

May 3, 2019

Chris Saari
Wisconsin Department of Natural Resources
Remediation and Redevelopment Program
2501 Golf Course Road
Ashland, WI 54806

**Subject: Contaminated Soil and Groundwater Management Plan
STH 13 Boyd Creek Bridge B-04-0008
Town of Barksdale, Bayfield County, Wisconsin
WisDOT Project No. 8160-00-01/71
AECOM Project No. 60486923**

Dear Mr. Saari

On behalf of the Wisconsin Department of Transportation (WisDOT) – Northwest Region, AECOM is submitting for your review the enclosed draft hazardous material special provision to be incorporated with the construction contract documents for STH 13 Boyd Creek Bridge B-04-0008. The special provision includes a plan for management of low-level nitroaromatic and nitroamine organic compounds (NNOCs) contaminated soil and groundwater during construction. Details of the plan were developed by AECOM after consultations with WisDOT, the Wisconsin Department of Natural Resources and the Chemours Company. Copies of corresponding drawings taken from WisDOT's plan set for the project are also enclosed, indicating zones of low-level NNOCs contaminated soil and groundwater identified within the construction limits.

Significant project dates include:

- Final Plans, Specifications and Estimates (PS&E): August 1, 2019
- Let: January 14, 2020
- Construction: 2020

Please contact me at (715) 342-3038 if you have any questions or need further assistance.

Sincerely,



Kyle W. Wagoner, P.G., CHMM
Project Manager
kyle.wagoner@aecom.com

Enclosures: As Noted

c/encl: Aaron Gustafson – WisDOT Northwest Region - Superior (electronic only)
Philip Keppers - WisDOT Northwest Region - Superior (electronic only)
Gregory Pesola - WisDOT Northwest Region - Superior (electronic only)
Sharlene Te Beest – WisDOT-BTS-ESS (electronic only)

HAZARDOUS MATERIAL SPECIAL PROVISION

**Boyd Creek Bridge B-04-0008
STH 13
Bayfield County, Wisconsin
WisDOT Project No. 8160-00-71**

1. Health and Safety Requirements for Workers Remediating Contamination

Soil and groundwater contaminated with low-level nitroaromatic and nitroamine organic compounds (NNOCs), including dinitrotoluene (DNT), trinitrotoluene (TNT), nitroglycerin, and 2-nitrotoluene may be encountered during excavation activities. Prepare a site specific Health and Safety Plan complying with the Occupational Safety and Health Administration (OSHA) standard for Hazardous Waste Operation and Emergency Response (HAZWOPER), 29 CFR 1910.120.

All site workers taking part in remediation activities or who will have the reasonable probability of exposure of safety or health hazards associated with the hazardous material shall have completed Health and Safety training that meets OSHA requirements. Prior to the start of remediation work, submit to the engineer a site specific Health and Safety Plan, and written verification that workers will have completed up-to-date OSHA training.

Develop, delineate, and enforce the health and safety exclusions zones for each contaminated site location pursuant to 29 CFR 1910.120.

2. Hazardous Materials Contamination

The following site is known to have hazardous materials contamination:

| Site Name and Location | Description |
|--|---|
| Former Barksdale Works 72315 STH 13 Town of Barksdale, Bayfield County WDNR BRRTS Nos. 02-000156 and 02-04-550402 (Open ERP) | Low-Level NNOC Contaminated Soil within Construction Limits as follows: <ul style="list-style-type: none">• STH 13 Station 112+28 to Station 112+73, from reference line to 50 feet LT of reference line, at an approximate depth of 2 to 5 feet below existing grade.• STH 13 Station 112+86 to Station 113+58, from reference line to 50 feet LT of reference line, at an approximate depth of 6 to 20 feet below existing grade.• STH 13 Station 113+29 to Station 113+82, from reference line to 50 feet RT of reference line, at an approximate depth of 6 to 20 feet below existing grade.• STH 13 Station 114+23 to Station 116+55, from approximately 35 feet LT of reference line to right-of-way and beyond (wetland soils), from ground surface to an approximate depth of 2 feet below existing grade.• STH 13 Station 114+83 to Station 116+32, from approximately 30 feet RT of reference line to right-of-way (wetland soils), from ground surface to an approximate depth of 2 feet below existing grade.• Temporary Bypass Station 9+85 to Station 11+25, between slope intercepts RT and LT of reference line (wetland soils), from ground surface to an approximate depth of 2 feet below existing grade. |

