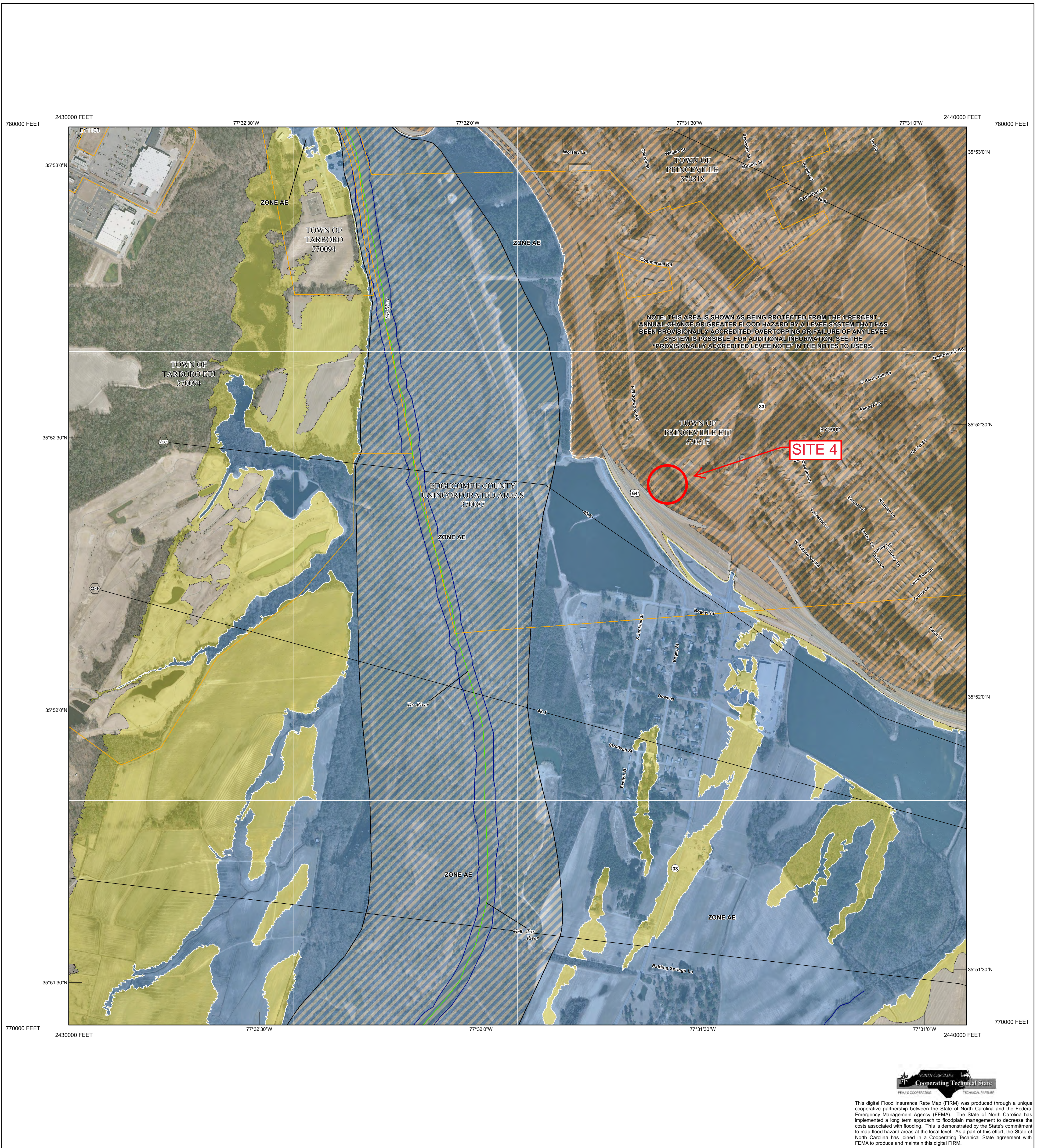
PANEL 4748

Panel Contains:

COMMUNITY	CID	PANEL	SUFFIX
EDGEcombe COUNTY	370087	4748	K
PRINCEVILLE, TOWN OF	370318	4748	K
TARBORO, TOWN OF	370094	4748	K

MAP NUMBER  
3720474800K  
EFFECTIVE DATE  
06/02/2015





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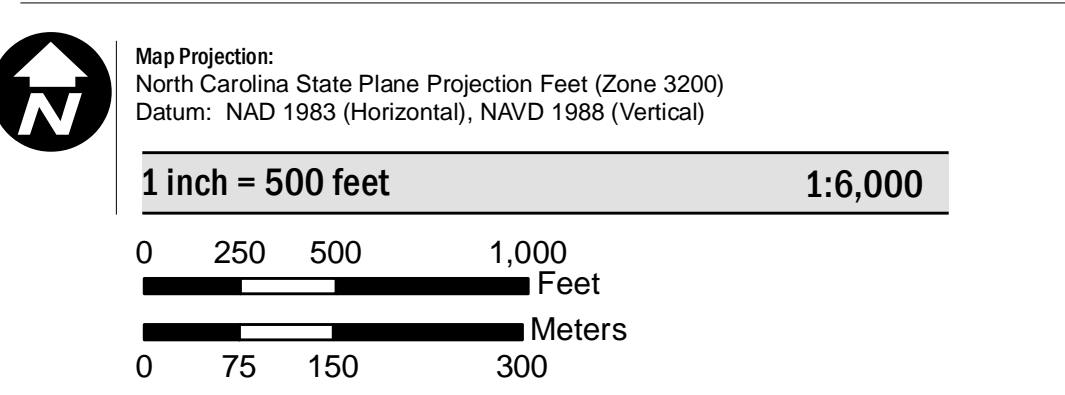
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**COASTAL BARRIER RESOURCES SYSTEM (CBRS) NOTE**

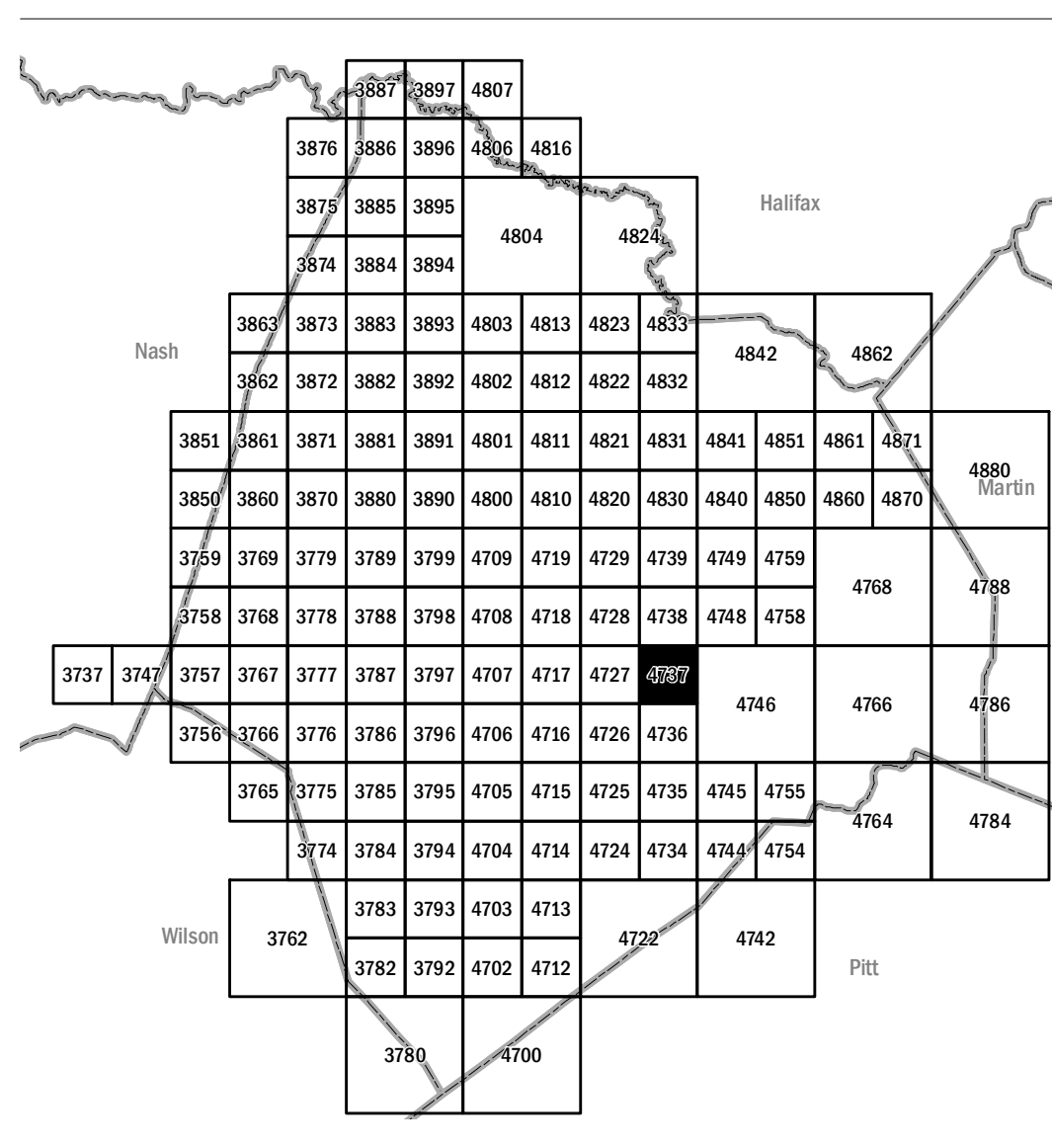
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CBRS Area Otherwise Protected Area

### SCALE



### PANEL LOCATOR



**FEDERAL EMERGENCY MANAGEMENT AGENCY**

**National Flood Insurance Program**

**NORTH CAROLINA FLOODPLAIN MAPPING PROGRAM**

**NATIONAL FLOOD INSURANCE PROGRAM**

**FLOOD INSURANCE RATE MAP**

**NORTH CAROLINA**

PANEL 4737

Panel Contains:

COMMUNITY	CID	PANEL SUFFIX
EDGEcombe COUNTY	370087	4737 J
PRINCEVILLE, TOWN OF	370318	4737 J
TARBORO, TOWN OF	370094	4737 J

**FEDERAL EMERGENCY MANAGEMENT AGENCY**

**U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT**

**FEMA**

MAP NUMBER  
3720473700J

EFFECTIVE DATE  
11/3/2004



**SECTION 4 – CERTIFIED TOPOGRAPHIC WORK MAP**

(See Attached)



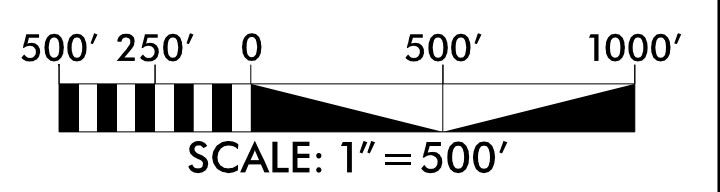
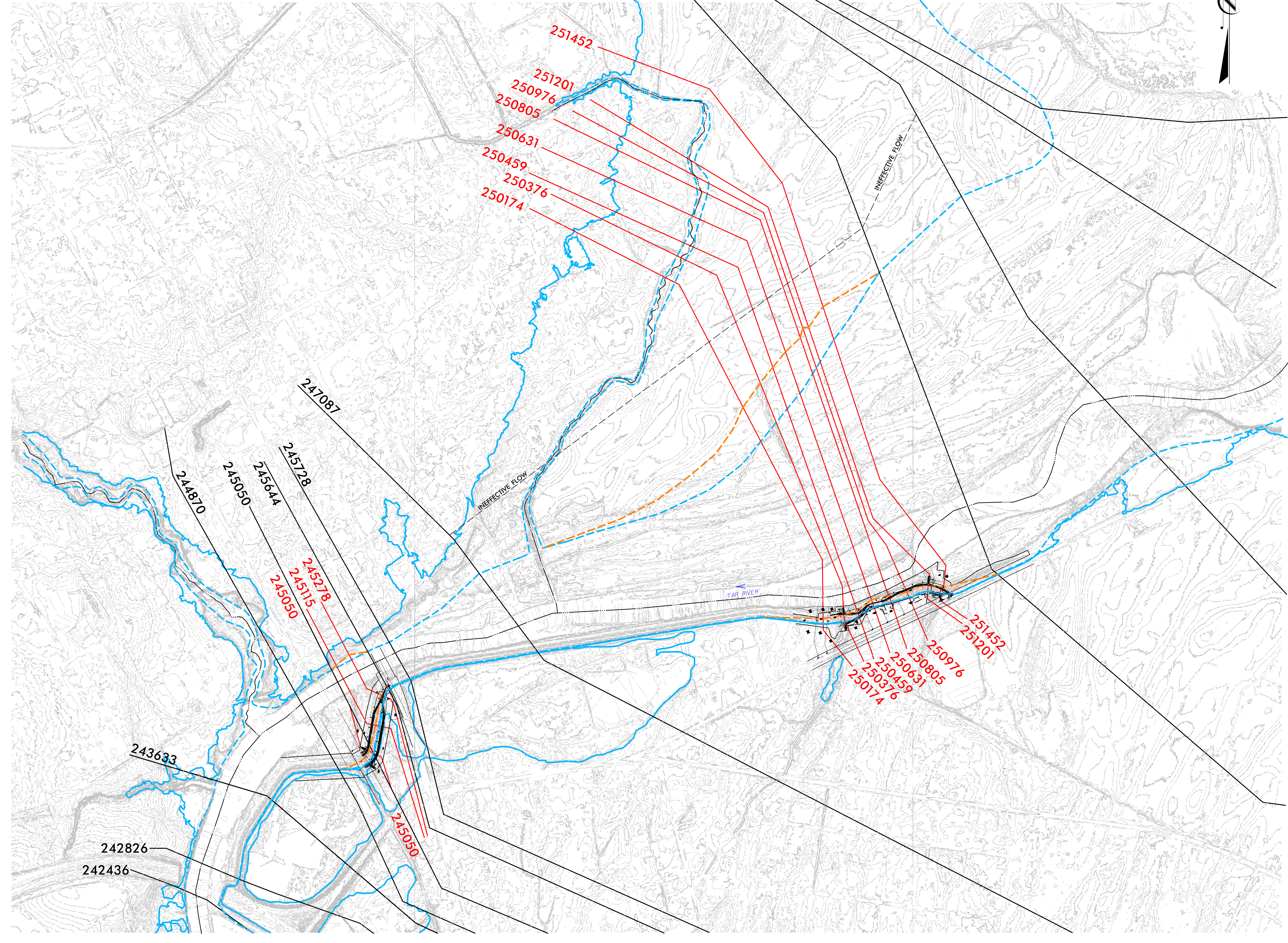
5/14/99

--- EFFECTIVE FLOODWAY  
 --- EFFECTIVE 100yr. FLOOD FRINGE

--- EXISTING CONDITIONS FLOODWAY

PROJECT REFERENCE NO.	SHEET NO.
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CERTIFIED TOPOGRAPHIC MAP  
 PRINCEVILLE LEVEE FLOODGATE REPAIRS  
 TAR RIVER  
 TOWN OF PRINCEVILLE  
 EDGECOMBE CO, NC  
 NAD 83 (2011)  
 NAVD 88





**SECTION 5 - COMPARISON TABLES**

(See Attached)



River Station (RS)	Plan	W.S. Elev 100-YEAR (ft)	W.S. Elev 100-YR FW (ft)	Prof Delta WS (ft)	Top Width Floodplain (ft)	Top Width FW (ft)	Encro. Sta LT (ft)	Encro. Sta RT (ft)	Project Impact 100-YEAR Proposed-Existing (ft)	Project Impact 100-YR FW Proposed-Existing (ft)
253976	Duplicate	46.05	47.02	0.97	4247.40	3200.00	4300.00	7500.00		
253976	Existing	45.96	46.92	0.96	4247.40	3200.00	4300.00	7500.00		
253976	Proposed	45.96	46.92	0.96	4247.40	3200.00	4300.00	7500.00	0.00	0.00
252004	Duplicate	45.91	46.90	0.99	3736.25	3173.00	4327.00	7500.00		
252004	Existing	45.82	46.79	0.97	3735.90	3173.00	4327.00	7500.00		
252004	Proposed	45.82	46.79	0.97	3735.89	3173.00	4327.00	7500.00	0.00	0.00
251452	Existing	45.78	46.75	0.97	3567.20	3134.00	466.00	3600.00		
251452	Proposed	45.78	46.75	0.97	3561.59	3134.00	466.00	3600.00	0.00	0.00
251201	Existing	45.71	46.69	0.98	3449.02	2934.00	566.00	3500.00		
251201	Proposed	45.71	46.69	0.98	3448.98	2934.00	566.00	3500.00	0.00	0.00
250976	Existing	45.67	46.65	0.98	3343.26	2869.00	531.00	3400.00		
250976	Proposed	45.67	46.65	0.98	3343.25	2869.00	531.00	3400.00	0.00	0.00
250805	Existing	45.65	46.63	0.98	3302.49	2744.00	556.00	3300.00		
250805	Proposed	45.65	46.63	0.98	3288.77	2744.00	556.00	3300.00	0.00	0.00
250631	Existing	45.62	46.60	0.98	3221.73	2633.00	567.00	3200.00		
250631	Proposed	45.62	46.60	0.98	3221.73	2633.00	567.00	3200.00	0.00	0.00
250459	Existing	45.62	46.59	0.97	3217.36	2583.00	517.00	3100.00		
250459	Proposed	45.61	46.59	0.97	3207.47	2583.00	517.00	3100.00	-0.01	0.00
250376	Existing	45.60	46.57	0.97	3169.33	2490.00	510.00	3000.00		
250376	Proposed	45.59	46.56	0.97	3169.32	2490.00	510.00	3000.00	-0.01	-0.01
250174	Existing	45.58	46.54	0.97	3061.24	2317.00	583.00	2900.00		
250174	Proposed	45.57	46.54	0.97	3061.24	2317.00	583.00	2900.00	-0.01	0.00
247087	Duplicate	45.38	46.36	0.97	1339.41	800.50	4799.50	5600.00		
247087	Existing	45.30	46.25	0.95	1338.24	800.50	4799.50	5600.00		
247087	Proposed	45.30	46.25	0.95	1338.22	800.50	4799.50	5600.00	0.00	0.00
245728	Duplicate	44.99	45.95	0.96	509.40	322.00	4793.00	5115.00		
245728	Existing	44.90	45.84	0.94	508.84	322.00	4793.00	5115.00		
245728	Proposed	44.90	45.84	0.94	508.83	322.00	4793.00	5115.00	0.00	0.00
245686		Bridge	Bridge							
245644	Duplicate	44.93	45.83	0.89	509.28	322.00	4793.00	5115.00		
245644	Existing	44.84	45.71	0.87	508.72	322.00	4793.00	5115.00		
245644	Proposed	44.84	45.71	0.87	508.71	322.00	4793.00	5115.00	0.00	0.00
245278	Existing	44.90	45.79	0.89	698.32	535.00	4650.00	5185.00		
245278	Proposed	44.89	45.79	0.89	693.00	535.00	4650.00	5185.00	-0.01	0.00
245115	Existing	44.87	45.76	0.89	916.83	750.00	4403.00	5153.00		
245115	Proposed	44.87	45.76	0.89	916.82	750.00	4403.00	5153.00	0.00	0.00
245050	Duplicate	44.94	45.84	0.91	1015.60	825.00	4395.00	5220.00		
245050	Existing	44.82	45.72	0.90	1004.99	924.30	4210.00	5134.30		
245050	Proposed	44.82	45.72	0.90	1004.98	924.30	4210.00	5134.30	0.00	0.00
244960		Bridge	Bridge							
244870	Duplicate	44.85	45.72	0.87	1015.59	825.00	4395.00	5220.00		
244870	Existing	44.85	45.72	0.87	1015.59	825.00	4395.00	5220.00		
244870	Proposed	44.85	45.72	0.87	1015.59	825.00	4395.00	5220.00	0.00	0.00
243633	Duplicate	44.60	45.50	0.90	693.20	467.10	4691.90	5159.00		
243633	Existing	44.60	45.50	0.90	693.20	467.10	4691.90	5159.00		
243633	Proposed	44.60	45.50	0.90	693.20	467.10	4691.90	5159.00	0.00	0.00
242826	Duplicate	44.18	45.06	0.89	536.05	387.00	4763.00	5150.00		
242826	Existing	44.18	45.06	0.89	536.05	387.00	4763.00	5150.00		
242826	Proposed	44.18	45.06	0.89	536.05	387.00	4763.00	5150.00	0.00	0.00



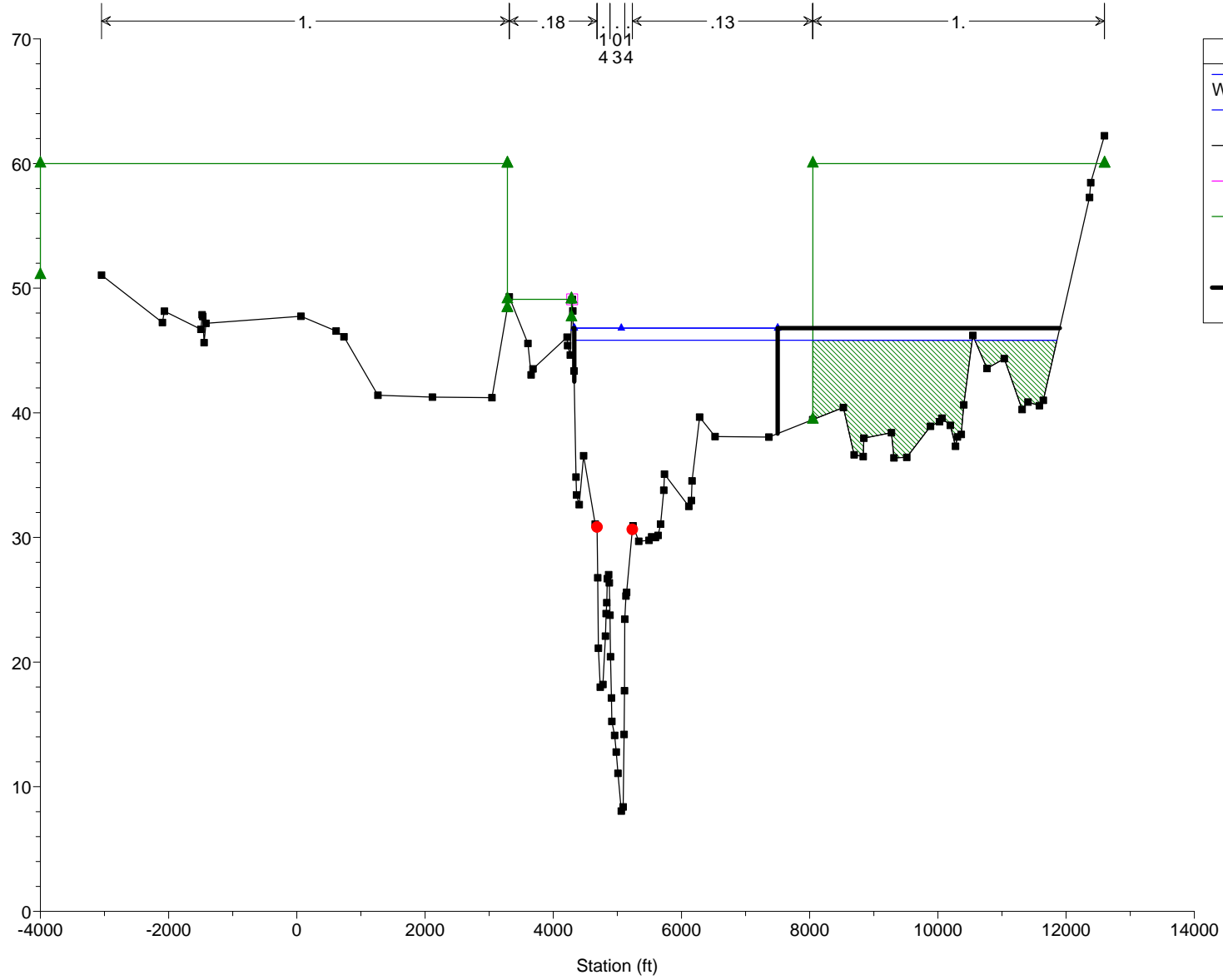
**SECTION 6 – CROSS-SECTION PLOTS**

(See Attached)



Tar River - AUGUST 20,2010 4650 Plan: 1) Existing 5/30/2021

Cross Section Tar River 11.0 (Approx U/S limit of Princevill Dy)

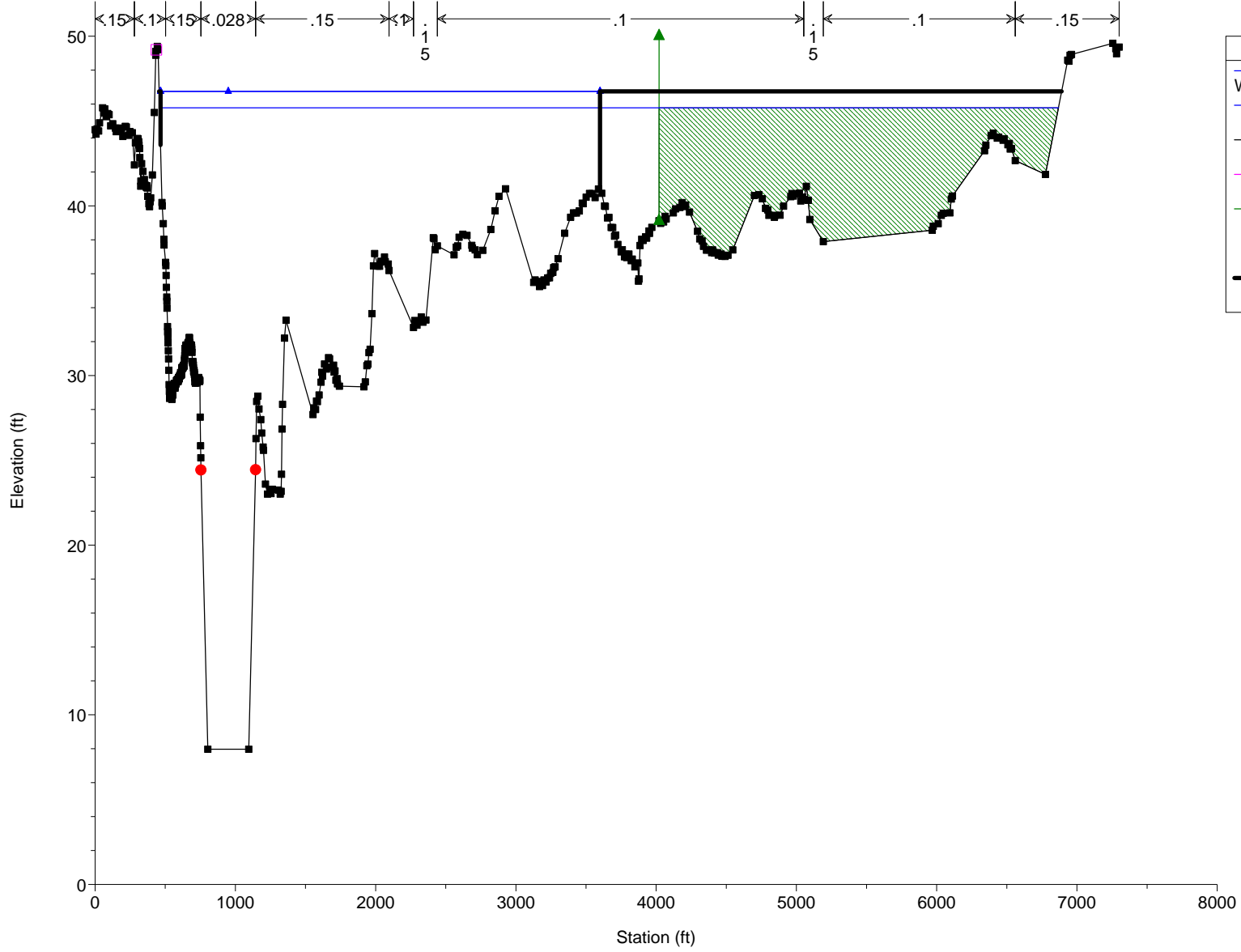


Legend	
WS 100-YEAR FW	▲
WS 100-YEAR	—
Ground	■
Levee	□
Ineff	▲
Bank Sta	●
Encroachment	—



Tar River - AUGUST 20,2010 4650 Plan: 1) Existing 5/30/2021

RS 251452 - New Section



Legend	
WS 100-YEAR FW	
WS 100-YEAR	
Ground	
Levee	
Ineff	
Bank Sta	
Encroachment	



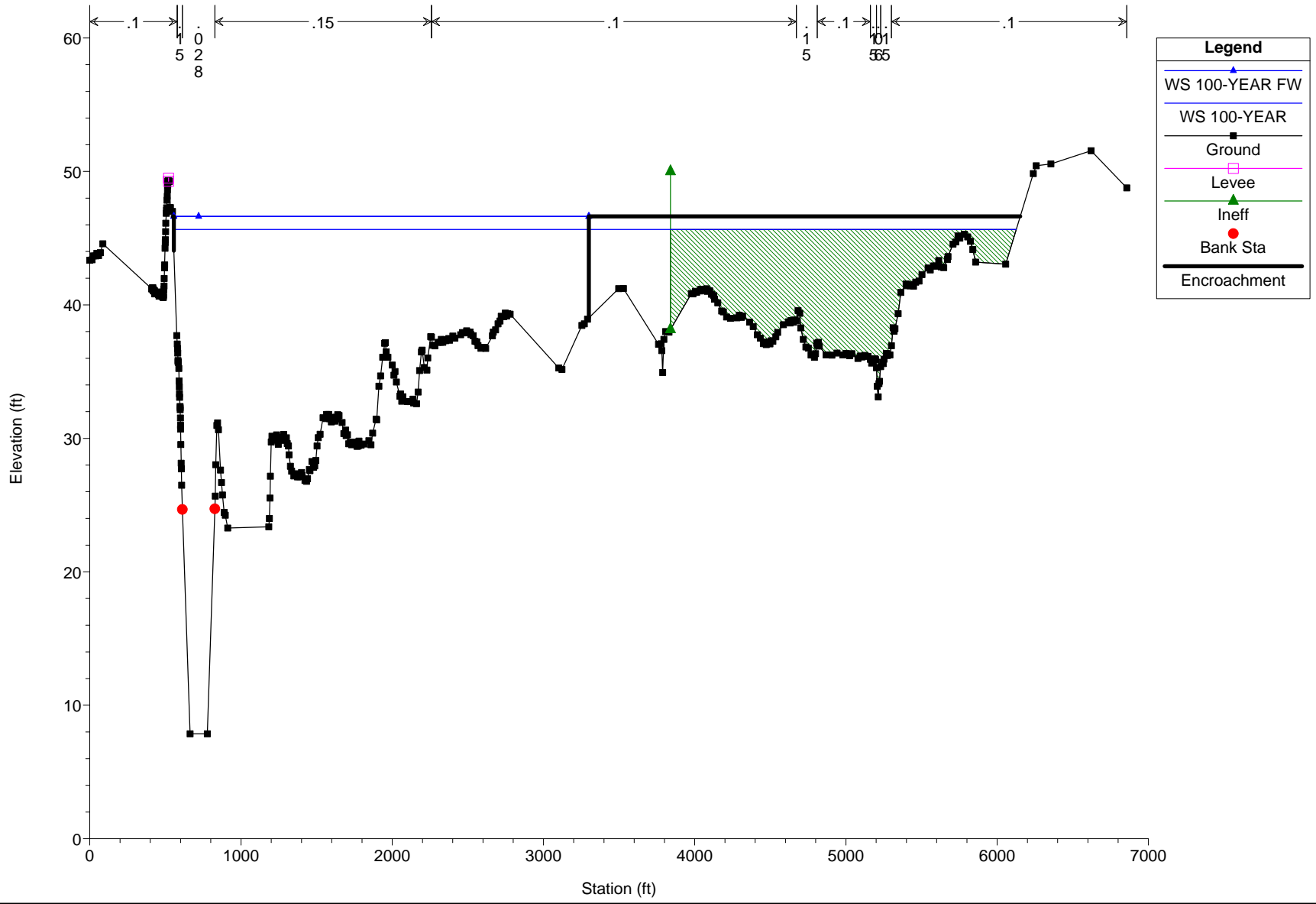






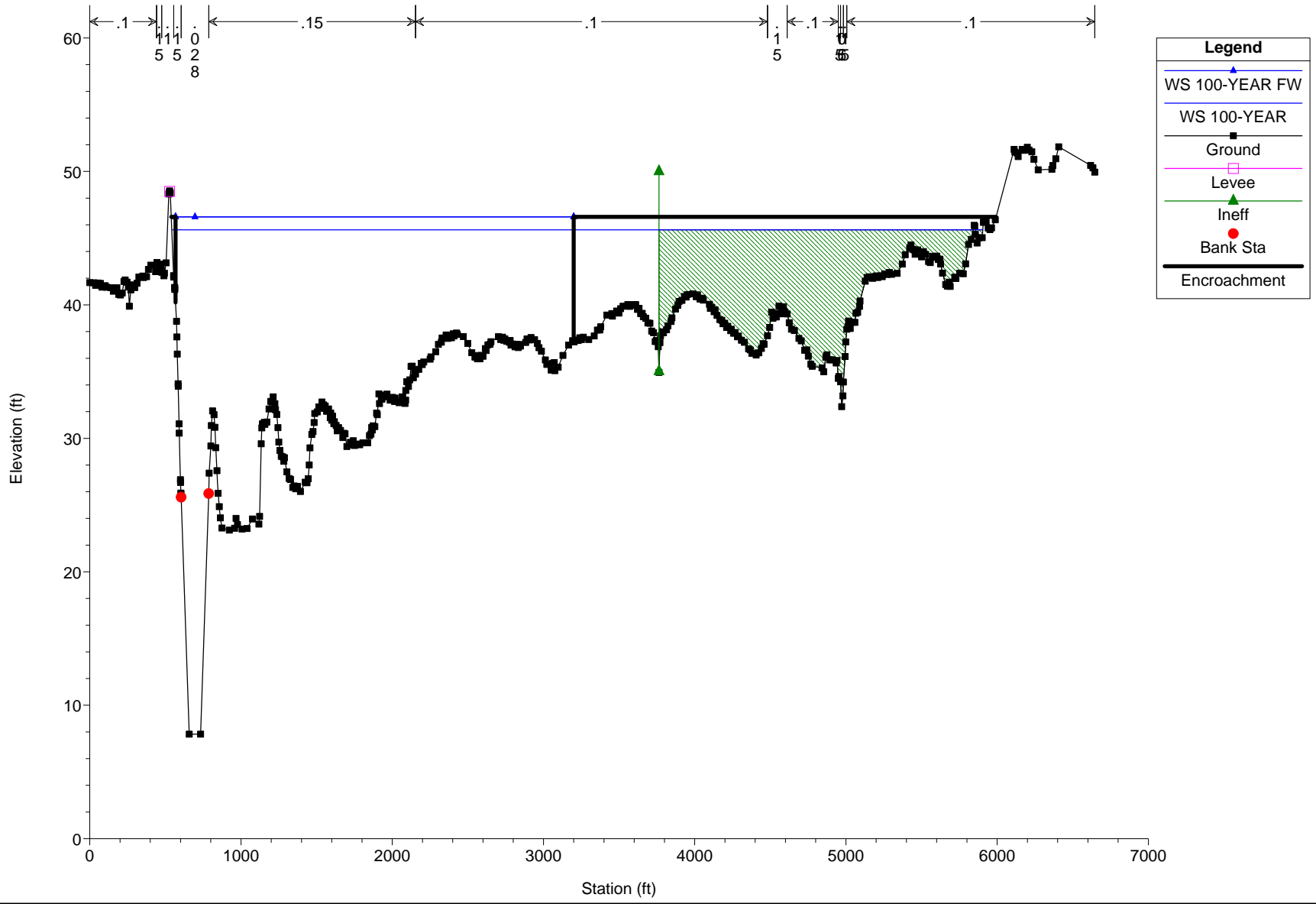


Tar River - AUGUST 20, 2010 4650 Plan: 1) Existing 6/1/2021  
RS 250805 - New Section





Tar River - AUGUST 20,2010 4650 Plan: 1) Existing 5/30/2021  
 RS 250631 - New Section



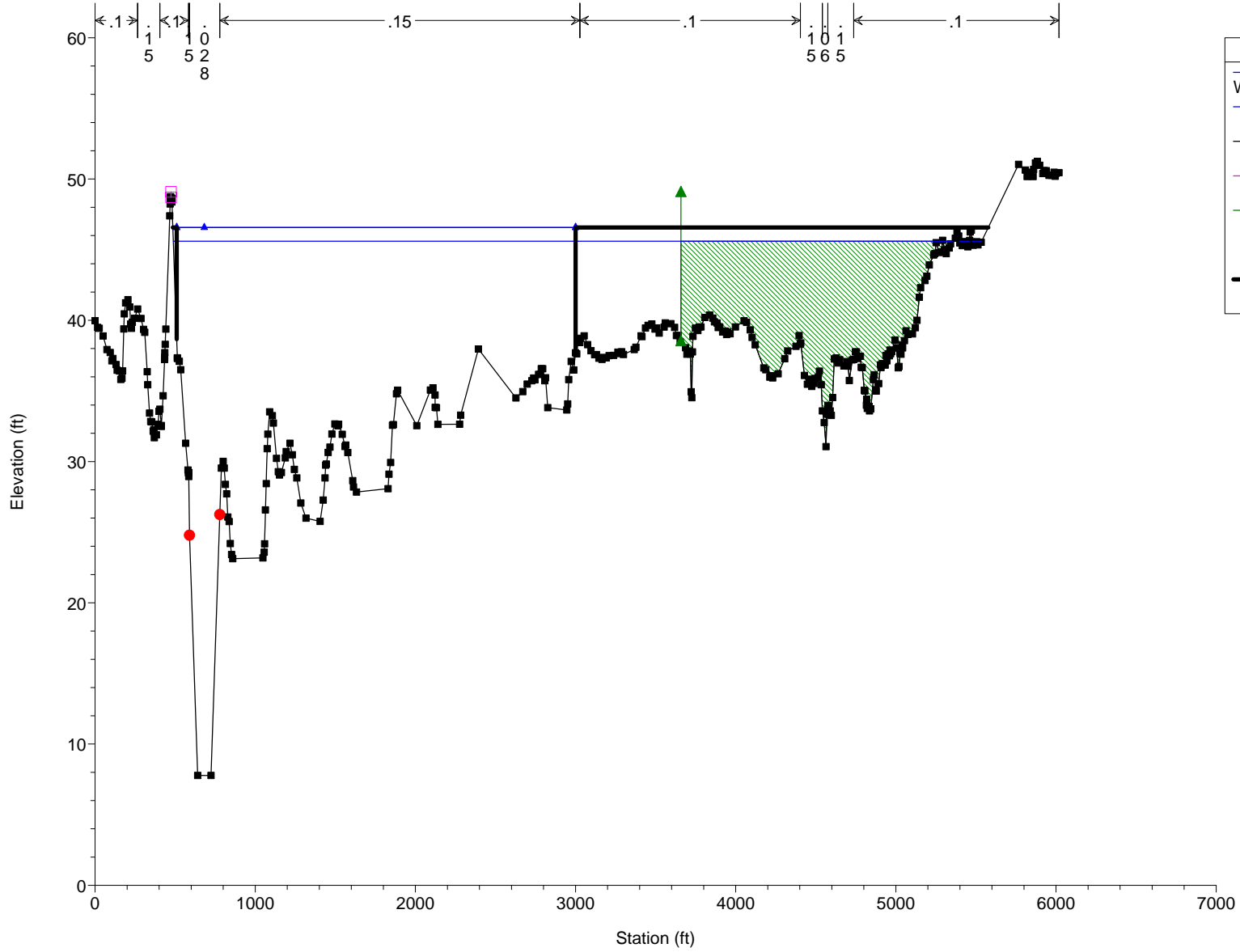






Tar River - AUGUST 20, 2010 4650 Plan: 1) Existing 6/9/2021

RS 250376 - New Section



Legend	
WS 100-YEAR FW	▲
WS 100-YEAR	—
Ground	■
Levee	□
Ineff	▲
Bank Sta	●
Encroachment	—

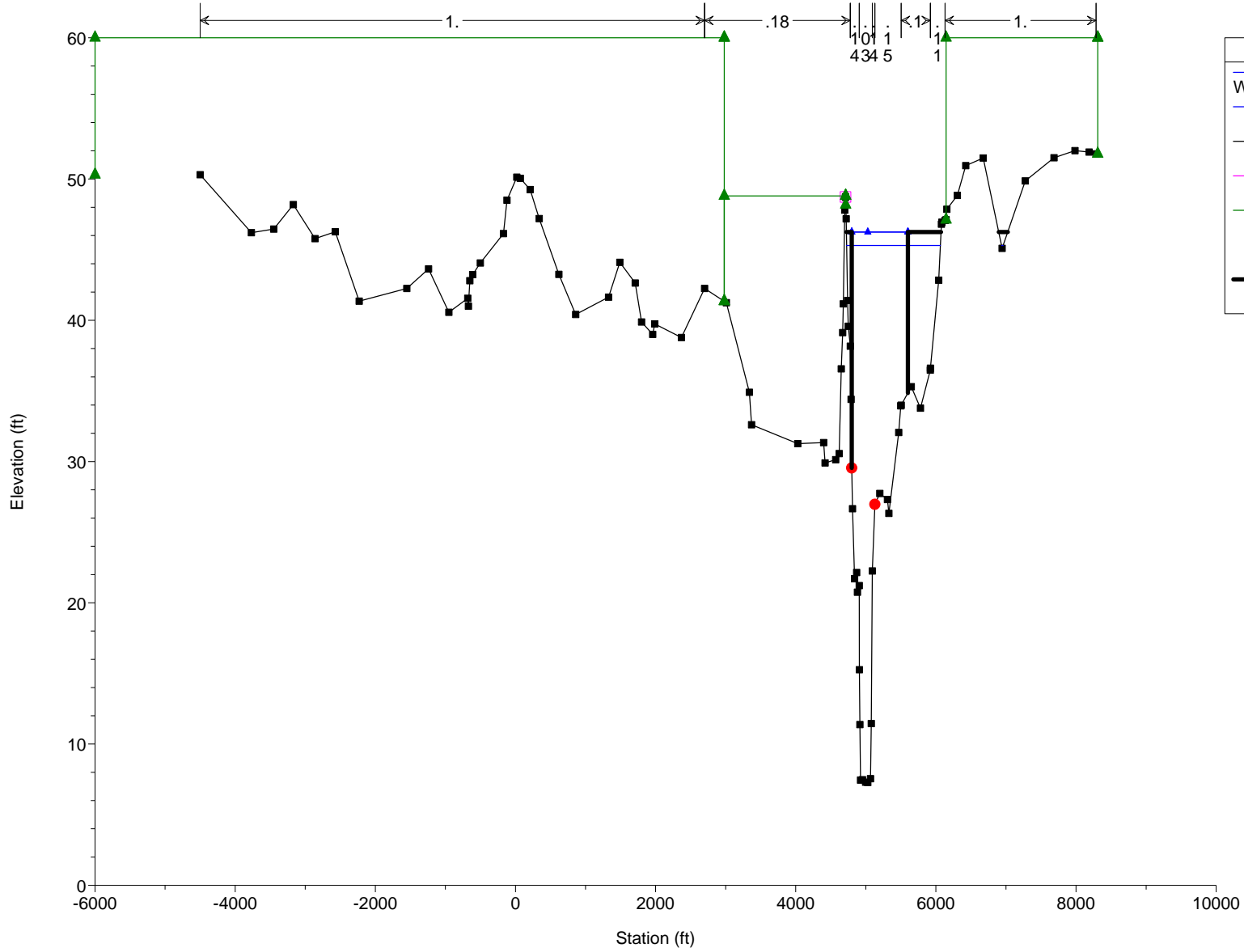






Tar River - AUGUST 20,2010 4650 Plan: 1) Existing 5/30/2021

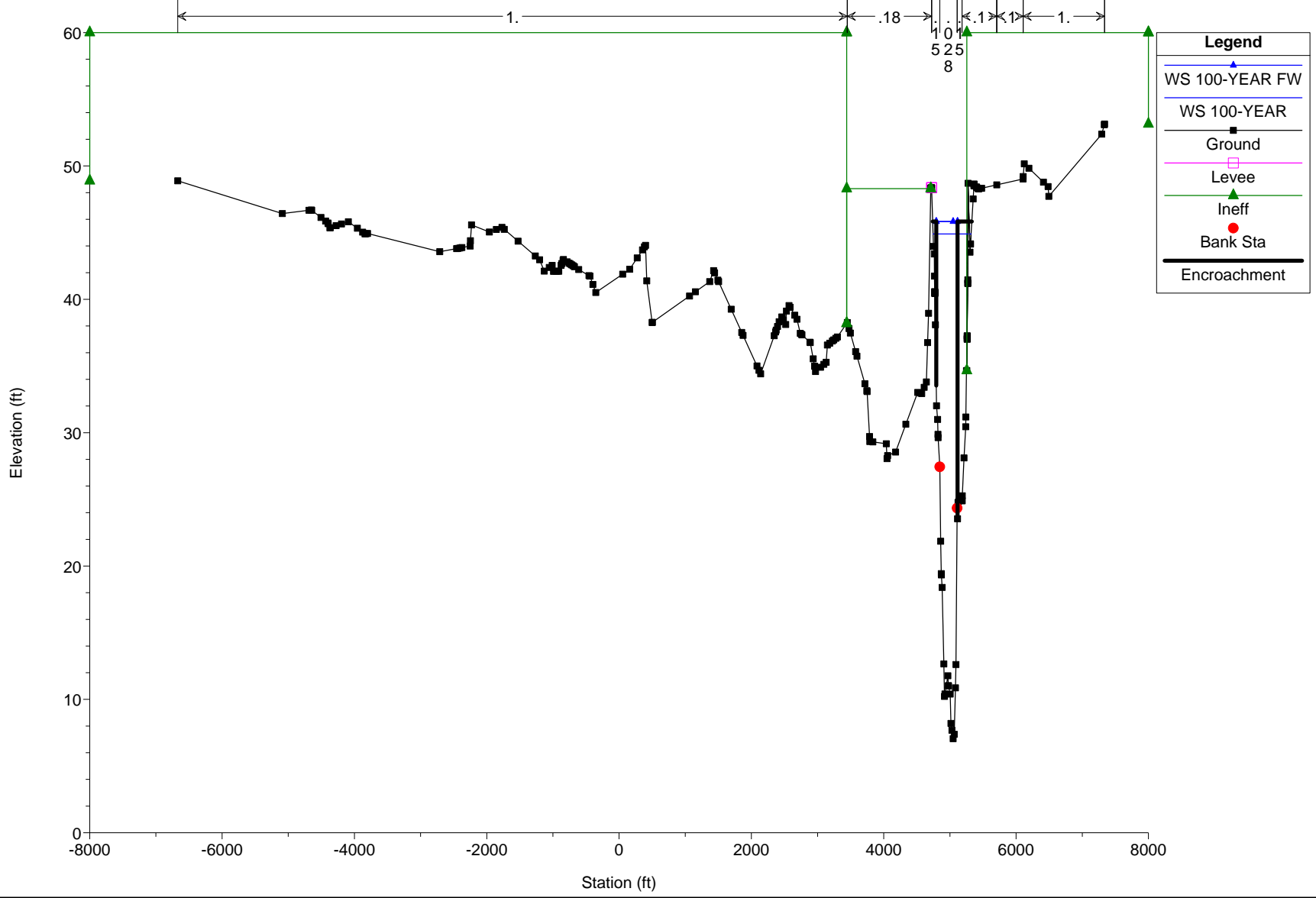
Cross Section Tar River 10.0



Legend	
WS 100-YEAR FW	Blue line with triangle markers
WS 100-YEAR	Blue line
Ground	Black line with square markers
Levee	Pink line with square markers
Ineff	Green line with triangle markers
Bank Sta	Red dot
Encroachment	Thick black line



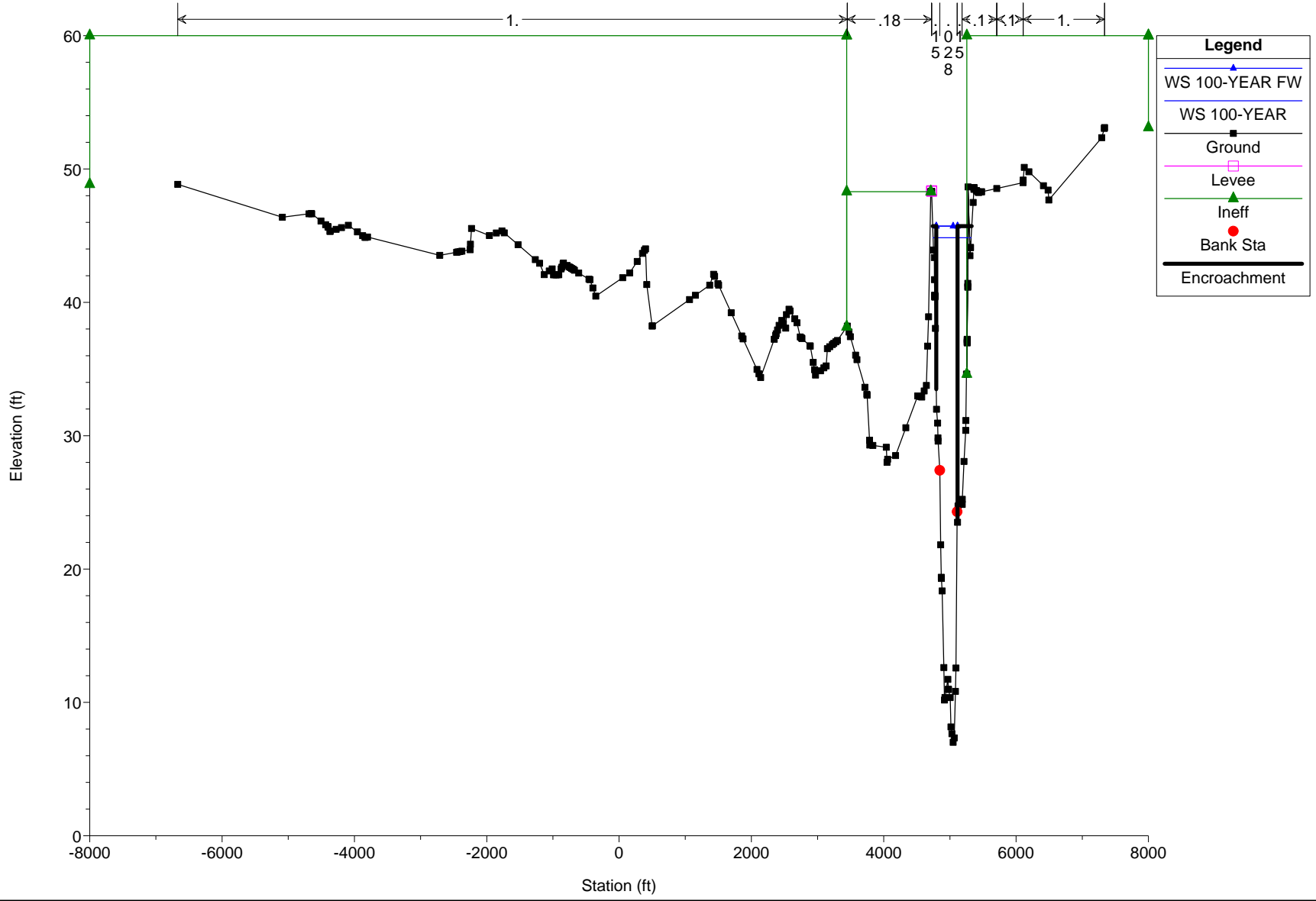
Tar River - AUGUST 20,2010 4650 Plan: 1) Existing 5/30/2021  
 Upstream Section of Bridge/Culvert/Weir





Tar River - AUGUST 20,2010 4650 Plan: 1) Existing 5/30/2021

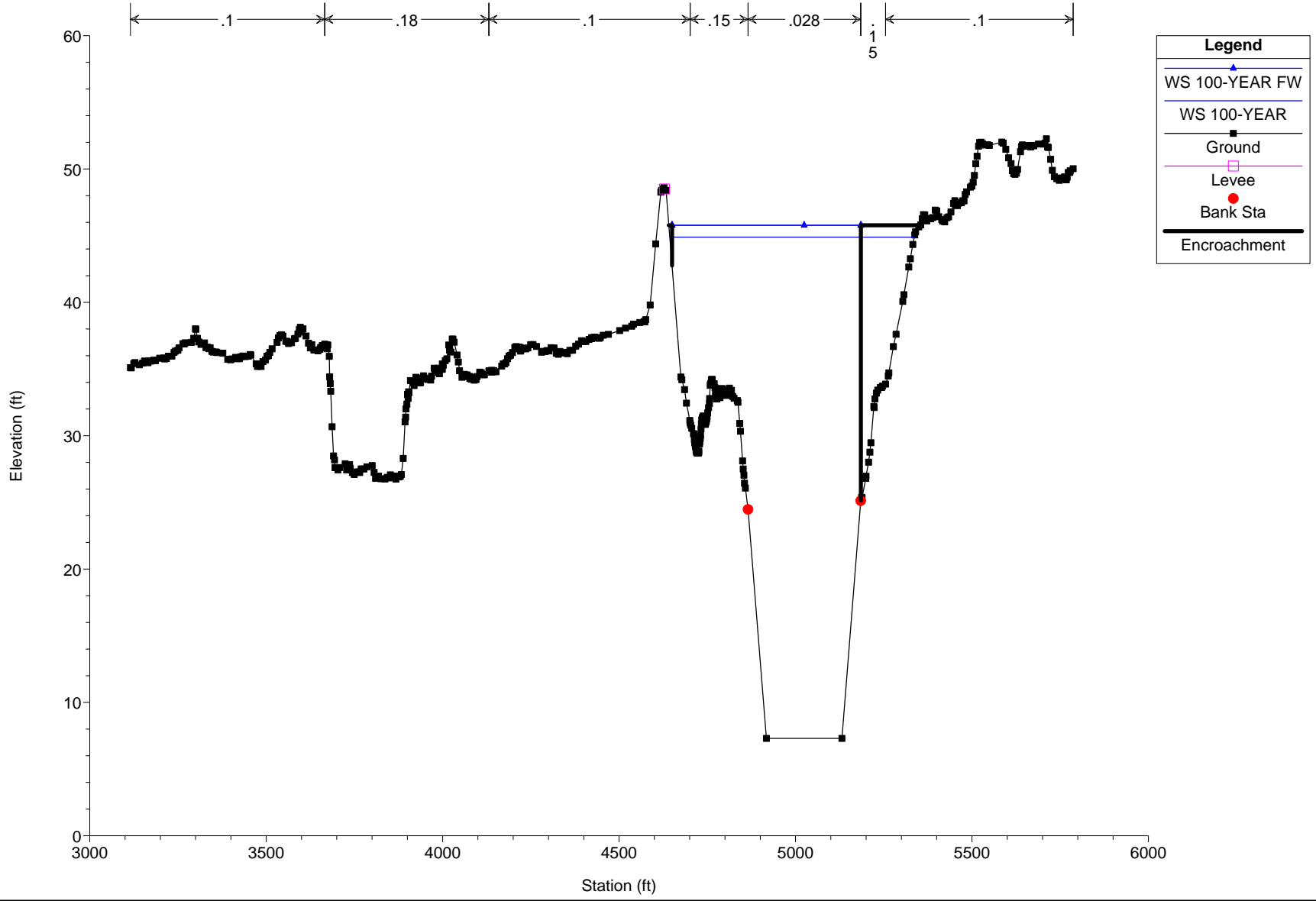
Downstream Section of Bridge/Culvert/Weir





Tar River - AUGUST 20,2010 4650 Plan: 1) Existing 5/30/2021

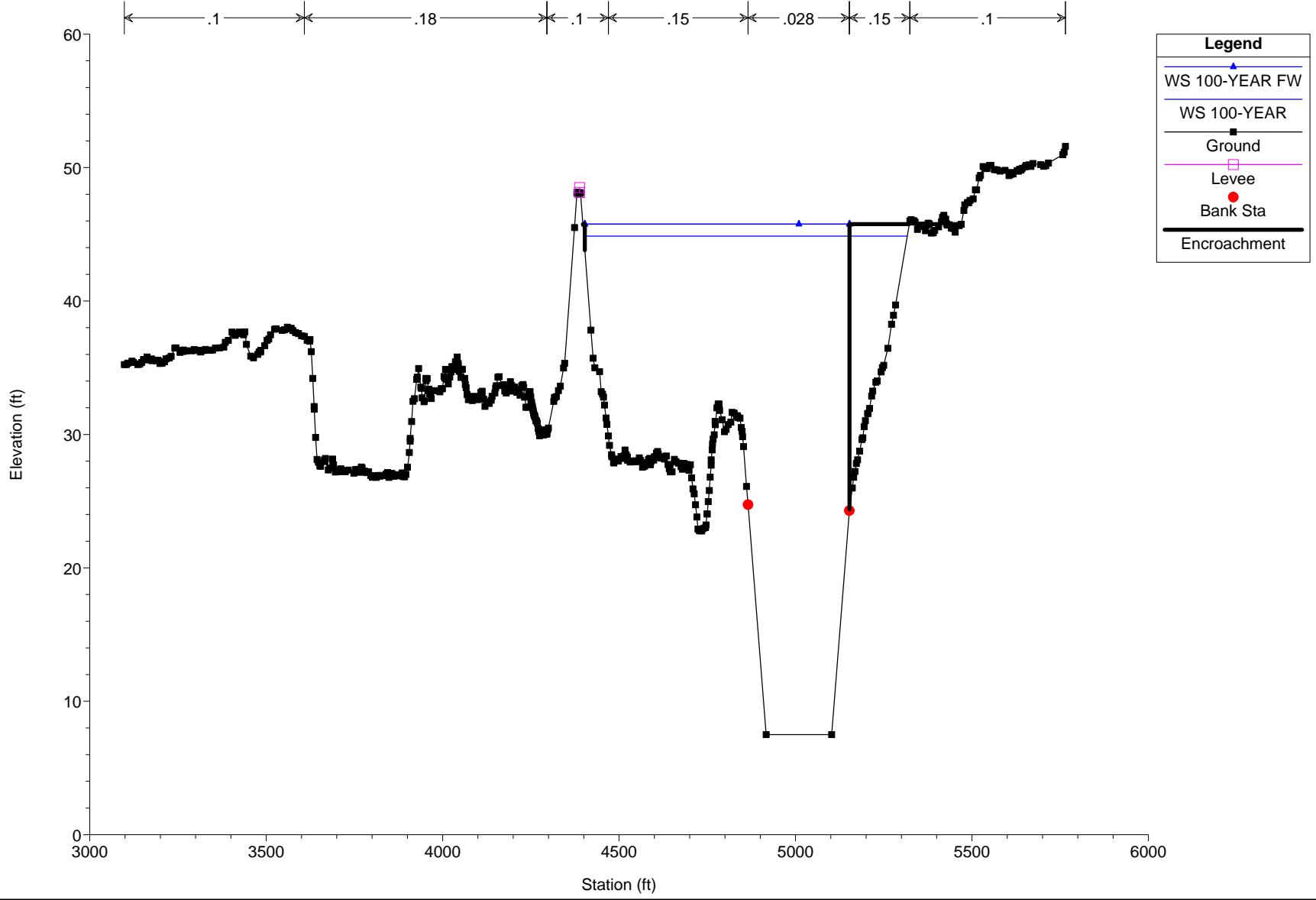
RS 245278 - New Section





Tar River - AUGUST 20,2010 4650 Plan: 1) Existing 5/30/2021

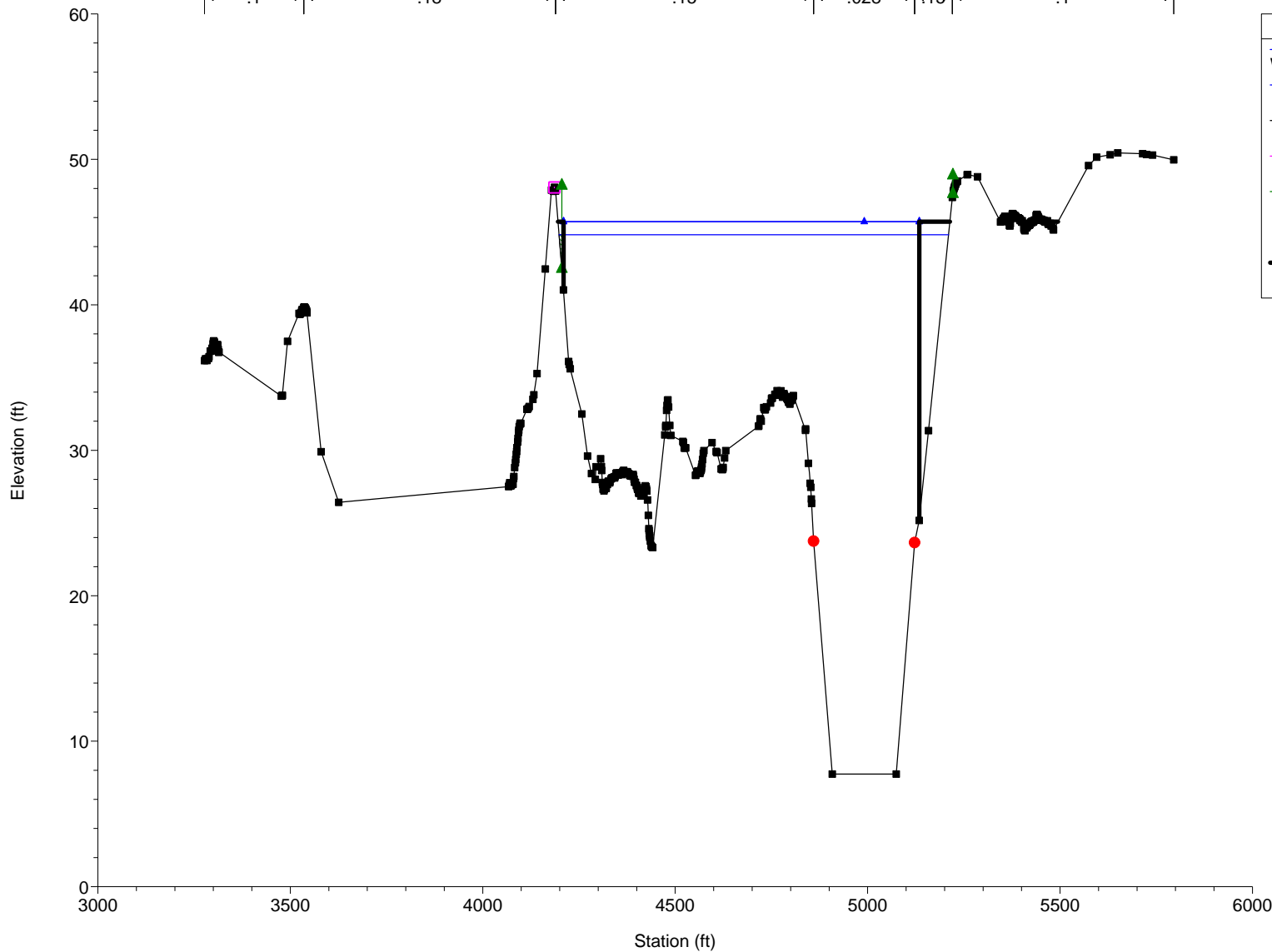
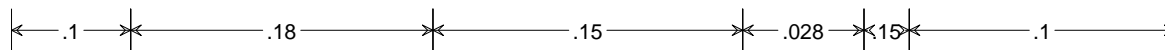
RS 245115 - New Section





Tar River - AUGUST 20,2010 4650 Plan: 1) Existing 5/30/2021

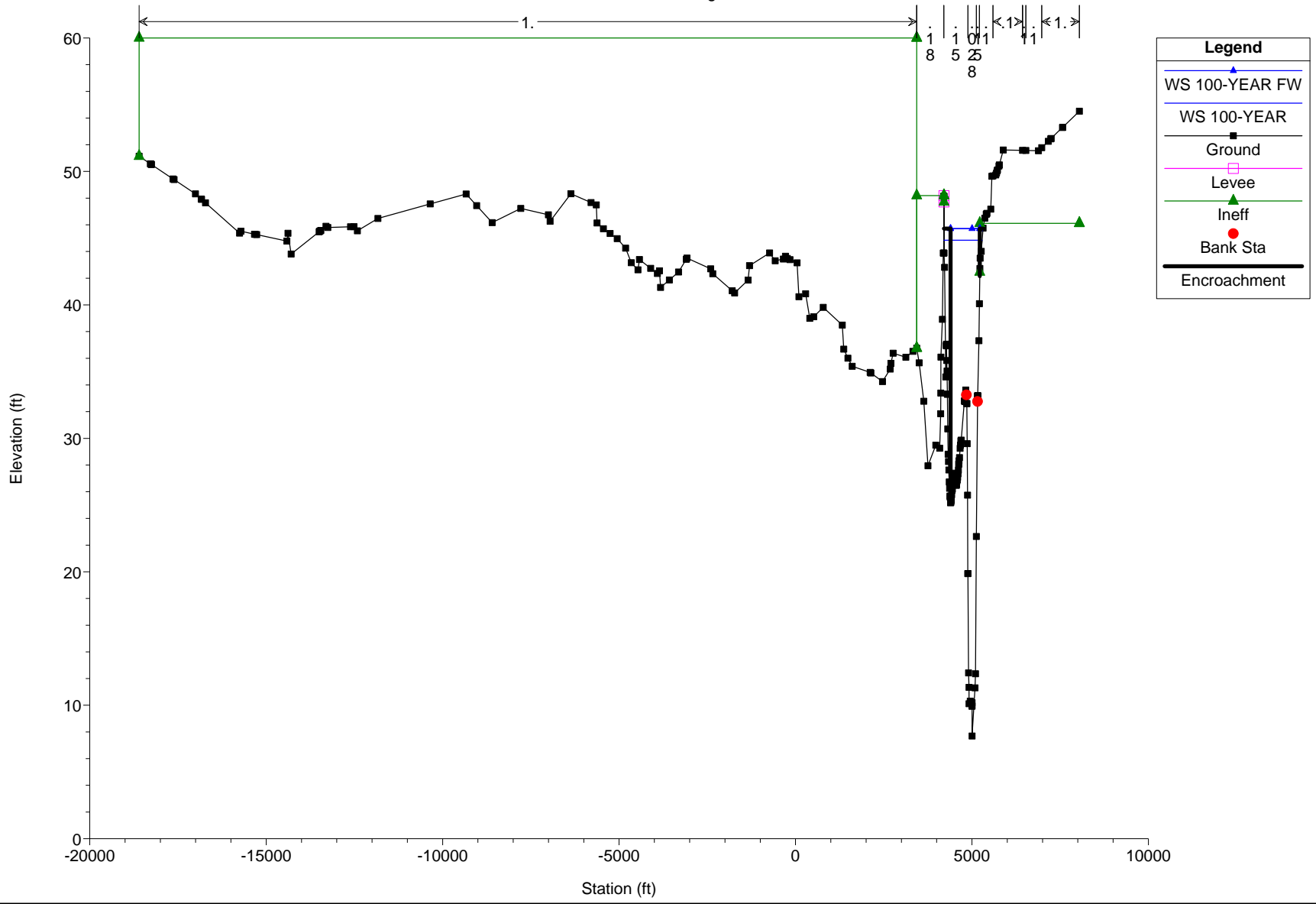
RS 245050 - Modified Section



Legend	
WS 100-YEAR FW	▲
WS 100-YEAR	—
Ground	■
Levee	□
Ineff	▲
Bank Sta	●
Encroachment	—



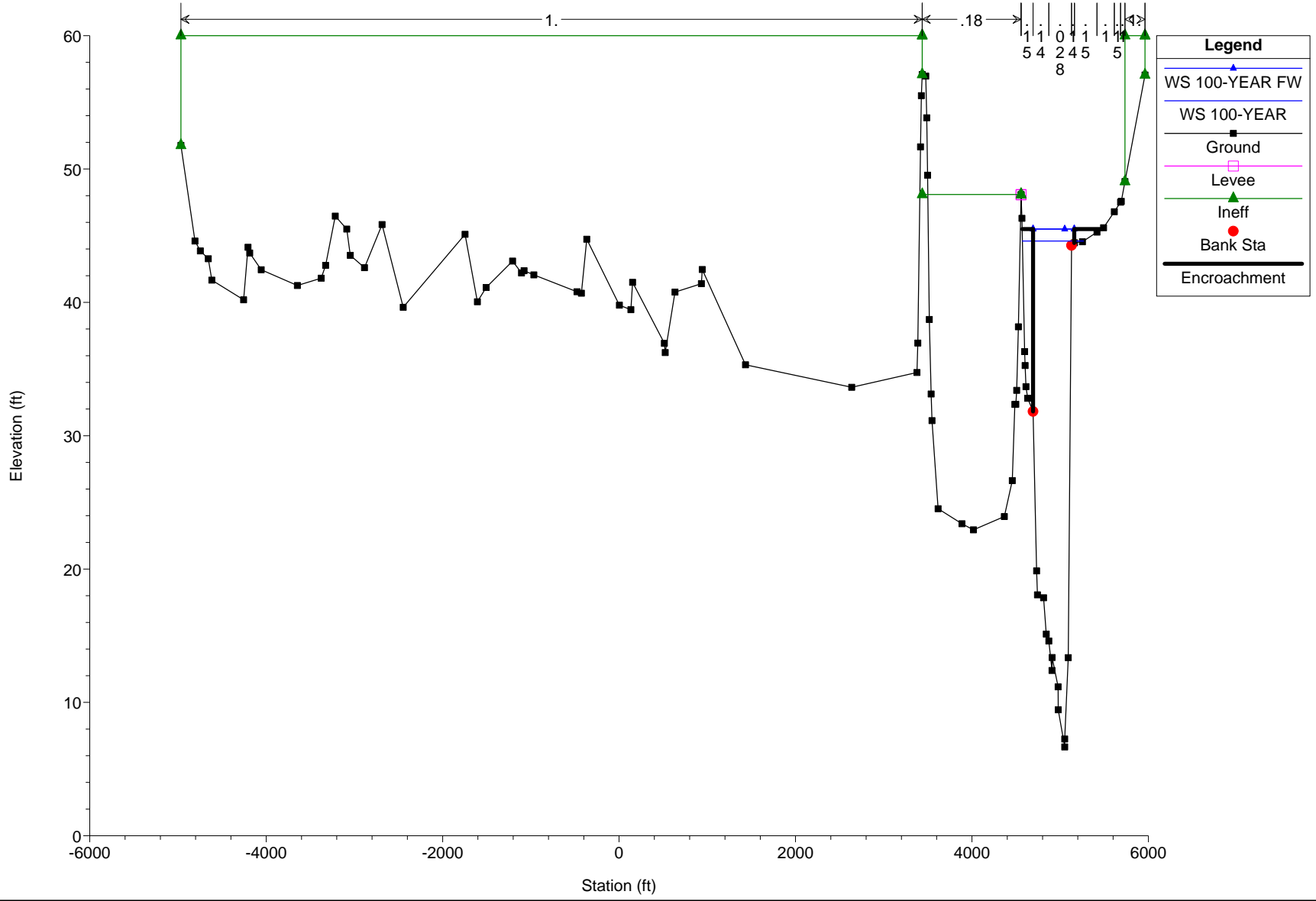
Tar River - AUGUST 20,2010 4650 Plan: 1) Existing 5/30/2021  
 Downstream Section of Bridge/Culvert/Weir





Tar River - AUGUST 20,2010 4650 Plan: 1) Existing 5/30/2021

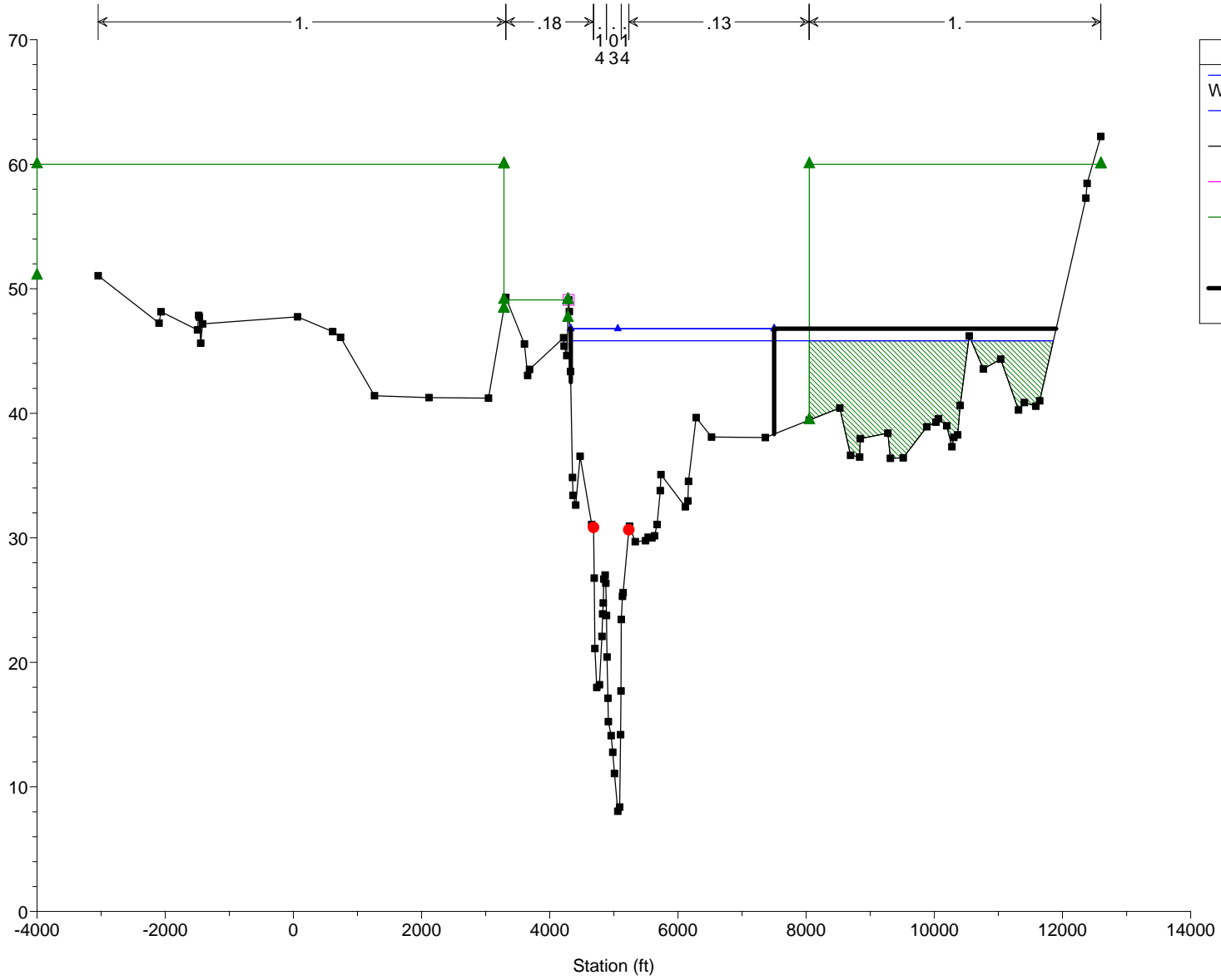
Cross Section Tar River 9.0





Tar River - AUGUST 20, 2010 4650 Plan: Proposed Conditions 5/30/2021

Cross Section Tar River 11.0 (Approx U/S limit of Princevill Dy)

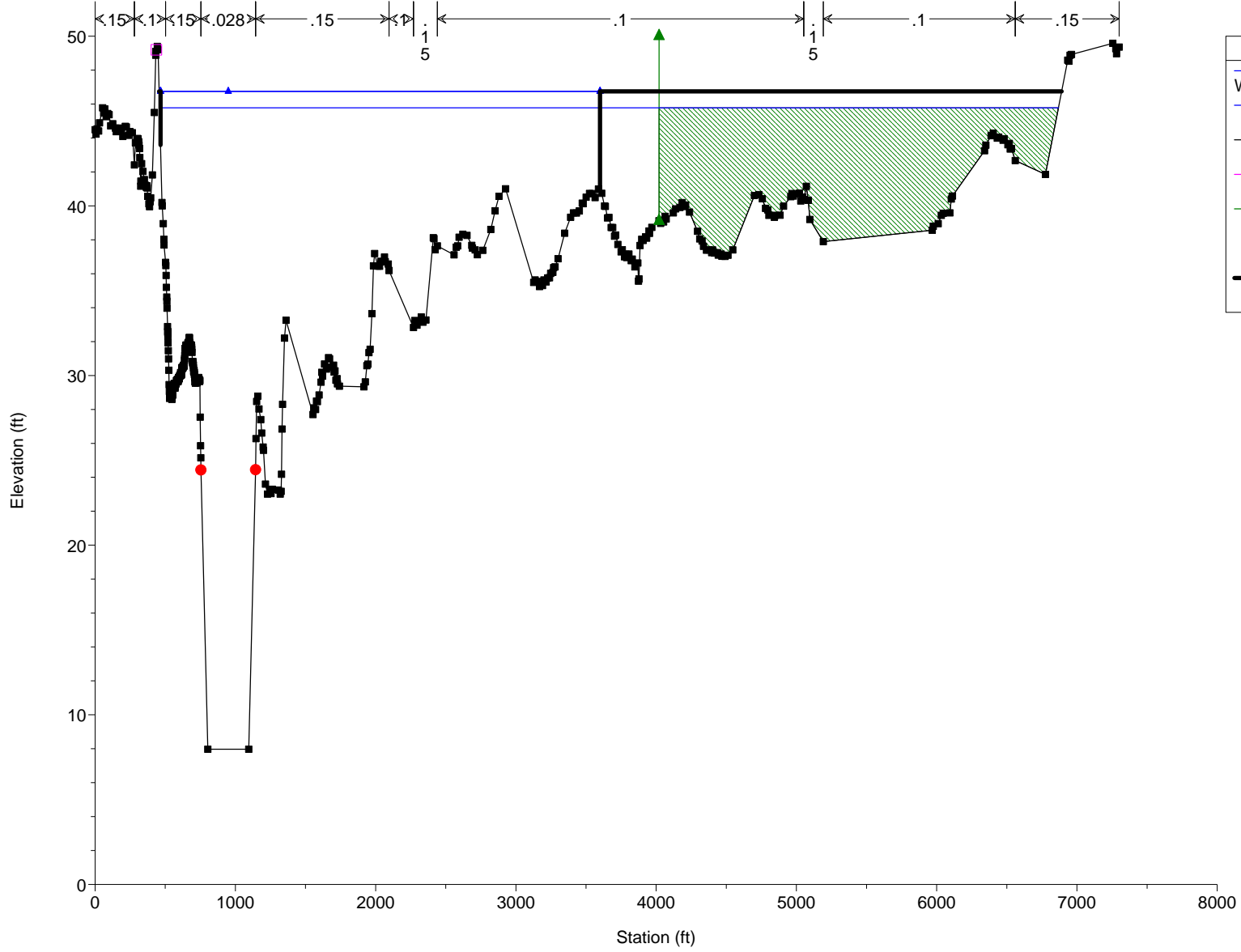


Legend	
WS 100-YEAR FW	▲
WS 100-YEAR	—
Ground	■
Levee	□
Ineff	▲
Bank Sta	●
Encroachment	—



Tar River - AUGUST 20,2010 4650 Plan: Proposed Conditions 5/30/2021

RS 251452 - New Section



Legend	
WS 100-YEAR FW	
WS 100-YEAR	
Ground	
Levee	
Ineff	
Bank Sta	
Encroachment	





