

## Memorandum

DATE: August 19, 2026  
FROM: Brandon Harland  
RE: Rationale for Section 401 Water Quality Certification for 2025-0694\_Iowa DOT  
Clear Creek Bank Stabilization Project

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**Project Description:** The Iowa DOT proposes armoring approximately 1,200 linear feet of Clear Creek at five separate locations to prevent further channel migration toward IA 9 and to maintain a safe transportation corridor for the traveling public. Class E revetment will be used for the armoring. Streambanks will be graded and shaped to a 2:1 slope, and approximately 9,383 tons of Class E revetment will be placed across the five sites in total. Each site will include keyed-in revetment and a stone toe to protect the stabilization measures. Construction activities will involve excavators, dump trucks, backhoes, bulldozers, and other heavy equipment necessary for earthwork operations. All temporarily disturbed areas will be stabilized using appropriate erosion control measures.

**Project Location:** 43.3600991 / -91.3011315 Allamakee County.

### Receiving Water Bodies

Clear Creek is an A1 A2 BCW1 HH designated use waterbody. This designation starts roughly two miles downstream of the project location. The designated uses have been adopted in Iowa's state rule, described in the rule-referenced document of Surface Water Classification effective on July 24, 2019.

### Antidegradation

#### Pollutants of Concern

This project proposes bank stabilization. Chemicals will not be used. Thus, the pollutants present in the discharge from such construction are substances present in runoff, or are the result of a spill. The DNR has identified the following pollutant of concern in discharges from this project and the potential impacts on water quality:

#### *Increased Turbidity/Total Suspended Solids*

The turbidity of water is related to the amount of suspended solids contained in the water. Suspended solids decrease the clarity of water, reduce light penetration, and can impair the photosynthetic activity of aquatic plants. Suspended solids can be aesthetically displeasing and can reduce the recreational value of a water body. If suspended solids screen out light and impair growth of aquatic plants, dissolved oxygen levels can decrease. Suspended solids can be harmful to fish and other aquatic life by causing abrasive injuries and clogging gills and respiratory passages.

Increases in turbidity/total suspended solids from projects authorized by this project will generally be local and temporary. To address turbidity/total suspended solids, the permittee will control runoff to water bodies using a variety of best management practices (BMPs).

#### Best Management Practices in Permit and Certification Conditions

##### *Permit-Based*

The Corps has BMP-based conditions in the Section 404 permit.

Construction activity that disturb one or more acres require a storm water NPDES permit from the DNR. For projects that require storm water NPDES permits, Storm Water Pollution Prevention Plans (SWPPPs) are developed, which typically include BMP-based conditions.

#### *Certification-Based*

The DNR is adding BMP-based conditions to the certification. The combined listed BMPs, when adhered to by the permittee, protect Iowa's water quality by controlling erosion and sediment runoff to prevent pollution from reaching the nearby water bodies. Antidegradation requirements will be considered to be met if all appropriate and reasonable BMPs required by permit and certification are applied and maintained. See, 567 IAC 61.2(2); Iowa Antidegradation Implementation Procedure § 6.3.

#### Temporary and Limited Degradation

The State adopted Iowa Antidegradation Implementation Procedure (2010 and 2016) states that "A regulated activity shall not be considered to result in degradation, if the activity will result in only temporary and limited degradation of water quality as defined in the glossary and as further described in Sections 1.2 and 2.4." The effects can be regarded as temporary and limited following a review of all of the following factors, if applicable:

- a) Length of time during which water quality will be lowered  
The length of time where there might be a lowering of water quality is relatively short for the proposed activity.
- b) Percent change in ambient conditions  
The only significant change that is reasonably expected to occur would be for the presence of sediment in the stream if there is a heavy rainstorm or if the BMPs fail.
- c) Pollutants affected  
Turbidity, total suspended solids.
- d) Likelihood for long-term water quality benefits to the water body  
This activity provides water quality benefits by removing sediment from the stream bed.
- e) Degree to which achieving the applicable Water Quality Standards during the proposed activity will be at risk  
The use of BMPs installed prior to construction, maintained during construction, and until the site has returned to pre-construction conditions should greatly increase the degree to which a project achieves the applicable water quality standards.
- f) Potential for any residual long-term effects on existing uses  
The BMP-based conditions included in the Section 404 permit and certification include activities such as erosion control. The project will follow IA-1 Site Preparation and IA-5 Pollution Control. This project should not contribute to any ongoing impacts to water quality.

For the above discussed reasons, the DNR makes the following finding:

This review concludes that water quality degradation due to this activity is temporary and limited.

#### Social and Economic Importance

This project is socially important for the trout fishery and stabilizing the stream banks.

This project is economically important for commerce and transportation, for the communities along the stream, by creating jobs in the planning and construction of this project and likely using materials from local sources.

For the above discussed reasons, the DNR makes the following finding:

This review concludes that water quality degradation due to this activity is necessary to accommodate important economic and social development.

# Water Quality Pre-Filing Meeting Request and Certification Request Form

This form should only be completed and submitted if your project requires one of the following:

- Corps of Engineers (Corps) standard/individual Section 404 permit;
- Corps Section 404 nationwide or regional permit where the Corps waives a limit;
- Corps Section 404 nationwide or regional permit on an [Outstanding Iowa Water](#);
- Federal Energy Regulatory Commission license; or
- Other federal permit or license requiring a Section 401 Water Quality Certification.

Federal regulation [40 CFR 121.4](#) requires the applicant to submit a pre-filing meeting request before filing a certification request. More information may be viewed on the [U.S. EPA Overview of §401 Certification](#) website.

**IMPORTANT NOTE:** Iowa Administrative Code 567—[Chapter 61](#) currently states that a certification request form **may not** be submitted until **at least 30 days** have passed since the “Pre-filing Meeting Request” was submitted to the DNR.

The following is a guide for completing the Department of Natural Resources’ (DNR) pre-filing meeting request and certification request form. The information is required, and if not filled out completely, the request may be determined to be incomplete, which may delay the 401 certification process. If additional space is needed for any item on the form, attach additional page(s) as necessary. Please note that DNR may request additional information if it is needed to prepare the §401 Water Quality Certification (certification).

**Separately submit pre-filing meeting request and, when ready, the certification request and attachments** by email to [Section401WQC@dnr.iowa.gov](mailto:Section401WQC@dnr.iowa.gov)

Contact Section 401 Water Quality Certification at the DNR with any questions:

[Section401WQC@dnr.iowa.gov](mailto:Section401WQC@dnr.iowa.gov); 515-954-6450

Iowa DNR, Attn: Section 401 Water Quality Certification, 502 E 9<sup>th</sup> St, Des Moines IA 50319

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# Water Quality Pre-Filing Meeting Request and Certification Request Form

## Pre-Filing Meeting Request Instructions

1.
  - a. **Property Owner/Project Proponent (aka Applicant) Name.** Enter the name, primary residence mailing address, email address, and phone number(s) of the responsible party or parties. If the responsible party is an agency, company, corporation, or other organization, indicate the name of the organization and responsible officer. If there is more than one party, please attach a sheet with the necessary information. Please note that the Project Proponent means the applicant for a license or permit or the entity seeking certification.
  - b. **Authorized Agent's Name.** If applicable, indicate the name of the individual or agency, designated by you, to represent you in this process. An authorized agent (agent) can be an attorney, builder, contractor, engineer, or any other person or organization. Please provide the agent's complete mailing address, email, and telephone number where the agent can be reached during normal business hours. **Note: An agent is not required.**
2. **Proposed Project Description.** Please provide a name and description identifying the proposed project, (examples: Smith Lake shoreline stabilization, U.S. 66 Mississippi River Bridge replacement, utility line replacement, or Wallace Building rain garden). Proposed project means the activity or facility for which the project proponent has applied for a federal license or permit. Please include a map or diagram of the proposed project area, as well as photographs and any other relevant site data. If you have any other readily available water quality-related materials not specified in this form, please include a brief description here and include them as an attachment in the application. Existing water quality-related materials are those in the project proponent's possession or easily obtainable and inform the project proponent's development of the application or draft license or permit.
3. **Project Location:** The location should be provided as latitude and longitude and county that the project is located in. Provide latitude and longitude in decimal degrees with four decimal places, example: latitude: 41.5919, longitude: -93.6061. Use [www.latlong.net](http://www.latlong.net) if needed for finding latitude/longitude. Please provide the name of the water body (water bodies) receiving the discharge. For minor streams with no official name, you can use "unnamed tributary".  
  
**Receiving Water(s):** This is the name of the water body (or water bodies) that will be affected by the project (e.g., rivers, streams, and/or wetlands).  
  
**Discharge:** A discharge is any material entering the water (e.g., riprap, bridge piers, culvert, utility lines, fill material, dredged material, chemicals, etc.).
4. **Pre-filing Meeting Request Verification.** By signing the form, you must agree with everything stated in this section. The signature of the property owner/project proponent is required. If you are working with an authorized agent, their signature is also required.

**Iowa Department of Natural Resources**  
**Section 401 Water Quality Pre-Filing Meeting and Certification Request Form**  
**Pre-Filing Meeting Request Form**

**1a. Property Owner/Project Proponent (aka Applicant) Name:** Clear Creek Bank Stabilization

Company Name (if applicable): Iowa Department of Transportation

Mailing Address: 800 Lincoln Way

Email Address: Brandon.Walls@iowadot.us

Phone numbers (with area code): Home: \_\_\_\_\_ Cell: 515-509-5231 Business: \_\_\_\_\_

**1b. Authorized Agent's Name (if applicable):** \_\_\_\_\_

Company Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Email Address: \_\_\_\_\_

Phone numbers (with area code): Business: \_\_\_\_\_ Cell: \_\_\_\_\_

**2. Identify the Proposed Project:**

The Iowa DOT proposes armoring approximately 1,200 linear feet of Clear Creek at five separate locations to prevent further channel migration toward IA 9 and to maintain a safe transportation corridor for the traveling public. Class E revetment will be used for the armoring. Streambanks will be graded and shaped to a 2:1 slope, and approximately 9,383 tons of Class E revetment will be placed across the five sites in total. Each site will include keyed-in revetment and a stone toe to protect the stabilization measures. Construction activities will involve excavators, dump trucks, backhoes, bulldozers, and other heavy equipment necessary for earthwork operations. All temporarily disturbed areas will be stabilized using appropriate erosion control measures.

**3. Project Location:**

County: Allamakee Latitude: 43.3600991 Longitude: 91.3011315

Receiving Water(s): Clear Creek

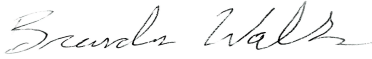
Discharge: Earthen fill, Class E Revetment

**4. Pre-filing Meeting Request Verification:**

I certify that I have read and understand the following statements per the Clean Water Act Section 401 Certification Rule:

- Submission of this form completes the requirement of the pre-filing meeting request.
- I cannot submit my certification request until at least 30 calendar days after submitting this pre-filing meeting request. This request must be signed by the Property Owner/Applicant and the Authorized Agent, if applicable.
- I have included the following materials in the application:
  - ☒ Map/diagram of the proposed project area (required)
  - ☒ Photographs of the proposed project area (required)
  - ☒ Relevant site data (if applicable)

Property Owner/Applicant's Name (printed): Brandon Walls

Property Owner/Applicant's Signature:  Date: 7/7/2026

If applicable: Authorized Agent's Name (printed): \_\_\_\_\_

Authorized Agent's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## Water Quality Pre-Filing Meeting Request and Certification Request Form

### Certification Request Instructions

5. **Corps Project Manager.** Enter the name, email address, and phone number(s) of the Corps project manager associated with the proposed project.
6. **Federal Permit / License Requiring Section 401 Water Quality Certificate and its Project Number.** Certification is required for any federal license or permit that authorizes an activity that may result in a discharge to a water of the United States. The federal agency can tell you what their identification number is for your project. Please check the appropriate box to indicate the federal agency. **Important:** A copy of the federal permit or license application is **required** to be submitted with this certification request. For the Corps of Engineers Section 404 permits, DNR Flood Plain, and Sovereign Lands permits, the application form can be found on the [DNR's Flood Plain webpage](#).
- Examples: Corps of Engineers NWP 27 #2020-0830  
Corps of Engineers RP 33 #2020-1609  
Corps of Engineers IP #2020-0361  
FERC Hydropower #11530
7. **Include a description of any methods and means proposed to monitor the discharge and the equipment or measures planned to treat, control, or manage the discharge.** Please provide a description of the best management practices you will use to protect water quality as well as any methods and means proposed to monitor the discharge/equipment or measures planned to treat or control the discharge (e.g., silt fences will be installed to prevent sediment entering the water body, all equipment will be cleaned prior to construction, equipment will be checked regularly to ensure oil, gas, or other material do not enter the water body).
8. **Dates.** Exact start and end dates for the proposed project are required, while date(s) of proposed discharges can be approximate. While the DNR has a default reasonable period of time of 6 months to respond to a certification request, the DNR intends to respond to requests as quickly as possible within that time period.
9. **List all other federal, interstate, tribal, state, territorial, or local agency authorizations required for the proposed project, including all approvals or denials already received.** Typical authorizations include DNR Flood Plain, DNR Sovereign Lands, DNR NPDES Storm Water, and zoning permits.

Examples:

| Agency | Type of Authorization | Agency Number | Date Applied | Date Approved | Date Denied |
|--------|-----------------------|---------------|--------------|---------------|-------------|
| DNR    | Flood Plain           | 2020-0517     | 6/15/2021    | 10/8/2021     |             |
| DNR    | Sovereign Lands       | 2020-0517     | 6/15/2021    |               | 7/2/2021    |
| DNR    | NPDES                 | 3500901       | 2/14/2021    | 5/20/2021     |             |

10. **Date Pre-filing Meeting Request was submitted.** List the date that a pre-filing meeting request was submitted to the DNR.
11. **Certification Request Verification.** By signing the form, you must agree with everything stated in this section. The signature of the property owner/project proponent is required. If you are working with an authorized agent, their signature is also required.

**Note:** Certification requests must also be sent to the Federal Agency (i.e., Corps, FERC, etc.) at the same time. All projects in Iowa are in the Rock Island Corps District except for those below the ordinary high water mark of the Missouri River or west of the Missouri River, which are in the Omaha Corps District. For the Rock Island District Corps, send to the Corps project manager or to [iowaregulatory@usace.army.mil](mailto:iowaregulatory@usace.army.mil). For the Omaha District Corps, send to the Corps project manager or to [NE404Reg@usace.army.mil](mailto:NE404Reg@usace.army.mil).

**Iowa Department of Natural Resources**  
**Section 401 Water Quality Pre-Filing Meeting and Certification Request Form**  
**Certification Request Form**

**5. Corps Project Manager\*:**

Email Address: Molly Connerton

Phone numbers (with area code): Business: 601-937-2373 Cell: \_\_\_\_\_

\*The corps project manager must be cc'ed on the certification request email.

**6. Federal Permit / License Requiring Section 401 Water Quality Certificate and its Project Number\***

Permit/License Number: 2025-00694 Federal Agency: ☒ Corps of Engineers ☐ FERC

☐ Other: \_\_\_\_\_

\*A copy of the federal permit or license application is **required** to be submitted with a certification request.

**7. Include a description of any methods and means proposed to monitor the discharge and the equipment or measures planned to treat, control, or manage the discharge.** (Please provide a description of the best management practices you will use to protect water quality as well as any methods and means proposed to monitor the discharge/equipment or measures planned to treat or control the discharge.)

All bank stabilization sites will use appropriately sized revetment that will be keyed into the bank to protect each structure. All structures will utilize a stone toe for additional protection. Silt fences will be used to control erosion on this project. All disturbed areas will be seeded with native vegetation. All equipment will be washed and cleaned prior to work being conducted in Clear Creek. Iowa DOT staff are required to inspect the project, including all storm-water and erosion control devices, every seven calendar days

**8. Dates\***

Planned Start Date of Proposed Project: 02/16/2027

Planned End Date of Proposed Project: 10/29/2027

Approximate date(s) of discharge(s) (if known): Unknown

\*In normal situations, the DNR issues certifications within 90 days. This period of time accommodates internal review and the mandatory public comment period. If your project is scheduled to start sooner, please contact us at [Section401WQC@dnr.iowa.gov](mailto:Section401WQC@dnr.iowa.gov). Be advised that the DNR is entitled up to six months by law to review certification requests.

**9. List all other federal (not listed in #6), interstate, tribal, state, territorial, or local agency authorizations required for the proposed project, including all approvals or denials already received:**

| Agency | Type of Authorization | Agency Number | Date Applied | Date Approved | Date Denied |
|--------|-----------------------|---------------|--------------|---------------|-------------|
|        |                       |               |              |               |             |
|        |                       |               |              |               |             |
|        |                       |               |              |               |             |
|        |                       |               |              |               |             |

**10. Date Pre-filing Meeting Request was submitted** \_\_\_\_\_

### 11. Certification Request Verification

This request is hereby made for the activities described herein. I hereby certify that all information contained herein is true, accurate, and complete to the best of my knowledge and belief. I have completed the following tasks, as required for the certification request:

- ☒ Cc'ed the Corps contact associated with the proposed project
- ☐ Attached a copy of the federal permit or license application
- ☐ Submitted to pre-filing meeting request at least 30 days ago

I further certify that I possess the authority to undertake the proposed activities. I hereby request that the certifying authority review and take action on this CWA 401 certification request within the applicable reasonable period of time. This application must be signed by the Property Owner/Applicant and the Authorized Agent, if applicable.

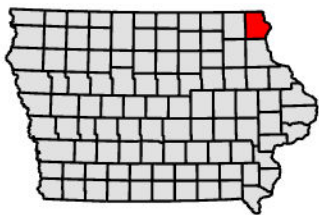
Property Owner/Applicant's Name (printed): Brandon Walls

Property Owner/Applicant's Signature: Brandon Walls Date: 08/13/2026

If applicable: Authorized Agent's Name (printed): \_\_\_\_\_

Authorized Agent's Signature: \_\_\_\_\_ Date: \_\_\_\_\_





Allamakee County, Iowa

## Figure 1: Project Overview

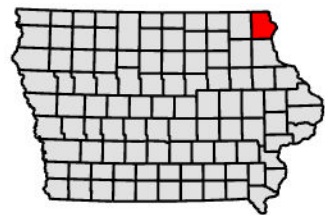
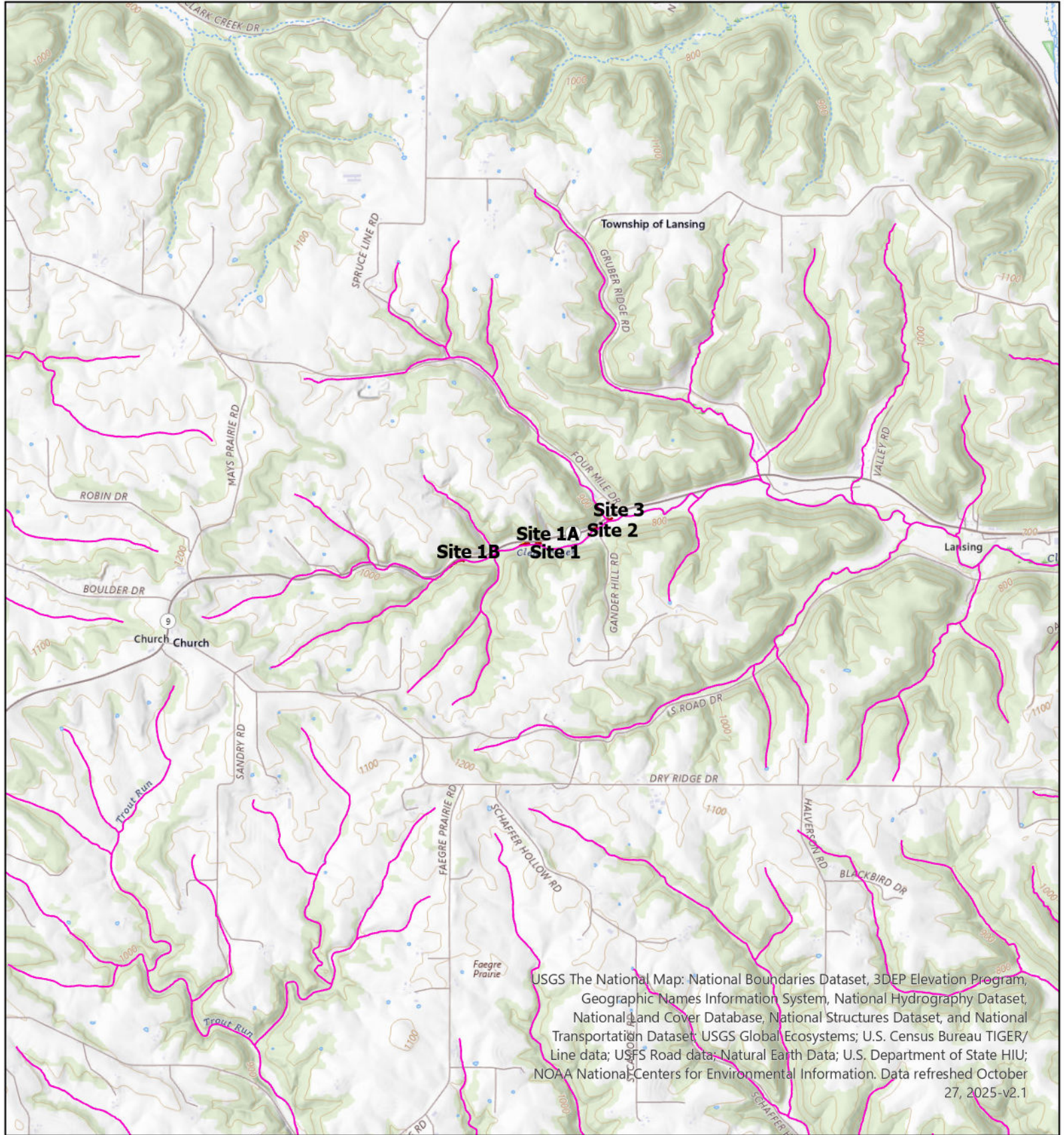
Overview of five proposed bank stabilization locations just west of Lansing, IA, along Iowa 9 and Clear Creek totaling approximately 1,208 linear feet. T99N R04W Sections 25-27  
Imagery: Ortho NAIP 2023



IOWA DOT

0 0.13 0.25 0.5 Miles





Allamakee County, Iowa

## Figure 2: USGS Overview

USGS overview (with OIW Locations) of bank stabilization projects along Clear Creek, just west of Lansing, IA.  
T99N R04W Sections 25-27  
Imagery: USGS Quadrangle Lansing, IA 2025.







USDA NAIP, Iowa State University GIS Facility

## Legend

- Stream Centerline
- Revetment
- Ground Intercept
- Revetment

## Figure 3a: Revetment Site 1B

Approximately 466 linear feet of bank stabilization work at Site 1B using Class E revetment along Clear Creek and Iowa 9, west of Lansing, Iowa.

IOWA DOT



0 62.5 125 250 Feet





USDA NAIP, Iowa State University GIS Facility

## Legend

-  Stream Centerline
-  Revetment
-  Ground Intercept
-  Revetment

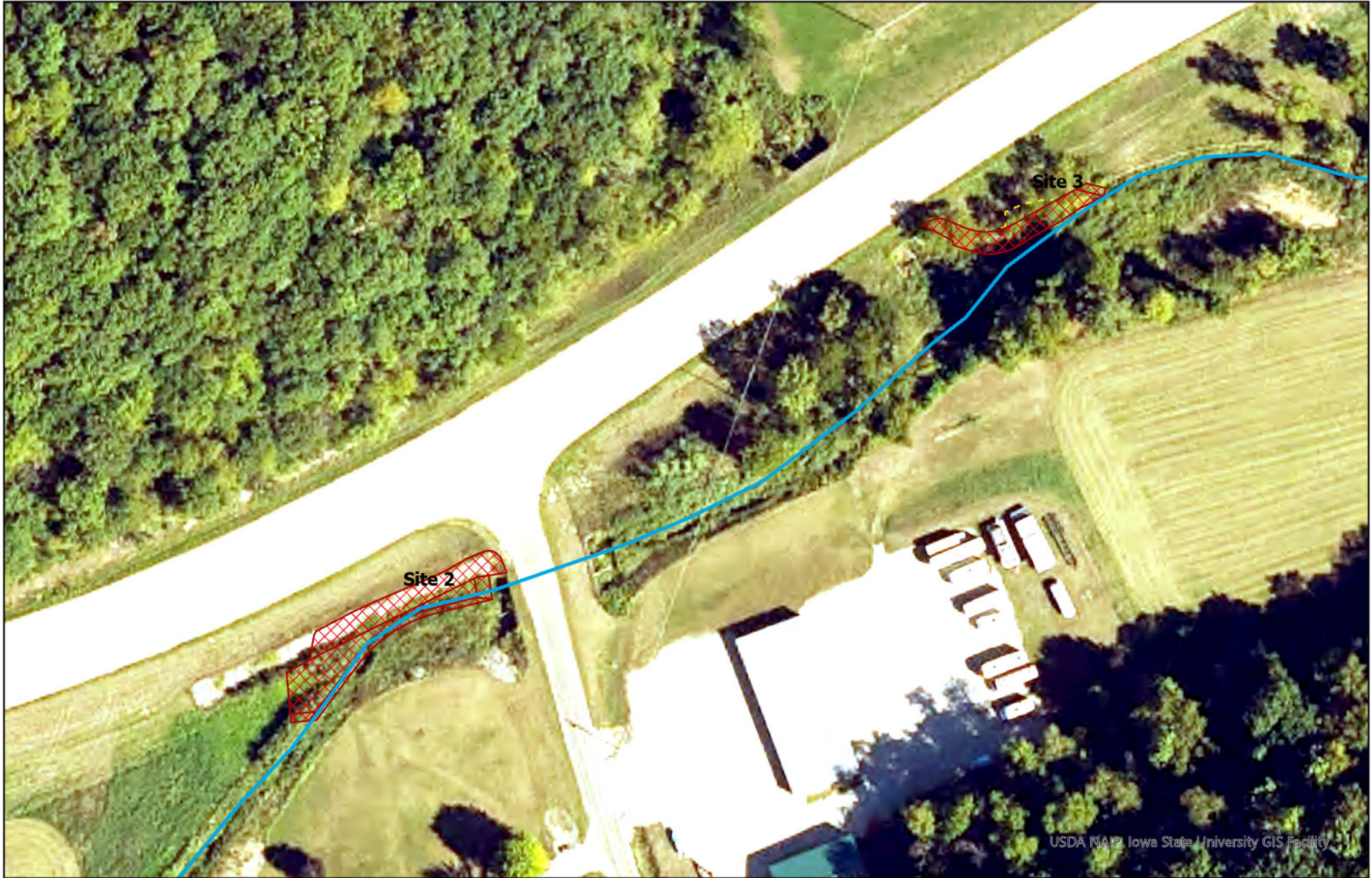
## Figure 3b: Revetment Sites 1 and 1A

Approximately 419 linear feet of bank stabilization work at Sites 1 and 1A using Class E revetment along Clear Creek and Iowa 9, west of Lansing, Iowa.









USDA NAR, Iowa State University GIS Facility

### Legend

- Stream Centerline
- Revetment
- Ground Intercept
- Revetment

### Figure 3c: Revetment Sites 2 and 3

Approximately 323 linear feet of bank stabilization work at Sites 2 and 3 using Class E revetment along Clear Creek and Iowa 9, west of Lansing, Iowa.