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| | <ul style="list-style-type: none"> • Temporary Bypass Station 12+25 to Station 13+40, between slope intercepts RT and LT of reference line (wetland soils), from ground surface to an approximate depth of 2 feet below existing grade. <p>Low-level NNOCs, including 2-Amino-4,6-DNT (410 micrograms per kilogram ($\mu\text{g}/\text{kg}$)), 4-Amino-2,6-DNT (410 $\mu\text{g}/\text{kg}$), 2,4,6-TNT (480 $\mu\text{g}/\text{kg}$), nitroglycerin (31 $\mu\text{g}/\text{kg}$), and 2-nitrotoluene (78 $\mu\text{g}/\text{kg}$) were detected in wetland and subsurface soils below Wisconsin Administrative Code (WAC) Chapter NR 720 (NR 720) non-industrial and industrial Not-to-Exceed Direct Contact (D-C) Residual Contaminant Levels (RCLs). 2,4-DNT (55 $\mu\text{g}/\text{kg}$), exceeded the NR 720 Soil-to-Groundwater Pathway RCL (RCL-gw) in wetland soil.</p> <p>Low-Level NNOC Contaminated Groundwater within Construction Limits as follows:</p> <ul style="list-style-type: none"> • STH 13 Station 113+29 to Station 113+82, from reference line to 50 feet RT of reference line, at an approximate depth of 12.5 feet below existing grade. <p>Low-level NNOCs, including 2-Amino-4,6-DNT (17 micrograms per liter ($\mu\text{g}/\text{L}$)), 4-Amino-2,6-DNT (5.7 $\mu\text{g}/\text{L}$), and 2,4,6-TNT (27 $\mu\text{g}/\text{L}$) were detected in groundwater. There are currently no WAC Chapter NR 140 groundwater quality standards established for the detected compounds.</p> |
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For further information regarding approval of the soil and groundwater management methods or to obtain a copy of the hazardous materials investigation report for this project, contact one of the following persons:

Aaron Gustafson
Environmental Coordinator
Wisconsin Department of Transportation
1701 North 4th Street
Superior, WI 54880
Telephone: (715) 392-7972
Email: aaron.gustafson@dot.wi.gov.

Kyle Wagoner
AECOM Technical Services, Inc.
200 Indiana Avenue
Stevens Point, WI 54481
Telephone: (715) 342-3038
Email: kyle.wagoner@aecom.com

3. Environmental Protection – Dewatering

General

Add the following to 107.18 of the standard specifications:

If dewatering is required, treat the water to remove suspended sediments by filtration, settlement or other appropriate best management practice prior to discharge. Submit the proposed means and methods of dewatering for each required location for approval as part of the Erosion Control Implementation Plan (ECIP). Include details of how the intake will be managed to not cause an increase in the background level turbidity prior to treatment and any additional measures necessary to prevent sediments from reaching the project limits or wetlands and waterways.

Guidance on Dewatering can be found on the Wisconsin Department of Natural Resources (WDNR) website located in the Storm Water Construction Technical Standards, Dewatering Code #1061, "Dewatering". This document can be found at the WDNR website: http://dnr.wi.gov/topic/stormwater/standards/const_standards.html

Work includes furnishing all materials, excavation, maintenance, cleaning, disposal of surplus material and removal of the dewatering system and is incidental to contract work. (NCR 107.13-04012016)

Contaminated Groundwater

The department and others have completed testing for groundwater contamination at locations within and adjacent to this project where excavation is required. Based on the depth to groundwater and planned excavation depths, dewatering of unregulated, low-level NNOC contaminated groundwater may be necessary during construction next to the site listed in Hazardous Materials Contamination and as shown on the plans.

By municipal ordinance, the cities of Ashland, Bayfield and Washburn, Wisconsin, prohibit the discharge of any storm water, surface water, groundwater, or wastes containing hazardous materials (i.e., gasoline, benzene, naphtha, fuel oil, or other flammable or explosive liquid, solid or gas) to public sewers and to their respective waste water treatment facilities. The Town of Barksdale neither owns nor operates a municipal waste water treatment plant.

The WDNR has calculated secondary values for the safe discharge of low-level NNOC contaminated groundwater back to Boyd Creek as follows:

- For 2-Amino-4,6-DNT: The *daily* maximum concentration shall be less than 35.4 µg/L; the *weekly* average concentration shall be less than 2.0 µg/L for wastewater discharges lasting 4 consecutive days or more.
- For 4-Amino-2,6-DNT: The *daily* maximum concentration shall be less than 400 µg/L; the *weekly* average concentration shall be less than 22.2 µg/L for wastewater discharges lasting 4 consecutive days or more.
- For 2,4,6-TNT: The *daily* maximum concentration shall be less than 168 µg/L; the *weekly* average concentration shall be less than 9.8 µg/L for wastewater discharges lasting 4 consecutive days or more.