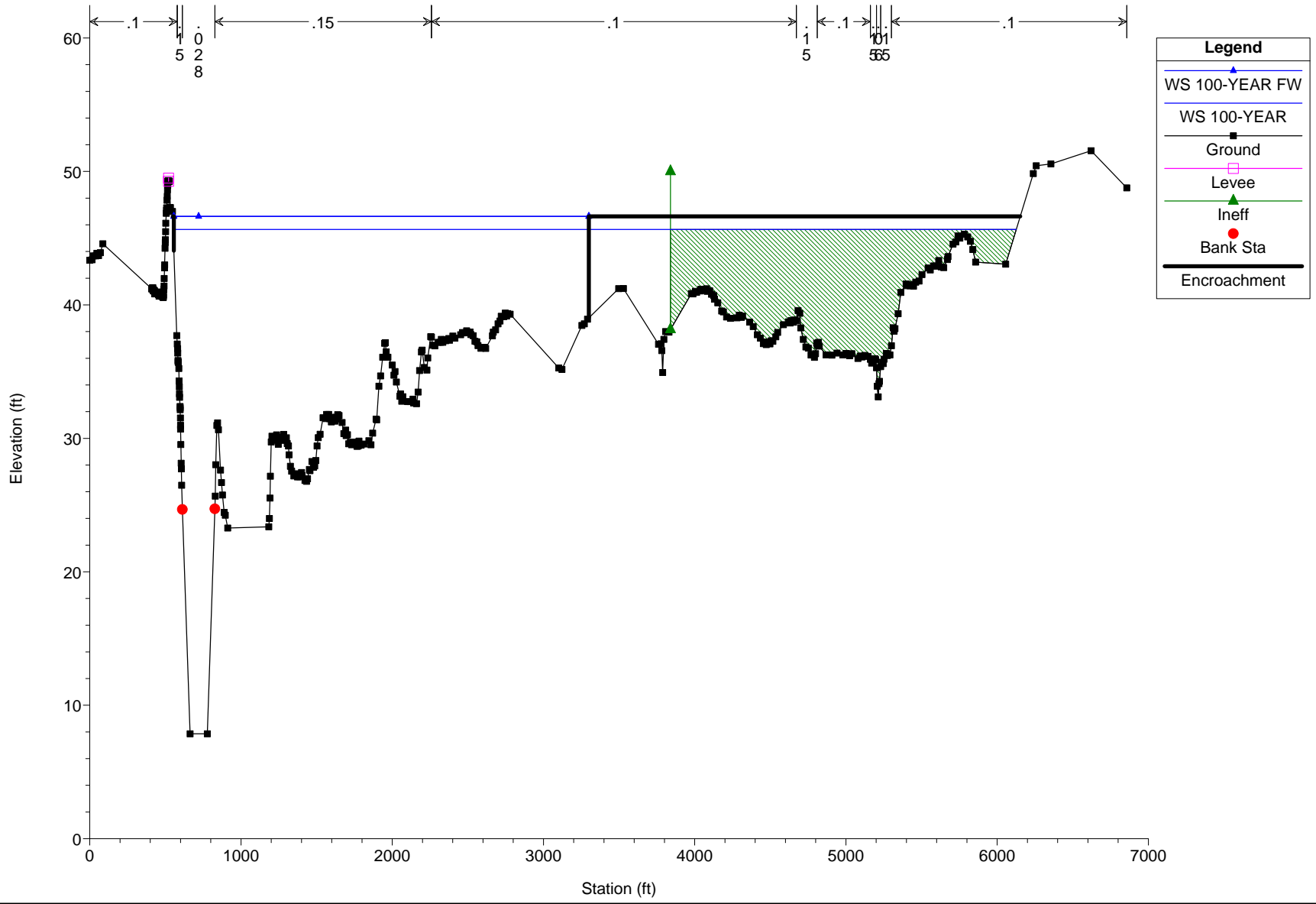






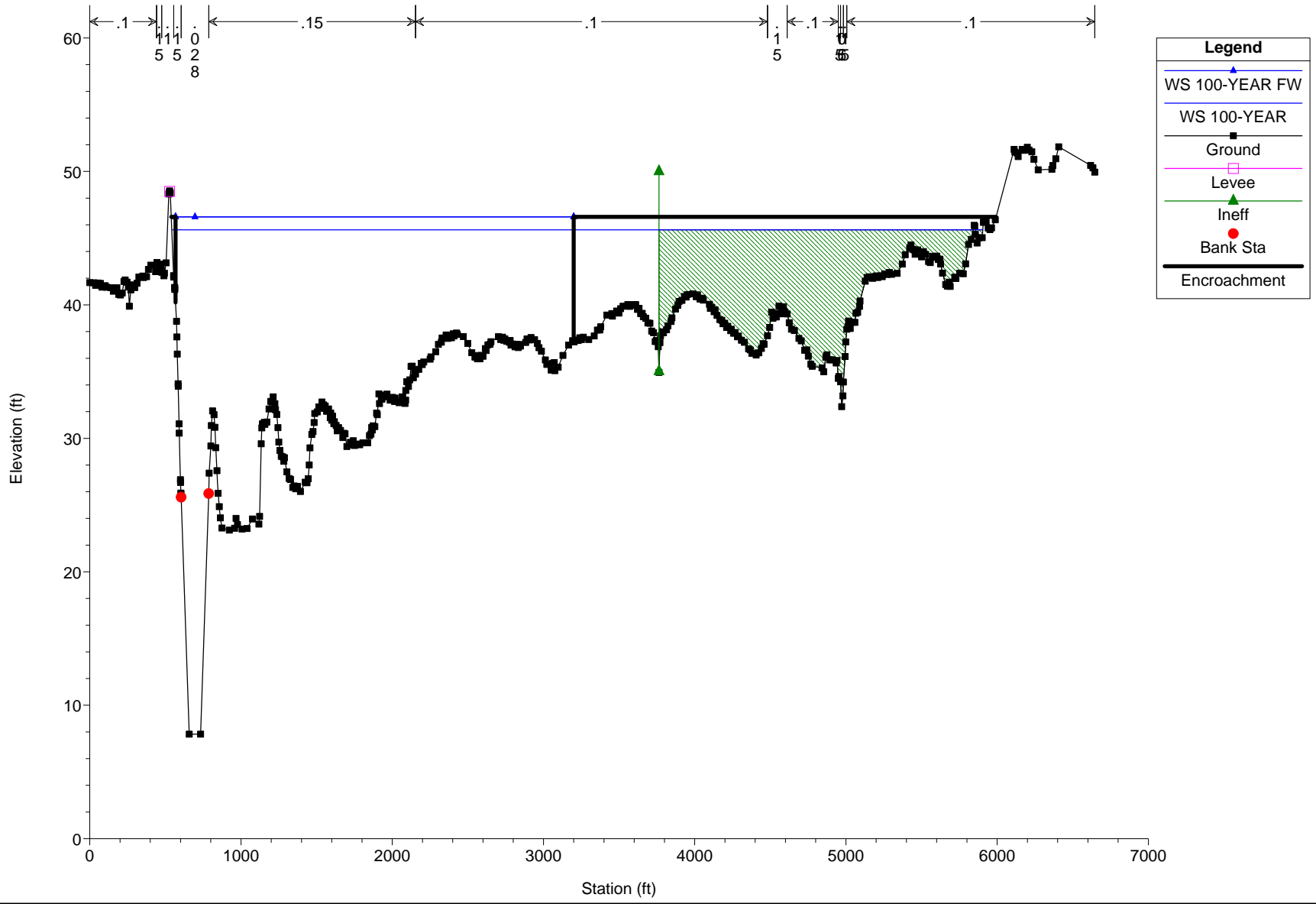
Tar River - AUGUST 20,2010 4650 Plan: Proposed Conditions 6/1/2021

RS 250805 - New Section





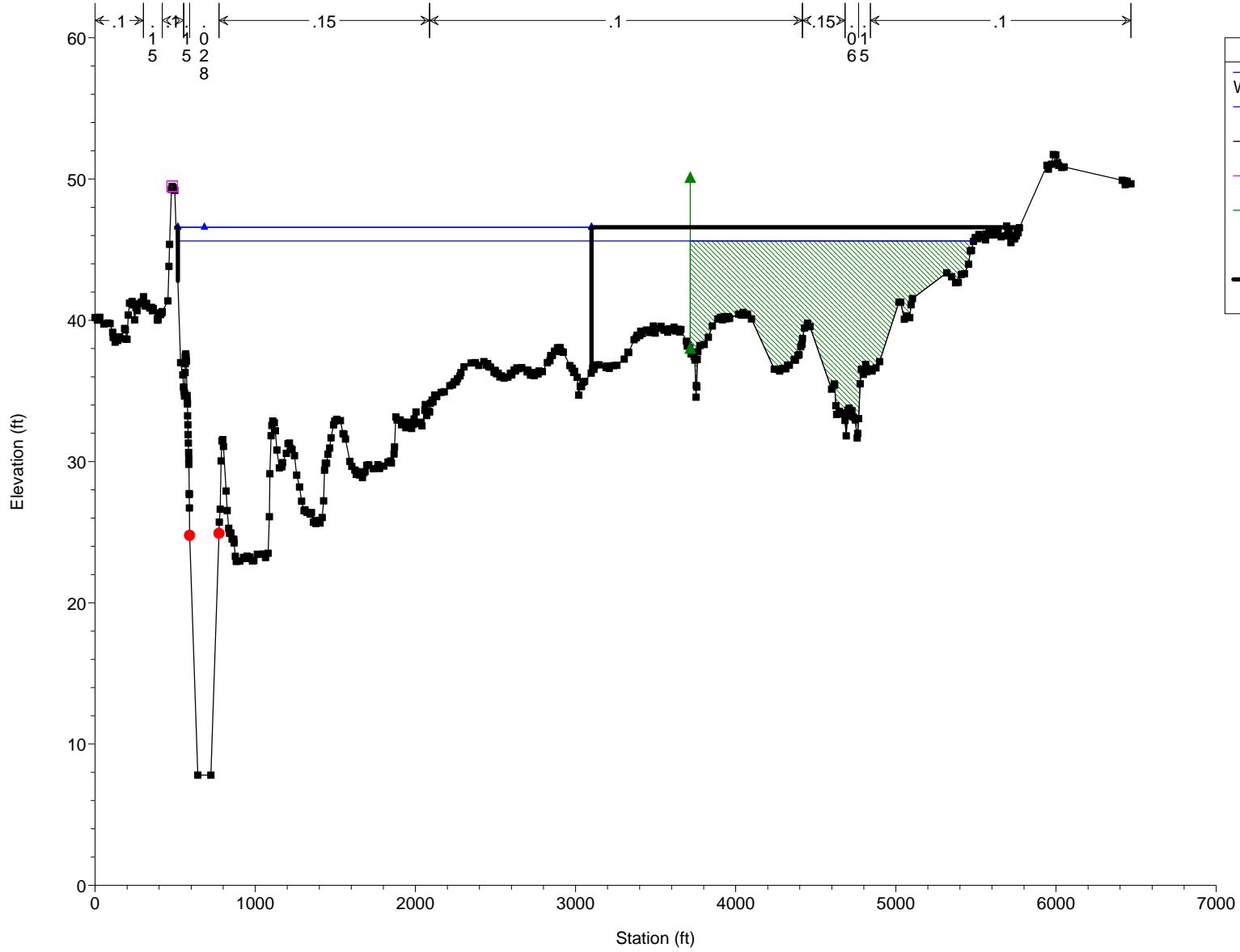
Tar River - AUGUST 20,2010 4650 Plan: Proposed Conditions 5/30/2021  
 RS 250631 - New Section





Tar River - AUGUST 20,2010 4650 Plan: Proposed Conditions 5/30/2021

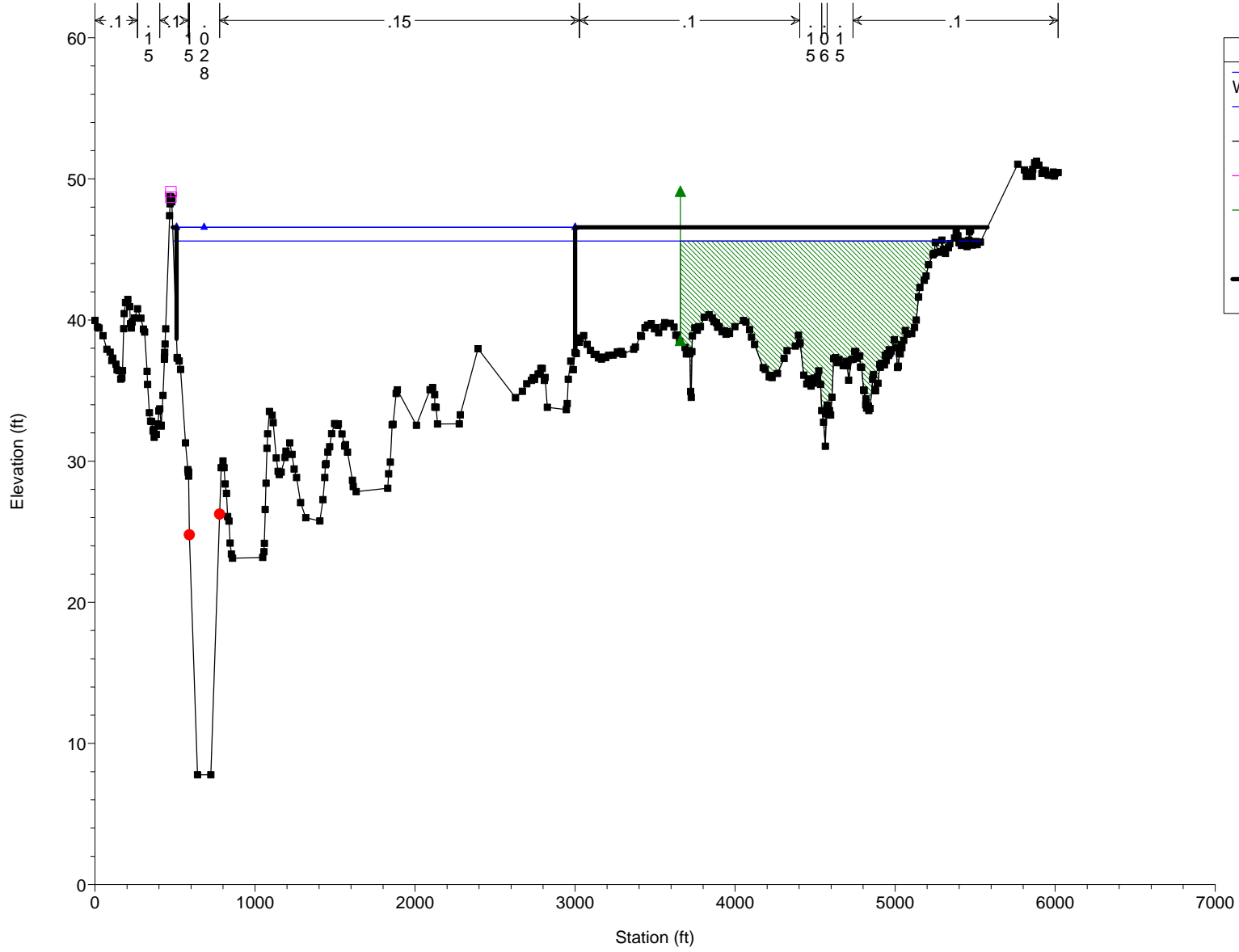
RS 250459 - New Section





Tar River - AUGUST 20, 2010 4650 Plan: Proposed Conditions 6/9/2021

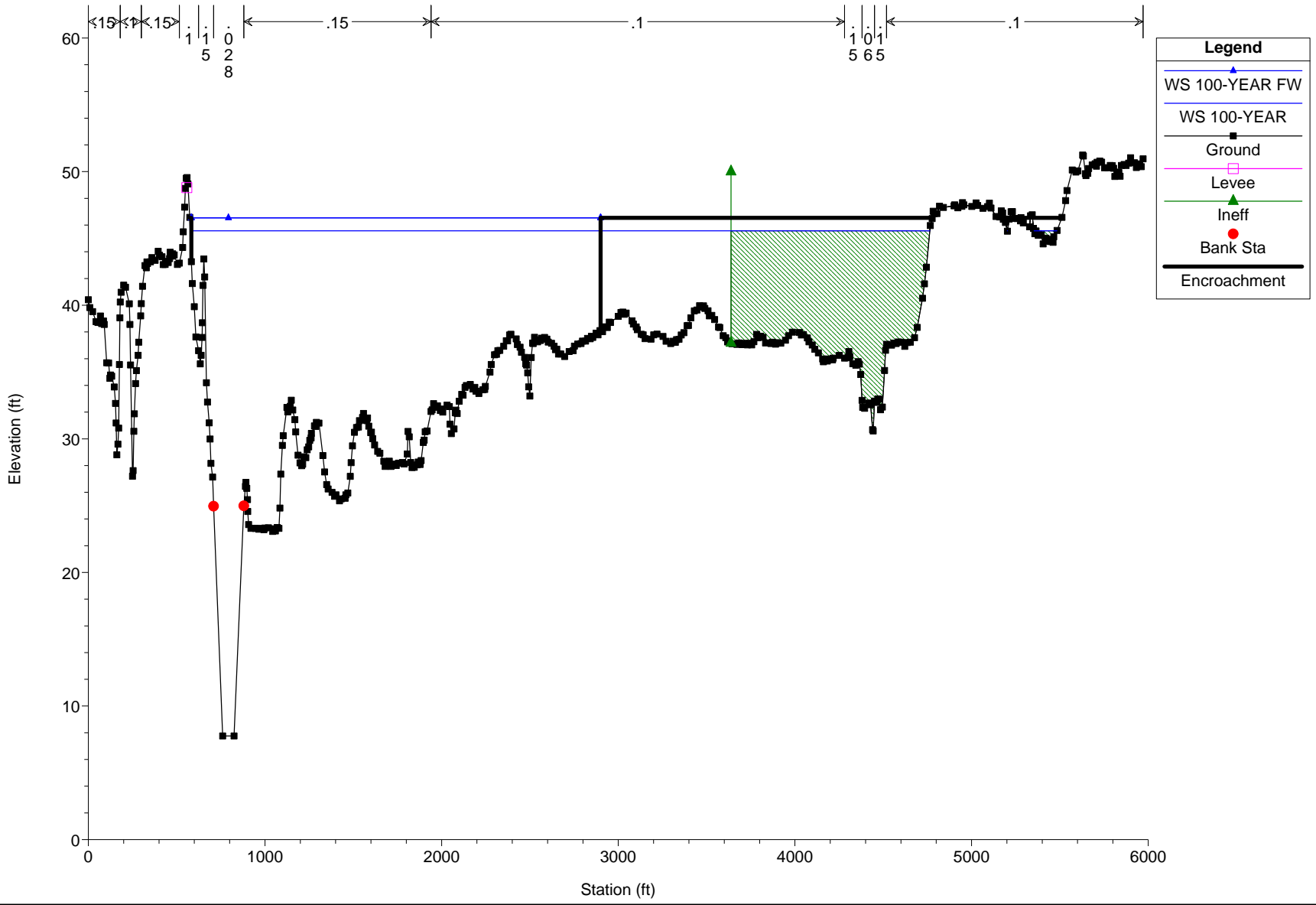
RS 250376 - New Section



Legend	
WS 100-YEAR FW	Blue line with triangle
WS 100-YEAR	Blue line
Ground	Black line with square
Levee	Pink line with square
Ineff	Green line with triangle
Bank Sta	Red dot
Encroachment	Black line



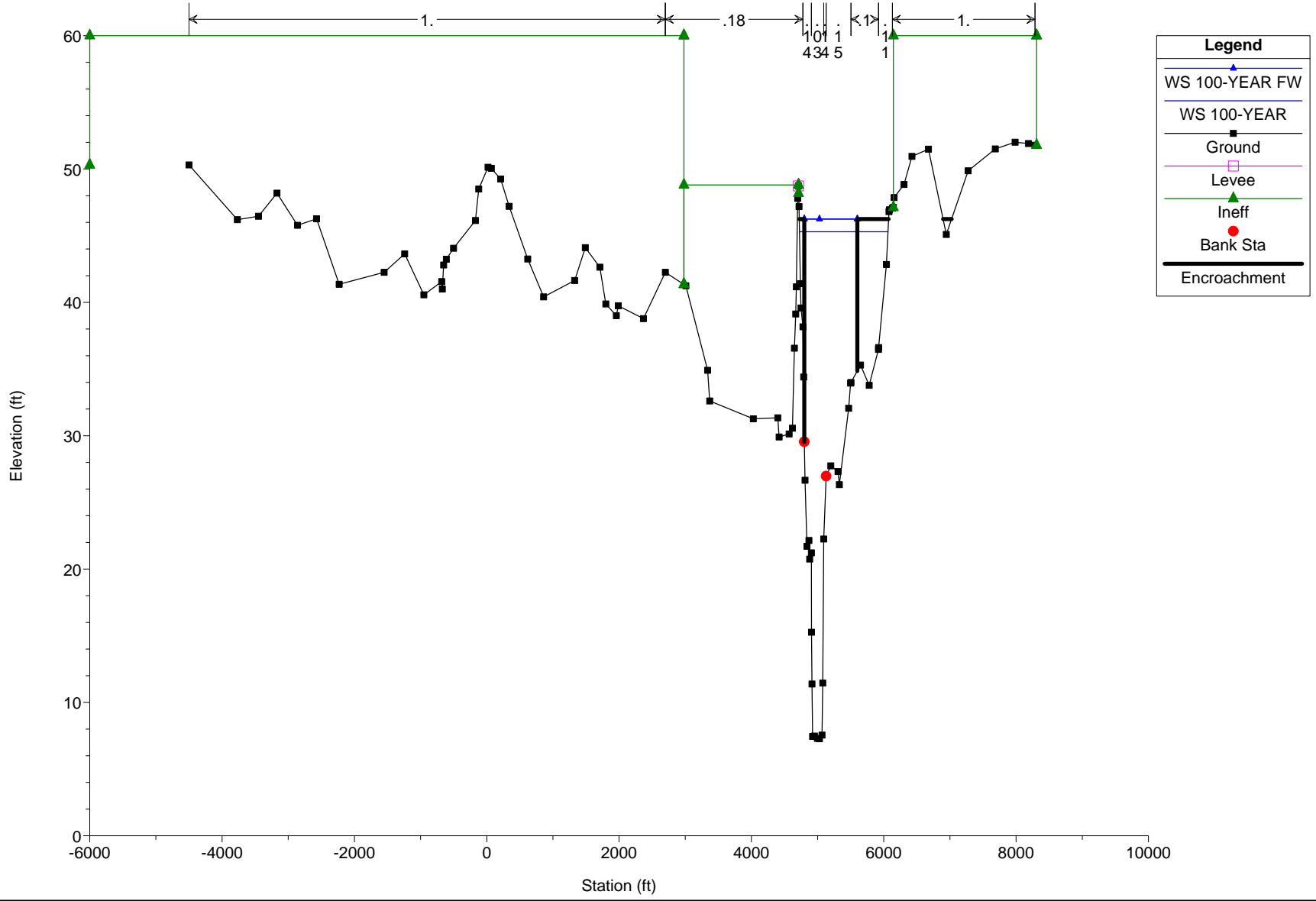
Tar River - AUGUST 20,2010 4650 Plan: Proposed Conditions 5/30/2021  
 RS 250174 - New Section





Tar River - AUGUST 20,2010 4650 Plan: Proposed Conditions 5/30/2021

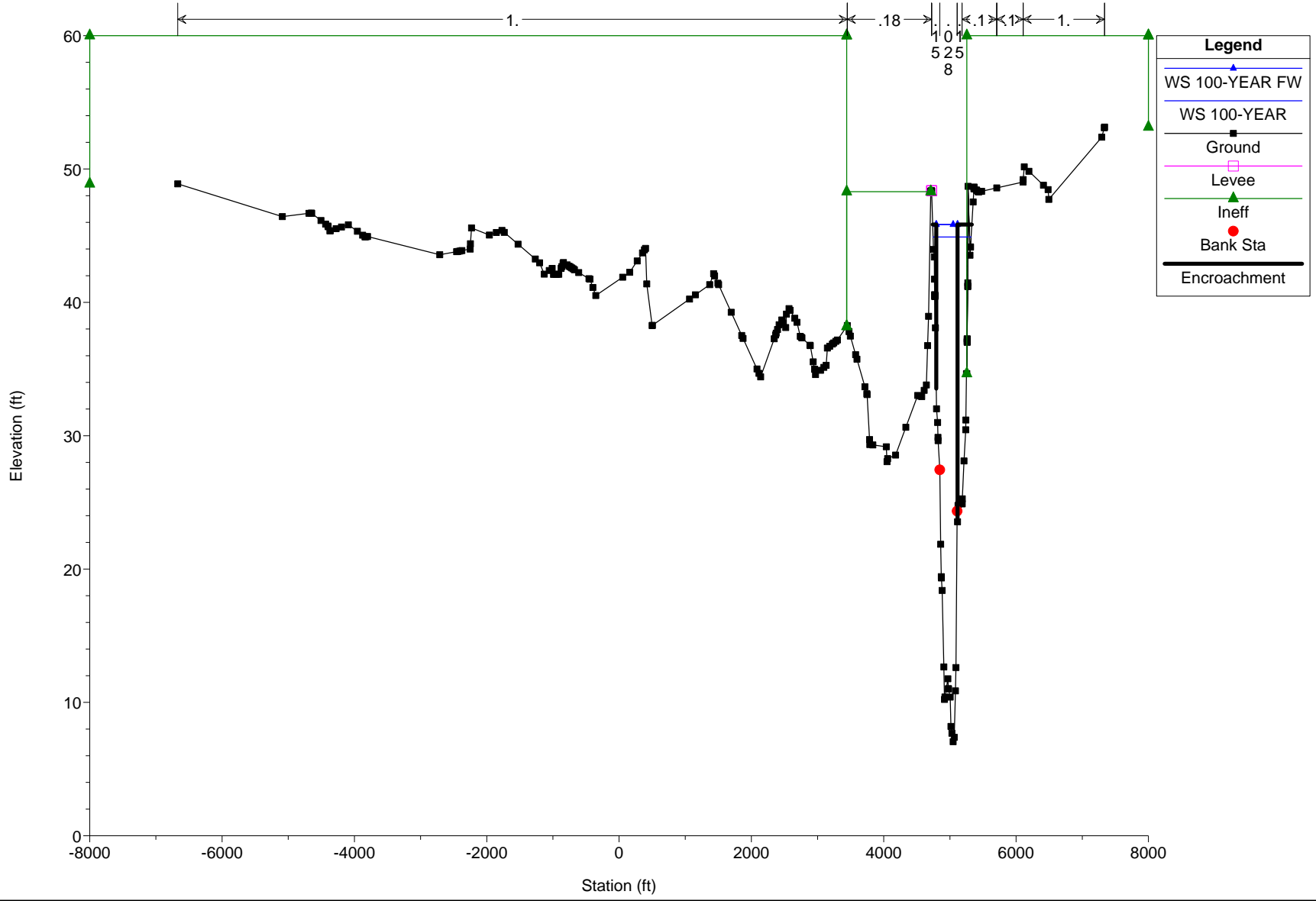
Cross Section Tar River 10.0



Legend	
WS 100-YEAR FW	Blue line with triangle marker
WS 100-YEAR	Blue line
Ground	Black line with square marker
Levee	Pink line with square marker
Ineff	Green line with triangle marker
Bank Sta	Red dot
Encroachment	Thick black line



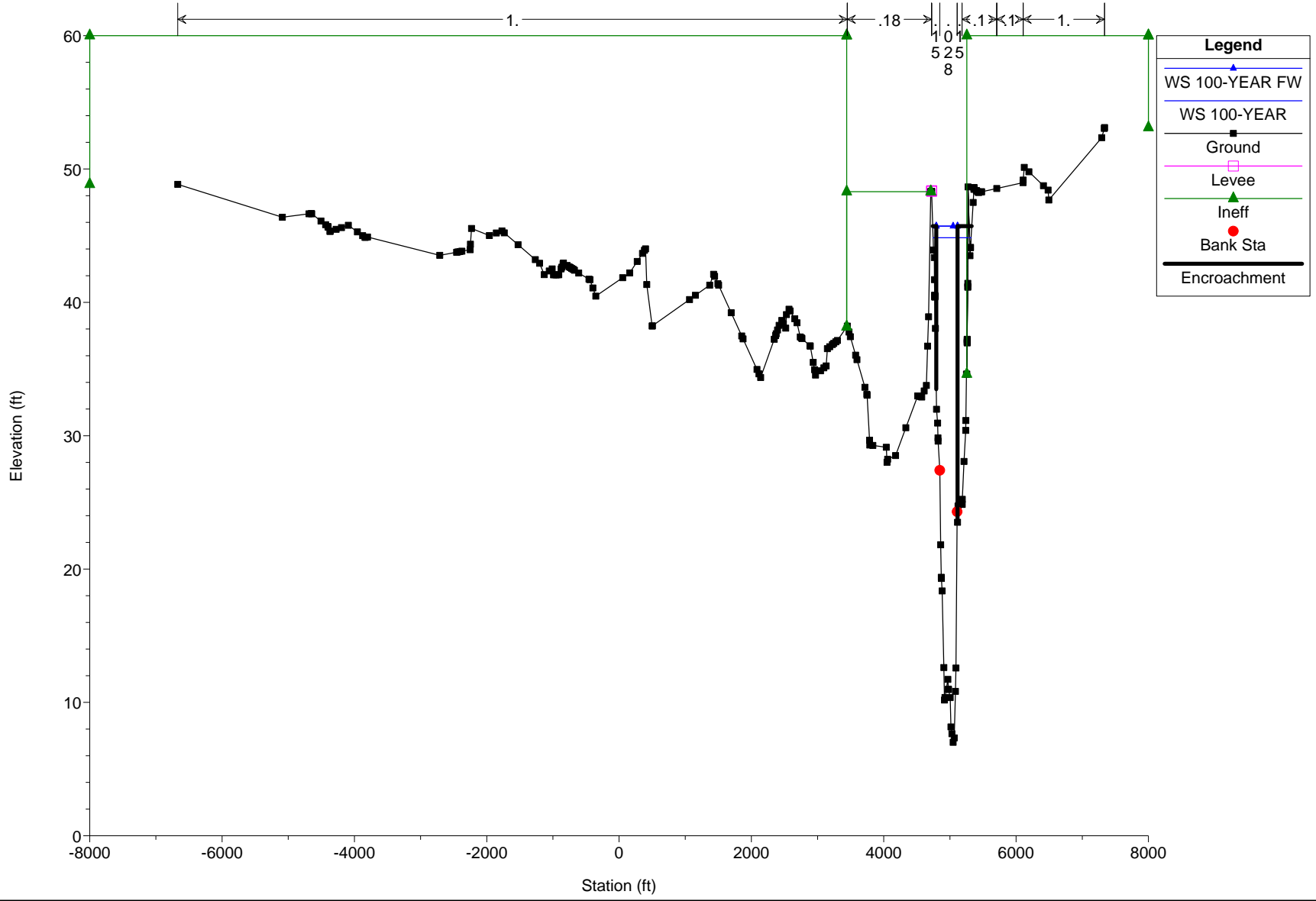
Tar River - AUGUST 20,2010 4650 Plan: Proposed Conditions 5/30/2021  
 Upstream Section of Bridge/Culvert/Weir





Tar River - AUGUST 20,2010 4650 Plan: Proposed Conditions 5/30/2021

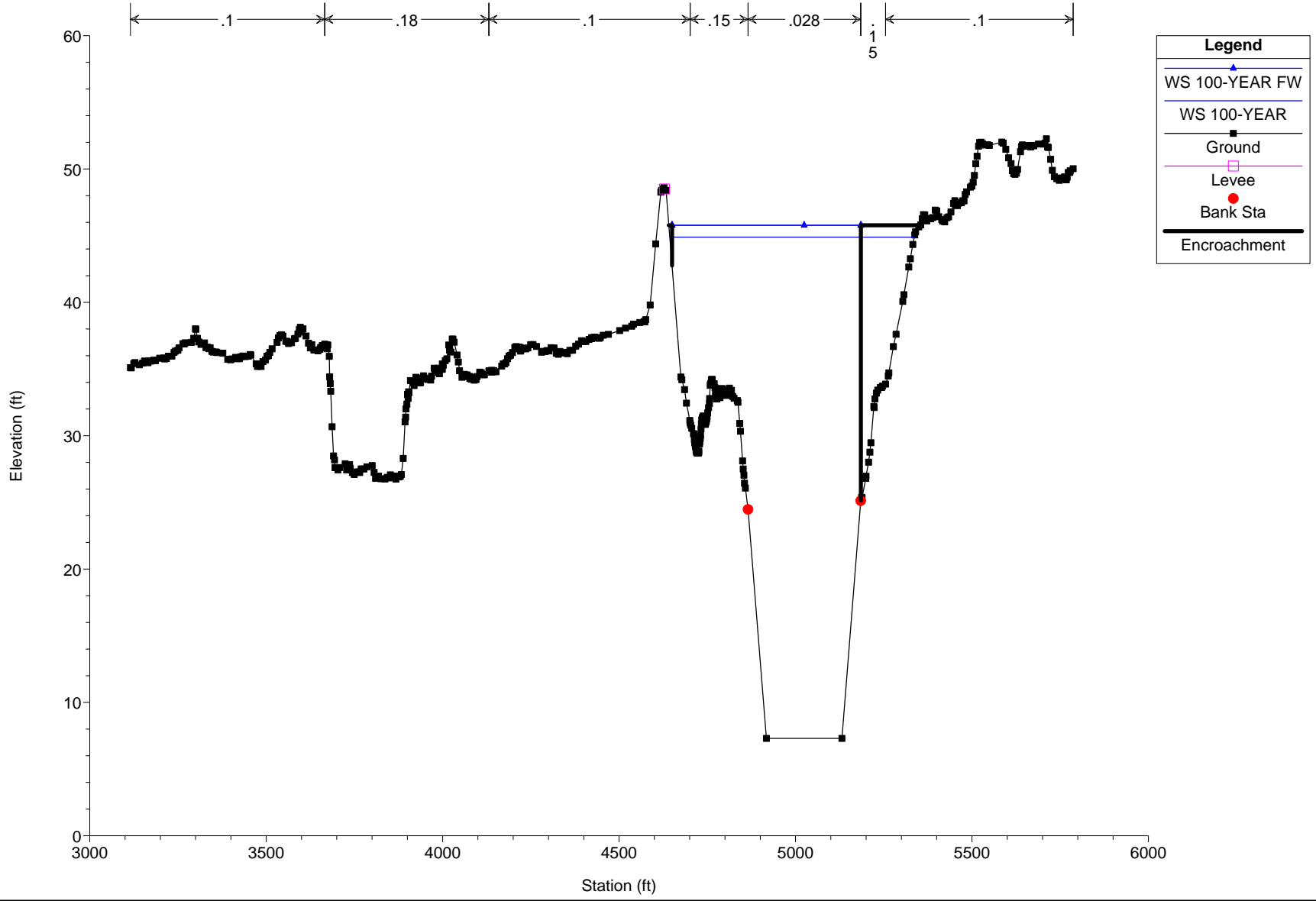
Downstream Section of Bridge/Culvert/Weir





Tar River - AUGUST 20,2010 4650 Plan: Proposed Conditions 5/30/2021

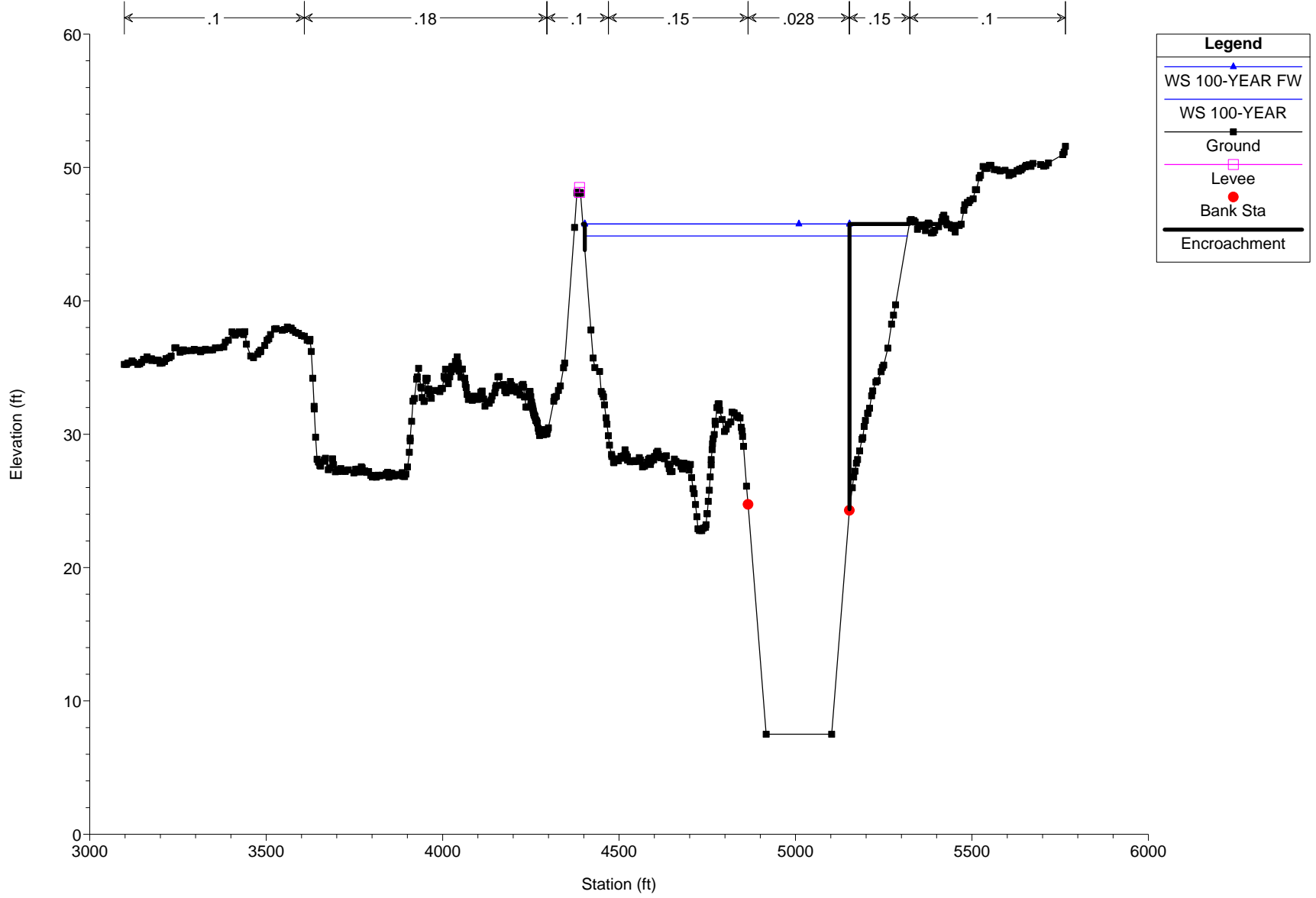
RS 245278 - New Section





Tar River - AUGUST 20,2010 4650 Plan: Proposed Conditions 5/30/2021

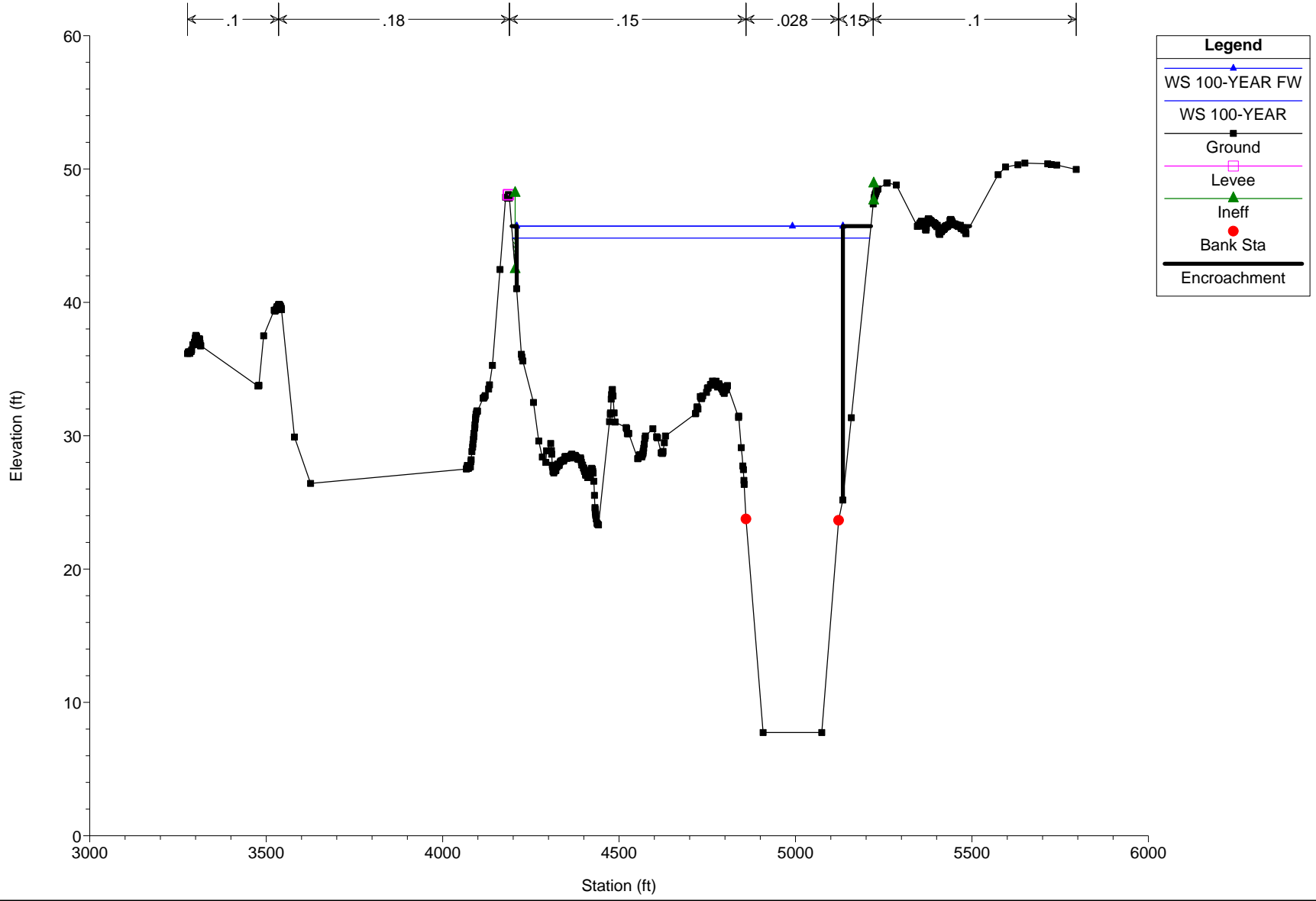
RS 245115 - New Section





Tar River - AUGUST 20, 2010 4650 Plan: Proposed Conditions 5/30/2021

RS 245050 - Modified Section



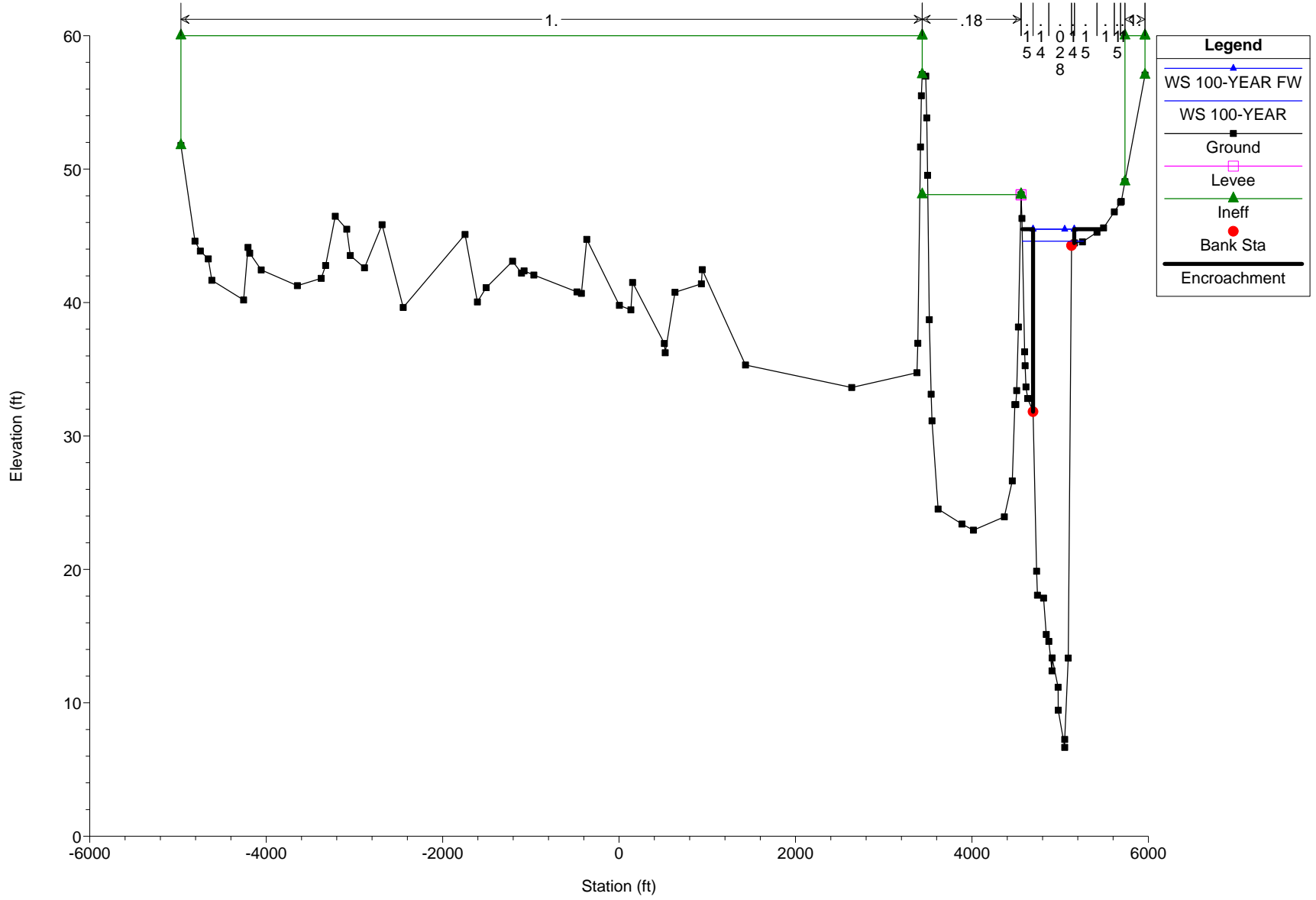






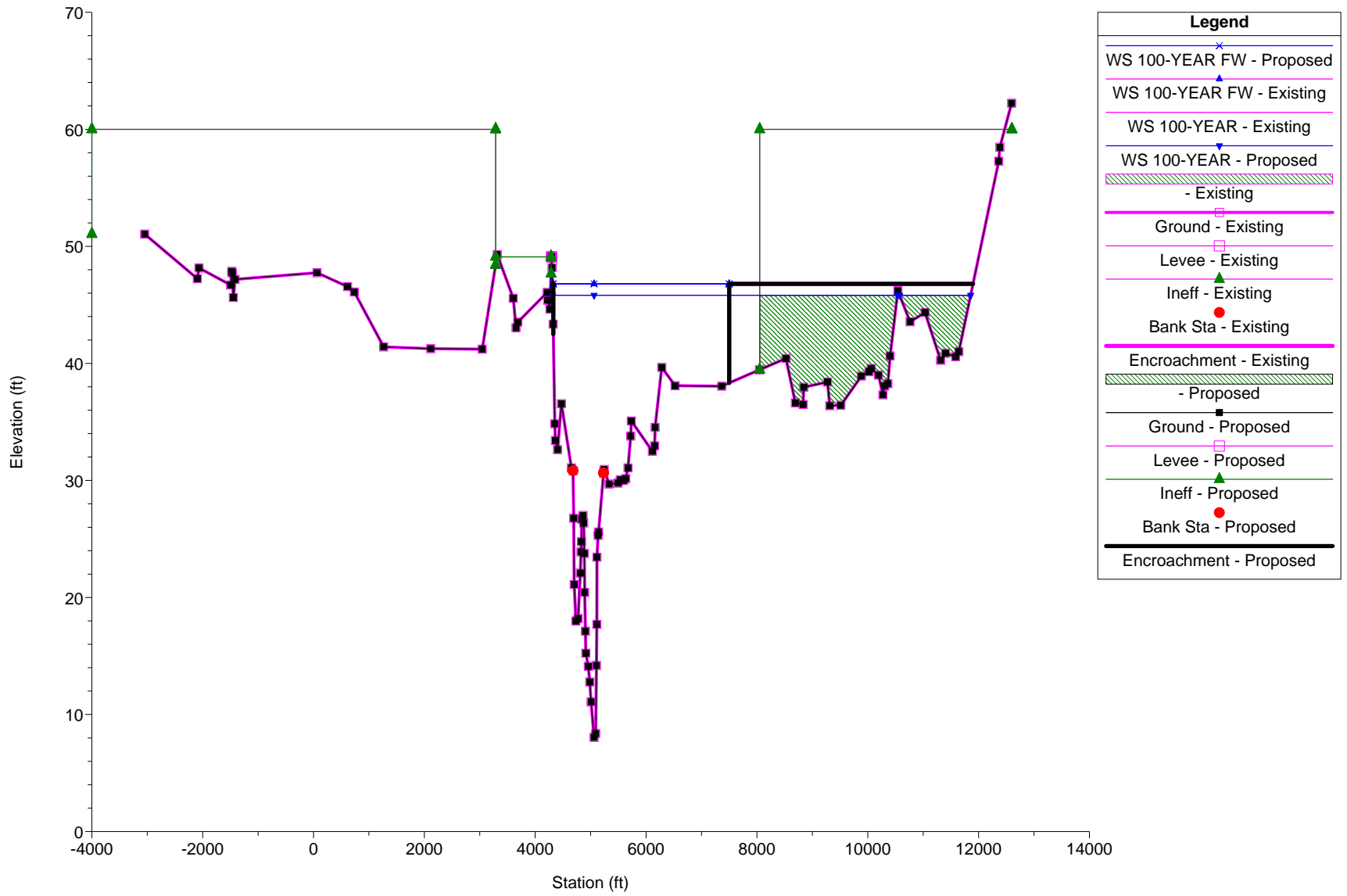
Tar River - AUGUST 20,2010 4650 Plan: Proposed Conditions 5/30/2021

Cross Section Tar River 9.0



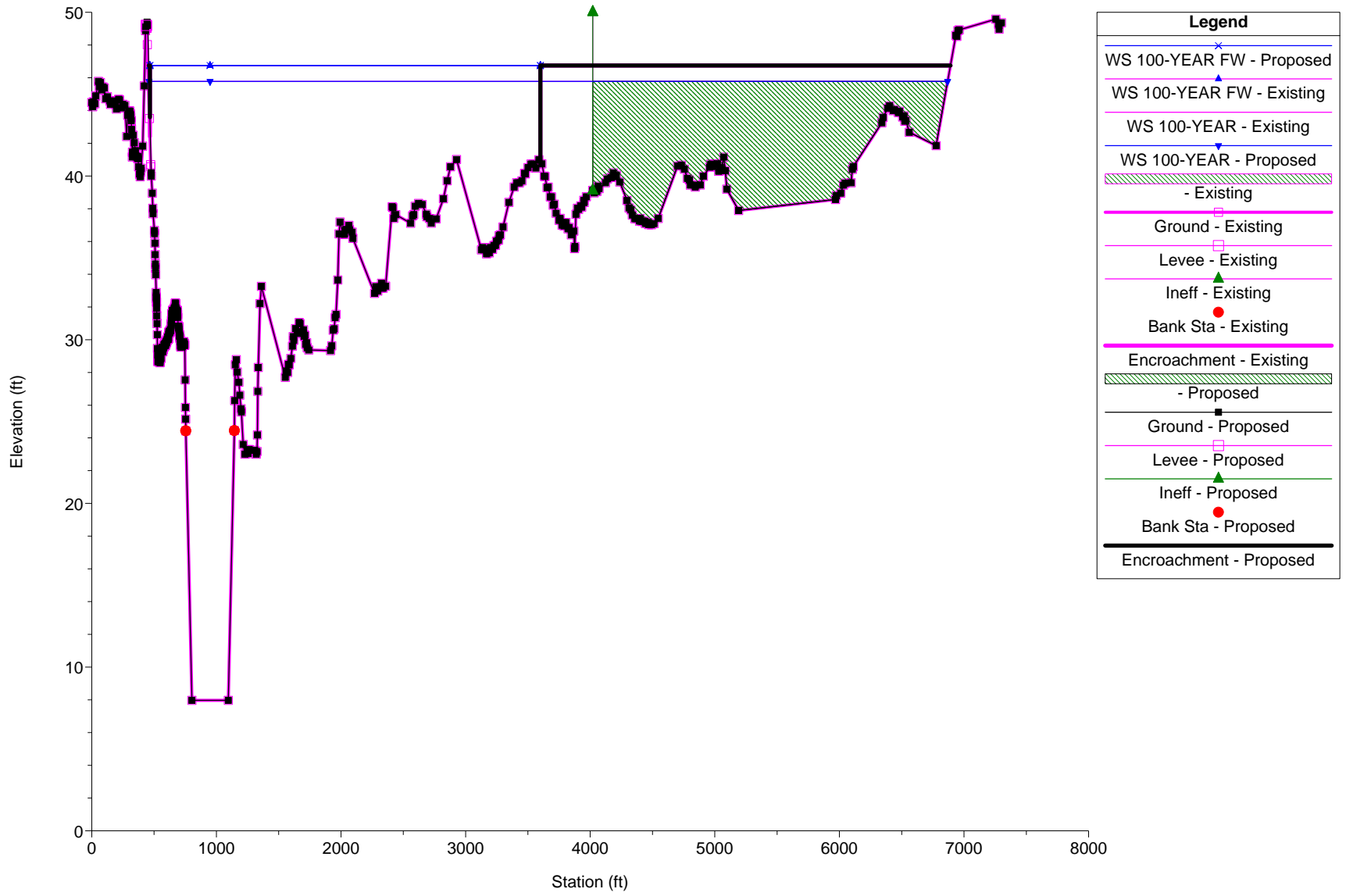


Tar River - AUGUST 20,2010 4650 Plan: 1) Proposed 2) Existing  
 Cross Section Tar River 11.0 (Approx U/S limit of Princevill Dy)



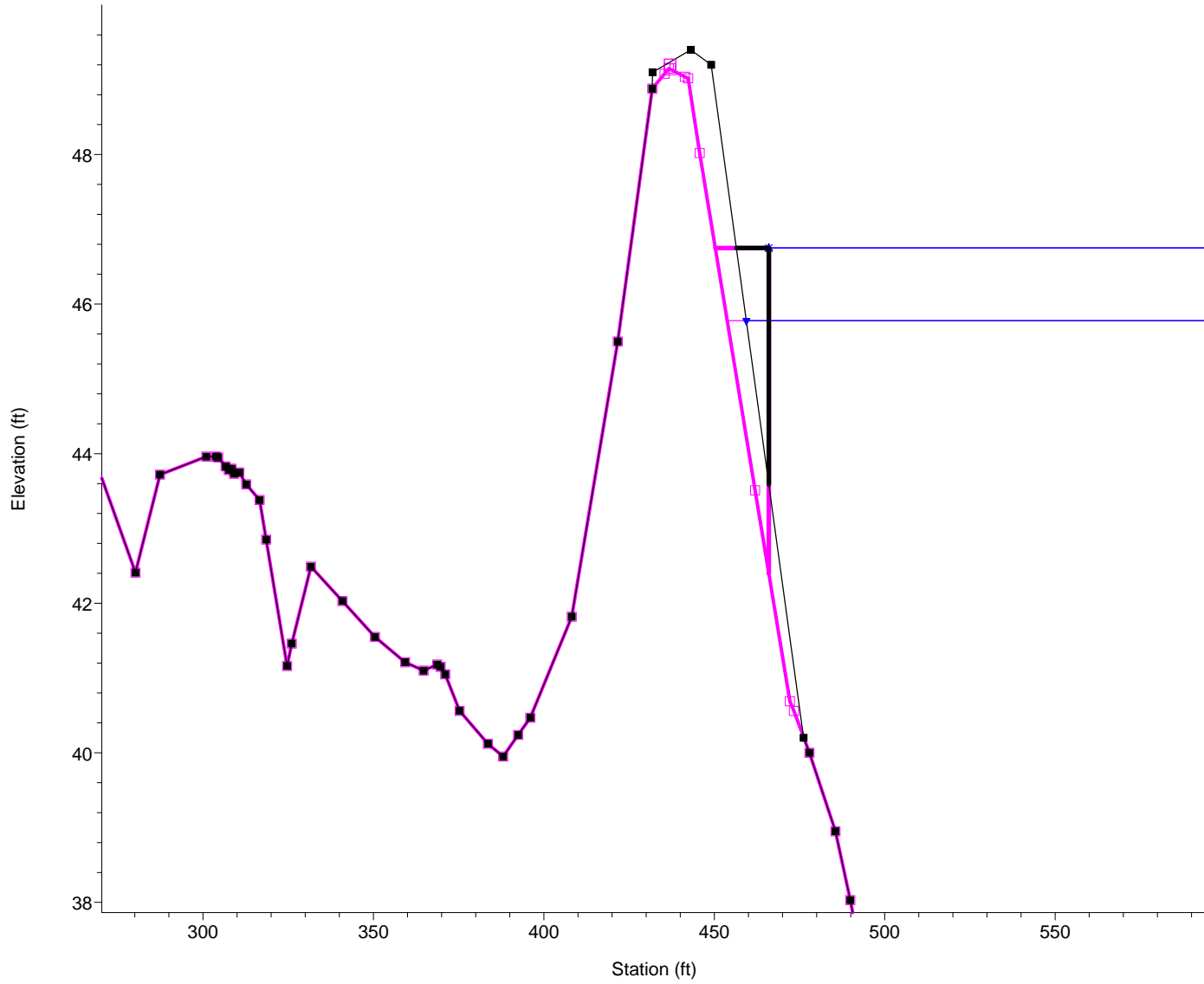


Tar River - AUGUST 20,2010 4650 Plan: 1) Proposed 2) Existing  
 RS 251452 - New Section





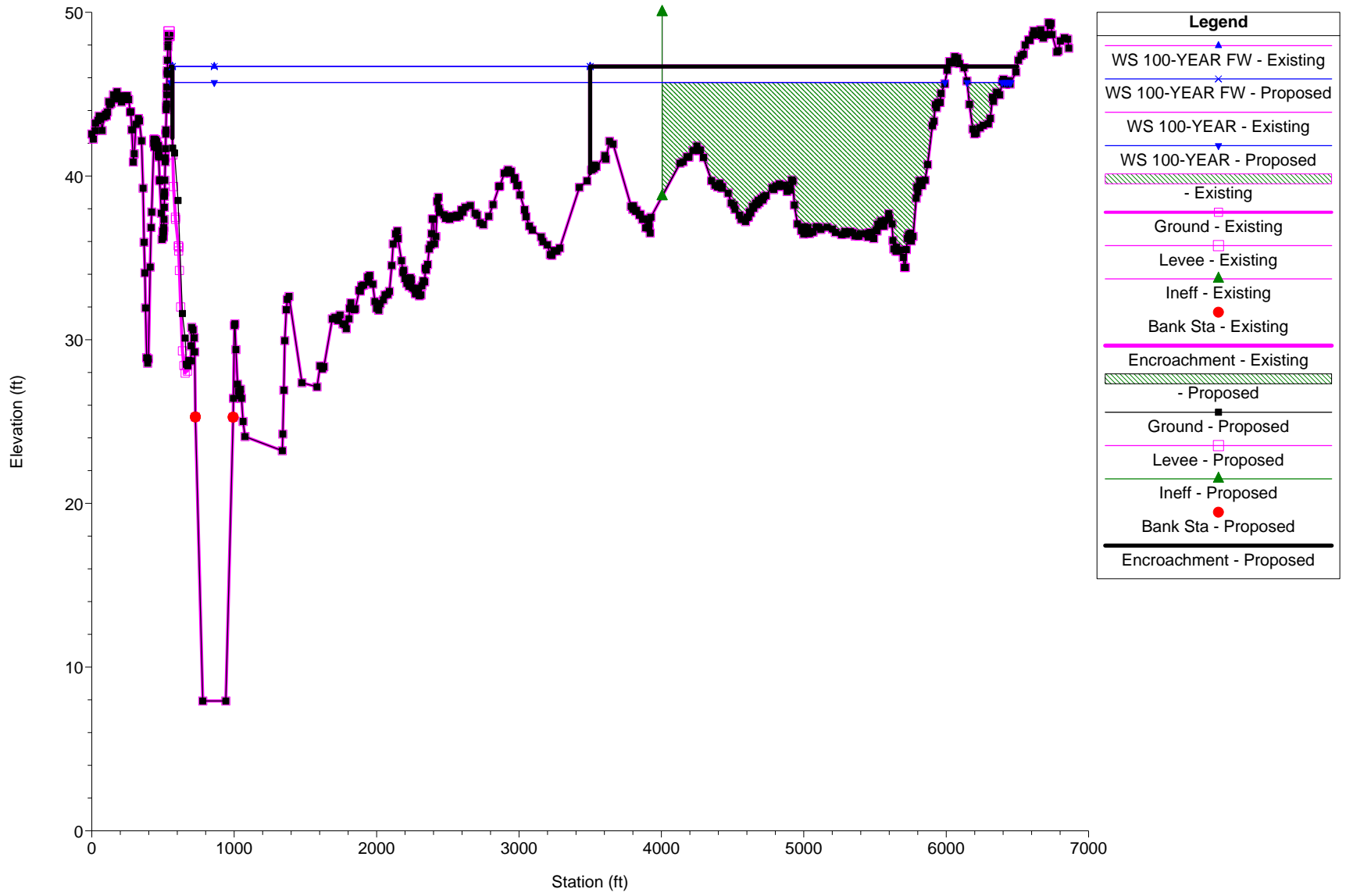
Tar River - AUGUST 20,2010 4650 Plan: 1) Proposed 2) Existing  
 RS 251452 - New Section



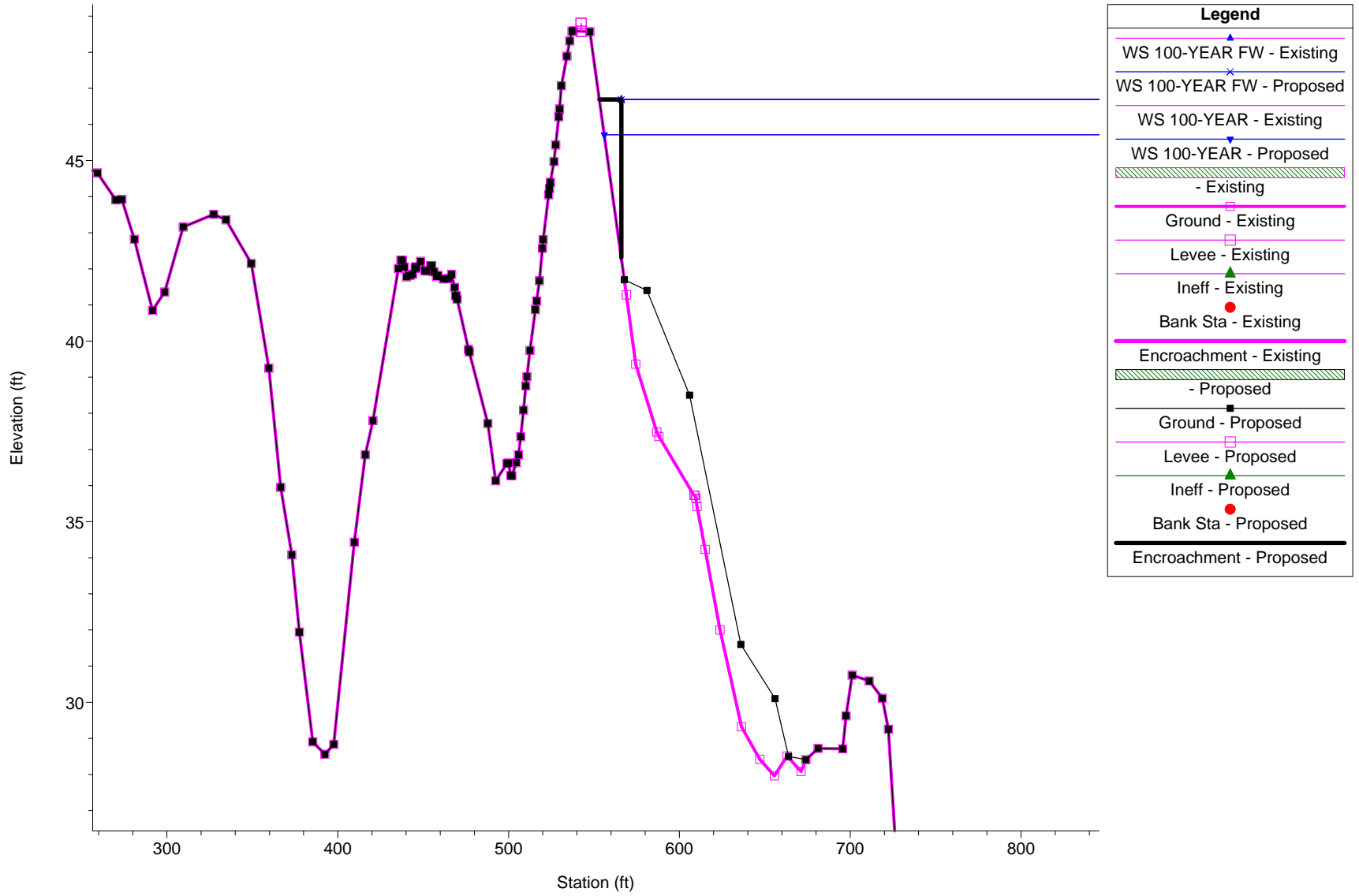
Legend	
WS 100-YEAR FW - Proposed	Blue line with 'x' markers
WS 100-YEAR FW - Existing	Magenta line with upward triangle markers
WS 100-YEAR - Existing	Blue line with downward triangle markers
WS 100-YEAR - Proposed	Blue line with 'x' markers
- Existing	Green hatched area
Ground - Existing	Black line with square markers
Levee - Existing	Magenta line with square markers
Ineff - Existing	Green line with upward triangle markers
Bank Sta - Existing	Red circle marker
Encroachment - Existing	Thick black line
- Proposed	Green hatched area
Ground - Proposed	Black line with square markers
Levee - Proposed	Magenta line with square markers
Ineff - Proposed	Green line with upward triangle markers
Bank Sta - Proposed	Red circle marker
Encroachment - Proposed	Thick black line



Tar River - AUGUST 20,2010 4650 Plan: 1) Proposed 2) Existing  
 RS 251201 - New Section

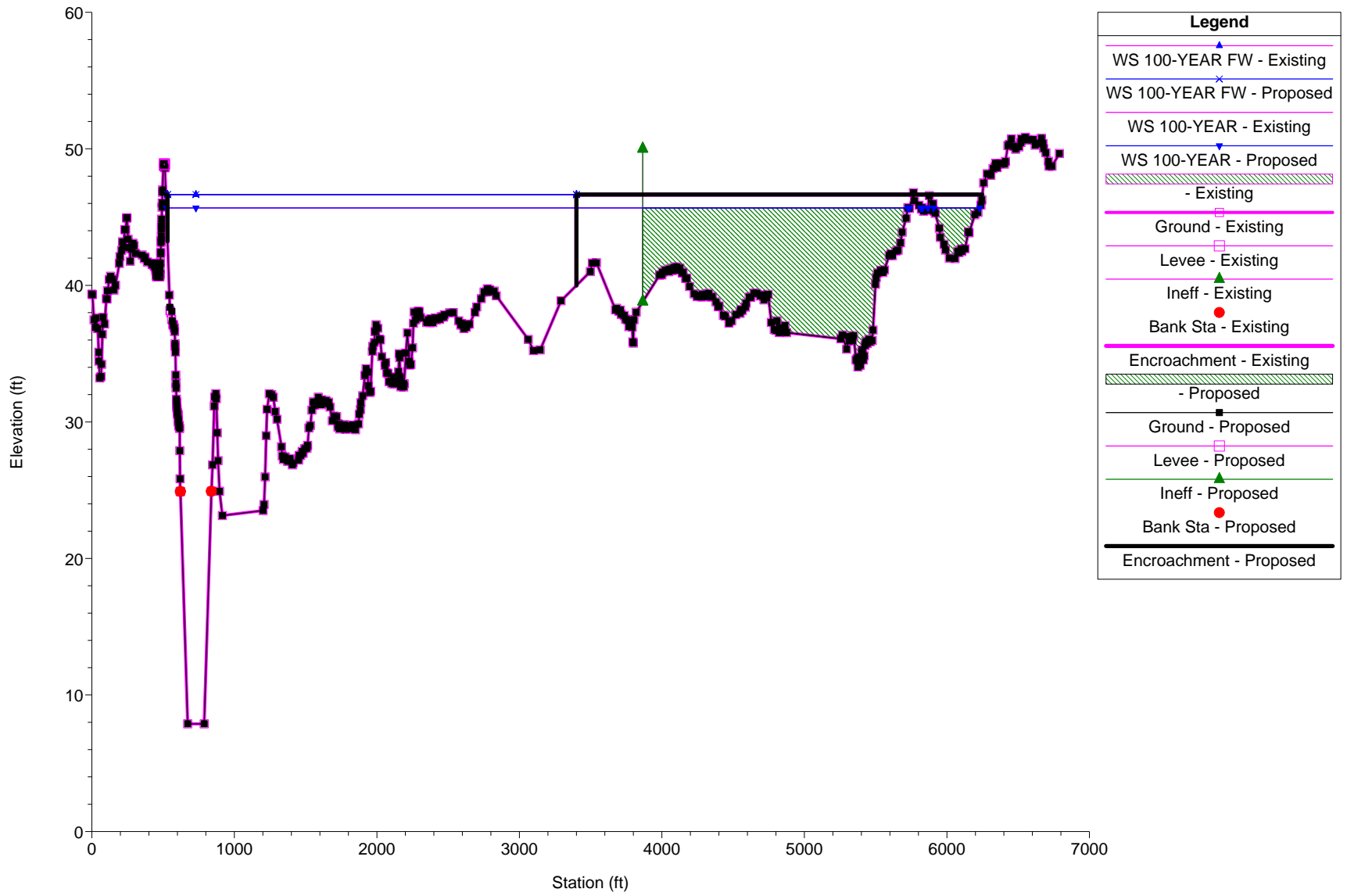


Tar River - AUGUST 20,2010 4650 Plan: 1) Proposed 2) Existing  
 RS 251201 - New Section

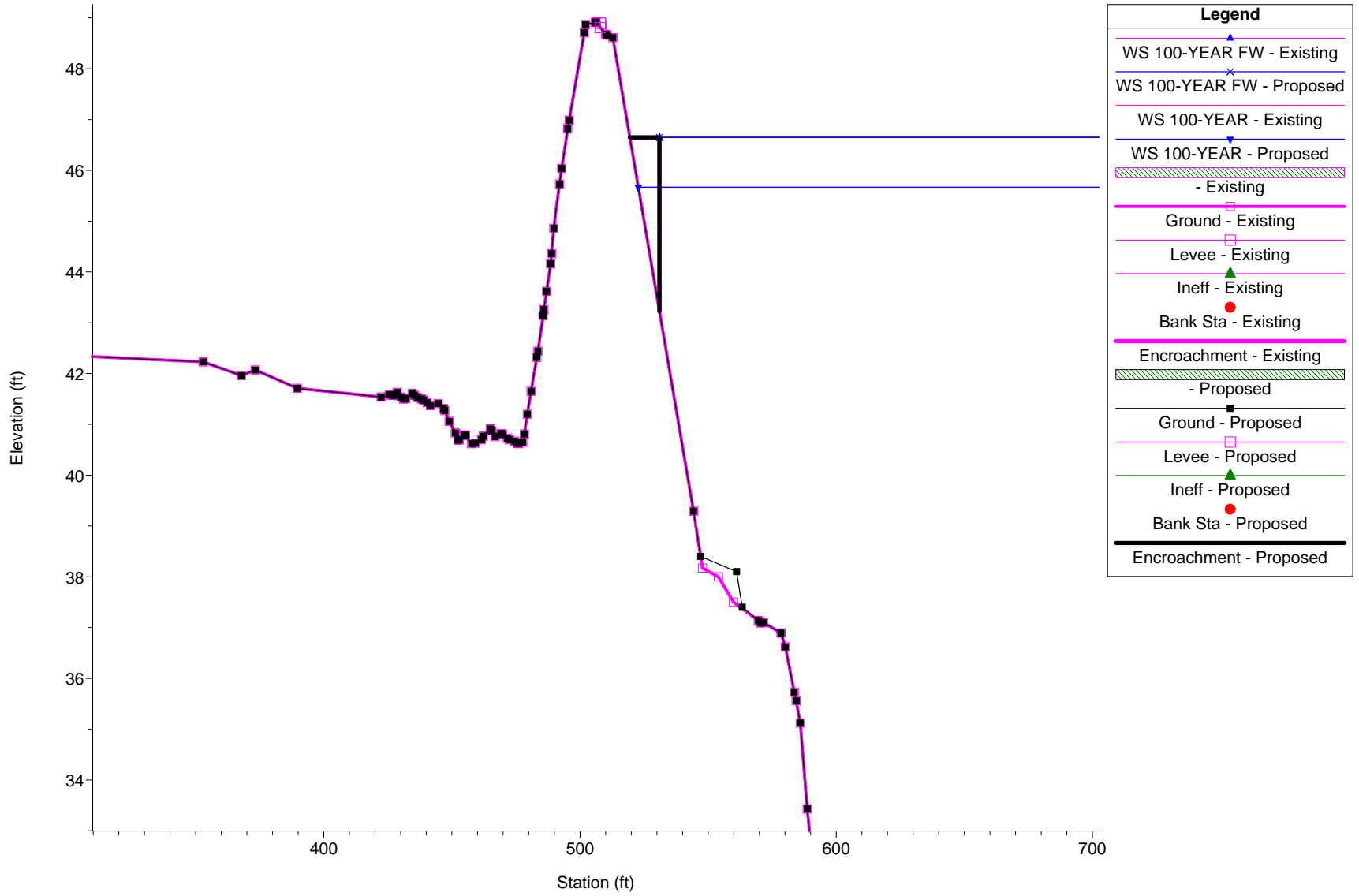




Tar River - AUGUST 20,2010 4650 Plan: 1) Proposed 2) Existing  
RS 250976 - New Section

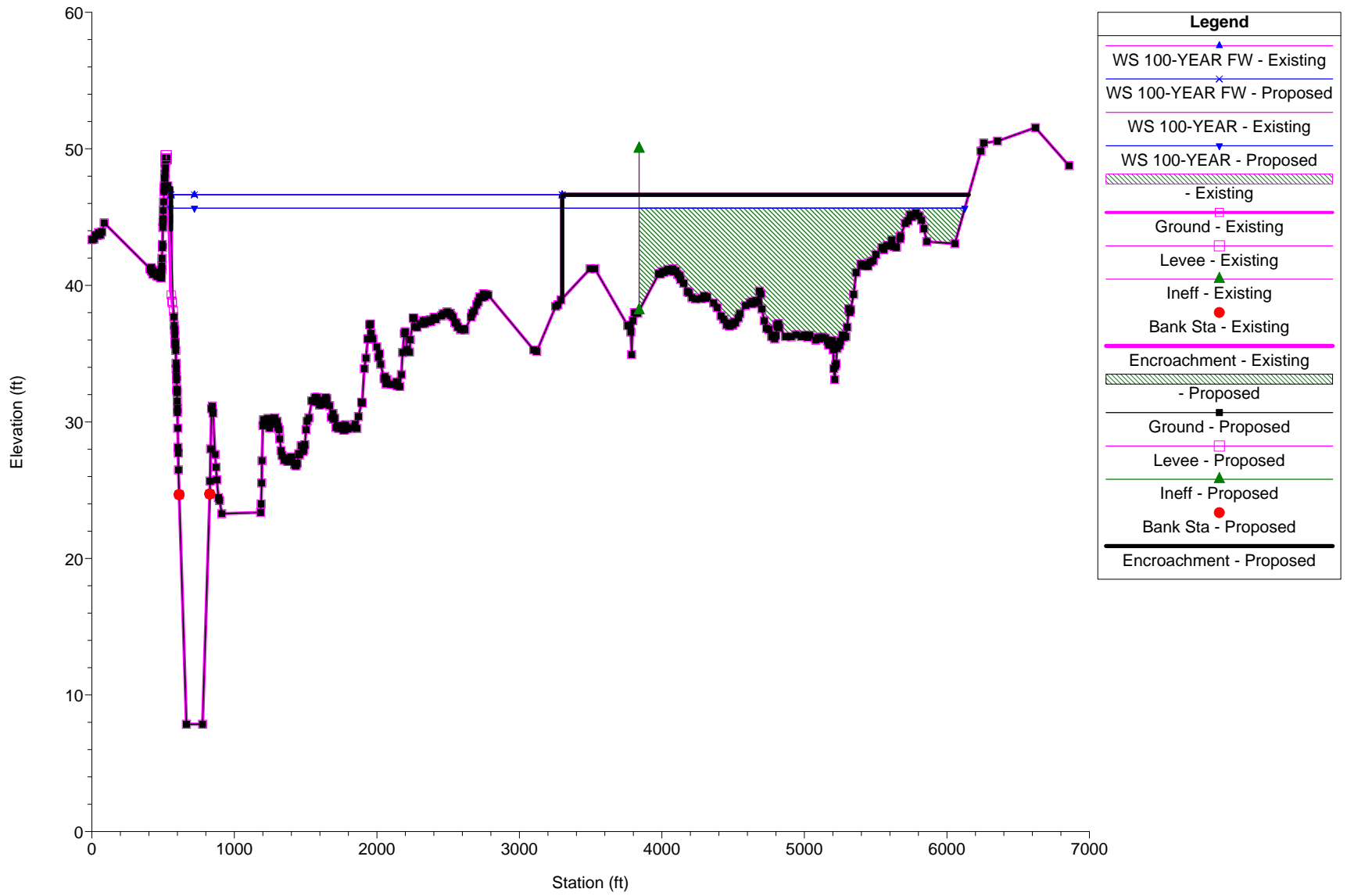


Tar River - AUGUST 20,2010 4650 Plan: 1) Proposed 2) Existing  
 RS 250976 - New Section

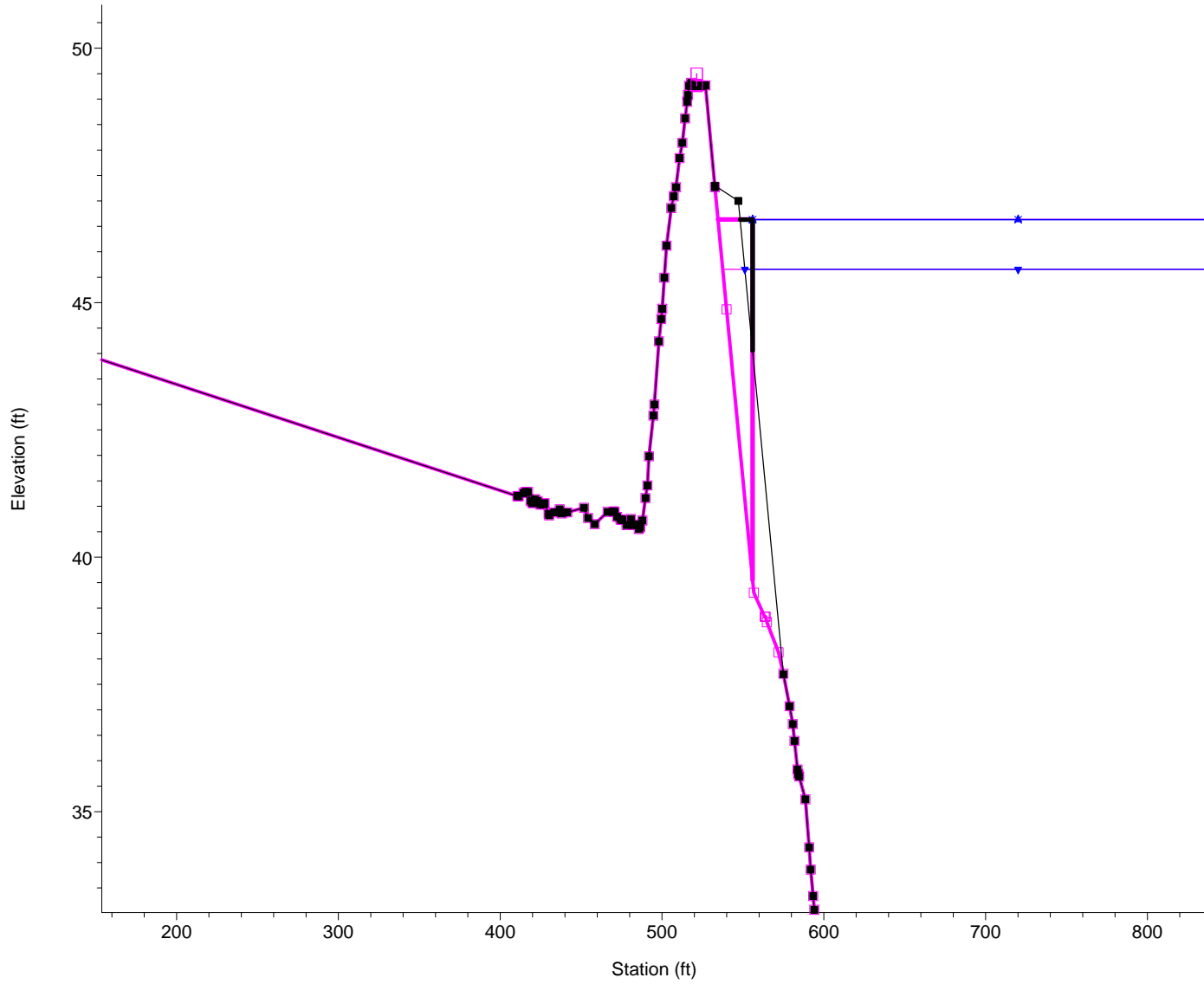




Tar River - AUGUST 20,2010 4650 Plan: 1) Proposed 2) Existing  
 RS 250805 - New Section