IOWA DOT

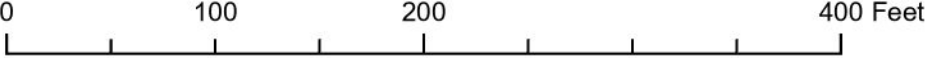






Photo looking north at **Site 1B** along Clear Creek at approximately 466 linear feet of proposed bank stabilization work. 02/03/2025



Photo looking north at **Sites 1 and 1A** along Clear Creek with a total of 419 linear feet of proposed bank stabilization work. 01/13/2025





Photo looking north at **Site 2** along Clear Creek at approximately 170 linear feet of proposed bank stabilization work. 01/13/2025



Photo looking north at **Site 3** along Clear Creek at approximately 153 linear feet of proposed bank stabilization work. 01/13/2025



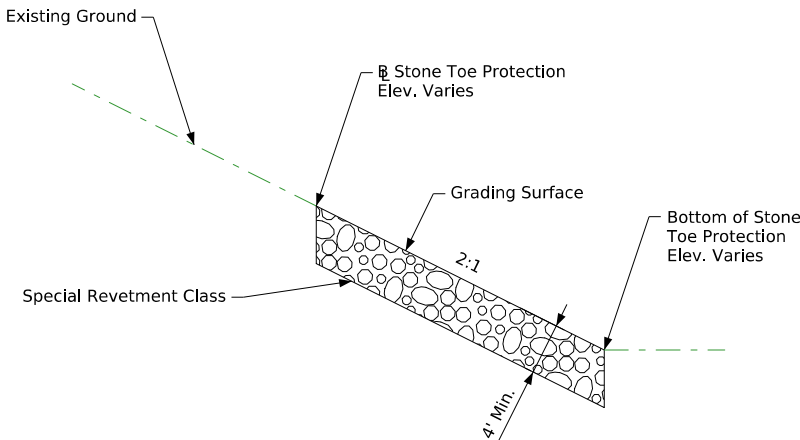
| Estimate Project Quantities and Reference Notes - Design #110 |              |                                            |      |                                            |                                                  |
|---------------------------------------------------------------|--------------|--------------------------------------------|------|--------------------------------------------|--------------------------------------------------|
| Item No.                                                      | Item Code    | Item                                       | Unit | Quantities<br>Estimated<br>Design No. 0122 | Estimate Reference Notes                         |
| 1                                                             | 2104-2713020 | EXCAVATION, CLASS 13 CHANNEL               | CY   | 2,541                                      | ----                                             |
| 2                                                             | 2416-0100030 | APRONS, CONCRETE, 30 IN. DIA.              | EA   | 1                                          | See Location and Details on Sheets V.9 and VW.1. |
| 3                                                             | 2416-1180030 | CULVERT, CONCRETE ROADWAY PIPE, 30 IN. DIA | LF   | 6                                          | See Location and Details on Sheets V.9 and VW.1. |
| 4                                                             | 2507-6850053 | REVTMENT, SPECIAL                          | TON  | 5,489                                      | Estimated at 160 lbs per cubic foot.             |
|                                                               |              |                                            |      |                                            |                                                  |

| <div> <div> <b>Revetment / Grading</b><br/> <b>Quantities</b> </div> </div> |                            |                                     |
|-----------------------------------------------------------------------------|----------------------------|-------------------------------------|
| Location                                                                    | Revetment<br>Special (Ton) | Class 13 Channel<br>Excavation (CY) |
| Site 1                                                                      | 1,332                      | 617                                 |
| Site 1A                                                                     | 955                        | 442                                 |
| Site 1B                                                                     | 3,202                      | 1,482                               |
|                                                                             |                            |                                     |
| Totals                                                                      |                            |                                     |

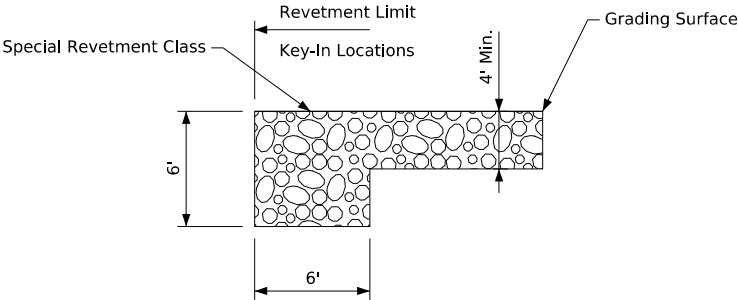
## Utilities Note:

## General Utility Symbols:

|                       |                         |
|-----------------------|-------------------------|
| E - Electric Line     | FO - Fiber Optic Line   |
| G - Gas Line          | GHP - Gas High Pressure |
| SAN. - Sanitary Sewer | ST S - Storm Sewer      |
| T - Telephone Line    | TV - TV                 |
| W - Water Line        | - - Power Poles         |



## Typical Revetment Cross Section



## Typical Section Thru Key-In Trench

|                                                                                     |                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <h2 style="text-align: center;">Hydraulic Design</h2>                                                                                                                                                       |
|                                                                                     | <p>I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Iowa.</p>  |
|                                                                                     | <p style="text-align: center;"><i>Randall M.L. Friend</i>                      05/14/2026</p> <p>Signature                      Date</p>                                                                    |
|                                                                                     | <p>Printed or Typed Name                      Randall M.L. Friend, PE</p> <p>My license renewal date is December 31,                      <u>2026</u></p> <p style="text-align: center;">V-1-V-15, VW.1</p> |
| <p>Pages or sheets covered by this seal: _____</p>                                  |                                                                                                                                                                                                             |

1. PRELIMINARY TO SITEMEASUREMENTS FOR REVIEW OF PROPOSED REVETMENT CONSTRUCTION AND IN CROSS SECTIONS AS GATHERED FROM A PROFESSIONAL SURVEY COMPLETED IN APRIL 2026. ACTUAL FIELD CONDITIONS ARE KNOWN TO VARY AS A RESULT OF ONGOING EROSION. FIELD ADJUST IN COORDINATION WITH THE IOWA DOT FIELD ENGINEERING STAFF.
2. FIELD ENGINEERING STAFF TO ENSURE GRADATION IS IN ACCORDANCE WITH PLANS.
  - a. PERFORM TRAFFIC CONTROL AS NECESSARY TO ENCOURAGE THE SAFETY OF THE PUBLIC TRAVELING NEAR THE PROJECT SITE. TRAFFIC CONTROL SHALL MEET IOWADOT STANDARDS FOR THIS TYPE OF WORK SITE.
  - b. COORDINATE WITH FEDERAL, STATE AND LOCAL GOVERNMENT REPRESENTATIVES PRIOR TO TRANSPORTING HEAVY EQUIPMENT OVER LOCAL ROADS. HEAVY EQUIPMENT WHICH EXCEEDS THE RATED LOAD CAPACITY OF ANY BRIDGE (OR CROSSING) SHALL BE TRANSPORTED TO THE WORK SITE USING AN ALTERNATE HIGH-CAPACITY ACCESS ROUTE. AVOID ALL LOW-CAPACITY STRUCTURES.
  - c. AVOID DAMAGING ROADS AND ALL PRIVATE AND PUBLIC LANDS OUTSIDE OF THE DESIGNATED CONSTRUCTION LIMITS AND ACCESS ROUTES. THE CONTRACTOR SHALL PROVIDE NECESSARY MATERIALS, LABOR, AND EQUIPMENT TO MAKE REPAIRS (OR REPLACEMENT IF NEEDED) FOR DAMAGE CAUSED BY CONSTRUCTION ACTIVITY SO AS TO RETURN ALL DAMAGED ROADS AND STRUCTURES TO ORIGINAL (PRE-PROJECT) CONDITION. THE CONTRACTOR SHALL COORDINATE WITH ADJACENT LANDOWNERS AND THE AGENCY RESPONSIBLE FOR ROAD MAINTENANCE TO ENSURE AN ACCEPTABLE RESOLUTION OF SUCH DAMAGES.
3. UTILITIES: VERIFY UNDERGROUND UTILITY LOCATIONS PRIOR TO ANY EXCAVATION WORK AND TAKE APPROPRIATE STEPS TO PROTECT ALL UTILITIES FROM DAMAGE. ADVISE AND WARN ALL CREW MEMBERS (INCLUDING SUBCONTRACTED PERSONNEL) OF THE LOCATION OF UTILITIES BEFORE ALLOWING THEM TO WORK ON-SITE. THE CONTRACTOR SHALL NOTIFY IOWA ONE CALL AT LEAST 48 HOURS BEFORE CONSTRUCTION BEGINS.
4. CLEARING AND REMOVAL: THE CONTRACTOR SHALL PROVIDE FOR PROPER OFF-SITE DISPOSAL OF ALL DEBRIS. TRANSPORT AND DISPOSE OF DEBRIS IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REGULATIONS.
  - a. CLEARING/REMOVAL LOCATIONS INCLUDE BUT ARE NOT LIMITED TO:
    - i. BANKSIDE AND STREAM BED AREAS WHERE REVETMENT CONSTRUCTION AND EXCAVATION IS SCHEDULED
    - ii. ACCESS LANES AND TURNAROUND AREAS.
  - b. IN AREAS WHERE SOIL IS EXCAVATED OR OTHERWISE DISTURBED TO FACILITATE CONSTRUCTION, THE TOP 6 INCHES OF SOIL SHALL BE STOCKPILED AND THEN RE-SPREAD ON THESE AREAS PRIOR TO SEEDING AND PLANTING.
5. FIELD SURVEY: EXISTING SURVEY INFORMATION IS INCLUDED ON SITUATION PLANS AND IN CROSS SECTIONS AS GATHERED FROM A PROFESSIONAL SURVEY COMPLETED IN APRIL 2026. ACTUAL FIELD CONDITIONS ARE KNOWN TO VARY AS A RESULT OF ONGOING EROSION. FIELD ADJUST IN COORDINATION WITH THE IOWA DOT FIELD ENGINEERING STAFF.
6. NEW WORK: ALL ROCK-FILL STRUCTURES (E.G. REVETMENT AND KEY-INS) SHOWN ARE NEW WORK. EXCAVATE (WHERE INDICATED), PREPARE SURFACE, AND CONSTRUCT NEW REVETMENT STRUCTURES TO THE OVERALL DIMENSIONS, ELEVATIONS AND CROSS SECTIONS SHOWN AND IN ACCORDANCE WITH THE QUANTITIES AS REQUIRED BY CONSTRUCTION SCHEDULE.
  - a. ROCK GRADATION FOR ALL RIPRAP PLACEMENT IS AS FOLLOWS, AND IS REFERRED TO AS "SPECIAL REVETMENT CLASS" IN THE PLANS:
    - i. D100 = 30 INCHES
    - D50 = 20 INCHES
    - D30 = 17 INCHES
  - b. CLEAR, GRADE, AND SURFACE ACCESS RAMPS AND ROUTES. KEEP SAFE DISTANCE FROM ALL SLOPES AND WEAK ZONES. ACCESS RAMPS AND ROUTES SHALL PROVIDE FOR SAFE TRANSPORT OF ROCK AND EQUIPMENT. MINIMIZE SEGREGATION OF ROCK (SIZES) DURING TRANSPORT AND UNLOADING OPERATIONS. FREEFALL AND ROLLING DISTANCE FOR ROCK DUMPING OPERATIONS IS LIMITED TO 8 FT. MAXIMUM, UNLESS OTHERWISE APPROVED BY IOWA DOT.
  - c. USE APPROPRIATE EQUIPMENT WITH ADEQUATE REACH OR HAND PLACE ROCK WHERE NECESSARY TO OBTAIN INDICATED THICKNESS OF REVETMENT. KEEP MACHINERY OUT OF WATER AS MUCH AS POSSIBLE.
  - d. DO NOT ALTER CHANNEL GRADIENT. DO NOT REDUCE NOR RESTRICT CHANNEL OPENING (BEYOND FACE OF NEW REVETMENT) AT ANY TIME.
  - e. WATER SURFACE LEVELS CAN VARY FROM LOW / DRY (ALONG THE CONSTRUCTION FOOTPRINT) TO BANK FULL OR HIGHER DEPENDING ON WEATHER IN THE UPSTREAM BASIN. FLOODING MAY INUNDATE WORK AREA.
  - f. CLASS 13 CHANNEL EXCAVATION MATERIAL MAY BE USED FOR FILL MATERIAL IF DETERMINED SUITABLE BY IOWA DOT FIELD ENGINEERING STAFF. REMAINDER OF MATERIAL NOT USED FOR FILL ON THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR.
  - g. NO EXCAVATION OR REMOVAL OF BEDROCK MATERIAL IS INCLUDED AS PART OF THIS PROJECT. IF BEDROCK IS ENCOUNTERED DURING EXCAVATION FOR REVETMENT AND KEY-INS, HALT EXCAVATION AND CONSULT FIELD ENGINEER. DO NOT DISTURB IN-SITU BEDROCK CONDITIONS UNLESS DIRECTED BY THE FIELD ENGINEER.
  - h. AFTER COMPLETION OF REVETMENT, THEN GRADE THE TOP OF BANK AREA. TO PROVIDE A SMOOTH AND STABLE SLOPE FOR GRASS SEEDING, WITH THE SLOPE AS GENERALLY SHOWN ON CROSS SECTION SHEETS. RAKE, GATHER, AND DISPOSE OF ANY UNCOVERED DEBRIS IN ACCORDANCE WITH THE DEBRIS DISPOSAL NOTE. FINISH CONTOURS SHALL PROVIDE FOR EVEN SHEET FLOW ACROSS THE TOP OF BANK AND REVETMENTS UNLESS OTHERWISE INDICATE -- DO NOT ALLOW CONCENTRATED FLOW AREAS (SUCH AS A DITCH OR SWALE) UNLESS SPECIFICALLY SHOWN IN PLANS.
7. RESTORATION: AT THE CONCLUSION OF THE PROJECT, RESTORE ALL ACCESS POINTS AND HAUL ROADS TO ORIGINAL CONDITION, THEN SEED AND MULCH ALL EXPOSED DISTURBED AREAS.
8. SITUATION PLAN NOTE: CONTOURS HAVE NOT BEEN REDRAWN TO SHOW FINISH ELEVATIONS. SEE CROSS SECTION SHEETS FOR FINISH ELEVATIONS.

# Design For Streambank Stabilization

## General Notes and Quantities

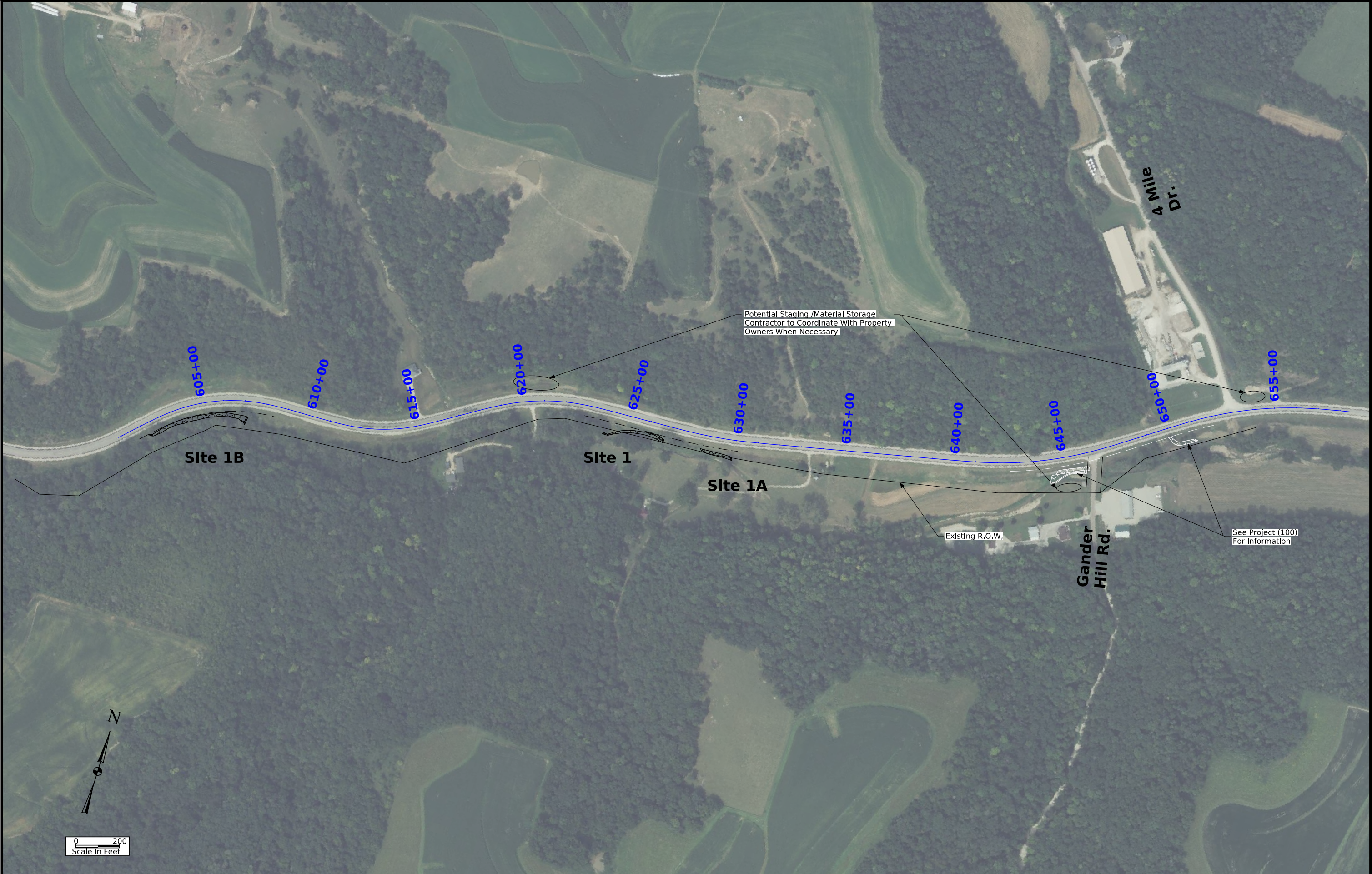
STA. Varies (IA 9) Turn-in Date: April 2026

# Allamakee County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. Design Sheet No. 1 of 15 FHWA/Asset



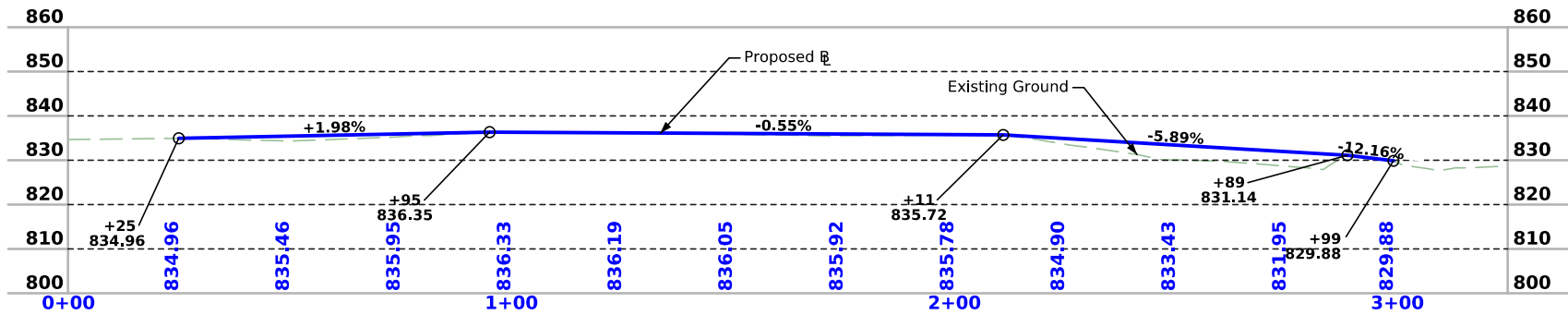


|          |         |                         |                  |                                            |                         |
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| FILE NO. | ENGLISH | DESIGN TEAM <b>HNTB</b> | Allamakee COUNTY | PROJECT NUMBER <b>ER-009-9(099)--28-03</b> | SHEET NUMBER <b>V.2</b> |
|----------|---------|-------------------------|------------------|--------------------------------------------|-------------------------|

8:32:31 AM 5/14/2026 rfriend pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\0300901025\Bridge\099)\_Revetment\SHT\_03009099\_REVET\_HNTB\_Z03.dgn

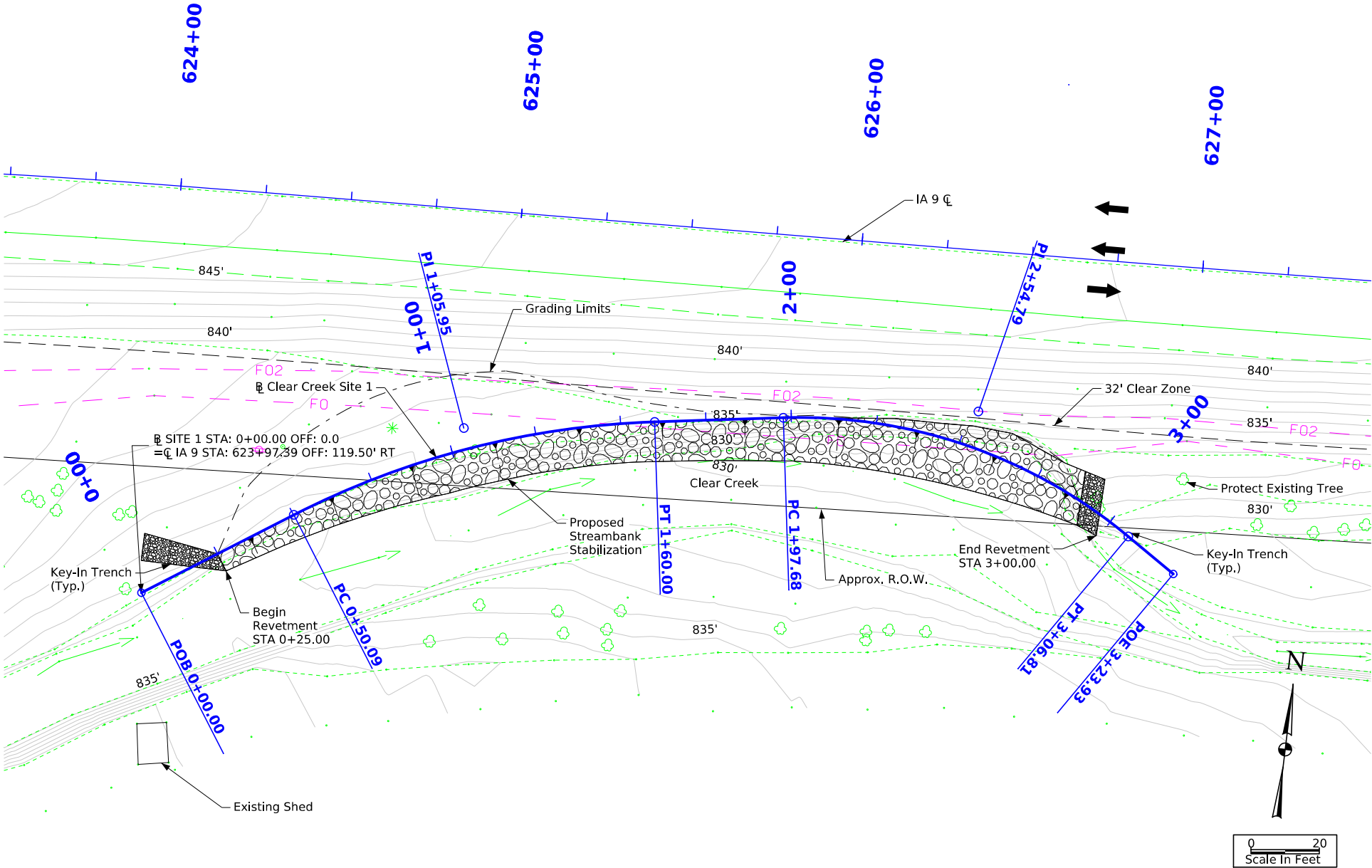


Control Point: 101,9432814.84,13470859.20,893.85,CP SET FENO NORTH OF HIGHWAY 9 AND WEST OF 4 MILE ROAD



BaseLine Profile

| Point No. | Station | Point Type | Element Data          | Bearing   | Northing   | Easting     |
|-----------|---------|------------|-----------------------|-----------|------------|-------------|
| Site 1    |         |            |                       |           |            |             |
| 1         | 0+00.00 | POB        | L = 50.08             | N56.043°E | 9433306.35 | 13472858.21 |
| 2         | 0+50.08 | PC         |                       |           | 9433334.33 | 13472899.76 |
| 3         | 1+05.95 | PI         | L = 109.92<br>R = 250 |           | 9433365.53 | 13472946.09 |
| 4         | 1+60.00 | PT         |                       |           | 9433374.05 | 13473001.3  |
|           |         |            | L = 37.68             | N81.234°E |            |             |
| 5         | 1+97.68 | PC         |                       |           | 9433379.79 | 13473038.54 |
| 6         | 2+54.79 | PI         | L = 109.13<br>R = 150 |           | 9433388.49 | 13473094.97 |
| 7         | 3+06.81 | PT         |                       |           | 9433357.46 | 13473142.91 |
|           |         |            | L = 17.124            | S57.082°E |            |             |
| 8         | 3+23.93 | POE        |                       |           | 9433348.15 | 13473157.29 |



Situation Plan

Location

IA 9 along Clear Creek  
T-99N R-4W  
Section 27  
Lansing Township  
Allamakee County  
Latitude 43.360083°  
Longitude -91.301417°

Hydraulic Data

RIDB: Not Applicable  
Drainage Area = 1,517 Acres  
Q<sub>2</sub> = 716 cfs  
Q<sub>5</sub> = 1,188 cfs  
Q<sub>10</sub> = 1,720 cfs  
Q<sub>50</sub> = 3,037 cfs  
Q<sub>100</sub> = 3,831 cfs

Utilities Legend:

- F0 F01D, Century Link
- F02 F02D, Allamakee Clayton Skyways FIB
- PPA, Allamakee Clayton Electric CO

Utilities shown on this sheet are for information only. See Road Design sheets for utility information.