The discharge of low-level NNOC contaminated groundwater back to Boyd Creek that does not exceed the calculated secondary values is allowed under the Dewatering Operations General Permit.

Implement means and methods as necessary to accomplish dewatering and meet requirements for management of low-level NNOC contaminated groundwater. Dewatering means and methods implemented by the contractor, including location and depth of dewatering operations, pumping rates, length of dewatering area, and dewatering methods, such as, wells, well points, and/or sump pumps, will likely affect quantity and quality of recovered water. Employ dewatering methods and techniques in a manner that does not cause the migration of contaminants into uncontaminated areas.

Water generated from dewatering activities within the contaminated groundwater area includes groundwater and water that may enter an excavation at ground surface, such as, rain water or storm water. Employ construction methods and techniques in a manner that will minimize the need for dewatering, and if dewatering is required, minimize the volume of water generated.

Water removed from excavations by dewatering activities within the contaminated groundwater area may be discharged within project limits, employing an appropriate best management practice prior to discharge in compliance with Environmental Protection – Dewatering, General.

If contaminated groundwater, strong chemical or petroleum odors, unusually discolored groundwater, or free-phase petroleum product, such as, gasoline floating on the water table, are encountered elsewhere within the project limits, then terminate dewatering activities in the area and notify the engineer.

Coordinate dewatering activities within the contaminated groundwater area under this contract with the department's engineer and environmental consultant. Do not treat, discharge or transport contaminated water off-site without prior approval from the engineer or environmental consultant.

Provide a schedule of operations in the contaminated groundwater area to the engineer and environmental consultant at the pre-construction conference.

Provide the engineer and environmental consultant with a dewatering plan at least 45 calendar days prior to the scheduled date of beginning dewatering activities in the contaminated groundwater area. Describe the proposed means and methods to accomplish dewatering and include scheduled start and end dates, estimated pumping rates and times, anticipated daily volumes, containerization, treatment methods and/or disposal location, and any other information pertinent to contaminated groundwater management.

Provide the engineer and environmental consultant with documentation of contaminated groundwater management within 90 calendar days after completion of construction dewatering activities.

All costs associated with dewatering activities within the low-level contaminated groundwater area shall be considered incidental to construction.

4. Notice to Contractor – Low-Level Contaminated Soil within Construction Limits

The department and others have completed testing for soil contamination at locations within or adjacent to this project where excavation or grading may be required. Testing indicated low-level NNOCs detected below the WAC Chapter NR 720 direct-contact RCLs may be present in soil at the site listed in Hazardous Materials Contamination and as shown on the plans.

5. Excavation, Loading and Hauling of Low-Level Contaminated Soil, Item SPV.195.01

A Description

A.1 General

Low-level NNOC contaminated soil excavated from the locations and depths identified in Hazardous Materials Contamination and as shown on the plans shall be transferred to the following WDNR-approved management site:

Former Barksdale Works
72315 STH 13
Town of Barksdale, Bayfield County

The one-way distance from the project to the WDNR-approved management site is estimated to be less than 3 miles.

The in-situ quantity of low-level NNOC contaminated soil designated for transfer to the WDNR-approved management site is estimated to be 1,100 cubic yards (1,650 tons).

The responsible party for the Former Barksdale Works, the Chemours Company, will designate a temporary stockpile location.

A.2 Low-Level Contaminated Soil Locations

The department and others have completed testing for soil contamination at locations within or adjacent to this project where excavation or grading may be required. Testing indicated low-level NNOCs detected below the WAC Chapter NR 720 direct-contact RCLs is present in soil at the site listed in Hazardous Materials Contamination and as shown on the plans.

If contaminated soil, groundwater, or underground storage tanks are encountered elsewhere on the project, terminate excavation activities in the area and notify the engineer.

A.3 Coordination

Coordinate work under this contract with the department's environmental consultant.

The role of the environmental consultant will be limited to:

1. Identifying the location and limits of contaminated soil and groundwater that may be encountered based on soil and water sample analytical results from previous investigations, visual observation, and field screening of soil that is excavated.
2. Periodically evaluating soil excavated from the low-level contaminated areas to determine if the soil is appropriate for transfer to the WDNR-approved management site.
3. Documenting that activity associated with management of contaminated soil and groundwater are in conformance with the contaminated soil and groundwater management methods for this project as specified herein.

At the pre-construction conference, provide a schedule for all excavation activities in the low-level contaminated soil areas to the engineer and environmental consultant.