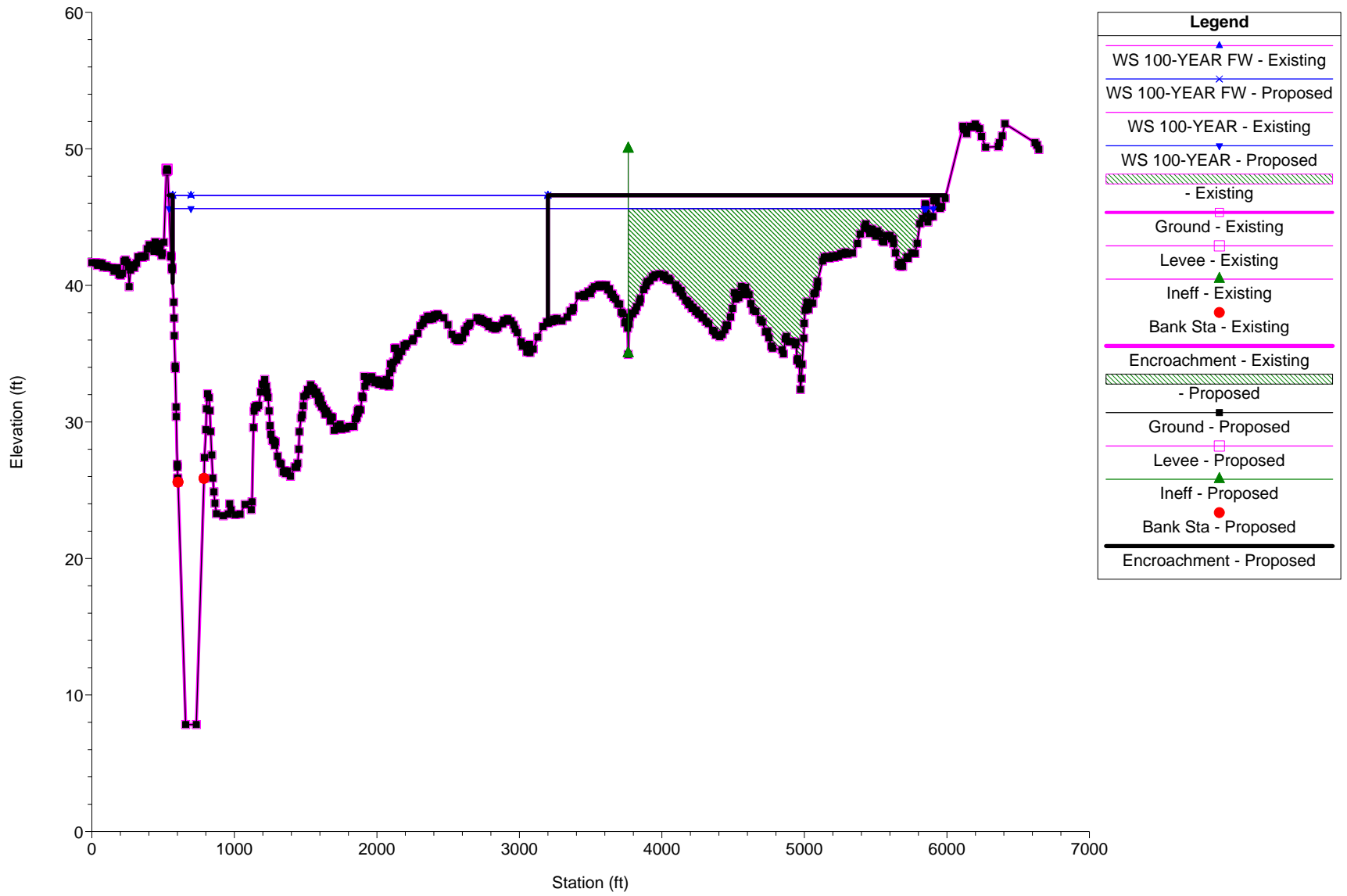
Tar River - AUGUST 20,2010 4650 Plan: 1) Proposed 2) Existing  
 RS 250805 - New Section



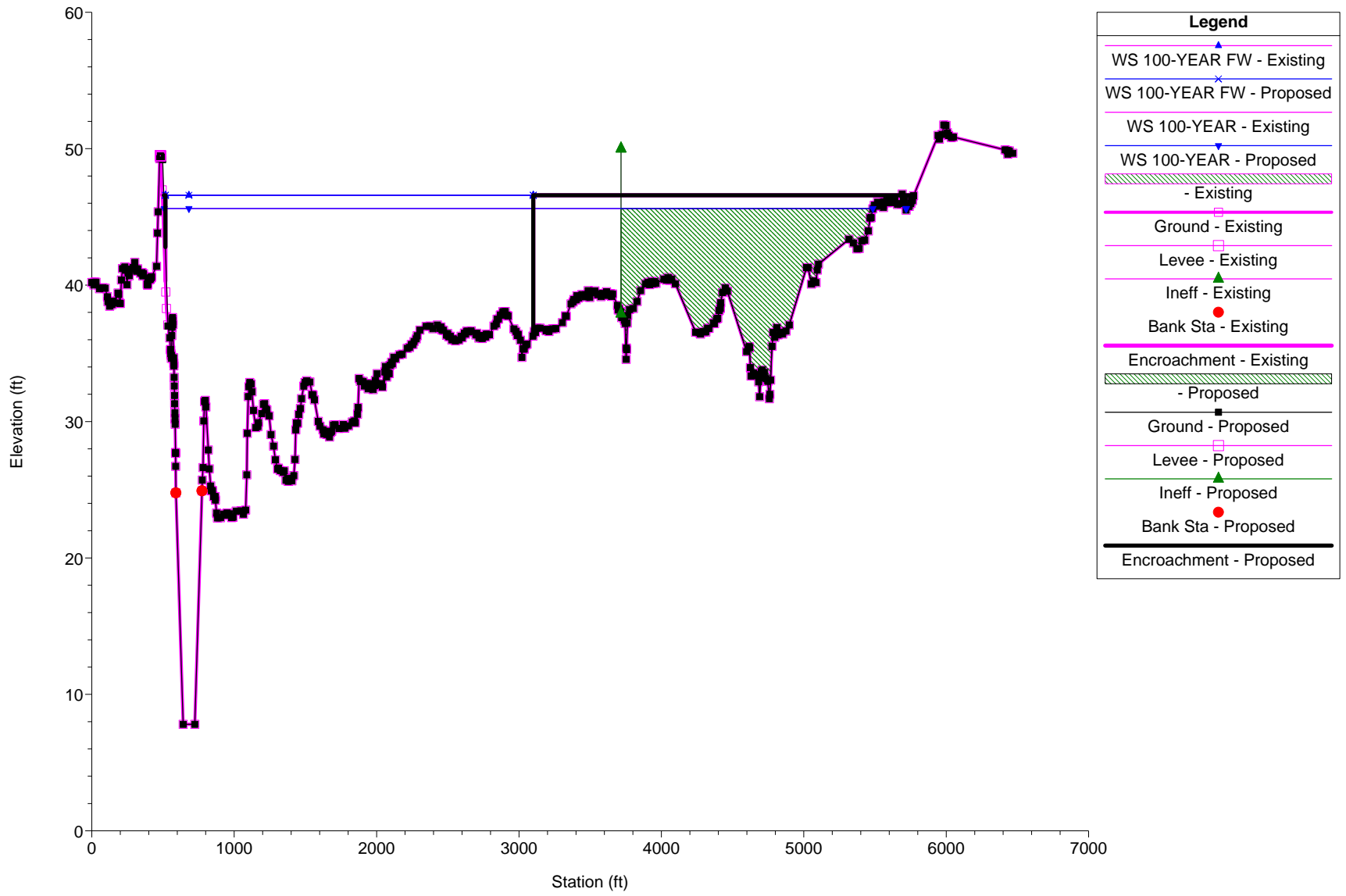
Legend	
WS 100-YEAR FW - Existing	▲
WS 100-YEAR FW - Proposed	✕
WS 100-YEAR - Existing	▲
WS 100-YEAR - Proposed	▼
- Existing	▨
Ground - Existing	■
Levee - Existing	□
Ineff - Existing	▲
Bank Sta - Existing	●
Encroachment - Existing	▨
- Proposed	▨
Ground - Proposed	■
Levee - Proposed	□
Ineff - Proposed	▲
Bank Sta - Proposed	●
Encroachment - Proposed	▬



Tar River - AUGUST 20,2010 4650 Plan: 1) Proposed 2) Existing  
 RS 250631 - New Section

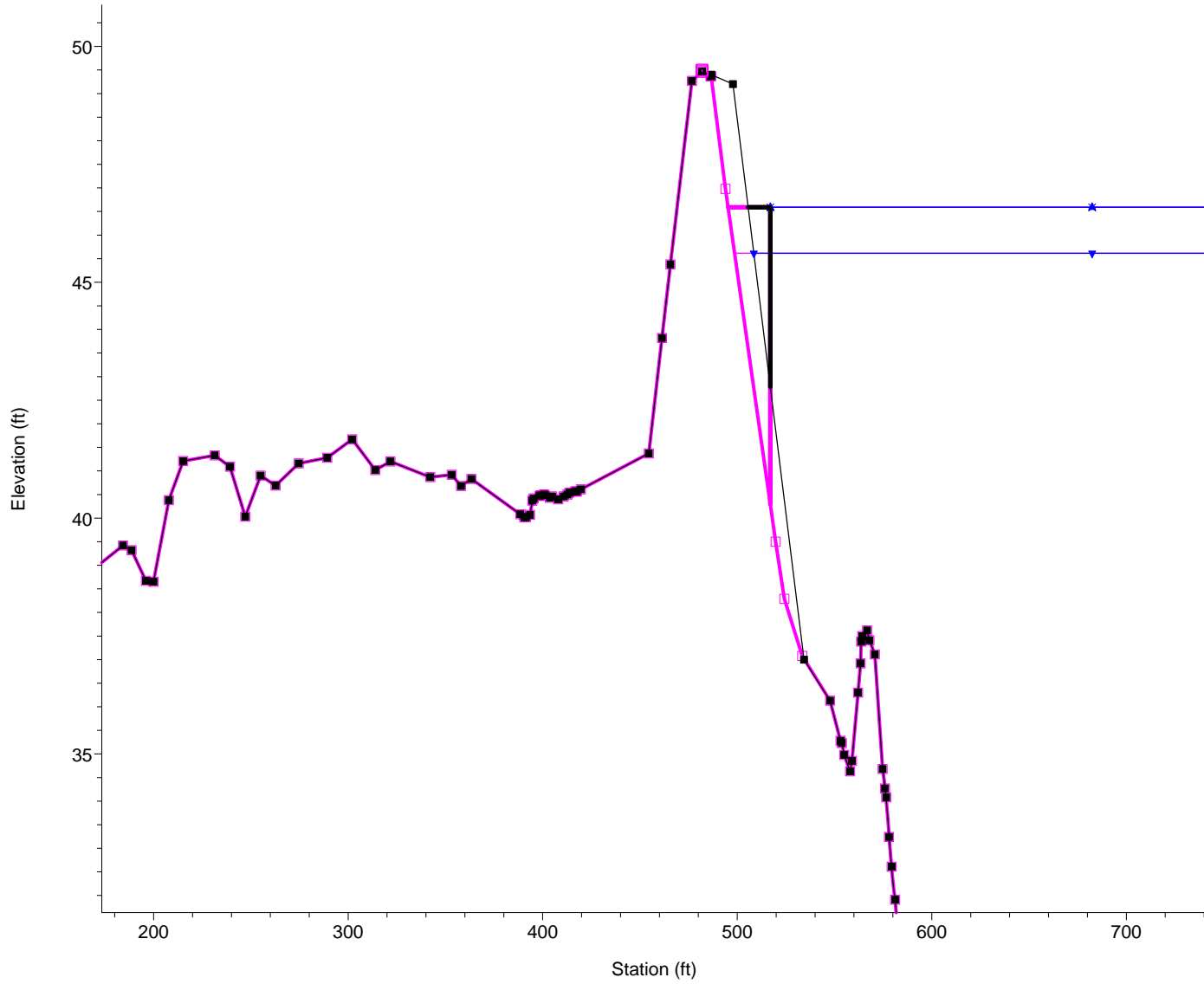


Tar River - AUGUST 20,2010 4650 Plan: 1) Proposed 2) Existing  
 RS 250459 - New Section



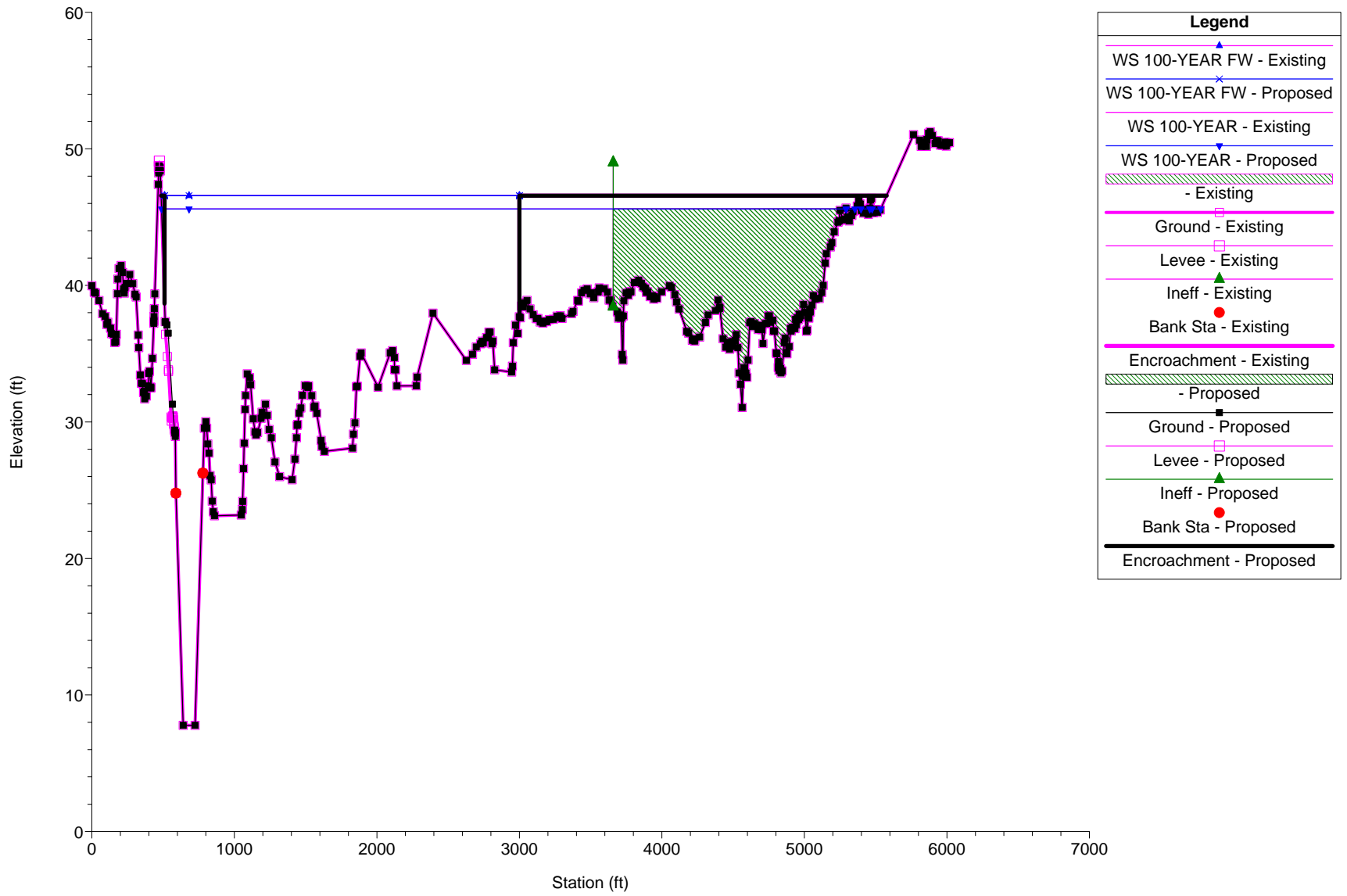


Tar River - AUGUST 20,2010 4650 Plan: 1) Proposed 2) Existing  
 RS 250459 - New Section



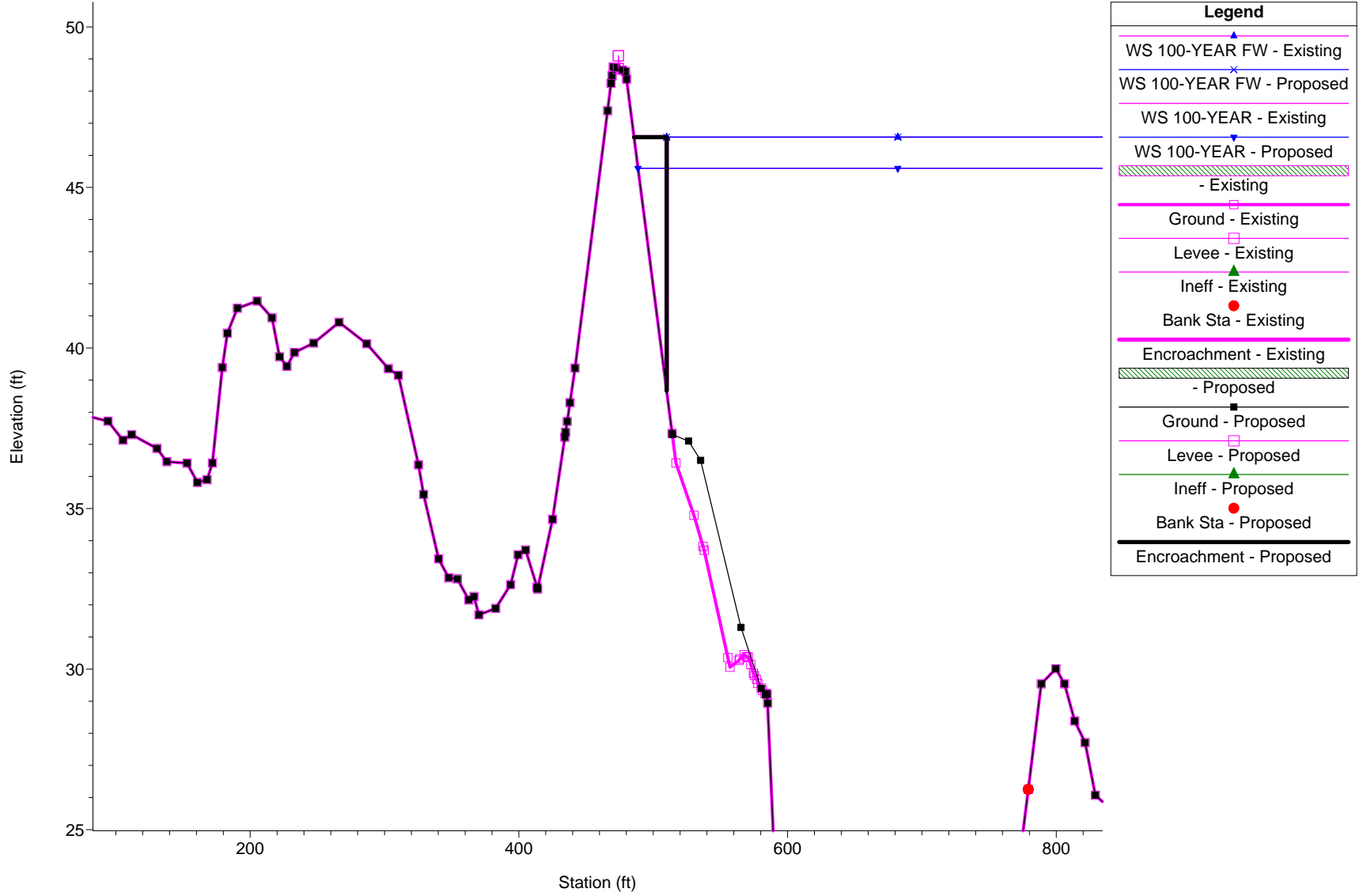
Legend	
WS 100-YEAR FW - Existing	▲
WS 100-YEAR FW - Proposed	×
WS 100-YEAR - Existing	▼
WS 100-YEAR - Proposed	▲
- Existing	▨
Ground - Existing	■
Levee - Existing	□
Ineff - Existing	▲
Bank Sta - Existing	●
Encroachment - Existing	—
- Proposed	▨
Ground - Proposed	■
Levee - Proposed	□
Ineff - Proposed	▲
Bank Sta - Proposed	●
Encroachment - Proposed	—

Tar River - AUGUST 20,2010 4650 Plan: 1) Proposed 2) Existing  
 RS 250376 - New Section

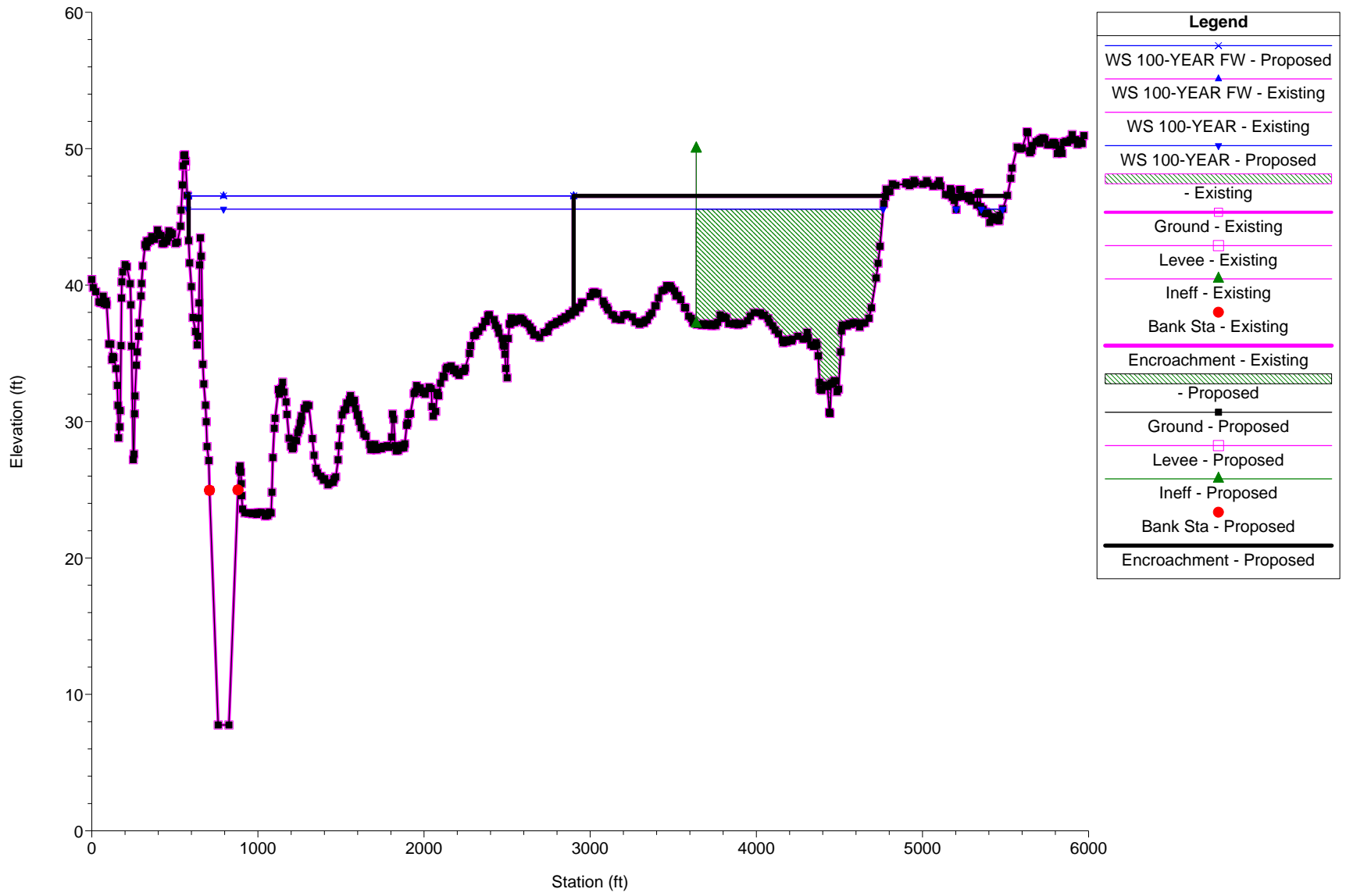




Tar River - AUGUST 20,2010 4650 Plan: 1) Proposed 2) Existing  
 RS 250376 - New Section

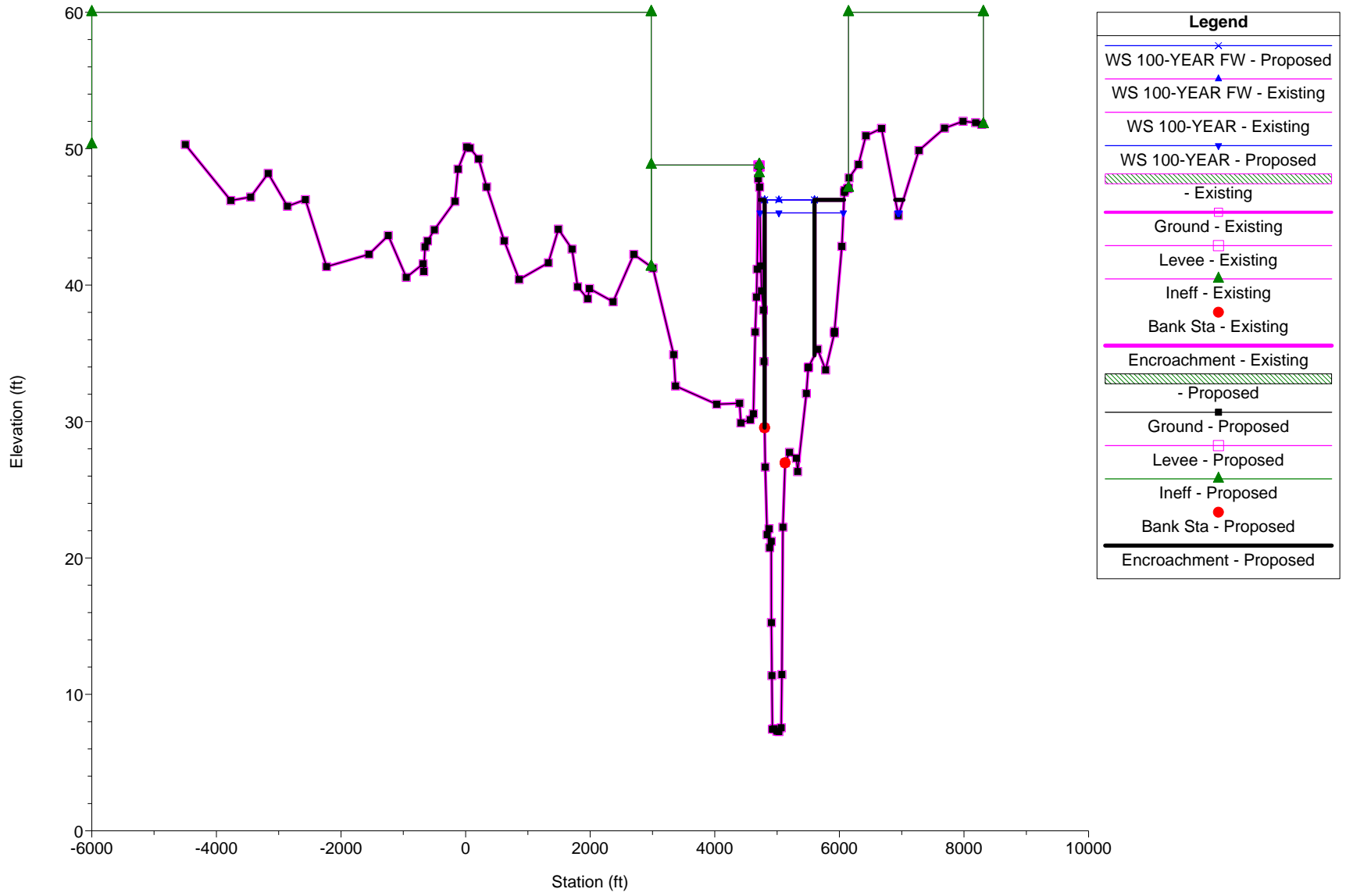


Tar River - AUGUST 20,2010 4650 Plan: 1) Proposed 2) Existing  
 RS 250174 - New Section

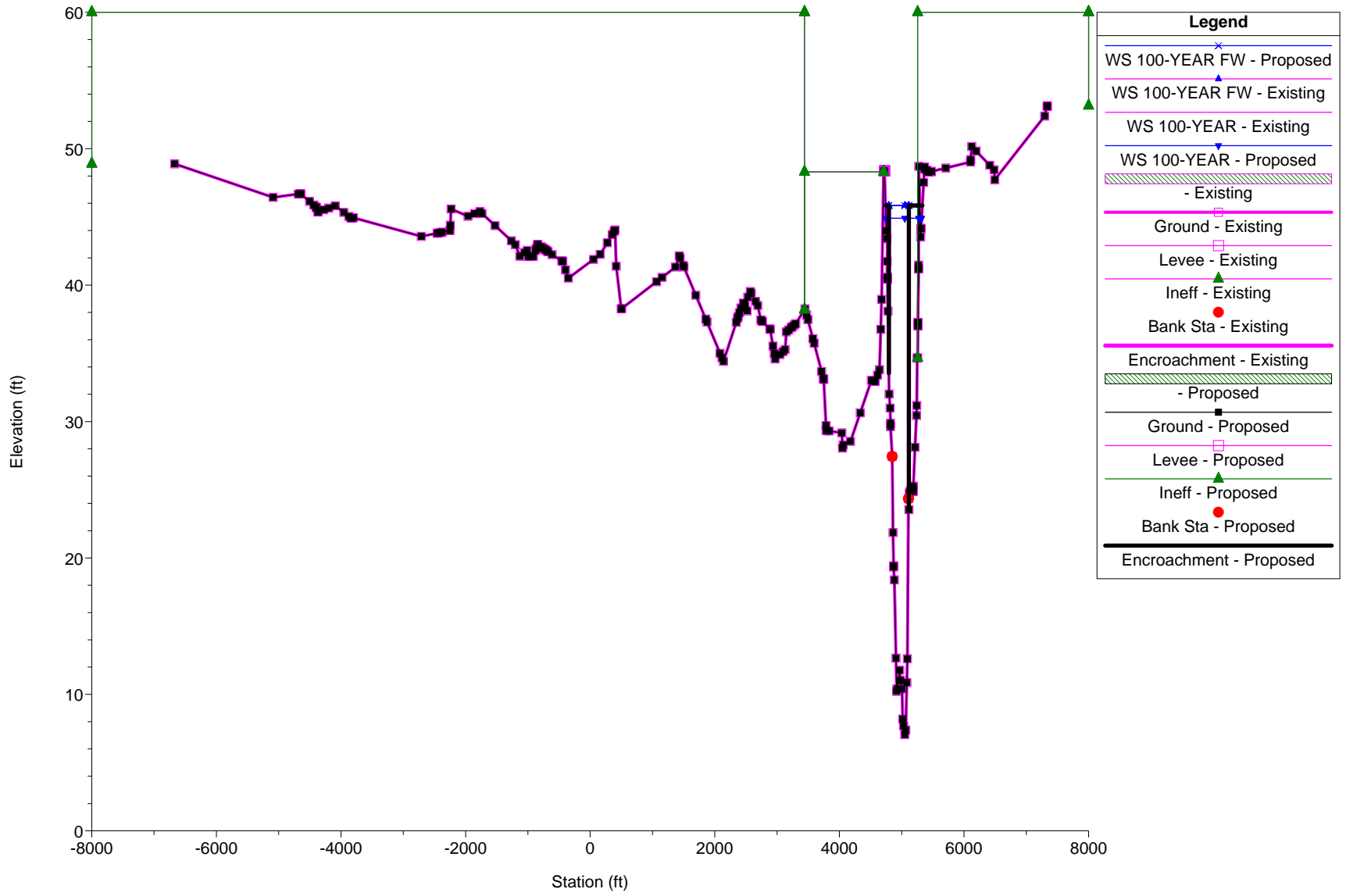




Tar River - AUGUST 20,2010 4650 Plan: 1) Proposed 2) Existing  
 Cross Section Tar River 10.0

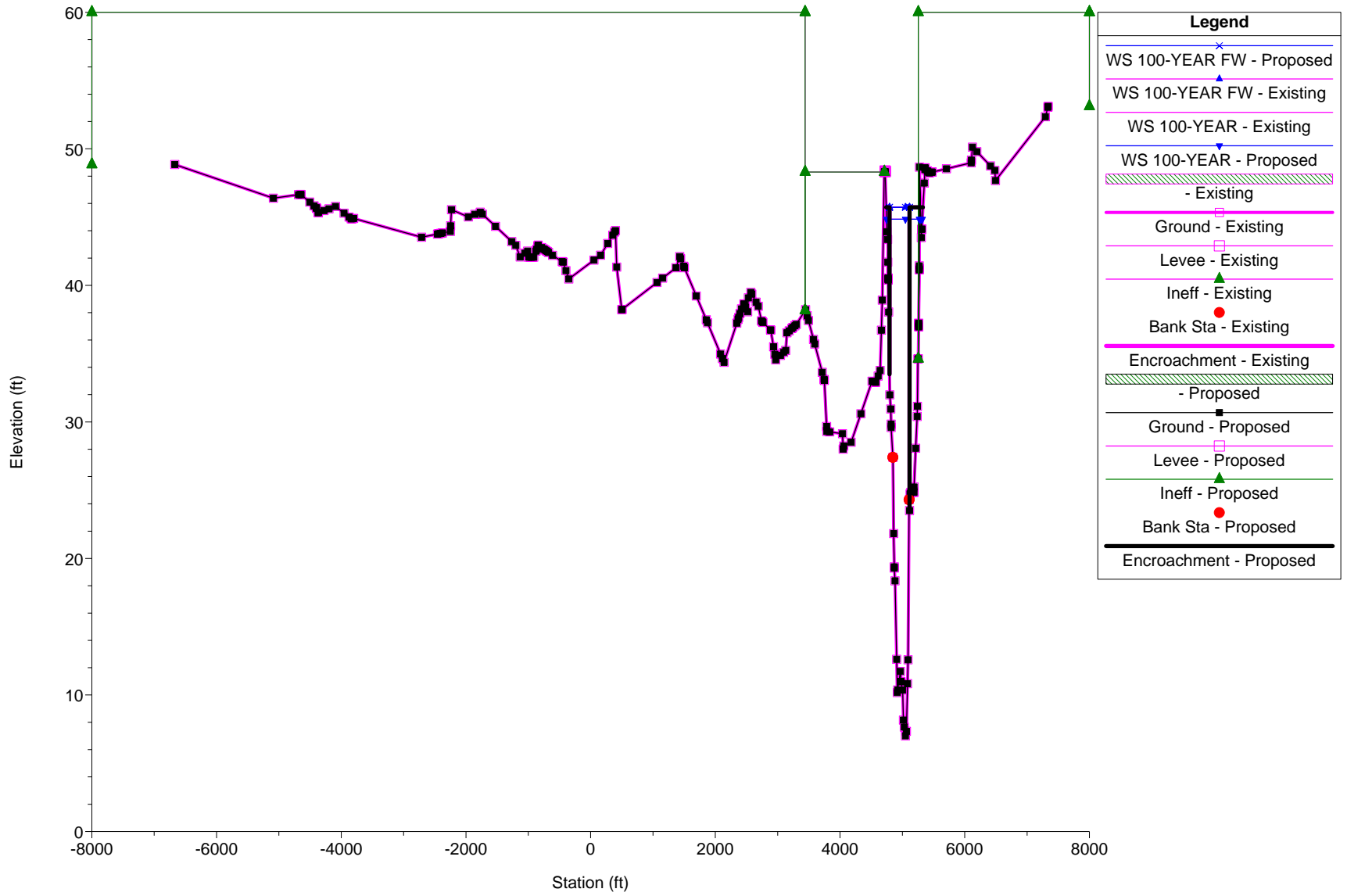


Tar River - AUGUST 20,2010 4650 Plan: 1) Proposed 2) Existing  
 Upstream Section of Bridge/Culvert/Weir

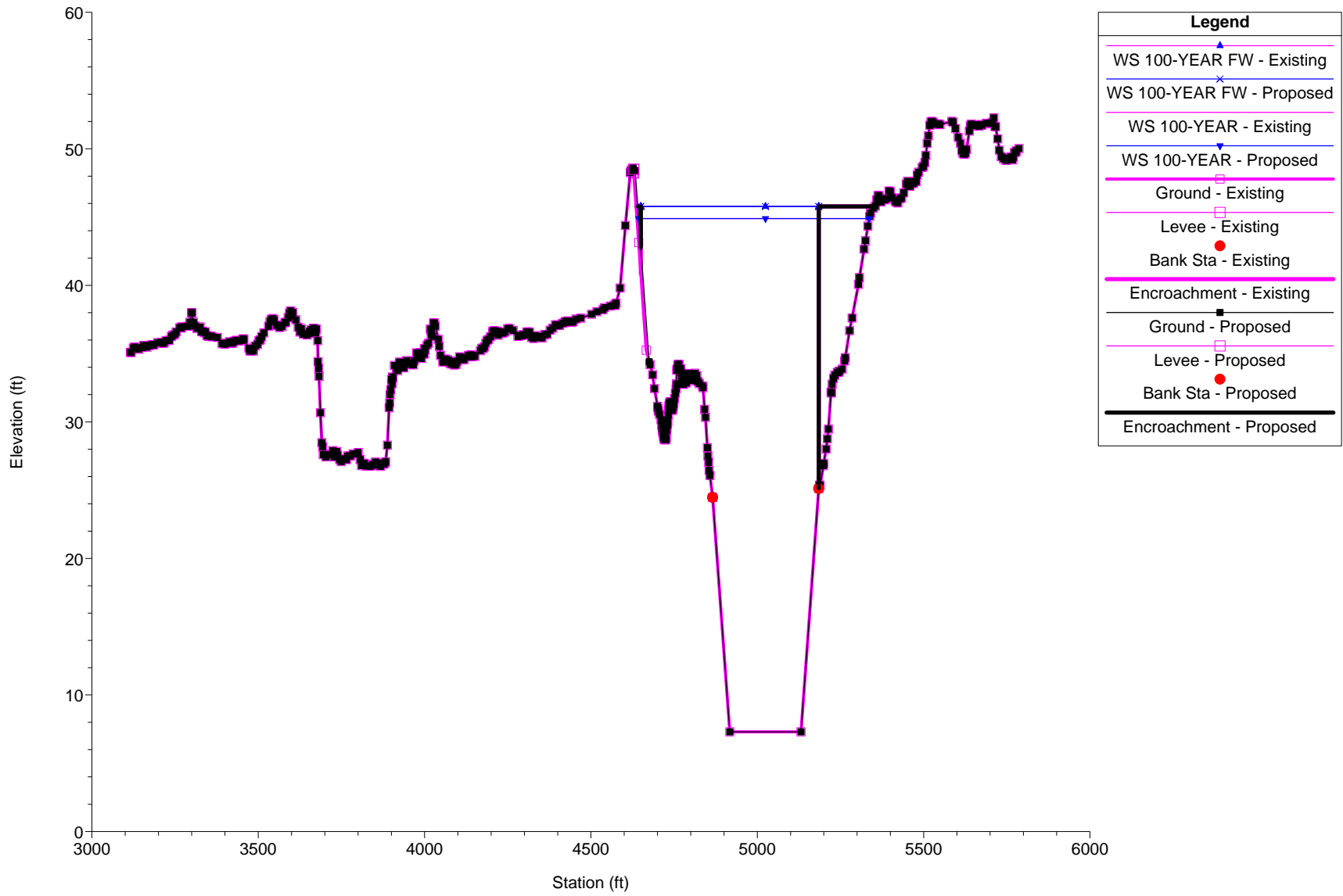




Tar River - AUGUST 20,2010 4650 Plan: 1) Proposed 2) Existing  
 Downstream Section of Bridge/Culvert/Weir

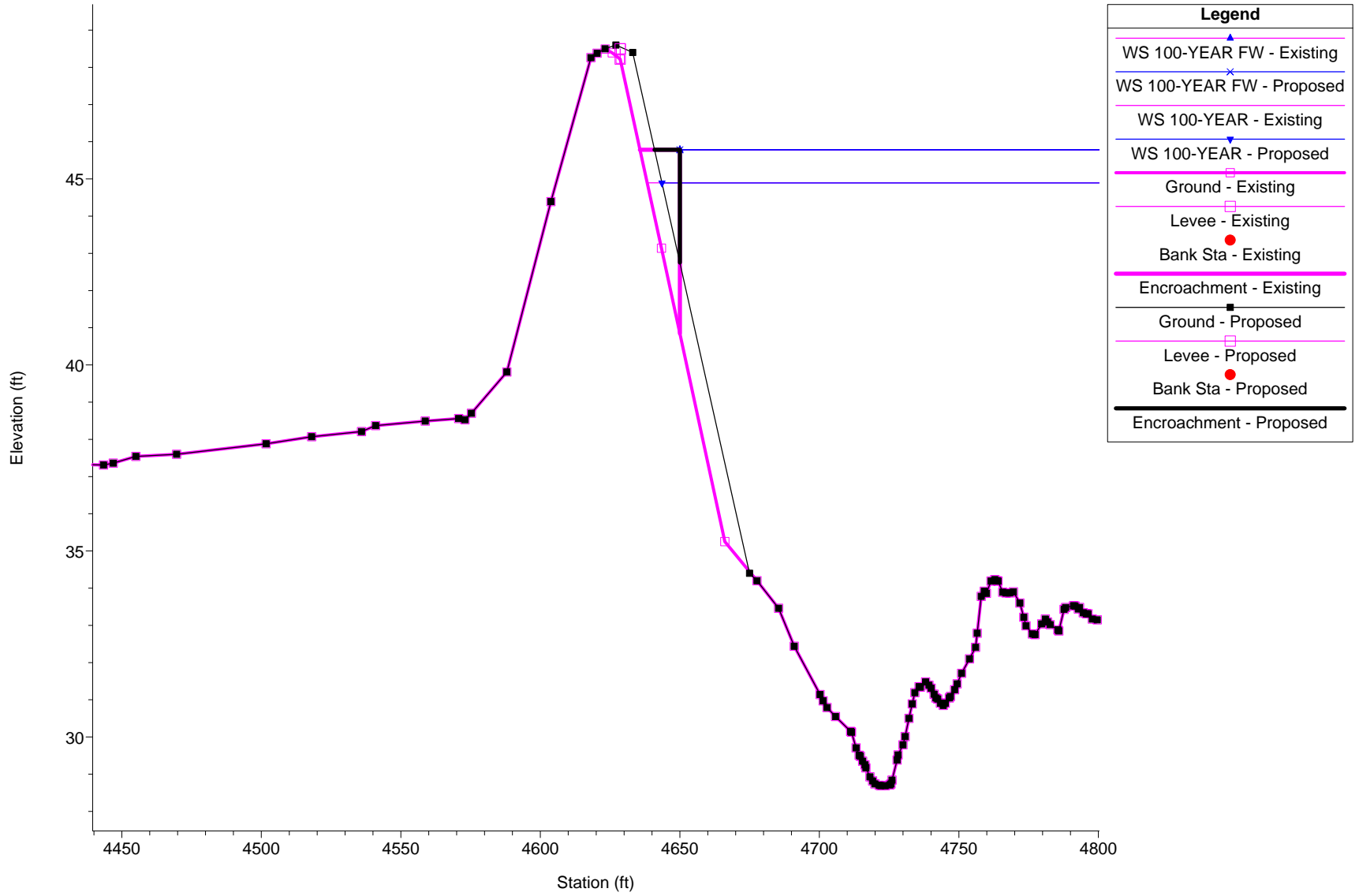


Tar River - AUGUST 20,2010 4650 Plan: 1) Proposed 2) Existing  
 RS 245278 - New Section

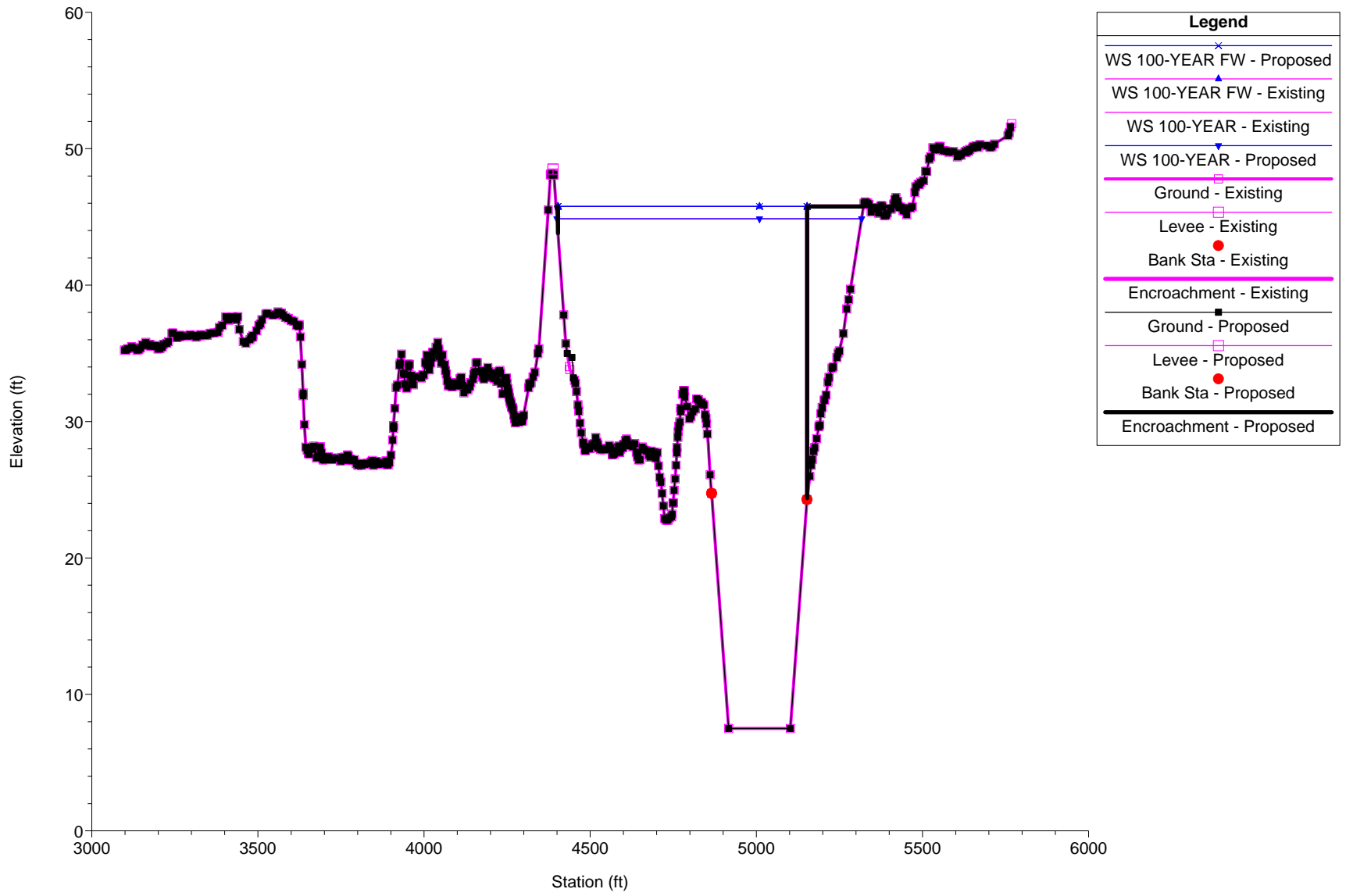




Tar River - AUGUST 20,2010 4650 Plan: 1) Proposed 2) Existing  
 RS 245278 - New Section

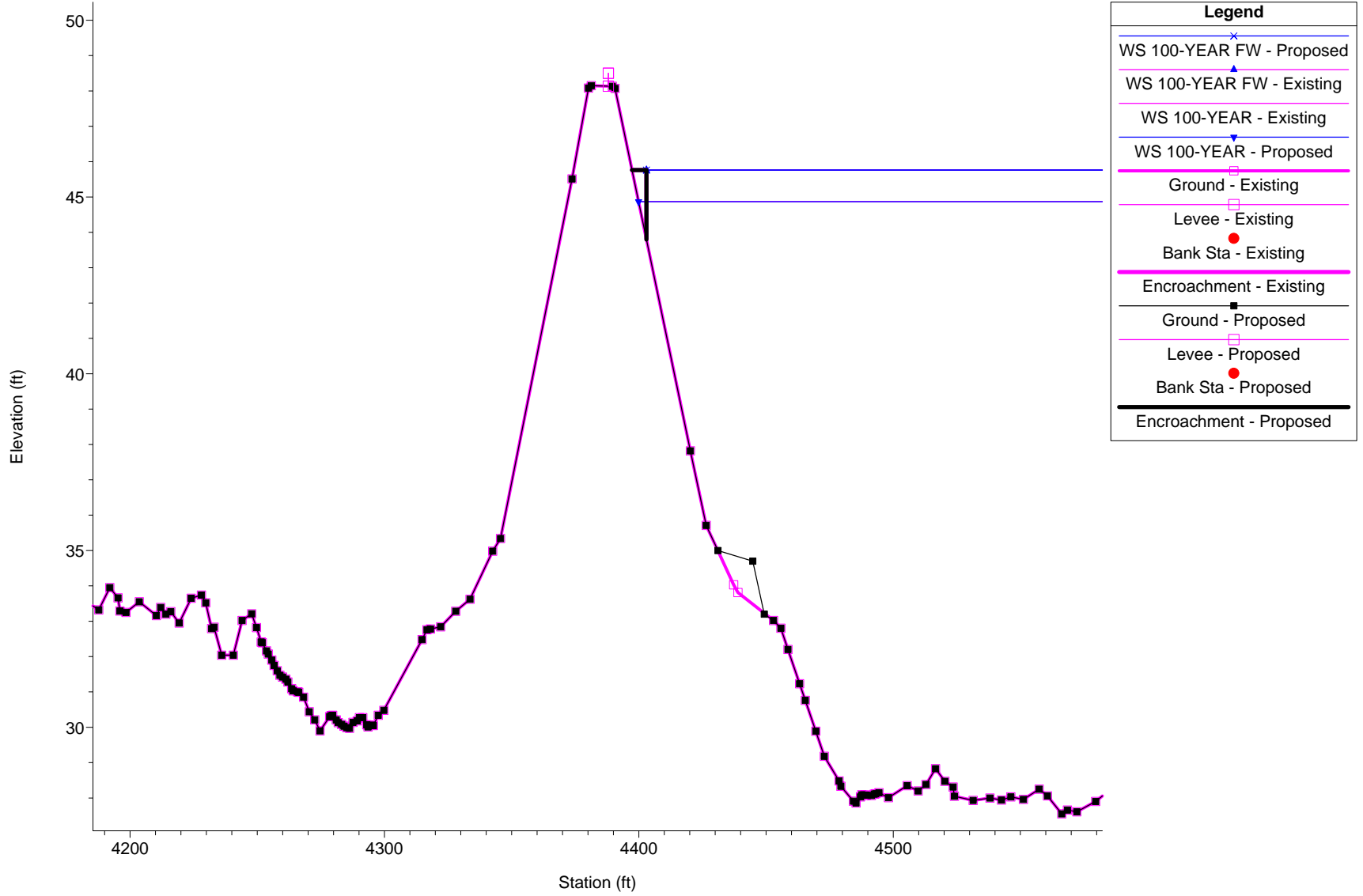


Tar River - AUGUST 20,2010 4650 Plan: 1) Proposed 2) Existing  
 RS 245115 - New Section

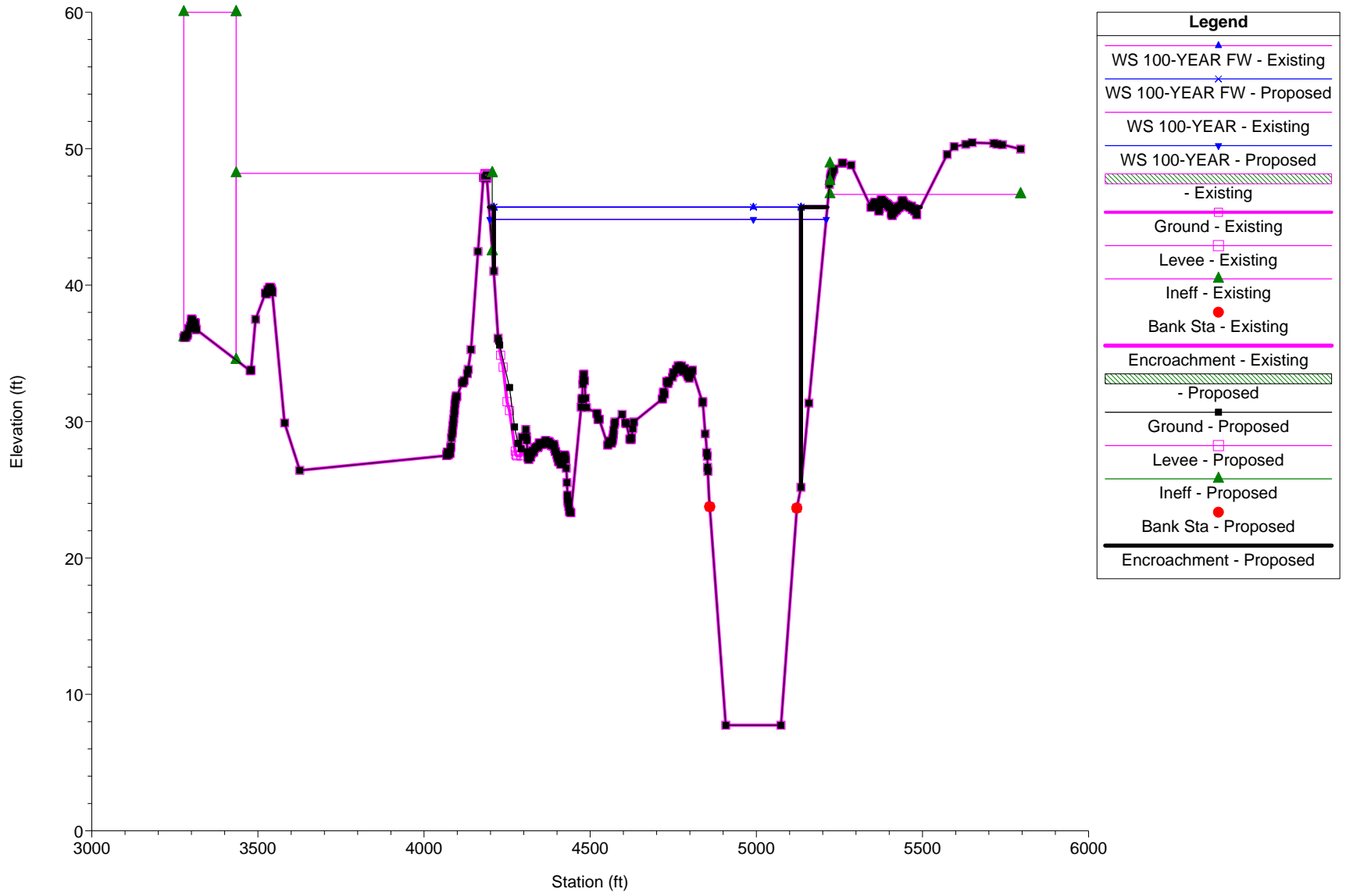




Tar River - AUGUST 20,2010 4650 Plan: 1) Proposed 2) Existing  
 RS 245115 - New Section

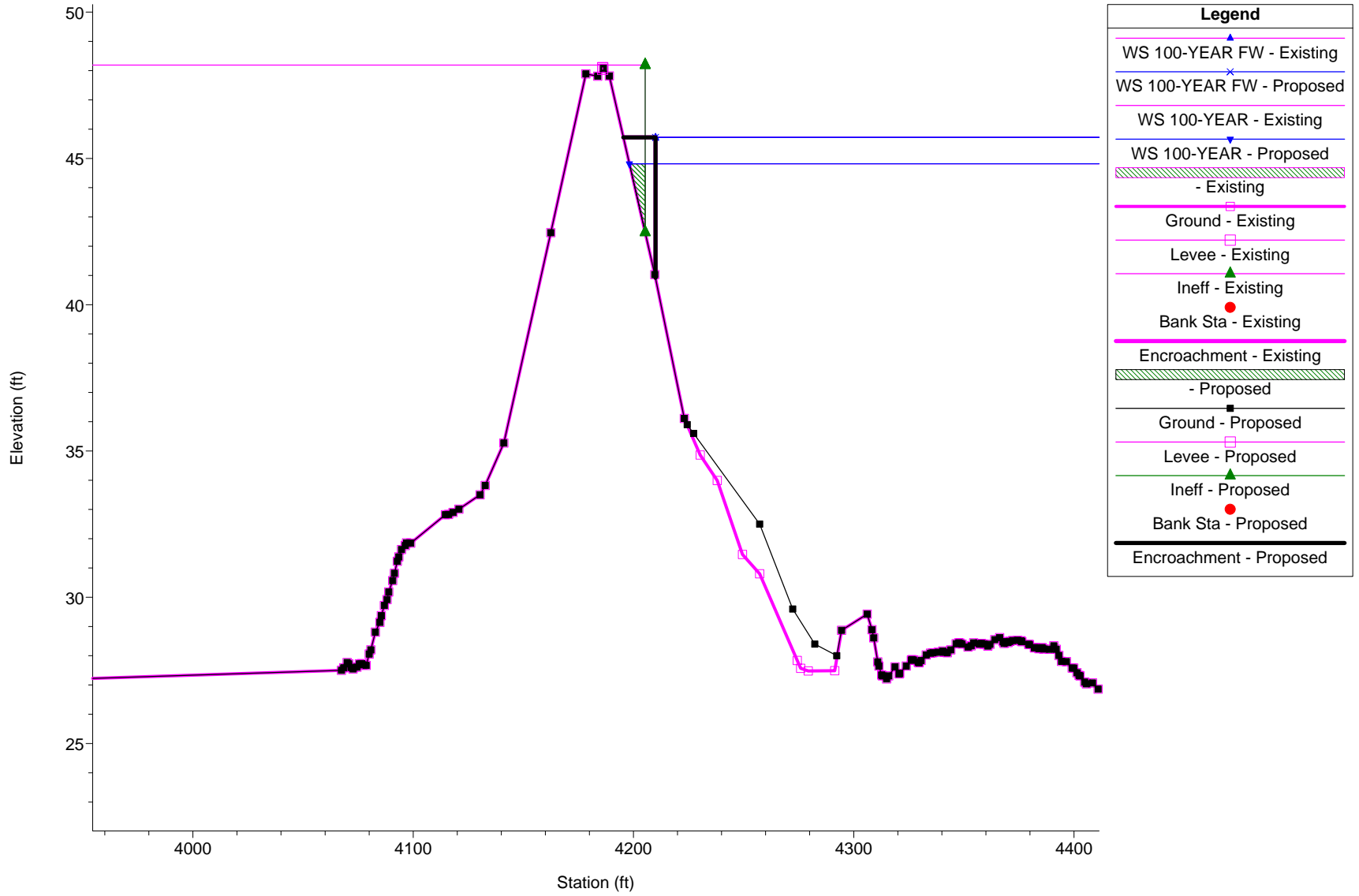


Tar River - AUGUST 20,2010 4650 Plan: 1) Proposed 2) Existing  
 RS 245050 - Modified Section

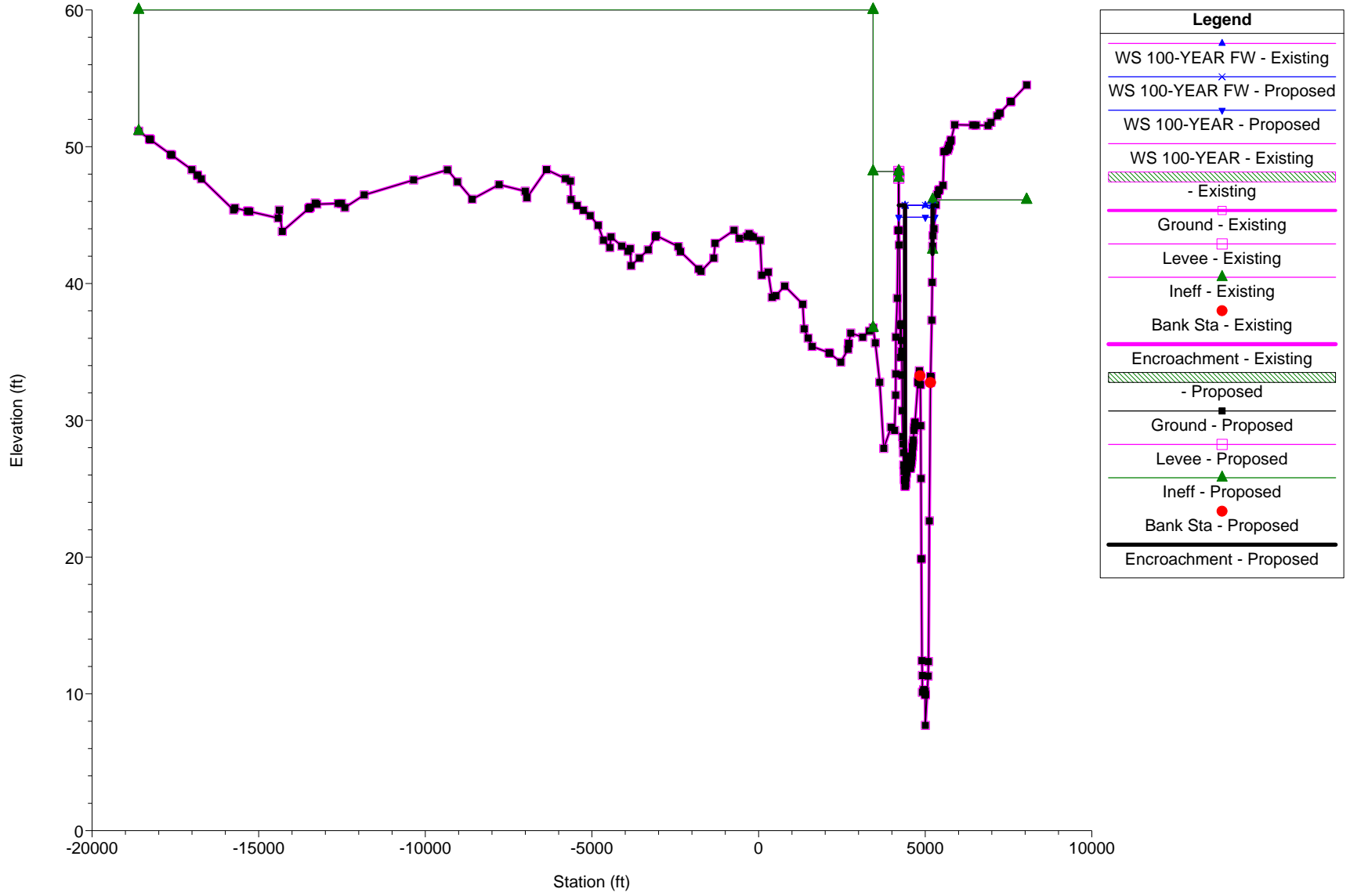




Tar River - AUGUST 20,2010 4650 Plan: 1) Proposed 2) Existing  
 RS 245050 - Modified Section



Tar River - AUGUST 20,2010 4650 Plan: 1) Proposed 2) Existing  
 Downstream Section of Bridge/Culvert/Weir







**SECTION 7 - CONSTRUCTION PLANS**

(See Attached)



# PROJECT:

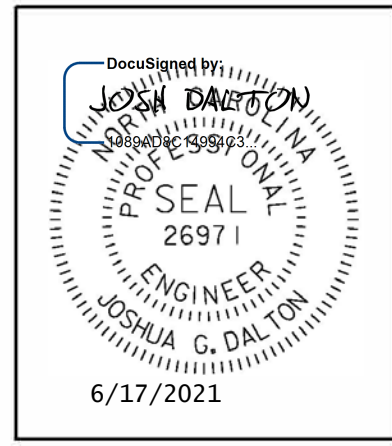
## COMMUNITY DEVELOPMENT BLOCK GRANT DISASTER RECOVERY PROJECT:

### PRINCEVILLE LEVEE FLOODGATE REPAIRS CONSTRUCTION DOCUMENTATION

CLIENT: TOWN OF PRINCEVILLE  
DR. GLENDA KNIGHT  
201 SOUTH MAIN STREET  
PRINCEVILLE, NC 27886



DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

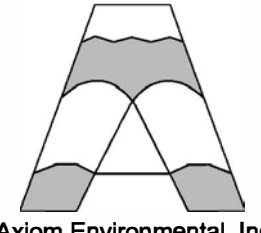


DESIGN TEAM  
COORDINATOR:



SUNGATE DESIGN GROUP.P.A.  
905 JONES FRANKLIN ROAD  
RALEIGH, NC 27606  
919-859-2243

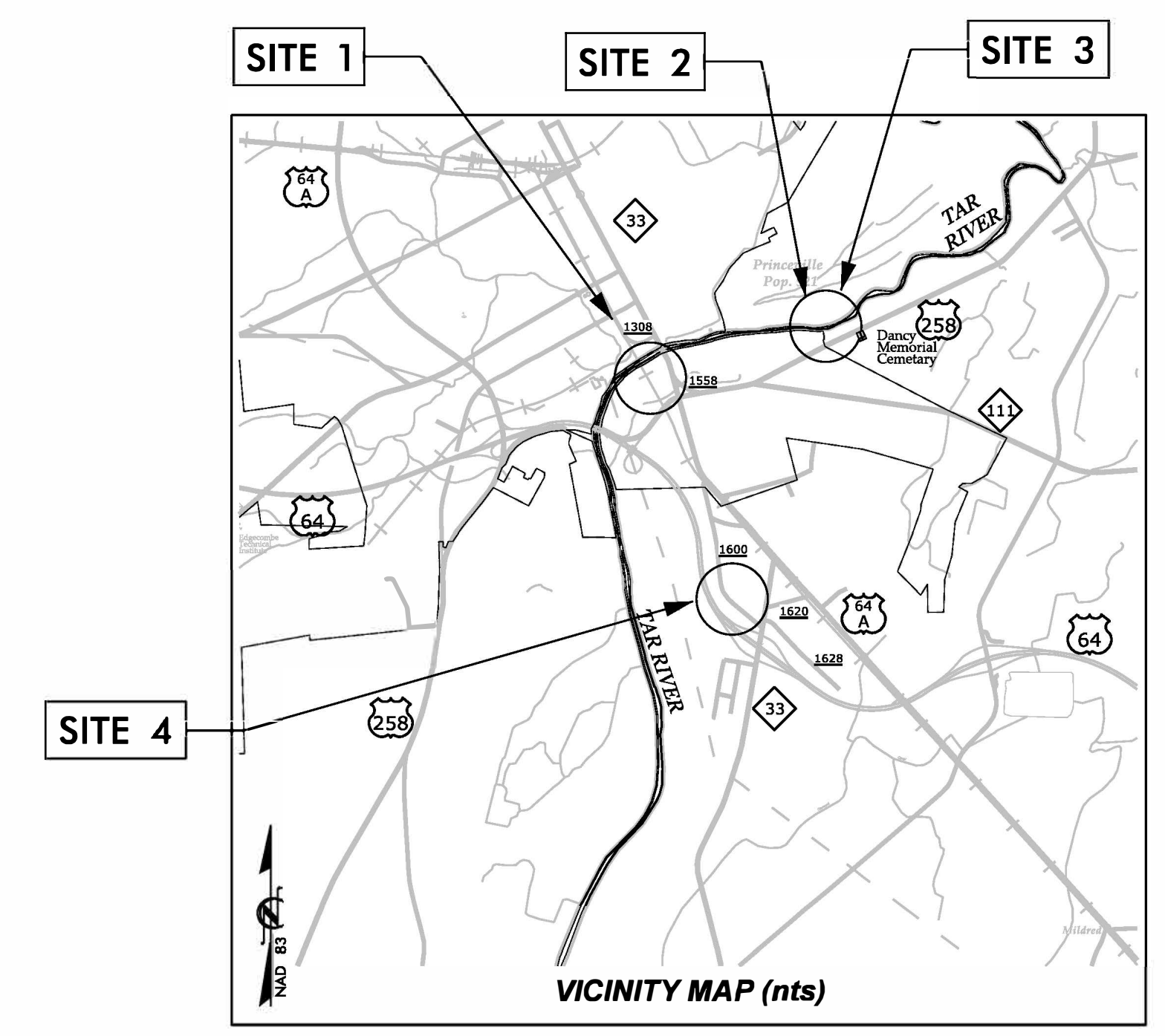
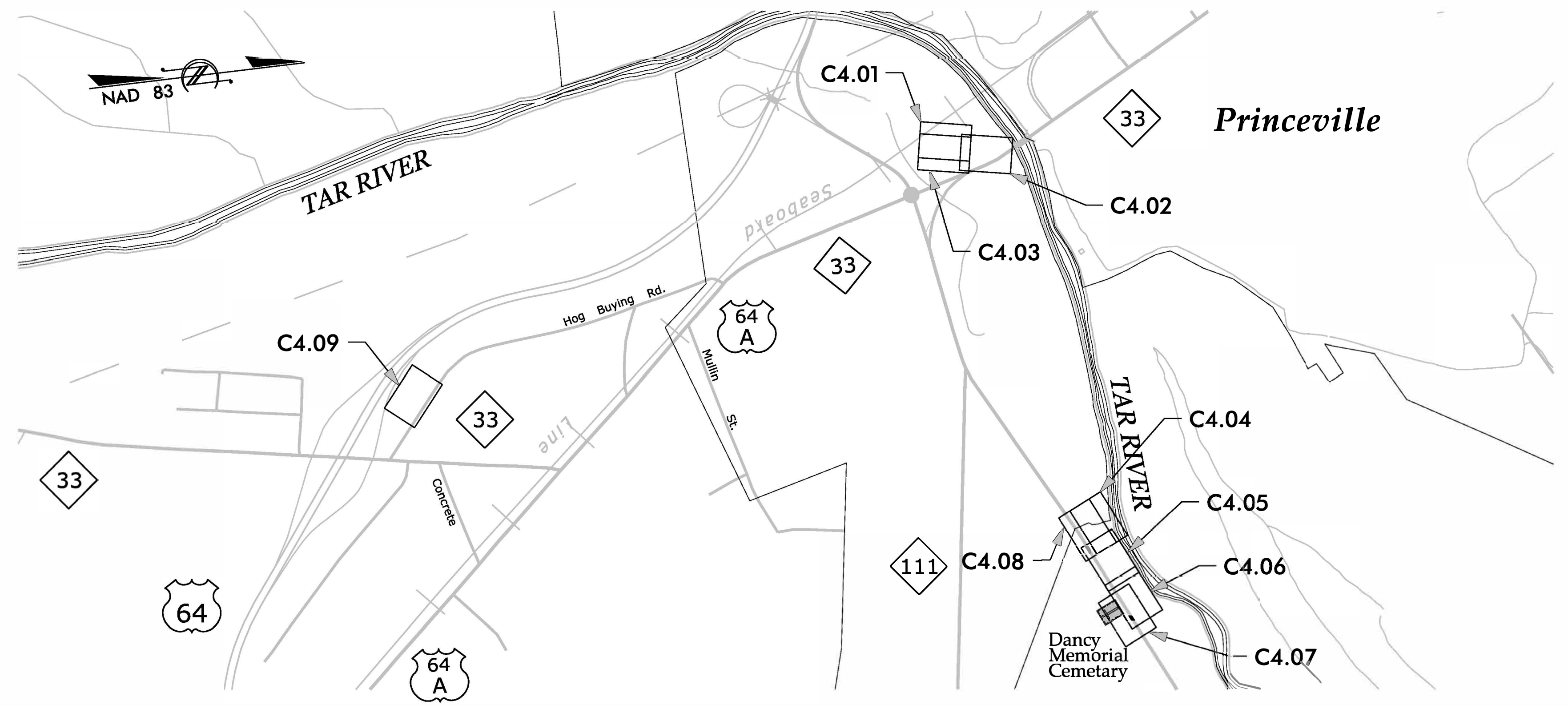
DESIGN TEAM:

 **Axiom Environmental**  
218 Snow Ave  
Raleigh, NC 27603

**Wooten** The Wooten Company  
120 N. Boylan Ave  
Raleigh, NC 27603  
919-828-0531

**N|V|5** NV5 Engineers and  
Consultants, Inc.  
4905 Professional Court  
Raleigh, NC 27609  
919-876-9799

TOTAL DISTURBED AREA = 4.4 ACRES  
TAR-PAMLICO RIVER BASIN



INDEX OF SHEETS	
SHEET NUMBER	SHEET
C1.00	Title Sheet
C1.01	Symbology
C1.02 THRU C1.03	General Notes, Typicals
C2.01	Overall Existing Conditions
C3.01 THRU C3.03	Erosion and Sediment Control Plan – Site 1
C3.04 THRU C3.08	Erosion and Sediment Control Plan – Site 2, 3
C3.09	Erosion and Sediment Control Plan – Site 4
C4.01 THRU C4.03	Grading and Storm Drainage/ Profile - Site 1
C4.04 THRU C4.08	Grading and Storm Drainage/ Profile - Site 2, 3
C4.09	Grading and Storm Drainage/ Profile - Site 4
C5.01 THRU C5.07	Cross Sections - Site 1
C5.08 THRU C5.16	Cross Sections – Site 2, 3
C5.17 THRU C5.19	Cross Sections – Site 4
C6.01 THRU C6.12	Details



# CONVENTIONAL PLAN SHEET SYMBOLS

## BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EIP
Computed Property Corner	✕
Property Monument	□ ECM
Parcel/Sequence Number	⑫③
Existing Fence Line	✕-✕-✕-✕
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	WLB
Proposed Wetland Boundary	WLB
Existing Endangered Animal Boundary	EAB
Existing Endangered Plant Boundary	EPB
Existing Historic Property Boundary	HPB
Known Contamination Area: Soil	☠ S ☠
Potential Contamination Area: Soil	☠ S ☠
Known Contamination Area: Water	☠ W ☠
Potential Contamination Area: Water	☠ W ☠
Contaminated Site: Known or Potential	☠ ?

## BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○ S
Well	○ W
Small Mine	✕
Foundation	□
Area Outline	□
Cemetery	□ †
Building	□
School	□
Church	□
Dam	□

## HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	-----
Jurisdictional Stream	JS
Buffer Zone 1	BZ 1
Buffer Zone 2	BZ 2
Flow Arrow	→
Disappearing Stream	→
Spring	○
Wetland	WLB
Proposed Lateral, Tail, Head Ditch	-----
False Sump	▽

## RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ MILEPOST 35
Switch	□ SWITCH
RR Abandoned	-----
RR Dismantled	-----

## RIGHT OF WAY & PROJECT CONTROL:

Secondary Horiz and Vert Control Point	◇
Primary Horiz Control Point	○
Primary Horiz and Vert Control Point	◇
Exist Permanent Easment Pin and Cap	◇
New Permanent Easement Pin and Cap	◇
Vertical Benchmark	⊠
Existing Right of Way Marker	△
Existing Right of Way Line	-----
New Right of Way Line	-----
New Right of Way Line with Pin and Cap	△
New Right of Way Line with Concrete or Granite R/W Marker	△
New Control of Access Line with Concrete C/A Marker	△
Existing Control of Access	△
New Control of Access	△
Existing Easement Line	-----
New Temporary Construction Easement	-----
New Temporary Drainage Easement	-----
New Permanent Drainage Easement	-----
New Permanent Drainage / Utility Easement	-----
New Permanent Utility Easement	-----
New Temporary Utility Easement	-----
New Aerial Utility Easement	-----

## ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	C
Proposed Slope Stakes Fill	F
Proposed Curb Ramp	CR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	⊗

## VEGETATION:

Single Tree	☼
Single Shrub	☼

Note: Not to Scale

\*S.U.E. = Subsurface Utility Engineering

Hedge	-----
Woods Line	-----
Orchard	-----
Vineyard	-----

## EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	-----
Bridge Wing Wall, Head Wall and End Wall	-----
MINOR:	
Head and End Wall	-----
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	-----
Paved Ditch Gutter	-----
Storm Sewer Manhole	-----
Storm Sewer	-----

## UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊕
Power Line Tower	⊠
Power Transformer	⊠
U/G Power Cable Hand Hole	-----
H-Frame Pole	●
U/G Power Line LOS B (S.U.E.*)	-----
U/G Power Line LOS C (S.U.E.*)	-----
U/G Power Line LOS D (S.U.E.*)	-----

## TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Pedestal	⊕
Telephone Cell Tower	⊕
U/G Telephone Cable Hand Hole	-----
U/G Telephone Cable LOS B (S.U.E.*)	-----
U/G Telephone Cable LOS C (S.U.E.*)	-----
U/G Telephone Cable LOS D (S.U.E.*)	-----
U/G Telephone Conduit LOS B (S.U.E.*)	-----
U/G Telephone Conduit LOS C (S.U.E.*)	-----
U/G Telephone Conduit LOS D (S.U.E.*)	-----
U/G Fiber Optics Cable LOS B (S.U.E.*)	-----
U/G Fiber Optics Cable LOS C (S.U.E.*)	-----
U/G Fiber Optics Cable LOS D (S.U.E.*)	-----

## WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
U/G Water Line LOS B (S.U.E.*)	-----
U/G Water Line LOS C (S.U.E.*)	-----
U/G Water Line LOS D (S.U.E.*)	-----
Above Ground Water Line	-----

## TV:

TV Pedestal	⊕
TV Tower	⊗
U/G TV Cable Hand Hole	-----
U/G TV Cable LOS B (S.U.E.*)	-----
U/G TV Cable LOS C (S.U.E.*)	-----
U/G TV Cable LOS D (S.U.E.*)	-----
U/G Fiber Optic Cable LOS B (S.U.E.*)	-----
U/G Fiber Optic Cable LOS C (S.U.E.*)	-----
U/G Fiber Optic Cable LOS D (S.U.E.*)	-----

## GAS:

Gas Valve	◇
Gas Meter	⊕
U/G Gas Line LOS B (S.U.E.*)	-----
U/G Gas Line LOS C (S.U.E.*)	-----
U/G Gas Line LOS D (S.U.E.*)	-----
Above Ground Gas Line	-----

## SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-----
SS Forced Main Line LOS B (S.U.E.*)	-----
SS Forced Main Line LOS C (S.U.E.*)	-----
SS Forced Main Line LOS D (S.U.E.*)	-----

## MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line LOS B (S.U.E.*)	-----
U/G Tank; Water, Gas, Oil	-----
Underground Storage Tank, Approx. Loc.	-----
A/G Tank; Water, Gas, Oil	-----
Geoenvironmental Boring	⊕
U/G Test Hole LOS A (S.U.E.*)	-----
Abandoned According to Utility Records	⊕
End of Information	E.O.I.