Design For  
Streambank Stabilization

Situation Plan - Site 1

STA. 623+97.39 (IA 9) Turn-In Date: April 2026

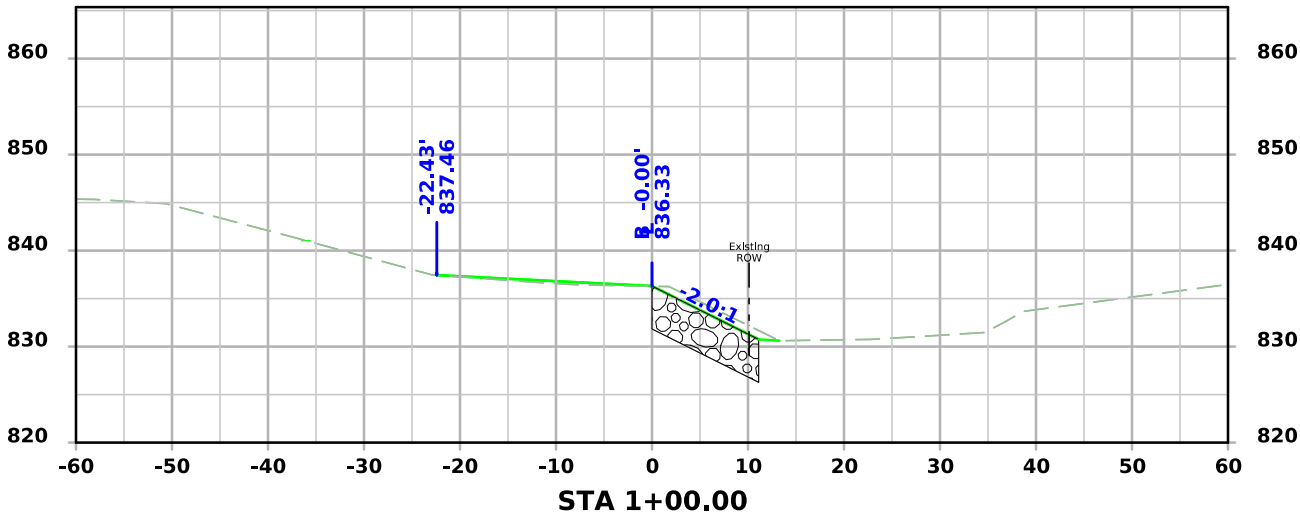
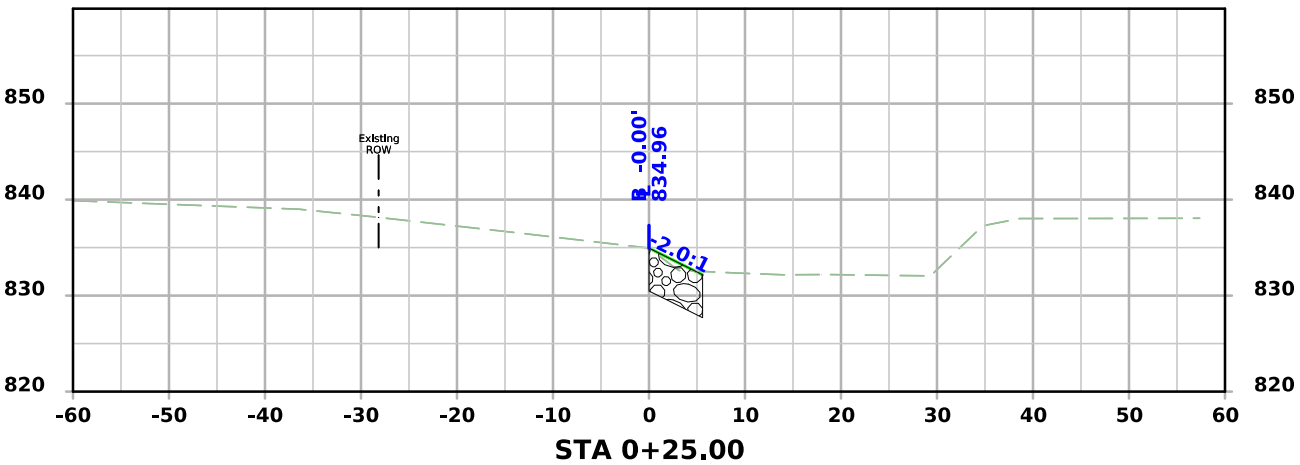
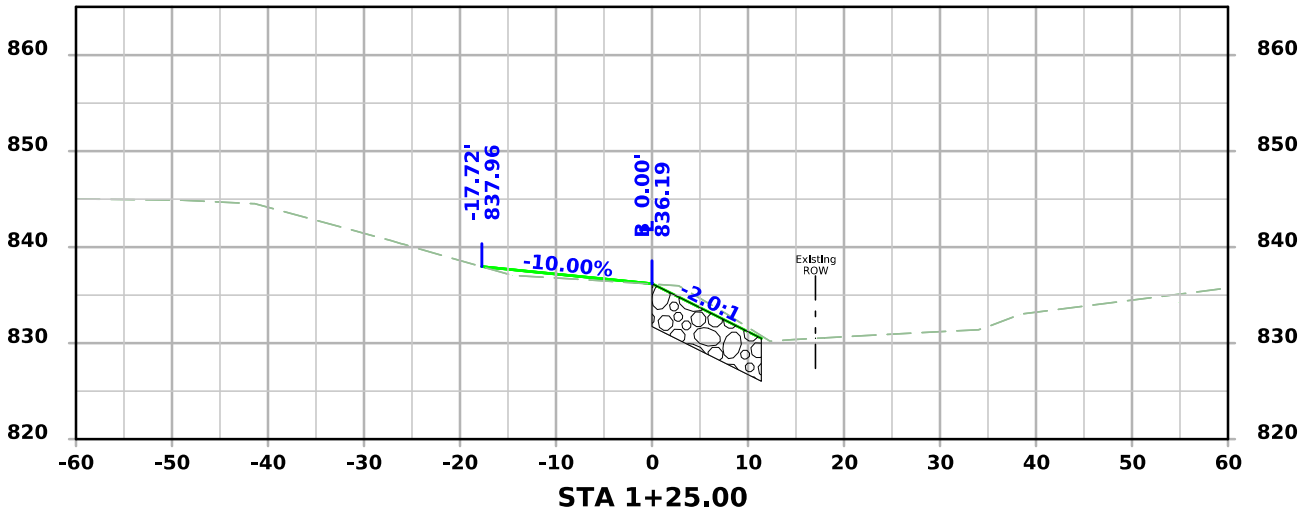
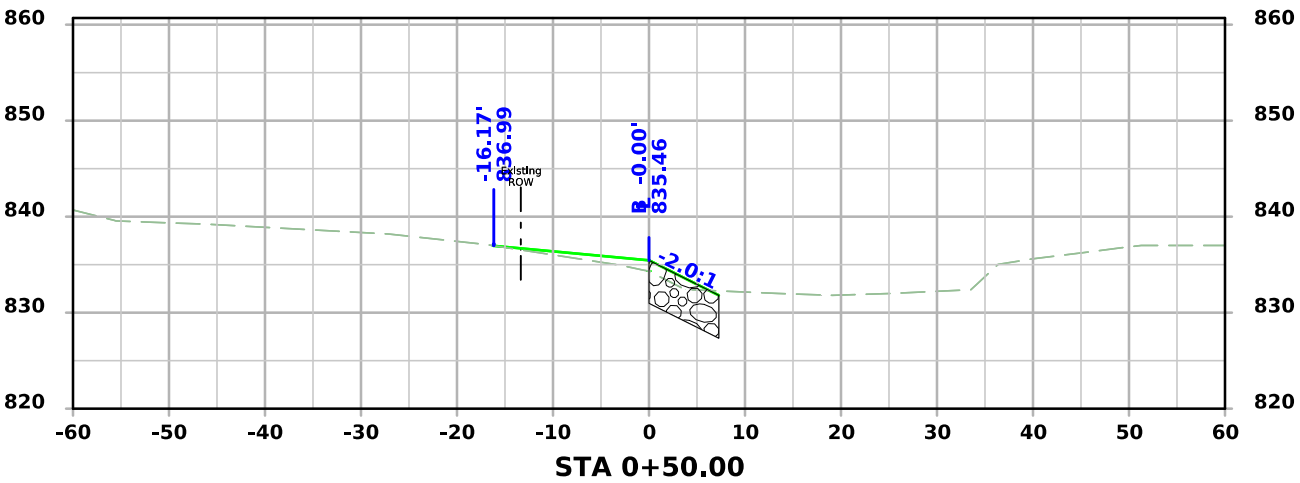
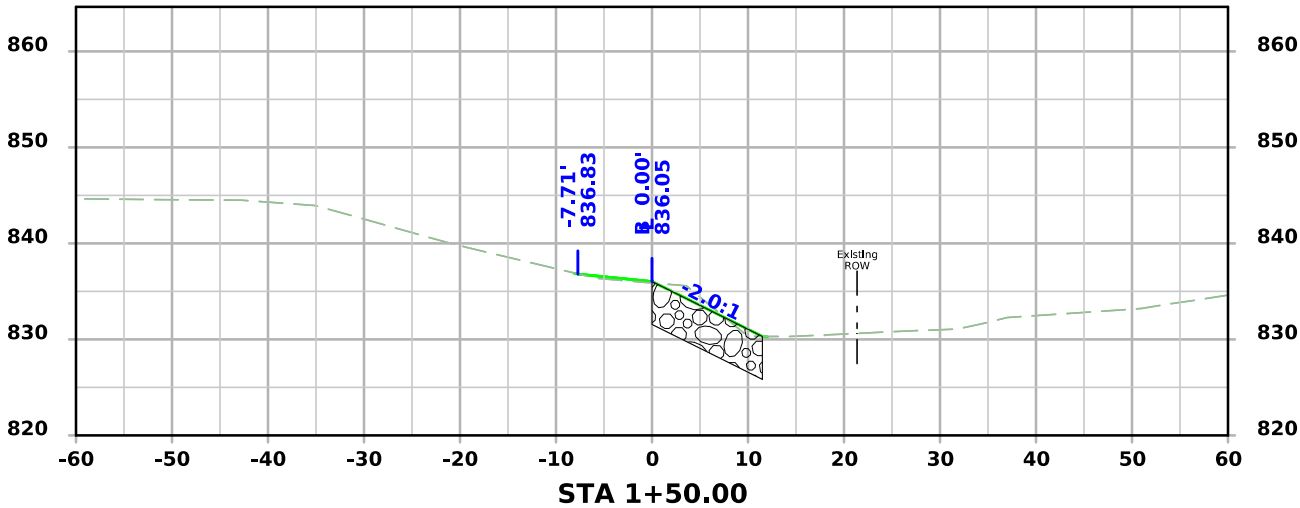
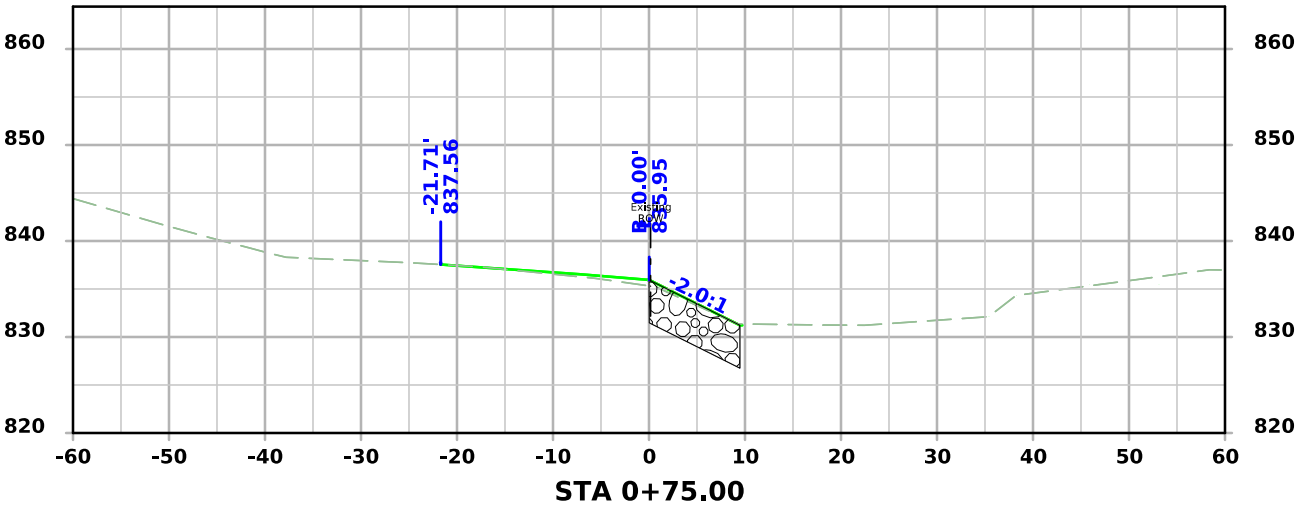
Allamakee County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. Design Sheet No. 3 of 16 FHWA/Asset

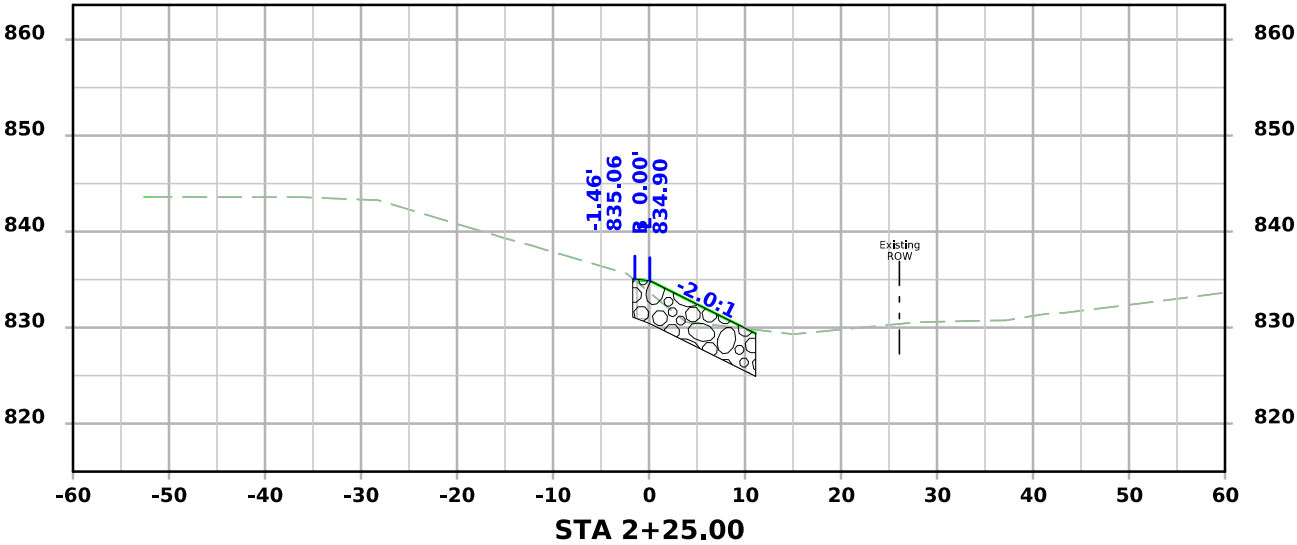
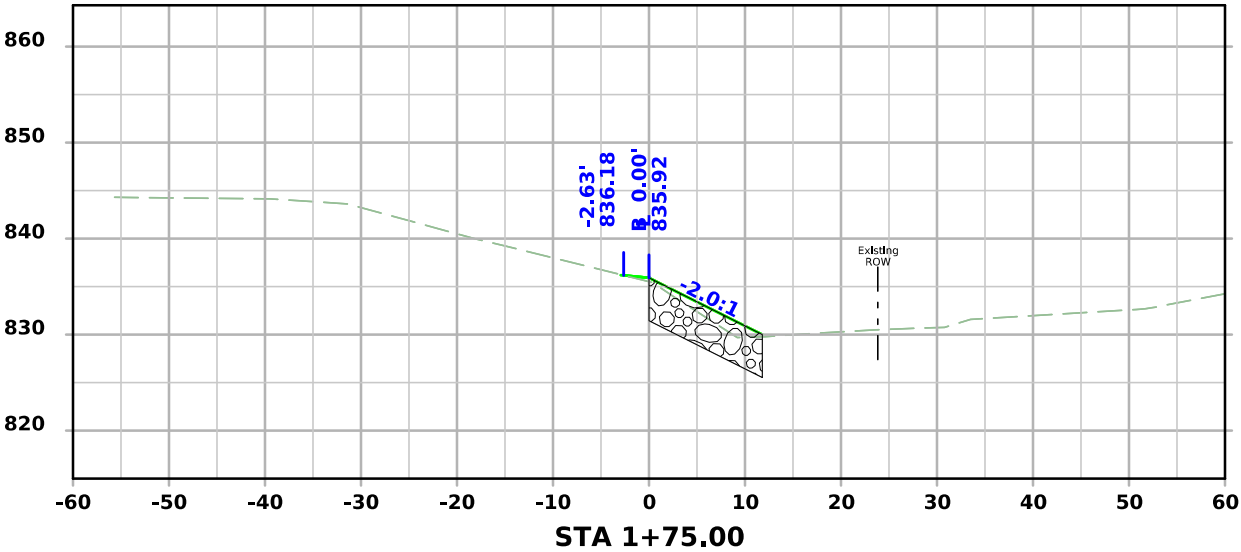
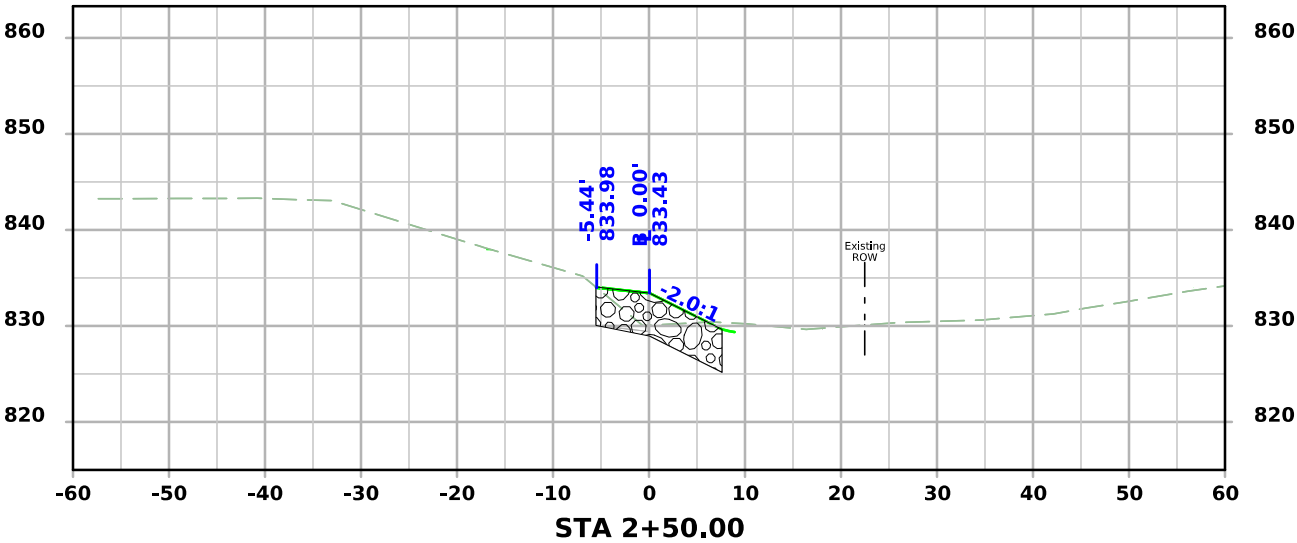
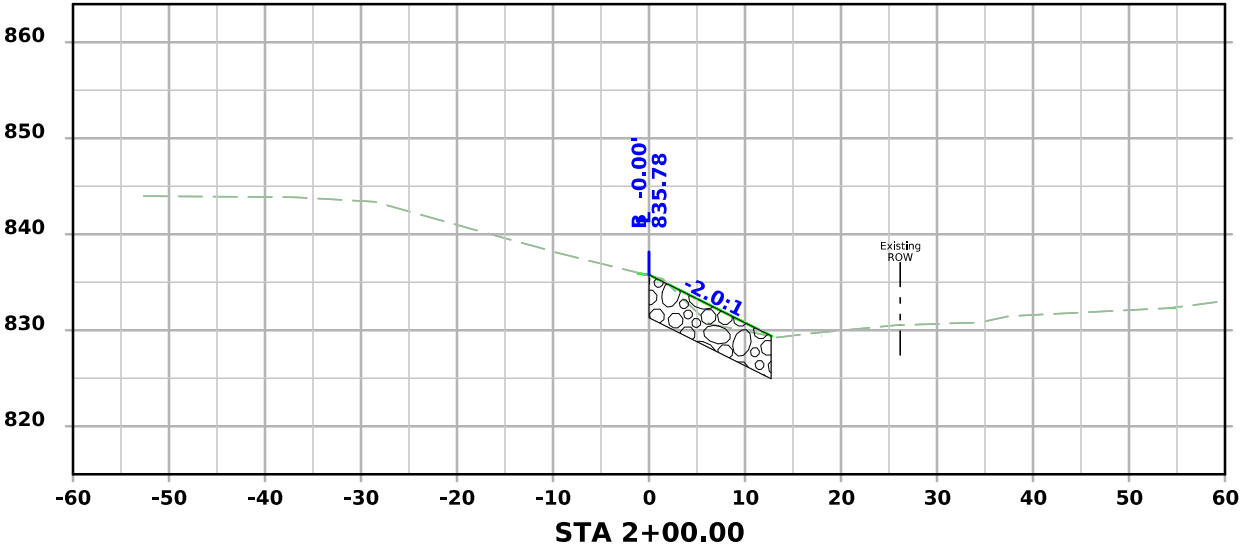


Site 1



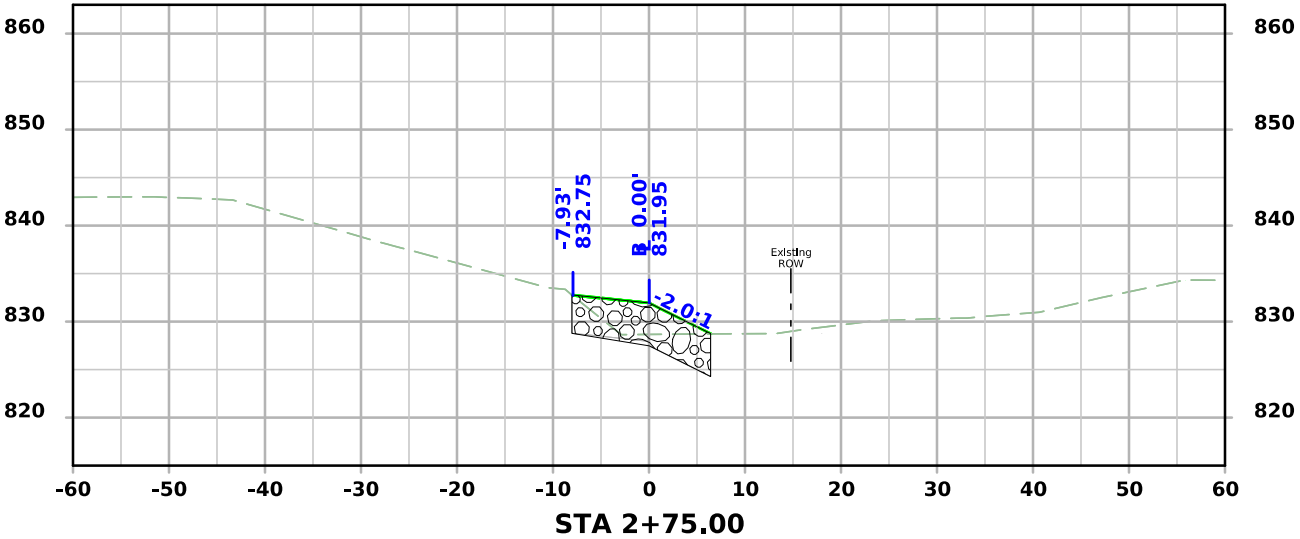
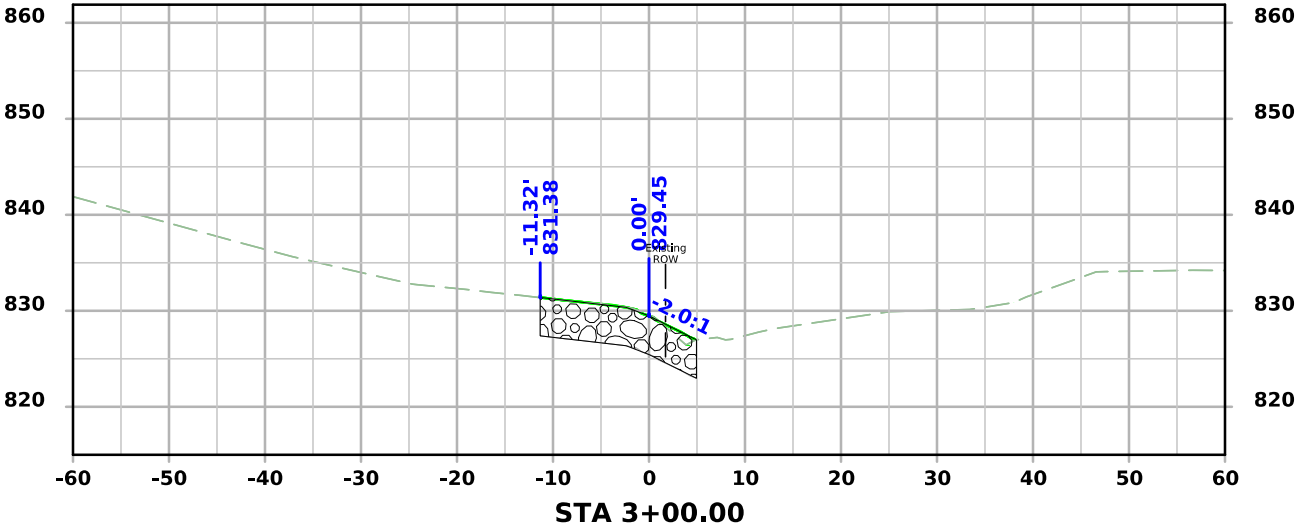


Site 1



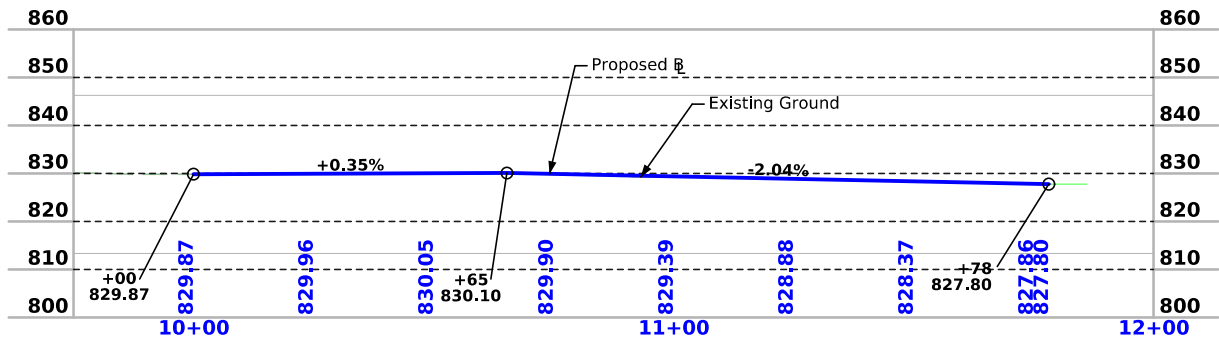


Site 1



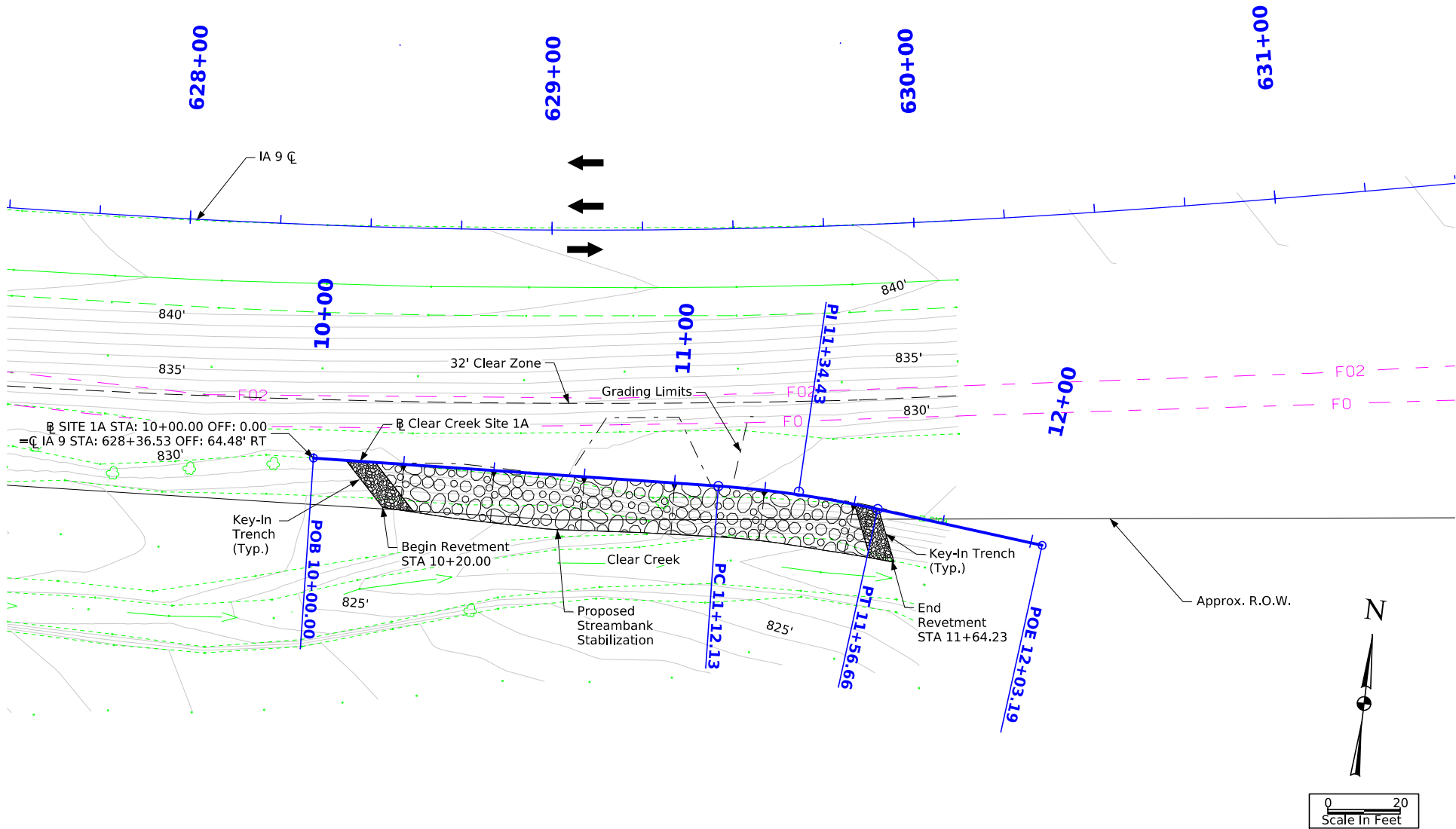


Control Point: 101,9432814.84,13470859.20,893.85,CP SET FENO NORTH OF HIGHWAY 9 AND WEST OF 4 MILE ROAD



BaseLine Profile

| Point No. | Station  | Point Type | Element Data         | Bearing   | Northing   | Easting     |
|-----------|----------|------------|----------------------|-----------|------------|-------------|
| Site 1A   |          |            |                      |           |            |             |
| 1         | 10+00.00 | POB        |                      |           | 943381.72  | 13473296.75 |
|           |          |            | L = 112.13           | N87.042°E |            |             |
| 2         | 11+12.13 | PC         |                      |           | 9433387.51 | 13473408.73 |
|           |          |            | L = 44.53<br>R = 300 |           | 9433388.66 | 13473431.00 |
| 3         | 11+34.43 | PI         |                      |           | 943386.50  | 13473453.20 |
| 4         | 11+56.66 | PT         |                      |           |            |             |
|           |          |            | L = 46.54            | S84.454°E |            |             |
| 5         | 12+03.19 | POE        |                      |           | 9433382.00 | 13473499.52 |