**SUNGATE DESIGN GROUP, P.A.**  
 905 JONES FRANKLIN ROAD  
 FLOODGATE RDY, PRINCEVILLE, NC 27606  
 TEL: (819) 852-2243  
 ENG FIRM LICENSE NO. C-890

DocuSign Envelope ID: 2702D3-79BE-44C6-A9EA-29D7AFF35315  
**JOSH DALTON**  
 P.E. SEAL  
 26971  
 ENGINEER  
 JOSHUA G. DALTON  
 6/17/2021

PRINCEVILLE DIKE FLOODGATE REPAIRS

PRINCEVILLE, EDGECOMBE COUNTY, NC

PROJECT #: 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C101  
 DATE: 6-16-2021  
 DRAWN BY: JRH  
 REVIEWED BY: RCH  
 REVISIONS:

SHEET NO. **C1.01**



6/16/2021  
 F:\oodgate\_Rdy\_psh\_C1.02.dgn  
 RCH

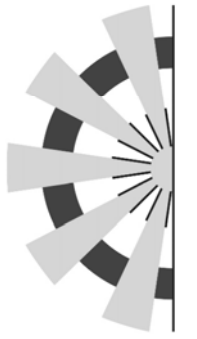
**General Notes**

1. All construction shall be in accordance with the latest edition of "NCDOT 2018 Standards and Specifications for Roads and Structures" and "NCDOT 2018 Roadway Standard Drawings" and with the standards and specifications of the Town of Princeville.
2. Existing utilities noted at the time of the field survey are shown for size, material, type, and relative location only. This plan is not a comprehensive inventory or an as-built survey of existing site utilities. The Contractor is to determine the existence and location of all utilities within the work area.
3. The Contractor shall be responsible for the location and/or relocation of all utilities in coordination with the appropriate utility agency or company. The Contractor is required to call The NC One Call Center (1-800-632-4949) before digging.
4. The Contractor shall be responsible for repairing or replacing any existing site features, facilities or improvements that are damaged during the demolition or construction operation that are not indicated to be removed or abandoned.
5. Install tree protection fence and clearing and grubbing erosion control measures prior to any demolition and/or construction activity on site.
6. All disturbed slopes must be stabilized within the time frame indicated on the Ground Stabilization Table (see Erosion Control Plan). All other disturbed areas must be stabilized with the time frame indicated on the Ground Stabilization Table.
7. Contractor is to field locate proposed site improvements that require demolition of existing structures for verification by the Engineer prior to demolition.
8. Construction debris to be removed from the site and properly disposed of by the Contractor. All project waste and demolition materials to be disposed of in accordance with applicable NCDEQ Standards. Contractor to provide written verification of proper disposal to owner.
9. Any buried waste, construction debris or trash which is found during the construction operation shall be thoroughly excavated and removed from the site to an approved facility prior to the placement of any permanent fill material or pavement construction.
10. Contractor to prevent surface and air movement of dust from disturbed soil surfaces through sprinkling until it is wet. Contractor is to maintain dust control measures through dry weather periods until all disturbed areas have been stabilized.
11. All stockpile areas and temporary spoil areas shall be protected by silt fence.
12. All site work shall produce surface grades adequate for storm water runoff to prevent standing water on all developed areas and to meet existing grades in smooth transition.
13. To minimize damage to existing trees, the Contractor shall cut, rather than tear roots.
14. The Contractor is responsible for furnishing and maintaining all work zone signage relative to the work to be performed for the location indicated on the project plan set. All barricading and signage shall conform to the latest edition of "NC- Manual on Uniform Traffic Control Devices for Work Zone."
15. An on-site pre-construction meeting must be held prior to any construction activity.
16. All existing site features shall remain unless noted to be removed or demolished.
17. Construction staging and access limits to be approved by the Owner prior to any construction activity on site.
18. The Contractor shall be responsible for all construction staking. Horizontal and vertical site control coordinates and elevations are shown on sheet C2.01. The contractor is responsible for all site layout, construction staking, and as-built surveys.
19. Topography, existing conditions, easement, and right-of-way survey conducted by Sungate Design Group, PA on 4/6/2021, 4/8/2021, 4/9/2021, and 5/19/2021. Coordinates shown on plan are referenced to NAD 83 (2011) horizontal datum and NAVD 88 vertical datum.
20. The contractor shall note that the drawings may not show every offset, transition, fitting, etc. that may be required. The contractor shall install such standard appurtenances as required to closely follow the grades and alignments depicted on the plans.
21. If departures from the specifications or drawings are deemed necessary by the contractor, details of such departures and reasons therefore shall be submitted to the Owner for review. No departures from contract documents shall be made without the written permission of the Owner.
22. **All dimensions and grades shown on the plans shall be field verified by the Contractor prior to the start of construction in the area. The Contractor shall notify the Owner if any errors or discrepancies exist between the project plans and the field conditions that require plan or grade modification prior to the start of construction of the improvements in the area. No extra compensation shall be paid to the Contractor for any work redone due to grades or dimensions shown incorrectly on these plans, if such notification is not provided to the Owner prior to the initiation of the subject construction and receipt of authorization to proceed with the plans construction as revised by the Engineer.**
23. Construction operations shall be limited to the hours during the day as specified by the Owner.
24. Site access and construction shall be limited to the areas shown on the construction drawings. Any damage or excavation of the existing levee is prohibited.

Riprap Gradation Requirements						
Weight (lbs)	Size (in)	% Finer by Weight				
		Class of Riprap				
		A	B	I	II	III
2000	30					100
1000	24				100	
650	21					75
400	18		100			
250	15				75	50
120	12		100	75	50	
50	9			75	50	
15	6	100	50			10
5	4					10
2	3	50		10		
	2		10			
	1	10				

\*Weight to size conversion based on a riprap specific gravity of 2.6 and a volume average between a sphere and cube.

**SUNGATE DESIGN GROUP, P.A.**  
 505 JONES FRANKLIN ROAD  
 PRINCEVILLE, NORTH CAROLINA 27606  
 TEL: (819) 852-2243  
 ENG FIRM LICENSE NO. C-890



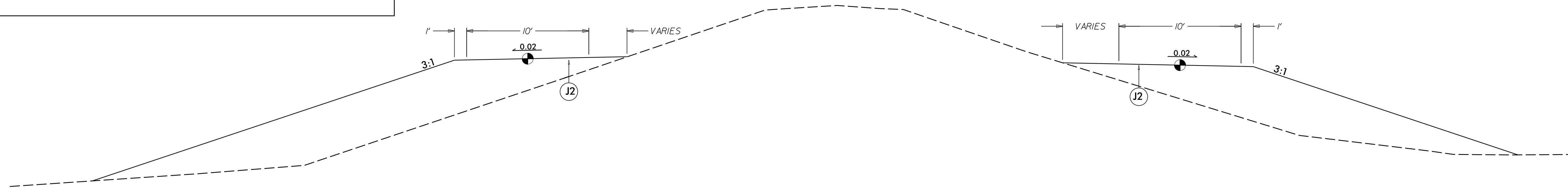
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**JOSHUA G. DAITON**  
 PROFESSIONAL SEAL  
 26971  
 ENGINEER  
 JOSHUA G. DAITON  
 6/17/2021

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**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC  
**GENERAL NOTES**

PROJECT # :  
 1284-20041  
 DRAWING NAME:  
 FLOODGATE RDY PSH C201  
 DATE:  
 6-16-2021  
 DRAWN BY:  
 JRH  
 REVIEWED BY:  
 RCH  
 REVISIONS:  
  
 SHEET NO.  
**C1.02**

J2 PROP. 6" AGGREGATE BASE COURSE.

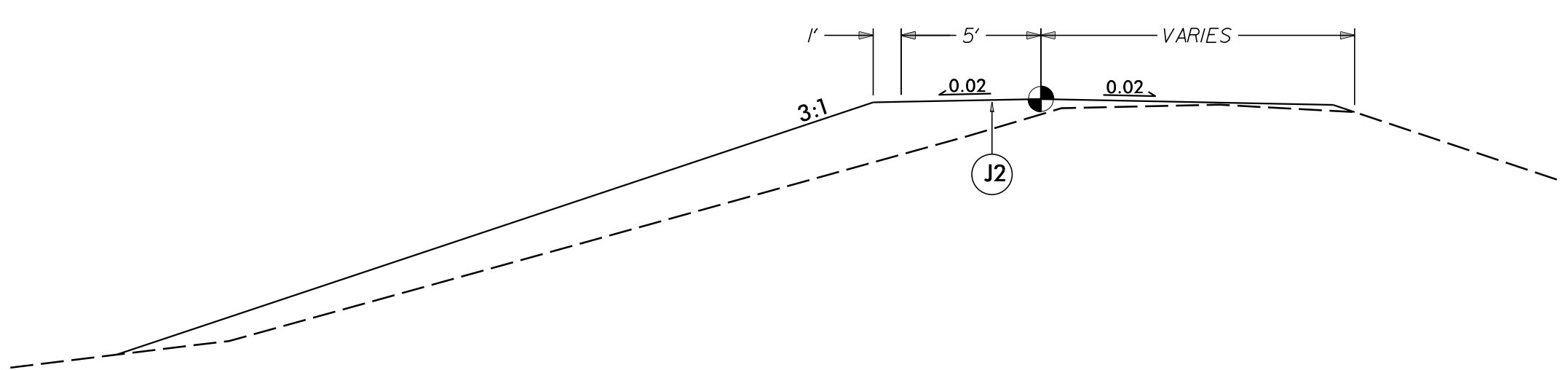


TYPICAL SECTION NO. 1

- 10+00 to 16+20 -AR1-
- 10+00 to 12+80 -AR3-
- 16+10 to 21+80 -AR3-
- 10+00 to 10+50 -AR5-

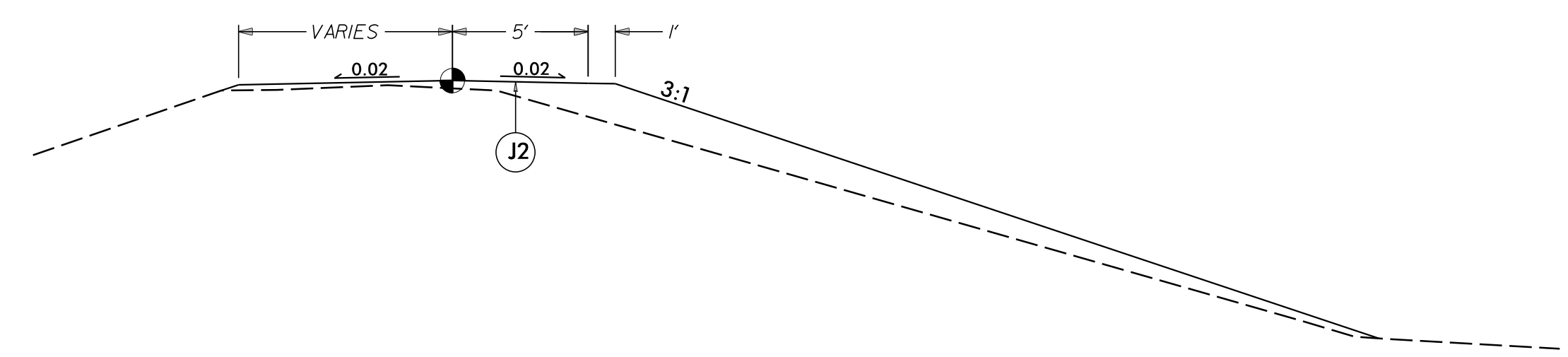
TYPICAL SECTION NO. 2

- 10+30 to 12+30 -AR2-
- 22+30 to 22+70 -AR3-
- 10+10 to 10+15 -AR3B-
- 10+20 to 10+25 -AR3B-
- 10+30 to 10+35 -AR3B-
- 10+60 to 10+70 -AR5-
- 10+80 to 13+20 -AR5-



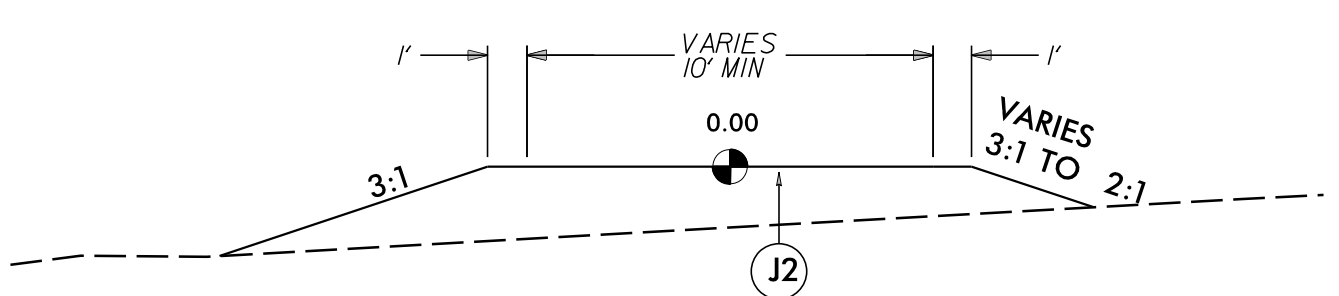
TYPICAL SECTION NO. 3

- 16+20 to 16+70 -AR1-
- 12+80 to 13+20 -AR3-
- 15+60 to 16+10 -AR3-
- 21+80 to 22+20 -AR3-



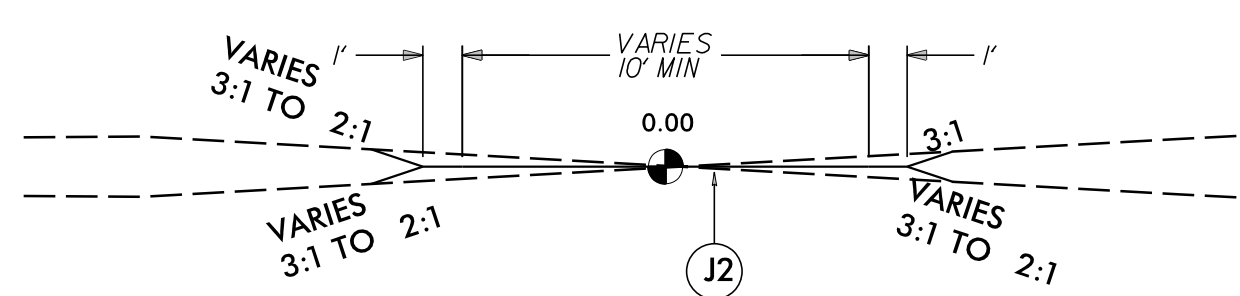
TYPICAL SECTION NO. 4

- 12+30 to 12+80 -AR2-
- 22+20 to 22+30 -AR3-
- 13+20 to 13+70 -AR5-



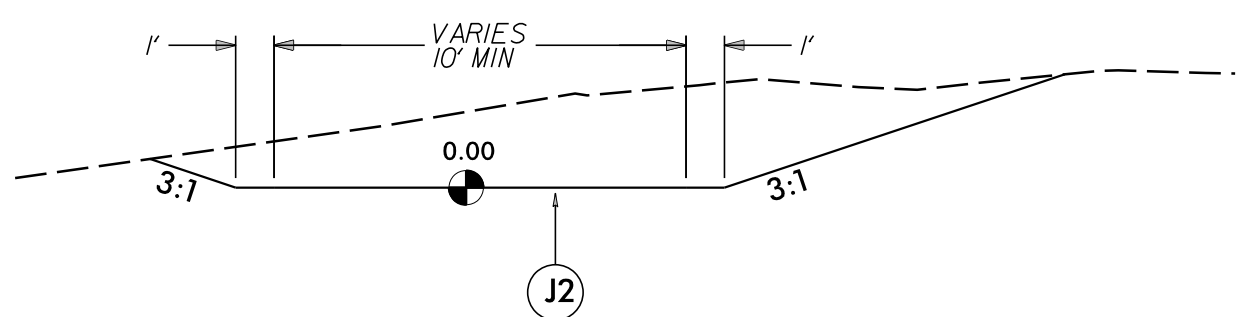
TYPICAL SECTION NO. 5

- 10+10 to 10+60 -AR1A-
- 10+10 to 10+40 -AR2A-
- 22+70 to 23+17 -AR3-
- 10+10 to 10+80 -AR3A-
- 10+15 to 10+20 -AR3B-
- 10+35 to 10+50 -AR3B-
- 10+15 to 10+30 -AR4-
- 10+10 to 10+40 -AR5A-



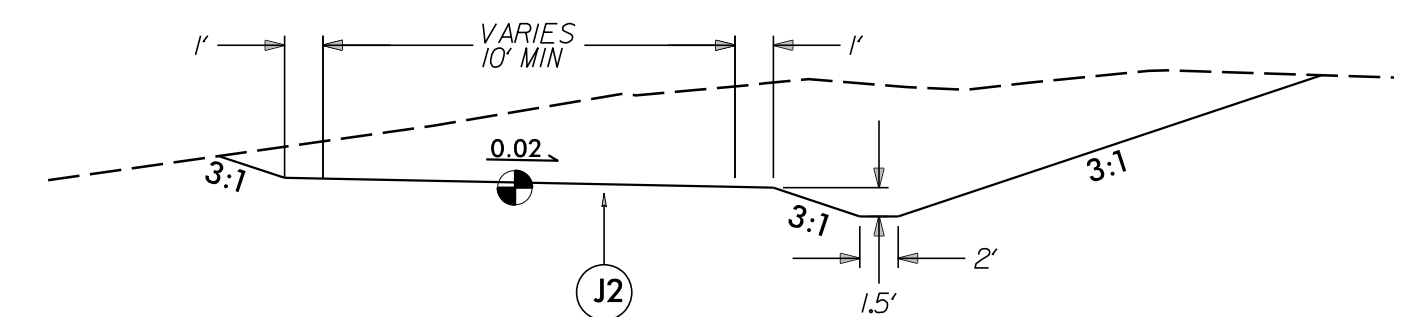
TYPICAL SECTION NO. 6

- 10+40 to 10+70 -AR2A-
- 10+25 to 10+30 -AR3B-
- 10+50 to 10+60 -AR3B-
- 10+30 to 10+50 -AR4-
- 10+50 to 10+60 -AR5-
- 10+70 to 10+80 -AR5-
- 10+40 to 10+50 -AR5A-



TYPICAL SECTION NO. 7

- 10+50 to 10+70 -AR4-
- 10+50 to 11+00 -AR4A-



TYPICAL SECTION NO. 8

- 10+05 to 10+50 -AR4A-

6/16/2021 Floodgate\_Rdy\_psh\_C1.03.dgn

**SUNGATE DESIGN GROUP, P.A.**  
 905 JONES FRANKLIN ROAD  
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 JOSH DALTON  
 PROFESSIONAL SEAL  
 26971  
 ENGINEER  
 JOSHUA G. DALTON  
 6/17/2021

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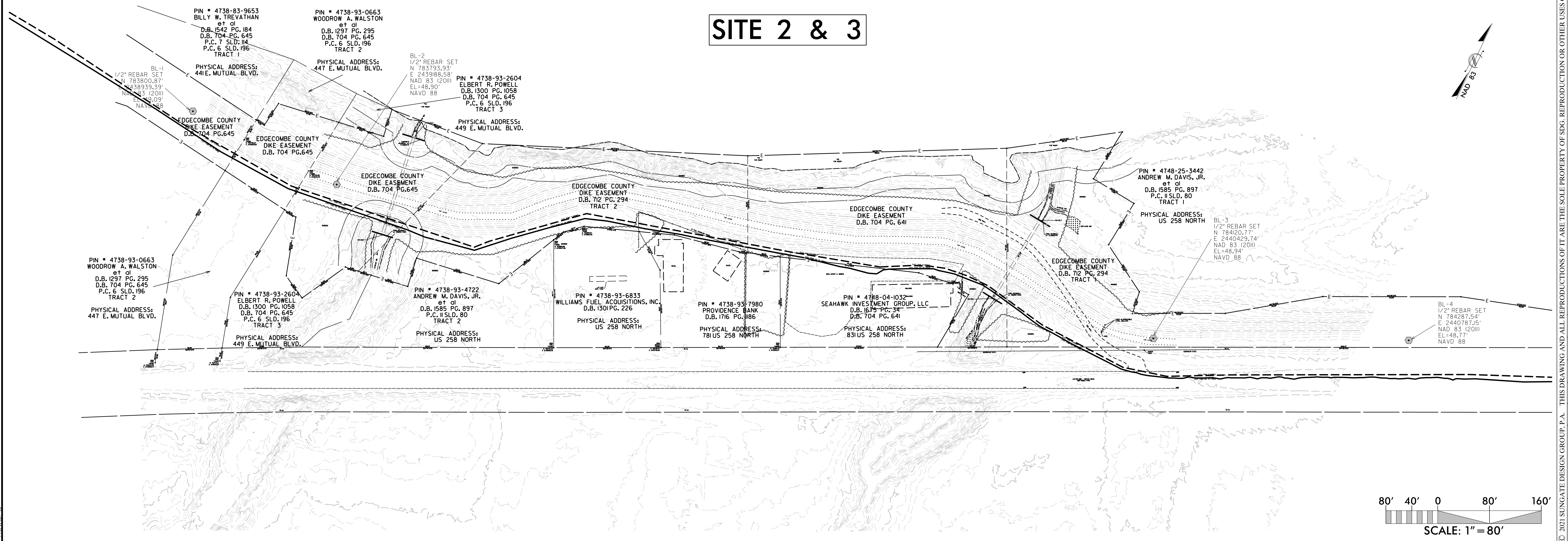
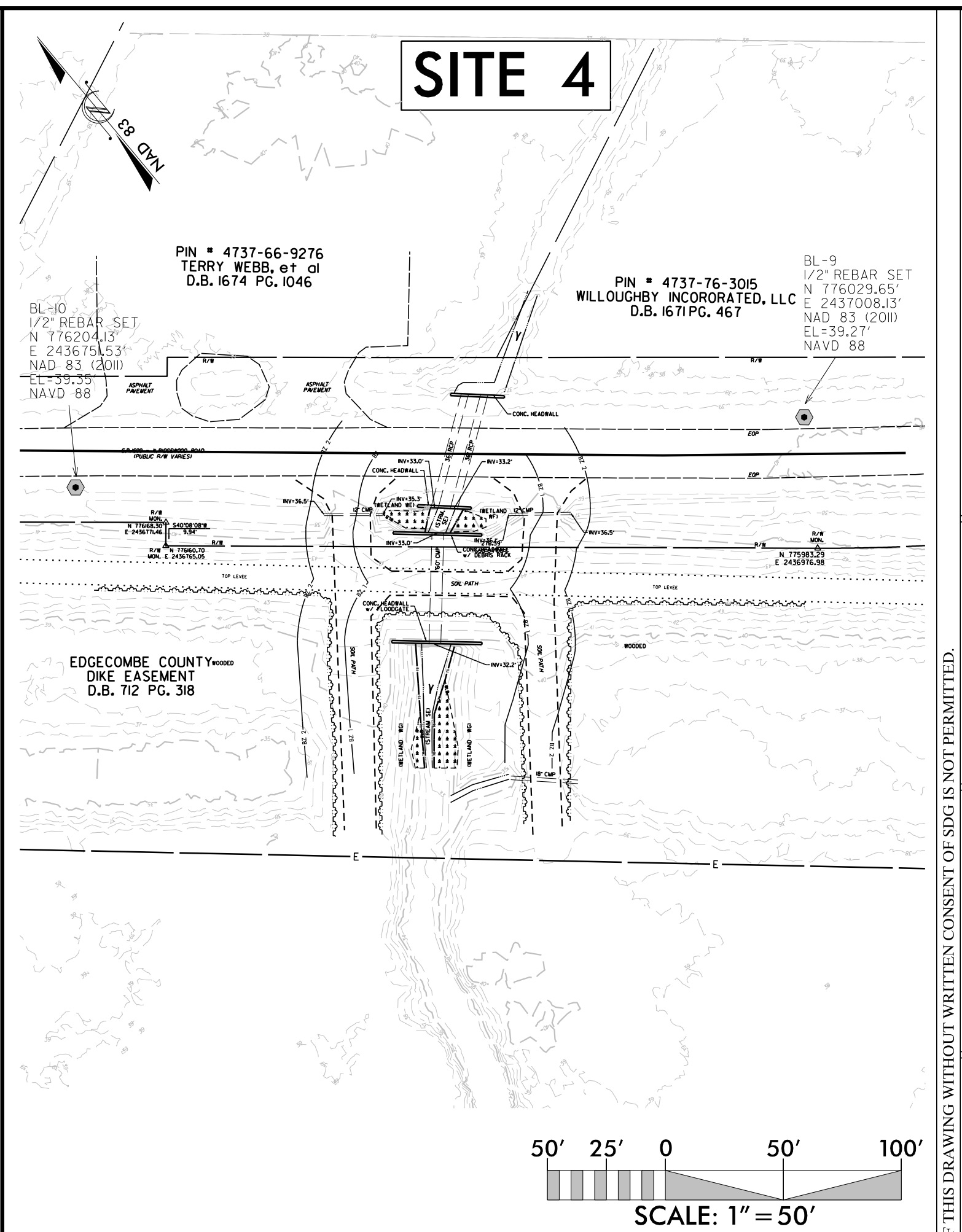
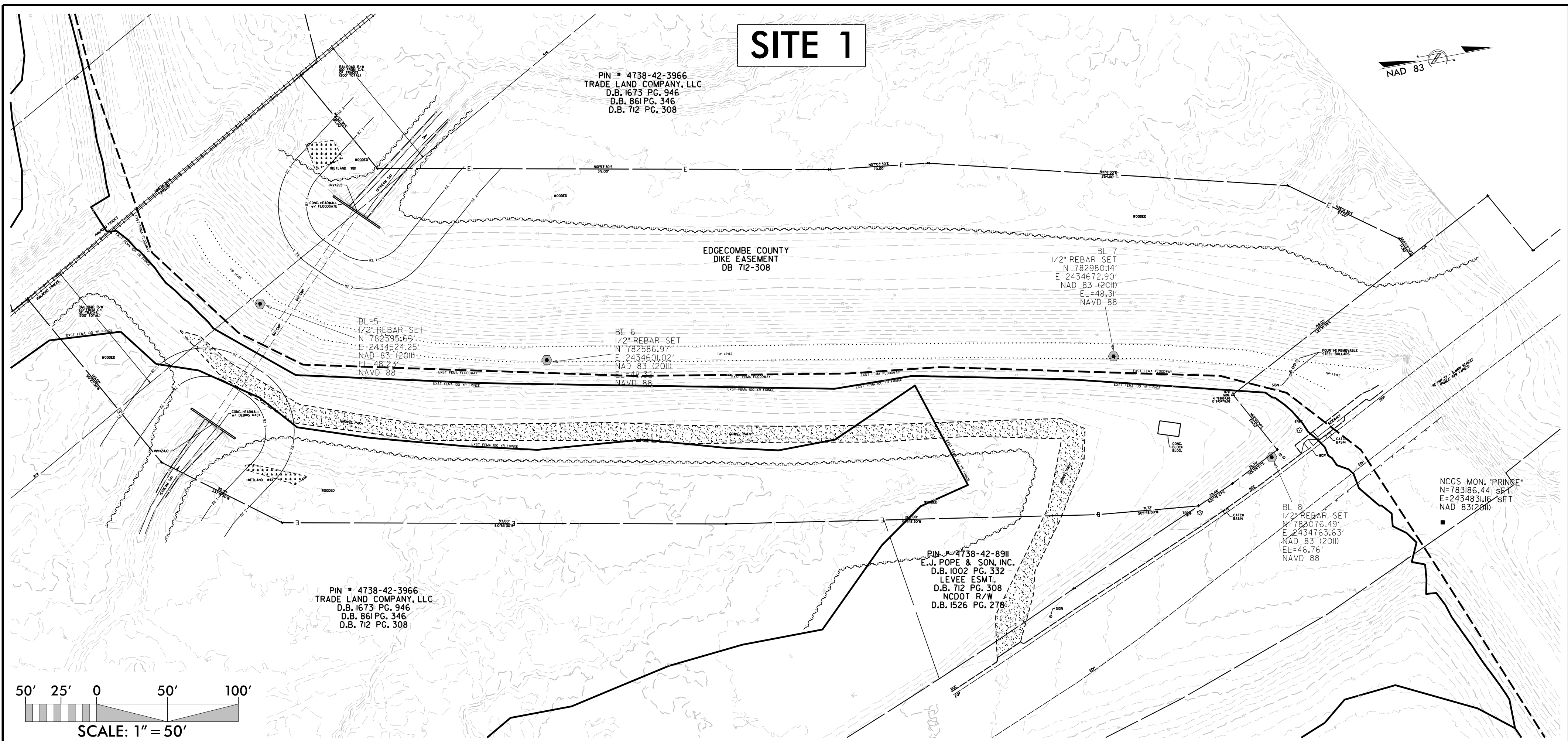
**PRINCETON DIKE FLOODGATE REPAIRS**  
 PRINCETONVILLE, EDGECOMBE COUNTY, NC

**TYPICALS**

PROJECT # : 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C103  
 DATE: 6-16-2021  
 DRAWN BY: JRH  
 REVIEWED BY: RCH  
 REVISIONS:

SHEET NO. **C1.03**





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PRINCETON, NORTH CAROLINA 27606  
TEL: (919) 852-2243  
ENG FIRM LICENSE NO. C-890

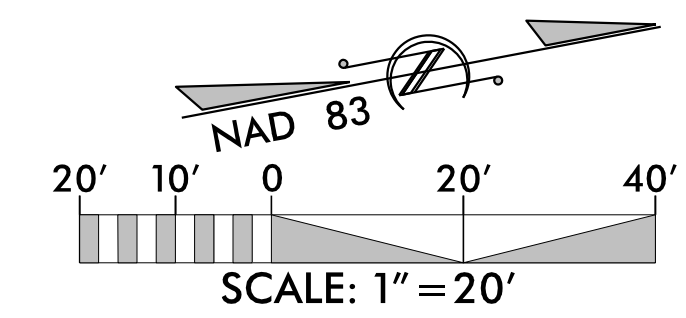
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*Randal C. Howard*  
SEAL  
L-5015  
LAND SURVEY FOR  
PRINCETON, NC  
RANDAL C. HOWARD  
6/16/2021

**PRINCETON DIKE FLOODGATE REPAIRS**  
PRINCETON, EDGECOMBE COUNTY, NC

**EXISTING CONDITIONS**

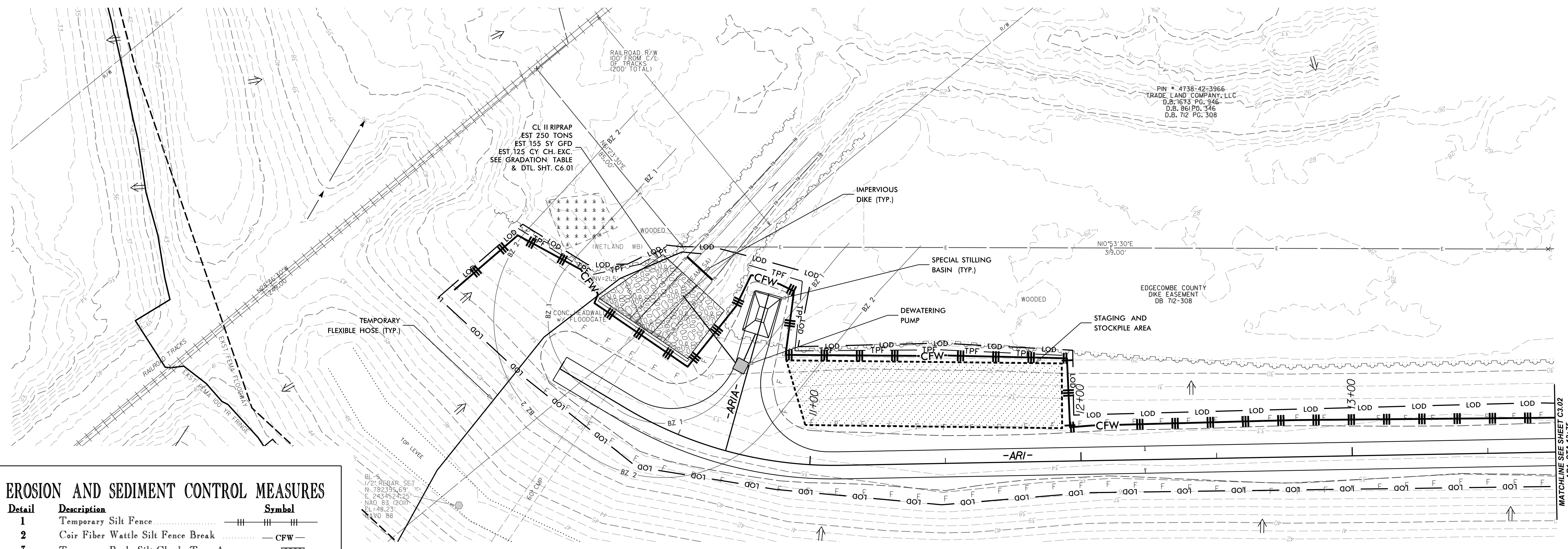
PROJECT # : 1284-20041  
DRAWING NAME: FLOODGATE RDY PSH C201  
DATE: 6-16-2021  
DRAWN BY: JRH  
REVIEWED BY: RCH  
REVISIONS:  
SHEET NO. **C2.01**





PHASING FOR SHEETS C3.01 AND C3.03:

- 1.) INSTALL SPECIAL STILLING BASIN(S).
- 2.) INSTALL PUMPS AND TEMPORARY FLEXIBLE HOSES.
- 3.) INSTALL IMPERVIOUS DIKES, AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
- 4.) DEWATER CONSTRUCTION AREA, USING SPECIAL STILLING BASIN(S) FOR PUMPED EFFLUENT.
- 5.) KEY IN CLASS II RIP RAP AT INLET AND OUTLET CHANNELS.
- 6.) EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES.
- 7.) REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSES, AND ANY REMAINING SPECIAL STILLING BASIN(S).
- 8.) COMPLETE CONSTRUCTION OF ACCESS ROADS.



Detail	Description	Symbol
1	Temporary Silt Fence	
2	Coir Fiber Wattle Silt Fence Break	— CFW —
3	Temporary Rock Silt Check Type-A	▣
4	Temporary Rock Silt Check Type-B	▤
5	Wattle / Coir Fiber Wattle	—
6	Rock Pipe Inlet Sediment Trap Type-B	⊙
7	Special Stilling Basin	□
8	Temp. Tree Prot. Fence	— TPF —
9	Limits of Disturbance	— LOD —

NOTE:  
EROSION AND SEDIMENT CONTROL MEASURES SYMBOLOGY ARE GRAPHICALLY SHOWN OUTSIDE OF THE LIMITS OF DISTURBANCE ONLY FOR THE PURPOSE OF VISUAL CLARITY. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WITHIN LIMITS OF DISTURBANCE.

**SUNGATE DESIGN GROUP, P.A.**  
 905 JONES FRANKLIN ROAD  
 FLOODEGATE, CAROLINA 27606  
 TEL: (919) 852-2243  
 ENG FIRM LICENSE NO. C-890

DocuSigned By:  
**JOSH DALTON**  
 PROFESSIONAL SEAL  
 26971  
 ENGINEER  
 JOHNSON G. DALTON  
 6/17/2021

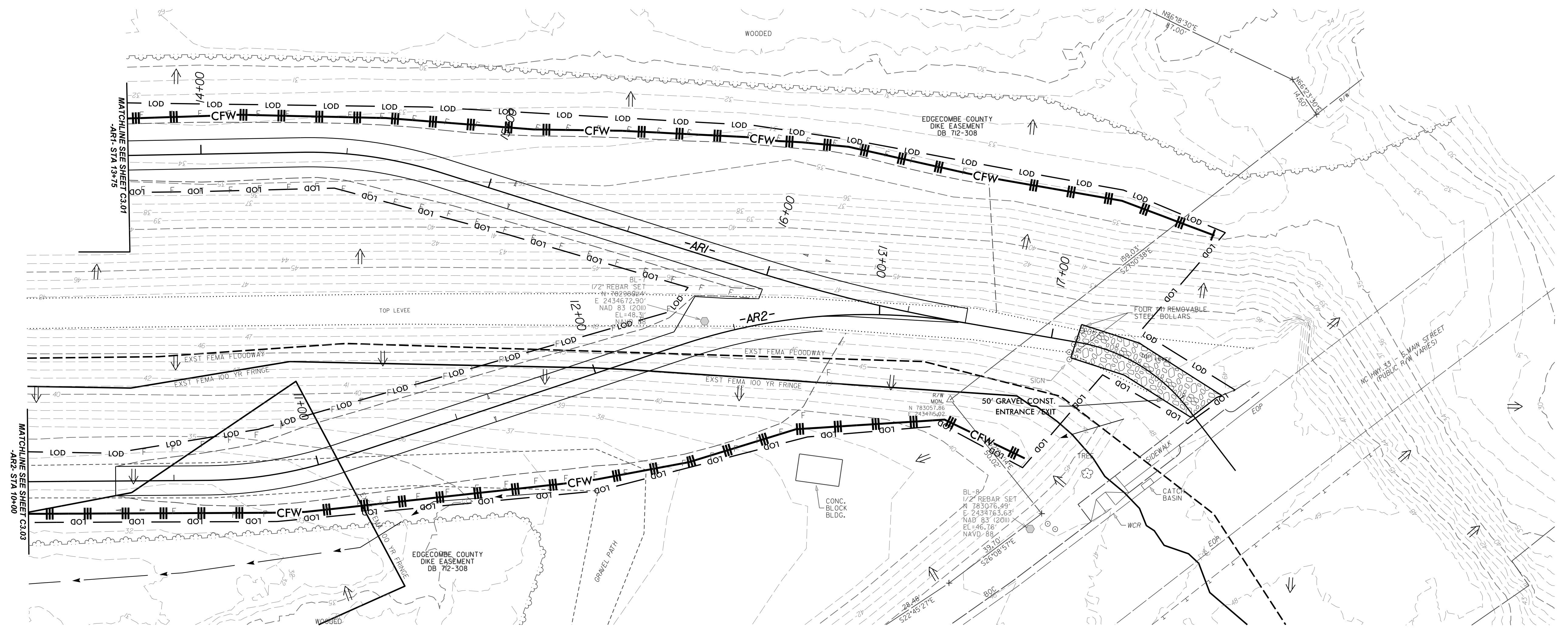
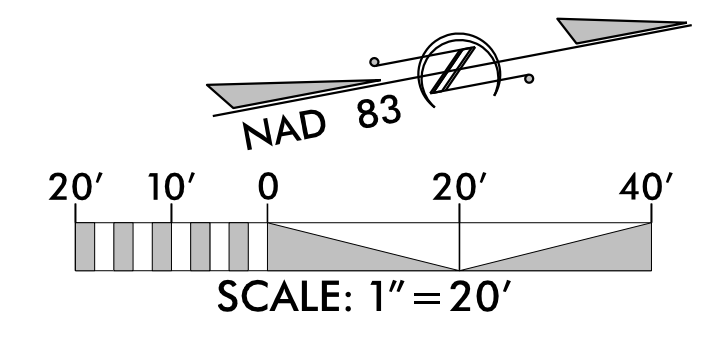
**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC  
 EROSION AND SEDIMENT CONTROL - SITE 1

PROJECT # : 1284-2004I  
 DRAWING NAME: FLOODGATE RDY PSH C30I  
 DATE: 6-16-2021  
 DRAWN BY: JRH  
 REVIEWED BY: RCH  
 REVISIONS:

SHEET NO.  
**C3.01**

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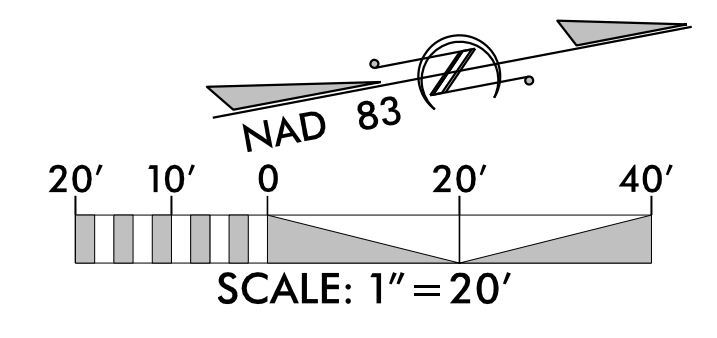


Place Matting for Erosion Control  
 on Slope as Work Allows.  
 Sta. 15+30 to Sta. 16+70 -AR1- LT (570 SY)  
 Sta. 10+50 to Sta. 12+80 -AR2- RT (450 SY)

NOTE:  
 EROSION AND SEDIMENT CONTROL MEASURES  
 SYMBOLOGY ARE GRAPHICALLY SHOWN OUTSIDE  
 OF THE LIMITS OF DISTURBANCE ONLY FOR  
 THE PURPOSE OF VISUAL CLARITY. ALL  
 EROSION AND SEDIMENT CONTROL MEASURES  
 SHALL BE INSTALLED WITHIN LIMITS OF  
 DISTURBANCE.

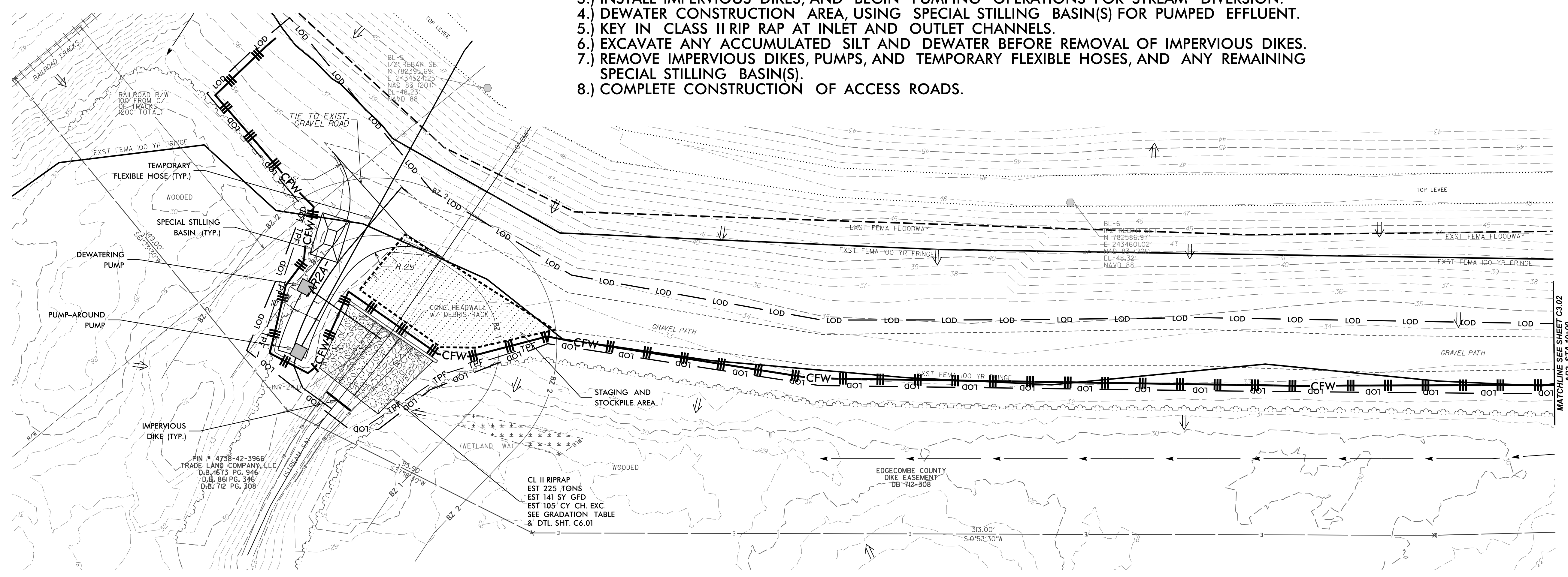
Detail	Description	Symbol
1	Temporary Silt Fence	
2	Coir Fiber Wattle Silt Fence Break	CFW
3	Temporary Rock Silt Check Type-A	[Cross-hatched]
4	Temporary Rock Silt Check Type-B	▶
5	Wattle / Coir Fiber Wattle	~
6	Rock Pipe Inlet Sediment Trap Type-B	⊙
7	Special Stilling Basin	⊠
8	Temp. Tree Prot. Fence	TPF TPF TPF
9	Limits of Disturbance	LOD LOD





PHASING FOR SHEETS C3.01 AND C3.03:

- 1.) INSTALL SPECIAL STILLING BASIN(S).
- 2.) INSTALL PUMPS AND TEMPORARY FLEXIBLE HOSES.
- 3.) INSTALL IMPERVIOUS DIKES, AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
- 4.) DEWATER CONSTRUCTION AREA, USING SPECIAL STILLING BASIN(S) FOR PUMPED EFFLUENT.
- 5.) KEY IN CLASS II RIP RAP AT INLET AND OUTLET CHANNELS.
- 6.) EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES.
- 7.) REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSES, AND ANY REMAINING SPECIAL STILLING BASIN(S).
- 8.) COMPLETE CONSTRUCTION OF ACCESS ROADS.



NOTE:  
EROSION AND SEDIMENT CONTROL MEASURES SYMBOLOGY ARE GRAPHICALLY SHOWN OUTSIDE OF THE LIMITS OF DISTURBANCE ONLY FOR THE PURPOSE OF VISUAL CLARITY. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WITHIN LIMITS OF DISTURBANCE.

EROSION AND SEDIMENT CONTROL MEASURES		
Detail	Description	Symbol
1	Temporary Silt Fence	
2	Coir Fiber Wattle Silt Fence Break	CFW
3	Temporary Rock Silt Check Type-A	▣
4	Temporary Rock Silt Check Type-B	▣
5	Wattle / Coir Fiber Wattle	—
6	Rock Pipe Inlet Sediment Trap Type-B	⊕
7	Special Stilling Basin	⊠
8	Temp. Tree Prot. Fence	TPF — TPF — TPF —
9	Limits of Disturbance	— LOD — LOD —

6/16/2021 Floodgate\_Rdy\_psh\_C303.dgn

**SUNGATE DESIGN GROUP, P.A.**  
 905 JONES FRANKLIN ROAD  
 FLOODGATE, CAROLINA 27606  
 TEL: (919) 852-2243  
 ENG FIRM LICENSE NO. C-890

DocuSigned by:  
**JOSH DALTON**  
 PROFESSIONAL SEAL  
 26971  
 ENGINEER  
 JOSHUA G. DALTON  
 6/17/2021

**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC  
**EROSION AND SEDIMENT CONTROL - SITE 1**

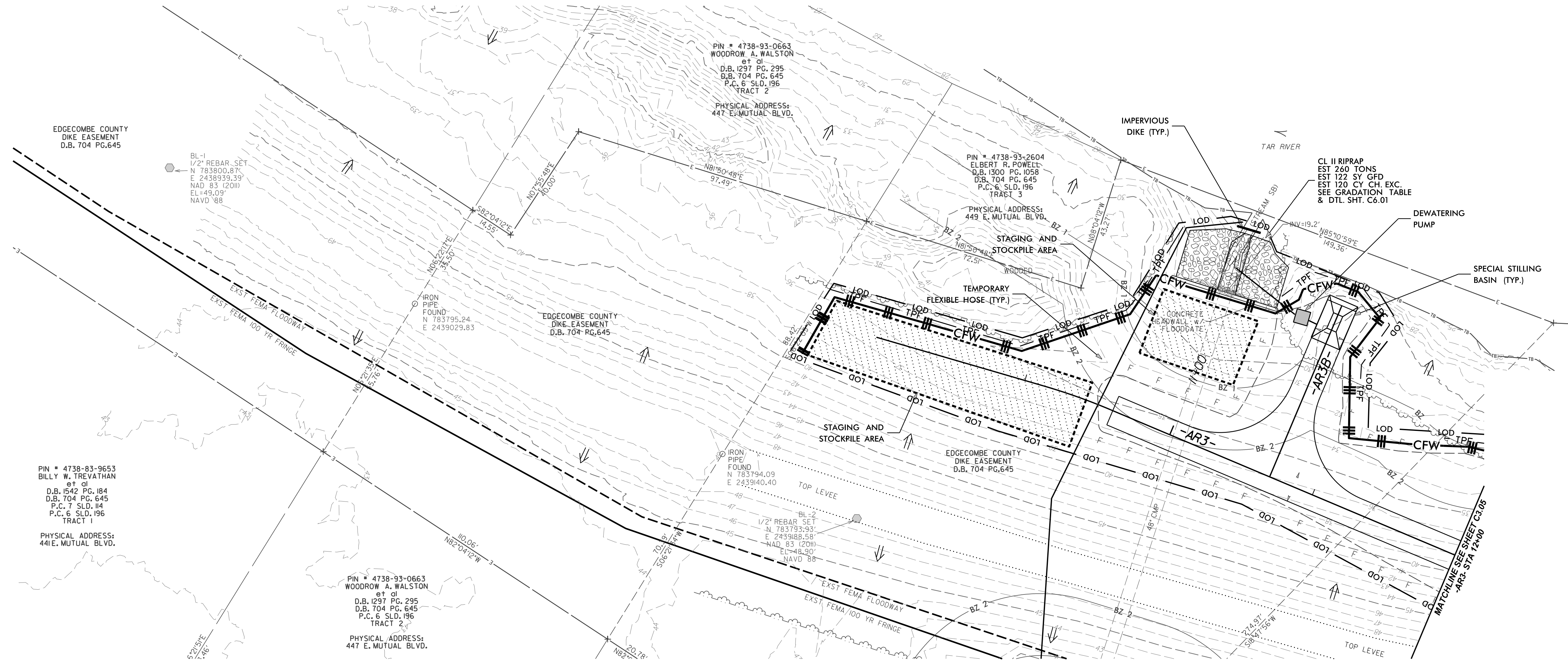
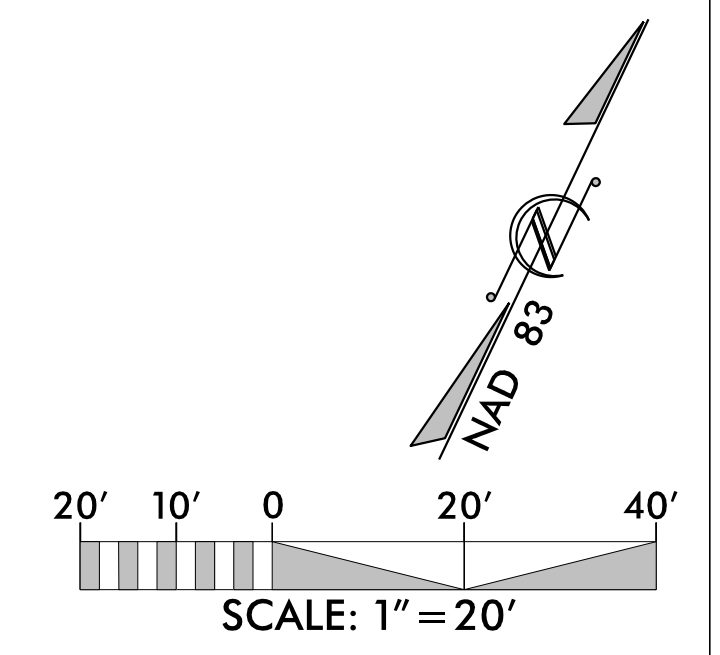
PROJECT # : 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C303  
 DATE: 6-16-2021  
 DRAWN BY: JRH  
 REVIEWED BY: RCH  
 REVISIONS:  
 SHEET NO. **C3.03**

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PHASING FOR SHEETS C3.04 AND C3.08:

- 1.) INSTALL SPECIAL STILLING BASIN(S).
- 2.) INSTALL PUMPS AND TEMPORARY FLEXIBLE HOSES.
- 3.) INSTALL IMPERVIOUS DIKES, AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
- 4.) DEWATER CONSTRUCTION AREA, USING SPECIAL STILLING BASIN(S) FOR PUMPED EFFLUENT.
- 5.) KEY IN CLASS II RIP RAP AT INLET AND OUTLET CHANNELS.
- 6.) EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES.
- 7.) REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSES, AND ANY REMAINING SPECIAL STILLING BASIN(S).
- 8.) COMPLETE CONSTRUCTION OF ACCESS ROADS.



Place Matting for Erosion Control  
on Slope as Work Allows.  
Sta. 11+80 to Sta. 12+00 -AR3- LT (55 SY)

NOTE:  
EROSION AND SEDIMENT CONTROL MEASURES  
SYMBOLY ARE GRAPHICALLY SHOWN OUTSIDE  
OF THE LIMITS OF DISTURBANCE ONLY FOR  
THE PURPOSE OF VISUAL CLARITY. ALL  
EROSION AND SEDIMENT CONTROL MEASURES  
SHALL BE INSTALLED WITHIN LIMITS OF  
DISTURBANCE.

EROSION AND SEDIMENT CONTROL MEASURES		
Detail	Description	Symbol
1	Temporary Silt Fence	
2	Coir Fiber Wattle Silt Fence Break	- CFW -
3	Temporary Rock Silt Check Type-A	▣
4	Temporary Rock Silt Check Type-B	▸
5	Wattle / Coir Fiber Wattle	~
6	Rock Pipe Inlet Sediment Trap Type-B	⊕
7	Special Stilling Basin	⊠
8	Temp. Tree Prot. Fence	- TPF - TPF - TPF -
9	Limits of Disturbance	- LOD - LOD -

**SUNGATE DESIGN GROUP, P.A.**  
 905 JONES FRANKLIN ROAD  
 PRINCETON, NC 27606  
 TEL: (919) 852-2243  
 ENG FIRM LICENSE NO. C-890

Designed by  
**JOSH DALTON**  
 PROFESSIONAL SEAL  
 ENGINEER  
 JOSHUA C. DALTON  
 6/17/2021

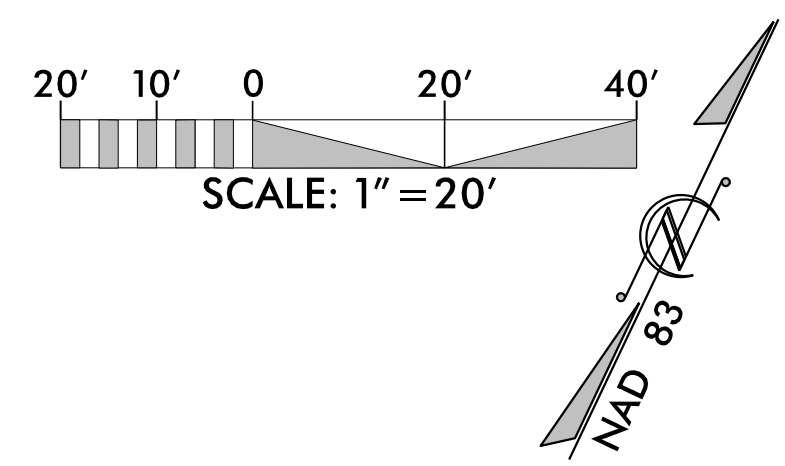
**PRINCETON DIKE FLOODGATE REPAIRS**  
 PRINCETON, EDGECOMBE COUNTY, NC  
**EROSION AND SEDIMENT CONTROL - SITE 2 & 3**

PROJECT # : 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C304  
 DATE: 6-16-2021  
 DRAWN BY: JRH  
 REVIEWED BY: RCH  
 REVISIONS:

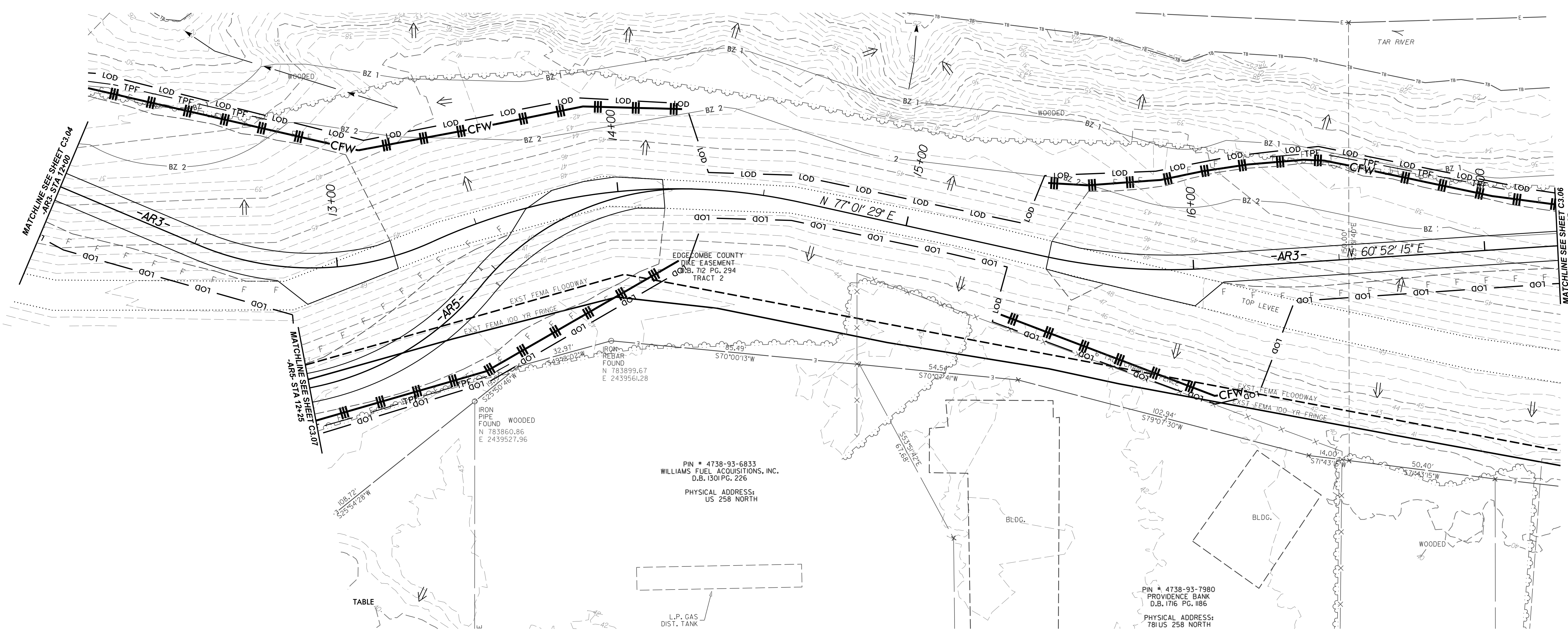
6/16/2021 Floodgate\_Rdy\_psh\_C304.dgn

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Place Matting for Erosion Control  
on Slope as Work Allows.  
Sta. 12+00 to Sta. 13+10 -AR3- LT (355 SY)  
Sta. 15+90 to Sta. 16+60 -AR3- LT (200 SY)



NOTE:  
EROSION AND SEDIMENT CONTROL MEASURES  
SYMBOLS ARE GRAPHICALLY SHOWN OUTSIDE  
OF THE LIMITS OF DISTURBANCE ONLY FOR  
THE PURPOSE OF VISUAL CLARITY. ALL  
EROSION AND SEDIMENT CONTROL MEASURES  
SHALL BE INSTALLED WITHIN LIMITS OF  
DISTURBANCE.

EROSION AND SEDIMENT CONTROL MEASURES		
Detail	Description	Symbol
1	Temporary Silt Fence	
2	Coir Fiber Wattle Silt Fence Break	— CFW —
3	Temporary Rock Silt Check Type-A	▣
4	Temporary Rock Silt Check Type-B	▷
5	Wattle / Coir Fiber Wattle	⤿
6	Rock Pipe Inlet Sediment Trap Type-B	⊙
7	Special Stilling Basin	⊠
8	Temp. Tree Prot. Fence	— TPF — TPF — TPF —
9	Limits of Disturbance	— LOD — LOD —

**SUNGATE DESIGN GROUP, P.A.**  
905 JONES FRANKLIN ROAD  
FARMINGTON, NORTH CAROLINA 27606  
TEL: (919) 852-2243  
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DocuSigned by:  
**JOSH DAITON**  
Professional Engineer  
No. 26971  
JOSHUA G. DAITON  
6/17/2021

PRINCEVILLE DIKE FLOODGATE REPAIRS  
PRINCEVILLE, EDGECOMBE COUNTY, NC

EROSION AND SEDIMENT CONTROL - SITE 2 & 3

PROJECT # : 1284-20041  
DRAWING NAME: FLOODGATE RDY PSH C305  
DATE: 6-16-2021  
DRAWN BY: JRH  
REVIEWED BY: RCH  
REVISIONS:

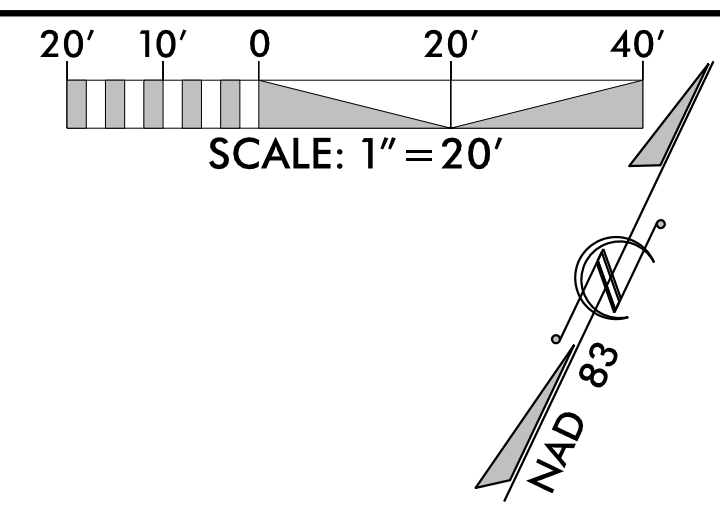
SHEET NO.  
**C3.05**

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PHASING FOR SHEETS C3.06 AND C3.07:

- 1.) INSTALL SPECIAL STILLING BASIN(S).
- 2.) INSTALL PUMPS AND TEMPORARY FLEXIBLE HOSES.
- 3.) INSTALL IMPERVIOUS DIKES, AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
- 4.) DEWATER CONSTRUCTION AREA, USING SPECIAL STILLING BASIN(S) FOR PUMPED EFFLUENT.
- 5.) KEY IN CLASS II RIP RAP AT INLET AND OUTLET CHANNELS.
- 6.) EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES.
- 7.) REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSES, AND ANY REMAINING SPECIAL STILLING BASIN(S).
- 8.) COMPLETE CONSTRUCTION OF ACCESS ROADS.



**SUNGATE DESIGN GROUP, P.A.**  
 905 JONES FRANKLIN ROAD  
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 TEL: (919) 852-2243  
 ENG. FIRM LICENSE NO. C-890

DocuSigned by:  
**JOSH DALTON**  
 PROFESSIONAL SEAL  
 26971  
 ENGINEER  
 JOSHUA G. DALTON

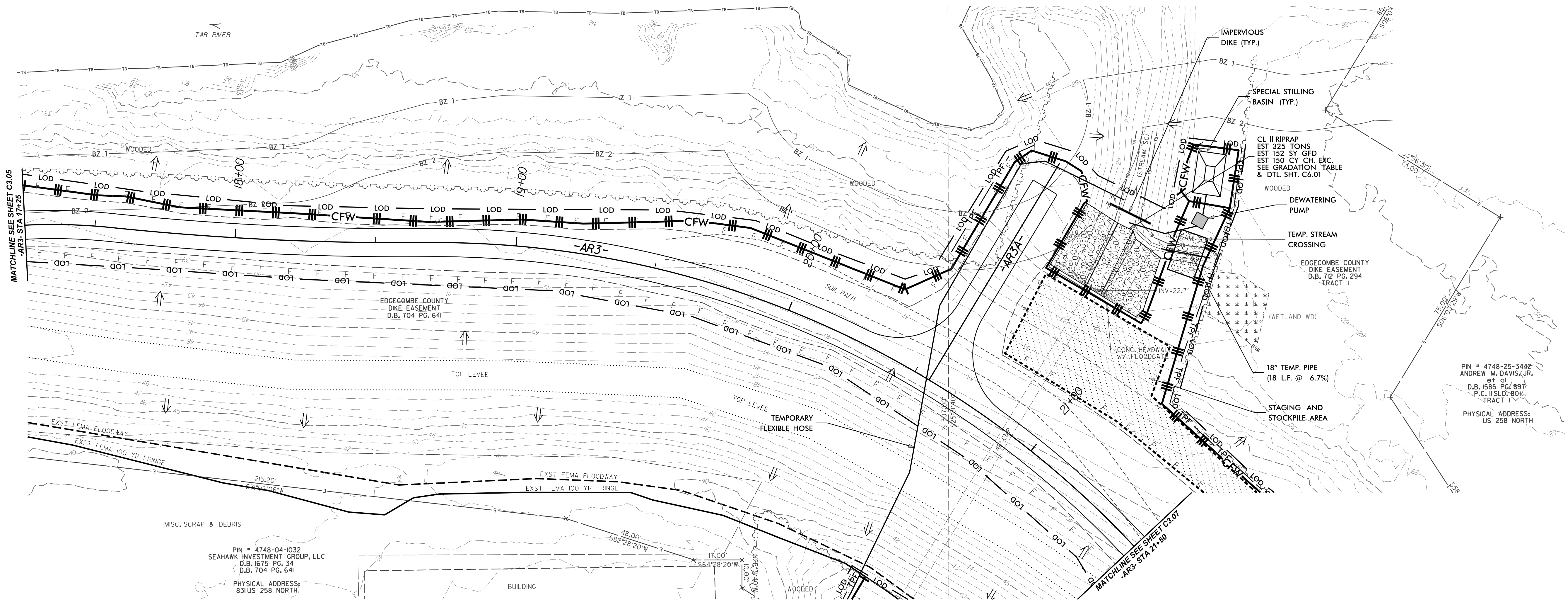
6/17/2021

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**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC  
**EROSION AND SEDIMENT CONTROL - SITE 2 & 3**

PROJECT # : 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C306  
 DATE: 6-16-2021  
 DRAWN BY: JRH  
 REVIEWED BY: RCH  
 REVISIONS:

SHEET NO.  
**C3.06**



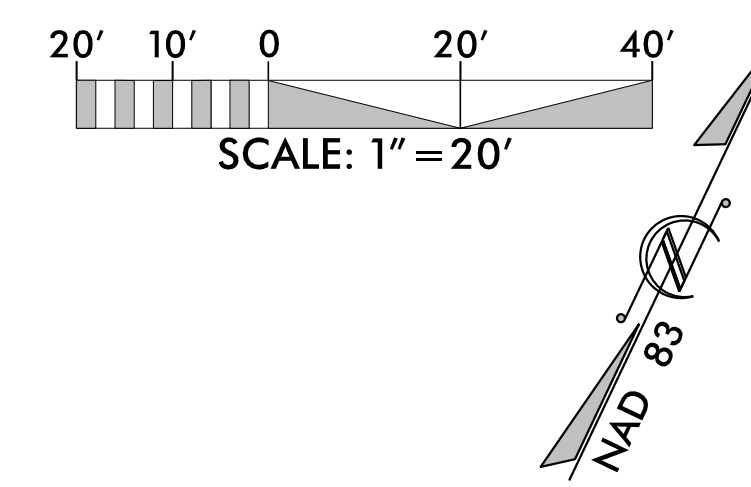
NOTE:  
 EROSION AND SEDIMENT CONTROL MEASURES SYMBOLOGY ARE GRAPHICALLY SHOWN OUTSIDE OF THE LIMITS OF DISTURBANCE ONLY FOR THE PURPOSE OF VISUAL CLARITY. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WITHIN LIMITS OF DISTURBANCE.

Detail	Description	Symbol
1	Temporary Silt Fence	
2	Coir Fiber Wattle Silt Fence Break	- CFW -
3	Temporary Rock Silt Check Type-A	▣
4	Temporary Rock Silt Check Type-B	▸
5	Wattle / Coir Fiber Wattle	⤿
6	Rock Pipe Inlet Sediment Trap Type-B	⊙
7	Special Stilling Basin	⊠
8	Temp. Tree Prot. Fence	- TPF - TPF - TPF -
9	Limits of Disturbance	- LOD - LOD -

6/16/2021 Floodgate\_Rdy\_psh\_C306.dgn

PIN # 4748-04-1032  
 SEAHAWK INVESTMENT GROUP, LLC  
 D.B. 1675 PG. 34  
 D.B. 704 PG. 64  
 PHYSICAL ADDRESS:  
 831 US 258 NORTH





PHASING FOR SHEETS C3.06 AND C3.07:

- 1.) INSTALL SPECIAL STILLING BASIN(S).
- 2.) INSTALL PUMPS AND TEMPORARY FLEXIBLE HOSES.
- 3.) INSTALL IMPERVIOUS DIKES, AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
- 4.) DEWATER CONSTRUCTION AREA, USING SPECIAL STILLING BASIN(S) FOR PUMPED EFFLUENT.
- 5.) KEY IN CLASS II RIP RAP AT INLET AND OUTLET CHANNELS.
- 6.) EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES.
- 7.) REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSES, AND ANY REMAINING SPECIAL STILLING BASIN(S).
- 8.) COMPLETE CONSTRUCTION OF ACCESS ROADS.

**SUNGATE DESIGN GROUP, P.A.**  
 905 JONES FRANKLIN ROAD  
 WILMINGTON, NORTH CAROLINA 27606  
 TEL: (919) 859-2243  
 ENG. FIRM LICENSE NO. C-890

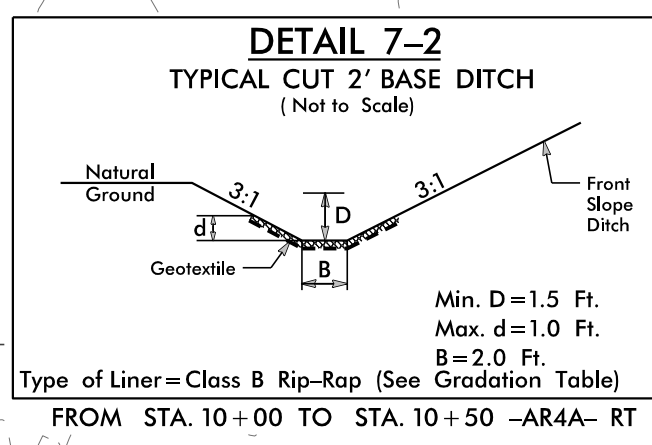
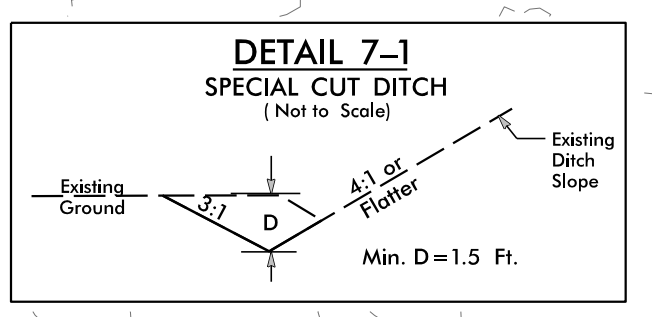
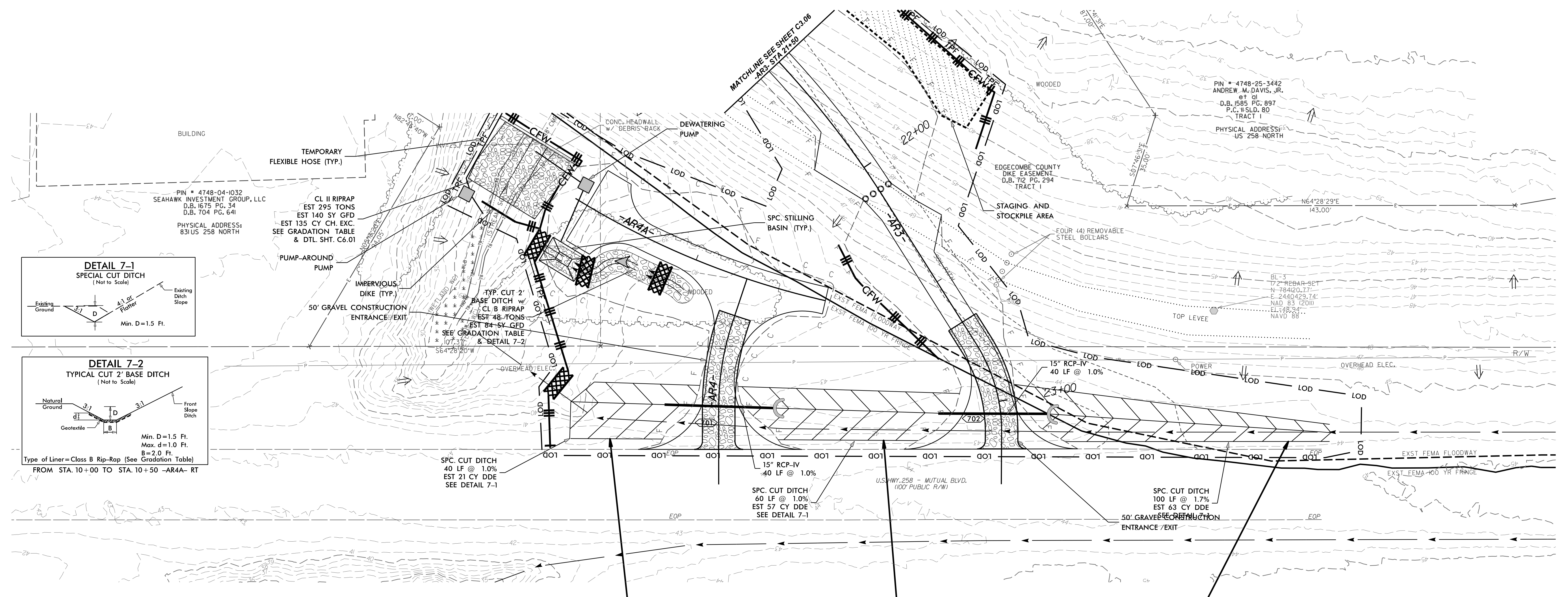
Designed by  
**JOSH DALTON**  
 Professional Engineer  
 SEAL 26971  
 ENGINEER  
 JOSHUA G. DALTON  
 6/17/2021

PRINCEVILLE DIKE FLOODGATE REPAIRS  
 PRINCEVILLE, EDGECOMBE COUNTY, NC

EROSION AND SEDIMENT CONTROL - SITE 2 & 3

PROJECT #: 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C307  
 DATE: 6-16-2021  
 DRAWN BY: JRH  
 REVIEWED BY: RCH  
 REVISIONS:

SHEET NO.  
**C3.07**



Place Matting for Erosion Control on Slope as Work Allows.  
 Sta. 21+50 to Sta. 22+10 -AR3- LT (185 SY)

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE. (50 SY)

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE. (75 SY)

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE. (125 SY)

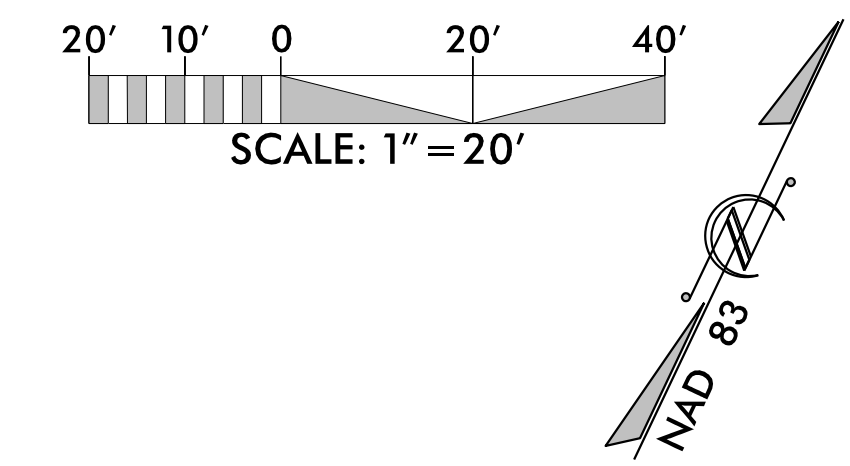
NOTE:  
 EROSION AND SEDIMENT CONTROL MEASURES SYMBOLS ARE GRAPHICALLY SHOWN OUTSIDE OF THE LIMITS OF DISTURBANCE ONLY FOR THE PURPOSE OF VISUAL CLARITY. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WITHIN LIMITS OF DISTURBANCE.

**EROSION AND SEDIMENT CONTROL MEASURES**

Detail	Description	Symbol
1	Temporary Silt Fence	
2	Coir Fiber Wattle Silt Fence Break	CFW
3	Temporary Rock Silt Check Type-A	▣
4	Temporary Rock Silt Check Type-B	▷
5	Wattle/Coir Fiber Wattle	⌒
6	Rock Pipe Inlet Sediment Trap Type-B	⌒
7	Special Stilling Basin	▣
8	Temp. Tree Prot. Fence	TPF TPF TPF
9	Limits of Disturbance	LOD LOD

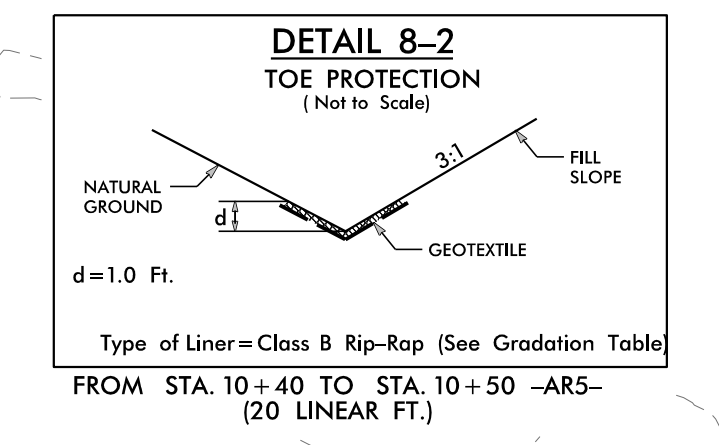
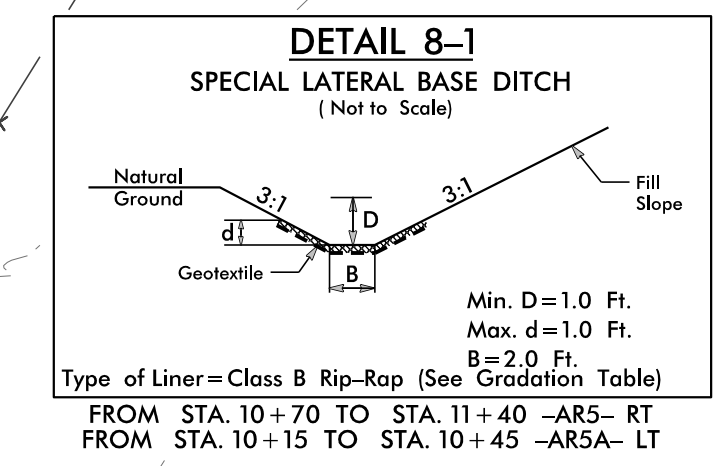
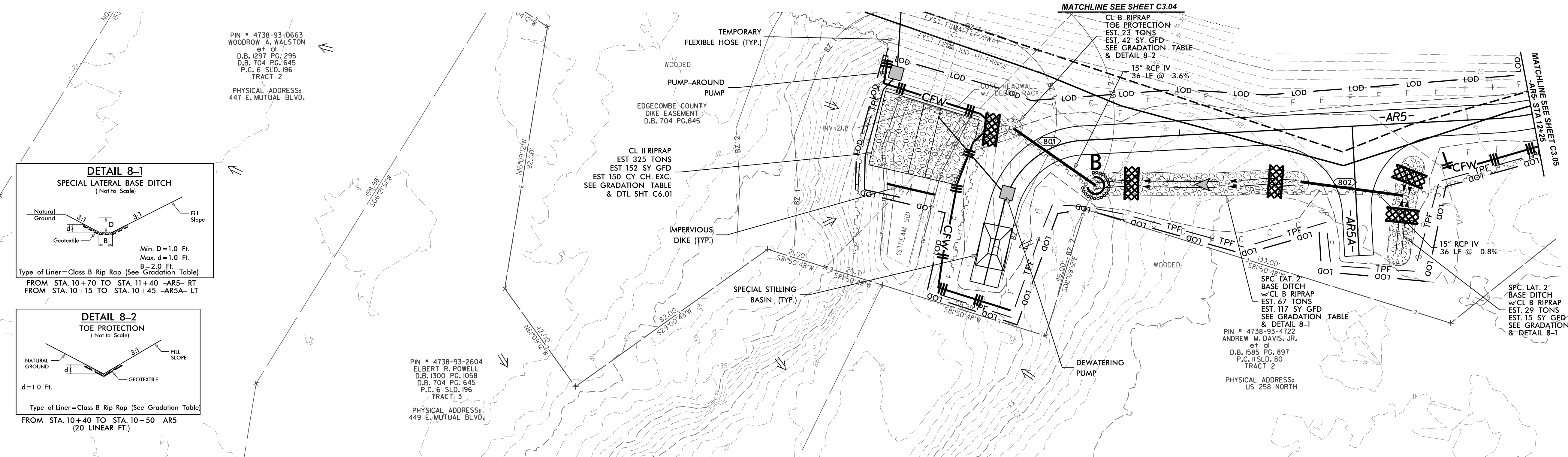
6/16/2021 Floodgate\_Rdy\_psh\_C307.dgn





PHASING FOR SHEETS C3.04 AND C3.08:

- 1.) INSTALL SPECIAL STILLING BASIN(S).
- 2.) INSTALL PUMPS AND TEMPORARY FLEXIBLE HOSES.
- 3.) INSTALL IMPERVIOUS DIKES, AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
- 4.) DEWATER CONSTRUCTION AREA, USING SPECIAL STILLING BASIN(S) FOR PUMPED EFFLUENT.
- 5.) KEY IN CLASS II RIP RAP AT INLET AND OUTLET CHANNELS.
- 6.) EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES.
- 7.) REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSES, AND ANY REMAINING SPECIAL STILLING BASIN(S).
- 8.) COMPLETE CONSTRUCTION OF ACCESS ROADS.



PIN # 4738-93-2604  
ELBERT R. POWELL  
D.B. 1300 PG. 1058  
D.B. 704 PG. 645  
P.C. 6 SLD. 196  
TRACT 3  
PHYSICAL ADDRESS:  
449 E. MUTUAL BLVD.

PIN # 4738-93-4722  
ANDREW M. DAVIS, JR.  
D.B. 1585 PG. 897  
P.C. II SLD. 80  
TRACT 2  
PHYSICAL ADDRESS:  
US 258 NORTH

NOTE:  
EROSION AND SEDIMENT CONTROL MEASURES SYMBOLOGY ARE GRAPHICALLY SHOWN OUTSIDE OF THE LIMITS OF DISTURBANCE ONLY FOR THE PURPOSE OF VISUAL CLARITY. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WITHIN LIMITS OF DISTURBANCE.

Detail	Description	Symbol
1	Temporary Silt Fence	
2	Coir Fiber Wattle Silt Fence Break	— CFW —
3	Temporary Rock Silt Check Type-A	▣
4	Temporary Rock Silt Check Type-B	▣
5	Wattle / Coir Fiber Wattle	—
6	Rock Pipe Inlet Sediment Trap Type-B	⊙
7	Special Stilling Basin	⊠
8	Temp. Tree Prot. Fence	— TPF — TPF — TPF —
9	Limits of Disturbance	— LOD — LOD —

**SUNGATE DESIGN GROUP, P.A.**  
905 JONES FRANKLIN ROAD  
PRINCETON, NORTH CAROLINA 27606  
TEL: (919) 852-2243  
ENG FIRM LICENSE NO. C-890

Seal of Joshua G. Dalton, Engineer No. 26971, State of North Carolina. Date: 6/17/2021.

PRINCETONVILLE, EDGECOMBE COUNTY, NC

**PRINCETONVILLE DIKE FLOODGATE REPAIRS**  
PRINCETONVILLE, EDGECOMBE COUNTY, NC  
**EROSION AND SEDIMENT CONTROL - SITE 2 & 3**

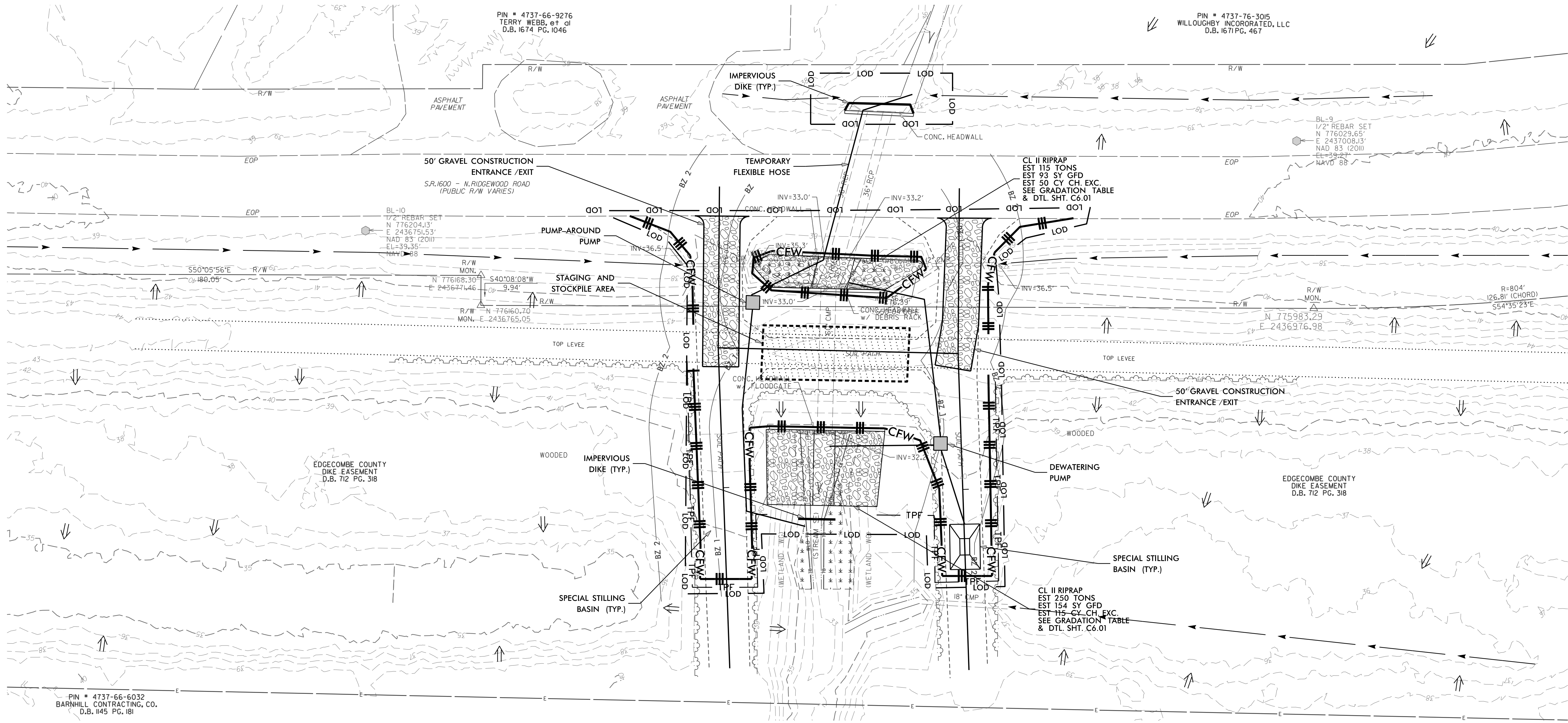
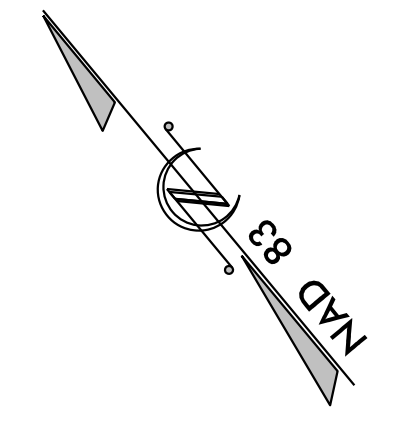
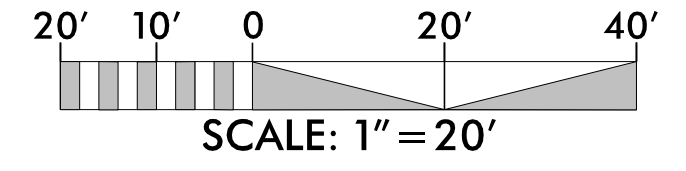
PROJECT # : 1284-20041  
DRAWING NAME: FLOODGATE RDY PSH C308  
DATE: 6-16-2021  
DRAWN BY: JRH  
REVIEWED BY: RCH  
REVISIONS:

SHEET NO. **C3.08**



PHASING FOR SHEET C3.09:

- 1.) INSTALL SPECIAL STILLING BASIN(S).
- 2.) INSTALL PUMPS AND TEMPORARY FLEXIBLE HOSES.
- 3.) INSTALL IMPERVIOUS DIKES, AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
- 4.) DEWATER CONSTRUCTION AREA, USING SPECIAL STILLING BASIN(S) FOR PUMPED EFFLUENT.
- 5.) KEY IN CLASS II RIP RAP AT INLET AND OUTLET CHANNELS.
- 6.) EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES.
- 7.) REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSES, AND ANY REMAINING SPECIAL STILLING BASIN(S).
- 8.) COMPLETE CONSTRUCTION OF ACCESS ROADS.



NOTE:  
EROSION AND SEDIMENT CONTROL MEASURES SYMBOLOGY ARE GRAPHICALLY SHOWN OUTSIDE OF THE LIMITS OF DISTURBANCE ONLY FOR THE PURPOSE OF VISUAL CLARITY. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WITHIN LIMITS OF DISTURBANCE.

**EROSION AND SEDIMENT CONTROL MEASURES**

Detail	Description	Symbol
1	Temporary Silt Fence	— III — III — III —
2	Coir Fiber Wattle Silt Fence Break	— CFW —
3	Temporary Rock Silt Check Type-A	— X — X — X —
4	Temporary Rock Silt Check Type-B	— > —
5	Wattle / Coir Fiber Wattle	— ) —
6	Rock Pipe Inlet Sediment Trap Type-B	— U —
7	Special Stilling Basin	— [ ] —
8	Temp. Tree Prot. Fence	— TPF — TPF — TPF —
9	Limits of Disturbance	— LOD — LOD —

**SUNGATE DESIGN GROUP, P.A.**  
 905 JONES FRANKLIN ROAD  
 FLORENCE, SOUTH CAROLINA 29506  
 TEL: (815) 852-2243  
 ENG. FIRM LICENSE NO. C-4890

DocuSigned By:  
**JOSH DAEYTON**  
 SEAL  
 26971  
 ENGINEER  
 JOSHUA G. DALTON

6/17/2021

**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC  
**EROSION AND SEDIMENT CONTROL - SITE 4**

PROJECT # : 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C309  
 DATE: 6-16-2021  
 DRAWN BY: JRH  
 REVIEWED BY: RCH  
 REVISIONS:

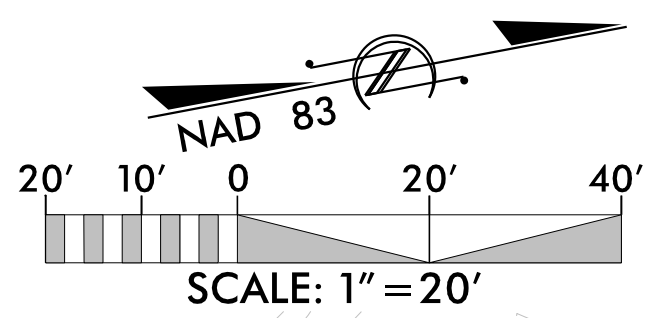
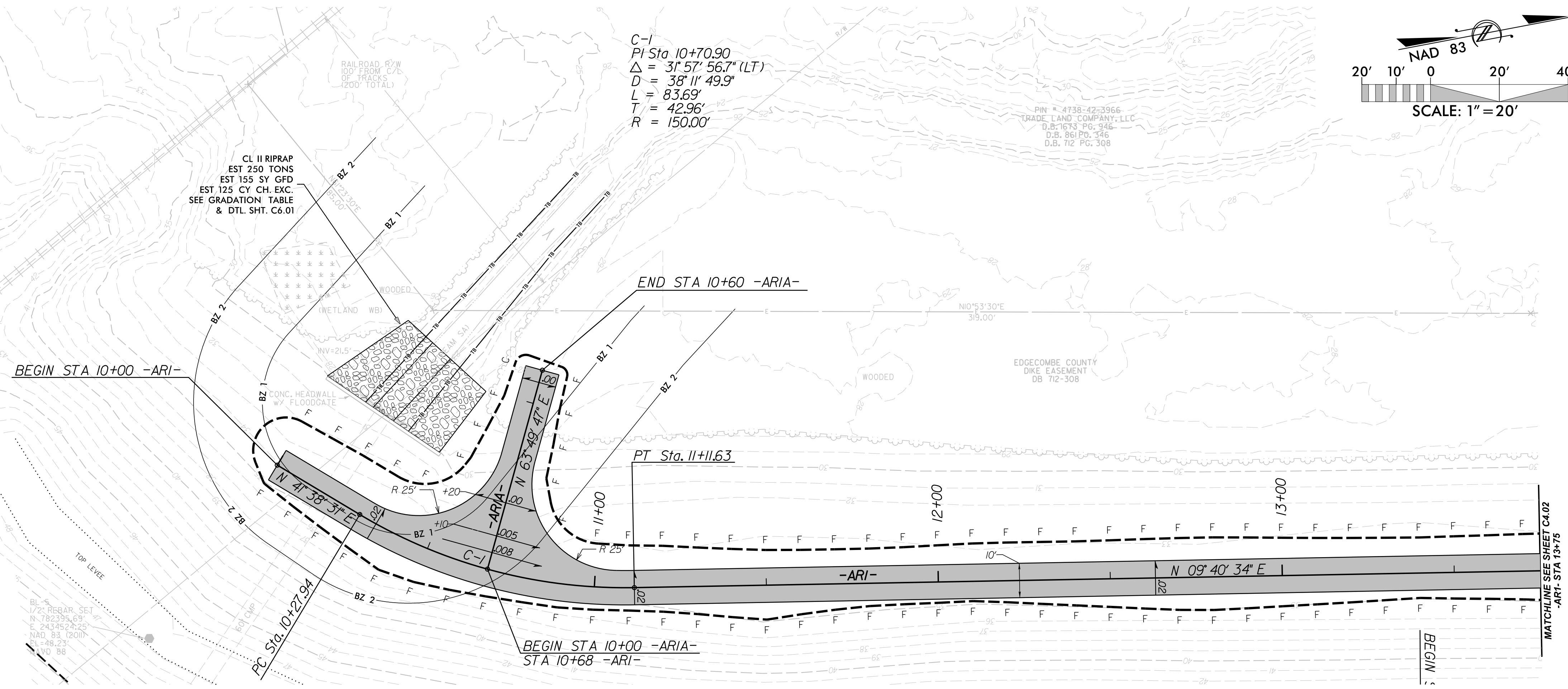
SHEET NO.  
**C3.09**



Riprap Gradation Requirements						
Weight (lbs)	Size (in)	% Finer by Weight Class of Riprap				
		A	B	I	II	III
2000	30					100
1000	24				100	
650	21					75
400	18			100		
250	15				75	50
120	12	100	75	50		
50	9		75	50		
15	6	100	50			10
5	4				10	
2	3	50		10		
	1	10				

\*Weight to size conversion based on a riprap specific gravity of 2.6 and a volume average between a sphere and cube.

CONSTRUCTION NOTE(S):  
 1. BENCHING OR EXCAVATING INTO EXISTING LEVEE IS PROHIBITED. ONLY GRUBBING OF EXISTING VEGETATION AND PLACEMENT OF FILL MATERIAL IS ALLOWED ON LEVEE SLOPES.



PROJ. # 4738-42-3966  
 TRADE LAND COMPANY, LLC  
 D.B. 1673 PG. 946  
 D.B. 361 PG. 346  
 D.B. 712 PG. 308

**SUNGATE DESIGN GROUP, P.A.**  
 905 JONES FRANKLIN ROAD  
 PRINCETON, NORTH CAROLINA 27606  
 TEL: (919) 852-2243  
 ENG. FIRM LICENSE NO. C-890

Seal of **JOSH DALTON**, Engineer  
 SEAL 26971  
 ENGINEER  
 JOSHUA G. DALTON

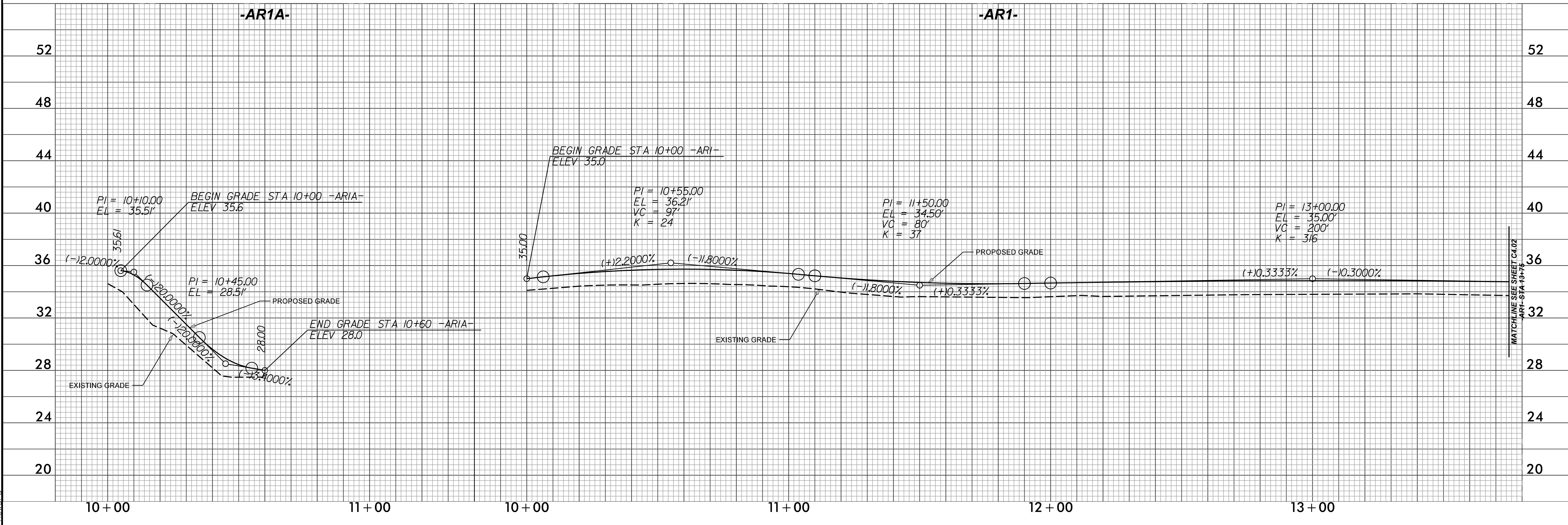
6/17/2021

**PRINCETON DIKE FLOODGATE REPAIRS**  
 PRINCETON, EDGEcombe COUNTY, NC  
**GRADING & DRAINAGE - SITE 1**

PROJECT #: 1284-20041  
 DRAWING NAME: FLOODGATE Rdy PSH C401  
 DATE: 6-16-2021  
 DRAWN BY: JRH  
 REVIEWED BY: RCH  
 REVISIONS:

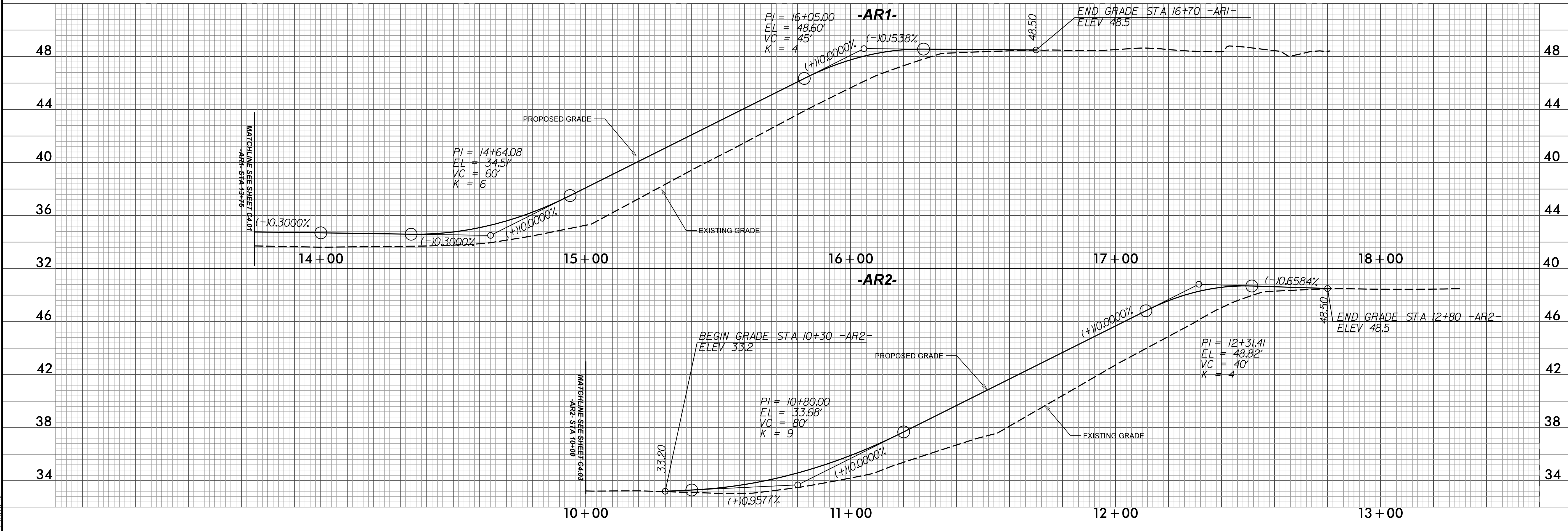
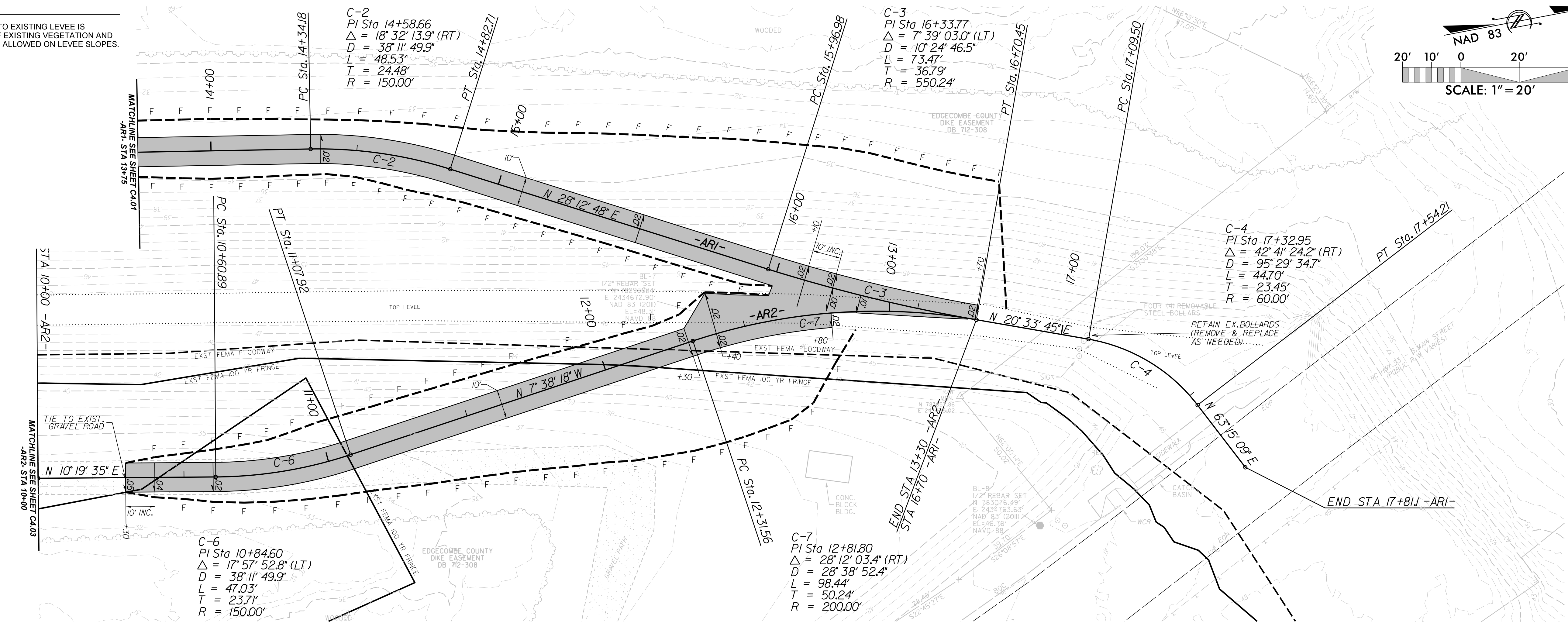
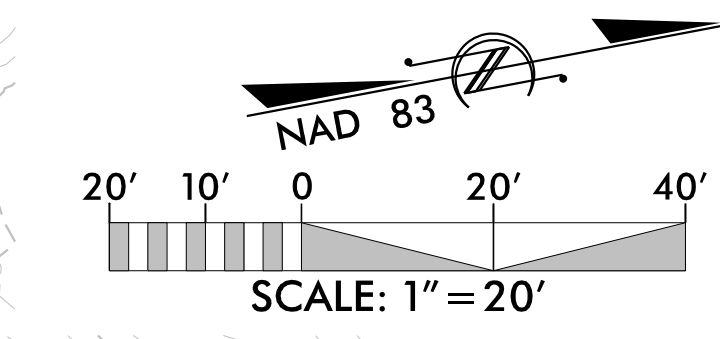
SHEET NO. **C4.01**

6/16/2021 Floodgate\_Rdy\_PSH\_C401.dgn





CONSTRUCTION NOTE(S):  
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6/16/2021 Floodgate\_Psh\_C402.dgn

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 ENG FIRM LICENSE NO. C-890

Seal of Joshua Dalton, Engineer, License No. 26971. Text includes 'Seal of the State of North Carolina' and 'Professional Engineer'.

6/17/2021

**PRINCETON DIKE FLOODGATE REPAIRS**  
 PRINCETON, EDGEcombe COUNTY, NC  
**GRADING & DRAINAGE - SITE 1**

PROJECT #: 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C402  
 DATE: 6-16-2021  
 DRAWN BY: JRH  
 REVIEWED BY: RCH  
 REVISIONS:

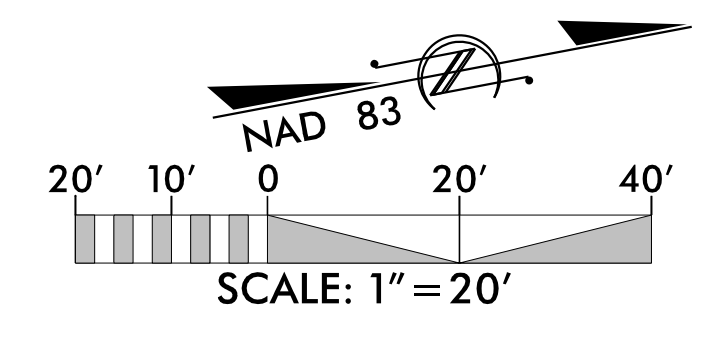
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**C4.02**

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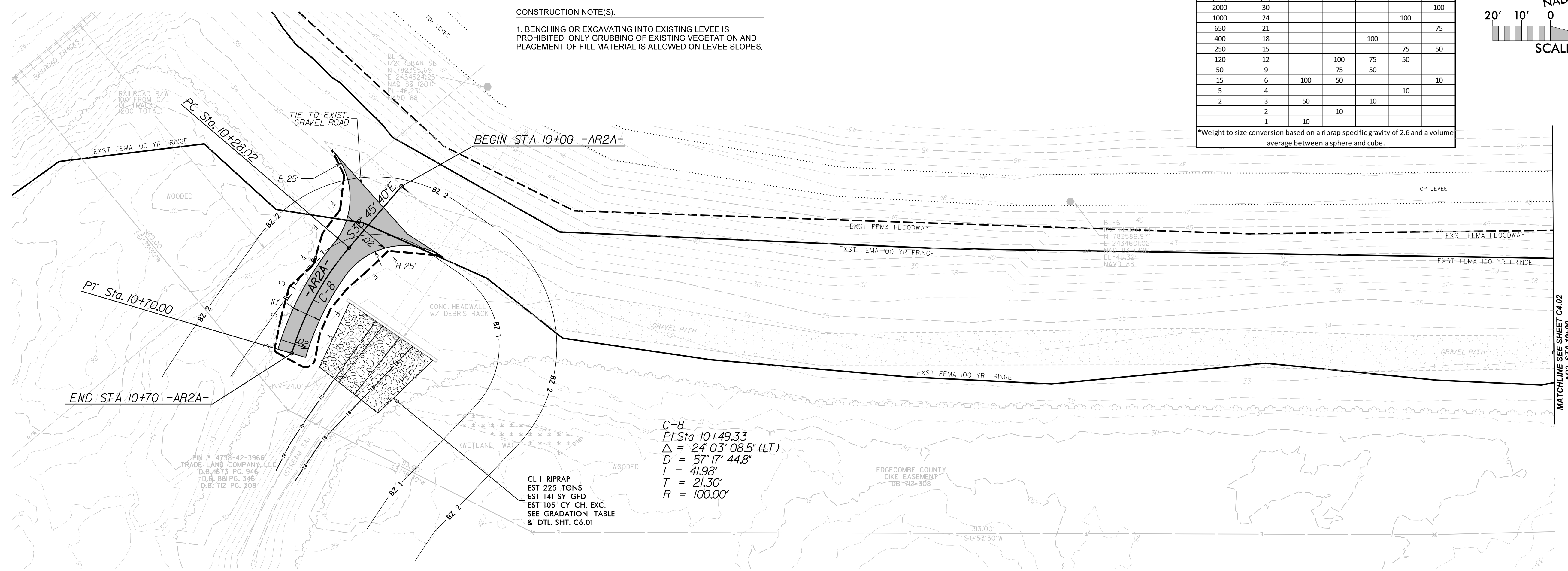


Weight (lbs)	Size (in)	Riprap Gradation Requirements			
		% Finer by Weight			
		Class of Riprap			
2000	30				100
1000	24				100
650	21				75
400	18			100	75
250	15				50
120	12		100	75	50
50	9		75	50	50
15	6	100	50		10
5	4				10
2	3	50	10		
1	2		10		
	1	10			

\*Weight to size conversion based on a riprap specific gravity of 2.6 and a volume average between a sphere and cube.



**CONSTRUCTION NOTE(S):**  
 1. BENCHING OR EXCAVATING INTO EXISTING LEVEL IS PROHIBITED. ONLY GRUBBING OF EXISTING VEGETATION AND PLACEMENT OF FILL MATERIAL IS ALLOWED ON LEVEE SLOPES.



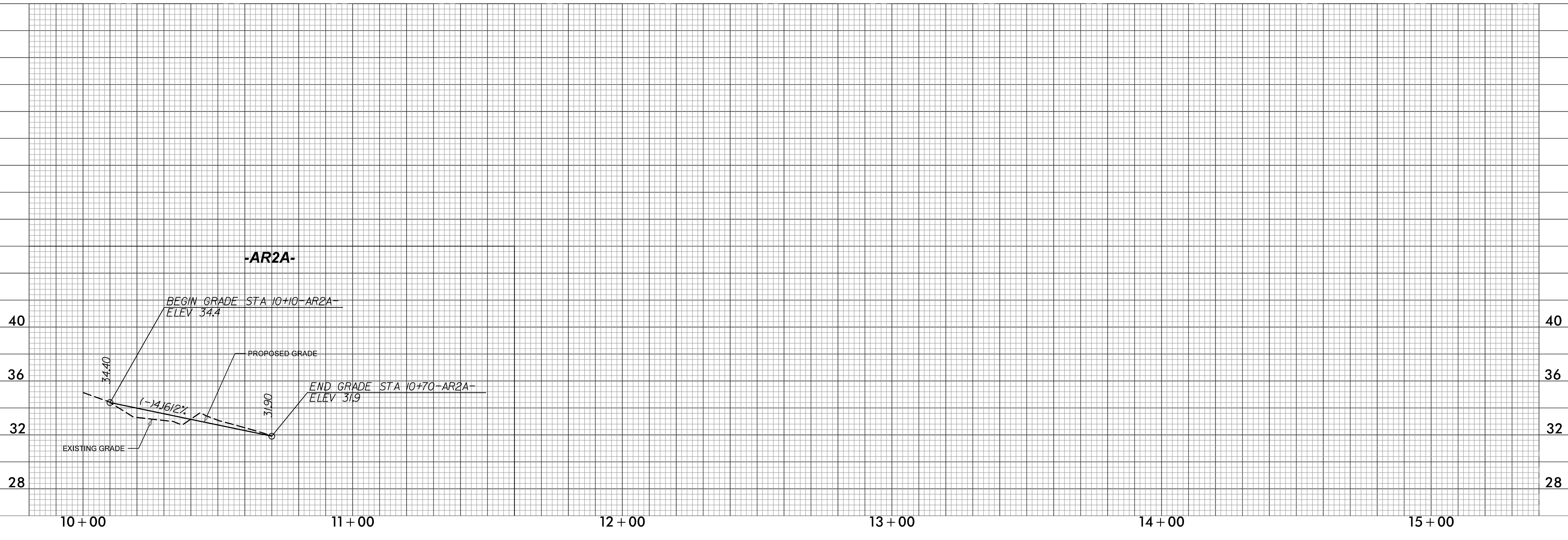
C-8  
 PI Sta 10+49.33  
 $\Delta = 24' 03'' 08.5'' (LT)$   
 $D = 57' 17'' 44.8''$   
 $L = 41.98'$   
 $T = 21.30'$   
 $R = 100.00'$

CL II RIPRAP  
 EST 225 TONS  
 EST 141 SY GFD  
 EST 105 CY CH. EXC.  
 SEE GRADATION TABLE  
 & DTL. SHT. C6.01

TRADE LAND COMPANY, LLC  
 D.B. #613 PG. 346  
 D.B. #616 PG. 396  
 D.B. #712 PG. 308

EDGEcombe COUNTY  
 DIKE EASEMENT  
 DB-42-308

MATCHLINE SEE SHEET C4.02  
 -AR2- STA 10+00



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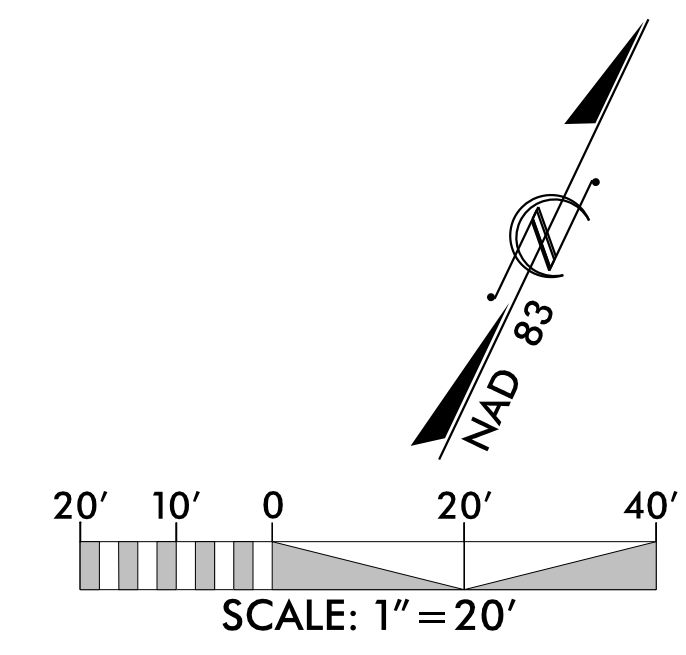
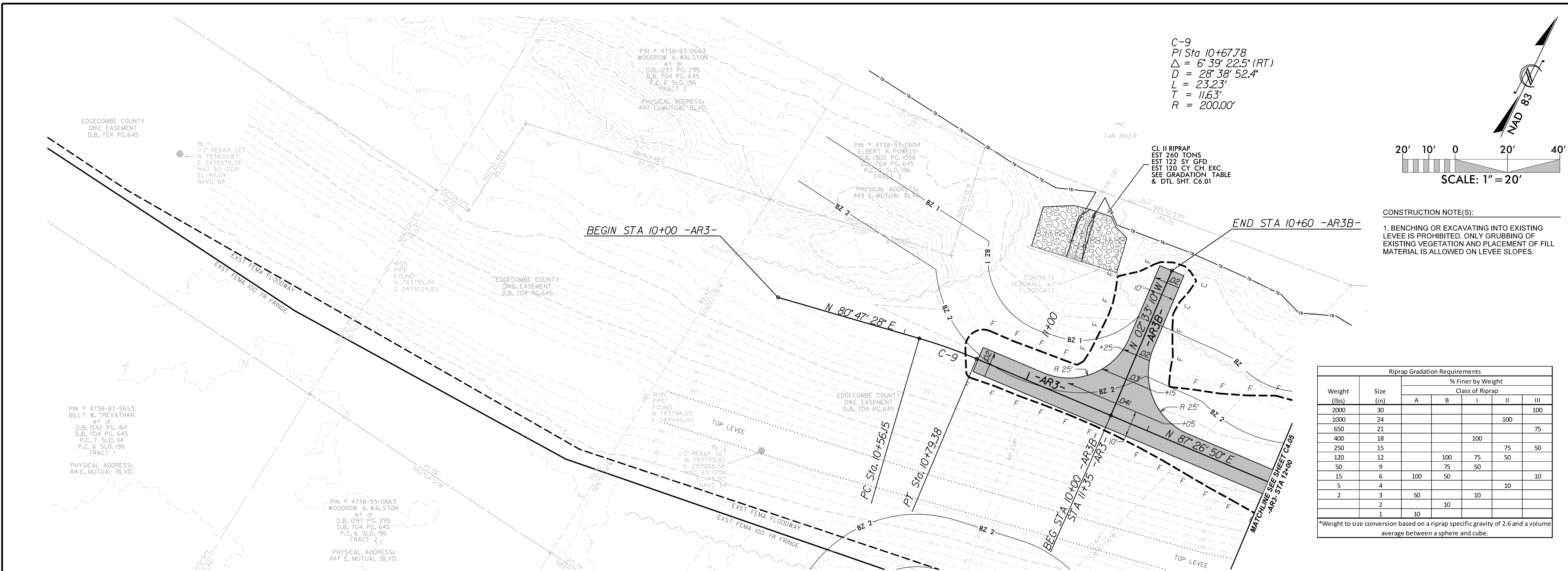
DocuSigned by:  
**JOHN DALTON**  
 PROJECT: 1284-20041  
 SEAL  
 26971  
 ENGINEER  
 JOHNSON G. DALTON  
 6/17/2021

PROJECT # :  
 1284-20041  
 DRAWING NAME:  
 FLOODGATE RDY PSH C403  
 DATE:  
 6-16-2021  
 DRAWN BY:  
 JRH  
 REVIEWED BY:  
 RCH  
 REVISIONS:

**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGEcombe COUNTY, NC  
**GRADING & DRAINAGE - SITE 1**

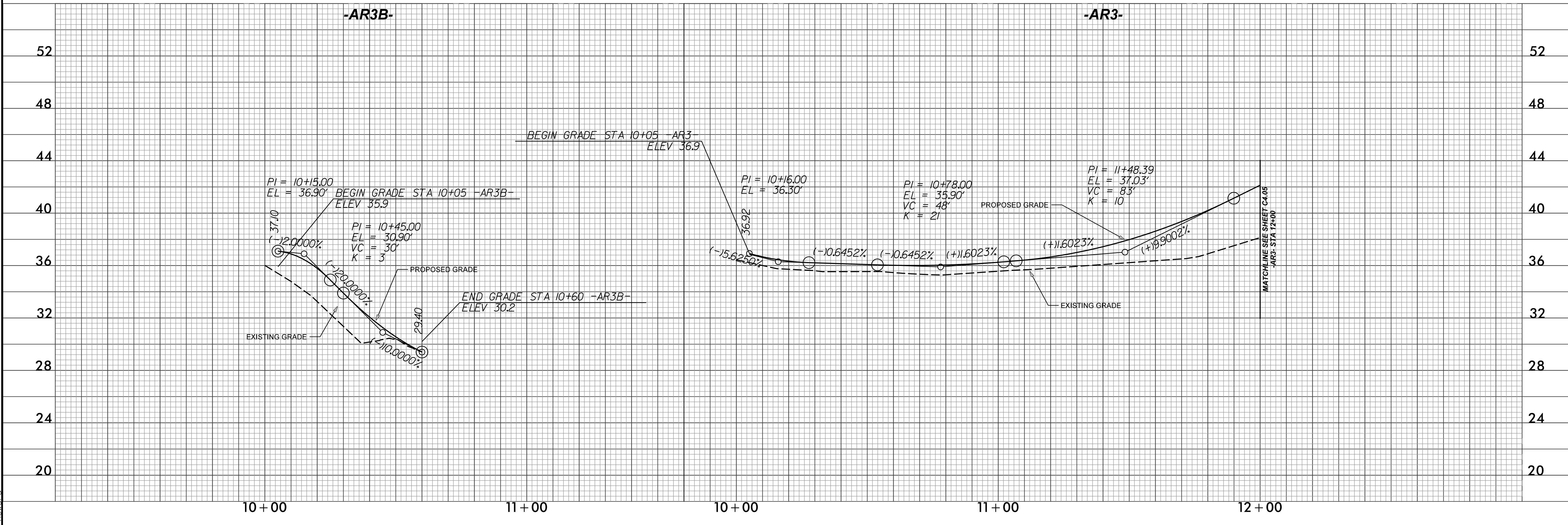
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 1284-20041  
 DRAWING NAME:  
 FLOODGATE RDY PSH C403  
 DATE:  
 6-16-2021  
 DRAWN BY:  
 JRH  
 REVIEWED BY:  
 RCH  
 REVISIONS:  
 SHEET NO.  
**C4.03**





Weight (lbs)	Size (in)	% Finer by Weight				
		Class of Riprap				
		A	B	I	II	III
2000	30					100
1000	24				100	
650	21				75	75
400	18			100		
250	15			75	75	50
120	12	100	75	50		
50	9	75	50			
15	6	100	50			10
5	4				10	
2	3	50	10			
	2		10			
	1	10				

\*Weight to size conversion based on a riprap specific gravity of 2.6 and a volume average between a sphere and cube.



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**JOSH DALTON**  
 PROFESSIONAL ENGINEER  
 SEAL 26971  
 JOSHUA G. DALTON

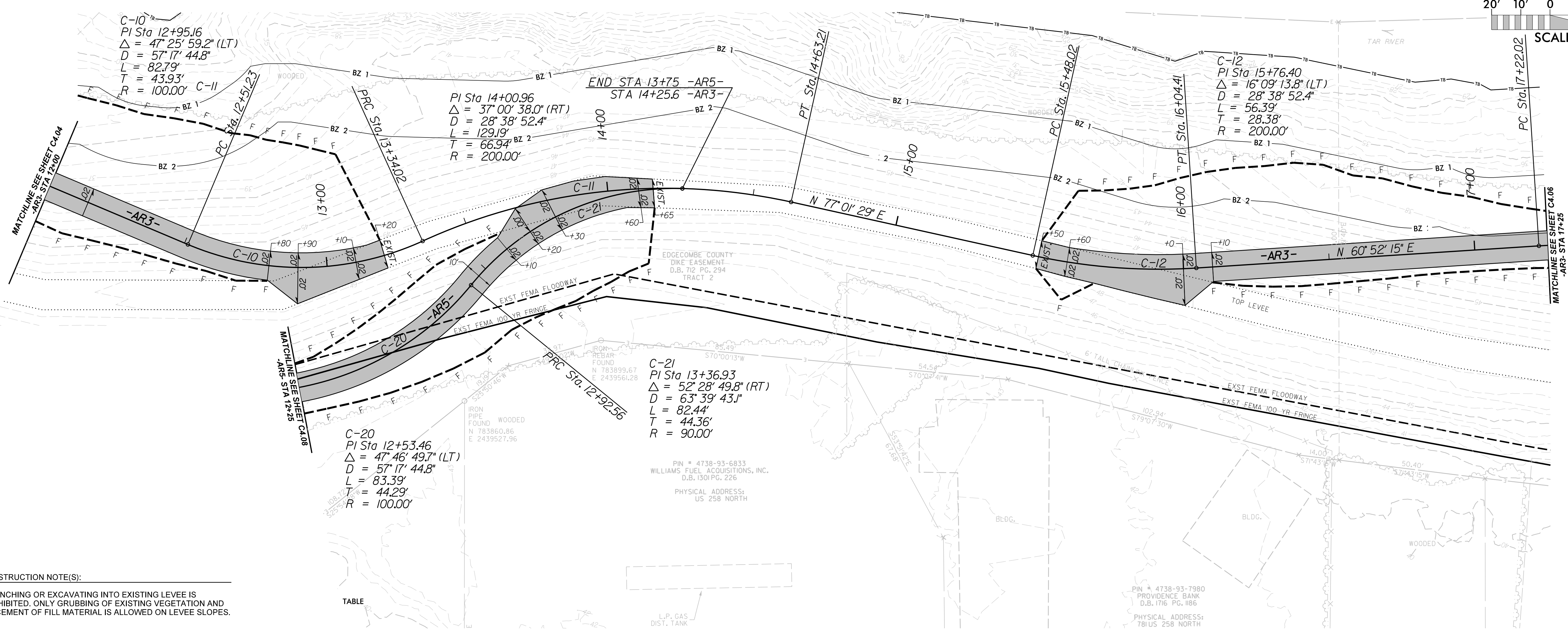
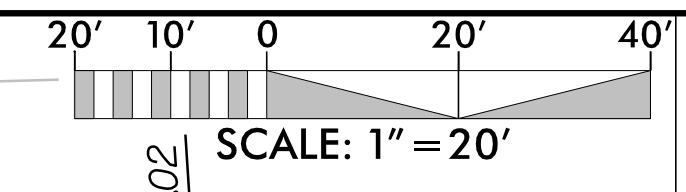
6/17/2021

**PRINCETON DIKE FLOODGATE REPAIRS**  
 PRINCETON, EDGEcombe COUNTY, NC  
**GRADING & DRAINAGE - SITE 2 & 3**

PROJECT # : 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C404  
 DATE: 6-16-2021  
 DRAWN BY: JRH  
 REVIEWED BY: RCH  
 REVISIONS:

SHEET NO.  
**C4.04**

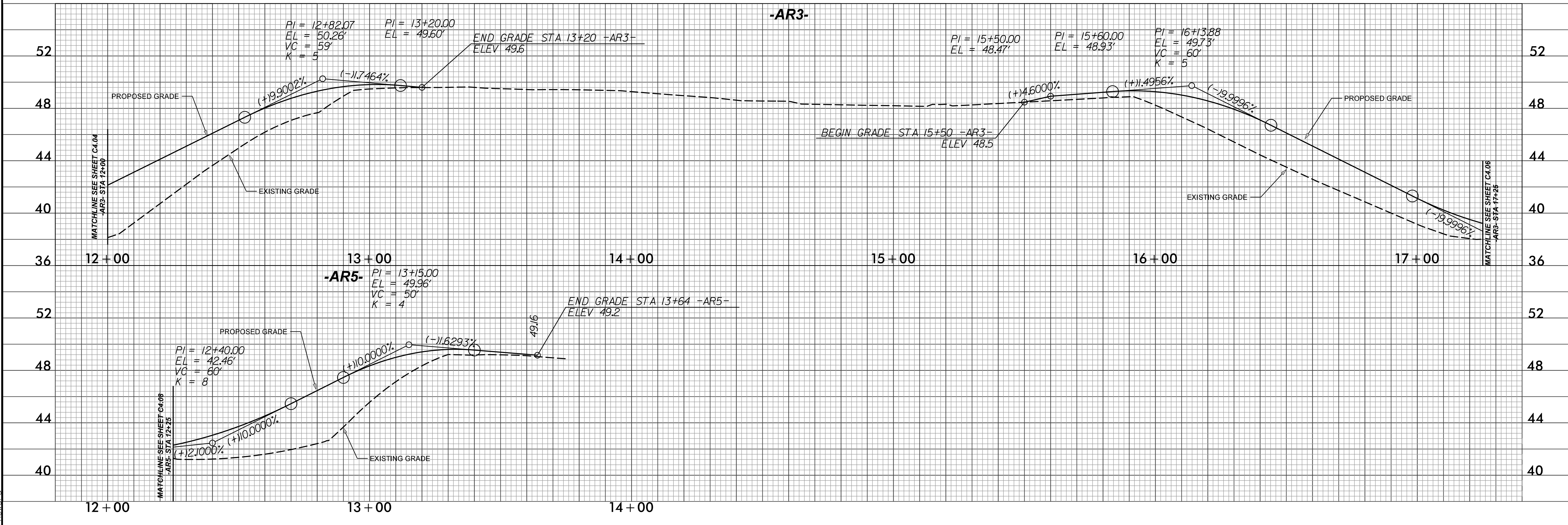




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 PE  
 26971  
 ENGINEER  
 JOSHUA G. DALTON  
 6/17/2021

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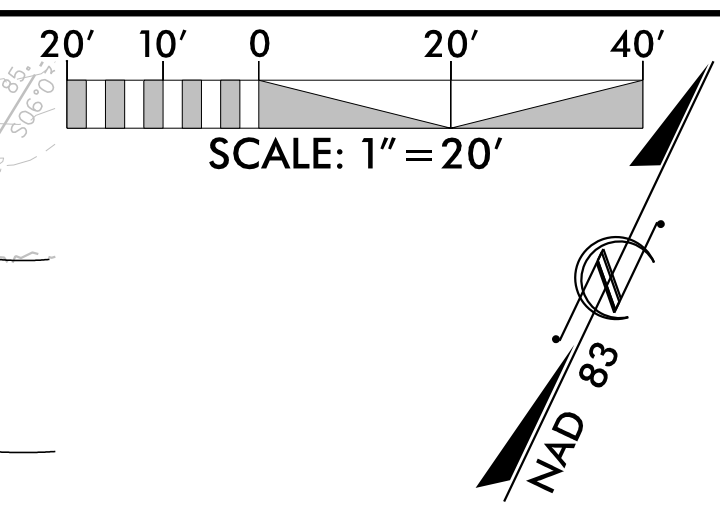
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 PRINCETON, EDGECOMBE COUNTY, NC  
 GRADING & DRAINAGE - SITE 2 & 3

PROJECT # : 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C405  
 DATE: 6-16-2021  
 DRAWN BY: JRH  
 REVIEWED BY: RCH  
 REVISIONS:  
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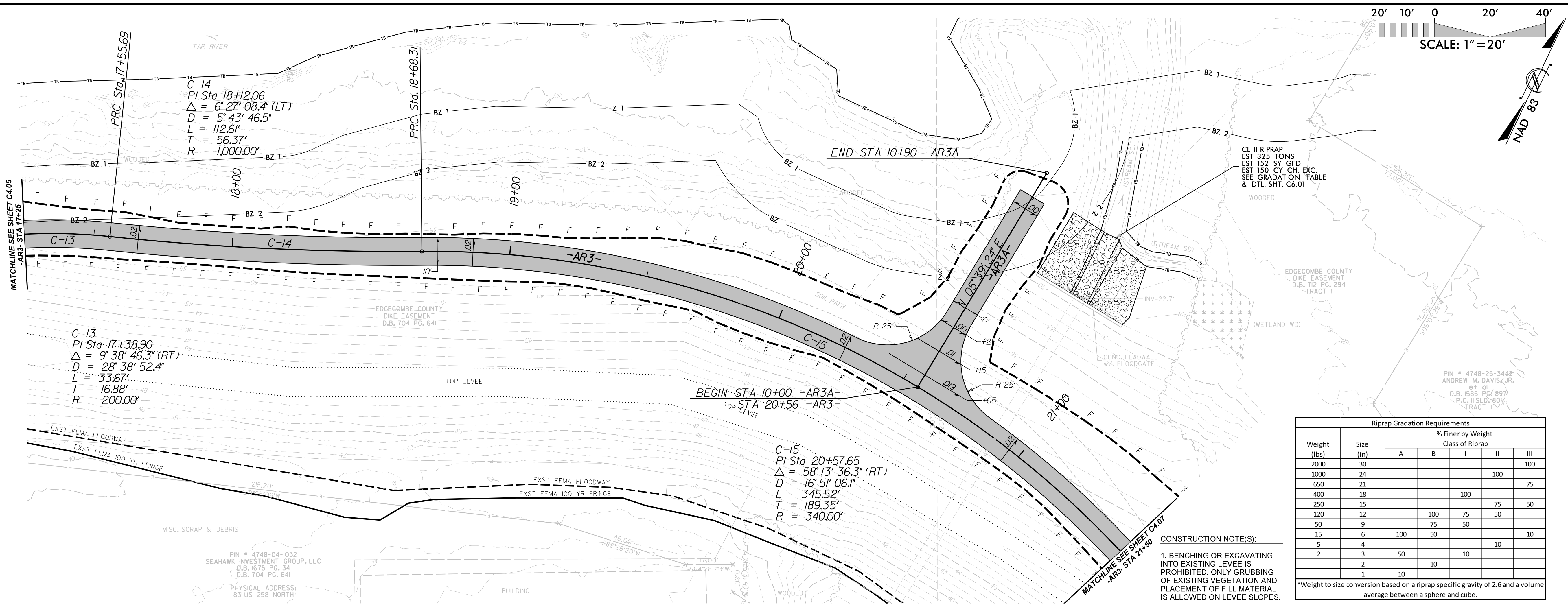
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Designed by:  
**JOHN DALTON**  
 PROFESSIONAL SEAL  
 ENGINEER  
 JOSHUA G. DALTON  
 26971  
 6/17/2021

Documented by:  
 ANDREW M. DAVIS, JR.  
 P.E. (S.D. 304)  
 TRACT I

**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGEcombe COUNTY, NC  
**GRADING & DRAINAGE - SITE 2 & 3**

PROJECT # : 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C406  
 DATE: 6-16-2021  
 DRAWN BY: JRH  
 REVIEWED BY: RCH  
 REVISIONS:  
 SHEET NO. **C4.06**

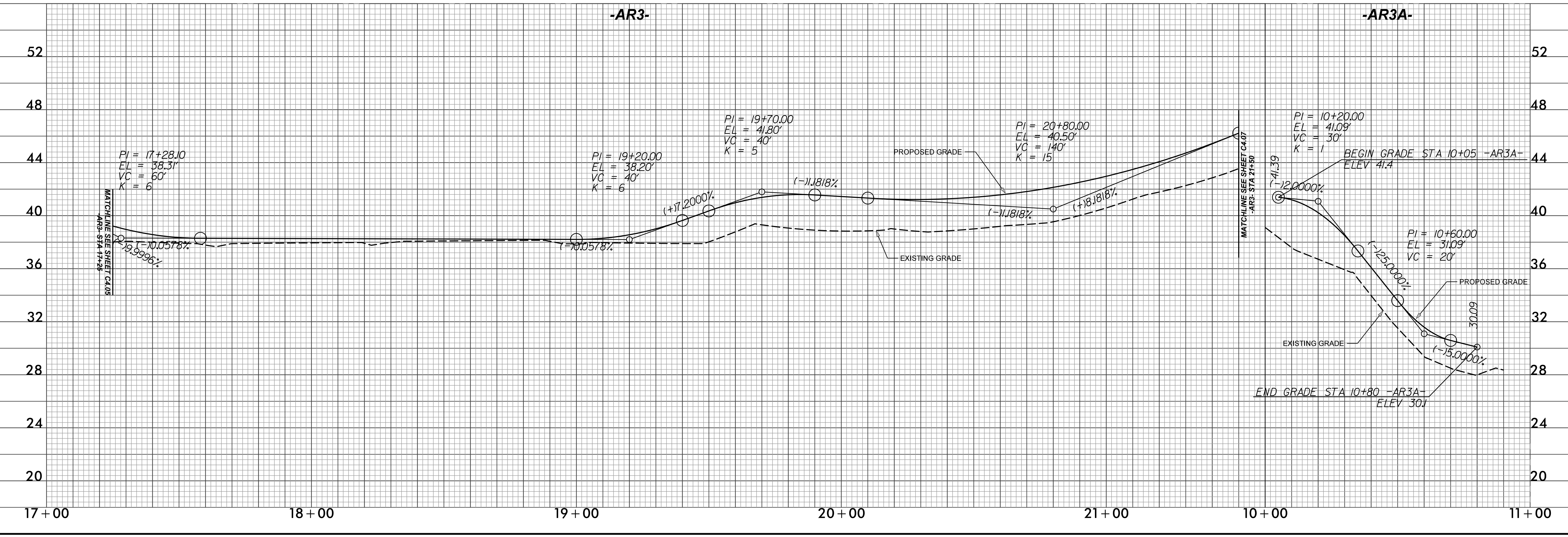


**Riprap Gradation Requirements**

Weight (lbs)	Size (in)	% Finer by Weight		
		Class of Riprap		
		A	II	III
2000	30			100
1000	24			100
650	21			75
400	18		100	
250	15			75
120	12	100	75	50
50	9		75	50
15	6	100	50	
5	4			10
2	3	50		
	2		10	
	1	10		

\*Weight to size conversion based on a riprap specific gravity of 2.6 and a volume average between a sphere and cube.

**CONSTRUCTION NOTE(S):**  
 1. BENCHING OR EXCAVATING INTO EXISTING DRAINAGE IS PROHIBITED. ONLY GRUBBING OF EXISTING VEGETATION AND PLACEMENT OF FILL MATERIAL IS ALLOWED ON LEVEE SLOPES.



6/16/2021  
 Floodgate\_Rdy\_psh\_C406.dgn

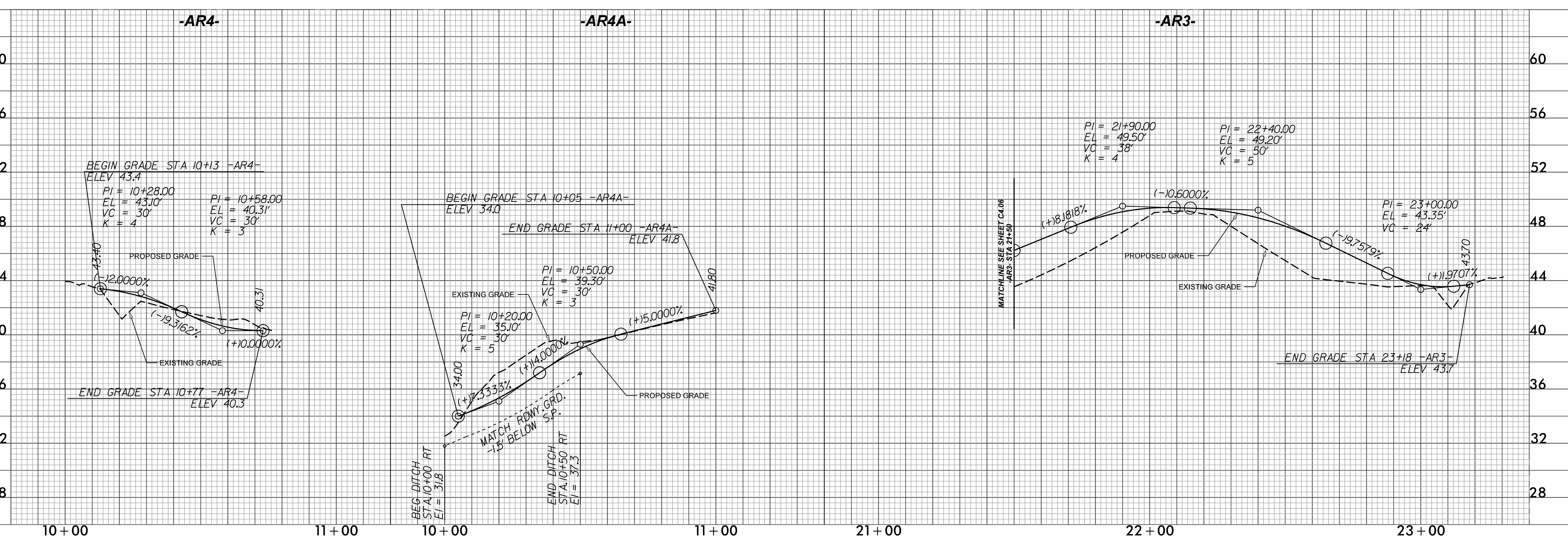
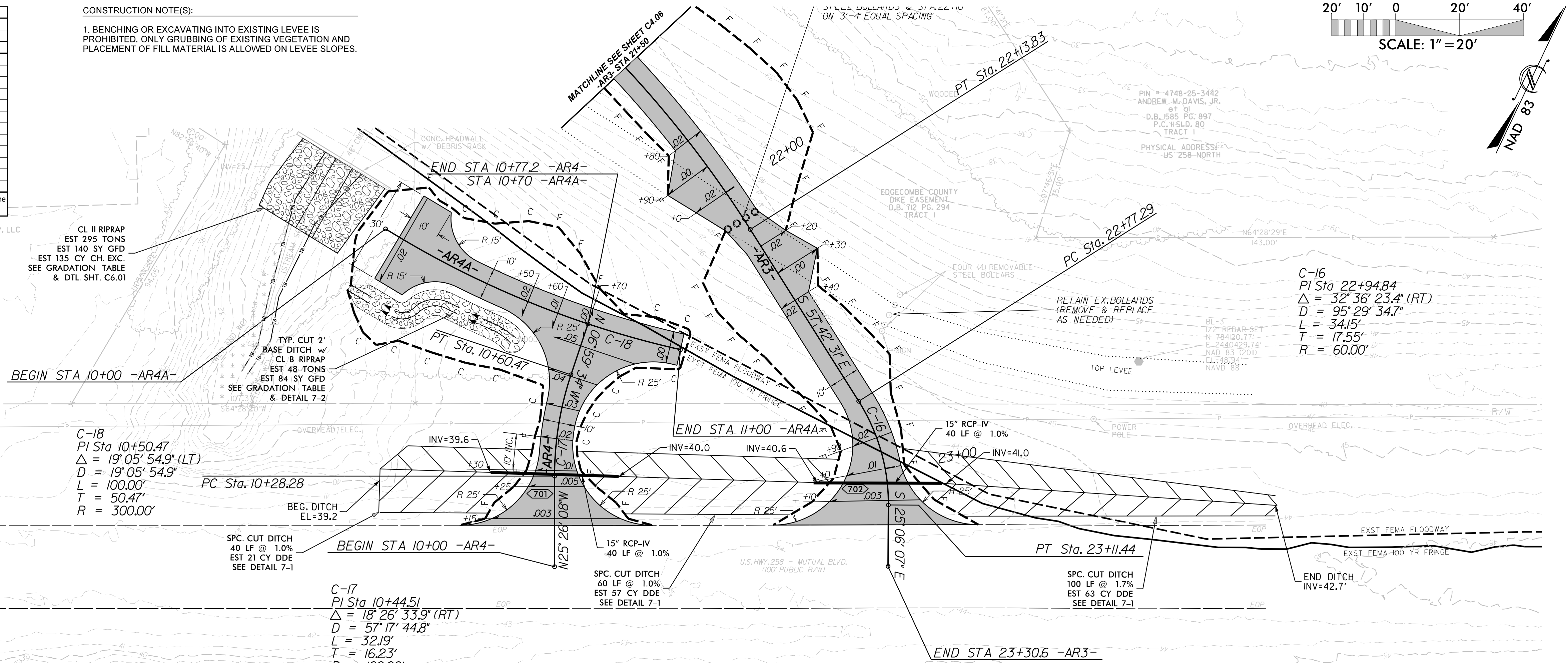
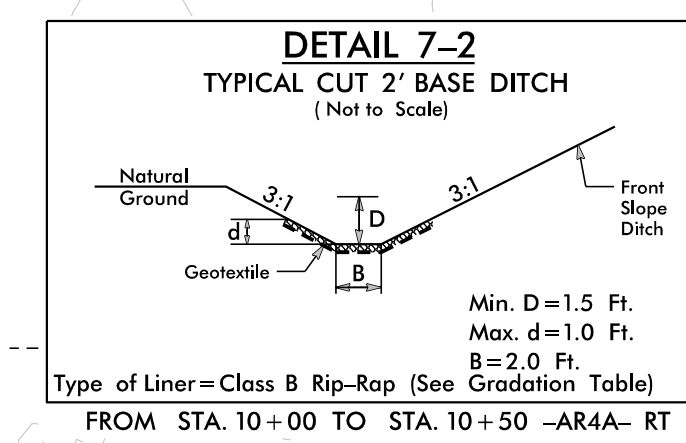
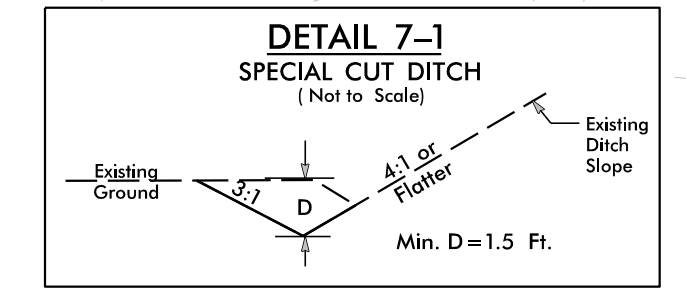
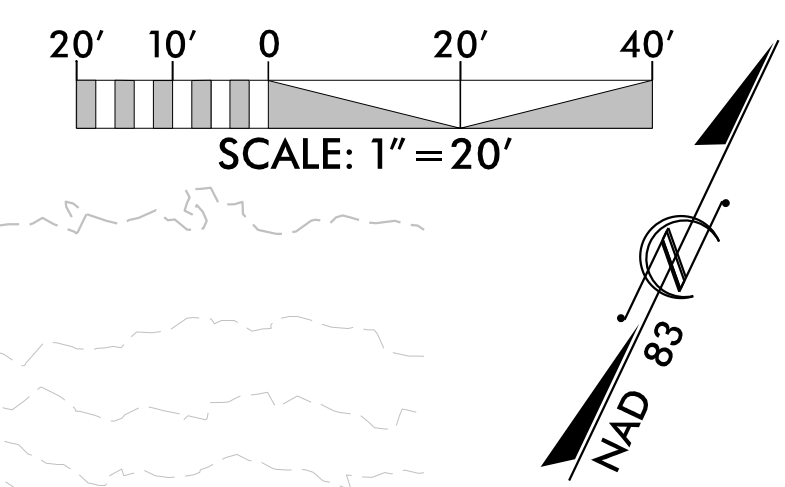


Riprap Gradation Requirements					
Weight (lbs)	Size (in)	% Finer by Weight Class of Riprap			
		A	B	I	II
2000	30				100
1000	24				75
650	21			100	50
400	18			75	50
250	15	100	75	50	10
120	12	75	50	10	
50	9	50	10		
15	6	10			
5	4				
2	3				
1	10				

\*Weight to size conversion based on a riprap specific gravity of 2.6 and a volume average between a sphere and cube.

PIN # 4748-04-1032  
SEAHAWK INVESTMENT GROUP, LLC  
D.B. 1675 PG. 34  
D.B. 704 PG. 641  
PHYSICAL ADDRESS:  
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CONSTRUCTION NOTE(S):  
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**JOSH DALTON**  
Professional Engineer  
SEAL  
26971  
6/17/2021

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Professional Engineer  
SEAL  
26971  
6/17/2021

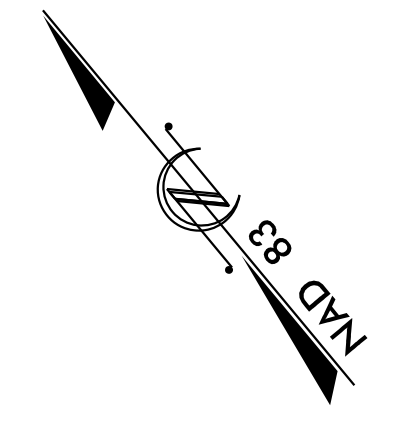
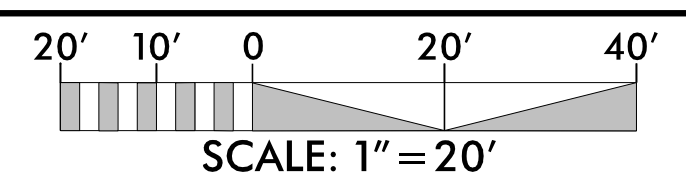
PRINCETONVILLE DIKE FLOODGATE REPAIRS  
PRINCETONVILLE, EDGECOMBE COUNTY, NC  
GRADING & DRAINAGE - SITE 2 & 3

PROJECT # : 1284-20041  
DRAWING NAME: FLOODGATE RDY PSH C407  
DATE: 6-16-2021  
DRAWN BY: JRH  
REVIEWED BY: RCH  
REVISIONS:  
SHEET NO. **C4.07**





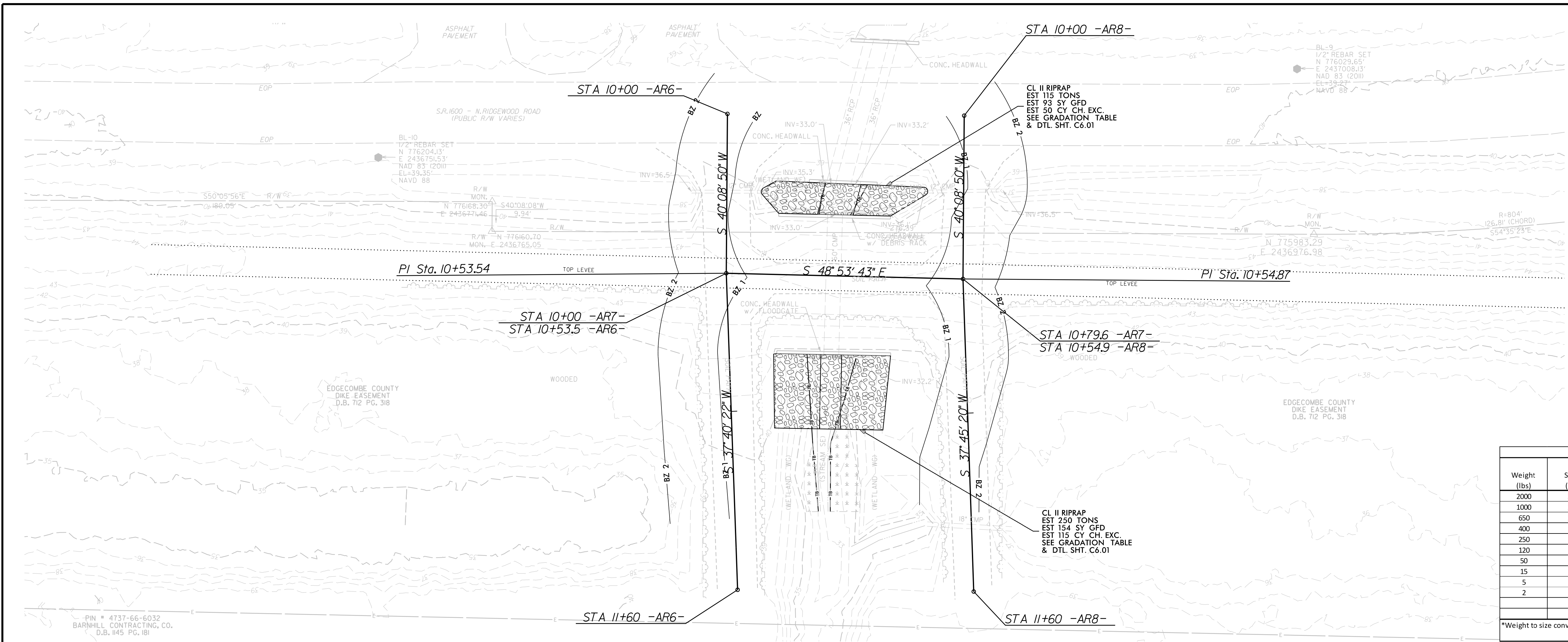




**CONSTRUCTION NOTE(S):**  
 1. BENCHING OR EXCAVATING INTO EXISTING LEVEE IS PROHIBITED. ONLY GRUBBING OF EXISTING VEGETATION AND PLACEMENT OF FILL MATERIAL IS ALLOWED ON LEVEE SLOPES.

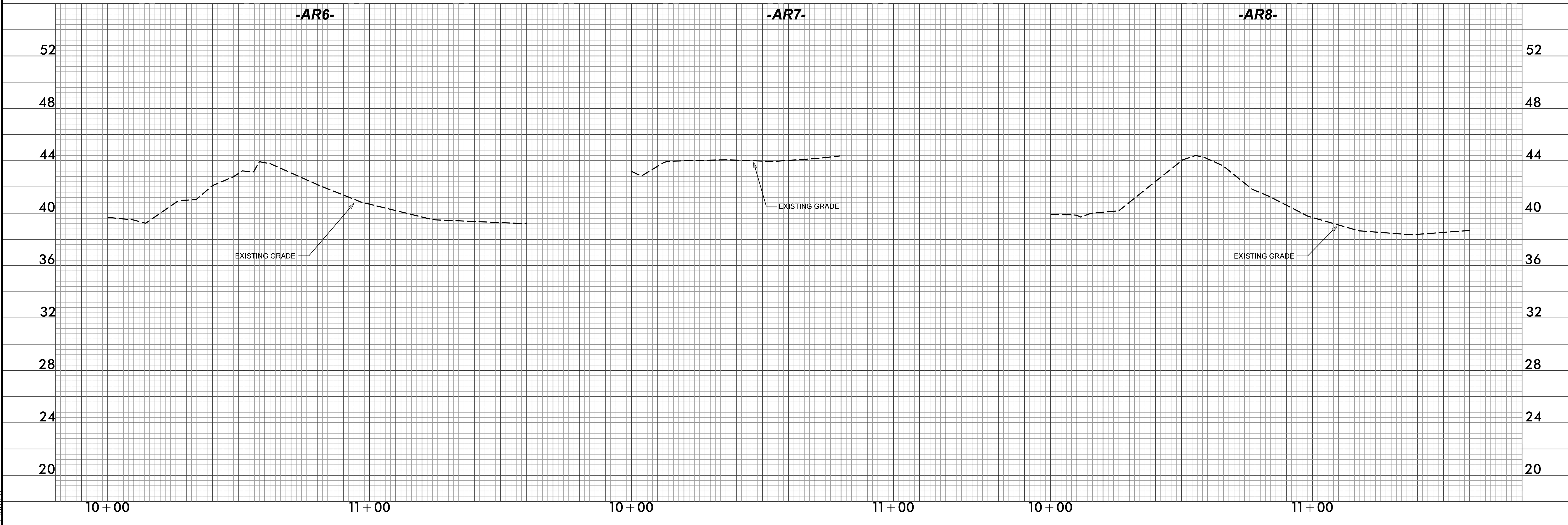
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DocuSigned by:  
**JOSH DALTON**  
 PROFESSIONAL SEAL  
 26971  
 ENGINEER  
 JOSHUA G. DALTON  
 6/17/2021



Riprap Gradation Requirements					
Weight (lbs)	Size (in)	% Finer by Weight			
		Class of Riprap			
		A	B	II	III
2000	30				100
1000	24			100	
650	21				75
400	18			100	
250	15				75
120	12		100	75	50
50	9		75	50	
15	6	100	50		10
5	4				10
2	3	50		10	
	2		10		
	1	10			

\*Weight to size conversion based on a riprap specific gravity of 2.6 and a volume average between a sphere and cube.



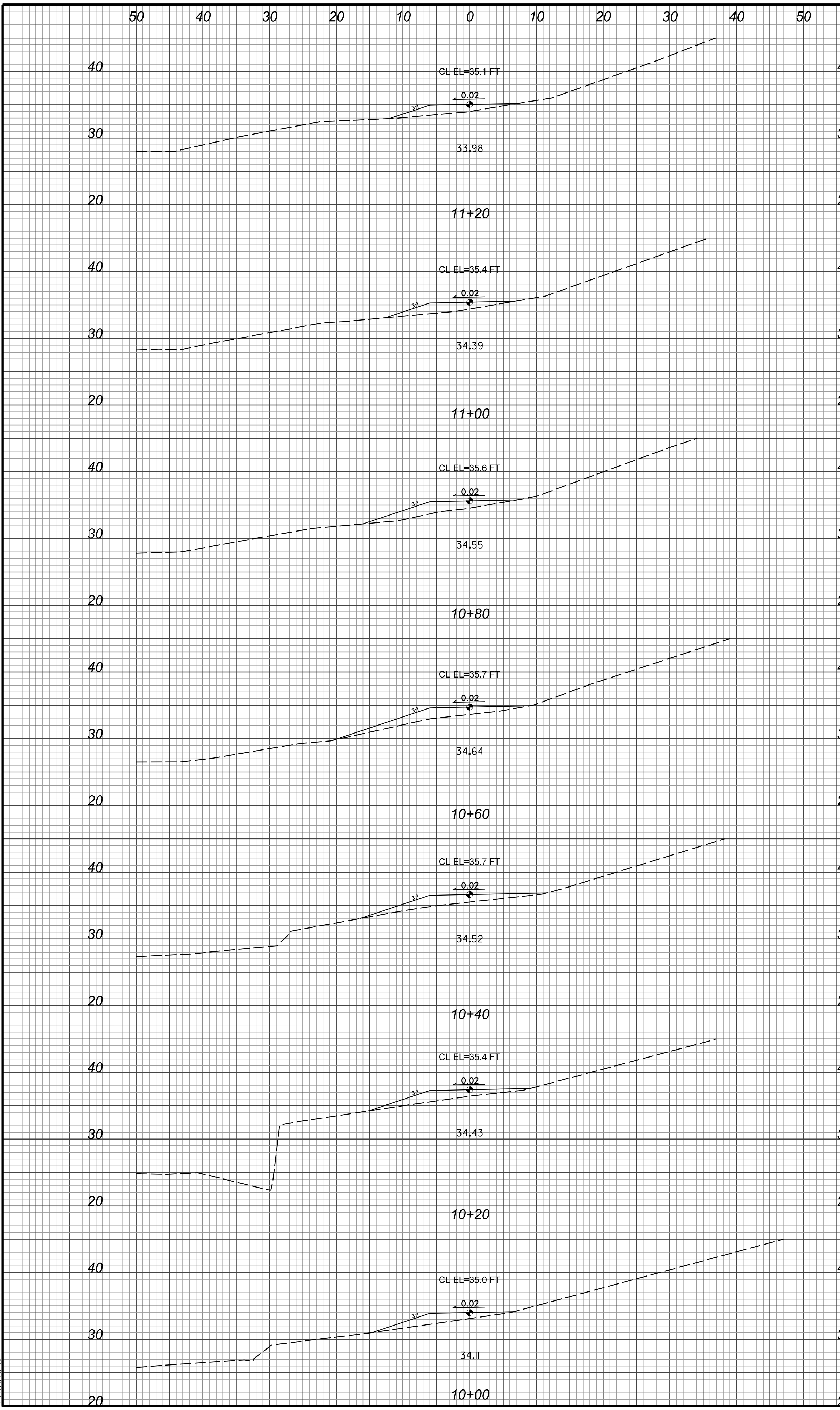
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 PRINCEVILLE, EDGECOMBE COUNTY, NC  
**GRADING & DRAINAGE - SITE 4**

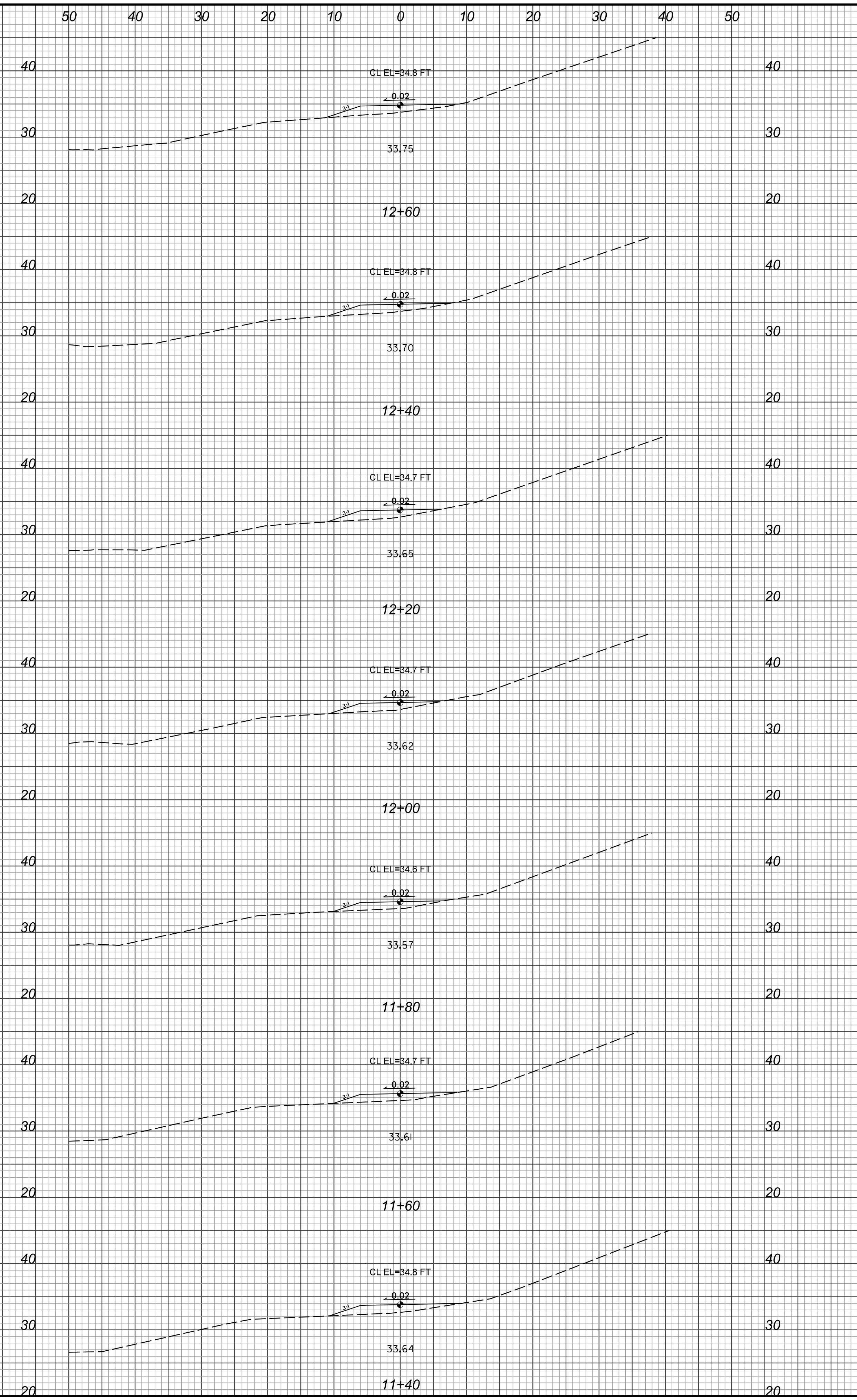
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 DRAWING NAME: FLOODGATE RDY PSH C409  
 DATE: 6-16-2021  
 DRAWN BY: JRH  
 REVIEWED BY: RCH  
 REVISIONS:  
 SHEET NO. **C4.09**

6/16/2021 Floodgate\_Rdy\_psh\_C409.dgn

6/16/2021  
F:\projects\psh\_C500.dgn  
Floodgate\_Rdy\_psh\_C500.dgn



-AR1-



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 ENGINEER  
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PRINCEVILLE DIKE FLOODGATE REPAIRS  
PRINCEVILLE, EDGECOMBE COUNTY, NC

CROSS SECTIONS - SITE 1 -AR1-

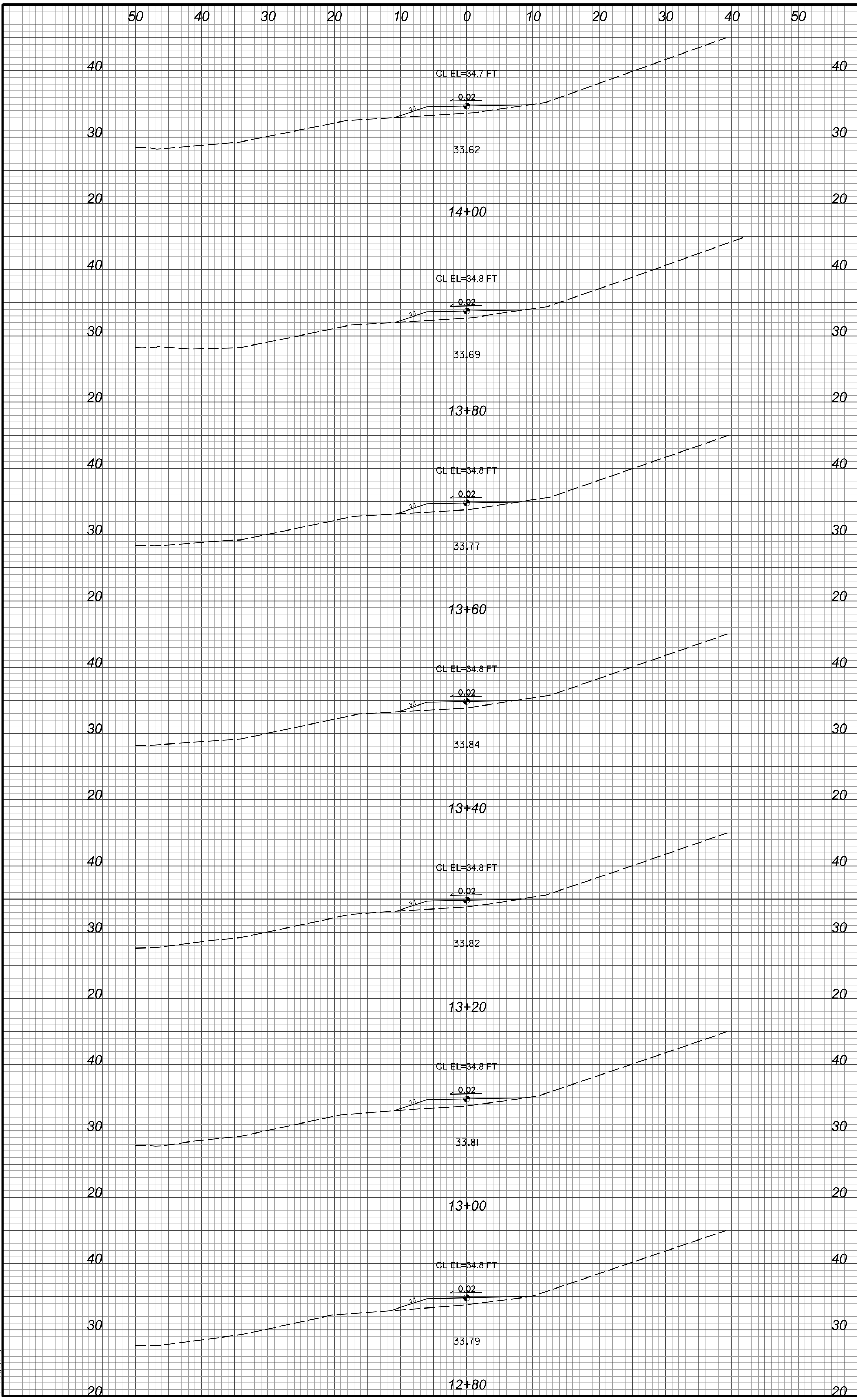
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 DRAWING NAME: FLOODGATE RDY PSH C501  
 DATE: 6-16-2021  
 DRAWN BY: JRH  
 REVIEWED BY: RCH  
 REVISIONS:

SHEET NO.  
**C5.01**

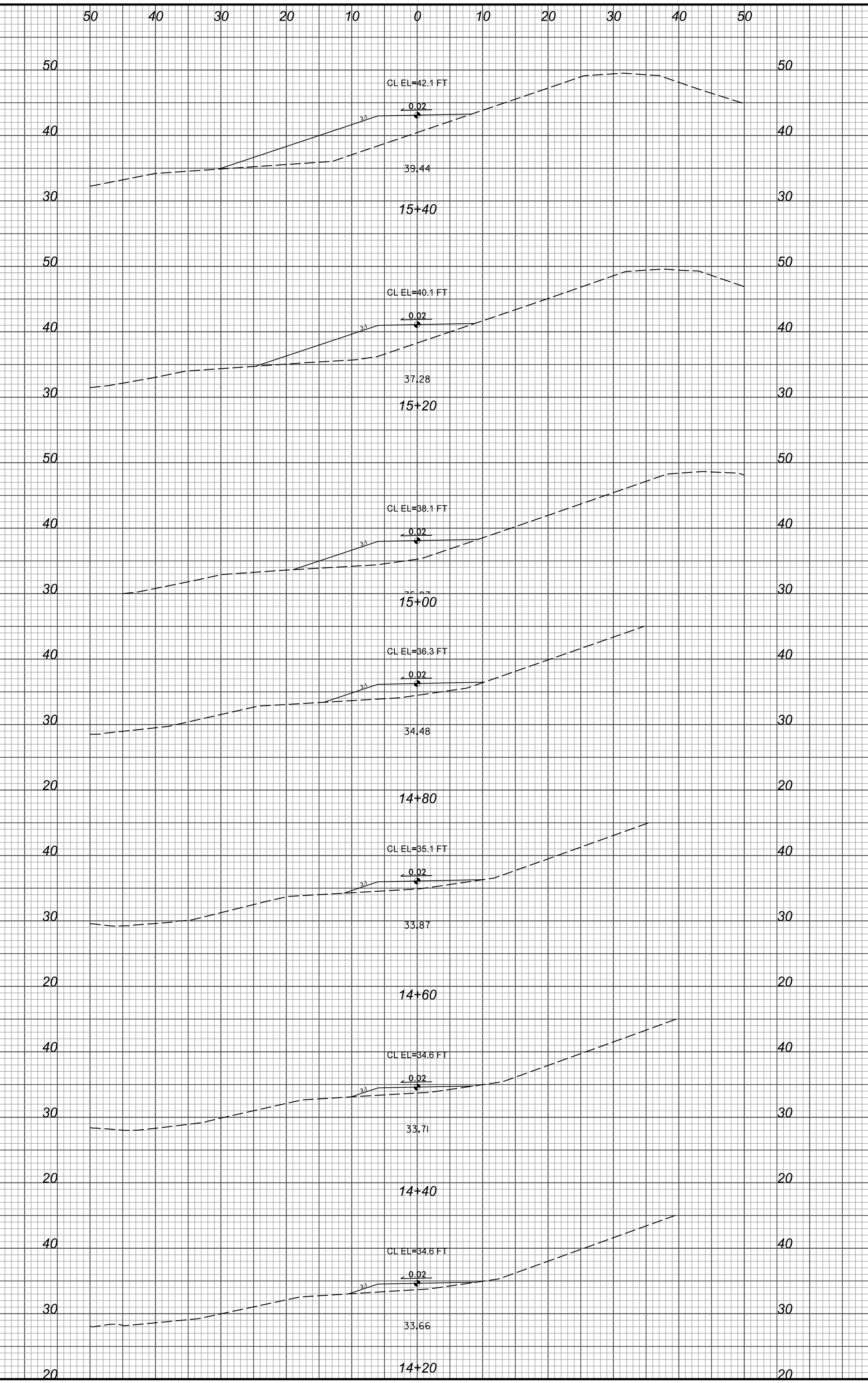
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-AR1-



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 ENG. FIRM LICENSE NO. C-890

Professional Engineer Seal for Joshua G. Dalton, License No. 26971, State of North Carolina. Date: 6/17/2021.