Situation Plan

Location

IA 9 along Clear Creek  
T-99N R-4W  
Section 27  
Lansing Township  
Allamakee County  
Latitude 43.360111°  
Longitude -91.300111°

Hydraulic Data

RIDB: Not Applicable  
Drainage Area = 2,944 Acres  
Q<sub>2</sub> = 727 cfs  
Q<sub>5</sub> = 1,214 cfs  
Q<sub>10</sub> = 1,743 cfs  
Q<sub>50</sub> = 3,113 cfs  
Q<sub>100</sub> = 3,886 cfs

Utilities Legend:

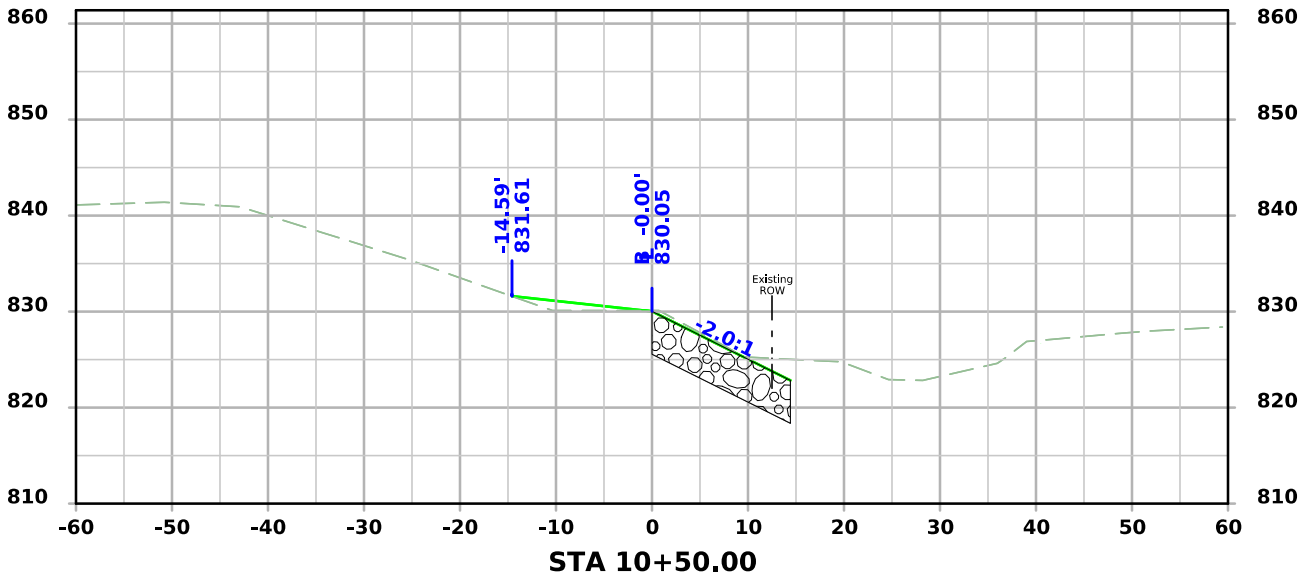
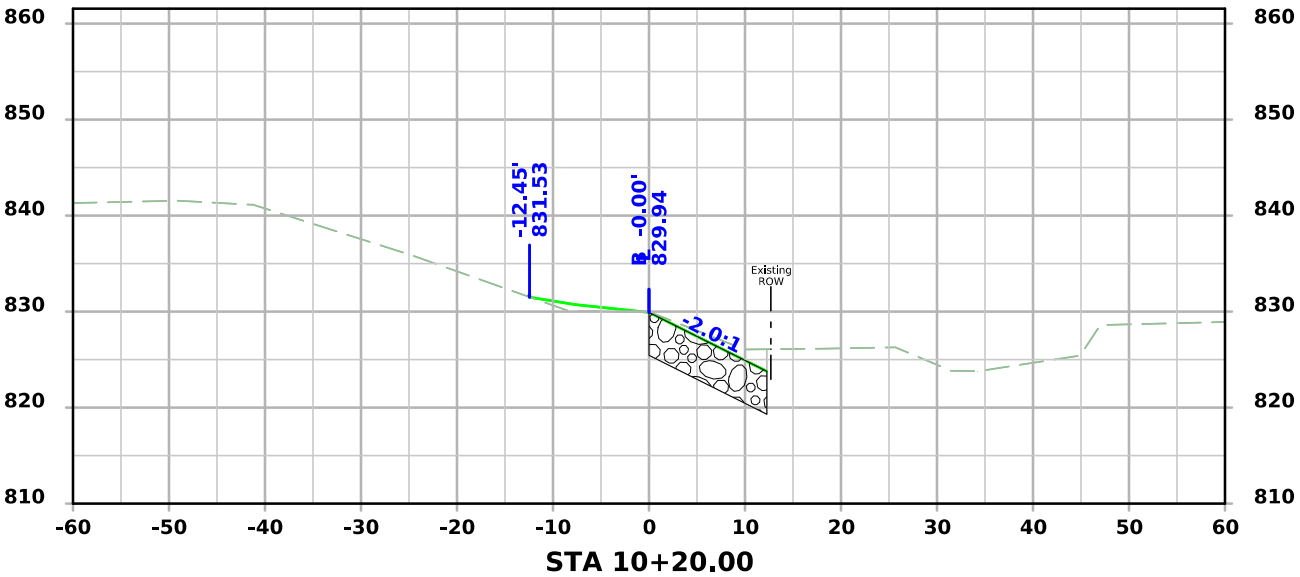
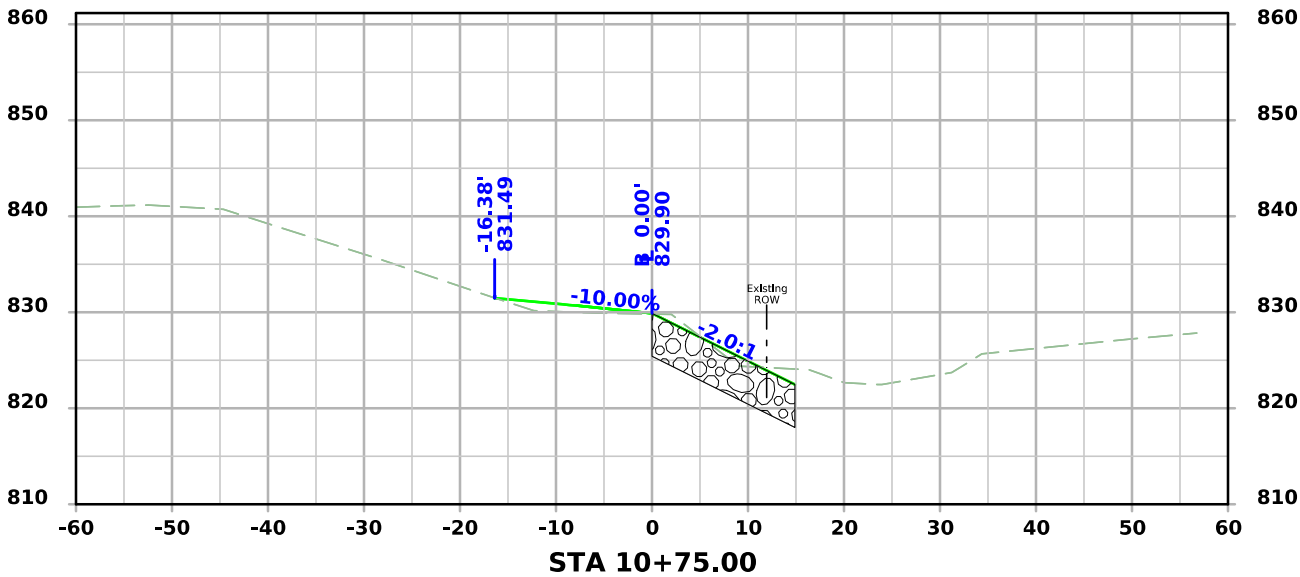
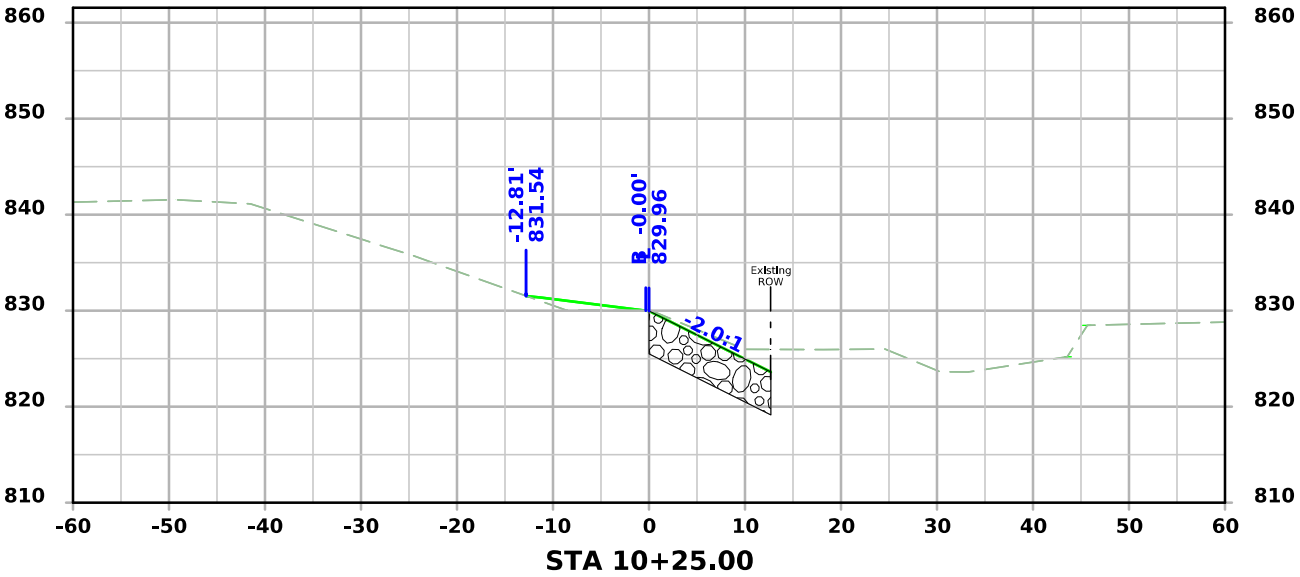
- F0 F01D, Century Link
- F02 F02D, Allamakee Clayton Skyways FIB
- PPA, Allamakee Clayton Electric CO

Utilities shown on this sheet are for information only. See Road Design sheets for utility information.

Design For  
Streambank Stabilization

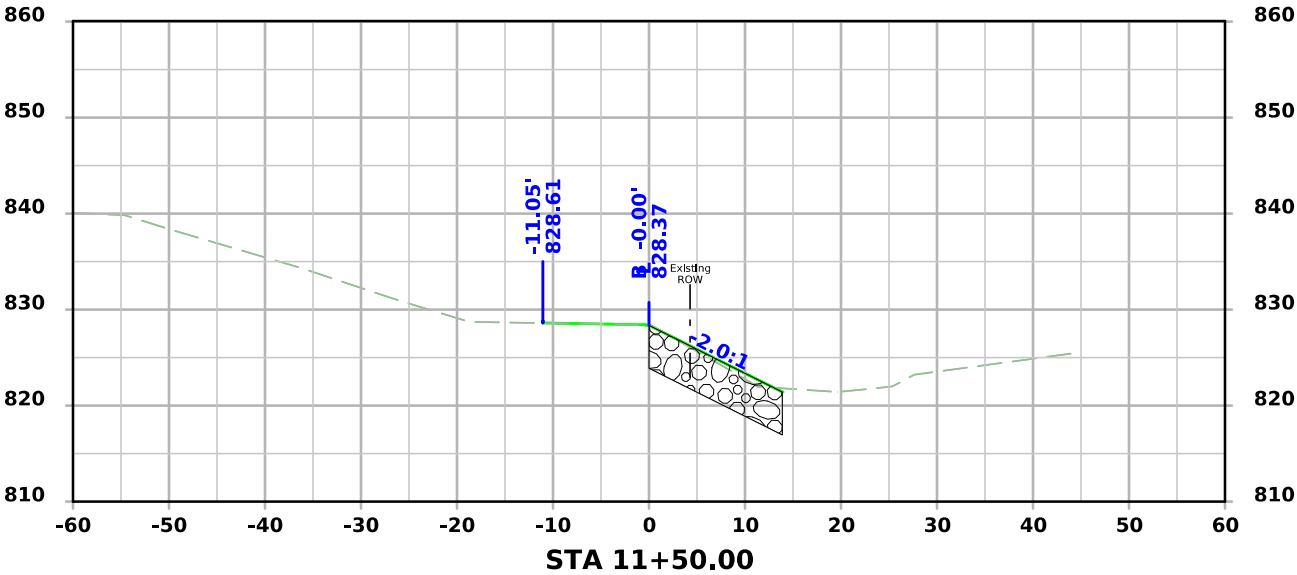
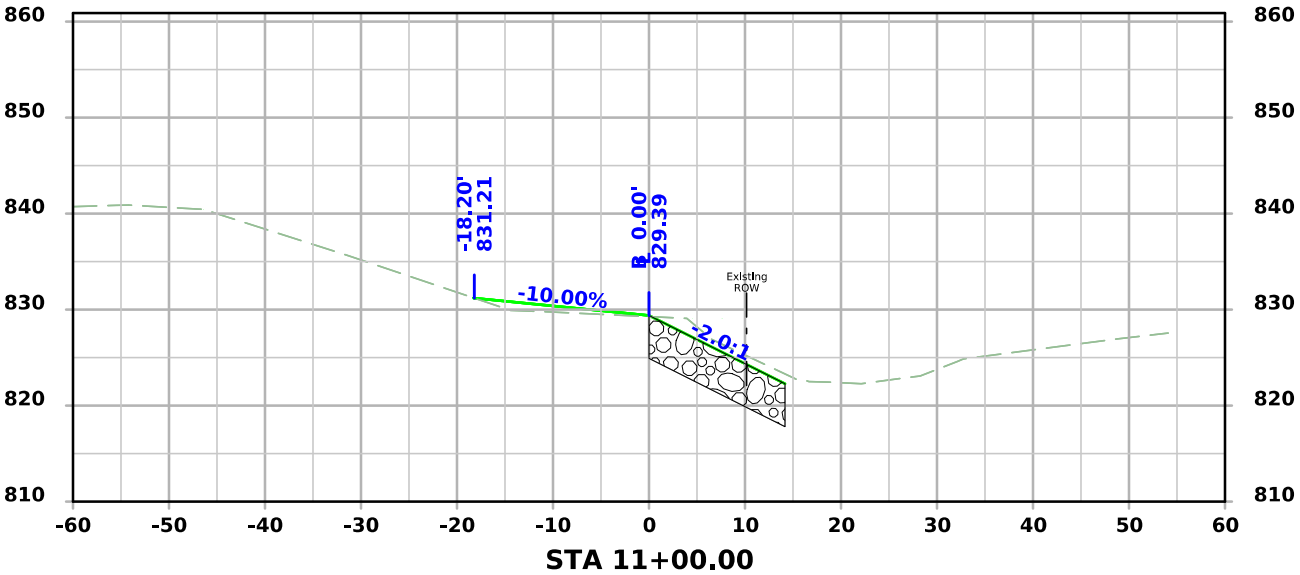
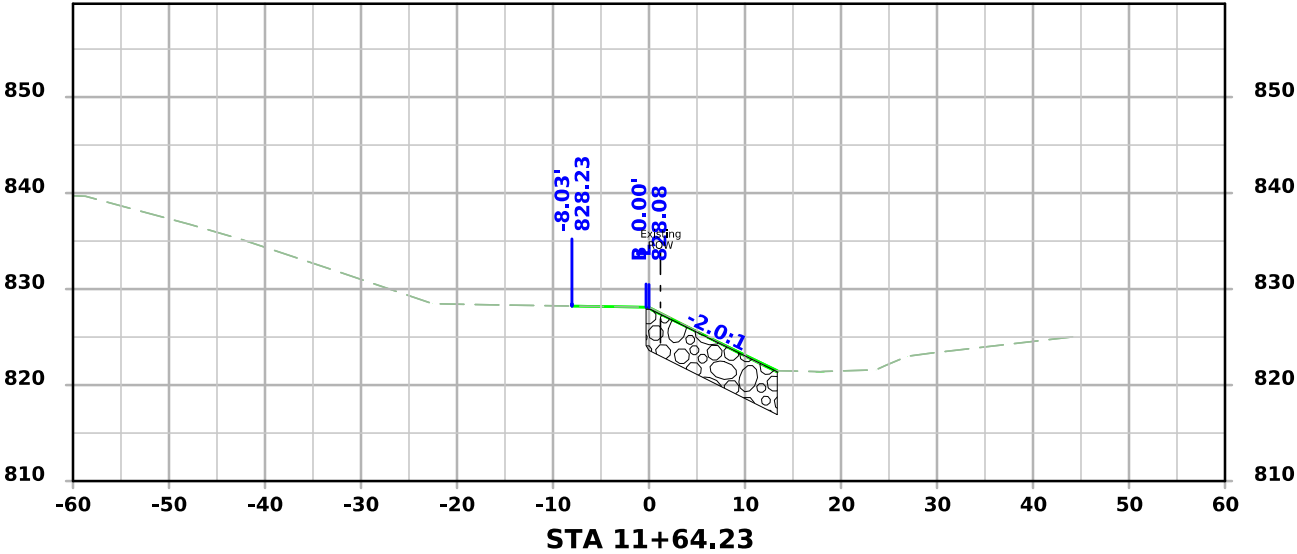
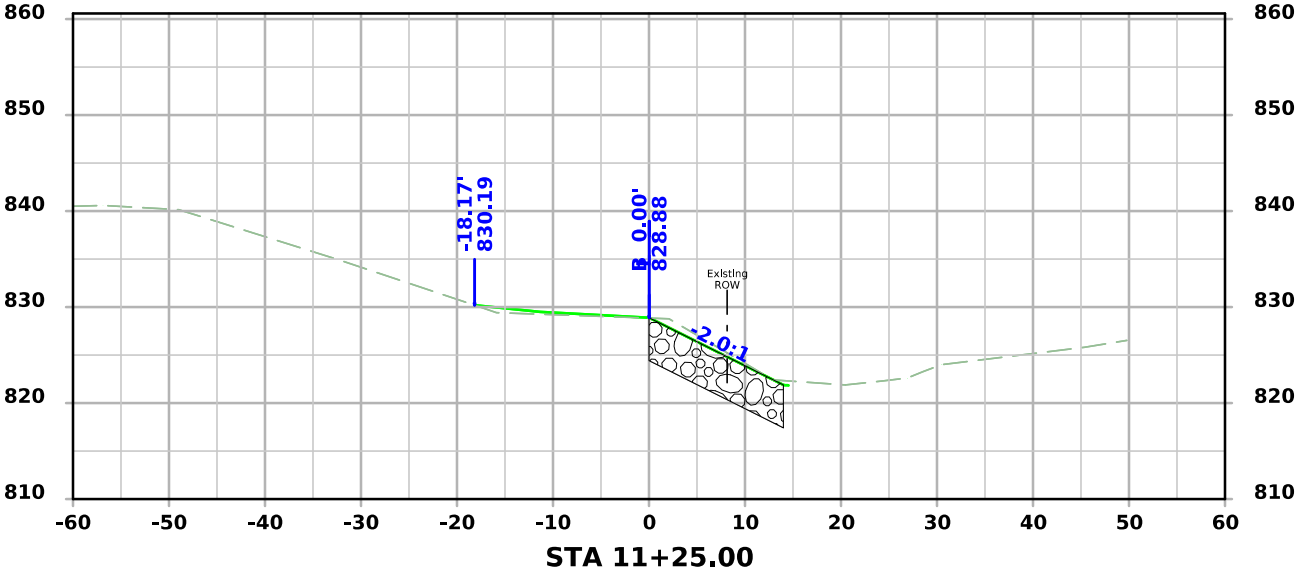
Situation Plan - Site 1A  
STA. 628+36.53 (IA 9) Turn-in Date: April 2026  
Allamakee County  
IOWA DEPARTMENT OF TRANSPORTATION  
Design No. Design Sheet No. 7 of 16 FHWA/Asset

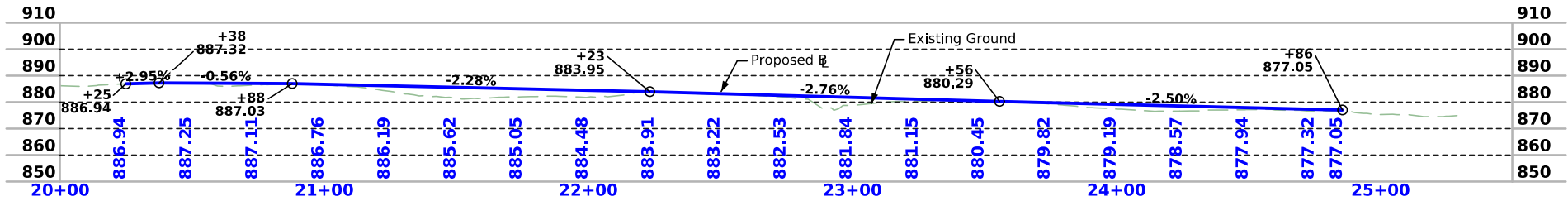
Site 1A





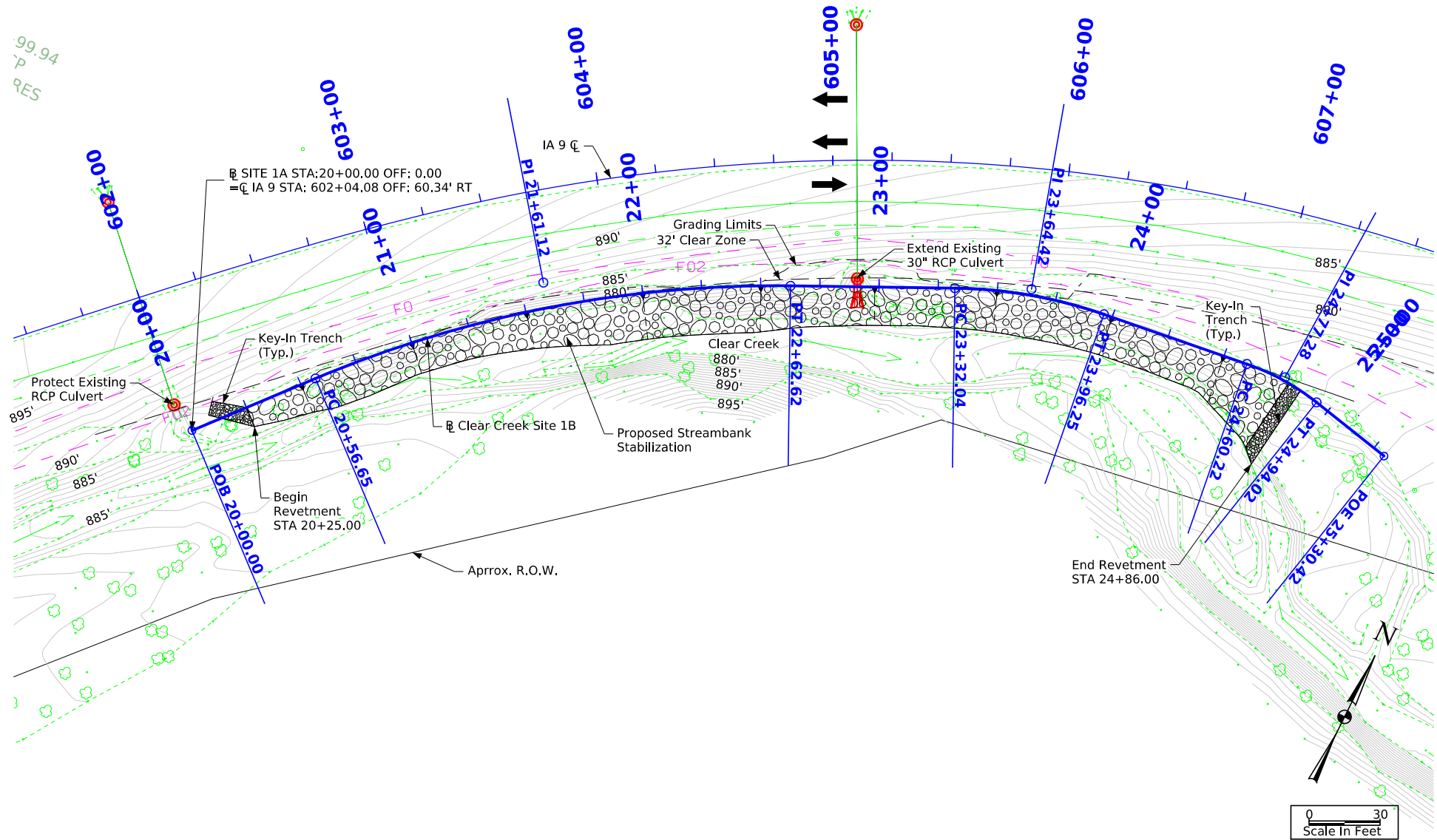
Site 1A





BaseLine Profile

| Point No. | Station  | Point Type | Element Data           | Bearing   | Northing    | Easting      |
|-----------|----------|------------|------------------------|-----------|-------------|--------------|
| Site 1B   |          |            |                        |           |             |              |
| 1         | 20+00.00 | POB        |                        |           | 9432687.52  | 13470870.134 |
| 2         | 20+56.65 | PC         | L = 56.65              | N40.750°E | 9432730.432 | 13470907.113 |
| 3         | 21+61.12 | PI         | L = 205.972<br>R = 500 |           | 9432809.573 | 13470975.305 |
| 4         | 22+62.62 | PT         | L = 69.415             | N64.352°E | 9432854.79  | 13471069.48  |
| 5         | 23+32.04 | PC         |                        |           | 9432884.836 | 13471132.056 |
| 6         | 23+64.43 | PI         | L = 64.22<br>R = 200   |           | 9432898.85  | 13471161.25  |
| 7         | 23+96.25 | PT         | L = 63.96              | N82.749°E | 9432902.94  | 13471193.38  |
| 8         | 24+60.22 | PC         |                        |           | 9432911.014 | 13471256.831 |
| 9         | 24+77.28 | PI         | L = 33.81<br>R = 100   |           | 9432913.169 | 13471273.76  |
| 10        | 24+94.02 | PT         | L = 36.39              | S77.881°E | 9432909.586 | 13471290.447 |
| 11        | 25+30.42 | POE        |                        |           | 9432901.945 | 13471326.029 |



Situation Plan

Location

IA 9 along Clear Creek  
T-99N R-4W  
Section 27  
Lansing Township  
Allamakee County  
Latitude 43.358667°  
Longitude 91.308694°

Hydraulic Data

RIDB: Not Applicable  
Drainage Area = 999 Acres  
Q<sub>2</sub> = 385 cfs  
Q<sub>5</sub> = 714 cfs  
Q<sub>10</sub> = 1,046 cfs  
Q<sub>50</sub> = 1,762 cfs  
Q<sub>100</sub> = 2,114 cfs

Utilities Legend:

- F0 F01D, Century Link
- F02 F02D, Allamakee Clayton Skyways FIB
- PPA, Allamakee Clayton Electric CO

Utilities shown on this sheet are for information only. See Road Design sheets for utility information.