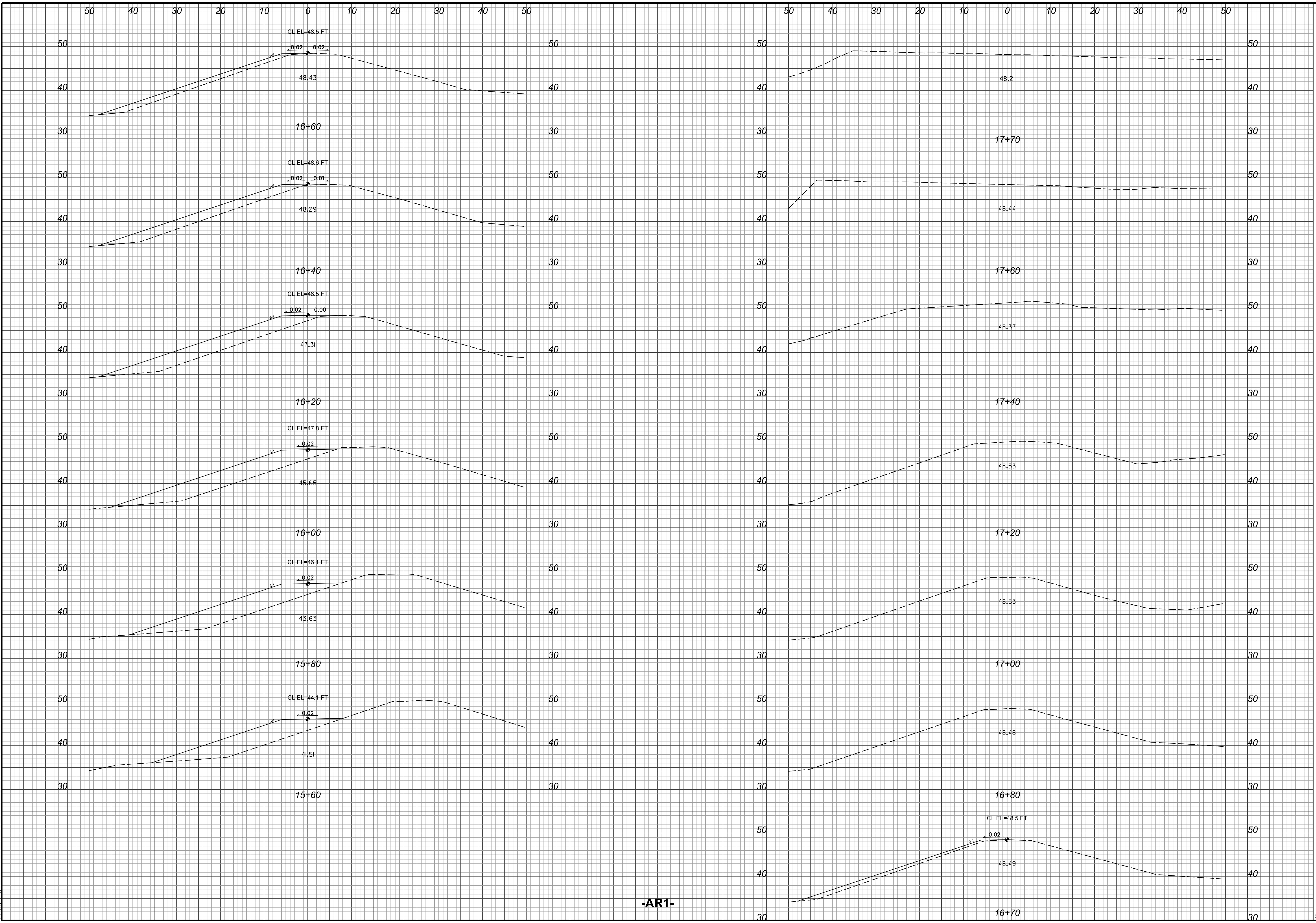
PRINCEVILLE DIKE FLOODGATE REPAIRS

PRINCEVILLE, EDGECOMBE COUNTY, NC  
**CROSS SECTIONS - SITE 1 -AR1-**

PROJECT # :	1284-20041
DRAWING NAME:	FLOODGATE RDY PSH C502
DATE:	6-16-2021
DRAWN BY:	JRH
REVIEWED BY:	RCH
REVISIONS:	
SHEET NO.	<b>C5.02</b>

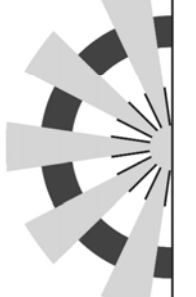
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**JOSH DALTON**  
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 26971  
 ENGINEER  
 JOSHUA G. DALTON  
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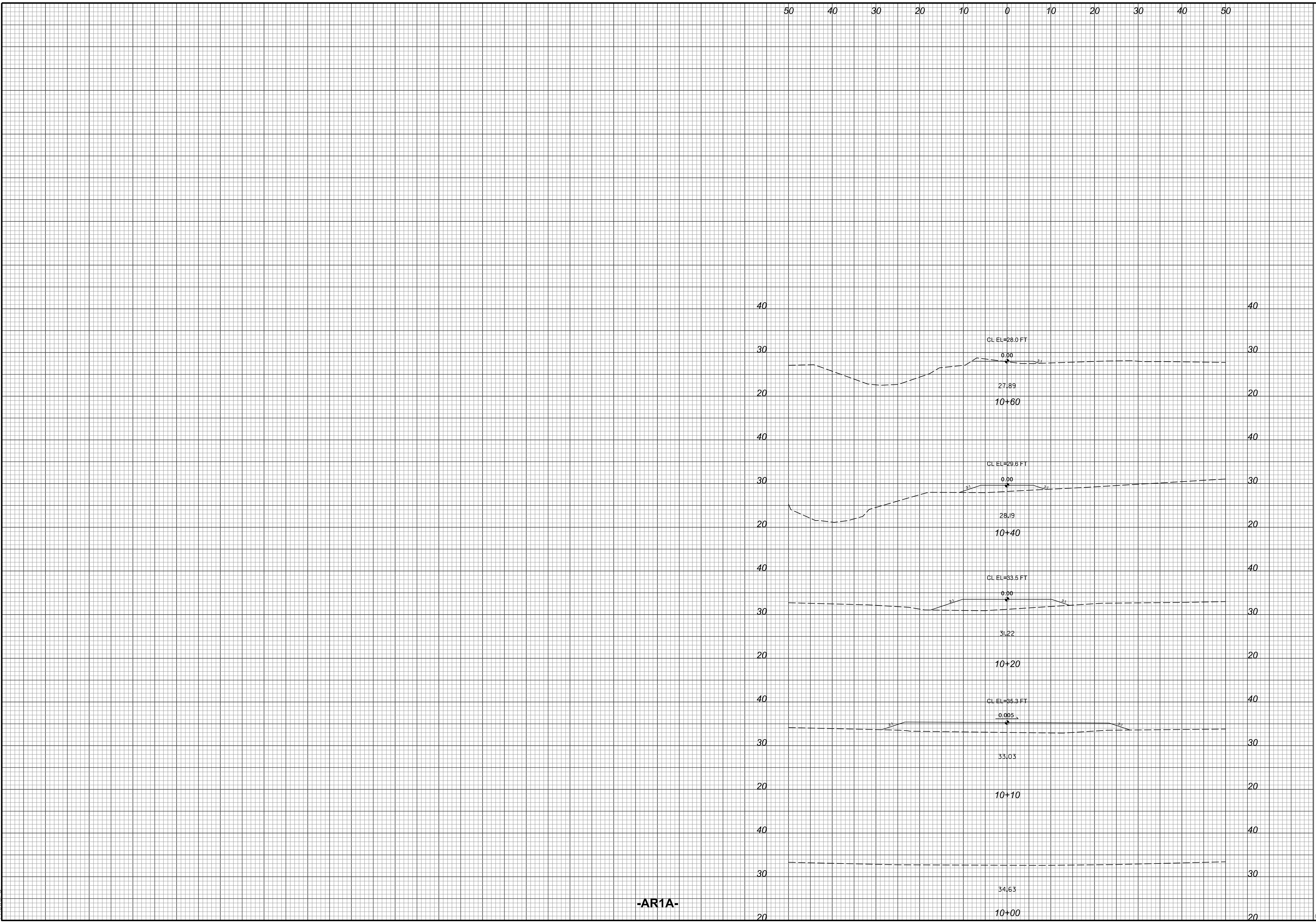
**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC  
**CROSS SECTIONS - SITE 1 -AR1-**

PROJECT # : 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C503  
 DATE: 6-16-2021  
 DRAWN BY: JRH  
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-AR1A-

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 SEAL  
 26971  
 ENGINEER  
 JOSHUA G. DALTON  
 6/17/2021

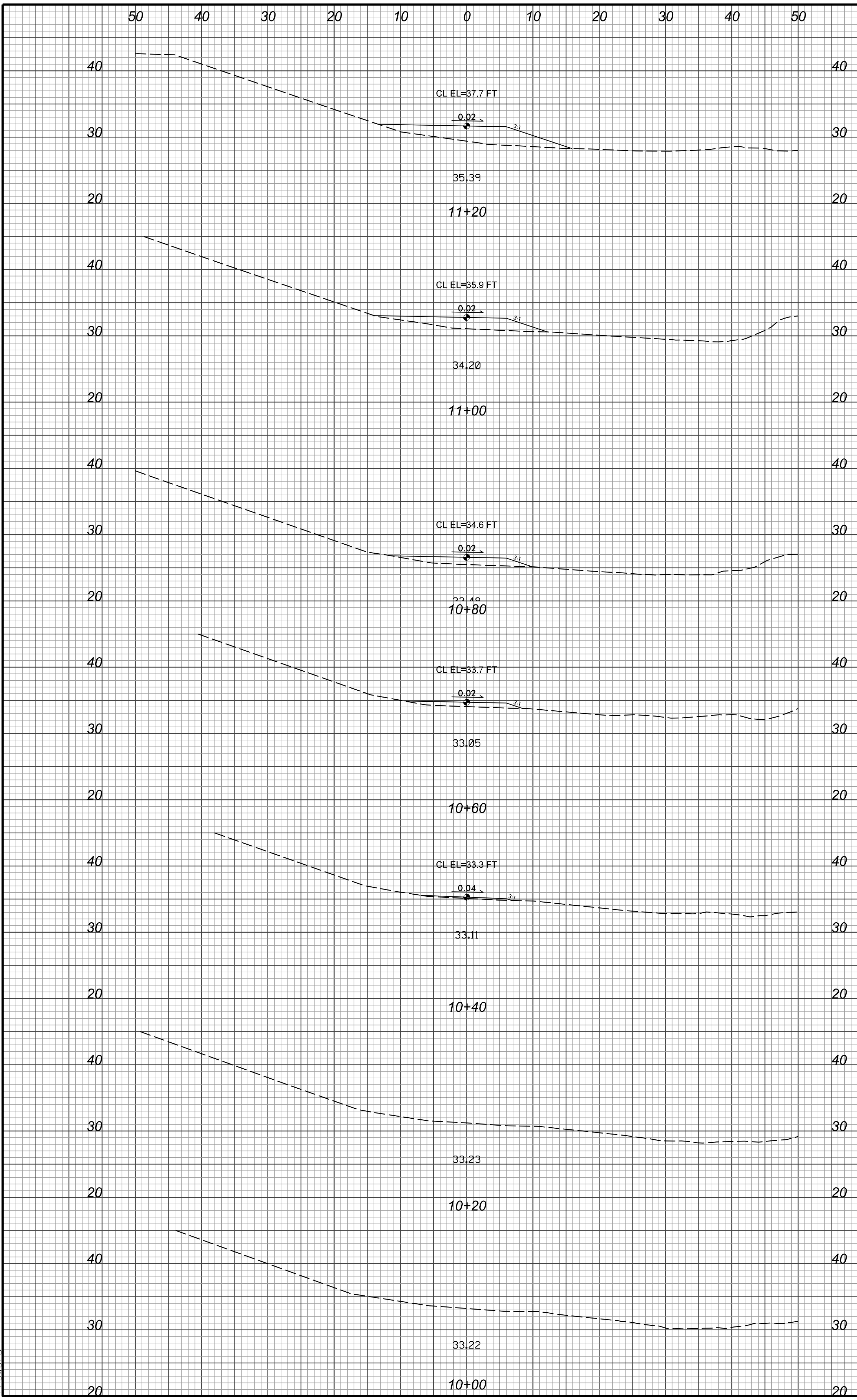
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 PRINCEVILLE, EDGECOMBE COUNTY, NC  
**CROSS SECTIONS - SITE 1 -AR1A-**

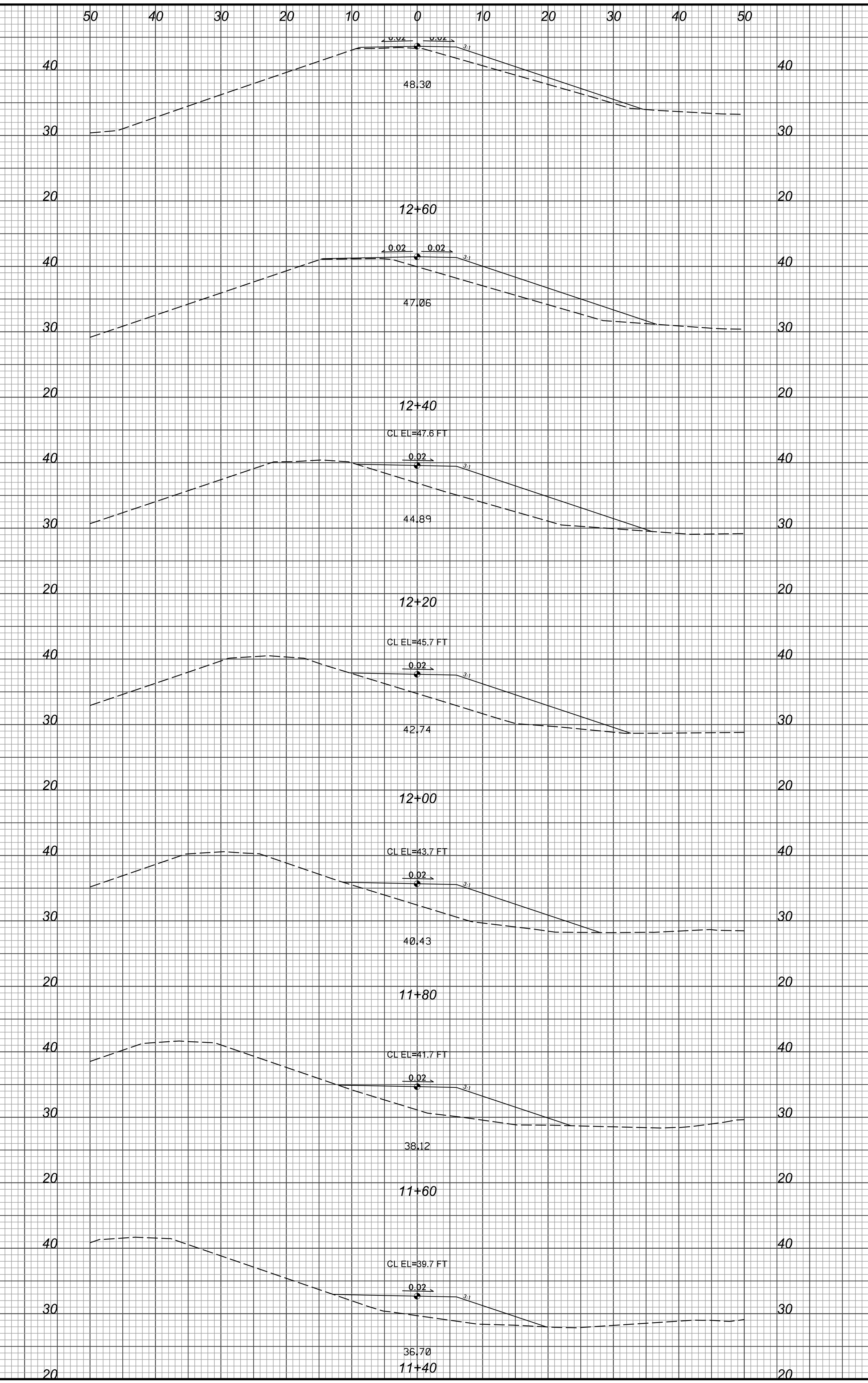
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DRAWING NAME:	FLOODGATE RDY PSH C504
DATE:	6-16-2021
DRAWN BY:	JRH
REVIEWED BY:	RCH
REVISIONS:	

SHEET NO.  
**C5.04**

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-AR2-



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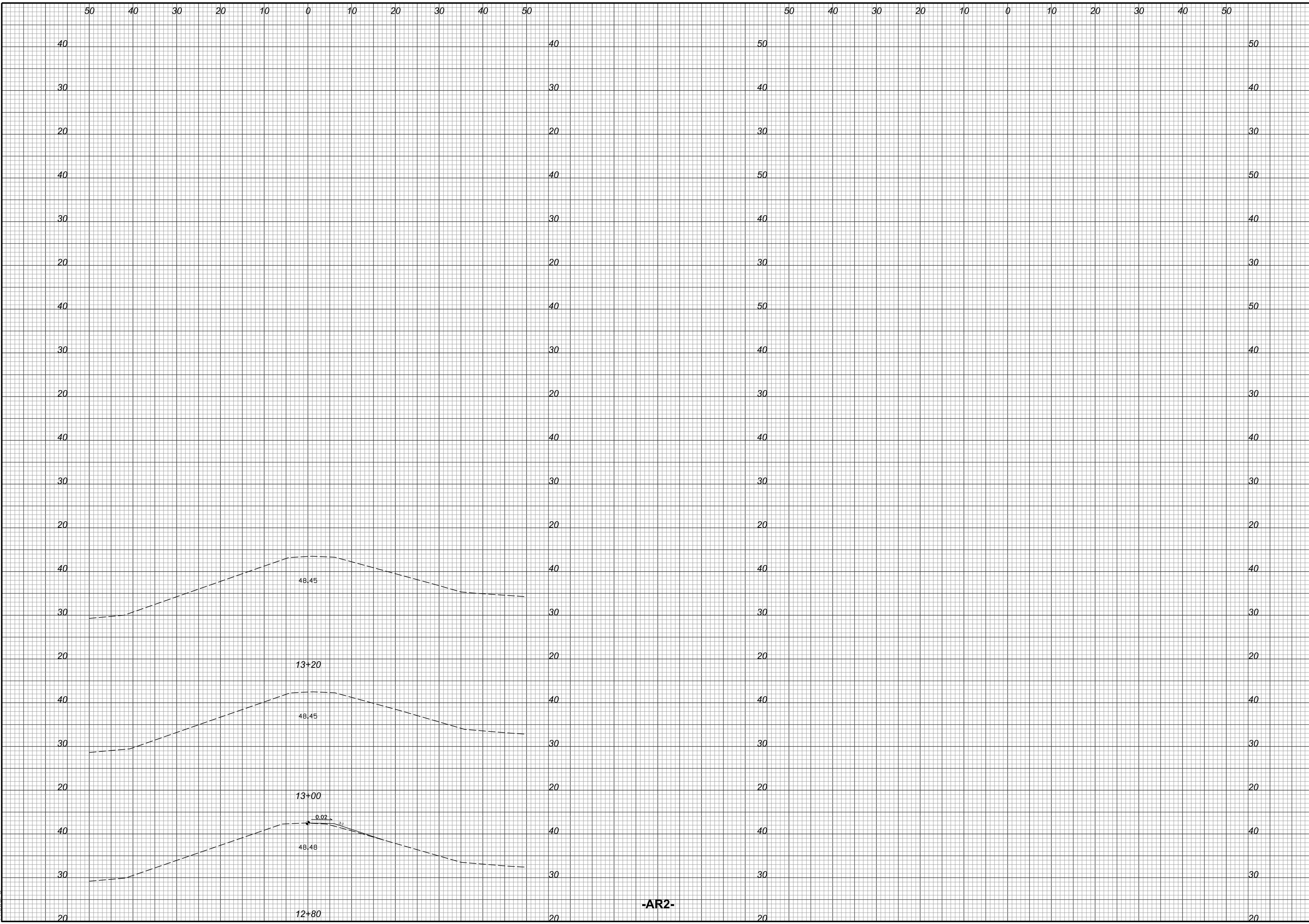
**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC  
**CROSS SECTIONS - SITE 1 -AR2-**

PROJECT # : 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C505  
 DATE: 6-16-2021  
 DRAWN BY: JRH  
 REVIEWED BY: RCH  
 REVISIONS:

SHEET NO.  
**C5.05**



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-AR2-

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PROJECT # :  
1284-20041

DRAWING NAME:  
FLOODGATE RDY PSH C506

DATE:  
6-16-2021

DRAWN BY:  
JRH

REVIEWED BY:  
RCH

REVISIONS:

SHEET NO.  
**C5.06**

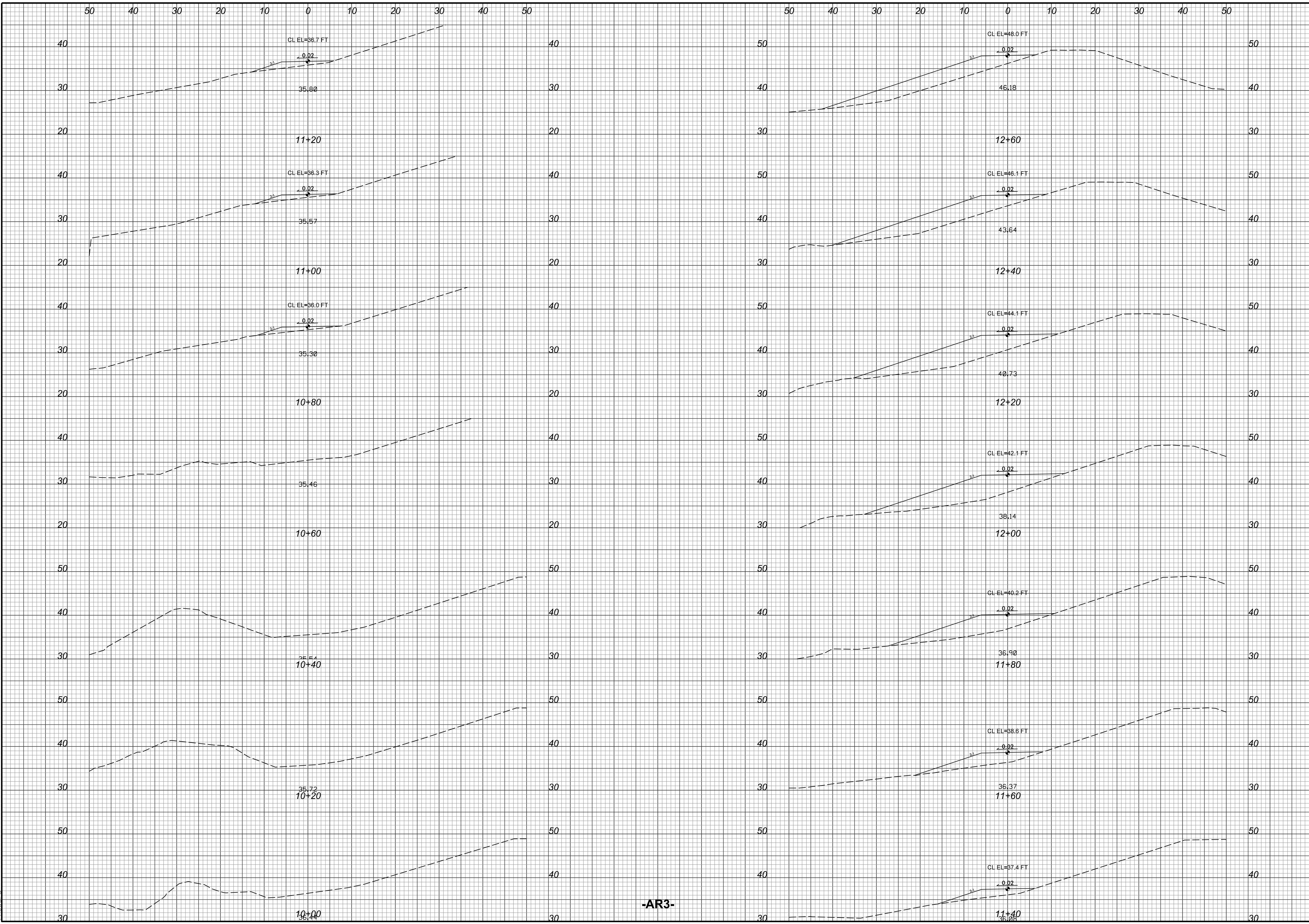
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**CROSS SECTIONS - SITE 1 -AR2-**





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-AR3-

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PRINCEVILLE, EDGECOMBE COUNTY, NC

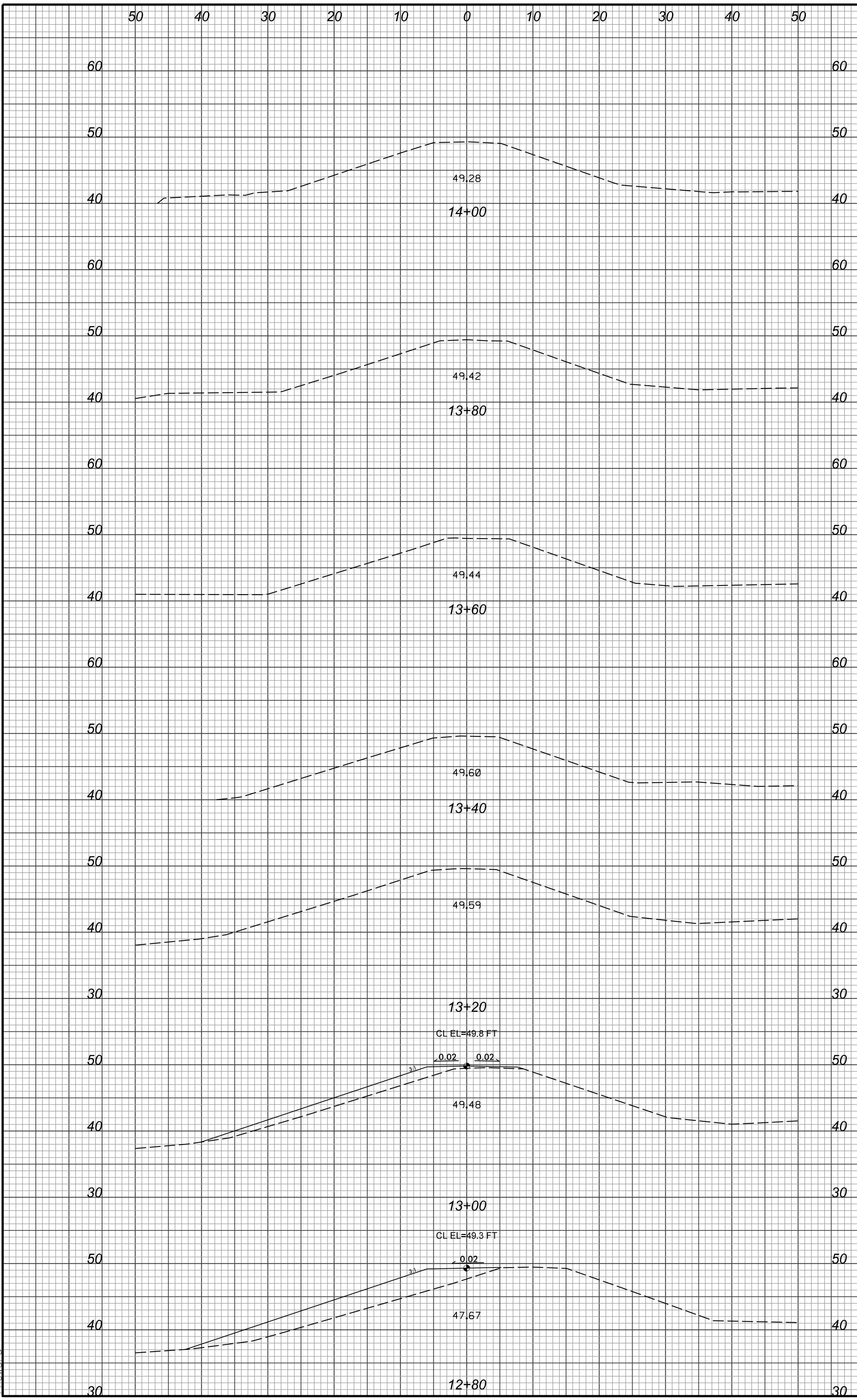
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 DATE: 6-16-2021  
 DRAWN BY: JRH  
 REVIEWED BY: RCH  
 REVISIONS:

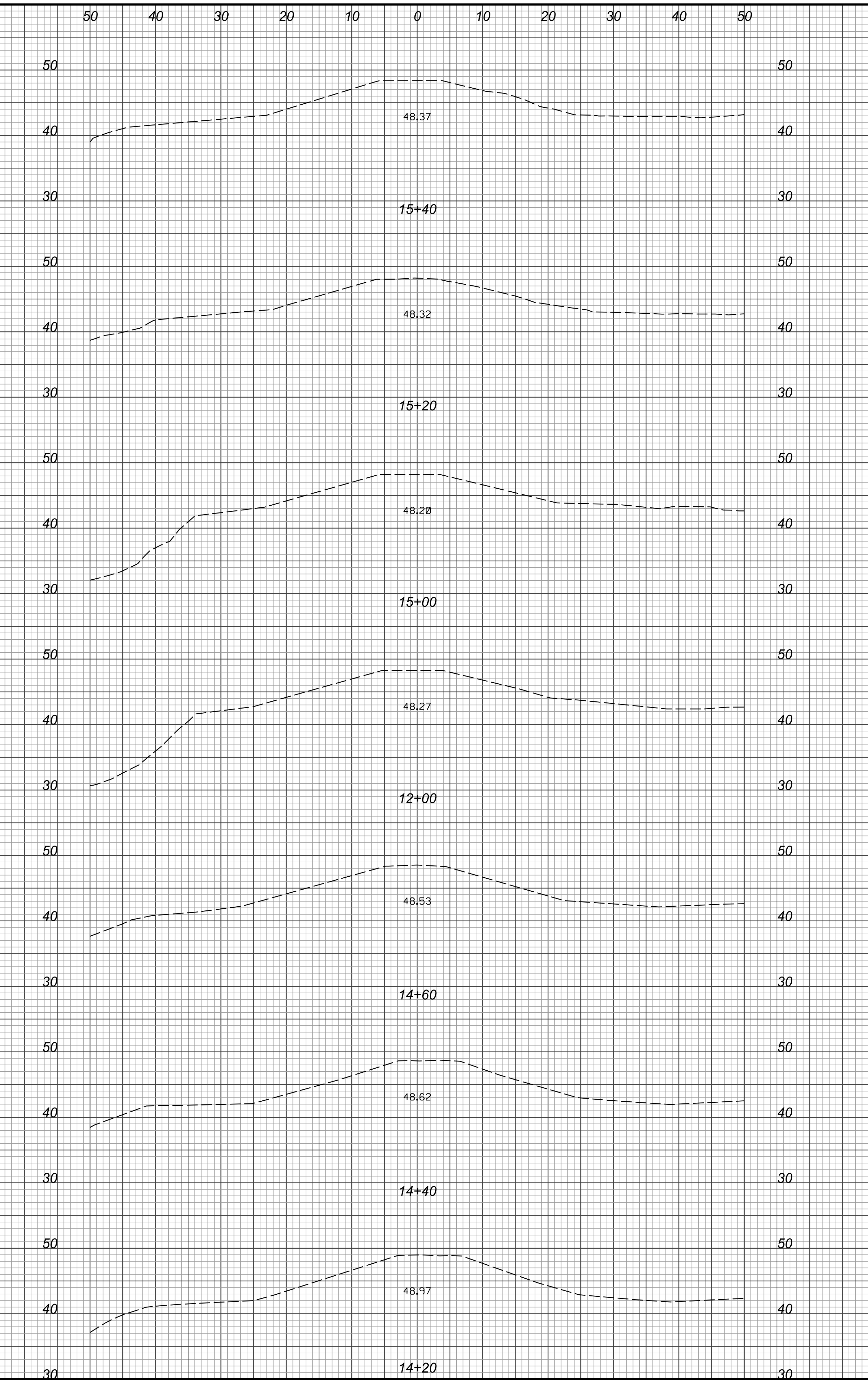
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-AR3-



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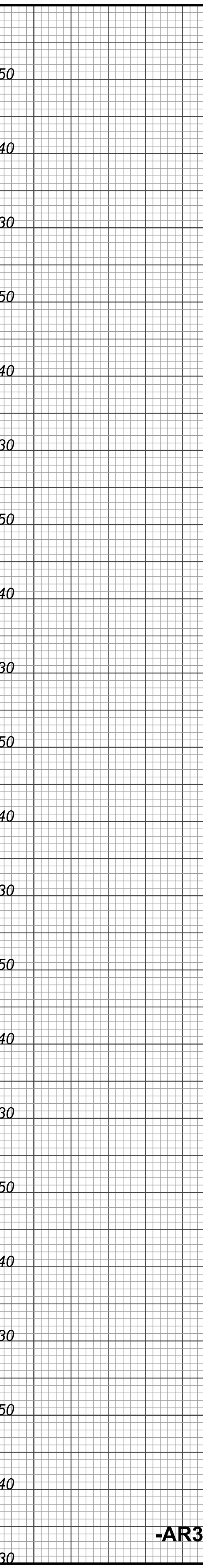
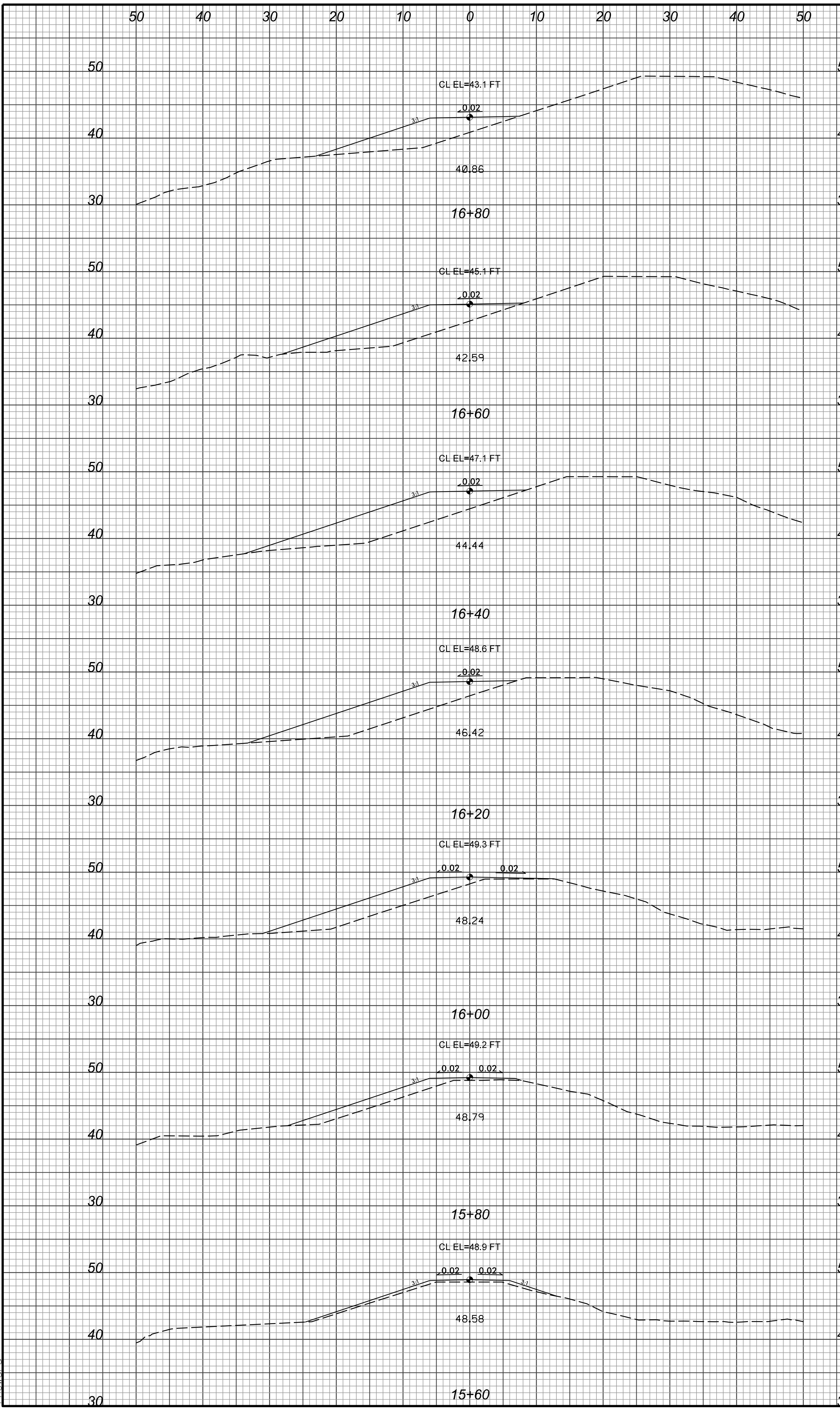
**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC  
**CROSS SECTIONS - SITE 2-3 -AR3-**

PROJECT # : 1284-20041  
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 DATE: 6-16-2021  
 DRAWN BY: JRH  
 REVIEWED BY: RCH  
 REVISIONS:

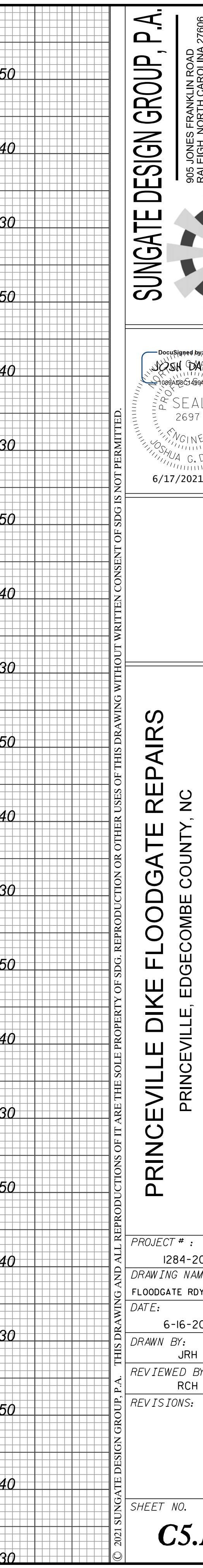
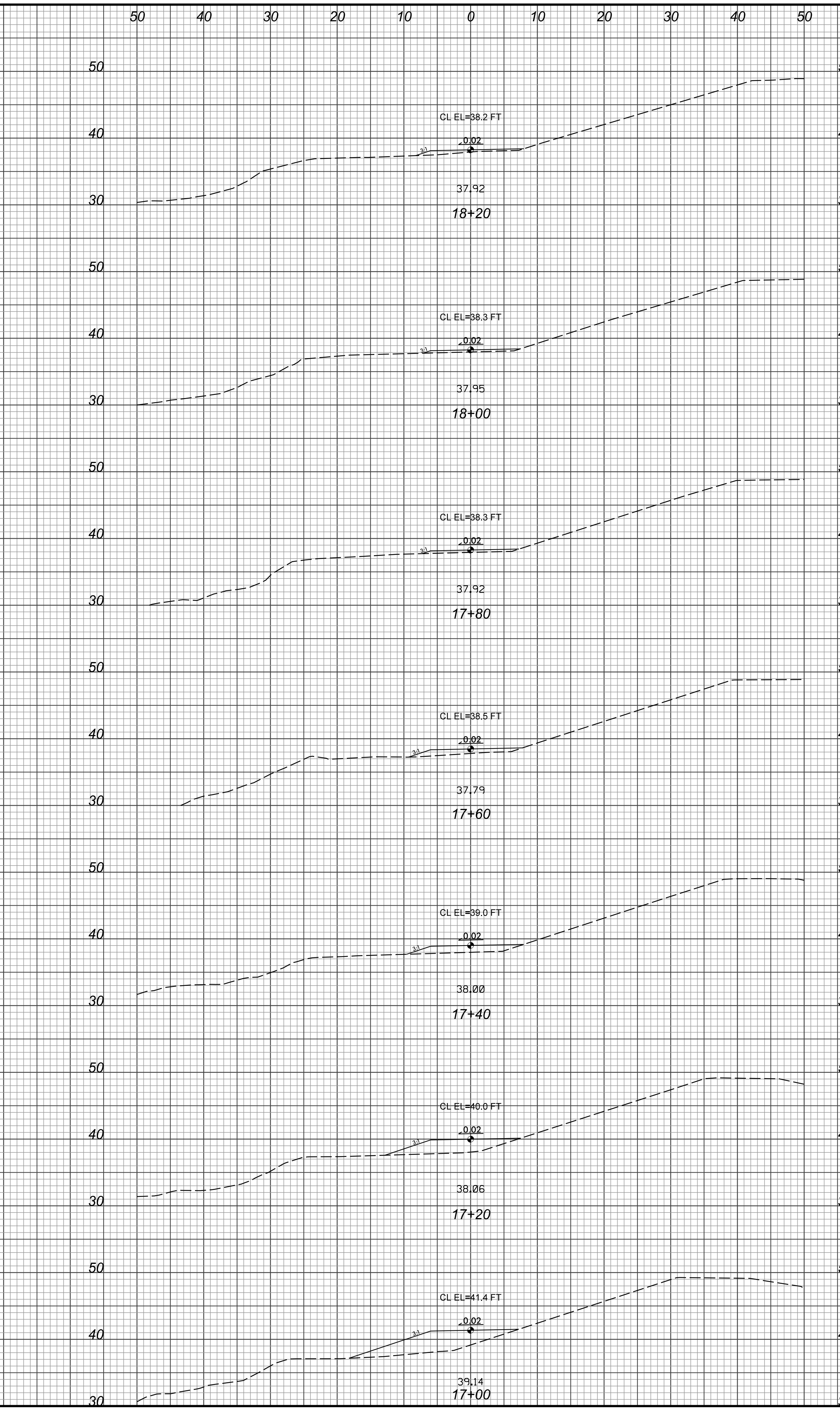
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-AR3-



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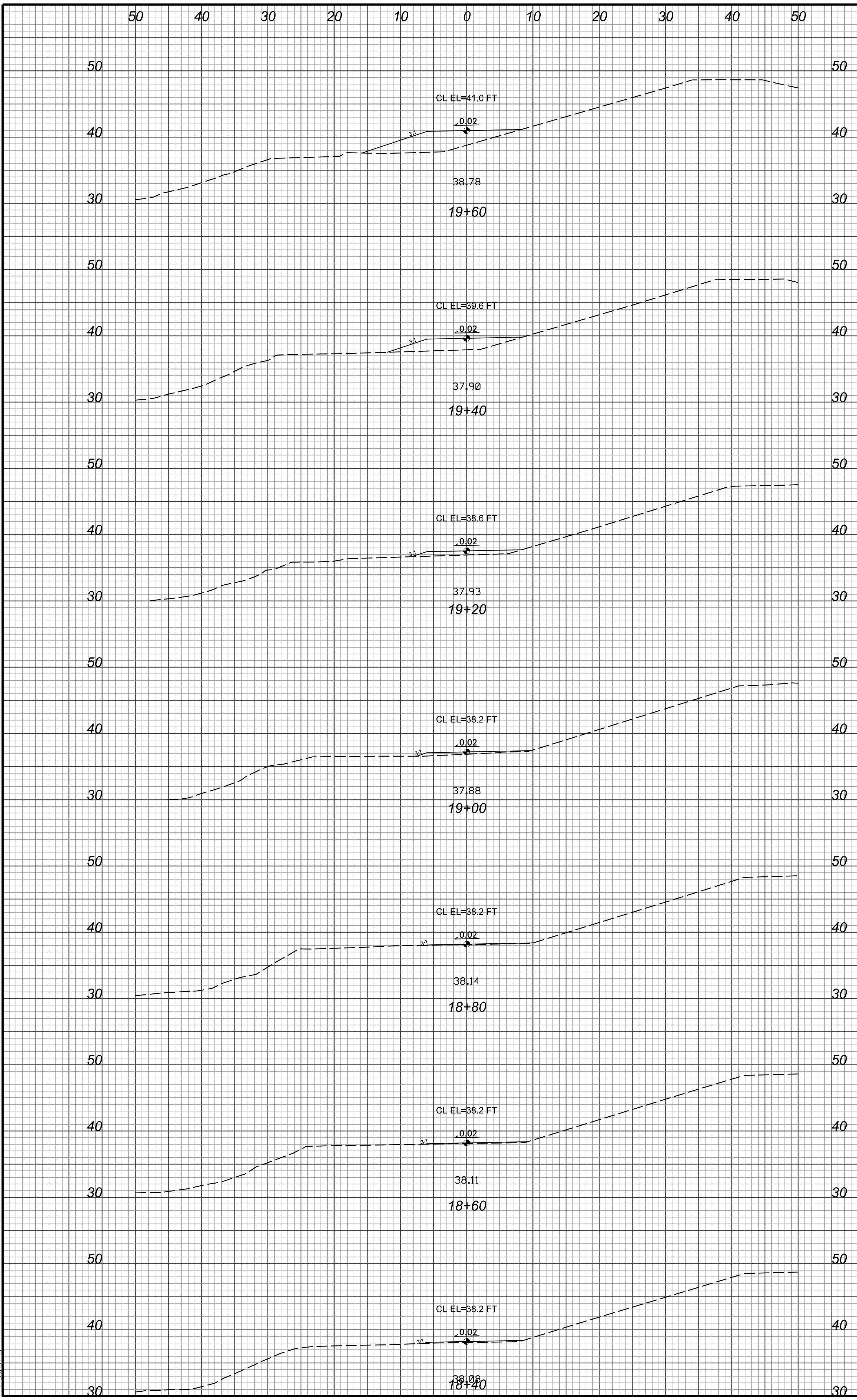
**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC  
**CROSS SECTIONS - SITE 2-3 -AR3-**

PROJECT # : 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH CS10  
 DATE: 6-16-2021  
 DRAWN BY: JRH  
 REVIEWED BY: RCH  
 REVISIONS:

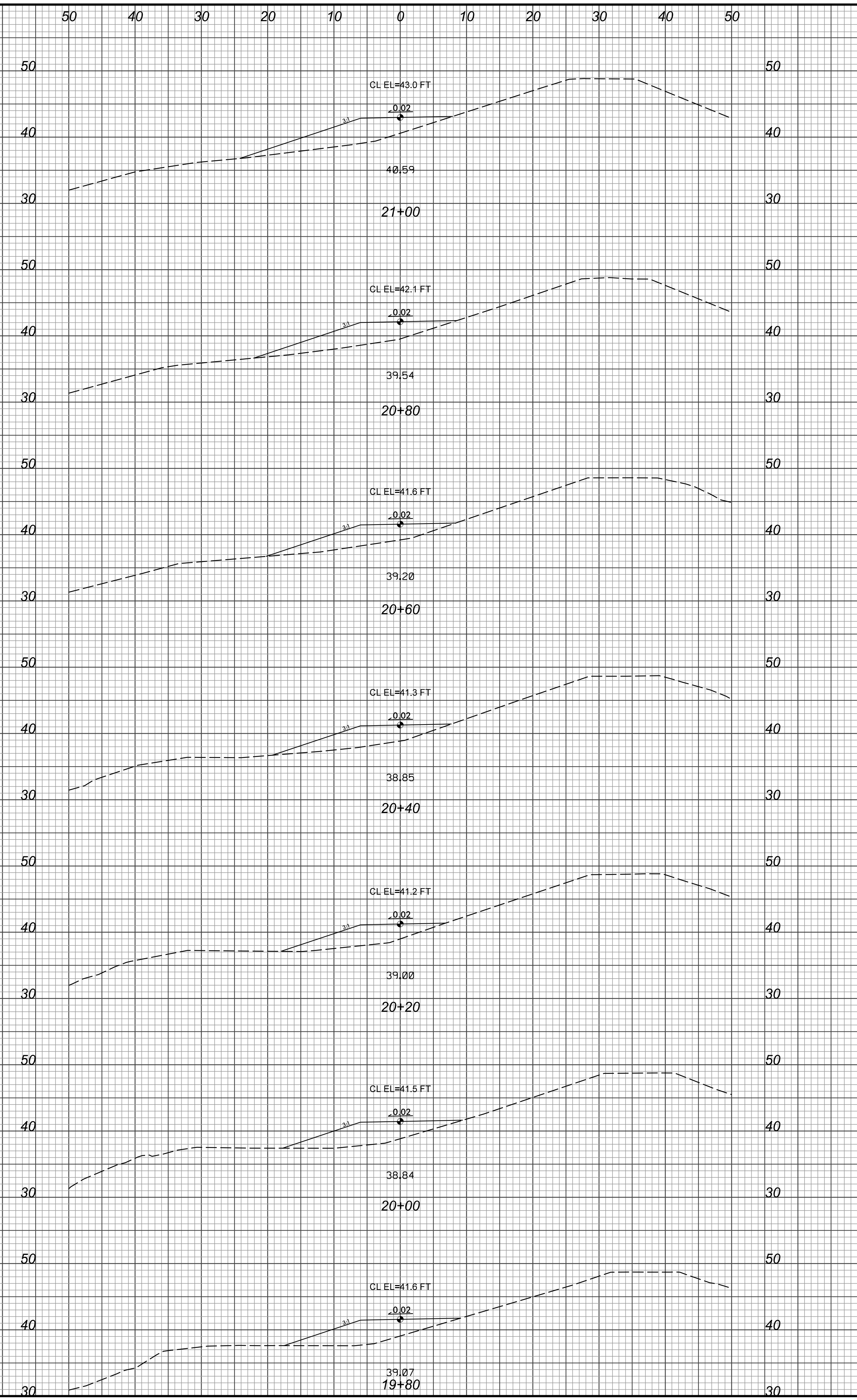
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**-AR3-**



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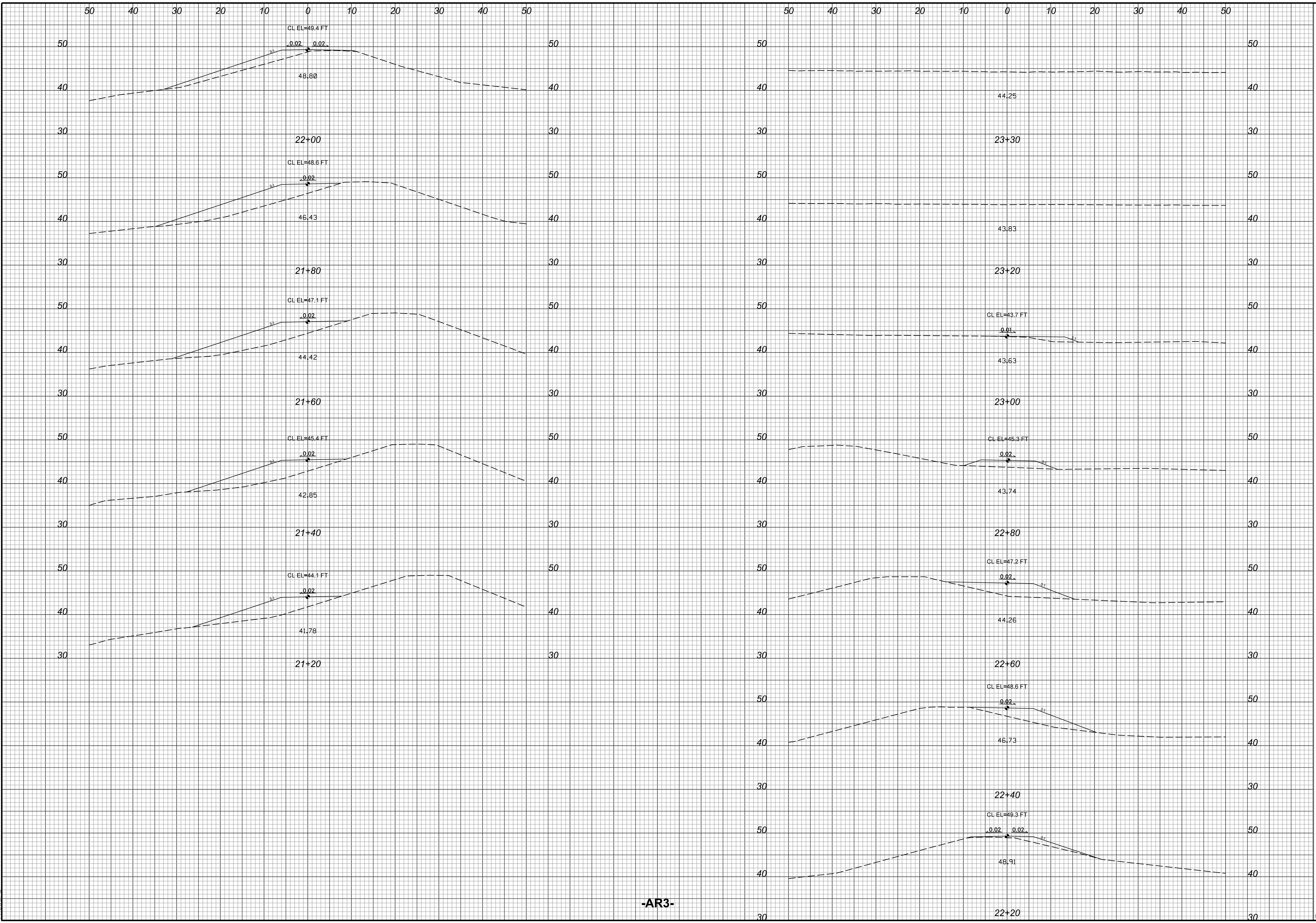
**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC  
**CROSS SECTIONS - SITE 2-3 -AR3-**

PROJECT # :	1284-20041
DRAWING NAME:	FLOODGATE Rdy PSH C511
DATE:	6-16-2021
DRAWN BY:	JRH
REVIEWED BY:	RCH
REVISIONS:	

SHEET NO.  
**C5.11**



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-AR3-

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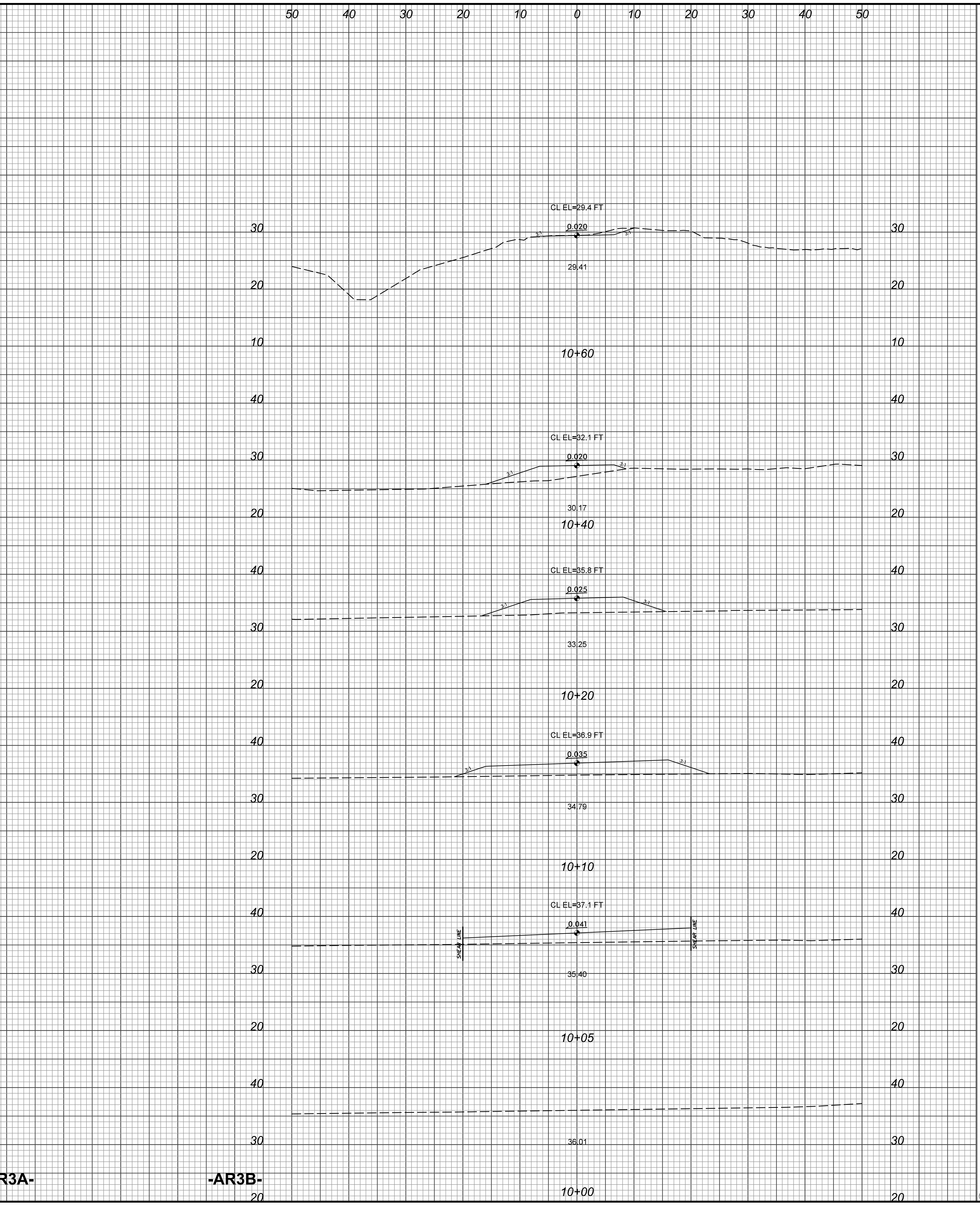
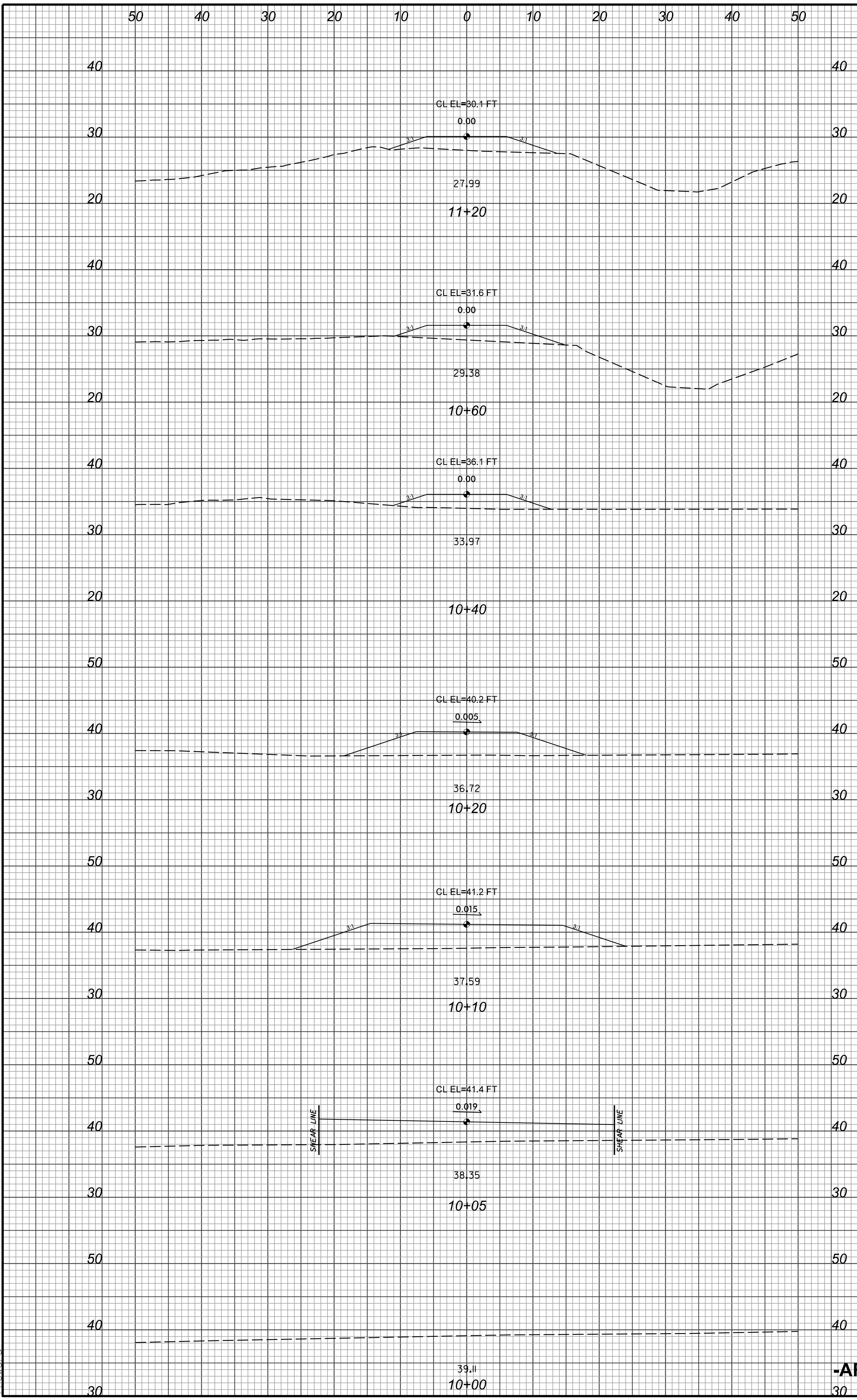
PRINCEVILLE DIKE FLOODGATE REPAIRS  
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**CROSS SECTIONS - SITE 2-3 -AR3-**

PROJECT # :	1284-20041
DRAWING NAME:	FLOODGATE RDY PSH C5/2
DATE:	6-16-2021
DRAWN BY:	JRH
REVIEWED BY:	RCH
REVISIONS:	
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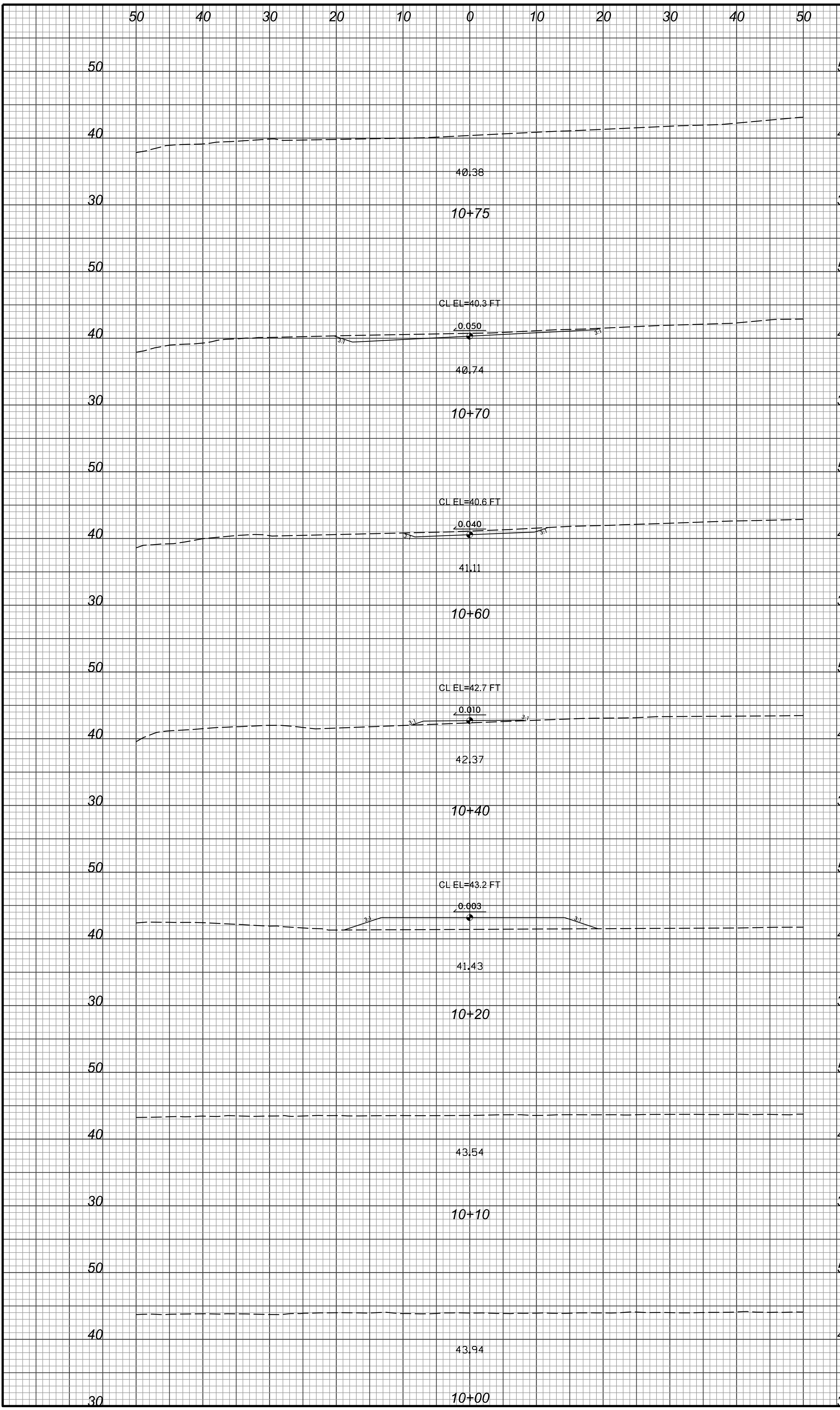
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**CROSS SECTIONS - SITE 2-3 -AR3A-, -AR3B-**

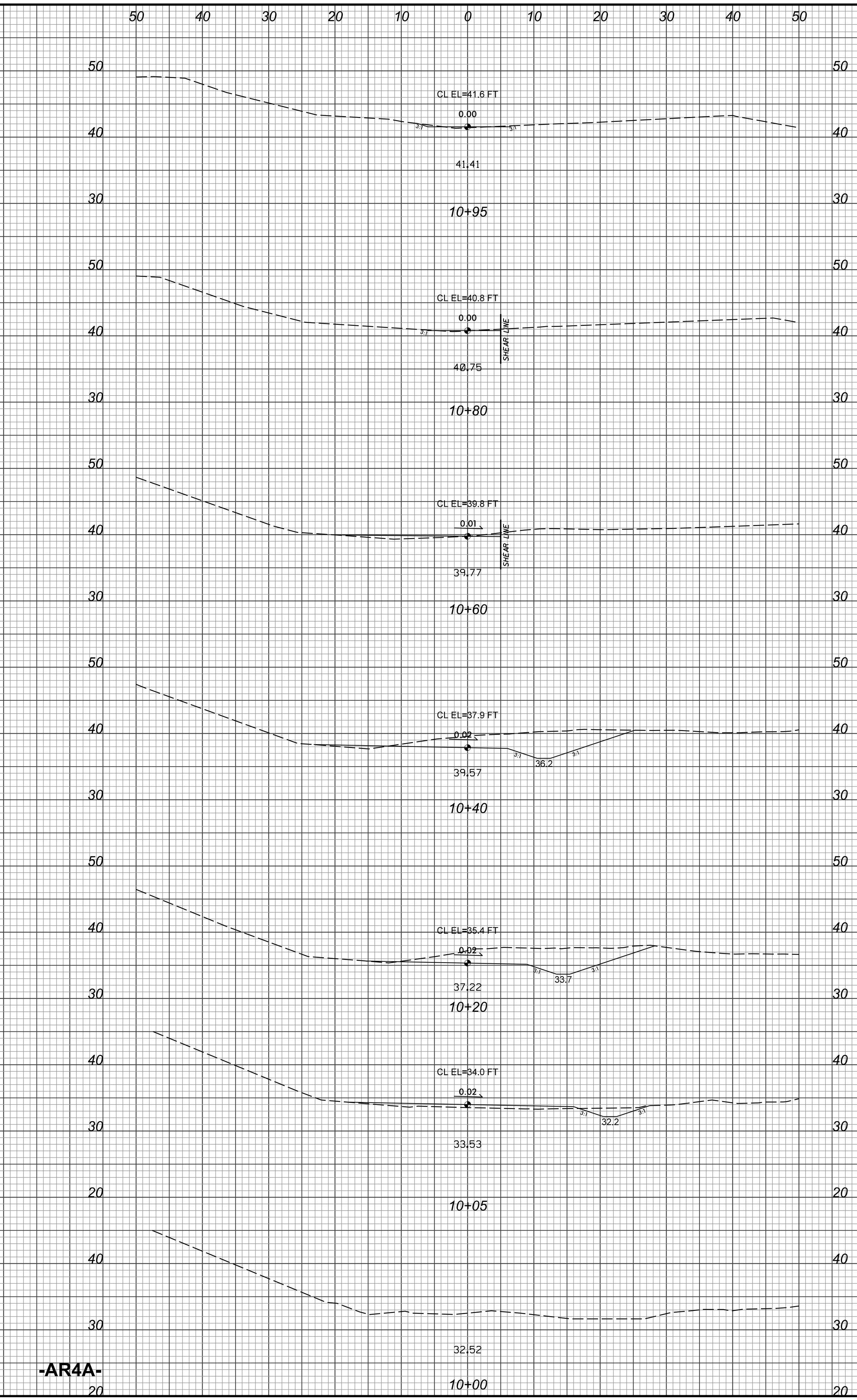
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 DATE: 6-16-2021  
 DRAWN BY: JRH  
 REVIEWED BY: RCH  
 REVISIONS:

SHEET NO.  
**C5.13**





-AR4-



-AR4A-

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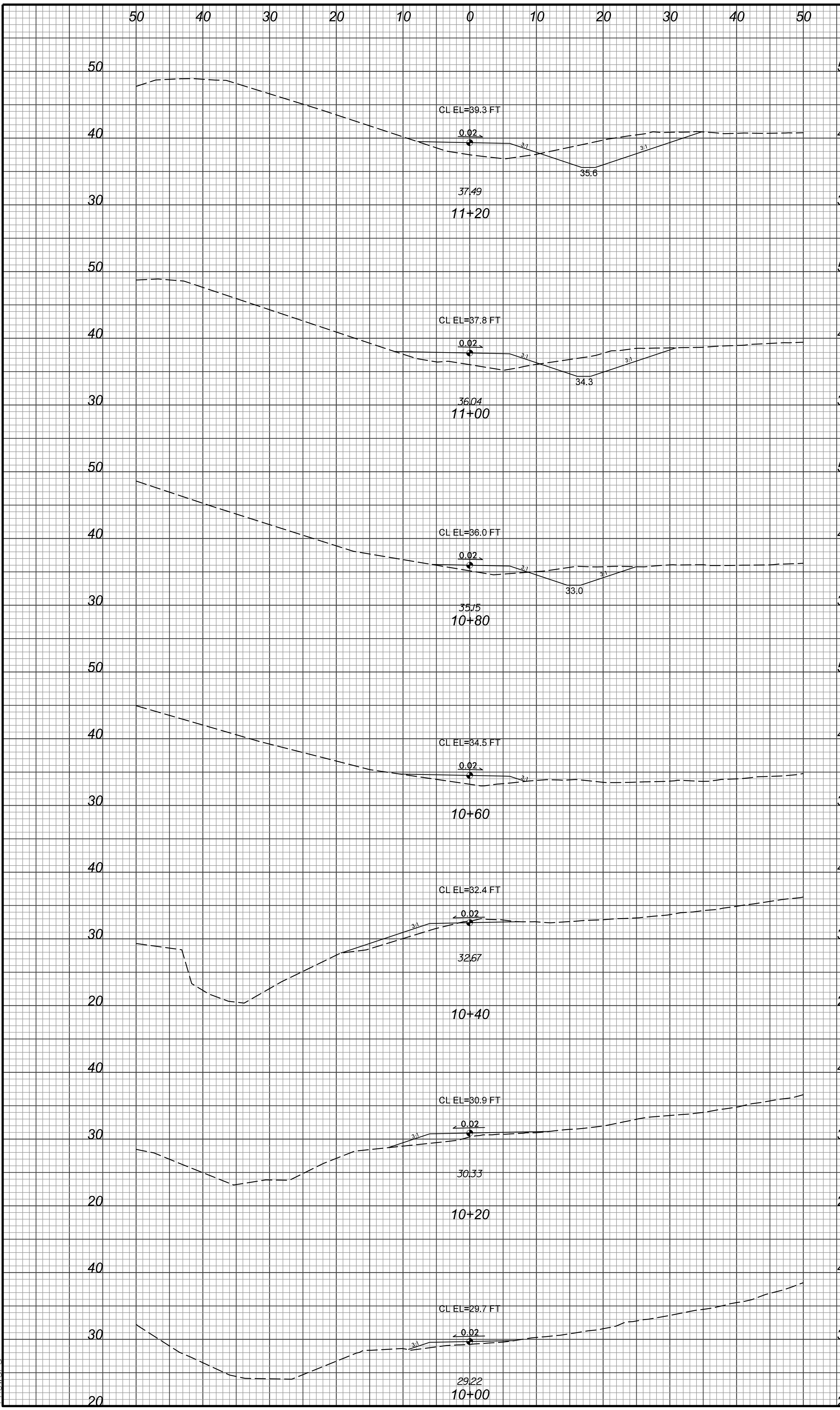
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**CROSS SECTIONS - SITE 2-3 -AR4- -AR4A-**

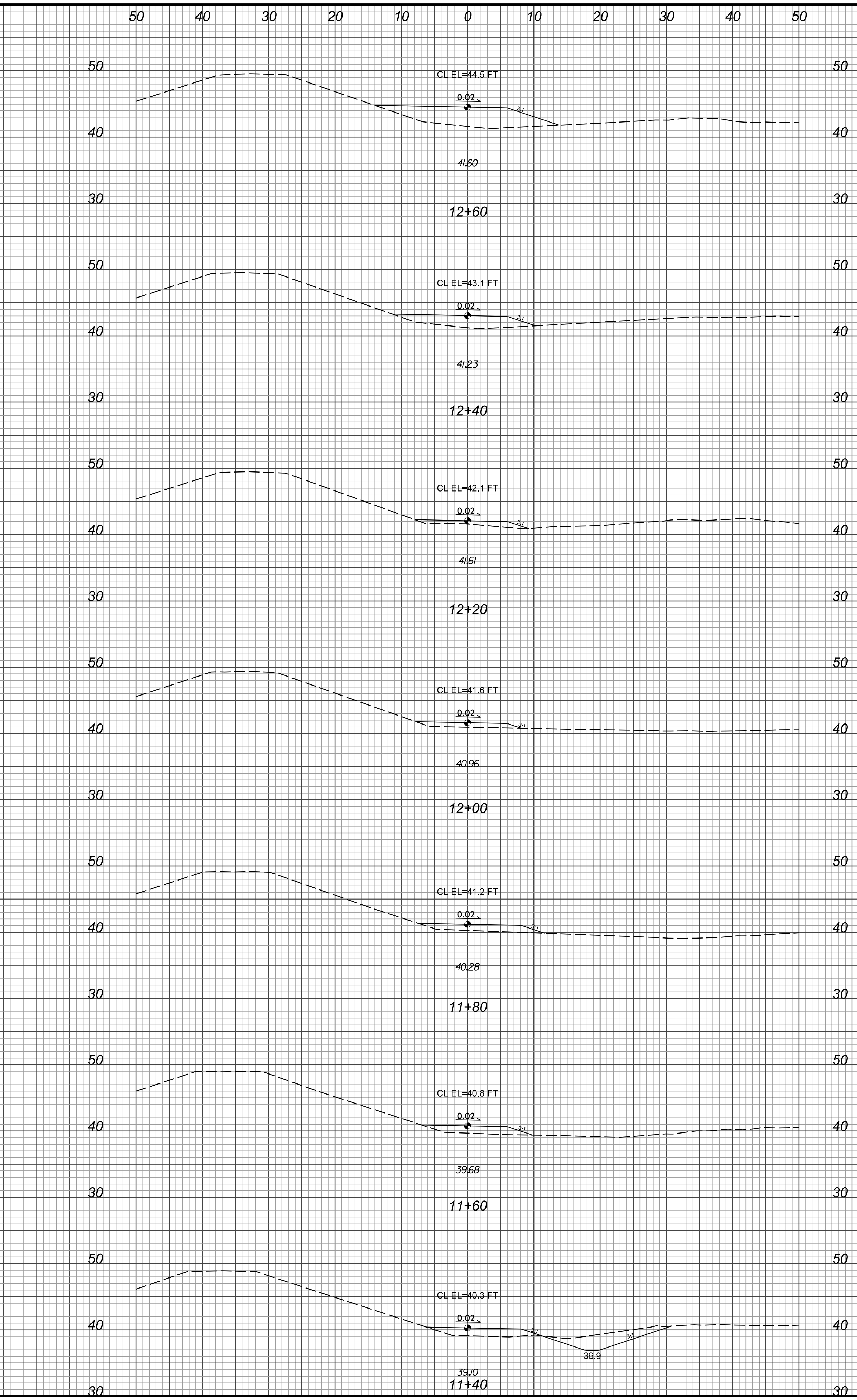
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DATE:	6-16-2021
DRAWN BY:	JRH
REVIEWED BY:	RCH
REVISIONS:	

SHEET NO.  
**C5.14**

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-AR5-



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**CROSS SECTIONS - SITE 2-3 -AR5-**

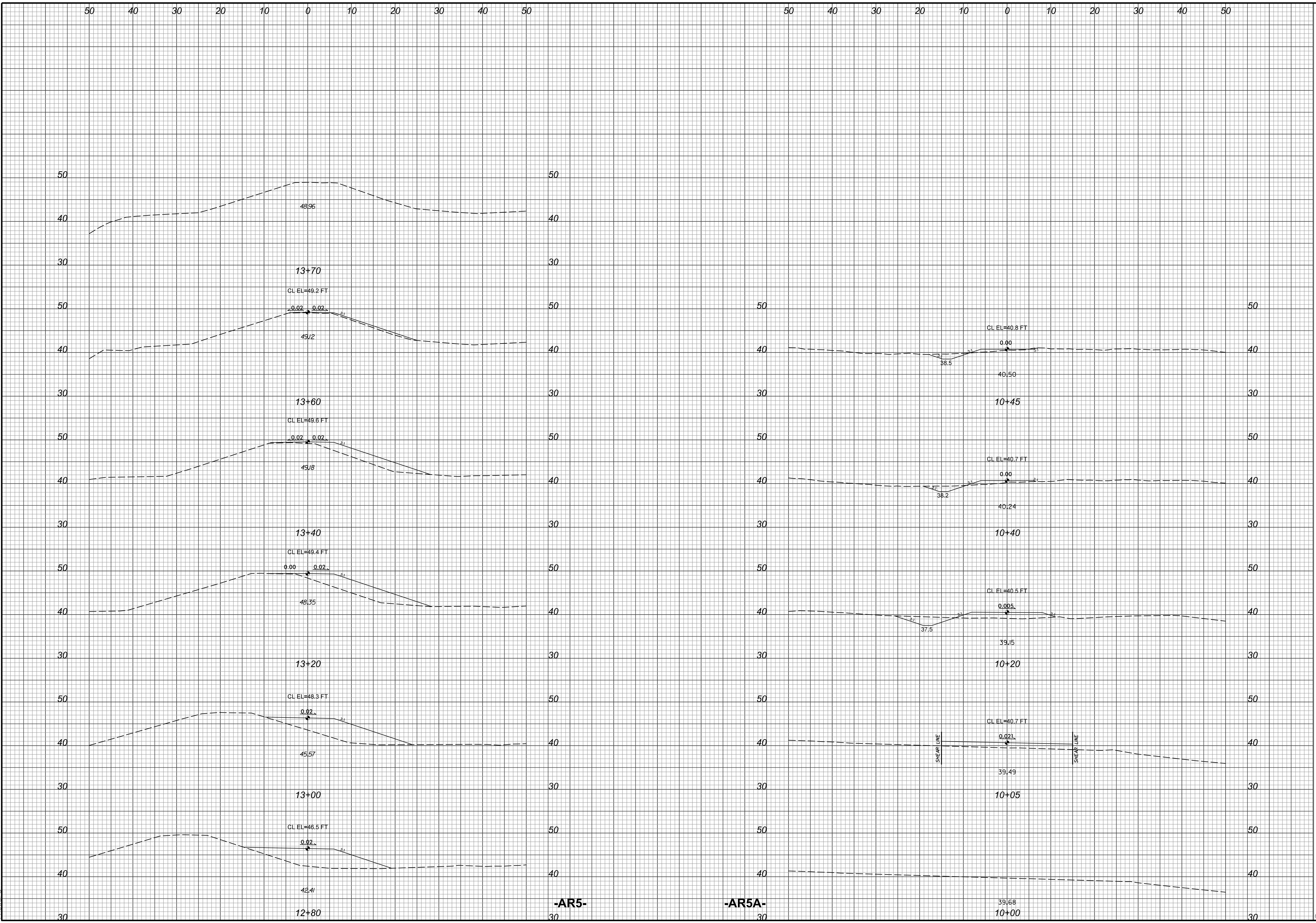
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 DATE: 6-16-2021  
 DRAWN BY: JRH  
 REVIEWED BY: RCH  
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**C5.15**

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 26971  
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PROJECT # :  
 1284-20041

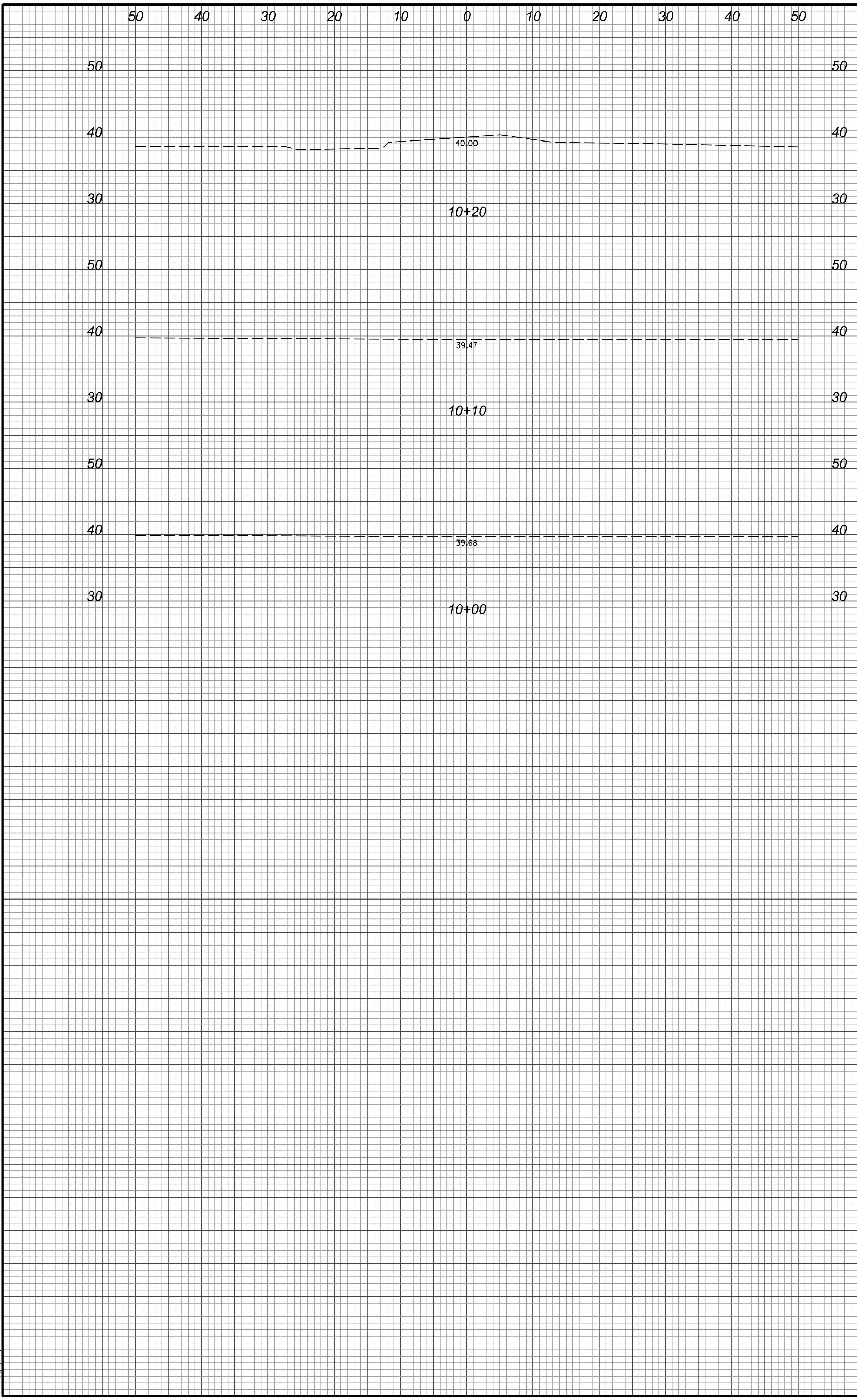
**PRINCETONVILLE DIKE FLOODGATE REPAIRS**  
 PRINCETONVILLE, EDGECOMBE COUNTY, NC  
**CROSS SECTIONS - SITE 2-3 -AR5-, -AR5A-**

DRAWING NAME:  
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 DATE:  
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 DRAWN BY:  
 JRH  
 REVIEWED BY:  
 RCH

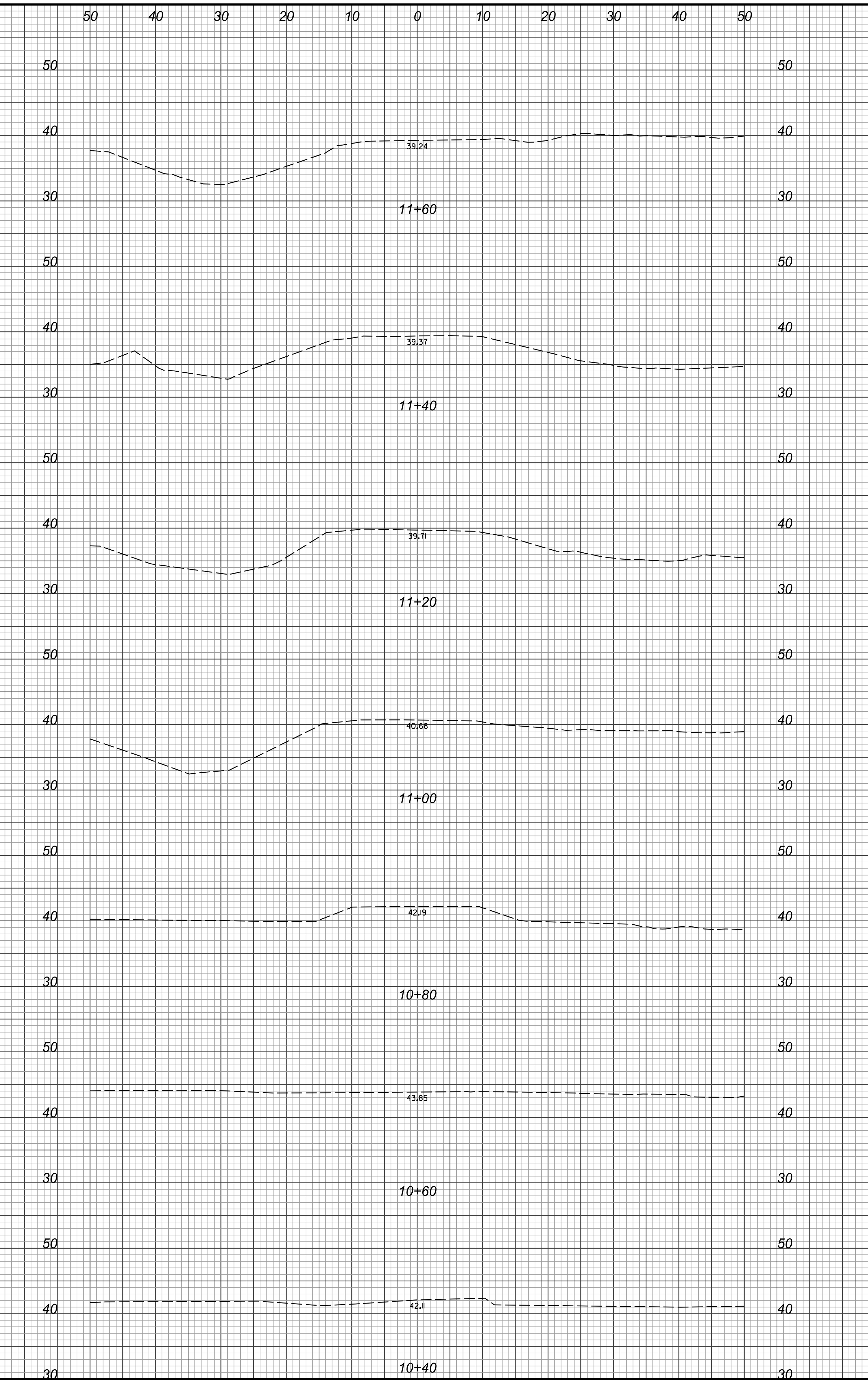
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**CROSS SECTIONS - SITE 4 -AR6-**

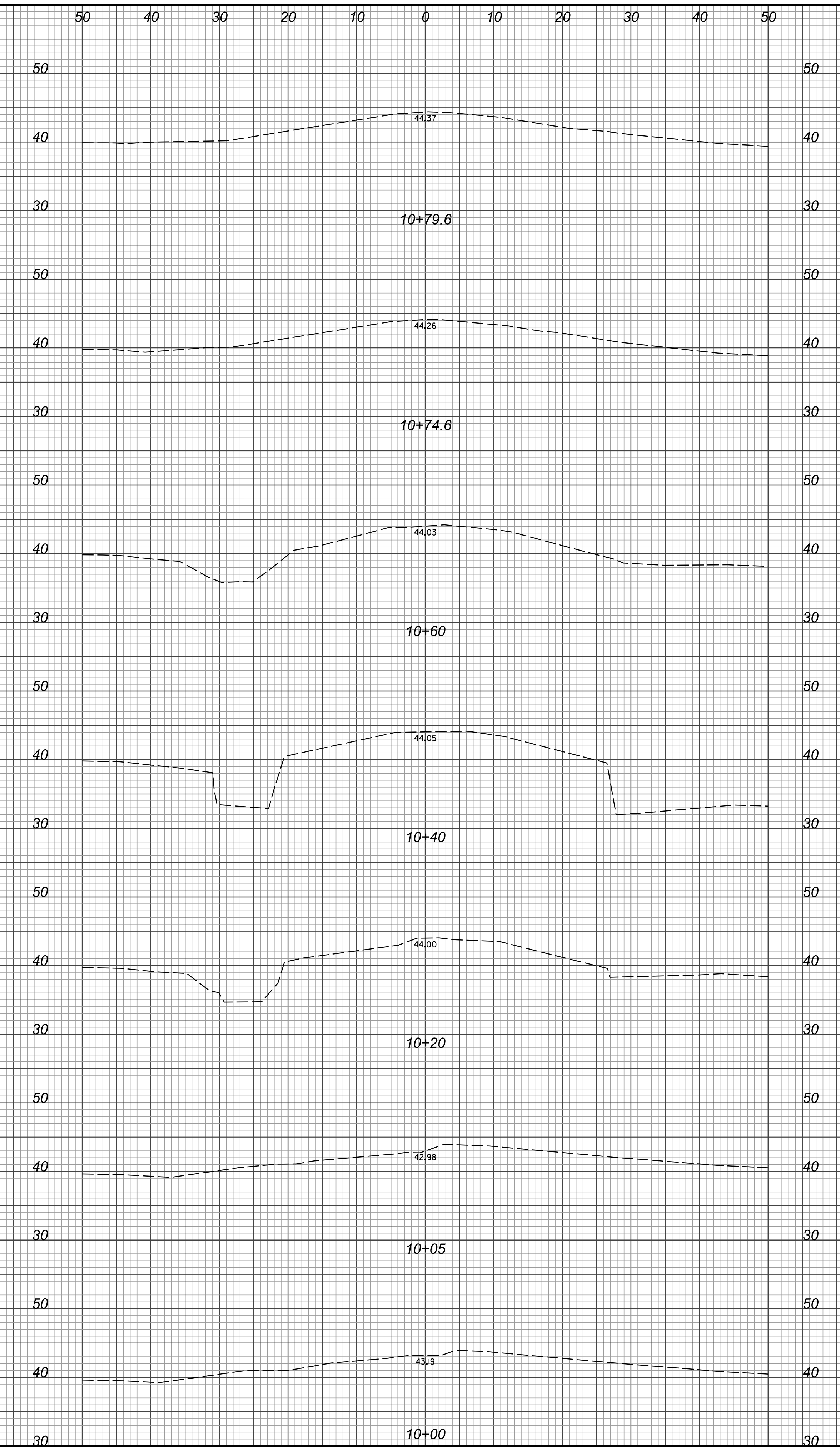
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DRAWING NAME:	FLOODGATE RDY PSH C517
DATE:	6-16-2021
DRAWN BY:	JRH
REVIEWED BY:	RCH
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-AR7-



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 JOSHUA G. DALTON  
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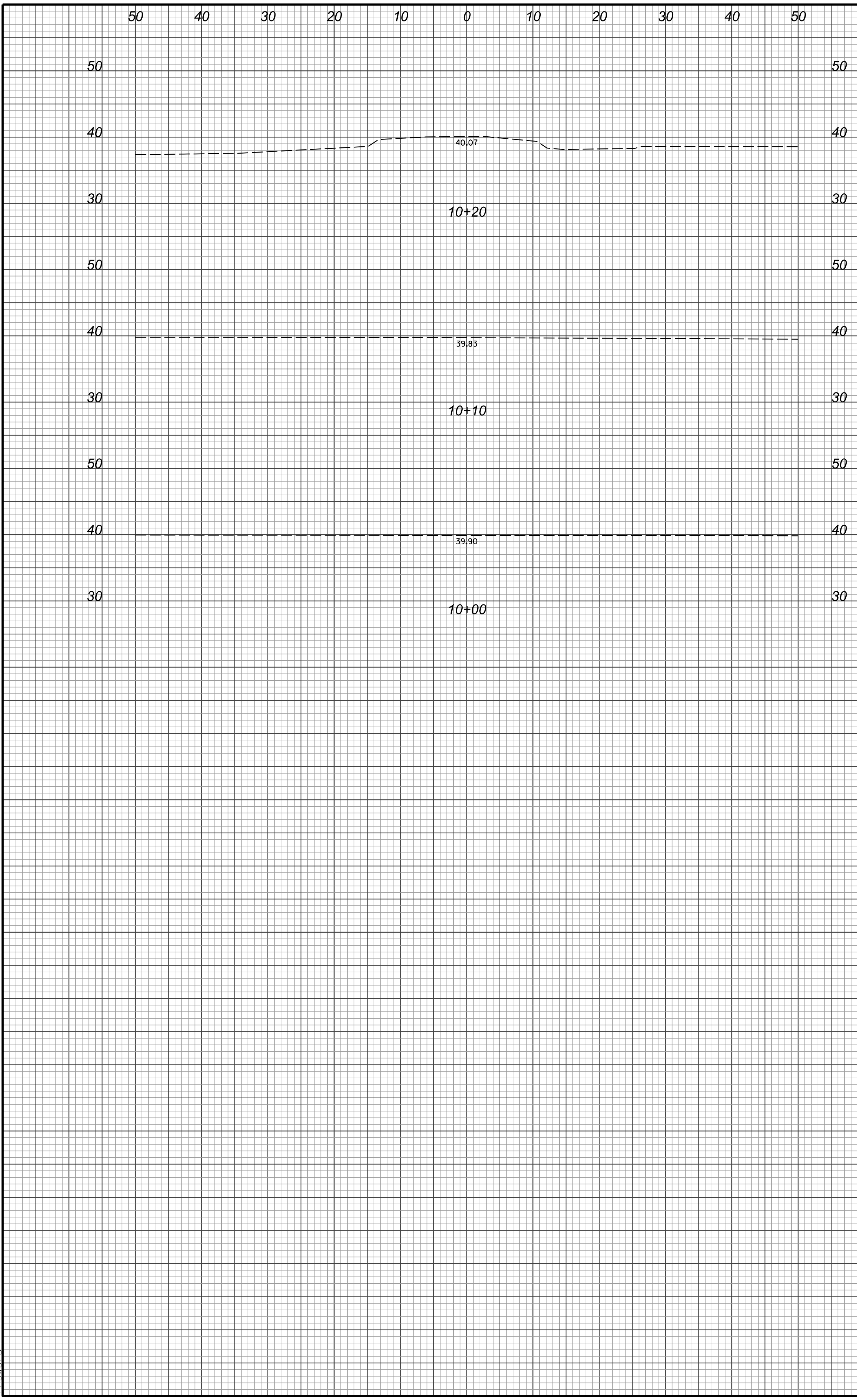
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 DRAWING NAME:  
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 DATE:  
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 DRAWN BY:  
 JRH  
 REVIEWED BY:  
 RCH  
 REVISIONS:

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 PRINCEVILLE, EDGECOMBE COUNTY, NC  
**CROSS SECTIONS - SITE 4 --AR7--**

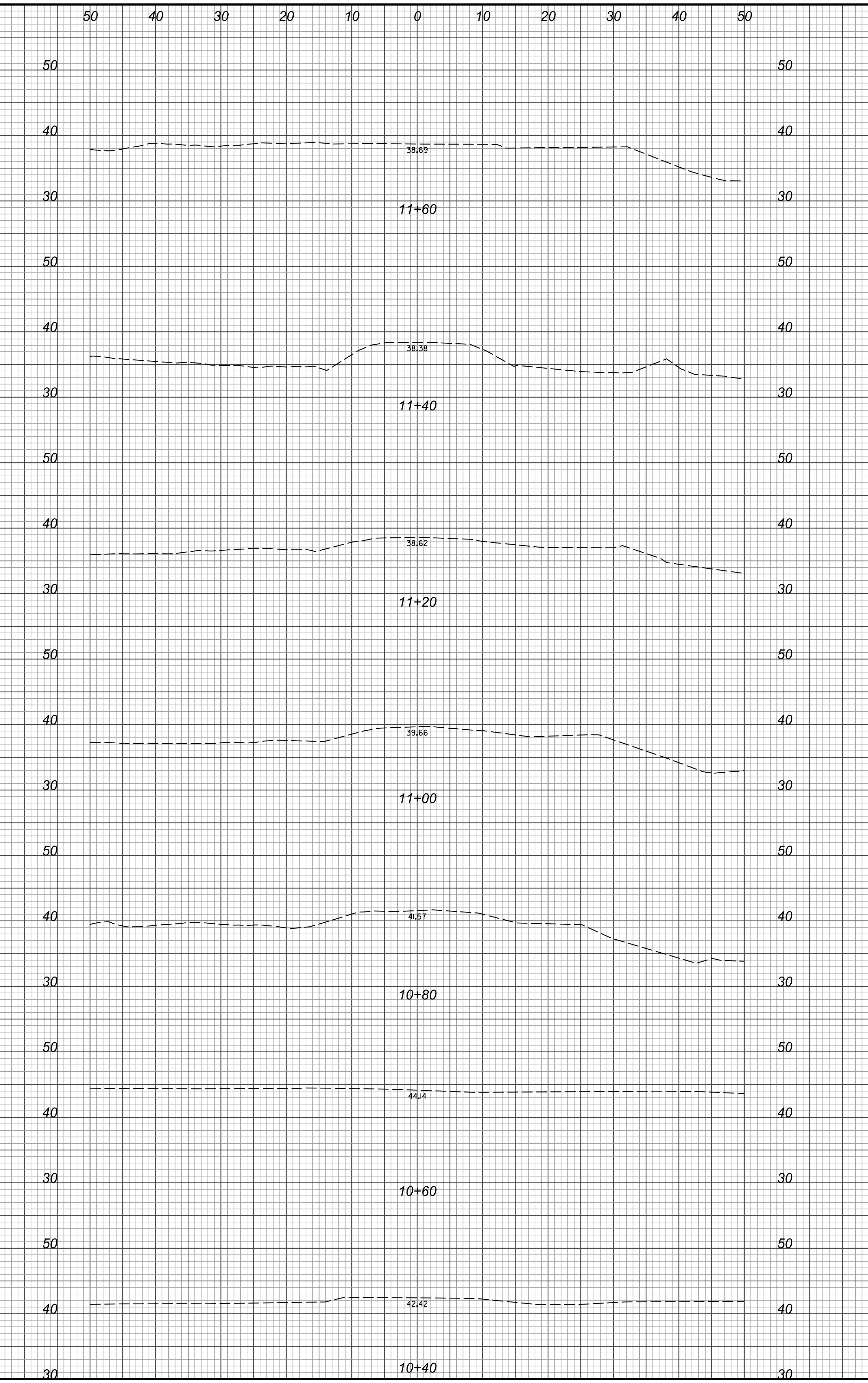
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-AR8-



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 JOSHUA G. DALTON  
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PRINCEVILLE, EDGECOMBE COUNTY, NC

**CROSS SECTIONS - SITE 4 -AR8-**

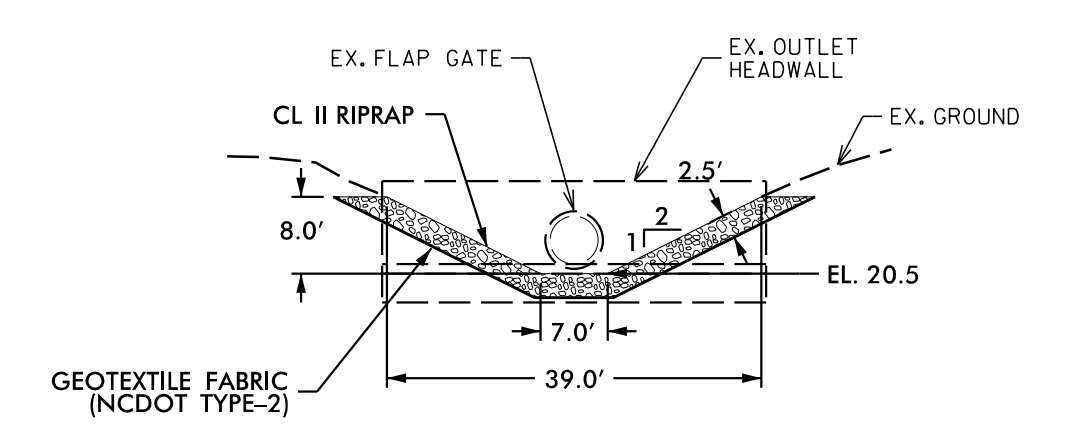
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 DATE: 6-16-2021  
 DRAWN BY: JRH  
 REVIEWED BY: RCH  
 REVISIONS:

SHEET NO.  
**C5.19**

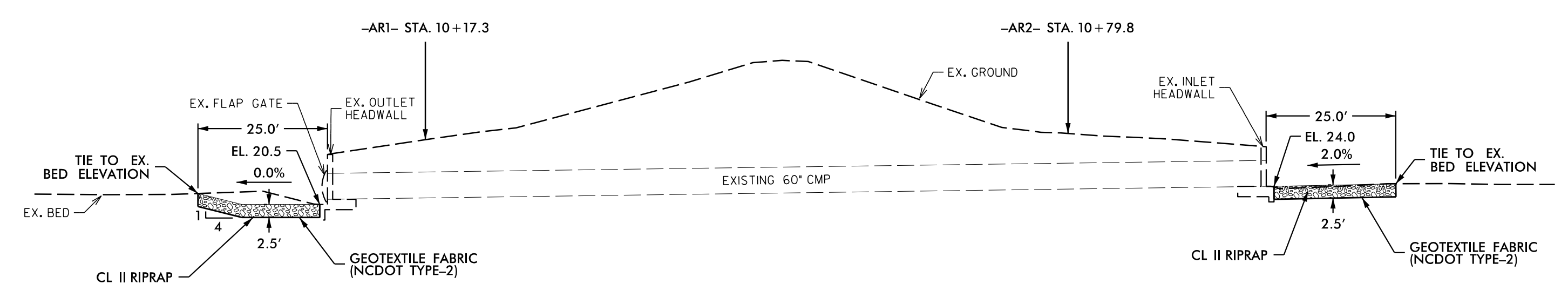
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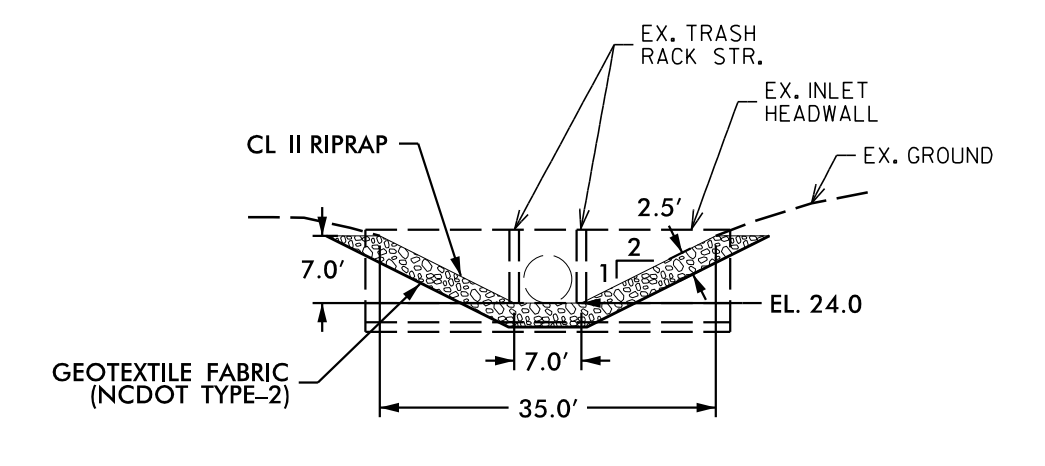
NOTE: RIP-RAP PLACEMENT SHALL NOT INTERFERE OR HINDER FLAP GATE OPERATION.



TYPICAL SECTION - OUTLET CHANNEL

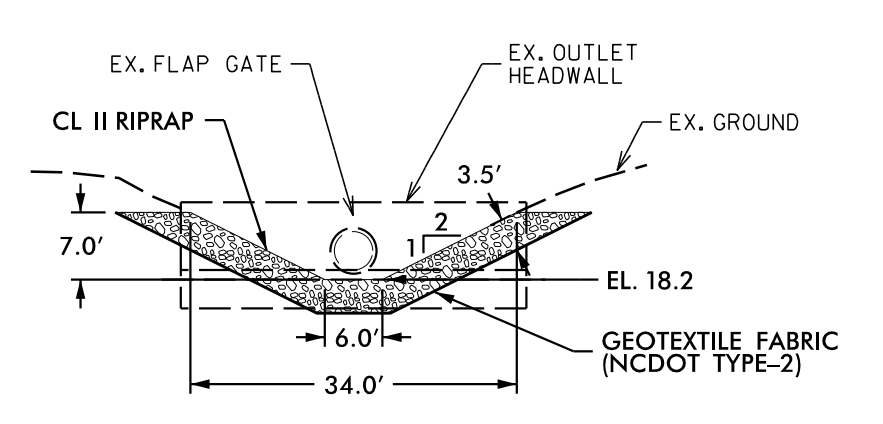


INLET & OUTLET CHANNEL PROFILE

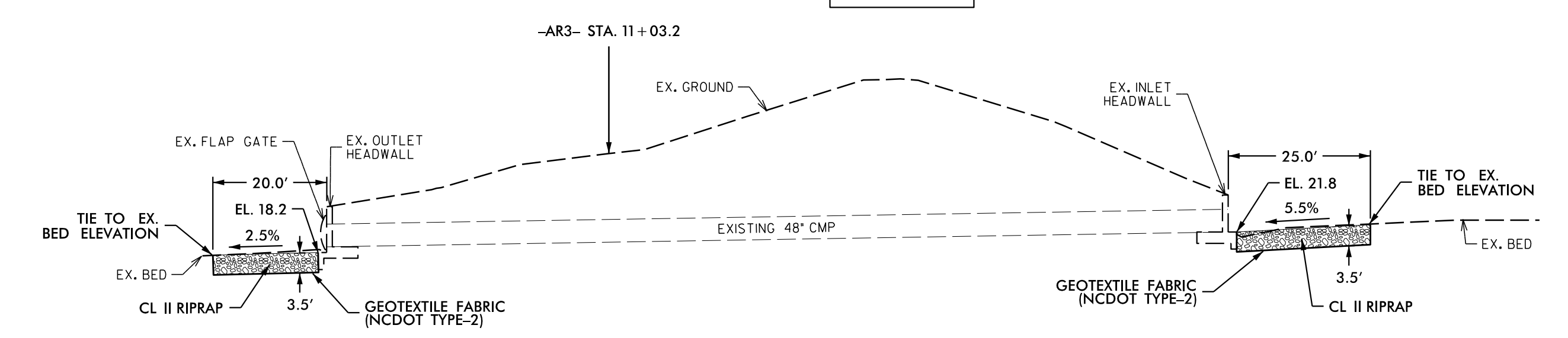


TYPICAL SECTION - INLET CHANNEL

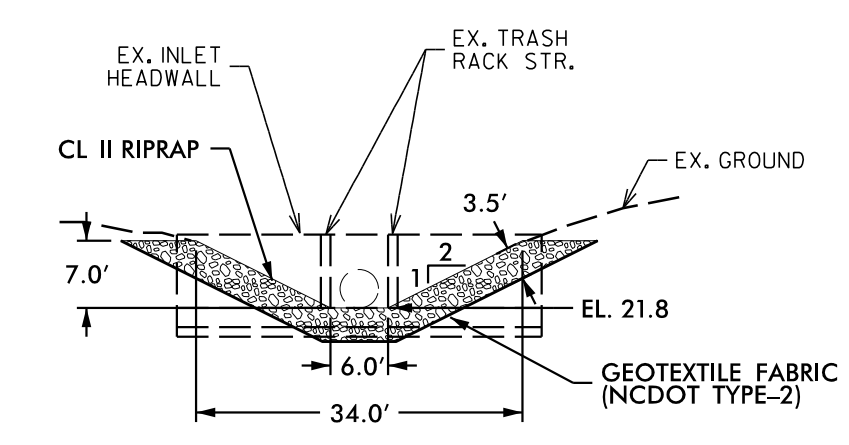
NOTE: RIP-RAP PLACEMENT SHALL NOT INTERFERE OR HINDER FLAP GATE OPERATION.



TYPICAL SECTION - OUTLET CHANNEL

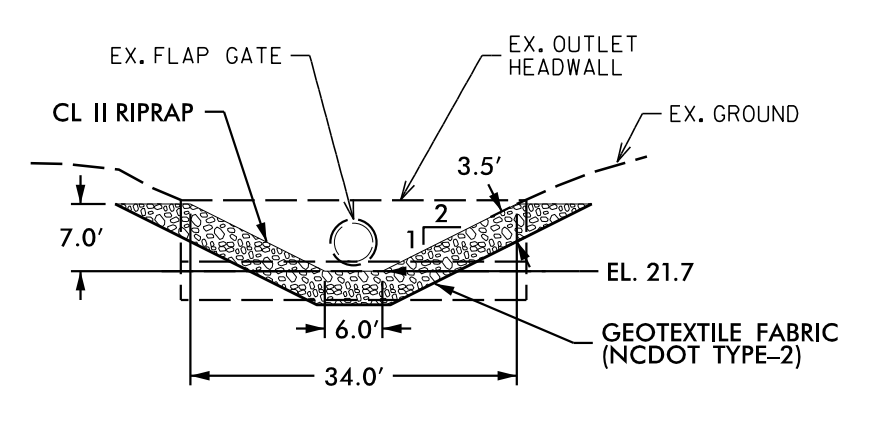


INLET & OUTLET CHANNEL PROFILE

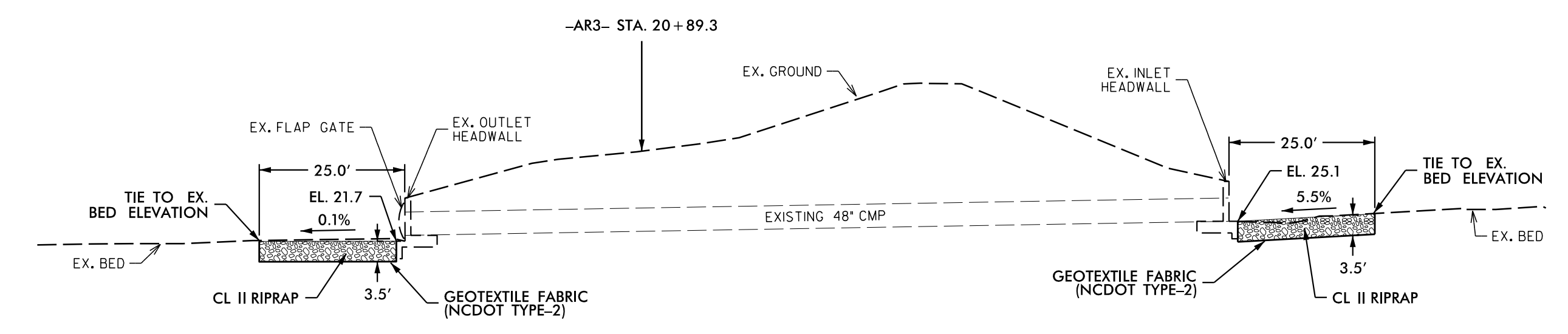


TYPICAL SECTION - INLET CHANNEL

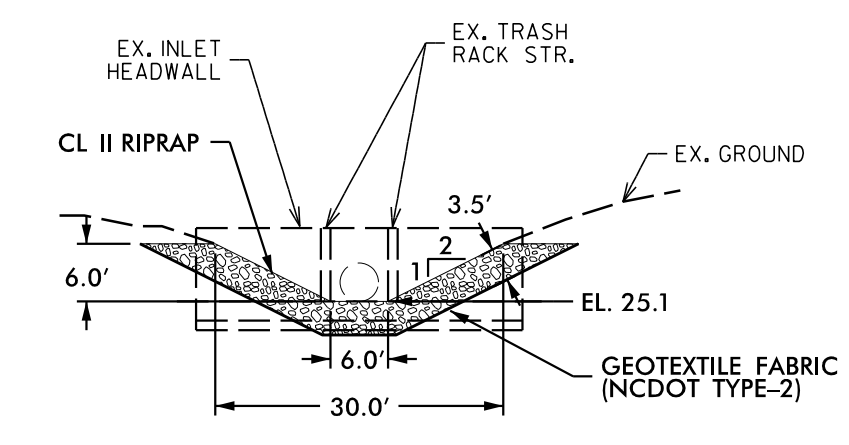
NOTE: RIP-RAP PLACEMENT SHALL NOT INTERFERE OR HINDER FLAP GATE OPERATION.



TYPICAL SECTION - OUTLET CHANNEL

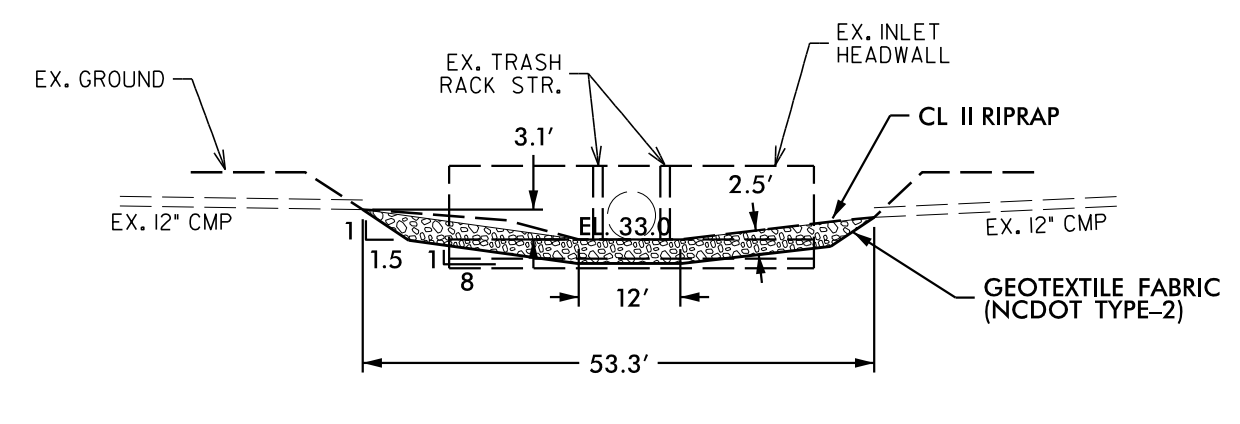


INLET & OUTLET CHANNEL PROFILE

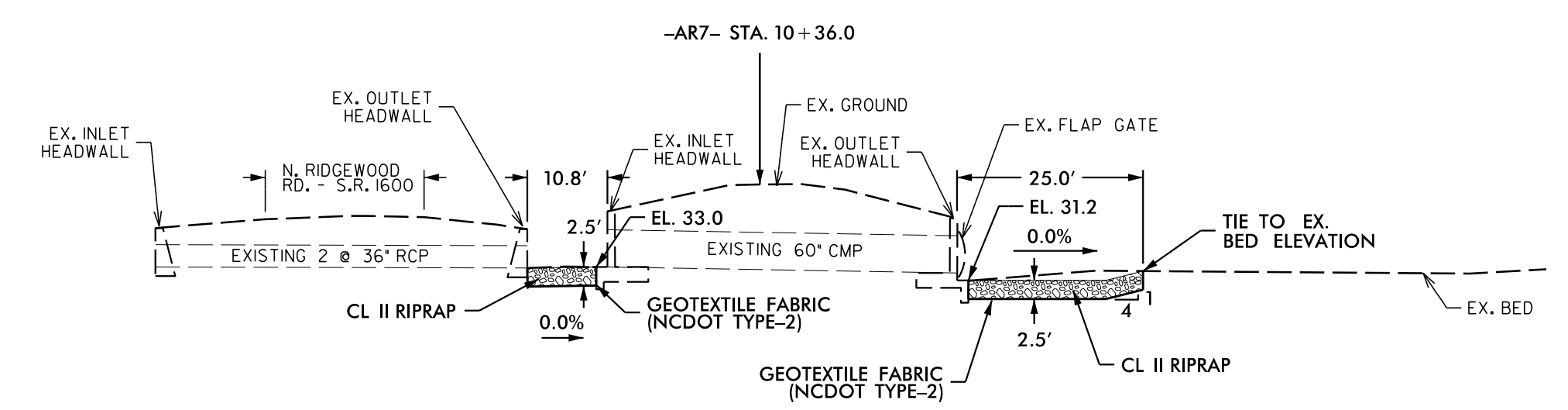


TYPICAL SECTION - INLET CHANNEL

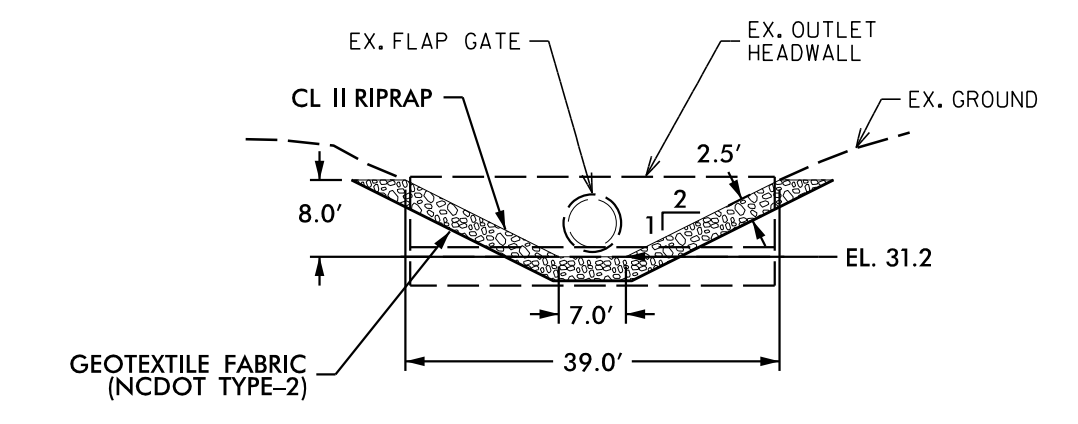
NOTE: RIP-RAP PLACEMENT SHALL NOT INTERFERE OR HINDER FLAP GATE OPERATION.



TYPICAL SECTION - INLET CHANNEL



INLET & OUTLET CHANNEL PROFILE



TYPICAL SECTION - OUTLET CHANNEL

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RHoward

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**CONSTRUCTION SEQUENCE**

- Obtain a Land Disturbing Permit.
- Submit documentation required under the site NPDES stormwater permit for construction activity (NCG010000) to Stormwater Inspections throughout the project.
- Schedule a pre-construction conference with NCDEQ Erosion Control Officer and Erosion Control Design Engineer. Contact DEMLR Raleigh Regional Office at least 48 hours prior to commencing the land-disturbing activity at (919) 791-4200.
- Erosion and Sediment Control (E&SC) permit and Certificate of Coverage (COC) must be obtained before any land disturbing activities occur.
- Per NPDES requirements, a rain gauge, self-inspections records, permit, Certificate of Coverage, and E&SC Plan are required to be maintained on-site and accessible during inspection. It is recommended that these items be placed in a permits box at the beginning or entrance of project.
- Construction activities that have an E&SC Plan approved on or after April 1, 2019 are required to fill out and submit an electronic Notice of Intent (e-NOI) form. All construction activities are required to follow the new NCG01 permit regardless of when plans were approved.
- The contractor shall conduct self-inspections of the erosion and sediment control measures and complete the following combined self-inspection form found on the DEMLR website:  
<https://files.nc.gov/ncdeq/Energy%20Mineral%20and%20Land%20Resources/Stormwater/NPDES%20General%20Permits/DEMLR-CSW-Monitoring-Form-Rev-August-8-2019.pdf> Twelve months of complete inspection forms shall be kept on-site and available for inspection at all times. It is recommended a copy be kept in a permits box.
- Self-inspections for erosion and sedimentation control measures are to be performed at least once every seven calendar days and within 24 hours of every rain event of greater than 1 inch. Any needed repairs shall be made immediately to maintain measures as details on this plan. A rain gauge shall be installed at the project site for monitoring.
- Install all temporary erosion and sediment control measures including silt fence, tree protection, and inlet protection. Limit clearing and land disturbing activity to the area necessary to install the permitted measures.
- Begin clearing and grubbing.
- Stabilize any bare areas resulting from construction activity within times frames established by NCG-01 ground cover stabilization guidelines.
- Increase maintenance frequency where approved measures fail to prevent accelerated erosion, off-site sedimentation, or repetitive non-compliance issues.
- At sites 1 through 4:
  - Install special stilling basin(s).
  - Install pumps and temporary flexible hoses.
  - Install impervious dikes, and begin pumping operations for stream diversion.
  - Dewater construction area, using special stilling basin(s) for pumped effluent.
  - Key in Class II rip rap at inlet and outlet channels.
  - Excavate any accumulated silt and dewater before removal of impervious dikes.
  - Remove impervious dikes, pumps, and temporary flexible hoses, and any remaining special stilling basin(s).
  - Complete construction of access roads.
- Maintain all erosion and sediment control measures in good working order. Silt fence, inlet protection and other similar measures must be cleaned out before they are half full. Clogged stone filters must be refreshed or replaced. Silt fence cannot have holes or tears.
- Stabilize site as areas are brought up to finished grade with vegetation, paving, mulch, matting, etc. Seed and mulch denuded areas per Ground Stabilization.
- Once the site is completely stabilized, remove temporary erosion control measures and seed out any resulting bare areas.
- When vegetation has become established, call for a final site inspection by the Erosion Control Design Engineer.
- When the project is complete, the permittee shall contact DEMLR to close out the E&SC Plan. After DEMLR informs the permittee of the project close out, via inspection report, the permittee shall visit [deq.nc.gov/NCG01](http://deq.nc.gov/NCG01) to submit an electronic Notice of Termination (e-NOT). A \$100 annual general permit fee will be charged until the e-NOT has been filled out.

**General Maintenance Requirements:**

- All erosion and sediment control practices will be checked for stability and operation following every runoff producing rainfall, but in no case less than once every week. Any needed repairs will be made immediately to maintain all practices as designed.
- All seeded areas will be fertilized, reseeded as necessary, and mulched according to specifications in the vegetative plan to maintain a vigorous, dense vegetative cover.

**VEGETATIVE PLAN**

**Seedbed Preparation**

- Chisel compacted areas and spread topsoil 2 to 3 inches deep over adverse soil conditions, if available.
- Rip the entire area to a depth of not less than 5 inches, unless directed otherwise.
- Remove all loose rock, roots and other obstructions 3 inches or larger on median, leaving surface reasonably smooth and uniform.
- Apply agricultural lime, fertilizer and superphosphate uniformly and mix with soil (see mixture below).
- Continue tillage until a well-pulverized, firm, reasonably uniform seedbed is prepared 2 to 3 inches deep.
- Seed on a freshly prepared seedbed and cover seed lightly with seeding equipment or cultipacker after seeding.
- Mulch within 24 hours after seeding and anchor mulch.
- Inspect all seeded areas and make necessary repairs or reseedings within the planting season, if possible. If stand should be more than 60% damaged, re-establish following the original lime, fertilizer and seeding rates.

**Mixture**

Agricultural Limestone	2 tons/acre (3 tons/acre in clay soils)
Fertilizer	1,000 lbs/acre – 10-10-10
Superphosphate	500 lbs/acre – 20% analysis
Mulch	2 tons/acre – small grain straw
Anchor	Asphalt emulsion at 400 gals/acre

**Seeding Schedule**

**For Shoulders, Side Ditches, Slopes (Max 3:1):**

Date	Type	Planting Rate
Aug 15– Nov 1	Tall Fescue	300 lbs/acre
Nov 1– Mar 1	Tall Fescue & Abruzzi Rye	300 lbs/acre
Mar 1– Apr 15	Tall Fescue	300 lbs/acre
Apr 15– Jun 30	Hulled Common Bermudagrass	25 lbs/acre
Jul 1– Aug 15	Tall Fescue AND Browntop Millet or Sorghum-Sudan Hybrids***	125 lbs/acre (Tall Fescue); 35 lbs/acre (Browntop Millet); 30 lbs/acre (Sorghum-Sudan Hybrids)

**For Shoulders, Side Ditches, Slopes (3:1 to 2:1):**

Date	Type	Planting Rate
Mar 1– Jun 1	Sericea Lespedeza (scarified) and use the following combinations:	50 lbs/acre (Sericea Lespedeza);
Mar 1– Apr 15	Add Tall Fescue	120 lbs/acre
Mar 1– Jun 30	Or add Hulled Common Bermudagrass	25 lbs/acre
Jun 1– Sept 1	Tall Fescue AND Browntop Millet or Sorghum-Sudan Hybrids***	120 lbs/acre (Tall Fescue); 35 lbs/acre (Browntop Millet); 30 lbs/acre (Sorghum-Sudan Hybrids)
Sept 1– Mar 1	Sericea Lespedeza (unhulled – unscarified) AND Tall Fescue	70 lbs/acre (Sericea Lespedeza); 120 lbs/acre (Tall Fescue)
Nov 1– Mar 1	AND Abruzzi Rye	25 lbs/acre

The Contractor shall select a nurse crop from the table below that is best suited to the specific site conditions and characteristics. The nurse crop shall be added to and applied along with the permanent vegetative mixture.

Consult Erosion Control Design Engineer for additional information concerning other alternatives for vegetation of denuded areas. The above vegetation rates are those that do well under local conditions; other seeding rate combinations are possible.

\*\*\* TEMPORARY: Reseed according to optimum season for desired permanent vegetation. Do not allow temporary cover to grow more than 12" in height before mowing; otherwise, fescue may be shaded out.

**Riparian Seeding and Mulching**

Riparian Seeding and Mulching shall be performed on the disturbed areas of riparian areas within a 50 foot zone on both sides of the stream or depression, measured from top of stream bank.

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined. All rates are in pounds per acre.

<b>August 1 - June 1</b>	<b>May 1 - September 1</b>
18# Creeping Red Fescue	18# Creeping Red Fescue
8# Big Bluestem	8# Big Bluestem
6# Indiangrass	6# Indiangrass
4# Switchgrass	4# Switchgrass
35# Rye Grain	25# German or Browntop Millet
500# Fertilizer	500# Fertilizer
4000# Limestone	4000# Limestone

**Approved Creeping Red Fescue Cultivars:**

Aberdeen	Boreal	Epic	Cindy Lou
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Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.

Mulch within 24 hours of seeding and anchor mulch.

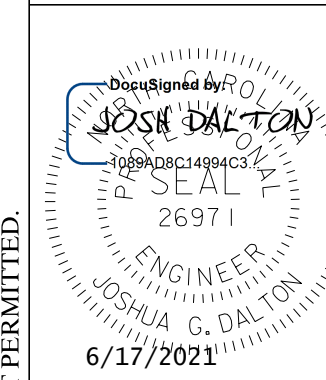
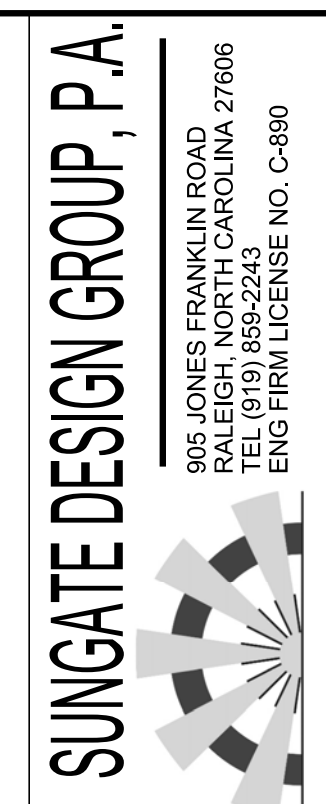
Mulch	2 tons/acre – small grain straw
Anchor	Asphalt emulsion at 400 gals/acre

**HERBACEOUS PLANTS-Seeding recommendations for immediate stabilization/nurse crops (2 to 5 weeks for development; effectiveness goal: 6 months to 1 year stabilization)**

**Table 6.11.a**

NURSE CROP SPECIES		Optimal Planting Dates																			
Common Name	Botanical Name	Native / Introduced	Seeding Rates lbs/acre	Fertilization/ Limestone lbs/acre	Mountains	Piedmont	Coastal Plains	Sun/Shade tolerant	Wetlands	Riparian Buffers	Invasive Yes or No	Installation / Maintenance Considerations	Other information, commentary								
Rye Grain	<i>Secale cereale</i>	I	40 lbs	By soil test	11/1 - 4/30	8/15 - 4/15	8/15 - 4/15	Sun	Yes	Yes	No	Must be mown to reduce competitiveness with permanent or long term vegetation									
Wheat	<i>Triticum aestivum</i>	I	30 lbs	By soil test	11/1 - 4/30	8/15 - 5/15	8/15 - 4/15	Sun	Yes	Yes	No	Must be mown to reduce competitiveness with permanent or long term vegetation	Not water tolerant. May be used in wetlands that are not continuously saturated.								
German Millet	<i>Setaria italica</i>	I	10 lbs	By soil test	5/11 - 9/30	5/15 - 8/15	4/15 - 8/15	Sun	Yes	Yes	No	Crop should be cut / disc prior to planting primary or long term vegetation	Not water tolerant. May be used in wetlands that are not continuously saturated.								
Browntop Millet	<i>Urochloa ramosa</i>	I	10 lbs	By soil test	5/11 - 9/30	5/15 - 8/15	4/15 - 8/15	Sun	Yes	Yes	No	Crop should be cut / disc prior to planting primary or long term vegetation	Not water tolerant. May be used in wetlands that are not continuously saturated.								
Sudangrass (hybrids)	<i>Sorghum saccharatum</i> <i>S. bicolor</i> ssp. <i>Drummondii</i>	I	15 lbs	By soil test	NR	NR	4/15 - 8/15	Sun	No	No	Yes	Crop should be cut / disc prior to planting primary or long term vegetation	Use only where plants and seed can be contained and controlled.								
Kobe Lespedeza	<i>Kummerowia striata</i> v. <i>kobe</i>	I	10 lbs	By soil test	5/1 - 9/1	5/1 - 9/1	5/1 - 9/1	Sun	No	No	No	Consult qualified horticulturalist or extension agent for over-seeding with primary cover	Use in Coastal Plain								
Korean Lespedeza	<i>Kummerowia stipulacea</i>	I	10 lbs	By soil test	5/1 - 9/1	5/1 - 9/1	5/1 - 9/1	Sun	No	No	No	Consult qualified horticulturalist or extension agent for over-seeding with primary cover	Use in Piedmont and Mountains. May become invasive								

- NOTES:
- Seeding rates are for hulled seed unless otherwise noted.
  - Fertilizer & Limestone - rates to be applied in absence of soils tests. Recommended application rate assumes significantly disturbed site soils with little or no residual value.
  - NR means Species not recommended for this region or application area.
  - Invasive designation as determined by the N.C. Exotic Pest Plant Council and N.C. Native Plant Society.
  - Springing is not recommended for immediate stabilization unless terrain is flat heavy mulch is applied and no other immediate stabilization method is practical.



**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC  
**EROSION AND SEDIMENTATION CONTROL DETAILS**

PROJECT # : 1284-2004I  
 DRAWING NAME: FLOODGATE RDY PSH C600  
 DATE: 6-16-2021  
 DRAWN BY: JRH  
 REVIEWED BY: RCH  
 REVISIONS:

SHEET NO. **C6.02**



Date: **GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT**  
 Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

**SECTION E: GROUND STABILIZATION**

Required Ground Stabilization Timeframes		
Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10 feet or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

**Note:** After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

**GROUND STABILIZATION SPECIFICATION**

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
<ul style="list-style-type: none"> <li>Temporary grass seed covered with straw or other mulches and tackifiers.</li> <li>Hydroseeding</li> <li>Rolled erosion control products with or without temporary grass seed</li> <li>Appropriately applied straw or other mulch</li> <li>Plastic sheeting</li> </ul>	<ul style="list-style-type: none"> <li>Permanent grass seed covered with straw or other mulches and tackifiers</li> <li>Geotextile fabrics such as permanent soil reinforcement matting</li> <li>Hydroseeding</li> <li>Shrubs or other permanent plantings covered with mulch</li> <li>Uniform and evenly distributed ground cover sufficient to restrain erosion</li> <li>Structural methods such as concrete, asphalt or retaining walls</li> <li>Rolled erosion control products with grass seed</li> </ul>

**POLYACRYLAMIDES (PAMS) AND FLOCCULANTS**

- Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
- Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
- Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
- Provide ponding area for containment of treated Stormwater before discharging offsite.
- Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

**EQUIPMENT AND VEHICLE MAINTENANCE**

- Maintain vehicles and equipment to prevent discharge of fluids.
- Provide drip pans under any stored equipment.
- Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
- Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
- Remove leaking vehicles and construction equipment from service until the problem has been corrected.
- Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

**LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE**

- Never bury or burn waste. Place litter and debris in approved waste containers.
- Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
- Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
- Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
- Anchor all lightweight items in waste containers during times of high winds.
- Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
- Dispose waste off-site at an approved disposal facility.
- On business days, clean up and dispose of waste in designated waste containers.

**PAINT AND OTHER LIQUID WASTE**

- Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Contain liquid wastes in a controlled area.
- Containment must be labeled, sized and placed appropriately for the needs of site.
- Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

**PORTABLE TOILETS**

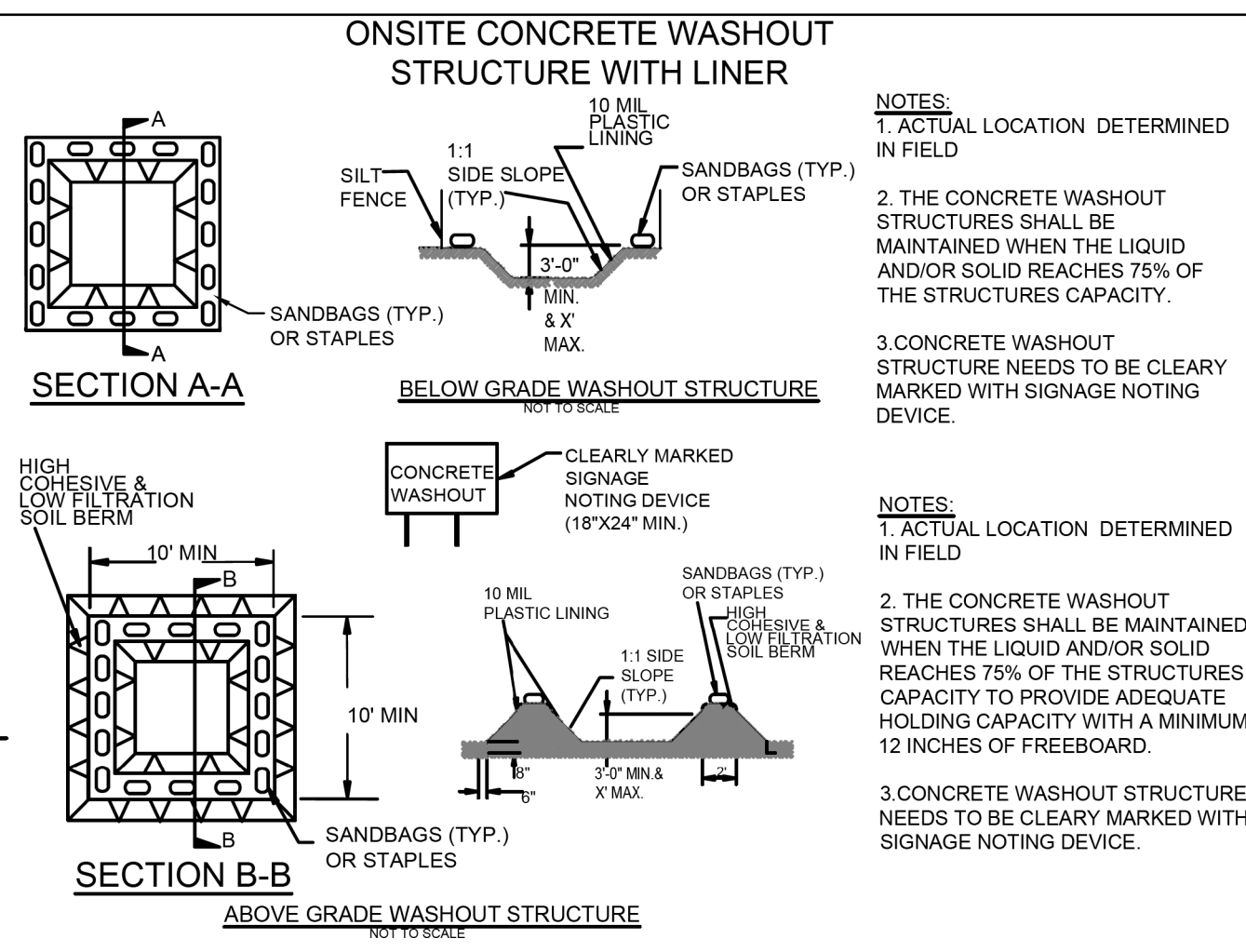
- Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
- Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
- Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

**EARTHEN STOCKPILE MANAGEMENT**

- Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
- Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
- Provide stable stone access point when feasible.
- Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.

**HAZARDOUS AND TOXIC WASTE**

- Create designated hazardous waste collection areas on-site.
- Place hazardous waste containers under cover or in secondary containment.
- Do not store hazardous chemicals, drums or bagged materials directly on the ground.



**NOTES:**  
 1. ACTUAL LOCATION DETERMINED IN FIELD  
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY.  
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

**NOTES:**  
 1. ACTUAL LOCATION DETERMINED IN FIELD  
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.  
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

**CONCRETE WASHOUTS**

- Do not discharge concrete or cement slurry from the site.
- Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
- Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
- Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
- Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
- Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
- Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
- Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
- Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
- At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

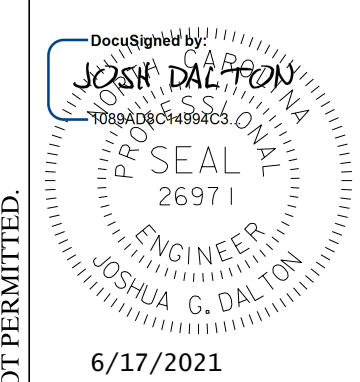
**HERBICIDES, PESTICIDES AND RODENTICIDES**

- Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
- Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
- Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
- Do not stockpile these materials onsite.

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**NCG-01 GROUND COVER & MATERIALS HANDLING**



6/16/2021 F:\projects\psh\_c600.dgn

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**PART II, SECTION G, ITEM (4)**  
**DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT**

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

- (a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,
- (b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,
- (c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems
- (d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
- (e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
- (f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

**PART III**  
**SELF-INSPECTION, RECORDKEEPING AND REPORTING**  
**SECTION A: SELF-INSPECTION**

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend on holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those unattended days (this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "Zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours.	1. Identification of the measures inspected 2. Date and Time of the inspection 3. Name of the person performing the inspection 4. Indication of whether the measures were operating properly 5. Description of maintenance needs for the measure 6. Description, Evidence, and date of corrective actions taken
(3) Stormwater discharge outfalls(SDOs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours.	1. Identification of the discharge outfalls inspected 2. Date and Time of the inspection 3. Name of the person performing the inspection 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration 5. Indication of visible sediment leaving the site 6. Description, Evidence, and date corrective actions taken
(4) Perimeter of Site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours.	If visible Sedimentation is found outside site limits, then record of the following shall be made: 1) Actions taken to clean up or stabilize sediment that has left the site limits 2) Description, Evidence and date of corrective actions taken 3) An explanation as to the actions taken to control future releases
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours.	If the stream or wetland has increased visible sedimentation or has visible increased turbidity from the construction activity, then a record of the following shall be made: 1) Description, Evidence and date of corrective actions taken 2) Records of required reports to the appropriate Division Regional Office per Part III, Section C, Item(2)(a) of this permit
(6) Ground Stabilization Measures	After each phase of grading.	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

**PART III**  
**SELF-INSPECTION, RECORDKEEPING AND REPORTING**  
**SECTION B: RECORDKEEPING**

**1. E&SC Plan Documentation**

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on site and available for inspection at all times during normal business hours.

Item to Document	Document Requirements
(a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date and sign an inspection report that lists each E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC plan.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC measures.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

**2. Additional Documentation to be Kept on Site**

In addition to the E&SC plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

- (a) This General Permit as well as the Certificate of Coverage, after it is received.
- (b) Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

**3. Documentation to be Retained for Three Years**

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

**PART III**  
**SELF-INSPECTION, RECORDKEEPING AND REPORTING**  
**SECTION C: REPORTING**

**1. Occurrences that Must be Reported**

Permittees shall report the following occurrences:

- (a) Visible sediment deposition in a stream or wetland.
- (b) Oil spills if:
  - They are 25 gallons or more,
  - They are less than 25 gallons but cannot be cleaned up within 24 hours,
  - They cause sheen on surface waters (regardless of volume), or
  - They are within 100 feet of surface waters (regardless of volume).
- (c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.
- (d) Anticipated bypasses and unanticipated bypasses.
- (e) Noncompliance with the conditions of this permit that may endanger health or the environment.

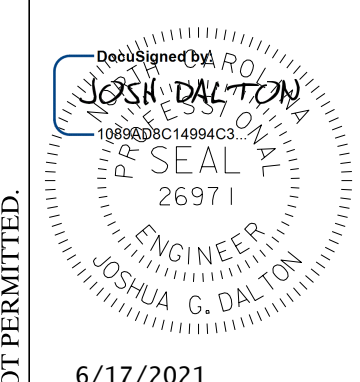
**2. Reporting Timeframes and Other Requirements**

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

Occurrence	Reporting Timeframe (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	<ul style="list-style-type: none"> <li>• Within 24 hours, an oral or electronic notification.</li> <li>• Within 7 Calendar Days, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis.</li> <li>• If the stream is named on the NC 303(d) list as impaired for sediment-related caused, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.</li> </ul>
(b) Oil spills and release of hazardous substances per item 1(b)-(c) above	<ul style="list-style-type: none"> <li>• Within 24 Hours, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.</li> </ul>
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> <li>• A report at least ten days before the date of the bypass, if possible. The report shall include an evaluation of the anticipated quality and effect of the bypass.</li> </ul>
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> <li>• Within 24 Hours, an oral or electronic notification</li> <li>• Within 7 calendar days, a report that includes an evaluation of the quality and effect of the bypass.</li> </ul>
(e) Noncompliance with the conditions of this permit that may endanger health or the environment [40 CFR 122.41(l)(7)]	<ul style="list-style-type: none"> <li>• Within 24 Hours, an oral or electronic notification</li> <li>• Within 7 calendar days, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6).</li> <li>• Division staff may waive the requirement for a written report on a case-by-case basis.</li> </ul>



## NCG-01 SELF INSPECTION



6/17/2021

**PRINCETONVILLE DIKE FLOODGATE REPAIRS**  
 PRINCETONVILLE, EDGECOMBE COUNTY, NC  
**EROSION AND SEDIMENTATION CONTROL DETAILS**

PROJECT # : 1284-20041  
 DRAWING NAME: FLOODGATE RDY PSH C600  
 DATE: 6-16-2021  
 DRAWN BY: JRH  
 REVIEWED BY: RCH  
 REVISIONS:

SHEET NO. **C.604**

6/16/2021 F:\projects\1284-20041\Drawings\NCG-01\_Self\_Inspection.dgn

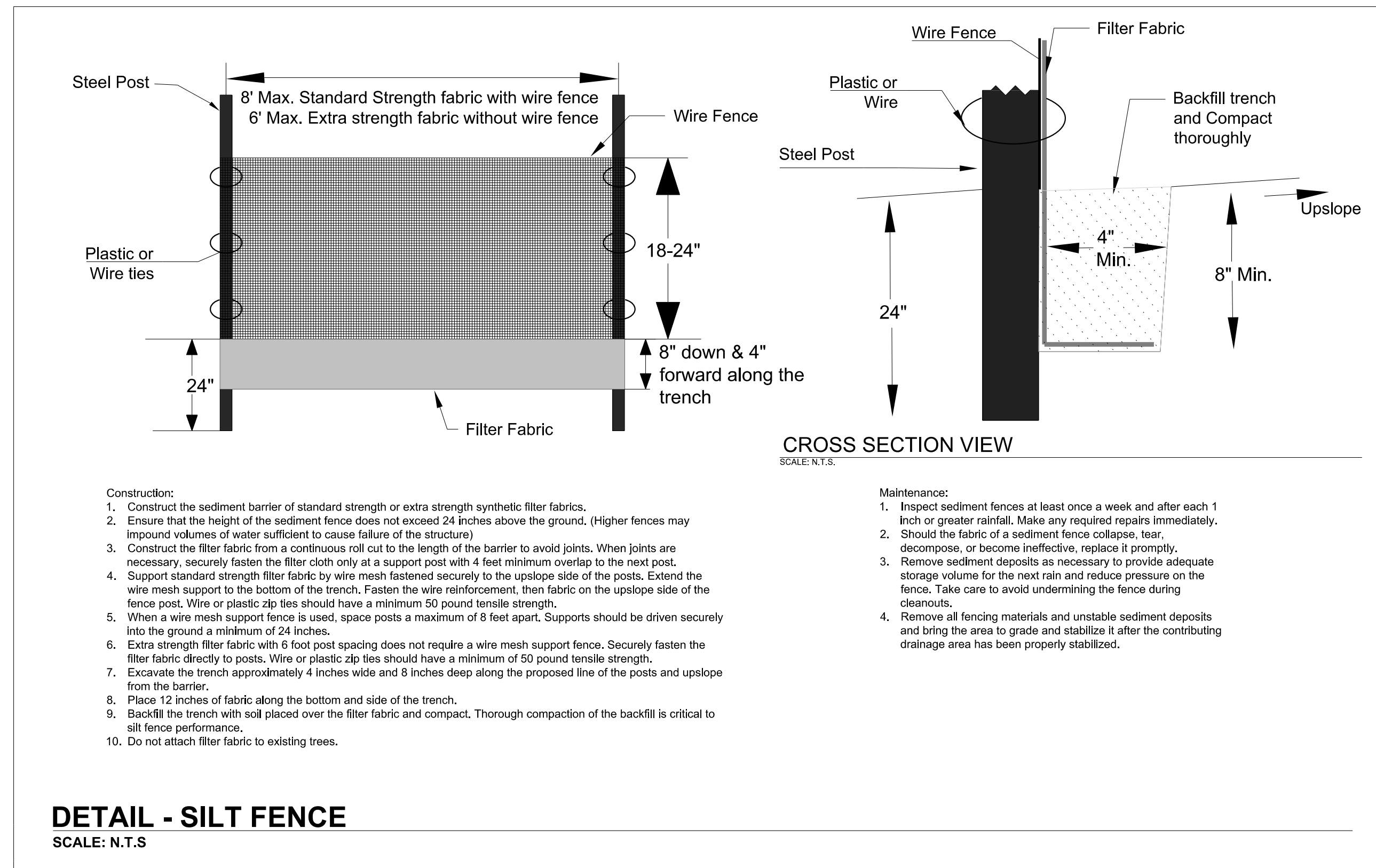
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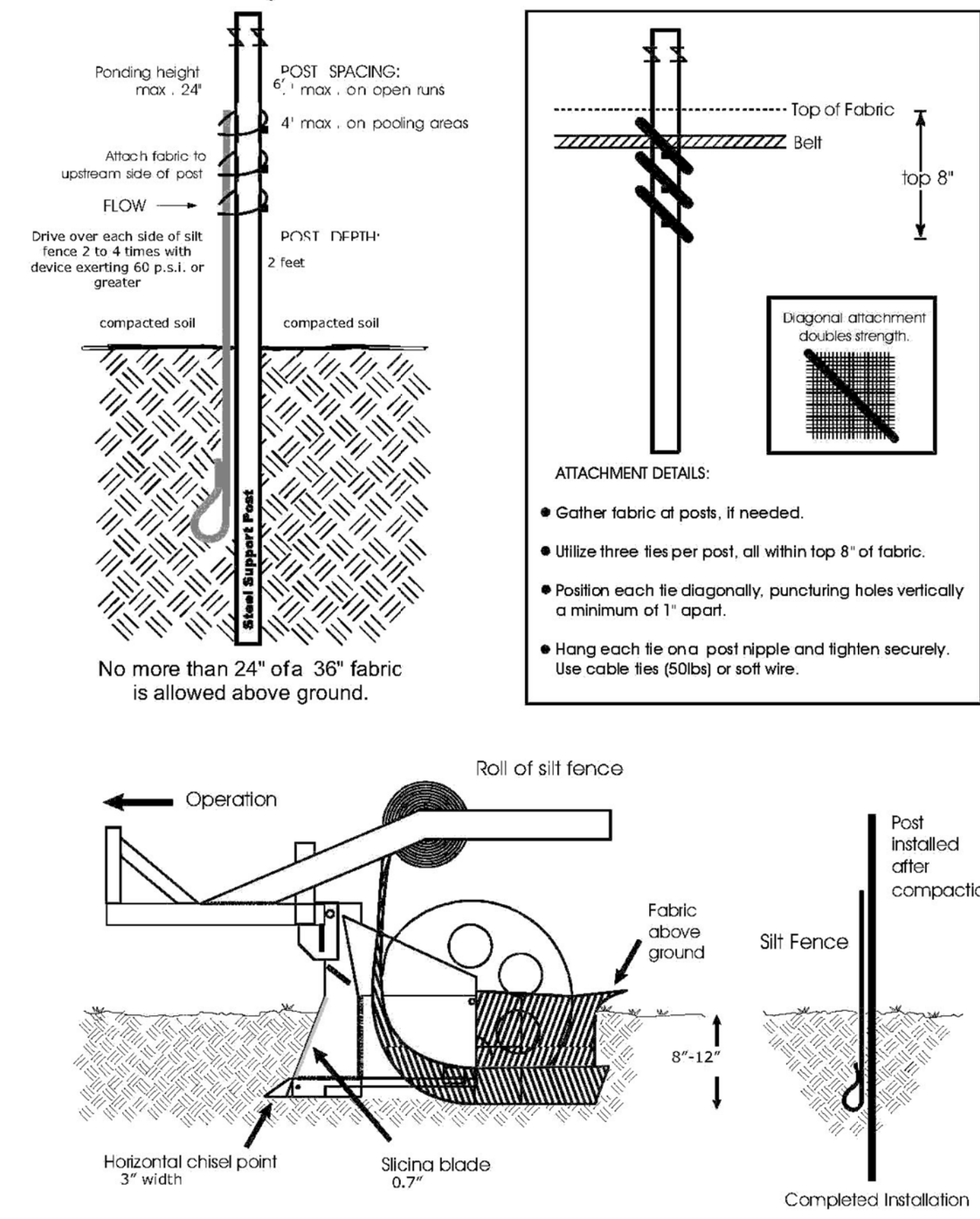
**Table 6.62b Specifications For Sediment Fence Fabric**

Temporary Silt Fence Material Property Requirements					
	Test Material	Units	Supported <sup>1</sup> Silt Fence	Un-Supported <sup>1</sup> Silt Fence	Type of Value
Grab Strength	ASTM D 4632	N (lbs)			
Machine Direction			400 (90)	550 (90)	MARV
X-Machine Direction			400 (90)	450 (90)	MARV
Permittivity <sup>2</sup>	ASTM D 4491	sec-1	0.05	0.05	MARV
Apparent Opening Size <sup>2</sup>	ASTM D 4751	mm (US Sieve #)	0.60 (30)	0.60 (30)	Max. ARV <sup>3</sup>
Ultraviolet Stability	ASTM D 4355	% Retained Strength	70% after 500h of exposure	70% after 500h of exposure	Typical

<sup>1</sup> Silt Fence support shall consist of 14 gage steel wire with a mesh spacing of 150 mm (6 inches), or prefabricated polymer mesh of equivalent strength.  
<sup>2</sup> These default values are based on empirical evidence with a variety of sediment. For environmentally sensitive areas, a review of previous experience and/or site or regionally specific geotextile tests in accordance with Test Method D 5141 should be performed by the agency to confirm suitability of these requirements.  
<sup>3</sup> As measured in accordance with Test Method D 4632.