Design For  
Streambank Stabilization

Situation Plan - Site 1B

STA. 602+04.08 (IA 9) Turn-in Date: April 2026

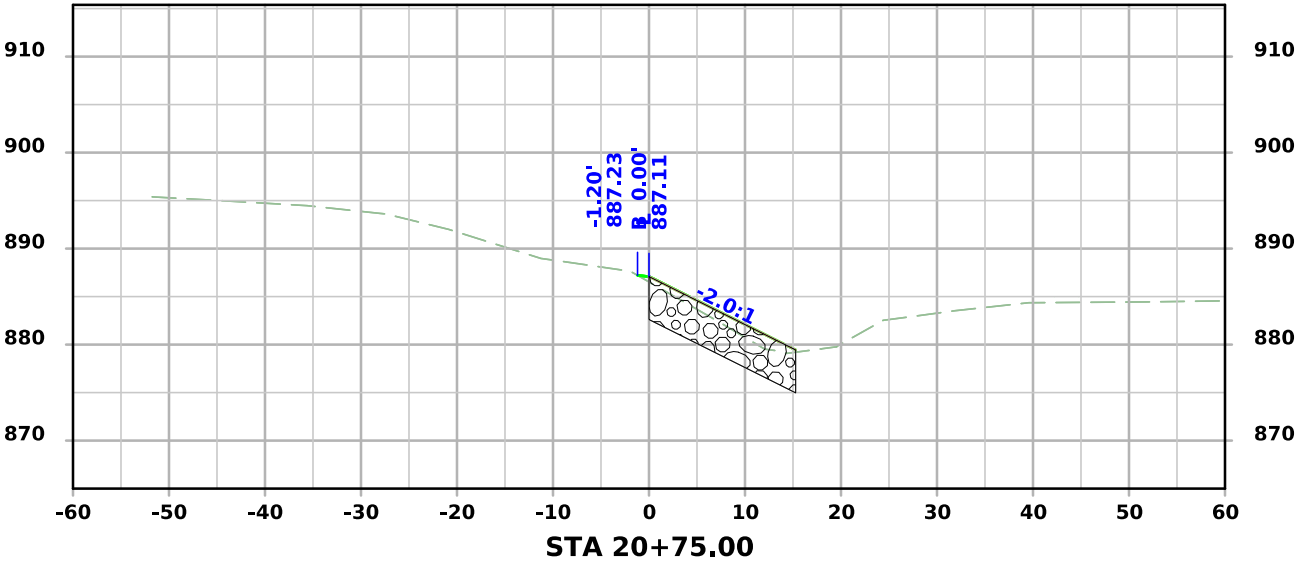
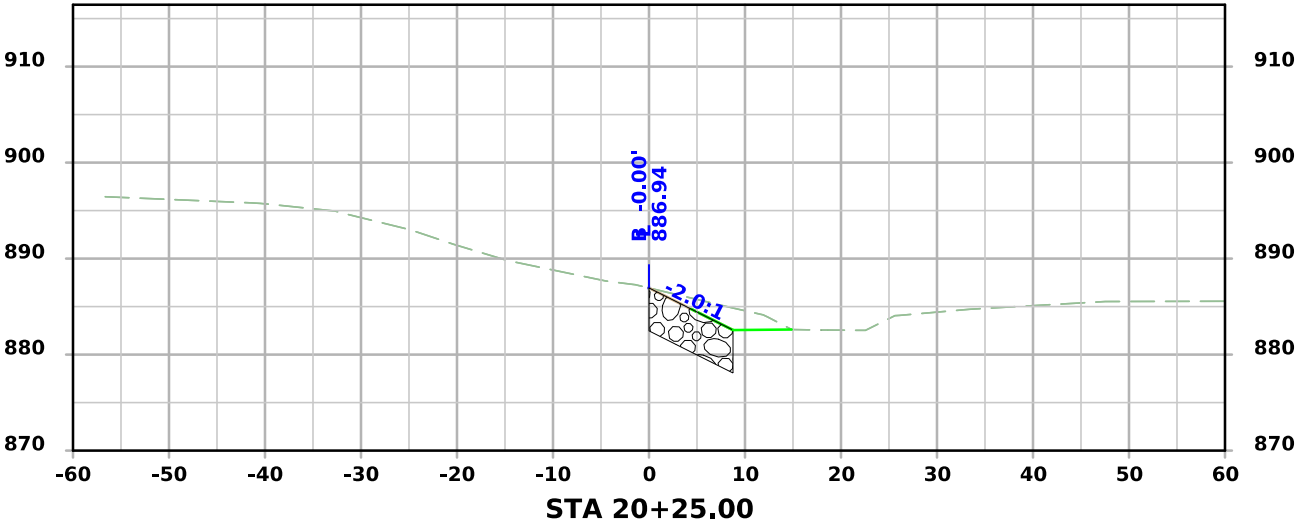
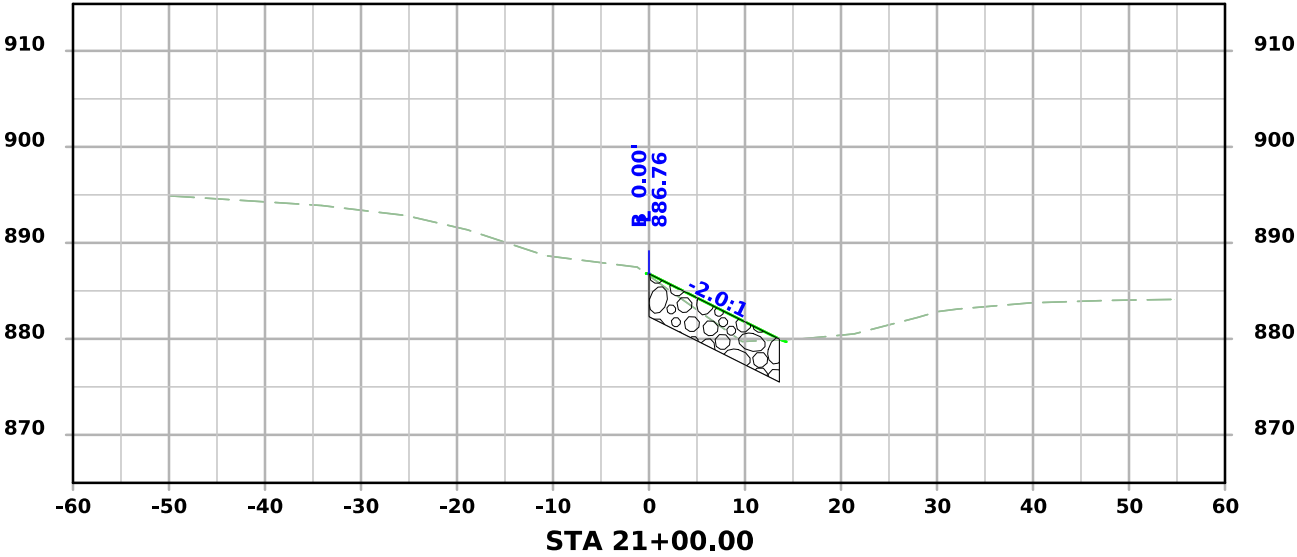
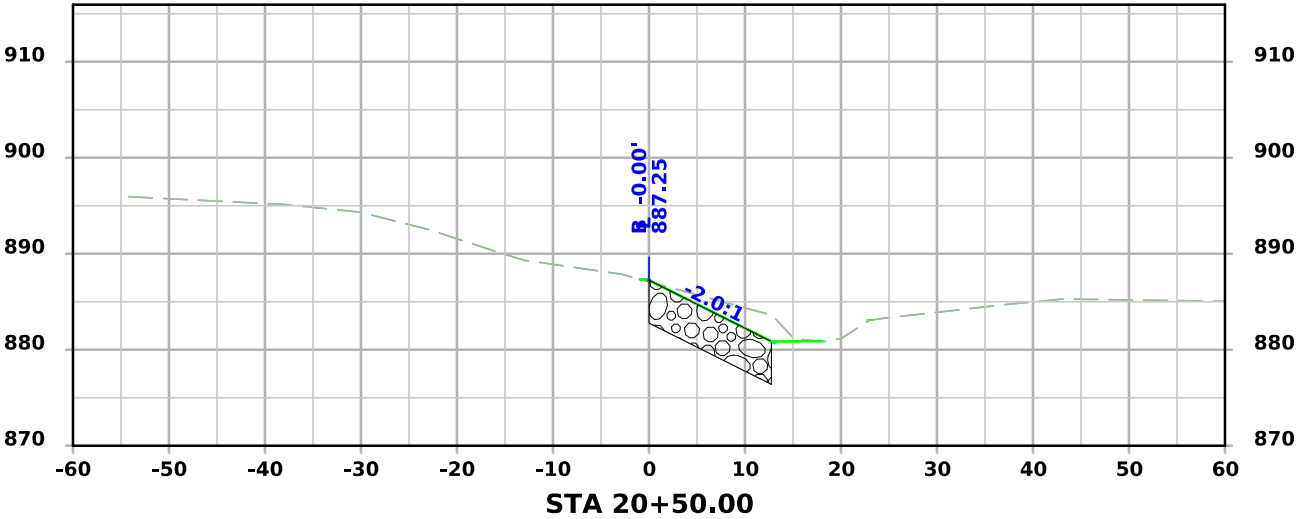
Allamakee County

IOWA DEPARTMENT OF TRANSPORTATION

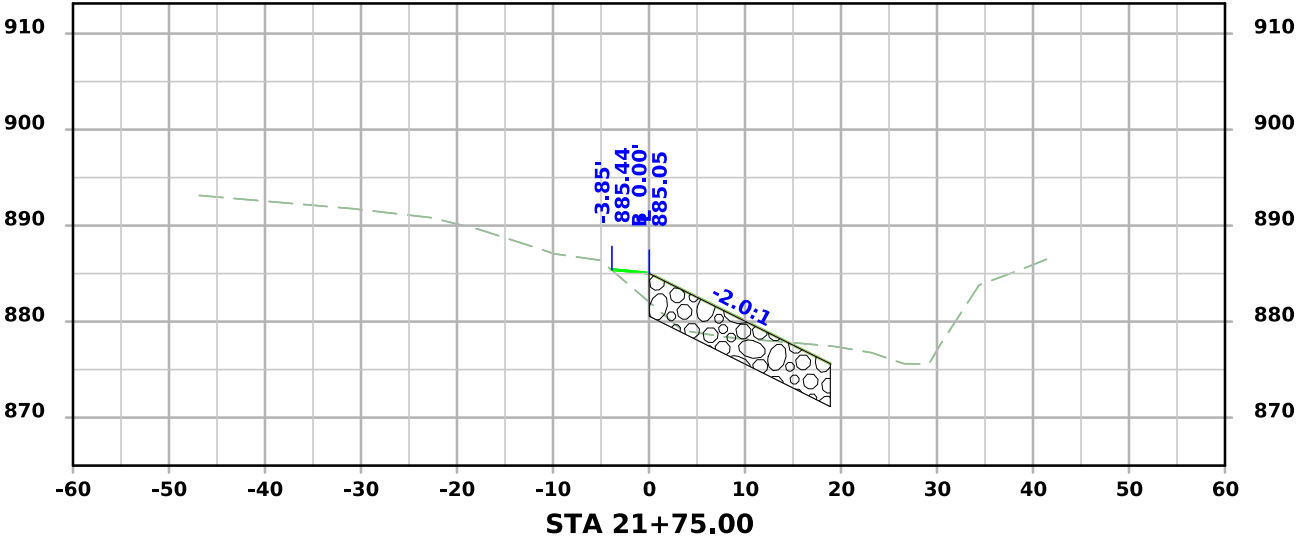
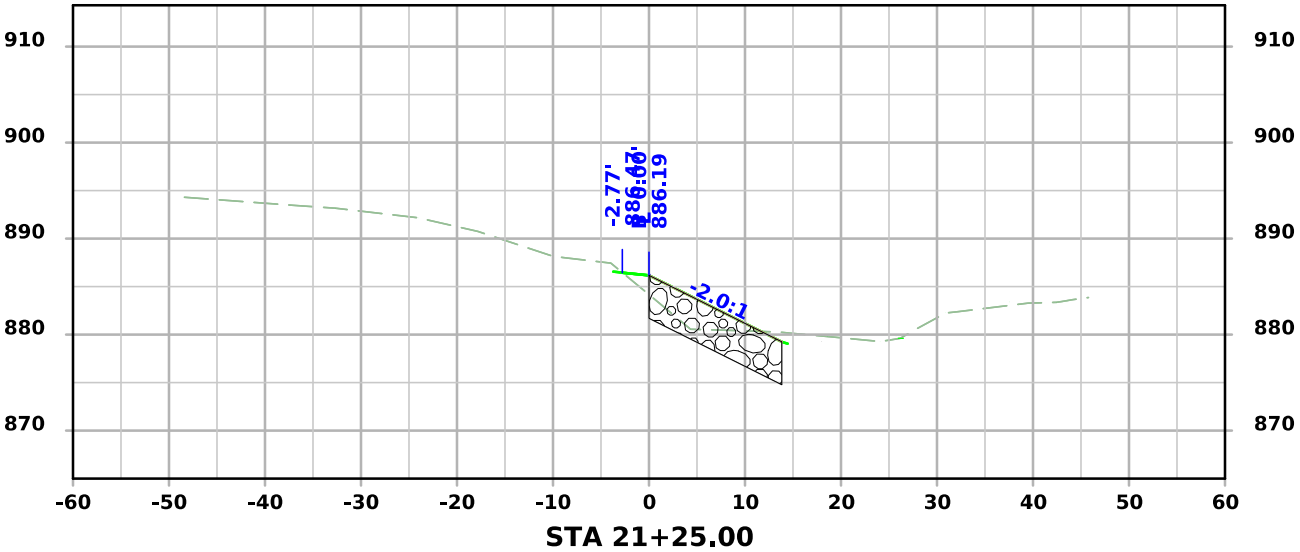
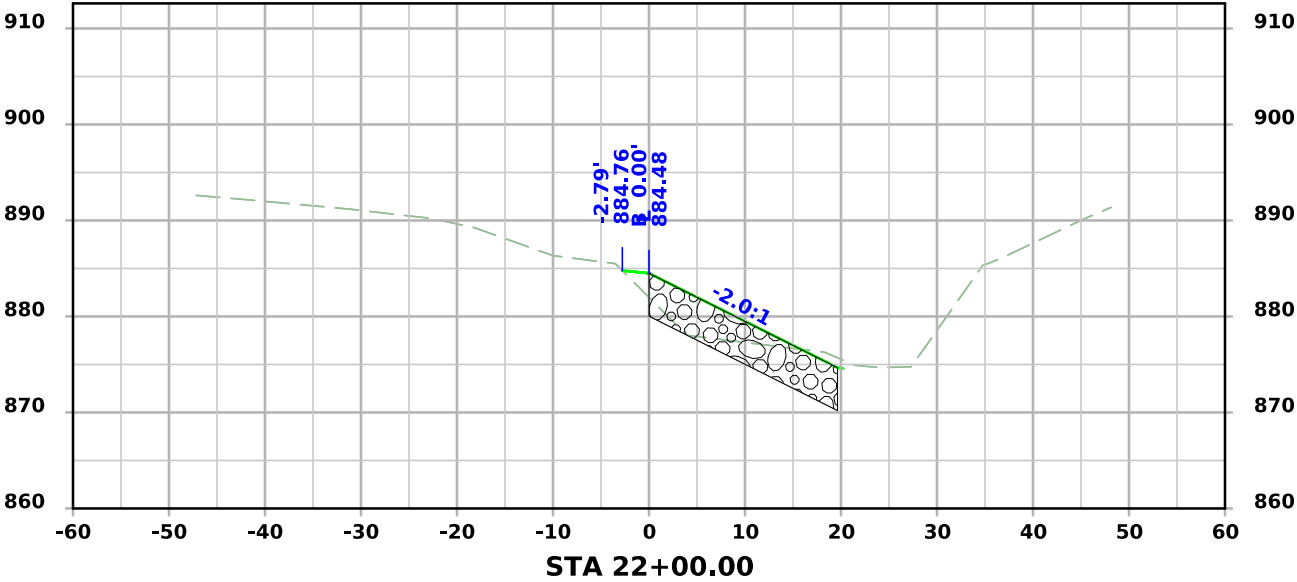
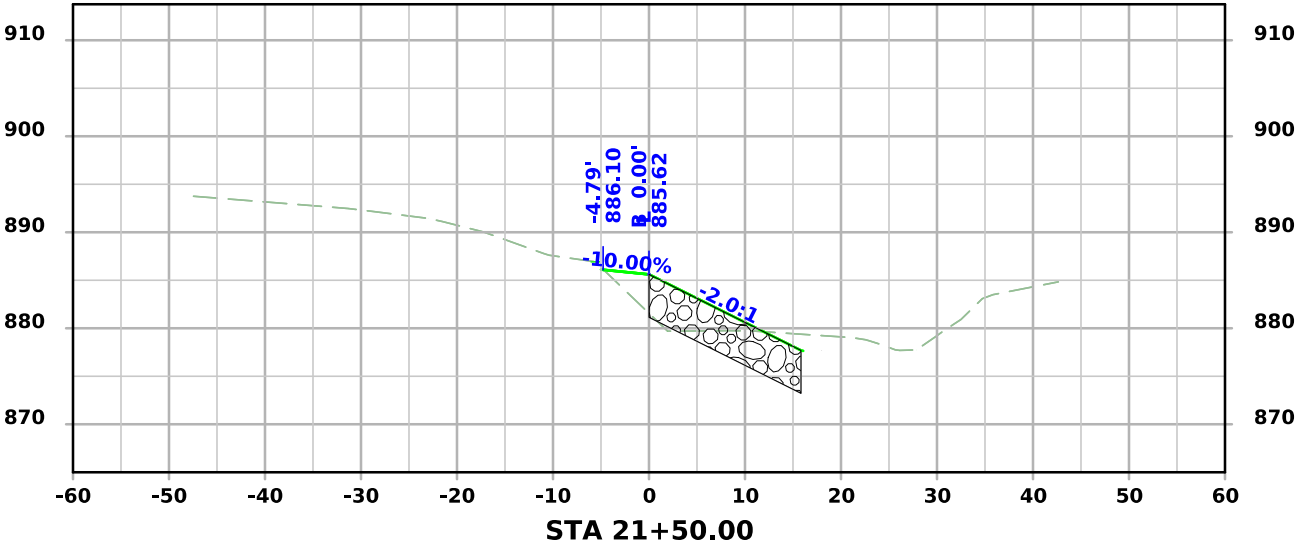
Design No. Design Sheet No. 10 of 16 FHWA/Asset



Site 1B

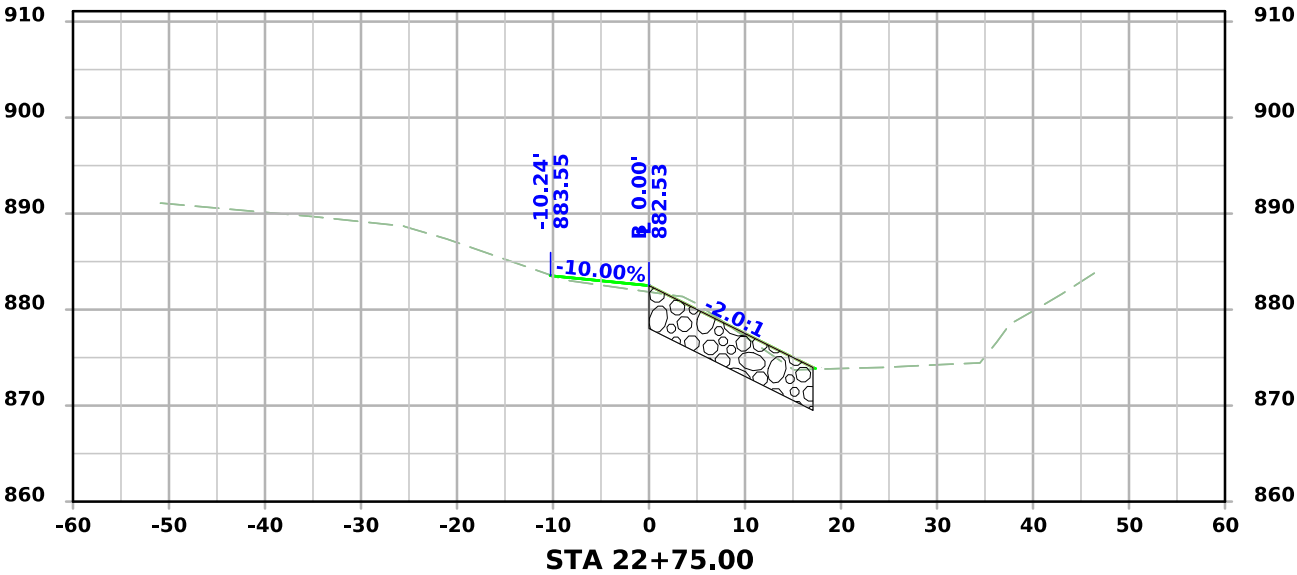
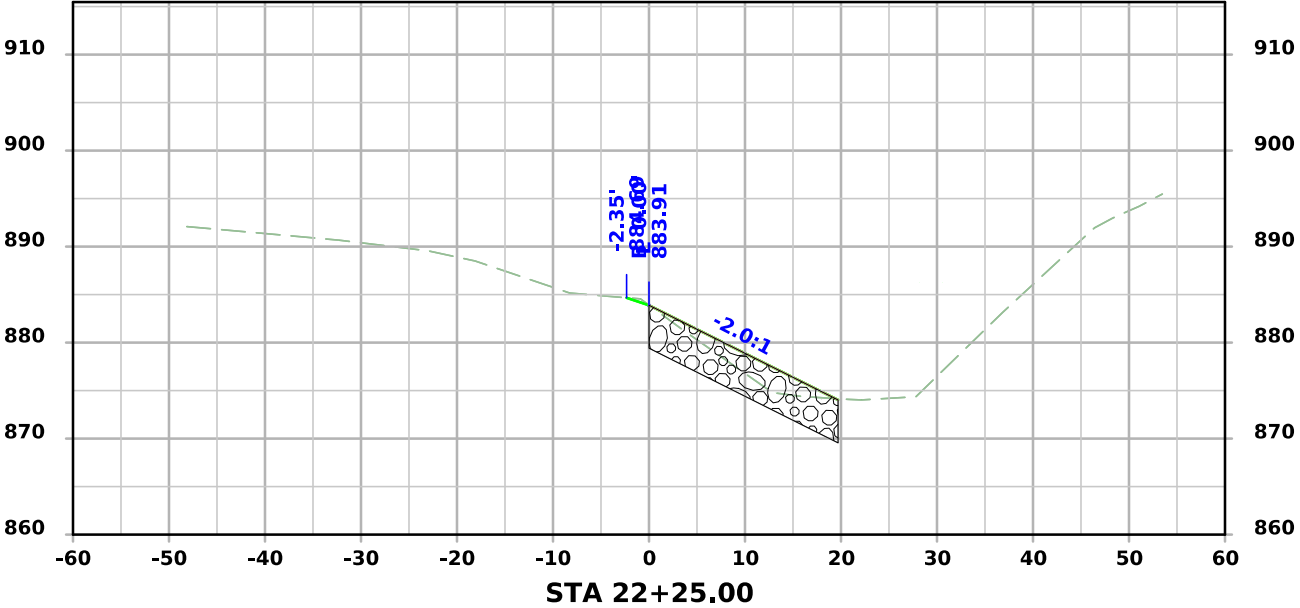
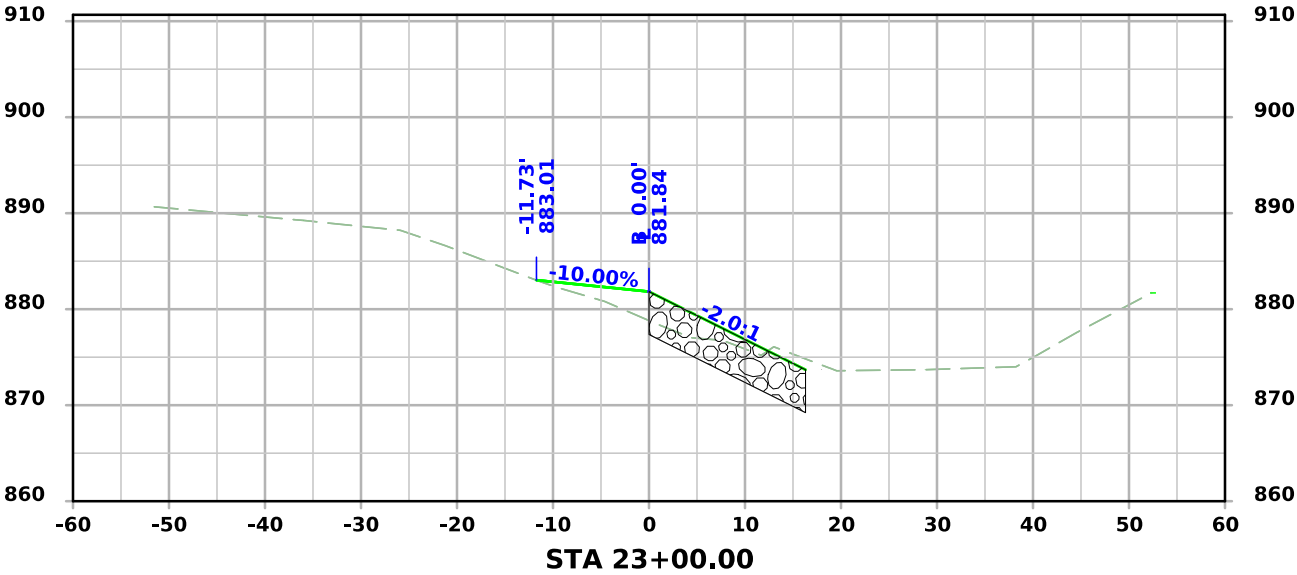
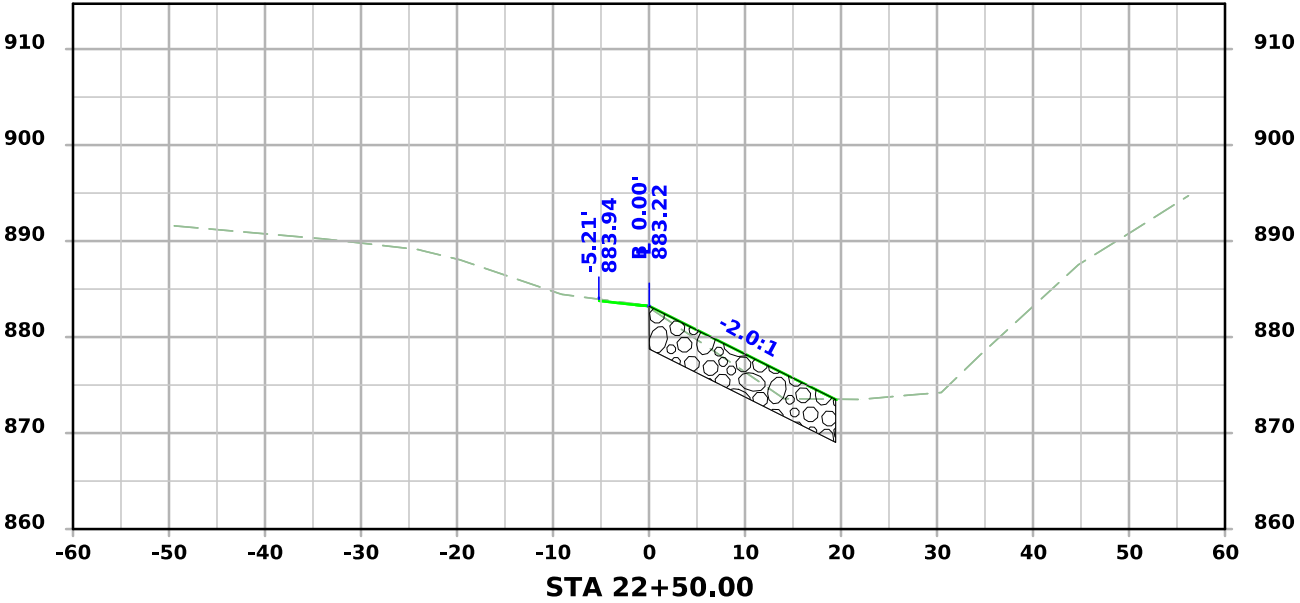