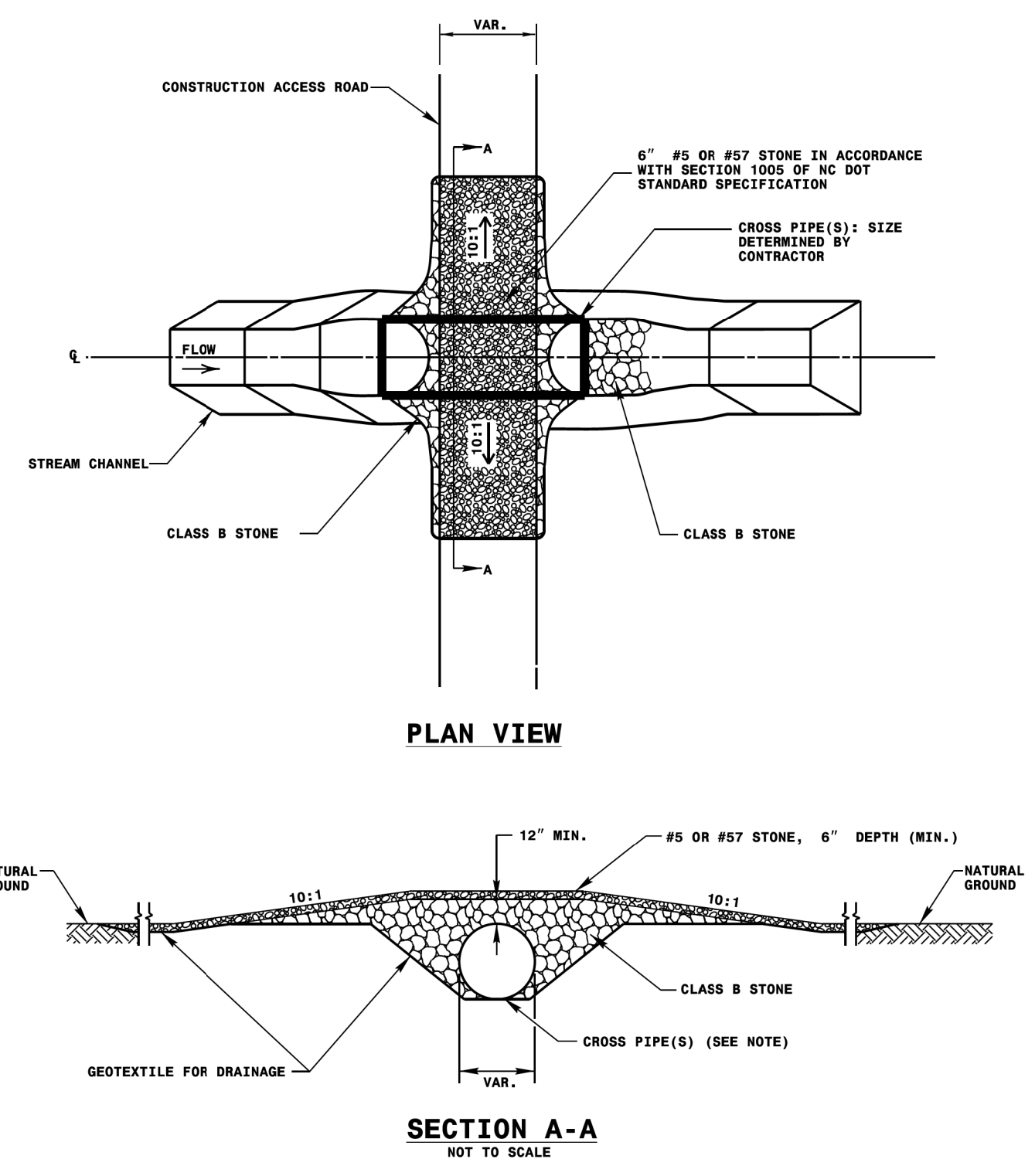


**The Slicing Method**



Vibratory plow is not acceptable because of horizontal compaction  
 Figure 6.62b Schematics for using the slicing method to install a sediment fence. Adapted from *Silt Fence that Works*





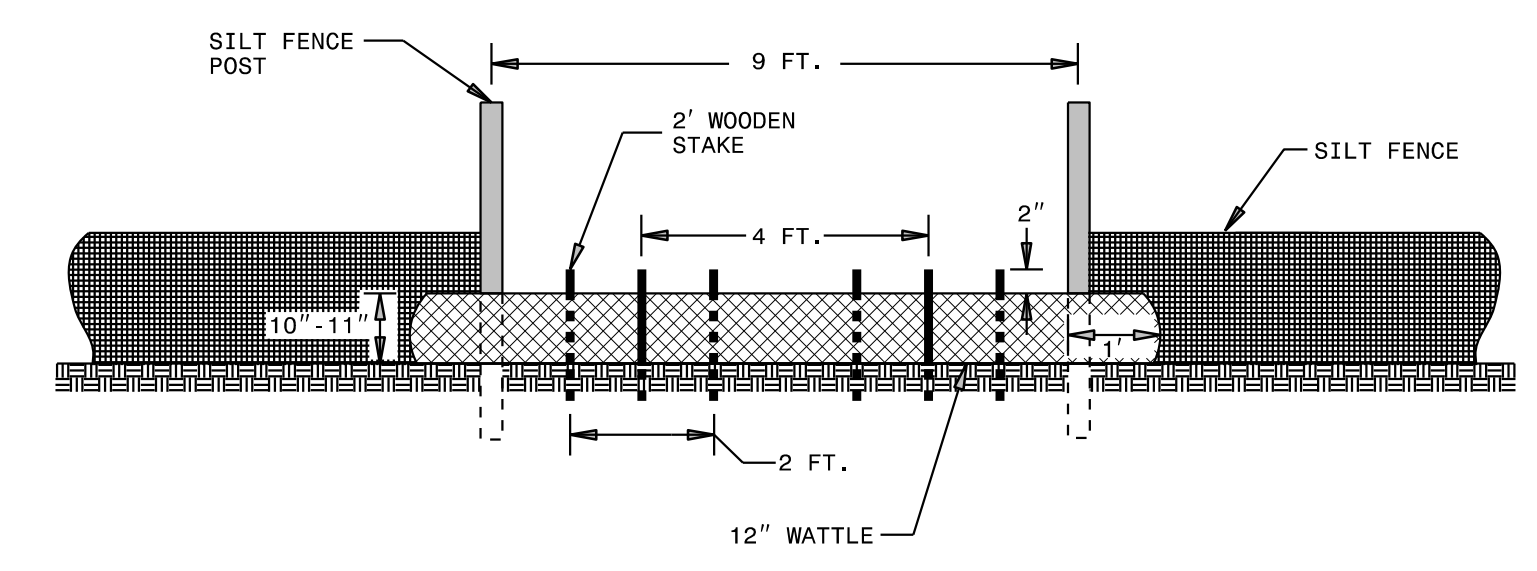
**NOTES**

PIPE(S) FOR TEMPORARY STREAM CROSSING SHALL BE DESIGNED TO PASS THE PEAK OR BANKFULL FLOW, WHICHEVER IS LESS, FROM A 2-YEAR PEAK STORM, WITHOUT OVER TOPPING.

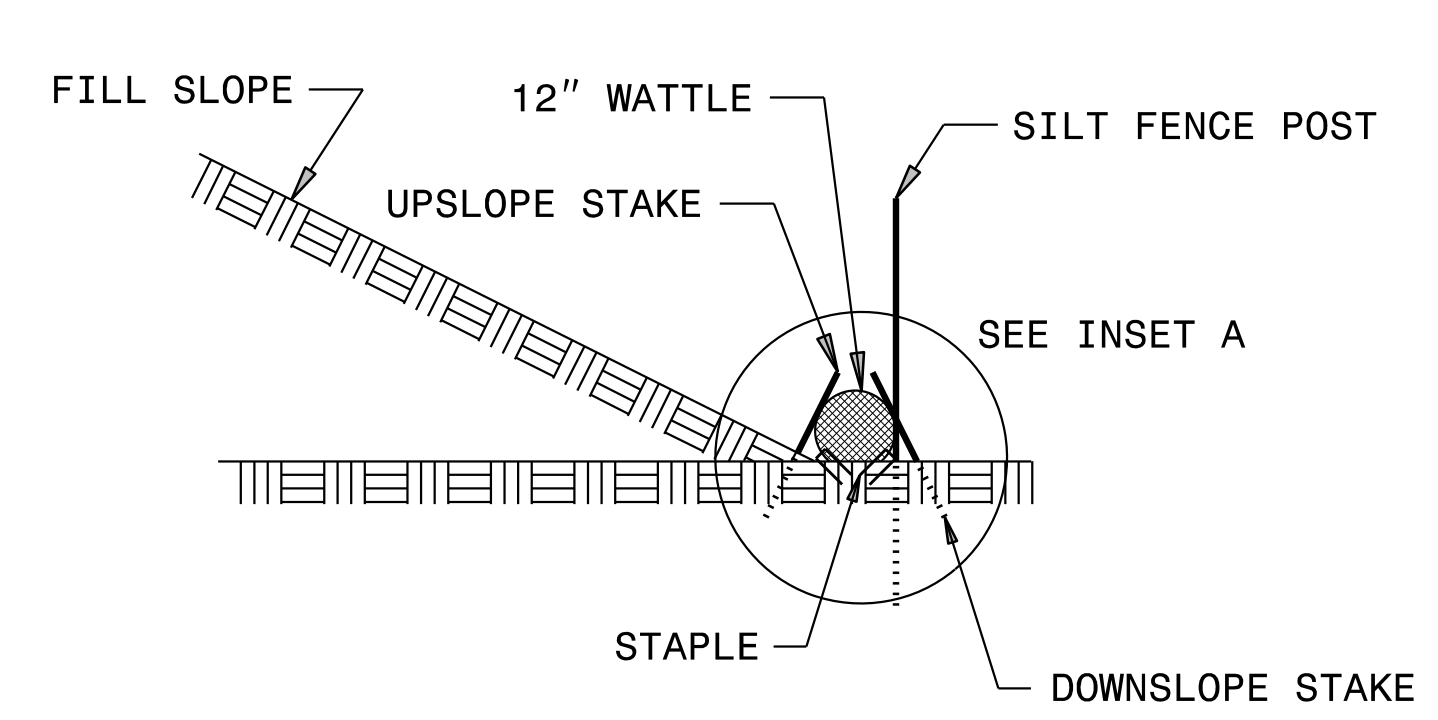
1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR  
**TEMPORARY STREAM CROSSING**

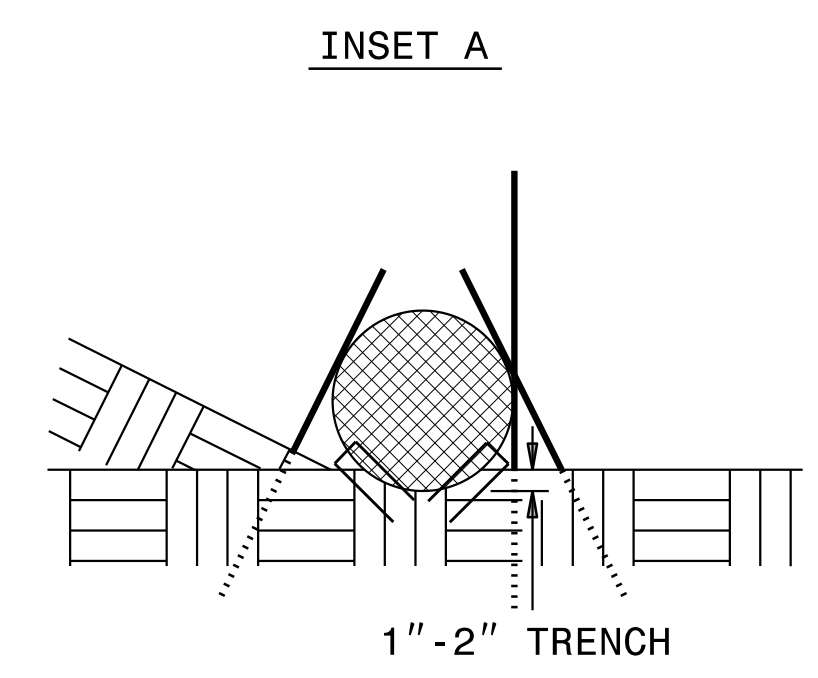
SHEET 1 OF 1  
**1645.01**



**VIEW FROM SLOPE**



**SIDE VIEW**



**DETAIL - SILT FENCE COIR FIBER WATTLE BREAK**  
 SCALE: N.T.S

**NOTES:**

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE AND LENGTH OF 10 FT.

EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.

DO NOT PLACE WATTLE ON TOE OF SLOPE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.

PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.

INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

6/16/2021  
 Floodgate\_Rdy\_psh\_C606.dgn  
 R:Rward

DESIGNED BY  
 JOSH DALTON  
 P.E. SEAL NO. 26971  
 ENGINEER  
 JOSHUA G. DALTON  
 6/17/2021

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**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC

**EROSION AND SEDIMENTATION CONTROL DETAILS**

PROJECT # :  
 1284-20041

DRAWING NAME:  
 FLOODGATE RDY PSH C606

DATE:  
 6-16-2021

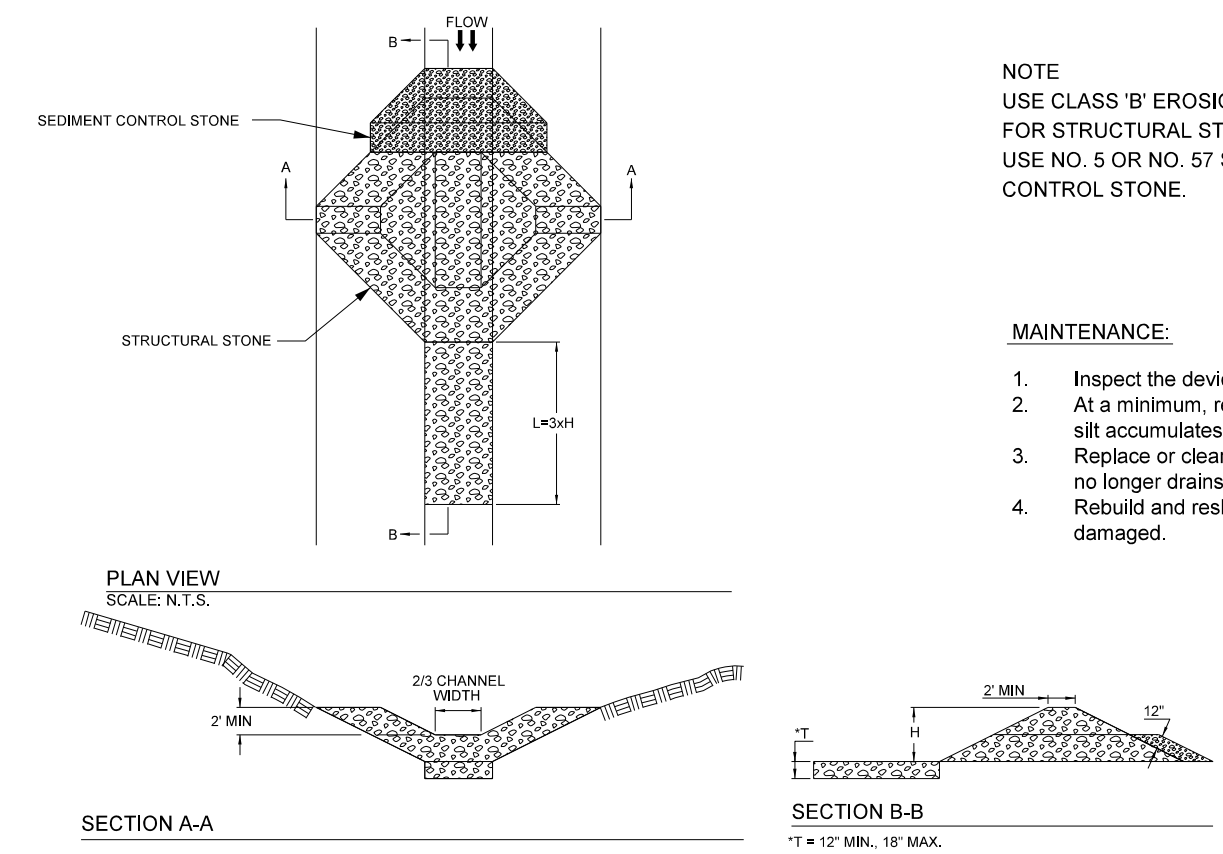
DRAWN BY:  
 JRH

REVIEWED BY:  
 RCH

REVISIONS:

SHEET NO.  
**C.606**





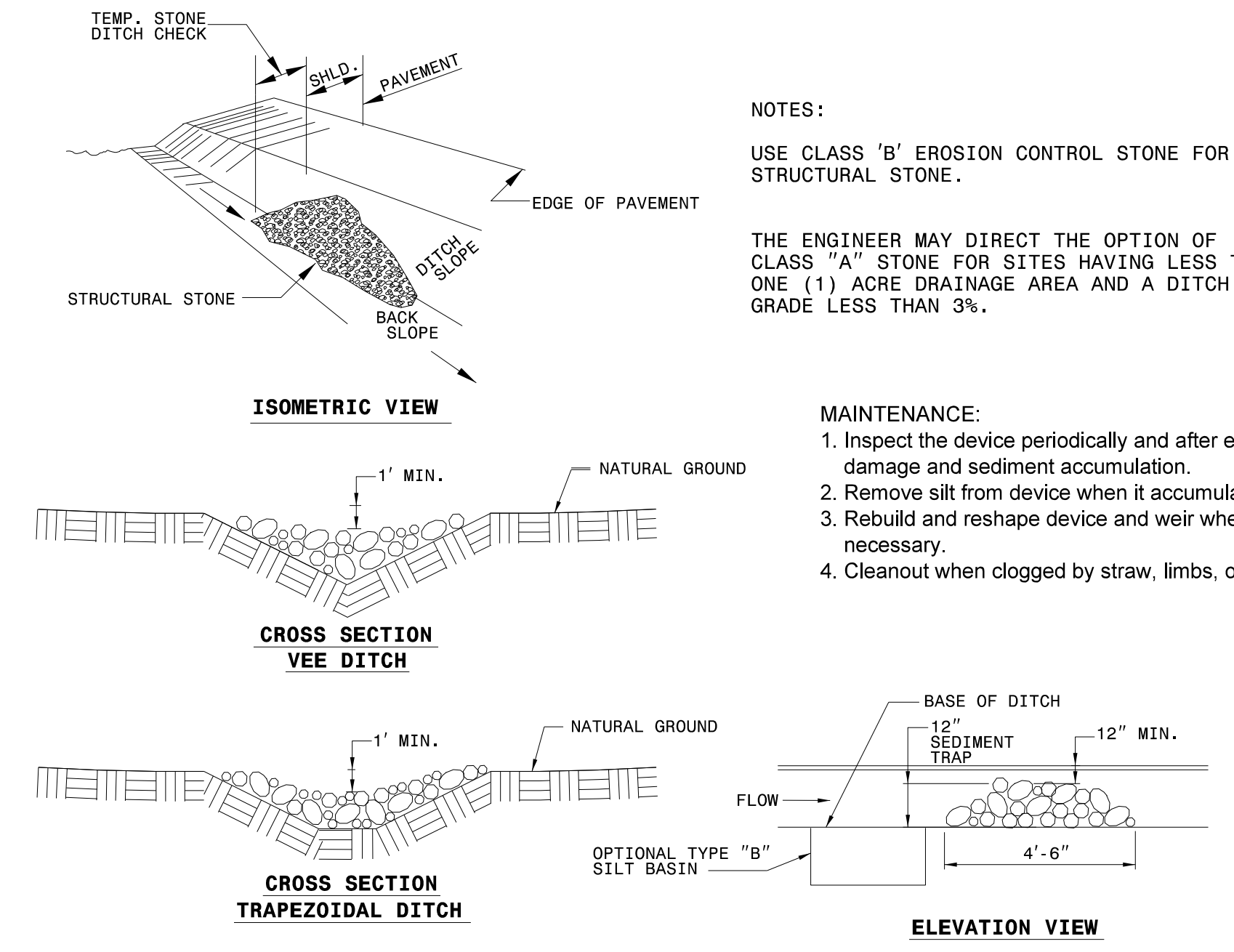
NOTE  
USE CLASS 'B' EROSION CONTROL STONE FOR STRUCTURAL STONE.  
USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL STONE.

- MAINTENANCE:**
1. Inspect the device after each significant rainfall.
  2. At a minimum, remove silt from the device when silt accumulates to one-half the height of the weir.
  3. Replace or clean sediment control stone when water no longer drains through the device between rainfall events.
  4. Rebuild and reshape rock weir and check when the device is damaged.

**DETAIL - TEMPORARY ROCK SILT CHECK TYPE 'A'**  
SCALE: N.T.S

Construction Specifications:

Structural Stone	- Use Class B structural stone. - Install stone at a minimum depth of 12 inches. - Install sediment control stone on the upgradient face of the structural stone.
Side Slopes	- 2:1 or flatter.
Weir	- Weir length should be $\frac{2}{3}$ of the channel width. - The weir height shall be a minimum of 1 foot. - The depth of the weir shall be a minimum of 1 foot.



NOTES:  
USE CLASS 'B' EROSION CONTROL STONE FOR STRUCTURAL STONE.  
  
THE ENGINEER MAY DIRECT THE OPTION OF CLASS "A" STONE FOR SITES HAVING LESS THAN ONE (1) ACRE DRAINAGE AREA AND A DITCH GRADE LESS THAN 3%.

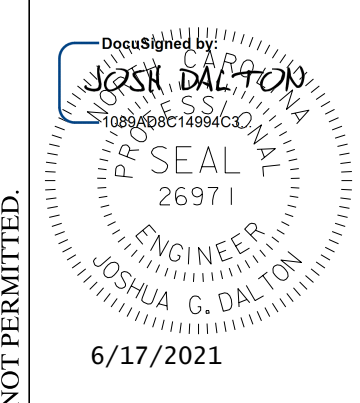
- MAINTENANCE:**
1. Inspect the device periodically and after each significant rainfall event for damage and sediment accumulation.
  2. Remove silt from device when it accumulates.
  3. Rebuild and reshape device and weir when the device is damaged or as necessary.
  4. Cleanout when clogged by straw, limbs, or other debris.

**DETAIL - TEMPORARY ROCK SILT CHECK TYPE 'B'**  
SCALE: N.T.S

Construction Specifications:

Installation	- The center of the rock silt check shall be at least 1-foot lower than the outer edges (top of the channel sides). - The maximum height at the center of the rock check should not exceed 2 feet. - The side slopes of the check shall be 2:1 or flatter.
Slope	- Maximum spacing between the checks should place the toe of the upstream check at the top of the downstream check.

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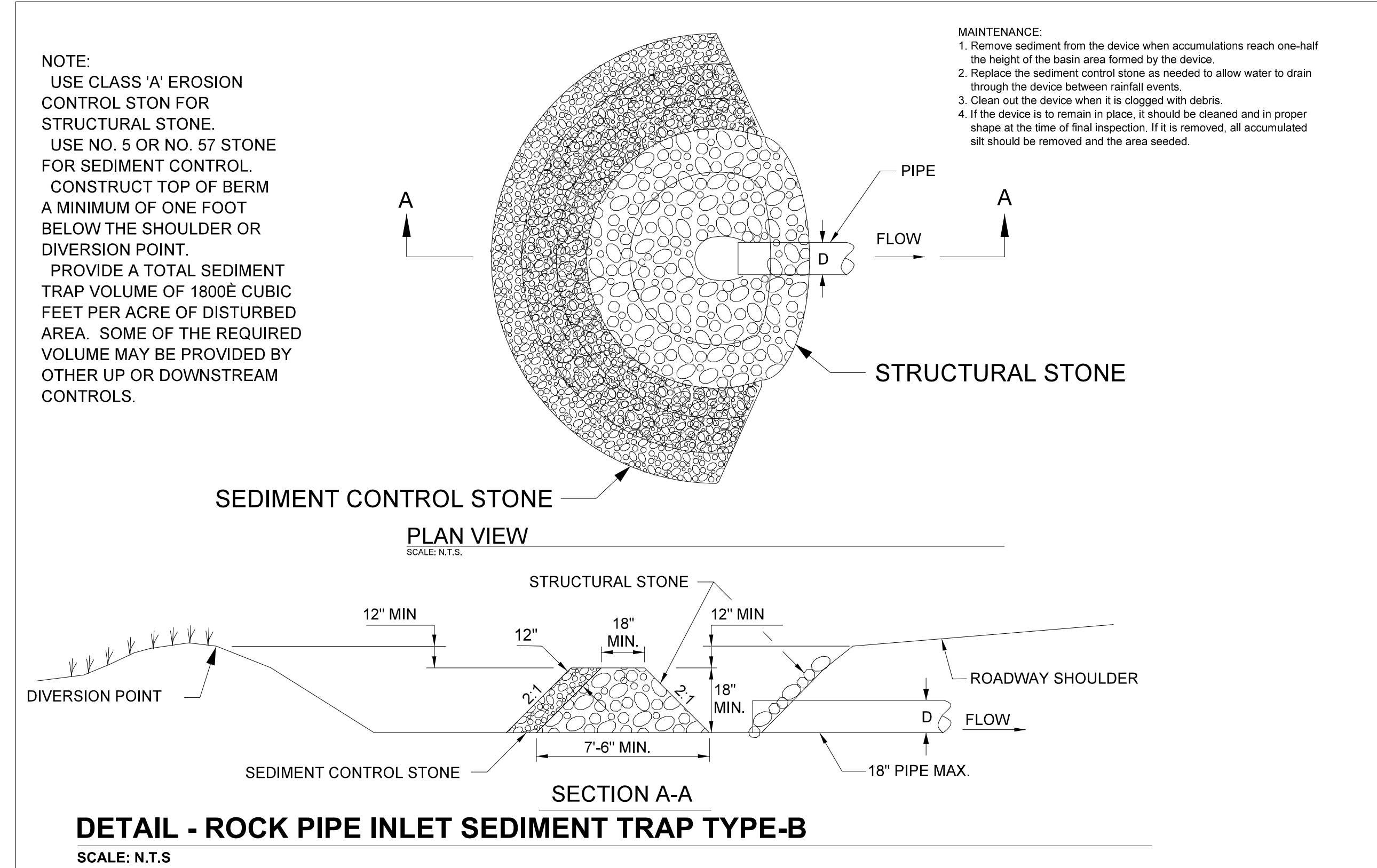
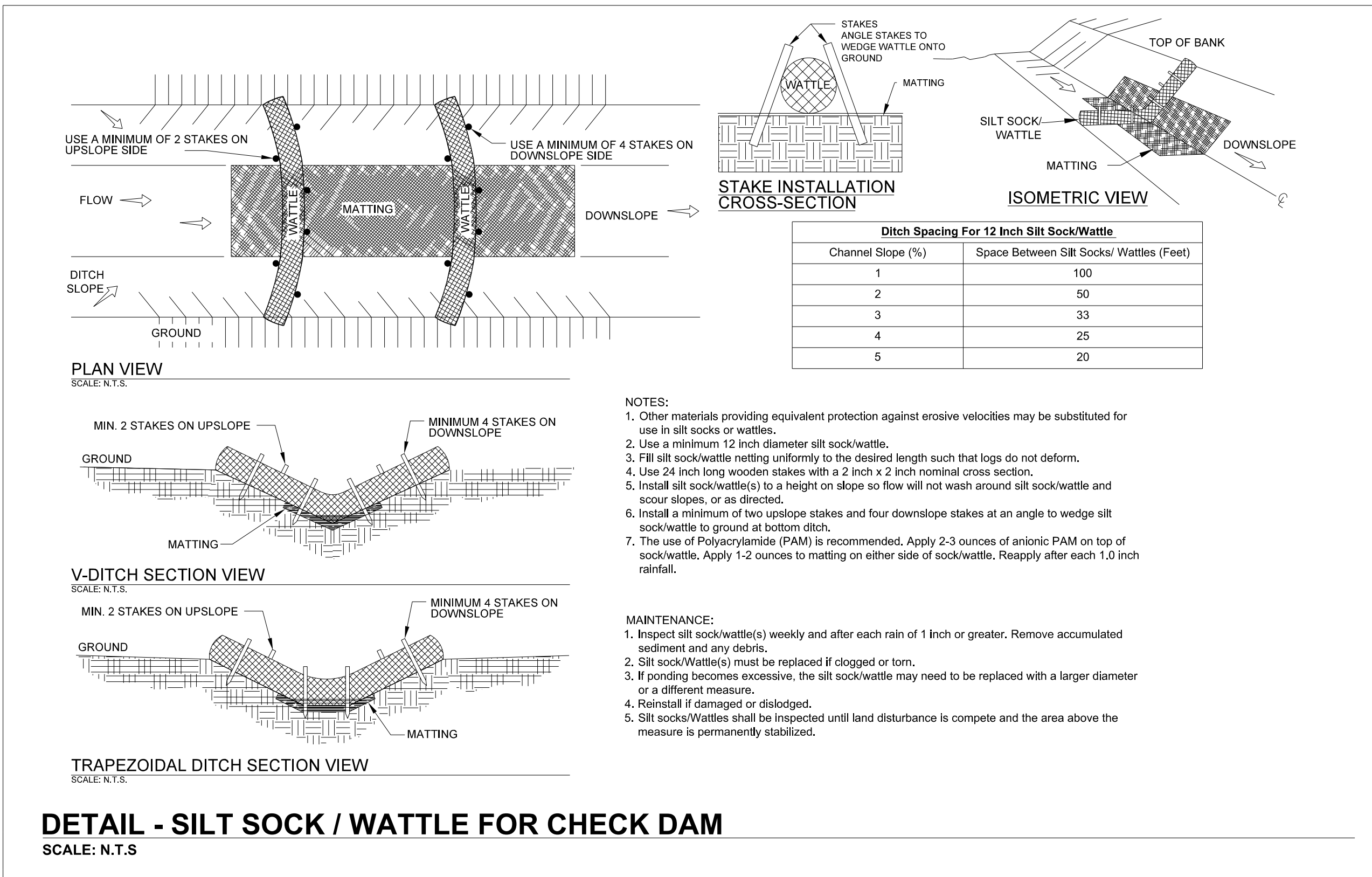


6/17/2021

PROJECT # : 1284-20041  
DRAWING NAME: FLOODGATE RDY PSH C600  
DATE: 6-16-2021  
DRAWN BY: JRH  
REVIEWED BY: RCH  
REVISIONS:

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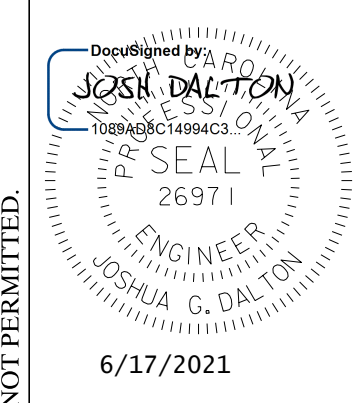
Construction Specifications:

Matting	- Install matting in accordance with Section 1631 of the Standard Specifications.
Staples	- Provide staples made of 0.125-inch diameter steel wire formed into a U-shape no less than 12 inches in length. - Install staples approximately every 1 foot on both sides of the wattle and at each end to secure it to the soil.
Stakes	- Use 2-foot wooden stakes with a 2-inch by 2-inch nominal cross section. - Install a minimum of 2 upslope stakes and 4 downslope stakes at an angle to wedge the wattle to the bottom of the ditch. - Drive stakes into the ground a minimum of 10 inches with no more than 2 inches projecting from the top of the wattle.
Flocculant	- Flocculant shall be in powder form and anionic and neutrally charged. - Soil samples should be obtained from areas where wattles will be placed and from off-site material used to construct the roadway. Samples should be analyzed to determine the appropriate flocculant to be used in each wattle. - Flocculant used should be listed on the NCDENR DWR website as an approved product for use in North Carolina. - Flocculant should be applied over the lower center portion of the wattle where the water will flow at a rate of 2 ounces per wattle. - Apply 1 ounce of flocculant on each side of the wattle. - Flocculant should be evaluated and applied after every rainfall event that is equal to or exceeds 0.5 inches.
Overlap	- Overlap adjoining sections of wattles a minimum of 1 foot.

Construction Specifications:

Berm	- Top of berm should be a minimum of 12 inches below the shoulder or any diversion point. - Side slopes should be no steeper than 2:1. - Berm should have a minimum height of 18 inches.
Sediment Control Stone	- No. 5 or No. 57 stone to be installed on the outer face of the stone dam in a layer 1-foot thick.
Structural Stone	- Class A stone installed in a doughnut-shaped ring around the inlet. - Installed with a berm on the top that is 18 inches wide. - Stone should have a minimum base width of 7.5 feet.

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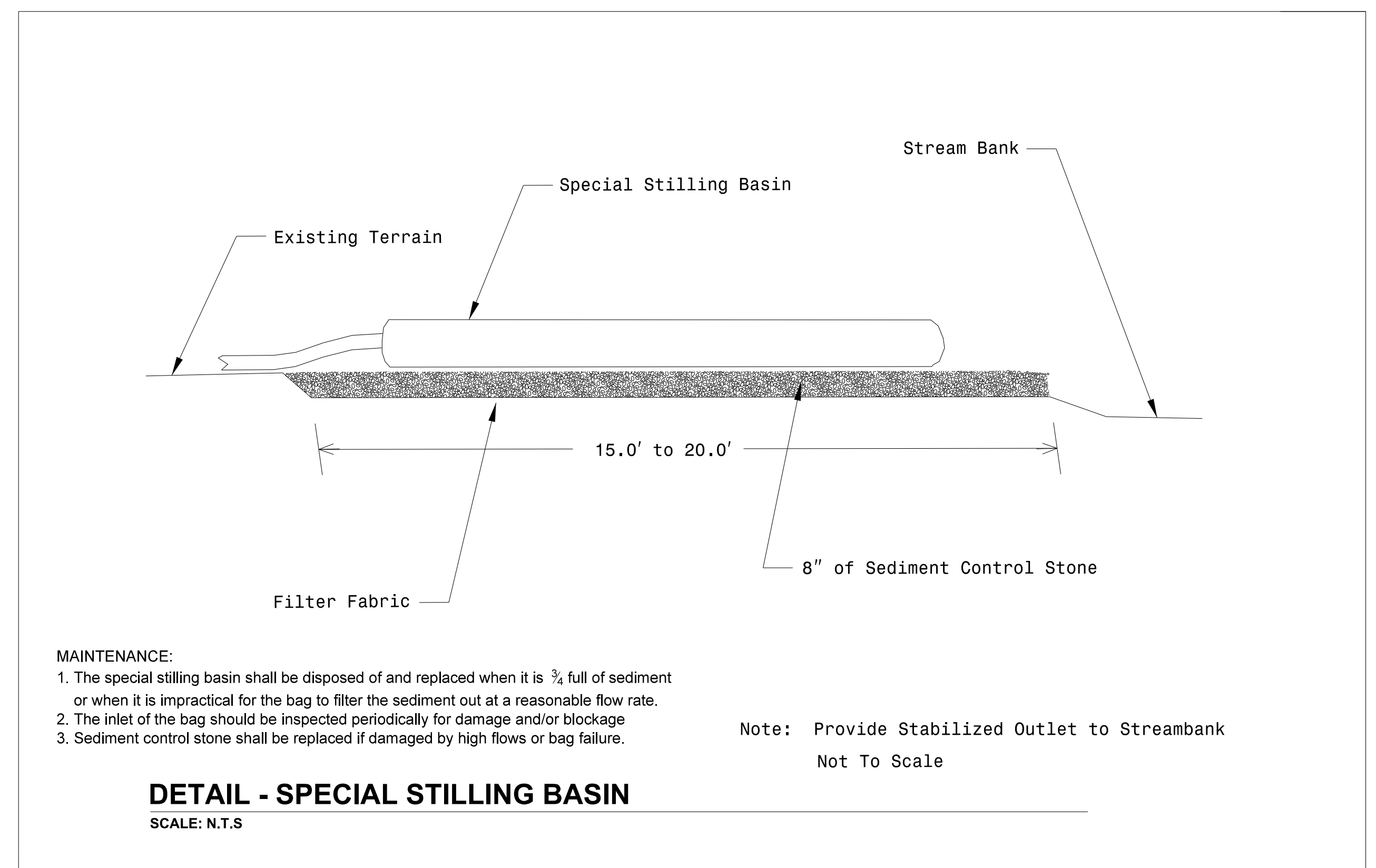
6/17/2021

PROJECT # : 1284-20041  
DRAWING NAME: FLOODGATE RDY PSH C600  
DATE: 6-16-2021  
DRAWN BY: JRH  
REVIEWED BY: RCH  
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Construction Specifications:

Special Stilling Basin	<ul style="list-style-type: none"> <li>- The bag shall be placed on a rock pad constructed of at least 8 inches of sediment control stone. The bag may also be placed on wooden pallets to elevate it above natural ground.</li> <li>- The rock pad should extend at least 1 foot past the bag on all sides.</li> <li>- The special stilling basin should be placed on level ground.</li> <li>- The special stilling basin shall be placed so that incoming water flows into the bag without causing erosion.</li> <li>- Temporary slope drain pipe(s) or pump discharge hoses will be attached to the special stilling basin(s) so that water is routed directly into the special stilling basin(s).</li> <li>- The special stilling basin may be cut to allow slope drain pipe to be inserted if needed and tied off tightly. The remaining sleeve or spout of the bag, if present, may be used to connect more than one special stilling basin in series, as directed. If not used in this manner, the sleeve shall be tied off tightly to allow the bag to contain the effluent and force it to filter through the sides of the special stilling basin.</li> <li>- When being utilized in drilled pier construction, the special stilling basin should be constructed such that it is portable and can be used adjacent to each drilled pier.</li> </ul>
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 TEL: (919) 852-2243  
 ENG FIRM LICENSE NO. C-4890

Designed by  
**JOSH DALTON**  
 Registered Professional Engineer  
 State of North Carolina  
 License No. 26971  
 ENGINEER  
 JOSHUA G. DALTON  
 6/17/2021

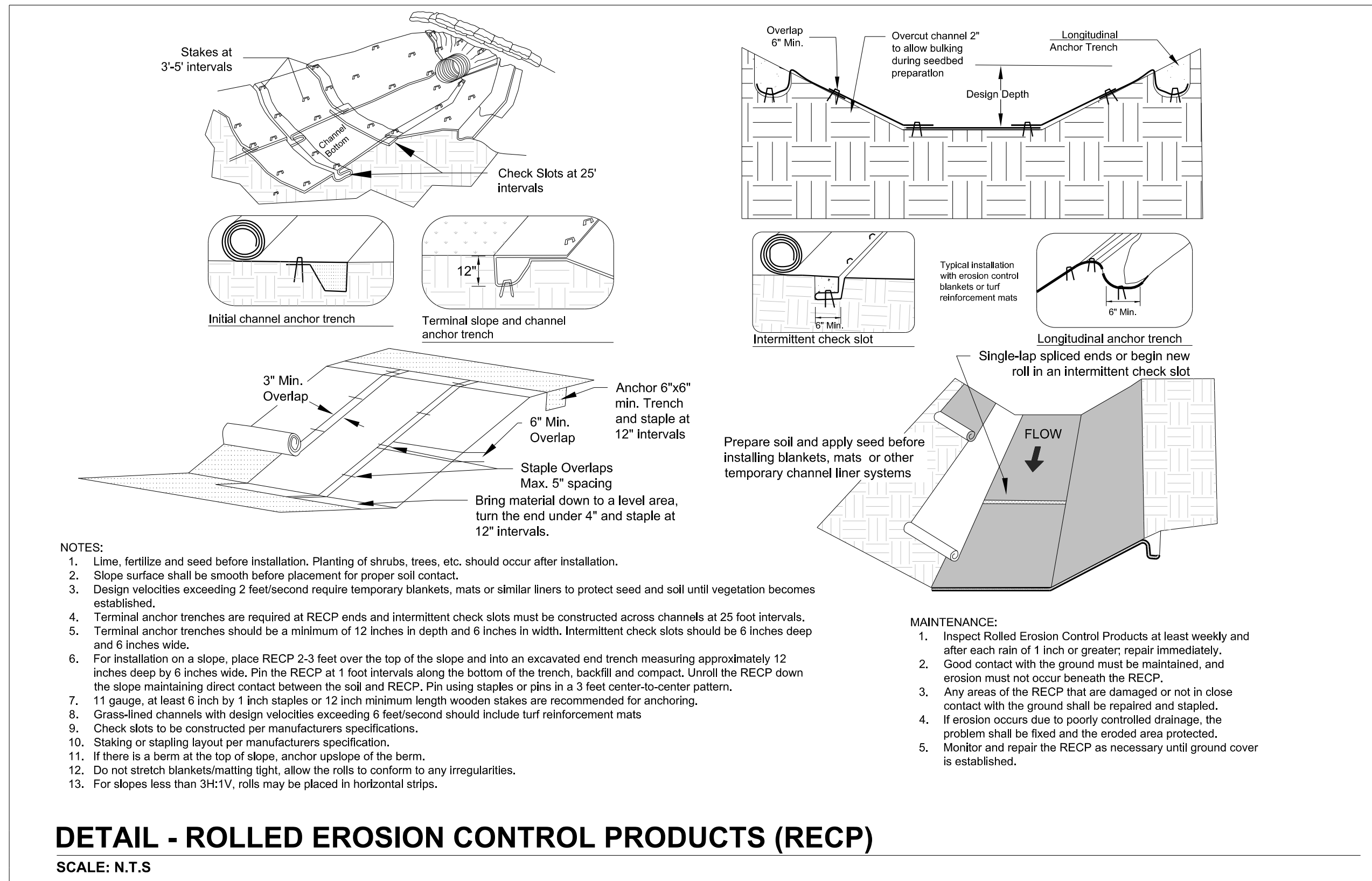
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**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
 PRINCEVILLE, EDGECOMBE COUNTY, NC  
**EROSION AND SEDIMENTATION CONTROL DETAILS**

PROJECT # :	1284-20041
DRAWING NAME:	FLOODGATE RDY PSH C600
DATE:	6-16-2021
DRAWN BY:	JRH
REVIEWED BY:	RCH
REVISIONS:	

SHEET NO.  
**C.609**





**Construction Specifications**

**Construction**  
Even if properly designed, if not properly installed, RECP's will probably not function as desired. Proper installation is imperative. Even if properly installed, if not properly timed and nourished, vegetation will probably not grow as desired. Proper seed/vegetation selection is also imperative.

Grade the surface of installation areas so that the ground is smooth and loose. When seeding prior to installation, follow the steps for seed bed preparation, soil amendments, and seeding in *Surface Stabilization*, 6.1. All gullies, rills, and any other disturbed areas must be fine graded prior to installation. Spread seed before RECP installation. (**Important:** Remove all large rocks, dirt clods, stumps, roots, grass clumps, trash, and other obstructions from the soil surface to allow for direct contact between the soil surface and the RECP.)

Terminal anchor trenches are required at RECP ends and intermittent trenches must be constructed across channels at 25-foot intervals. Terminal anchor trenches should be a minimum of 12 inches in depth and 6 inches in width, while intermittent trenches need be only 6 inches deep and 6 inches wide.

**Installation for Slopes**— Place the RECP 2-3 feet over the top of the slope and into an excavated end trench measuring approximately 12 inches deep by 6 inches wide. Pin the RECP at 1 foot intervals along the bottom of the trench, backfill, and compact. Unroll the RECP down (or along) the slope maintaining direct contact between the soil and the RECP. Overlap adjacent rolls a minimum of 3 inches. Pin the RECP to the ground using staples or pins in a 3 foot center-to-center pattern. Less frequent stapling/pinning is acceptable on moderate slopes.

**Installation in Channels**— Excavate terminal trenches (12 inches deep and 6 inches wide) across the channel at the upper and lower end of the lined channel sections. At 25-foot intervals along the channel, anchor the RECP across the channel either in 6 inch by 6 inch trenches or by installing two closely spaced rows of anchors. Excavate longitudinal trenches 6 inches deep and wide along channel edges (above water line) in which to bury the outside RECP edges. Place the first RECP at the downstream end of the channel. Place the end of the first RECP in the terminal trench and pin it at 1 foot intervals along the bottom of the trench.

**Note:** The RECP should be placed upside down in the trench with the roll on the downstream side of the bench.

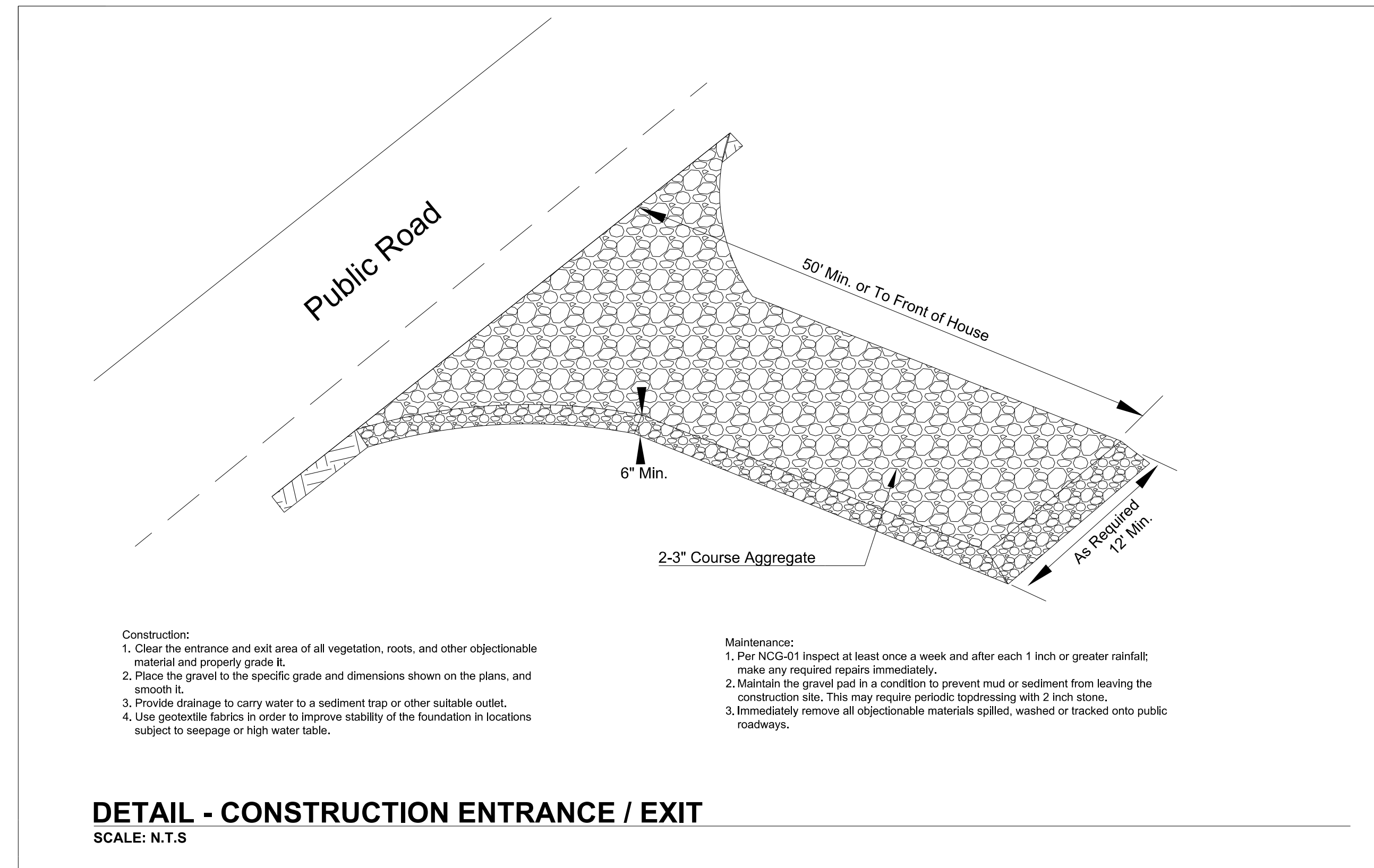
Once pinned and backfilled, the RECP is deployed by wrapping over the top of the trench and unrolling upstream. If the channel is wider than the provided rolls, place ends of adjacent rolls in the terminal trench, overlapping the adjacent rolls a minimum of 3 inches. Pin at 1 foot intervals, backfill, and compact. Unroll the RECP in the upstream direction until reaching the first intermittent trench. Fold the RECP back over itself, positioning the roll on the downstream side of the trench, and allowing the mat to conform to the trench.

Then pin the RECP (two layers) to the bottom of the trench, backfill, and compact. Continue up the channel (wrapping over the top of the intermittent trench) repeating this step at other intermittent trenches, until reaching the upper terminal trench.

At the upper terminal trench, allow the RECP to conform to the trench, secure with pins or staples, backfill, compact and then bring the mat back over the top of the trench and onto the existing mat (2 to 3 feet overlap in the downstream direction), and pin at 1 foot intervals across the RECP. When starting installation of a new roll, begin in a trench or shingle-lap ends of rolls a minimum of 1 foot with upstream RECP on top to prevent uplifting. Place the outside edges of the RECP(s) in longitudinal trenches, pin, backfill, and compact.

**Anchoring Devices**—11 gauge, at least 6 inches length by 1 inch width staples or 12 inch minimum length wooden stakes are recommended for anchoring the RECP to the ground.

Drive staples or pins so that the top of the staple or pin is flush with the ground surface. Anchor each RECP every 3 feet along its center. Longitudinal overlaps must be sufficient to accommodate a row of anchors and uniform along the entire length of overlap and anchored every 3 feet along the overlap length. Roll ends may be spliced by overlapping 1 foot (in the direction of water flow), with the upstream/upslope mat placed on top of the downstream/downslope RECP. This overlap should be anchored at 1 foot spacing across the RECP. When installing multiple width mats heat seamed in the factory, all factory seams and field overlaps should be similarly anchored.



6/16/2021  
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Designed by  
**JOSH DALTON**  
Professional Engineer  
No. 26971  
JOSHUA C. DALTON  
6/17/2021

WRITTEN CONSENT OF SDG IS NOT PERMITTED.

**PRINCETON DIKE FLOODGATE REPAIRS**  
PRINCETON, EDGEcombe COUNTY, NC  
**EROSION AND SEDIMENTATION CONTROL DETAILS**

PROJECT # : 1284-20041  
DRAWING NAME: FLOODGATE RDY PSH C600  
DATE: 6-16-2021  
DRAWN BY: JRH  
REVIEWED BY: RCH  
REVISIONS:  
SHEET NO. **C.610**



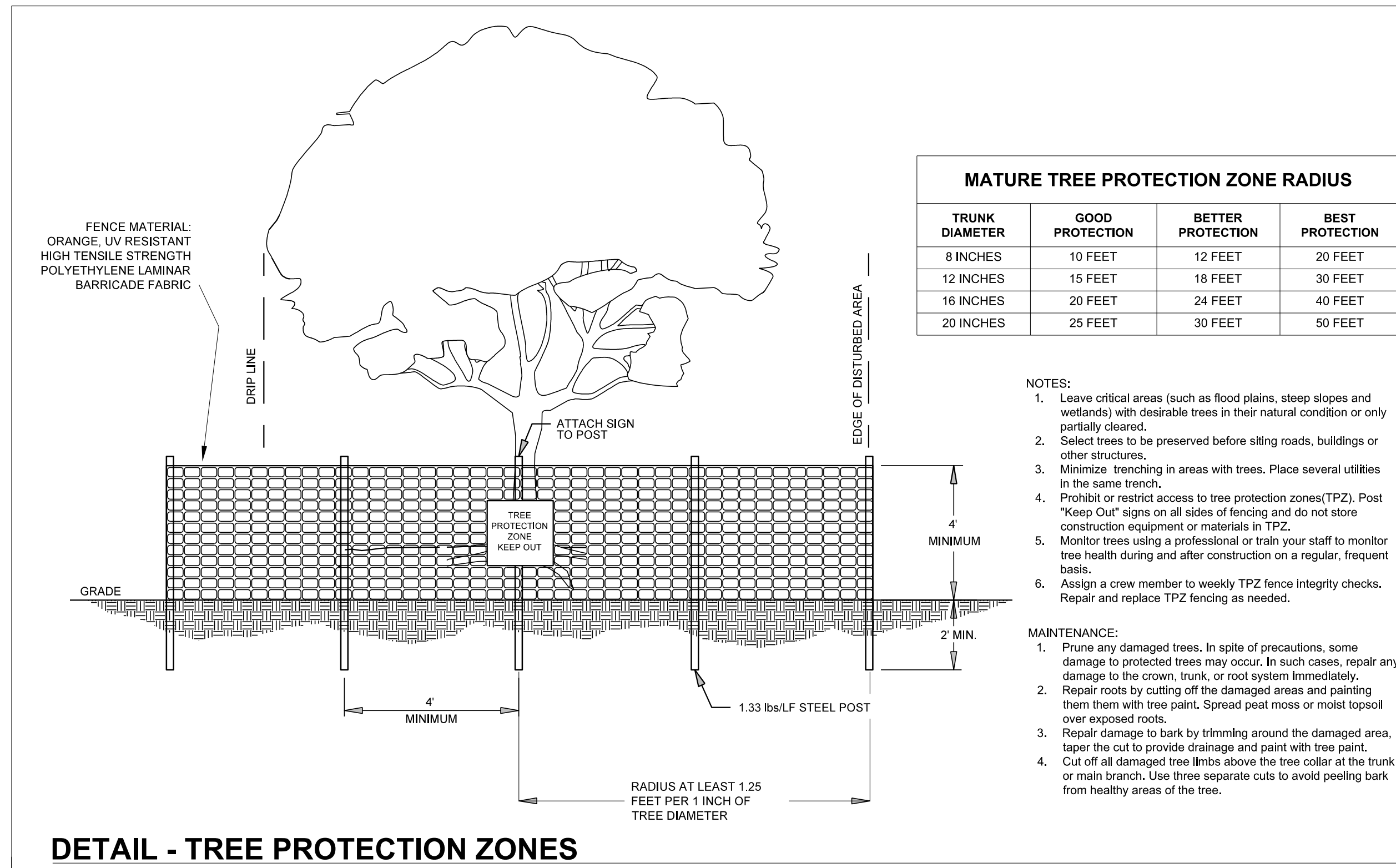


Figure 6.05c Tree protection zone guidelines.

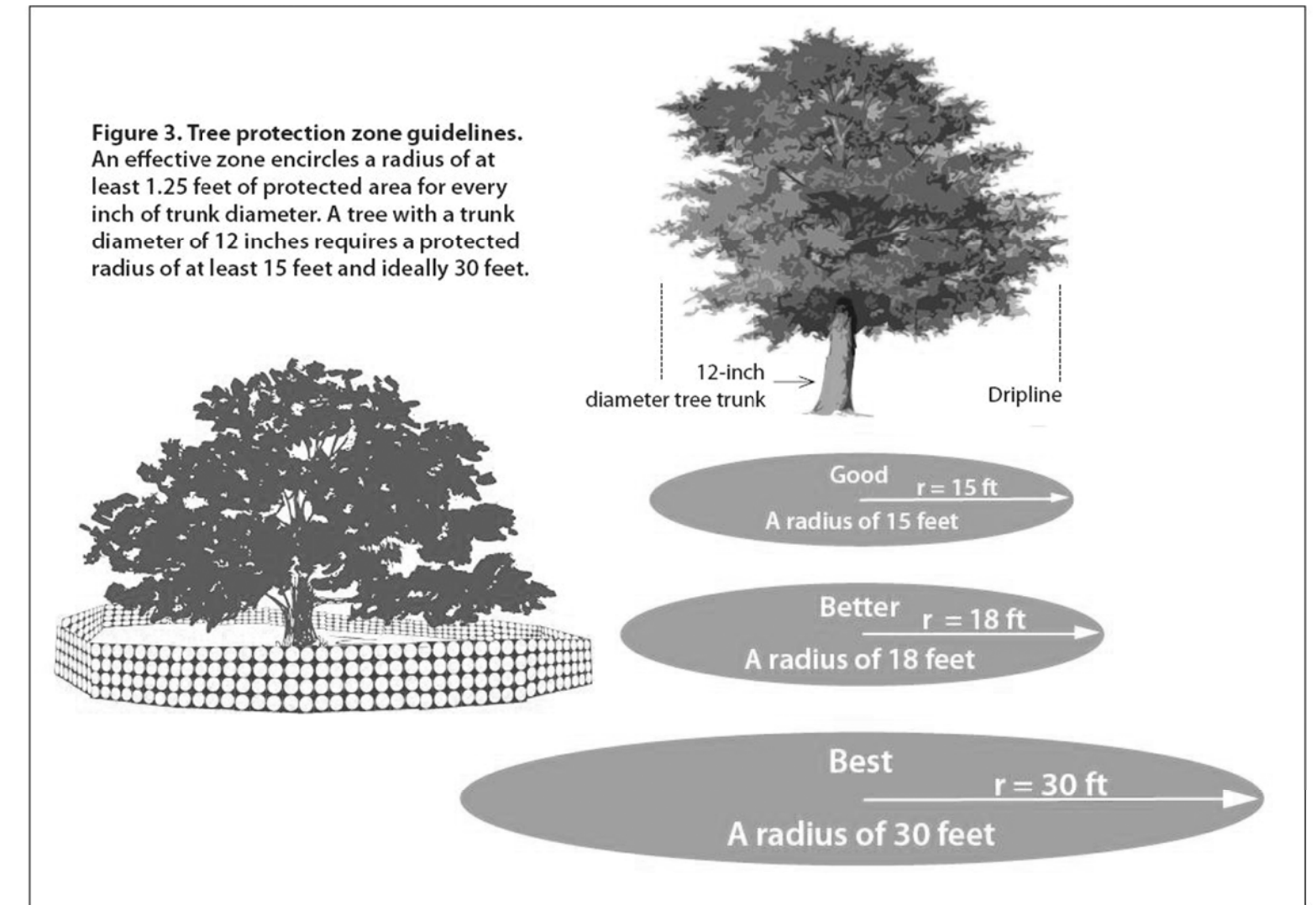
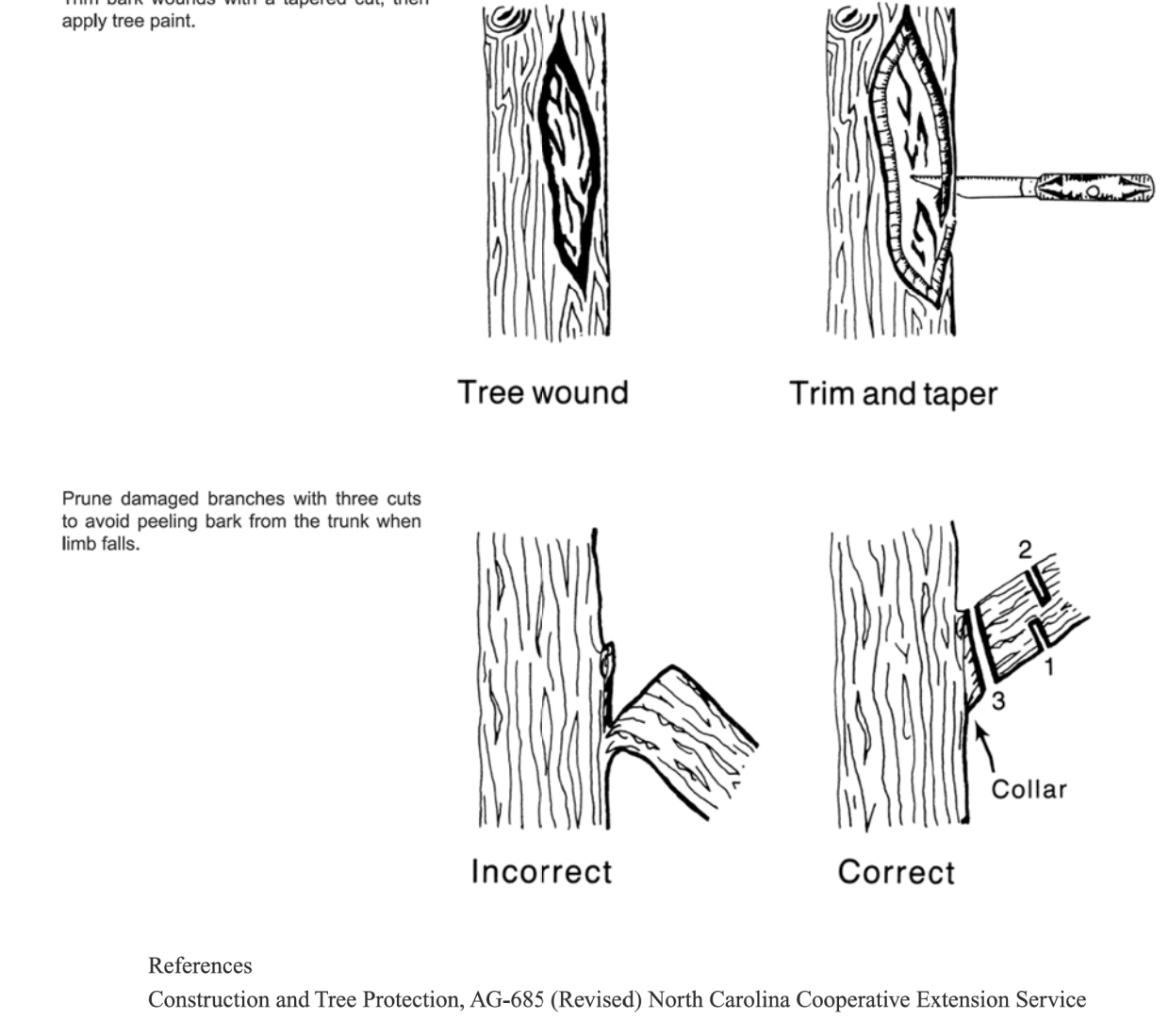


Figure 6.05d Wound repair and pruning of damaged trees.



**DETAIL - TREE PROTECTION ZONES**

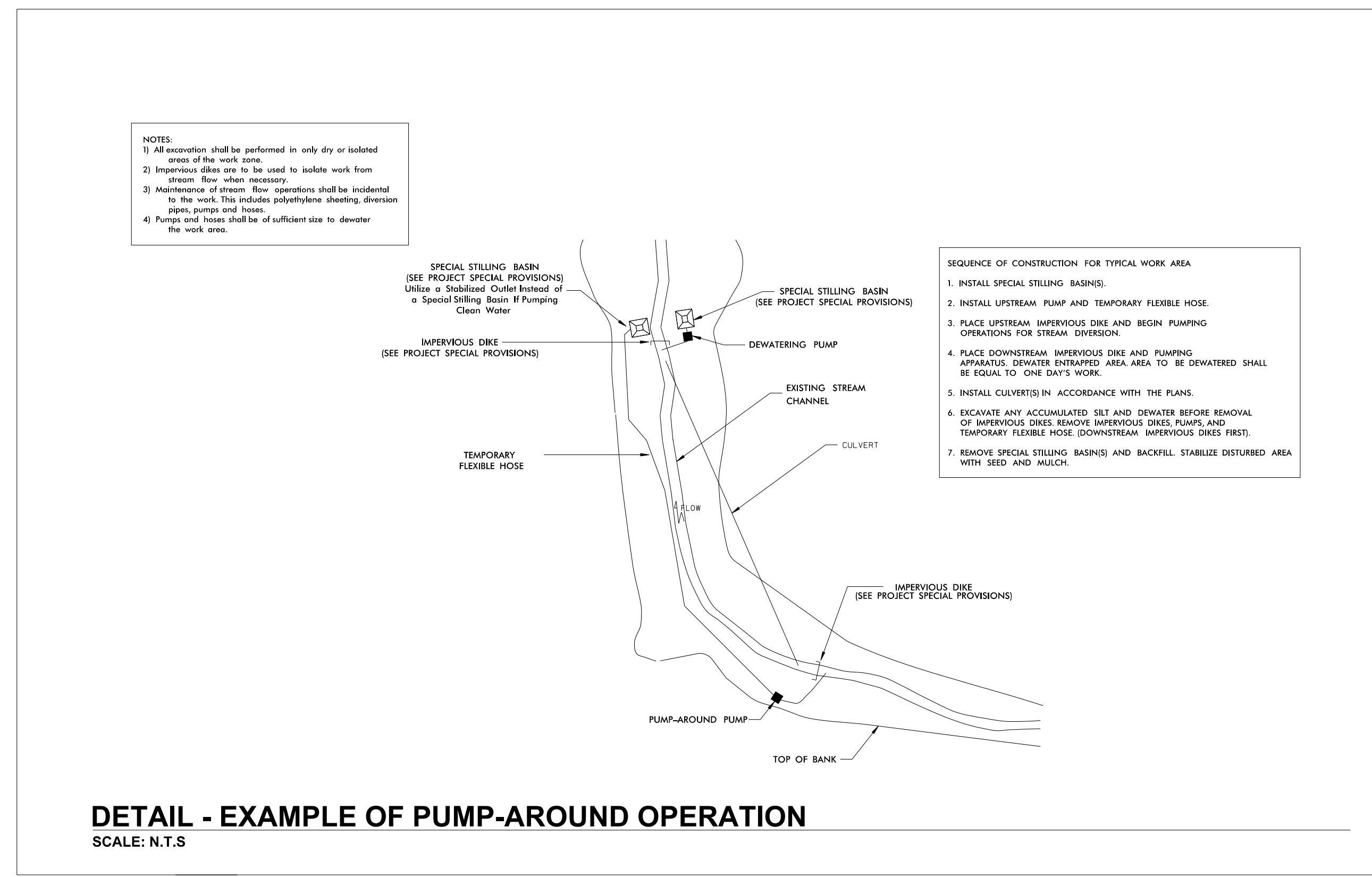
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**Design Criteria** The following general criteria should be considered when developing sites in wooded areas:

- Leave critical areas (such as flood plains, steep slopes and wetlands) with desirable trees in their natural condition or only partially cleared.
- Locate roadways, storage areas, and parking pads away from valuable tree stands. Follow natural contours, where feasible, to minimize cutting and filling in the vicinity of trees.
- Select trees to be preserved before siting roads, buildings, or other structures.
- Minimize trenching in areas with trees. Place several utilities in the same trench.
- Designate groups of trees and individual trees to be saved on the erosion and sedimentation control plan.
- Do not excavate, traverse, or fill closer than the drip line, or perimeter of the canopy, of trees to be saved.

**Construction Specifications**

1. **Erect TPZ fences.** Restrict access to TPZs, with tall, bright, protective fencing. Most fencing is inexpensive and durable enough to last throughout most construction projects. Temporary tree protection fencing should be erected before clearing, deliveries and other construction activities begin on the site.
2. **Prohibit or restrict access to TPZs.** All on-site workers should be aware of the TPZs and the restrictions on activities within the zones. Use these TPZ guidelines for the best effect:
  - Post "keep out" signs on all sides of fencing. Do not store construction equipment or materials in TPZs.
  - Prohibit construction activities near the most valuable trees, and restrict activities around others.
  - Assess crew and contractor penalties, if necessary, to keep the TPZs intact.
3. **Monitor trees.** Vigilance is required to protect trees on construction sites. Use a tree professional or train your staff to monitor tree health during and after construction on a regular, frequent basis. Watch for signs of tree stress, such as dieback, leaf loss, or general decline in tree health or appearance.
4. **Monitor TPZ fences.** Assign a crewmember the weekly responsibility of checking the integrity of TPZ fences. Repair and replace TPZ fencing as needed.
5. **Optimize tree health.** Assign a trained crewmember or hire a professional to complete regular tree maintenance tasks, including watering, fertilization, and mulching to protect tree roots. Consult a tree professional for advice on these practices if needed. Survival of protected trees will increase if these practices continue during construction. Healthy trees require undisturbed healthy soils. Do not cause injuries to trees and roots. Do not change the soil, grade, drainage, or aeration without protecting priority trees



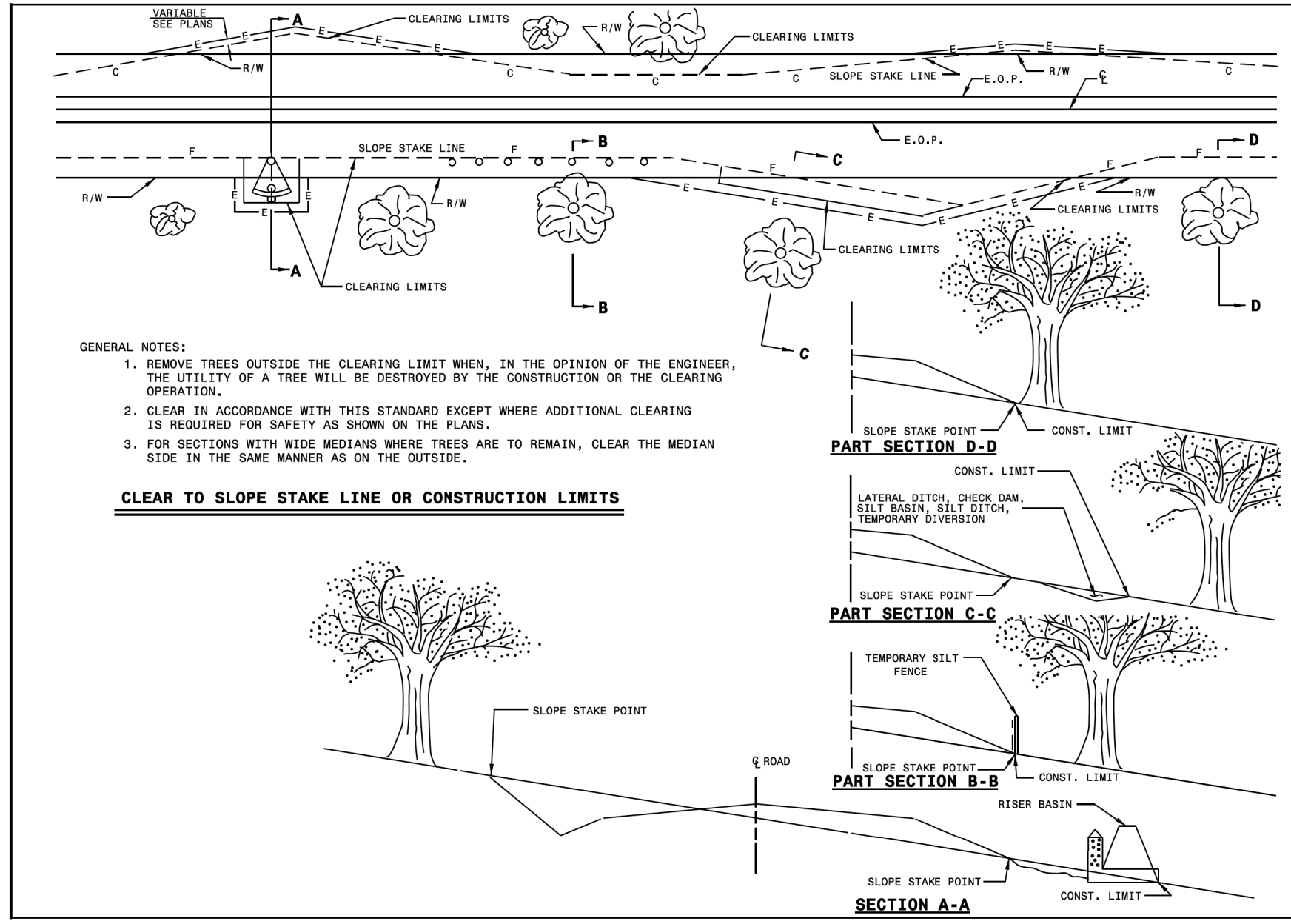
**DETAIL - EXAMPLE OF PUMP-AROUND OPERATION**

SCALE: N.T.S

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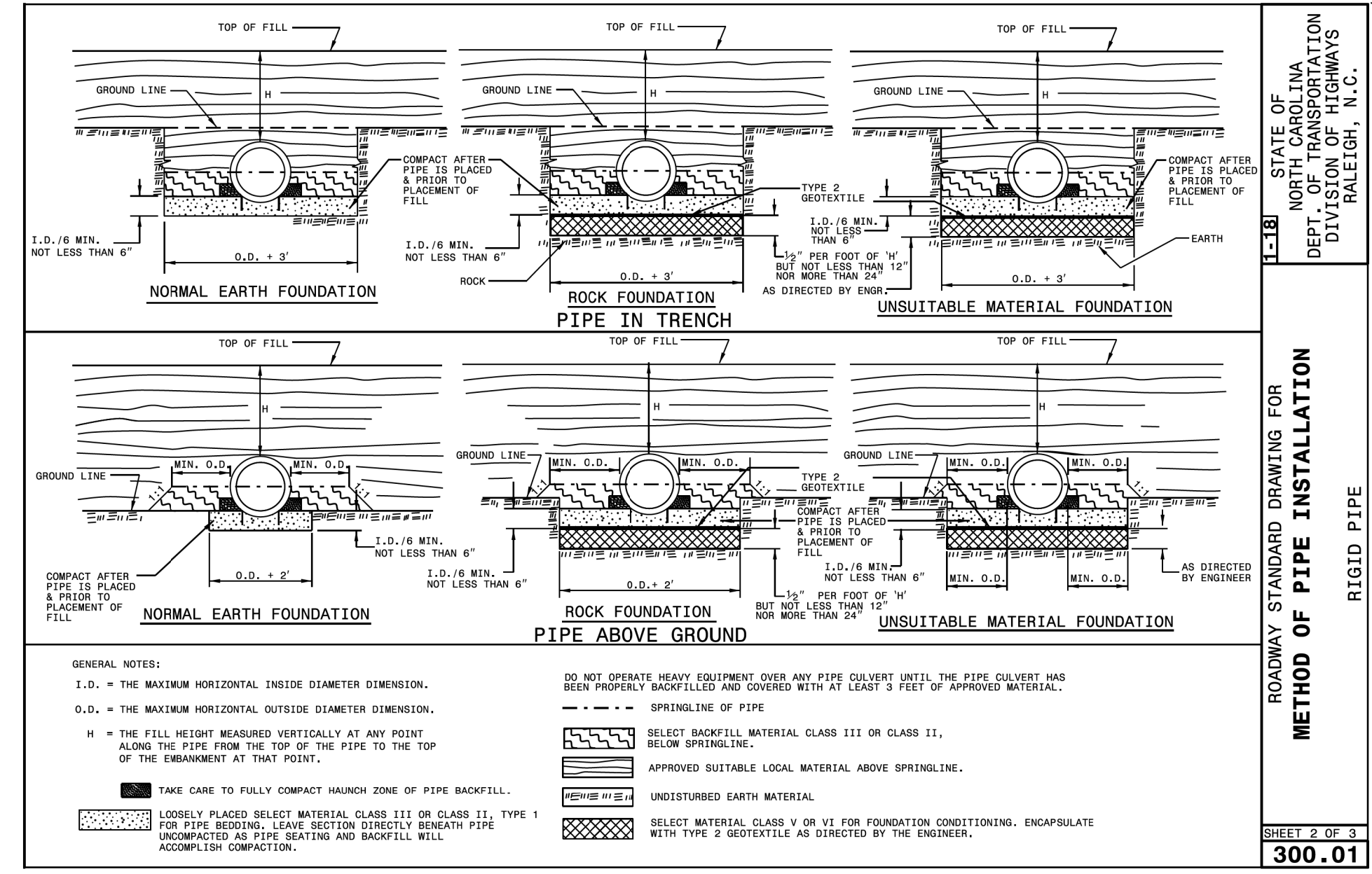




STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR  
**METHOD OF CLEARING**  
METHOD - II

SHEET 1 OF 1  
**200.02**



**FLEXIBLE PIPE**

Round Corrugated Steel Pipe 2 2/3 x 1/2 corrugation **					Round Corrugated Aluminum Pipe 2 2/3 x 1/2 corrugation **				
Diameter (Inches)	Minimum cover (Inches)	Maximum Height of Cover (feet)			Diameter (Inches)	Minimum cover (Inches)	Maximum Height of Cover (feet)		
		12	18	24			12	18	24
12	12	204	256	308	12	12	98	123	128
15	12	162	204	242	15	12	98	123	174
18	12	126	169	239	18	12	91	102	144
21	12	115	145	204	21	12	69	87	123
24	12	100	126	178	24	12	60	76	108
30	12	79	100	142	27	12	67	85	123
36	12	65	83	117	30	12	60	85	111
42	12	55	70	100	36	12	50	71	92
48	12	48	61	87	42	12	60	76	96
54	12	54	77	100	48	12	52	68	84
60	12	69	90	111	54	12	46	50	74
66	12	69	81	100	60	12	60	76	82
72	12	74	91	100	66	12			51
78	12	81	81	89	72	12			41
84	12								

**RIGID PIPE**

RCP - (Minimum fill) 1' for Class IV & Class V  
2' for Class III & Class II

(Maximum fill) 10' - Class II pipe  
20' - Class III pipe  
30' - Class IV pipe  
40' - Class V pipe

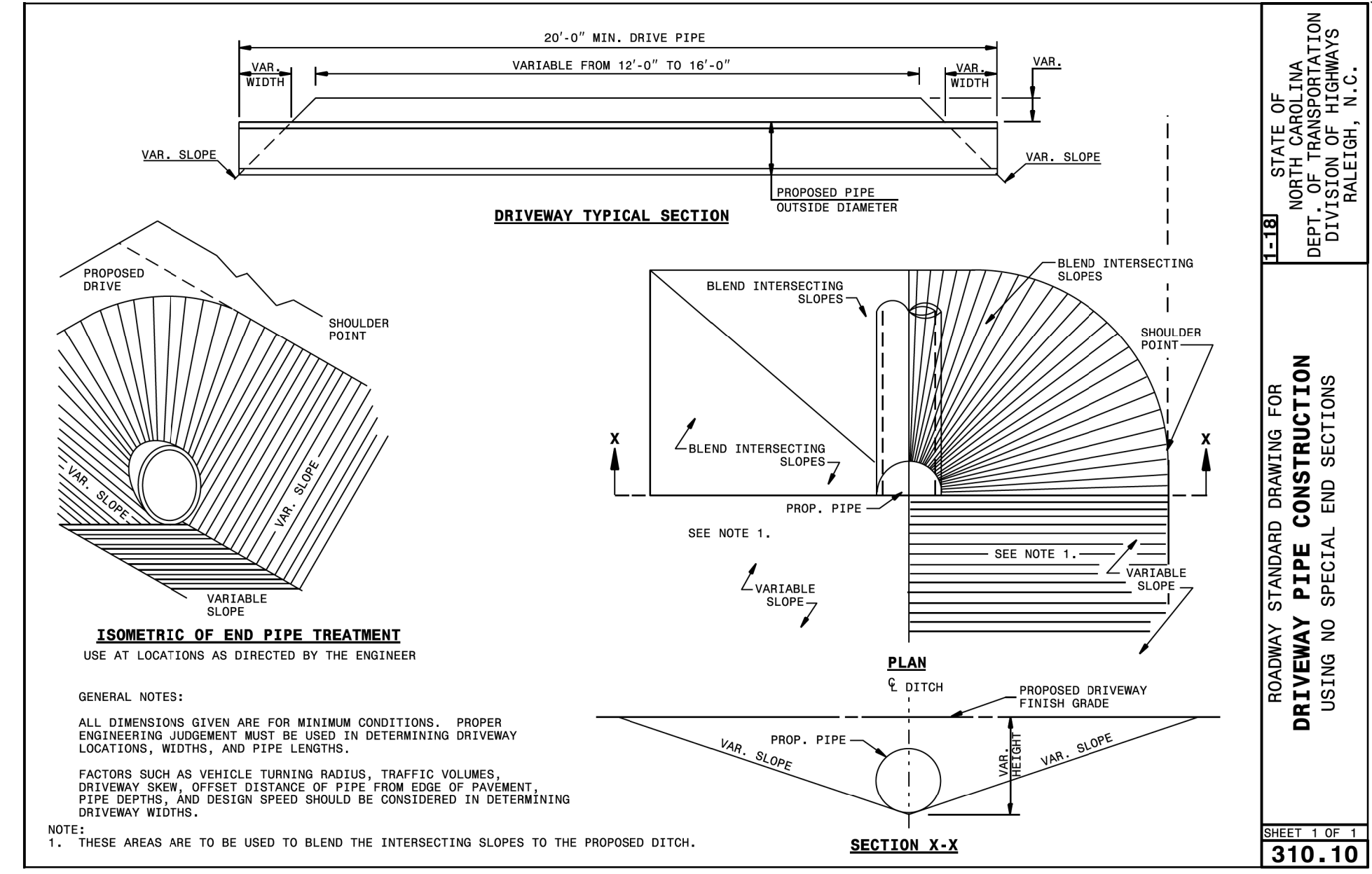
(For fills > 40' & < 80' use LRFD Design Method)

REFER TO THE FOLLOWING FOR PIPE SPECIFICATIONS  
RCP - AASHTO M170

NOTES: FILL HEIGHTS SHOWN WERE CALCULATED USING AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS  
1' MINIMUM COVER FOR ALL SIDE DRAIN PIPE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS

ROADWAY STANDARD DRAWING FOR  
**METHOD OF PIPE INSTALLATION**  
FILL HEIGHT TABLES

SHEET 3 OF 3  
**300.01**



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Howard

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JOSHUA G. DALTON  
6/17/2021

STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

**PRINCEVILLE DIKE FLOODGATE REPAIRS**  
PRINCEVILLE, EDGECOMBE COUNTY, NC

PROJECT # : 1284-20041  
DRAWING NAME: FLOODGATE RDY PSH C603  
DATE: 6-16-2021  
DRAWN BY: JRH  
REVIEWED BY: RCH  
REVISIONS:

SHEET NO.  
**C6.12**

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## **SECTION 8 - HYDRAULIC MODELS**

Electronic files for the Effective Model and the Project Model are included with this report.