Site 1B

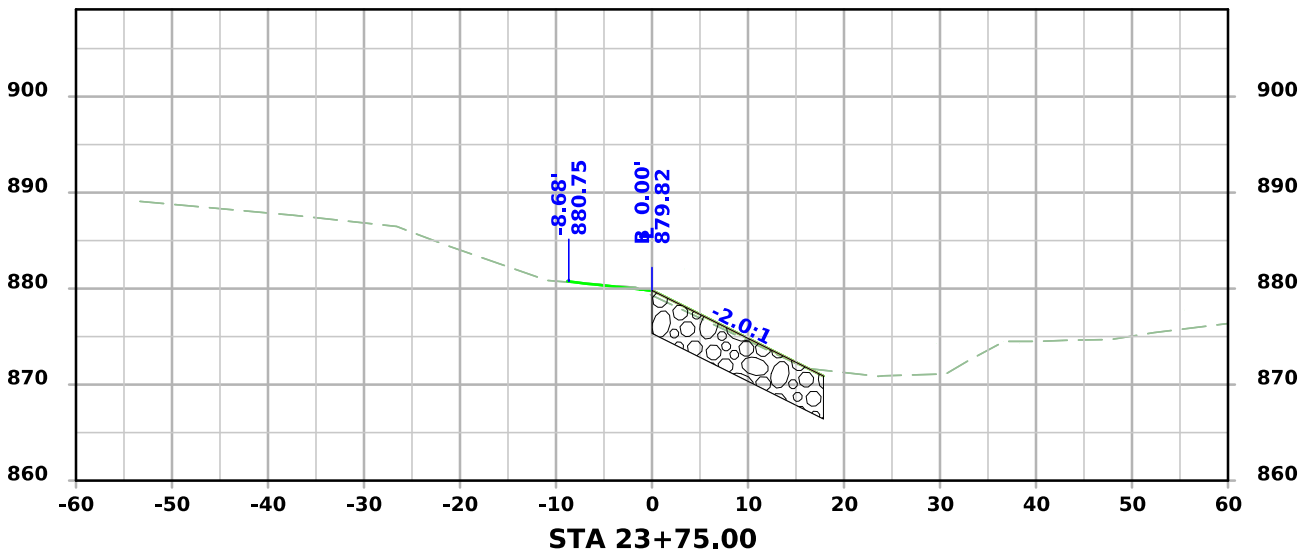
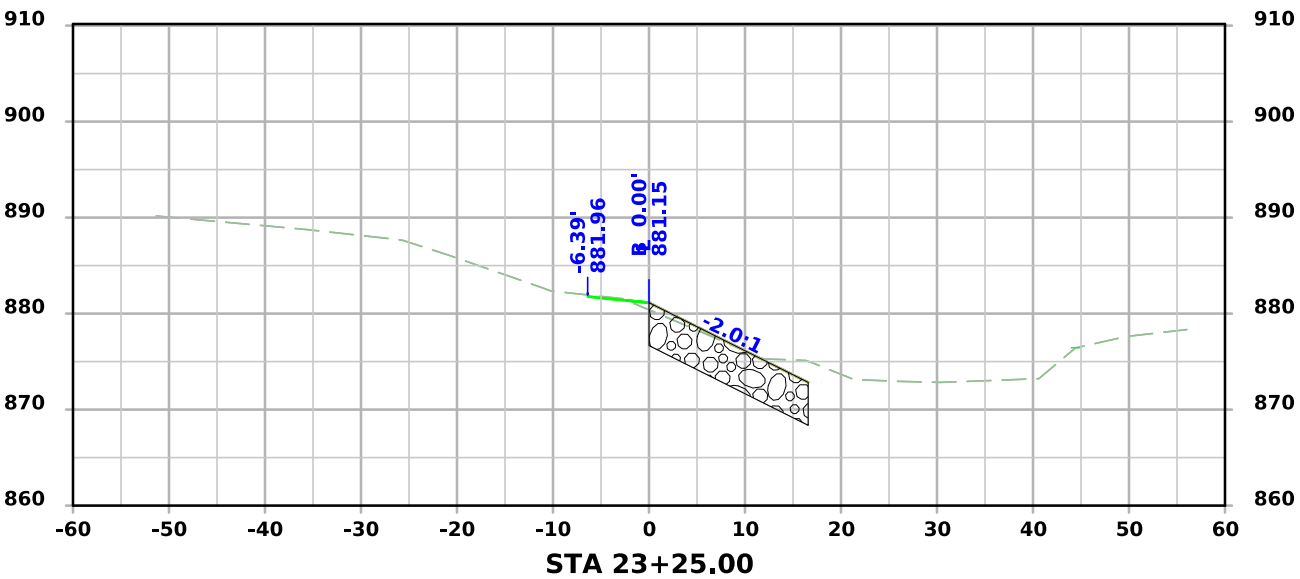
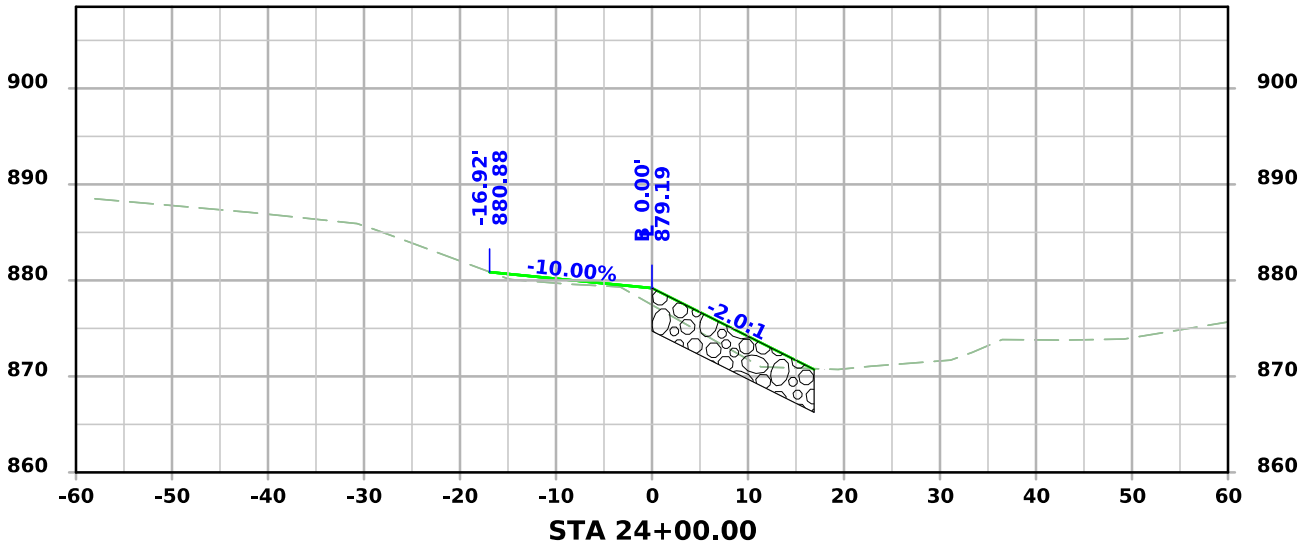
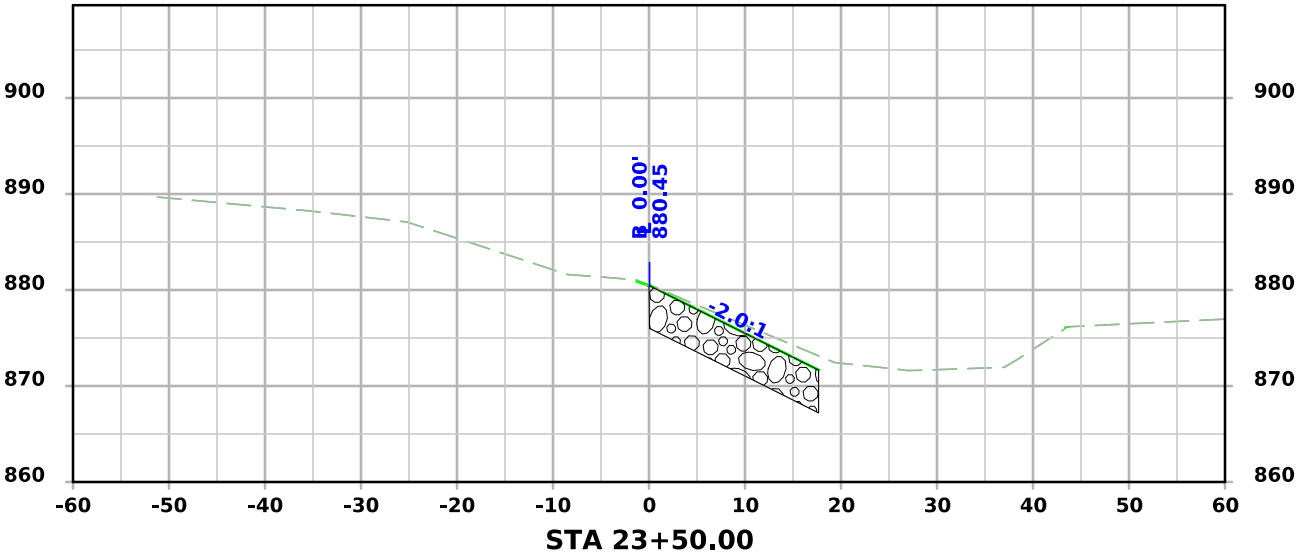




Site 1B

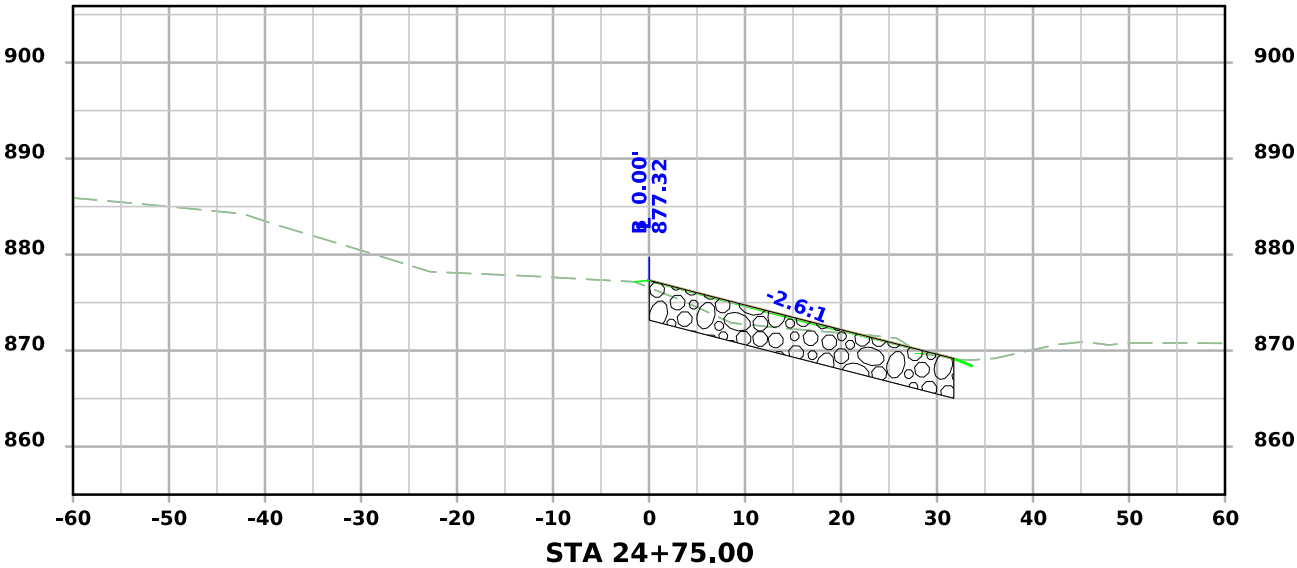
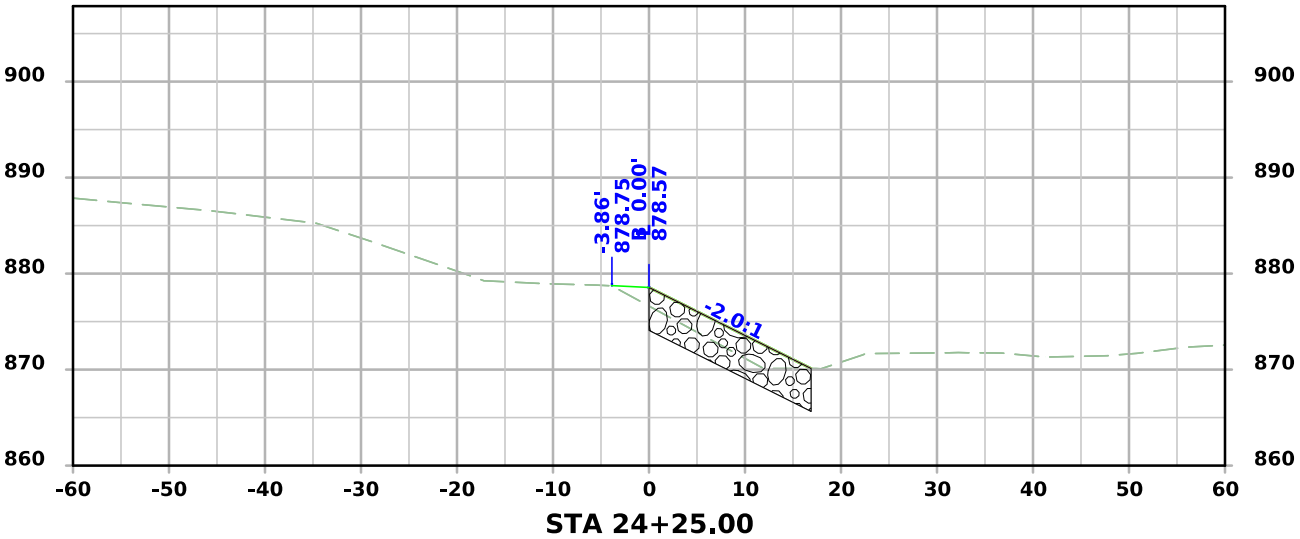
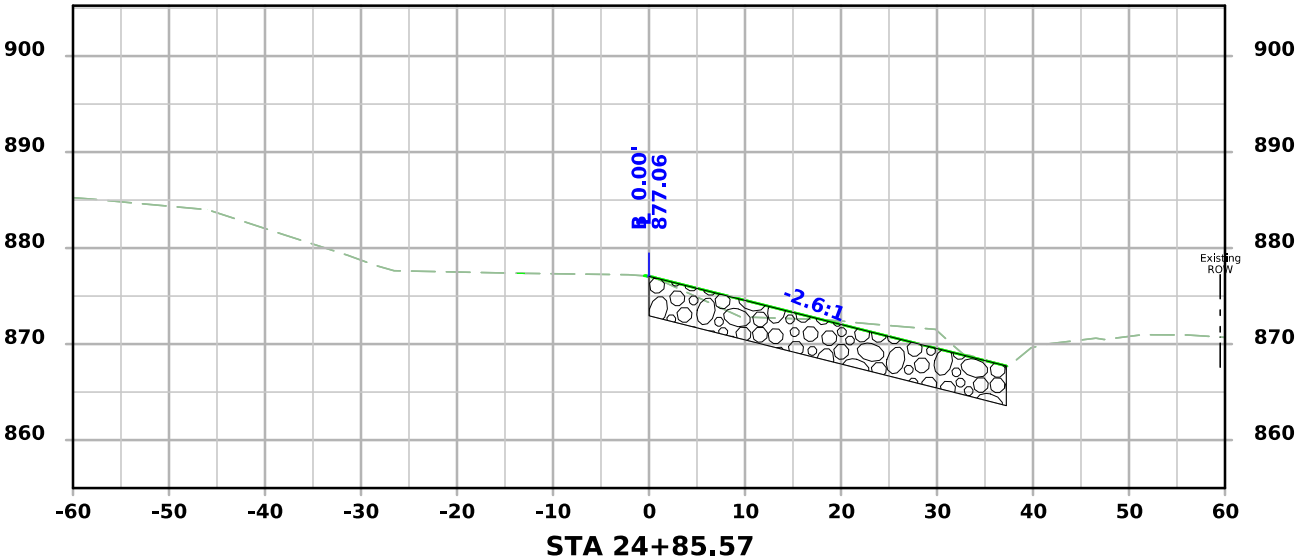
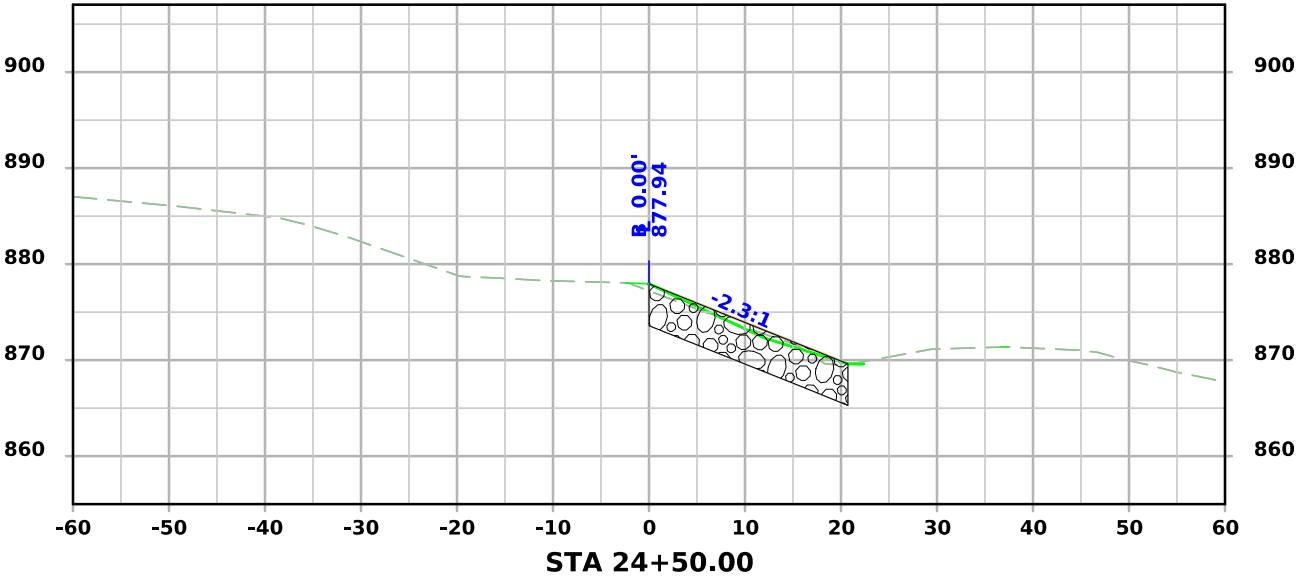


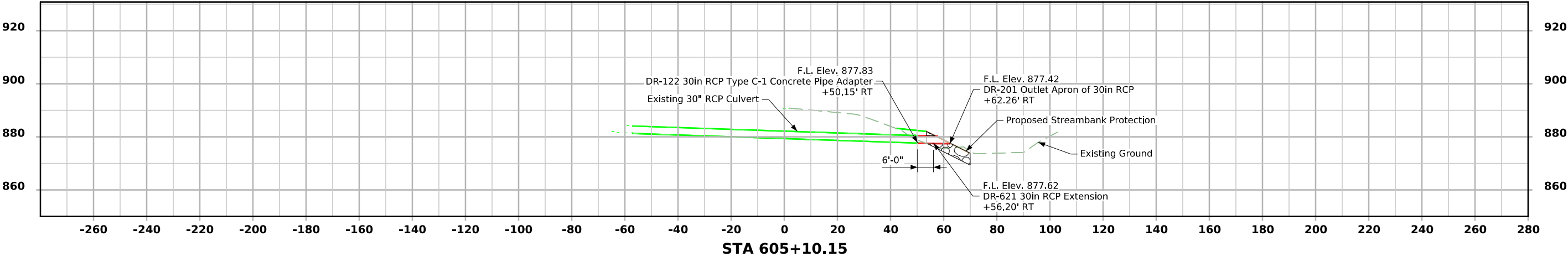
Site 1B





Site 1B







Estimate Project Quantities and Reference Notes - Design #110

| Item No. | Item Code    | Item                         | Unit | Quantities Estimated Design No. 0122 | Estimate Reference Notes             |
|----------|--------------|------------------------------|------|--------------------------------------|--------------------------------------|
| 1        | 2104-2713020 | EXCAVATION, CLASS 13 CHANNEL | CY   | 1,232                                | ---                                  |
| 2        | 2507-6850053 | REVETMENT, SPECIAL           | TON  | 2,662                                | Estimated at 160 lbs per cubic foot. |
|          |              |                              |      |                                      |                                      |
|          |              |                              |      |                                      |                                      |
|          |              |                              |      |                                      |                                      |

| Revetment / Grading Quantities |                         |                                  |
|--------------------------------|-------------------------|----------------------------------|
| Location                       | Revetment Special (Ton) | Class 13 Channel Excavation (CY) |
| Site 2                         | 1,983                   | 918                              |
| Site 3                         | 679                     | 314                              |
|                                |                         |                                  |
|                                |                         |                                  |
| Totals                         |                         |                                  |

Excavation quantity calculated from grading surface.

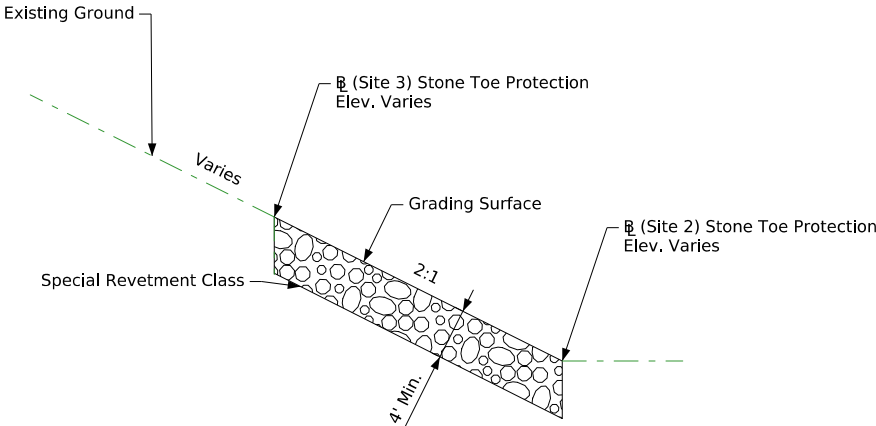
Utilities Note:

Utilities shown on this sheet are for information only.See Road Design sheets for utility information.

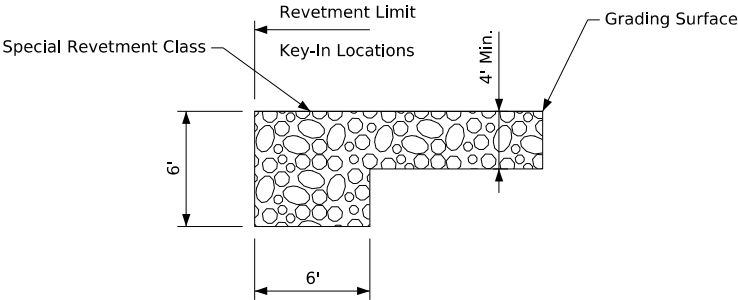
General Utility Symbols:

E - Electric Line  
G - Gas Line  
SAN. - Sanitary Sewer  
T - Telephone Line  
W - Water Line

FO - Fiber Optic Line  
GHP - Gas High Pressure  
ST S - Storm Sewer  
TV - TV  
- - Power Poles



Typical Revetment Cross Section



Typical Section Thru Key-In Trench

Hydraulic Design

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

*Randall M.L. Friend*

05/14/2026

SignatureDate

Randall M.L. Friend, PE

Printed or Typed Name

My license renewal date is December 31, 2026

V.1 - V.8

Pages or sheets covered by this seal:

GENERAL NOTES:

THIS DESIGN IS FOR THE CONSTRUCTION OF STREAMBANK STABILIZATION MEASURES ALONG CLEAR CREEK ADJACENT TO IA-9. PROJECT LOCATION IS APPROXIMATELY 4 MILES WEST OF LANSING, IA.

1. PRELIMINARY TO SITEWORK: ARRANGE FOR REVIEW OF PROPOSED REVETMENT SAMPLES BY IOWA DOT FIELD ENGINEERING STAFF TO ENSURE GRADATION IS IN ACCORDANCE WITH PLANS.
2. TRAFFIC CONTROL, ROADS, AND BRIDGE LOADS:

a. PERFORM TRAFFIC CONTROL AS NECESSARY TO ENCOURAGE THE SAFETY OF THE PUBLIC TRAVELING NEAR THE PROJECT SITE. TRAFFIC CONTROL SHALL MEET IOWADOT STANDARDS FOR THIS TYPE OF WORK SITE.

b. COORDINATE WITH FEDERAL, STATE AND LOCAL GOVERNMENT REPRESENTATIVES PRIOR TO TRANSPORTING HEAVY EQUIPMENT OVER LOCAL ROADS. HEAVY EQUIPMENT WHICH EXCEEDS THE RATED LOAD CAPACITY OF ANY BRIDGE (OR CROSSING) SHALL BE TRANSPORTED TO THE WORK SITE USING AN ALTERNATE HIGH-CAPACITY ACCESS ROUTE. AVOID ALL LOW-CAPACITY STRUCTURES.

c. AVOID DAMAGING ROADS AND ALL PRIVATE AND PUBLIC LANDS OUTSIDE OF THE DESIGNATED CONSTRUCTION LIMITS AND ACCESS ROUTES. THE CONTRACTOR SHALL PROVIDE NECESSARY MATERIALS, LABOR, AND EQUIPMENT TO MAKE REPAIRS (OR REPLACEMENT IF NEEDED) FOR DAMAGE CAUSED BY CONSTRUCTION ACTIVITY SO AS TO RETURN ALL DAMAGED ROADS AND STRUCTURES TO ORIGINAL (PRE-PROJECT) CONDITION. THE CONTRACTOR SHALL COORDINATE WITH ADJACENT LANDOWNERS AND THE AGENCY RESPONSIBLE FOR ROAD MAINTENANCE TO ENSURE AN ACCEPTABLE RESOLUTION OF SUCH DAMAGES.
3. UTILITIES: VERIFY UNDERGROUND UTILITY LOCATIONS PRIOR TO ANY EXCAVATION WORK AND TAKE APPROPRIATE STEPS TO PROTECT ALL UTILITIES FROM DAMAGE. ADVISE AND WARN ALL CREW MEMBERS (INCLUDING SUBCONTRACTED PERSONNEL) OF THE LOCATION OF UTILITIES BEFORE ALLOWING THEM TO WORK ON-SITE. THE CONTRACTOR SHALL NOTIFY IOWA ONE CALL AT LEAST 48 HOURS BEFORE CONSTRUCTION BEGINS.
4. CLEARING AND REMOVAL: THE CONTRACTOR SHALL PROVIDE FOR PROPER OFF-SITE DISPOSAL OF ALL DEBRIS. TRANSPORT AND DISPOSE OF DEBRIS IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REGULATIONS.

a. CLEARING/REMOVAL LOCATIONS INCLUDE BUT ARE NOT LIMITED TO:

i. BANKSIDE AND STREAM BED AREAS WHERE REVETMENT CONSTRUCTION AND EXCAVATION IS SCHEDULED

ii. ACCESS LANES AND TURNAROUND AREAS.

b. IN AREAS WHERE SOIL IS EXCAVATED OR OTHERWISE DISTURBED TO FACILITATE CONSTRUCTION, THE TOP 6 INCHES OF SOIL SHALL BE STOCKPILED AND THEN RE-SPREAD ON THESE AREAS PRIOR TO SEEDING AND PLANTING.
5. FIELD SURVEY: EXISTING SURVEY INFORMATION IS INCLUDED ON SITUATION PLANS AND IN CROSS SECTIONS AS GATHERED FROM A PROFESSIONAL SURVEY COMPLETED IN APRIL 2026. ACTUAL FIELD CONDITIONS ARE KNOWN TO VARY AS A RESULT OF ONGOING EROSION. FIELD ADJUST IN COORDINATION WITH THE IOWA DOT FIELD ENGINEERING STAFF.
6. NEW WORK: ALL ROCK-FILL STRUCTURES (E.G. REVETMENT AND KEY-INS) SHOWN ARE NEW WORK. EXCAVATE (WHERE INDICATED), PREPARE SURFACE, AND CONSTRUCT NEW REVETMENT STRUCTURES TO THE OVERALL DIMENSIONS, ELEVATIONS AND CROSS SECTIONS SHOWN AND IN ACCORDANCE WITH THE QUANTITIES AS REQUIRED BY CONSTRUCTION SCHEDULE.

a. ROCK GRADATION FOR ALL RIPRAP PLACEMENT IS AS FOLLOWS, AND IS REFERRED TO AS "SPECIAL REVETMENT CLASS"IN THE PLANS:

i. D100 = 30 INCHES

D50 = 20 INCHES

D30 = 17 INCHES

b. CLEAR, GRADE, AND SURFACE ACCESS RAMPS AND ROUTES. KEEP SAFE DISTANCE FROM ALL SLOPES AND WEAK ZONES. ACCESS RAMPS AND ROUTES SHALL PROVIDE FOR SAFE TRANSPORT OF ROCK AND EQUIPMENT. MINIMIZE SEGREGATION OF ROCK (SIZES) DURING TRANSPORT AND UNLOADING OPERATIONS. FREEFALL AND ROLLING DISTANCE FOR ROCK DUMPING OPERATIONS IS LIMITED TO 8 FT. MAXIMUM, UNLESS OTHERWISE APPROVED BY IOWA DOT.

c. USE APPROPRIATE EQUIPMENT WITH ADEQUATE REACH OR HAND PLACE ROCK WHERE NECESSARY TO OBTAIN INDICATED THICKNESS OF REVETMENT. KEEP MACHINERY OUT OF WATER AS MUCH AS POSSIBLE.

d. DO NOT ALTER CHANNEL GRADIENT. DO NOT REDUCE NOR RESTRICT CHANNEL OPENING (BEYOND FACE OF NEW REVETMENT) AT ANY TIME.

e. WATER SURFACE LEVELS CAN VARY FROM LOW / DRY (ALONG THE CONSTRUCTION FOOTPRINT) TO BANK FULL OR HIGHER DEPENDING ON WEATHER IN THE UPSTREAM BASIN. FLOODING MAY INUNDATE WORK AREA.

f. CLASS 13 CHANNEL EXCAVATION MATERIAL MAY BE USED FOR FILL MATERIAL IF DETERMINED SUITABLE BY IOWA DOT FIELD ENGINEERING STAFF. REMAINDER OF MATERIAL NOT USED FOR FILL ON THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

g. NO EXCAVATION OR REMOVAL OF BEDROCK MATERIAL IS INCLUDED AS PART OF THIS PROJECT. IF BEDROCK IS ENCOUNTERED DURING EXCAVATION FOR REVETMENT AND KEY-INS, HALT EXCAVATION AND CONSULT FIELD ENGINEER. DO NOT DISTURB IN-SITU BEDROCK CONDITIONS UNLESS DIRECTED BY THE FIELD ENGINEER.

h. AFTER COMPLETION OF REVETMENT, THEN GRADE THE TOP OF BANK AREA, TO PROVIDE A SMOOTH AND STABLE SLOPE FOR GRASS SEEDING, WITH THE SLOPE AS GENERALLY SHOWN ON CROSS SECTION SHEETS. RAKE, GATHER, AND DISPOSE OF ANY UNCOVERED DEBRIS IN ACCORDANCE WITH THE DEBRIS DISPOSAL NOTE. FINISH CONTOURS SHALL PROVIDE FOR EVEN SHEET FLOW ACROSS THE TOP OF BANK AND REVETMENTS UNLESS OTHERWISE INDICATED -- DO NOT ALLOW CONCENTRATED FLOW AREAS (SUCH AS A DITCH OR SWALE) UNLESS SPECIFICALLY SHOWN IN PLANS.
7. RESTORATION: AT THE CONCLUSION OF THE PROJECT, RESTORE ALL ACCESS POINTS AND HAUL ROADS TO ORIGINAL CONDITION, THEN SEED AND MULCH ALL EXPOSED DISTURBED AREAS.
8. SITUATION PLAN NOTE: CONTOURS HAVE NOT BEEN REDRAWN TO SHOW FINISH ELEVATIONS. SEE CROSS SECTION SHEETS FOR FINISH ELEVATIONS.

Design For  
Streambank Stabilization

General Notes and Quantities

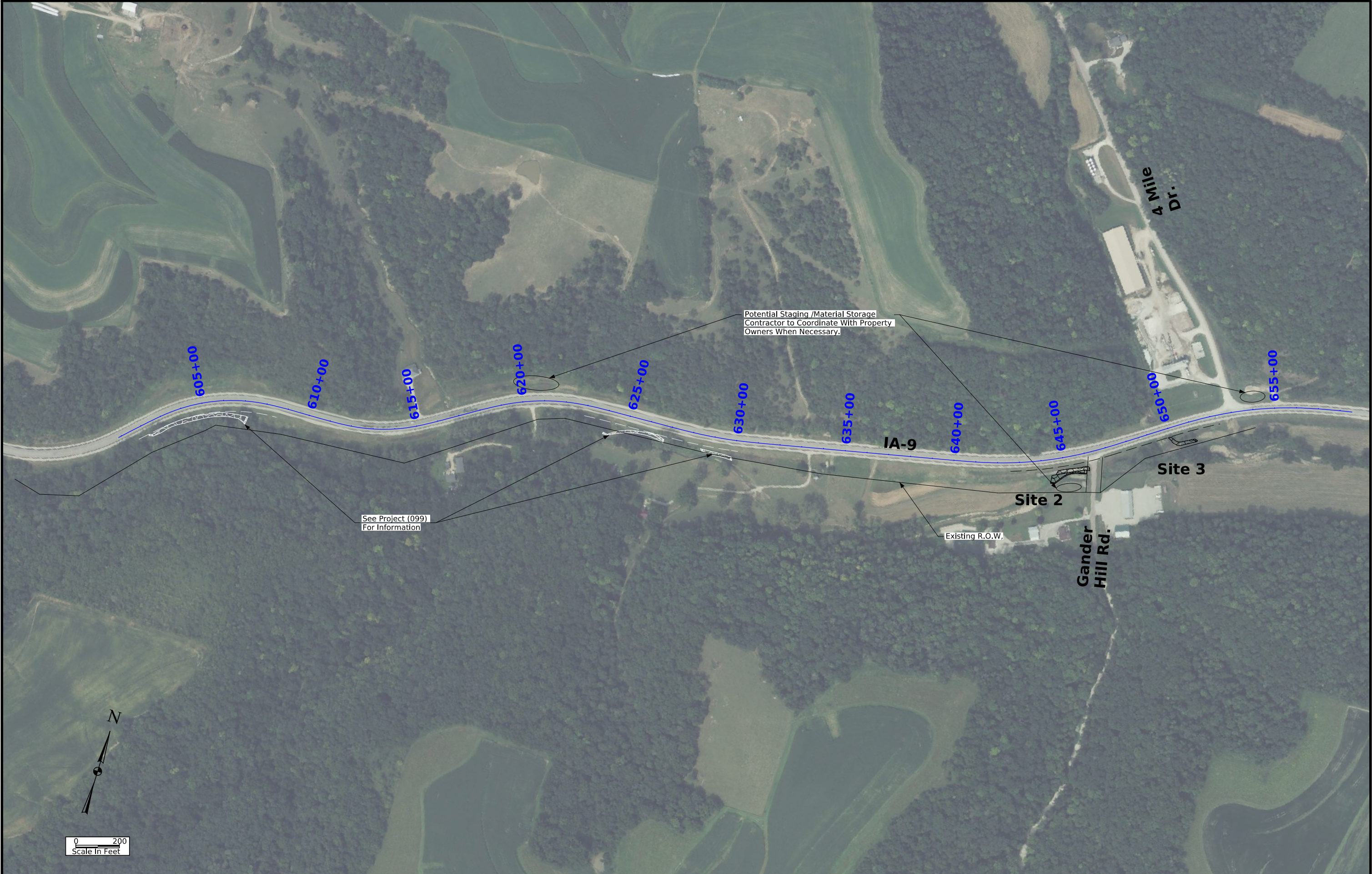
STA. Varies (IA 9) Turn-in Date: April 2026

Allamakee County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. Design Sheet No. 1 of 7 FHWA/Asset



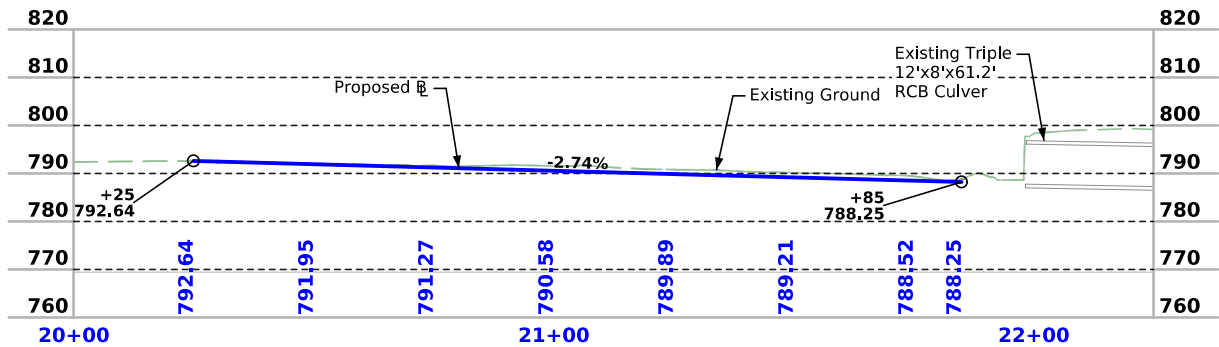


|          |         |                         |                  |                                            |                         |
|----------|---------|-------------------------|------------------|--------------------------------------------|-------------------------|
| FILE NO. | ENGLISH | DESIGN TEAM <b>HNTB</b> | Allamakee COUNTY | PROJECT NUMBER <b>ER-009-9(100)--28-03</b> | SHEET NUMBER <b>V.2</b> |
|----------|---------|-------------------------|------------------|--------------------------------------------|-------------------------|

11:11:01 AM 5/12/2026 rfriend pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\0300902025\Bridge\100\_Revetment\SHT\_03009100\_REVET\_HNTB\_Z03.dgn

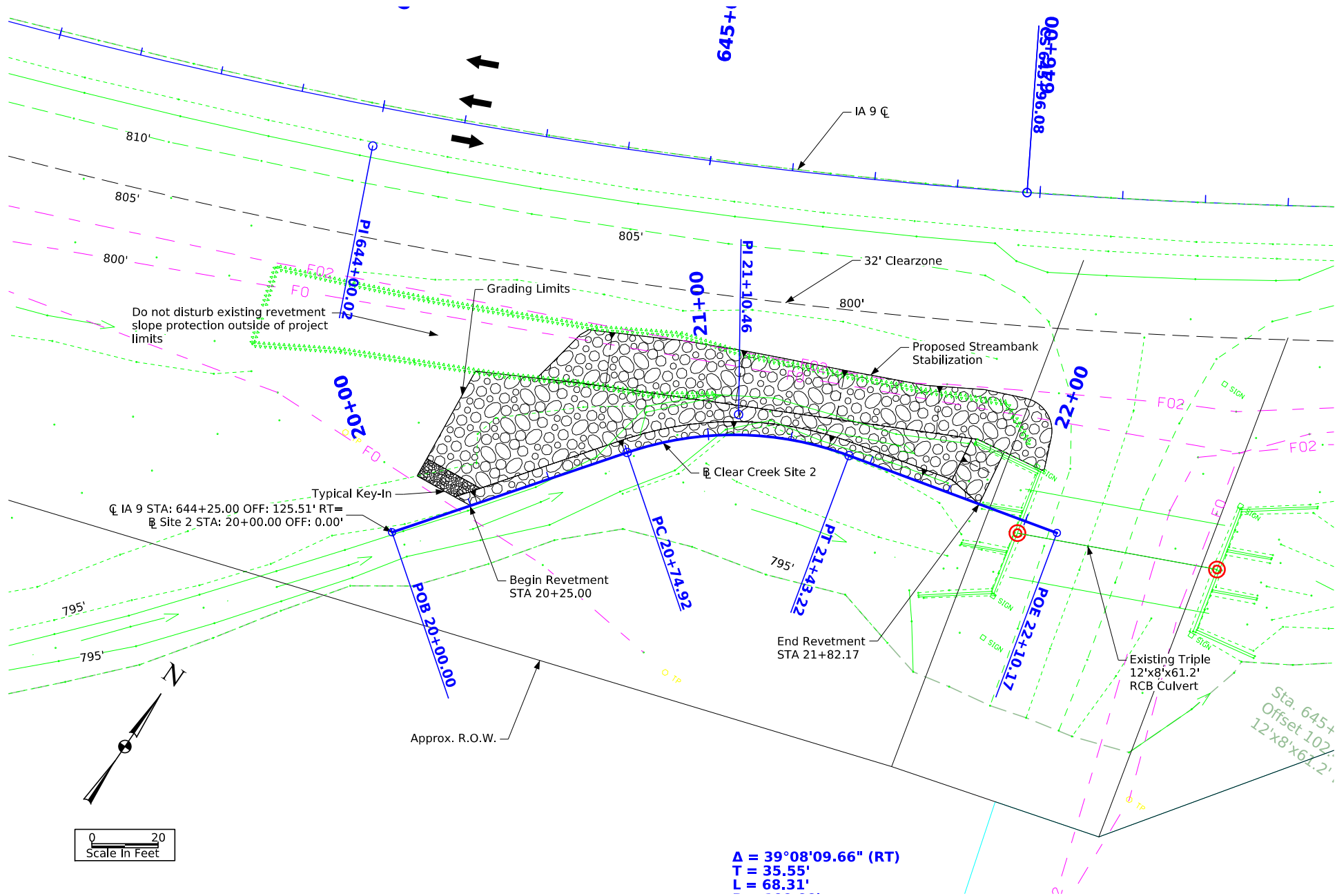


Control Point: 101,9432814.84,13470859.20,893.85,CP SET FENO NORTH OF HIGHWAY 9 AND WEST OF 4 MILE ROAD



BaseLine Profile

| Point No. | Station  | Point Type | Element Data | Bearing   | Northing    | Easting      |
|-----------|----------|------------|--------------|-----------|-------------|--------------|
| Site 2    |          |            |              |           |             |              |
| 1         | 20+00.00 | POB        |              |           | 9433683.867 | 13474888.592 |
|           |          |            | L = 74.92    | N36.951°E |             |              |
| 2         | 20+74.92 | PC         |              |           | 9433743.736 | 13474933.626 |
|           |          |            | L = 68.31    |           |             |              |
| 3         | 21+10.46 | PI         | R = 100      |           | 9433772.143 | 13474954.93  |
| 4         | 21+43.22 | PT         |              |           | 9433780.69  | 13474989.50  |
|           |          |            | L = 66.95    | N76.087°E |             |              |
| 5         | 22+10.17 | POE        |              |           | 9433796.79  | 13475054.482 |



Situation Plan

Location

IA 9 along Clear Creek  
T-99N R-4W  
Section 27  
Lansing Township  
Allamakee County  
Latitude 43.36125°  
Longitude -91.293972°

Hydraulic Data

RIDB: Not Applicable  
Drainage Area = 1,863 Acres  
Q<sub>2</sub> = 764 cfs  
Q<sub>5</sub> = 1,331 cfs  
Q<sub>10</sub> = 1,882 cfs  
Q<sub>50</sub> = 3,392 cfs  
Q<sub>100</sub> = 4,544 cfs

Utilities Legend:

- F0 F01D, Century Link
- F02 F02D, Allamakee Clayton Skyways FIB
- PPA, Allamakee Clayton Electric CO

Utilities shown on this sheet are for information only. See Road Design sheets for utility information.

Design For  
Streambank Stabilization

Situation Plan - Site 2

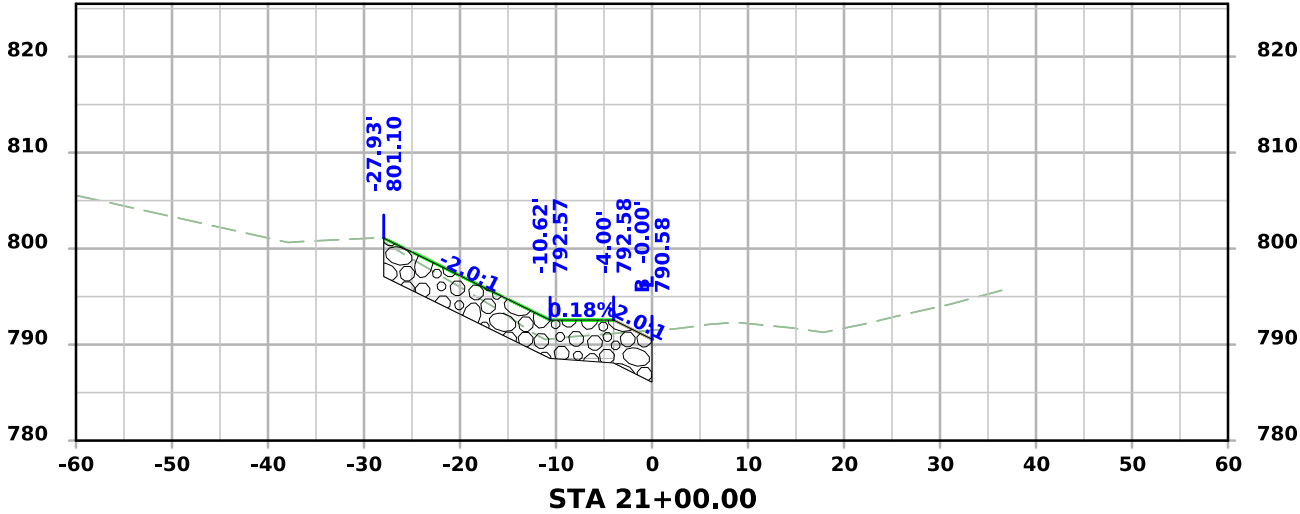
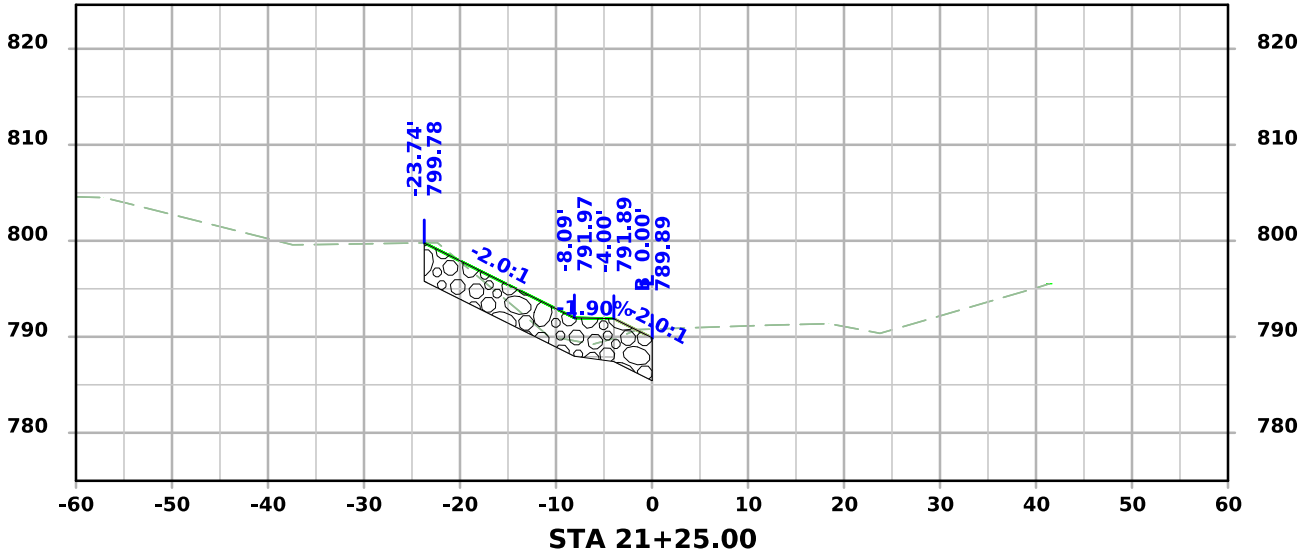
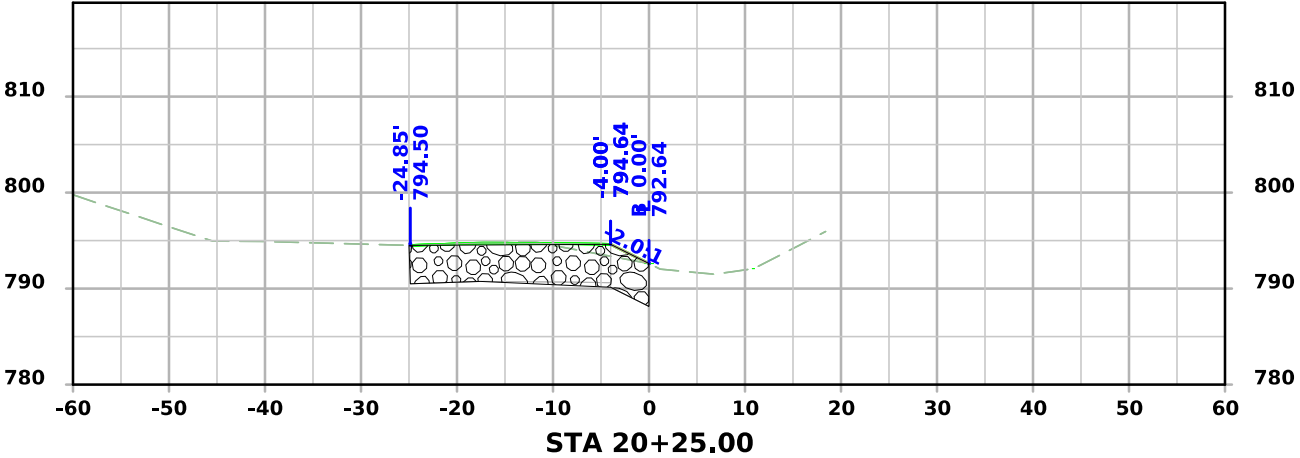
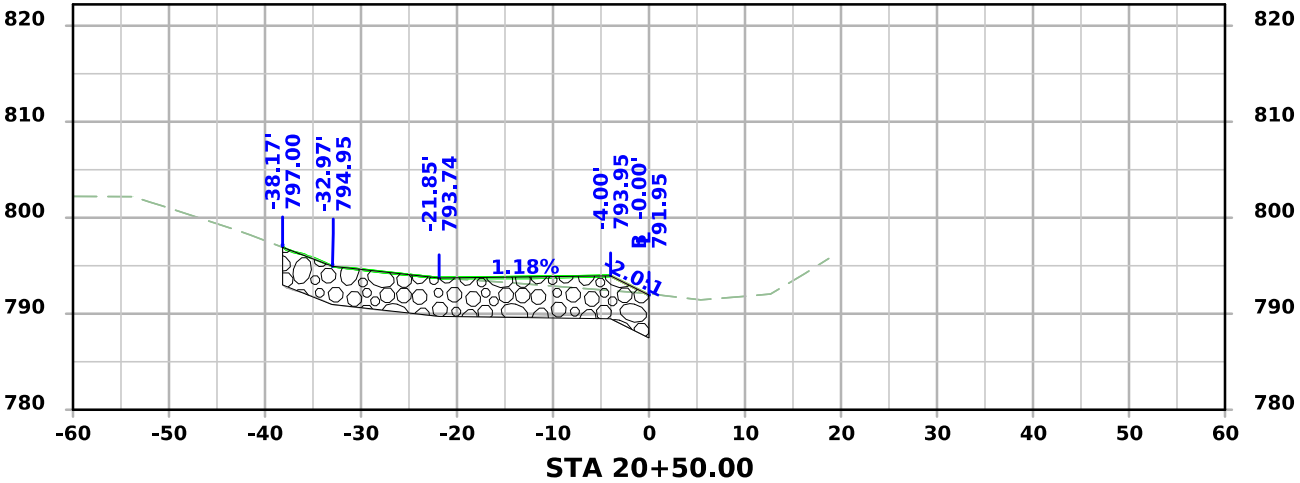
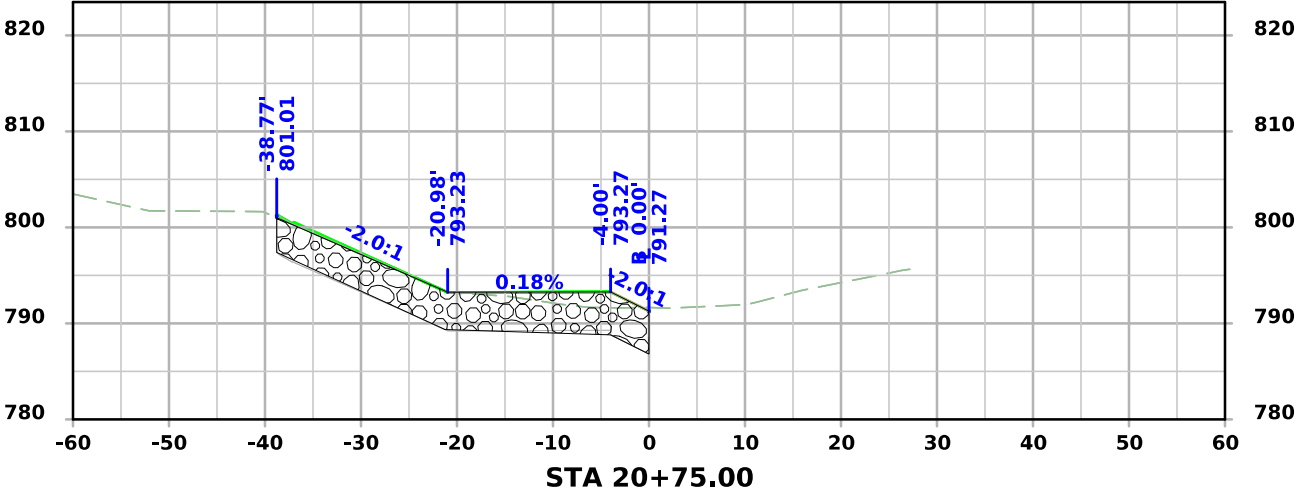
STA. 644+25.00 (IA 9) Turn-In Date: April 2026

Allamakee County

IOWA DEPARTMENT OF TRANSPORTATION

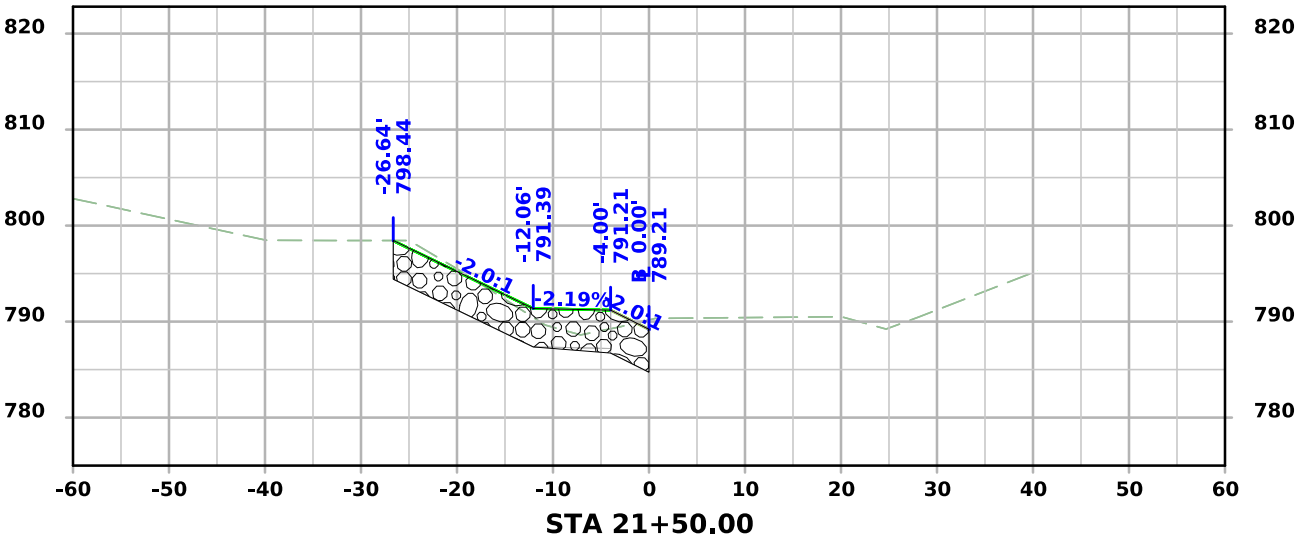
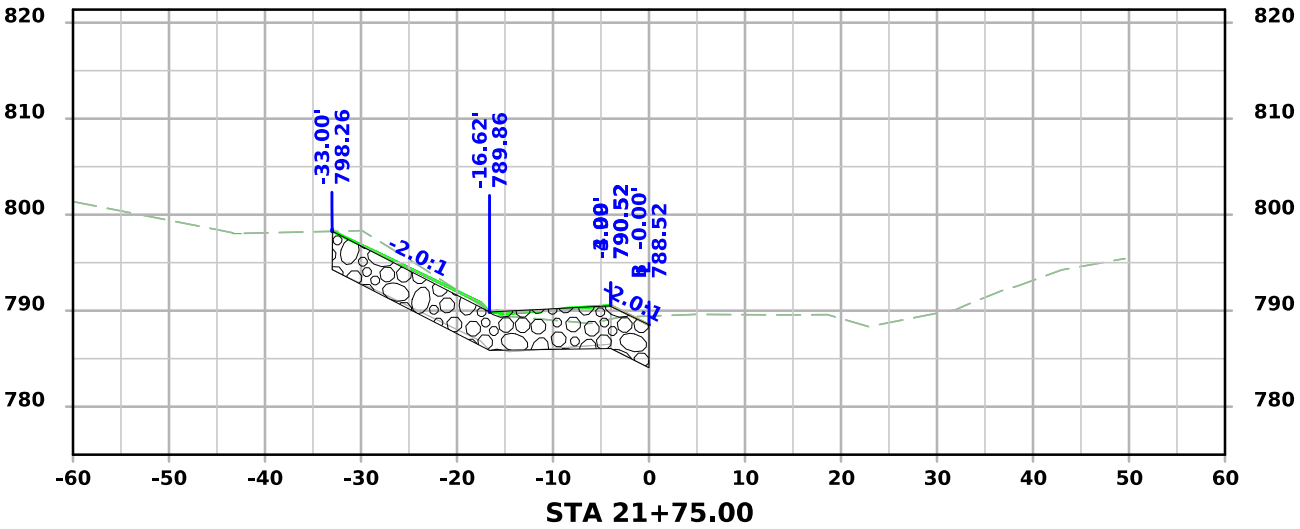
Design No. Design Sheet No. 3 of 8 FHWA/Asset

Site 2

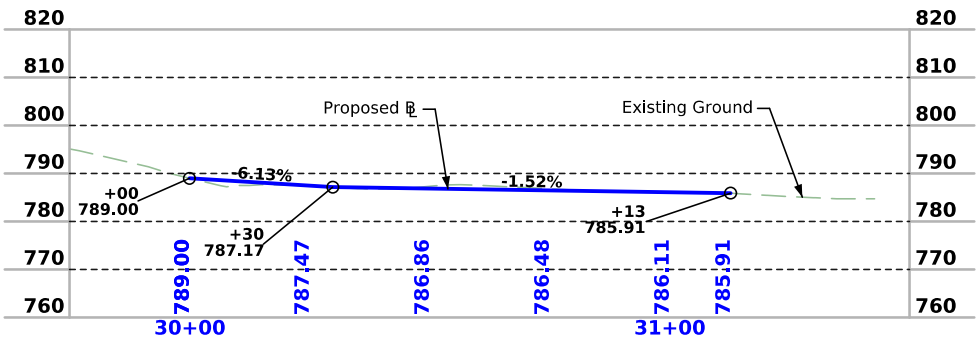




Site 2

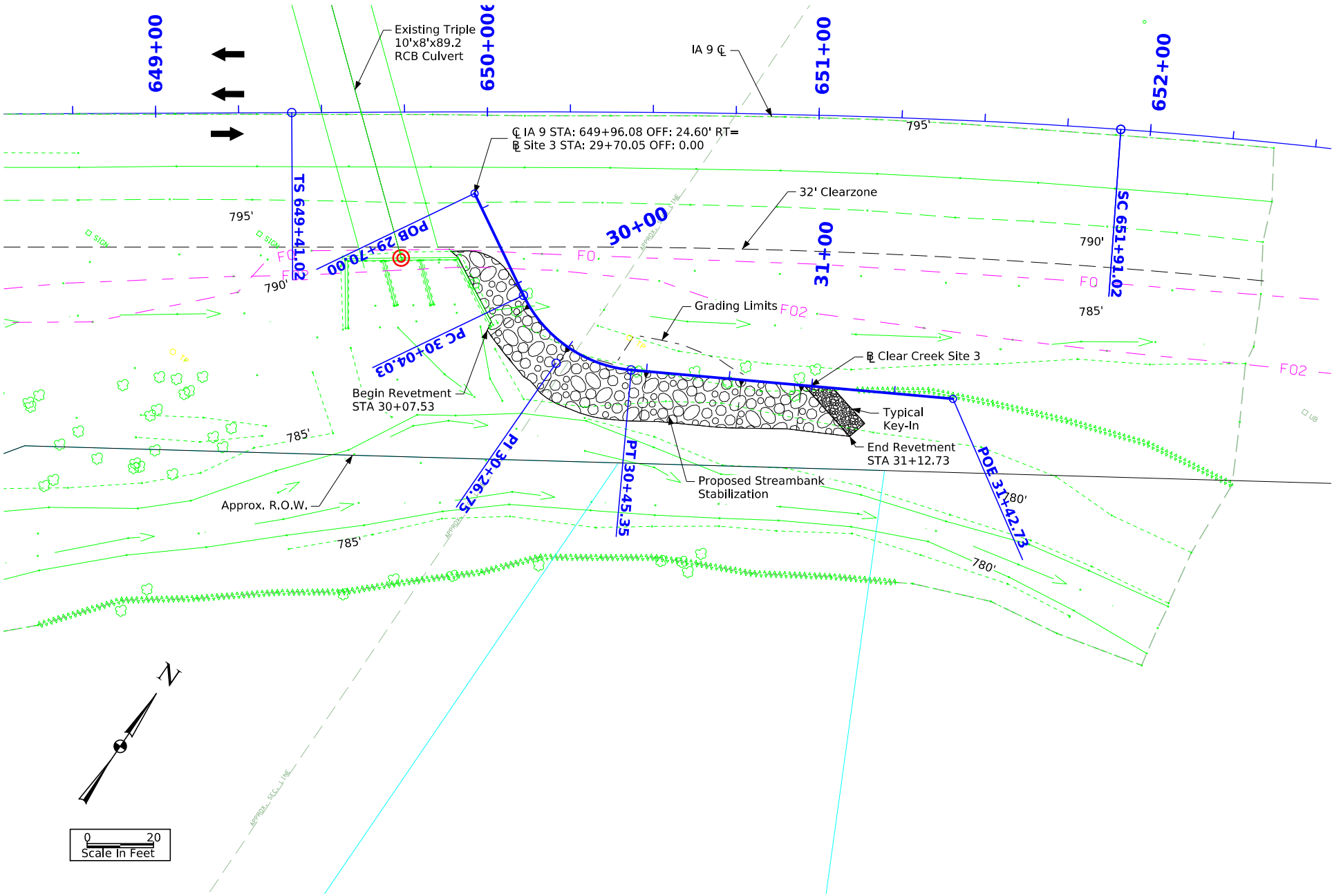


Control Point: 101,9432814.84,13470859.20,893.85,CP SET FENO NORTH OF HIGHWAY 9 AND WEST OF 4 MILE ROAD



BaseLine Profile

| Point No. | Station  | Point Type | Element Data        | Bearing   | Northing    | Easting      |
|-----------|----------|------------|---------------------|-----------|-------------|--------------|
| Site 3    |          |            |                     |           |             |              |
| 1         | 29+70.00 | POB        | L = 34.03           | S59.970°E | 9434007.966 | 13475335.859 |
| 2         | 30+04.03 | PC         |                     |           | 9434060.937 | 13475365.317 |
| 3         | 30+26.75 | PI         | L = 41.33<br>R = 40 |           | 9434049.566 | 13475384.99  |
| 4         | 30+45.35 | PT         |                     |           | 9434060.64  | 13475404.83  |
| 5         | 31+42.73 | POE        | L = 97.37           | N60.832°E | 9434108.10  | 13475489.856 |



Location

IA 9 along Clear Creek  
T-99N R-4W  
Section 27  
Lansing Township  
Allamakee County  
Latitude 43.361833°  
Longitude -91.292583°

Hydraulic Data

RIDB: Not Applicable  
Drainage Area = 2,944 Acres  
Q<sub>2</sub> = 1,354 cfs  
Q<sub>5</sub> = 2,262 cfs  
Q<sub>10</sub> = 3,213 cfs  
Q<sub>50</sub> = 5,664 cfs  
Q<sub>100</sub> = 6,966 cfs

Utilities Legend:

- F0 F01D, Century Link
- F02 F02D, Allamakee Clayton Skyways FIB
- PPA, Allamakee Clayton Electric CO

Utilities shown on this sheet are for information only. See Road Design sheets for utility information.

Situation Plan

Design For

Streambank Stabilization

Situation Plan - Site 3

STA. 649+96.08 (IA 9) Turn-In Date: April 2026

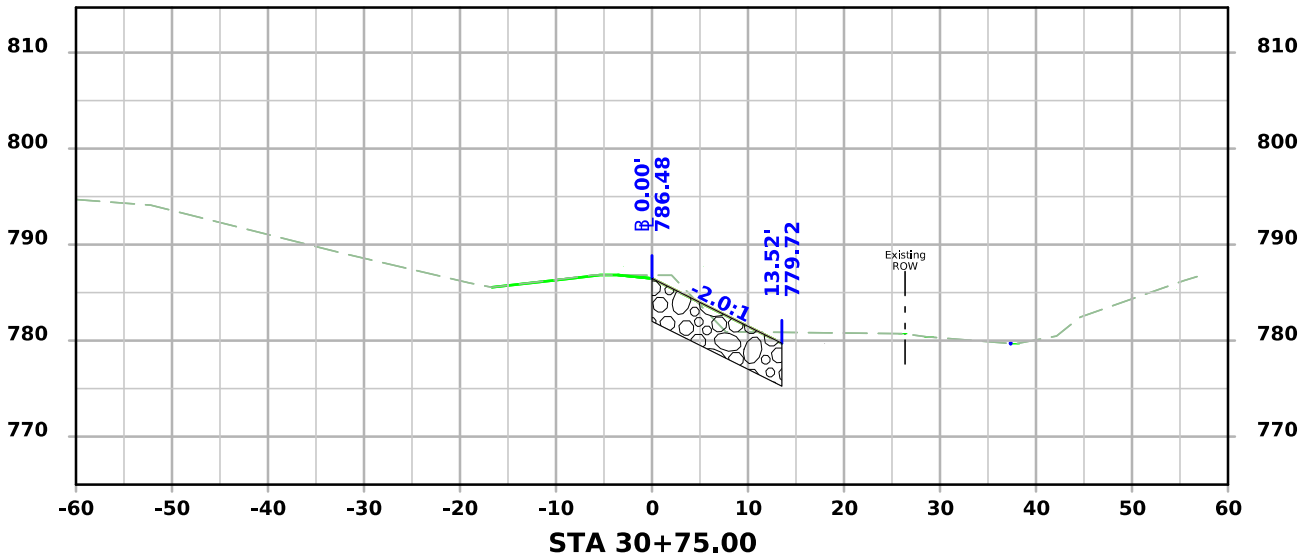
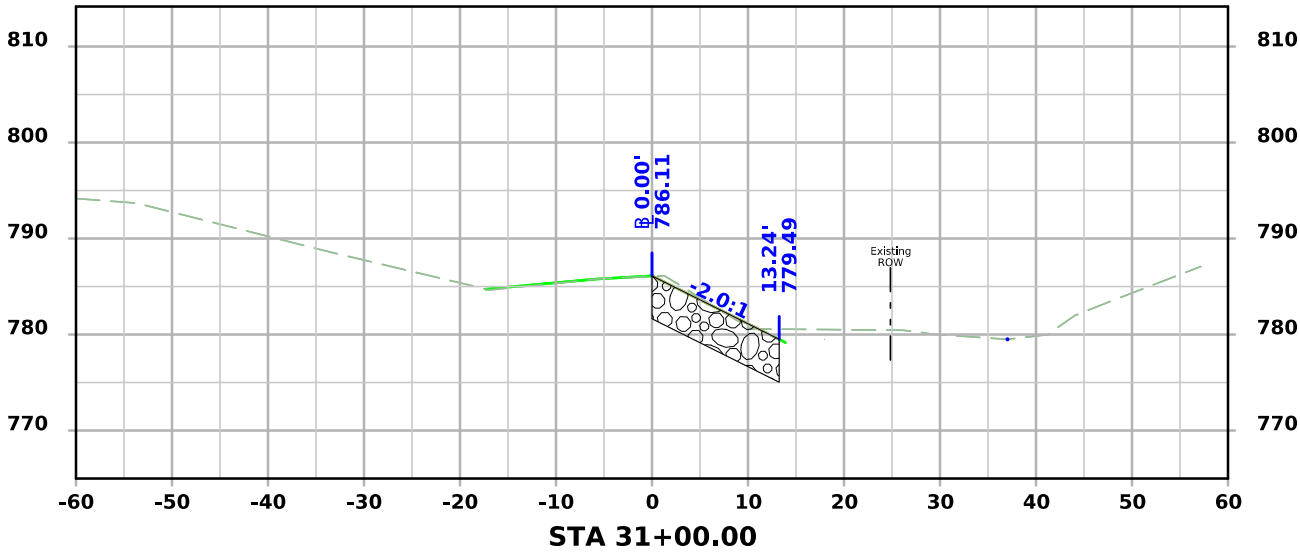
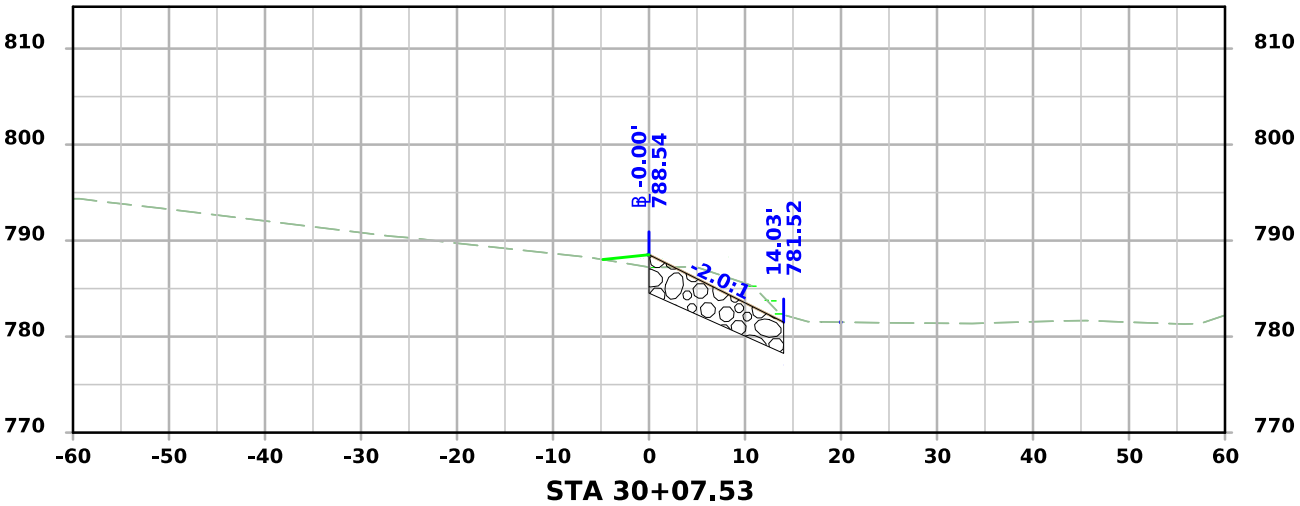
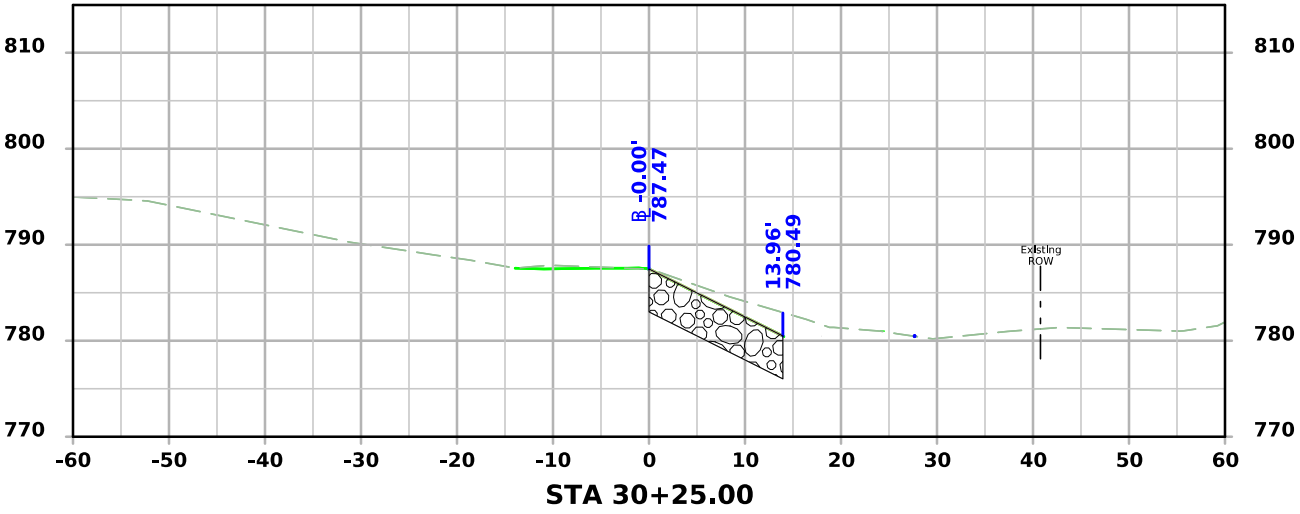
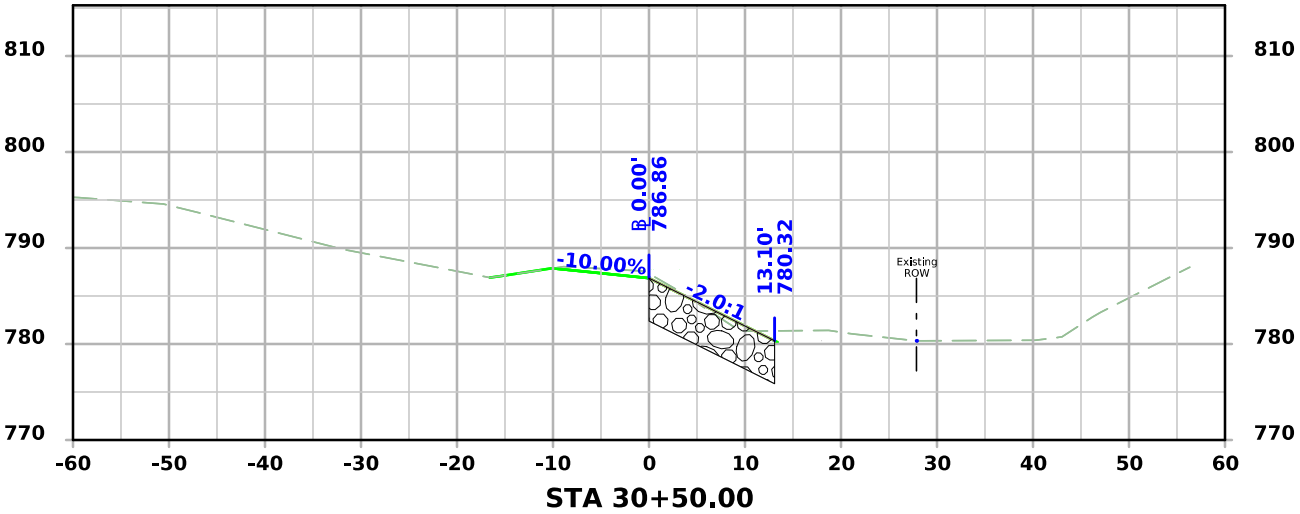
Allamakee County

IOWA DEPARTMENT OF TRANSPORTATION

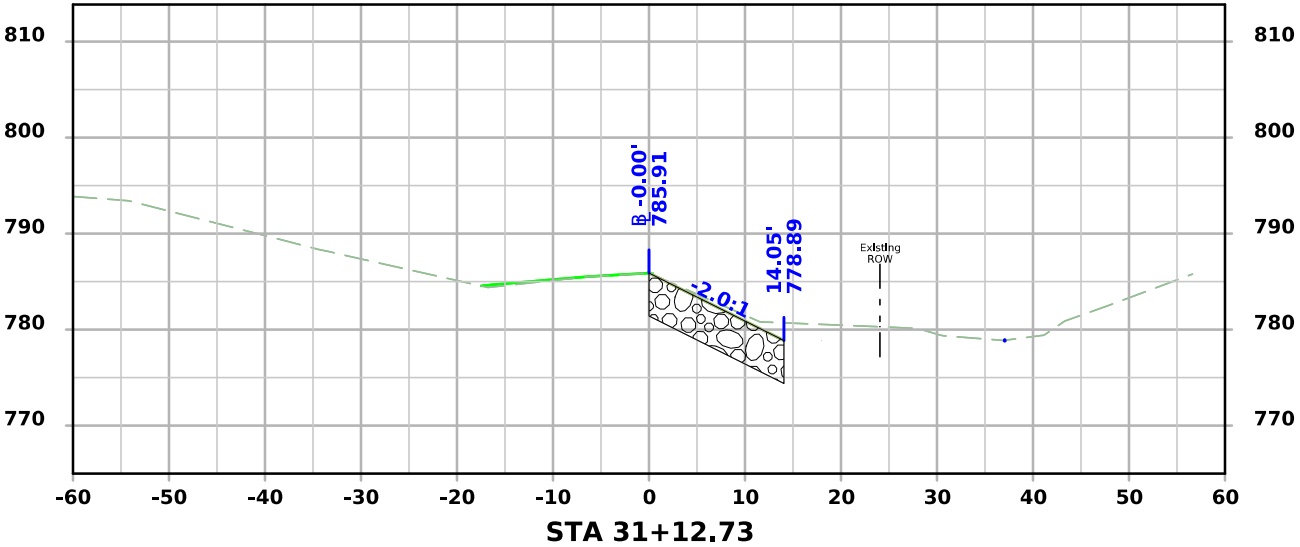
Design No. Design Sheet No. 6 of 8 FHWA/Asset



Site 3



Site 3







August 19, 2026 (DRAFT)

Iowa Department of Transportation  
Attn: Brandon Walls  
800 Lincoln Way  
Ames, IA 50010

Dear Mr. Walls:

After reviewing your request for State 401 Water Quality Certification (Certification), the Iowa Department of Natural Resources (DNR) has issued the enclosed Certification. Please read the attached conditions carefully before beginning work on the project.

A copy of this Certification has been forwarded to the office of the U.S. Army Corps of Engineers as indicated below.

Please note:

1. Prior to construction, the permittee is responsible for securing such other permits or approvals as may be required by the DNR, federal, state, or local governmental agencies for the project activities described. Issuance of this certification does not relieve you of the responsibility to comply with all local, state and federal laws, ordinances, regulations or other applicable legal requirements.
2. The permittee is responsible for ensuring that whoever performs, supervises, or oversees any portion of the physical work associated with the construction of this project complies with all the terms and conditions of this Certification as well as the associated Section 404 Permit.

If you have any questions about the certification or attached conditions contained therein, my contact information is provided in the certification.

Sincerely,

Brandon Harland  
Natural Resources Biologist

cc: Molly Connerton, Department of the Army Corps of Engineers, Rock Island District  
(Molly.A.Connerton@usace.army.mil)

# IOWA DEPARTMENT OF NATURAL RESOURCES

## SECTION 401 WATER QUALITY CERTIFICATION

**Certification issued to:**

Iowa Department of Transportation  
Attn: Brandon Walls  
800 Lincoln Way  
Ames, IA 50010

**Project certified:** Iowa DOT Clear Creek Bank Stabilization Project, No. 2025-0694

**Project Description:** The Iowa DOT proposes armoring approximately 1,200 linear feet of Clear Creek at five separate locations to prevent further channel migration toward IA 9 and to maintain a safe transportation corridor for the traveling public. Class E revetment will be used for the armoring. Streambanks will be graded and shaped to a 2:1 slope, and approximately 9,383 tons of Class E revetment will be placed across the five sites in total. Each site will include keyed-in revetment and a stone toe to protect the stabilization measures. Construction activities will involve excavators, dump trucks, backhoes, bulldozers, and other heavy equipment necessary for earthwork operations. All temporarily disturbed areas will be stabilized using appropriate erosion control measures.

**Project Location:** 43.3600991 / -91.3011315 Allamakee County.

The Iowa Department of Natural Resources (DNR) has issued this State 401 Water Quality Certification (Certification) pursuant to Section 401 {40 C.F.R. §121}. The U.S. Army Corps of Engineers requires state Certification before a Section 404 permit can be issued.

Subject to the attached conditions, incorporated by reference herein, the DNR has determined that a discharge from the proposed project will comply with water quality requirements of the state of Iowa {567 IAC 61}.

Prepared By/Date Executed: \_\_\_\_\_

Brandon Harland, brandon.harland@dnr.iowa.gov; 515-954-9559; Iowa DNR, 6200 Park Avenue, Des Moines, IA 50319



## CONDITIONS

- (1) During construction and upon completion of the project, actions must be taken to prevent pollution affecting public health, fish, shellfish, wildlife, and recreation due to turbidity, pH, nutrients, suspended solids, floating debris, visible oil and grease, or other pollutants entering a water of the state. This condition will ensure permittees comply with Iowa's narrative water quality standards found at 567 IAC 61.3(2);
- (2) Equipment used in waters of the state shall be cleaned of all hazardous materials, pesticides, fuels, lubricants, oils, hydraulic fluids, or other construction-related, potentially hazardous substances before arriving on site. Wash water shall not be discharged into a water of the state. This condition will ensure permittees comply with Iowa's narrative water quality standards found at 567 IAC 61.3(2);
- (3) All cleared vegetative material shall be properly managed in such a manner that it cannot enter a water of the state and cause a violation of water quality requirements. This condition will ensure permittees comply with Iowa's narrative water quality standards found at 567 IAC 61.3(2);
- (4) All construction debris shall be properly managed in such a manner that it cannot enter a water of the state. This condition will ensure permittees comply with Iowa's narrative water quality standards found at 567 IAC 61.3(2);
- (5) Erosion shall be managed so that sediment is not discharged to a water of the state in a manner that causes a violation of water quality requirements. This condition will ensure permittees comply with Iowa's narrative water quality standards found at 567 IAC 61.3(2);
- (6) Riprap, treated lumber products, and temporary structures shall consist of clean material free of coatings of potentially hazardous substances. No asphalt or petroleum-based material shall be used as or included in material placed in any water of the state or within the high-water table. This condition will ensure permittees comply with Iowa's narrative water quality standards found at 567 IAC 61.3(2); and
- (7) Stockpiled dredged materials on the shore shall be managed so that sediment is not discharged to a water of the state in a manner that causes a violation of water quality requirements. This condition will ensure permittees comply with Iowa's narrative water quality standards found at 567 IAC 61.3(2).