Notify the environmental consultant at least 14 calendar days prior to commencement of excavation activities in the low-level contaminated soil areas.

Coordinate to ensure that the environmental consultant is present during excavation activities in the low-level contaminated soil management areas. Excavation work in the low-level contaminated soil areas shall proceed on a continuous basis until excavation work is completed.

A.4 Material Handling Plan Approval

The methods for managing low-level NNOC contaminated soil during this project were developed in cooperation with the WDNR. The methods outlined herein have been approved by the WDNR's Northern Region office at 1701 North 4th Street, Superior, Wisconsin 54880.

B (Vacant)

C Construction

Control operations in the low-level contaminated soil areas to minimize the quantity of contaminated soil excavated.

The environmental consultant will periodically evaluate soil excavated from the low-level contaminated soil areas to determine if the soil is appropriate for transfer to the WDNR-approved management site. Excavated soil will be evaluated by the environmental consultant based on field screening results, visual observations, and soil analytical results from previous environmental investigations. Assist the environmental consultant in collecting soil samples for evaluation.

Directly load and haul low-level NNOC contaminated soil to the WDNR-approved management site. If not hauled to the designated management site during the same day on which it was excavated, temporarily stockpile the soil on an impervious surface within the project limits by covering the material with impervious plastic sheeting and anchoring the plastic sheeting in place to prevent the soil from being exposed until such time as the soil is hauled to the management site. Use loading and hauling practices that are appropriate to prevent any spills or releases of soils or residues. Sufficiently dewater soils designated for off-site management prior to transport so as not to contain free liquids.

Do not transport contaminated soil off-site without prior approval from the engineer or environmental consultant.

Perform this work in accordance with Section 205 of the standard specifications and with pertinent parts of Chapters NR 700-754 of the Wisconsin Administrative Code, as supplemented herein. Per NR 718.07, a solid waste collection and transportation service-operating license is required under NR 502.06 for each vehicle used to transport contaminated soil.

D Measurement

The department will measure Excavation, Loading and Hauling Low-Level Contaminated Soil in cubic yards (CY) of contaminated soil transferred to the WDNR-approved management site as estimated by the engineer and confirmed by the contractor.

E Payment

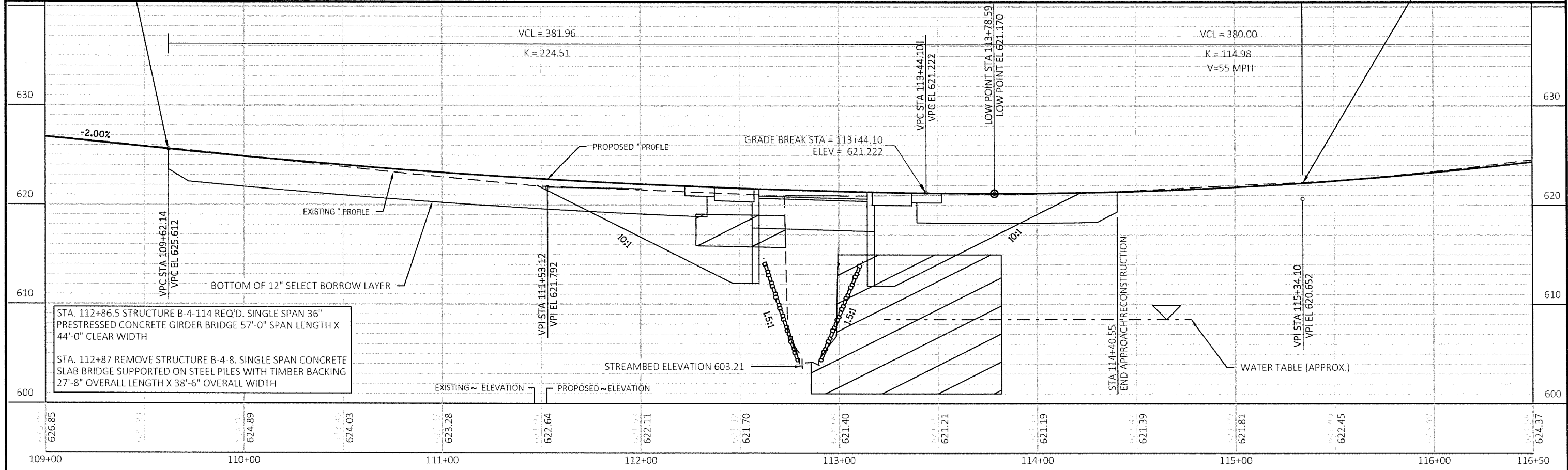
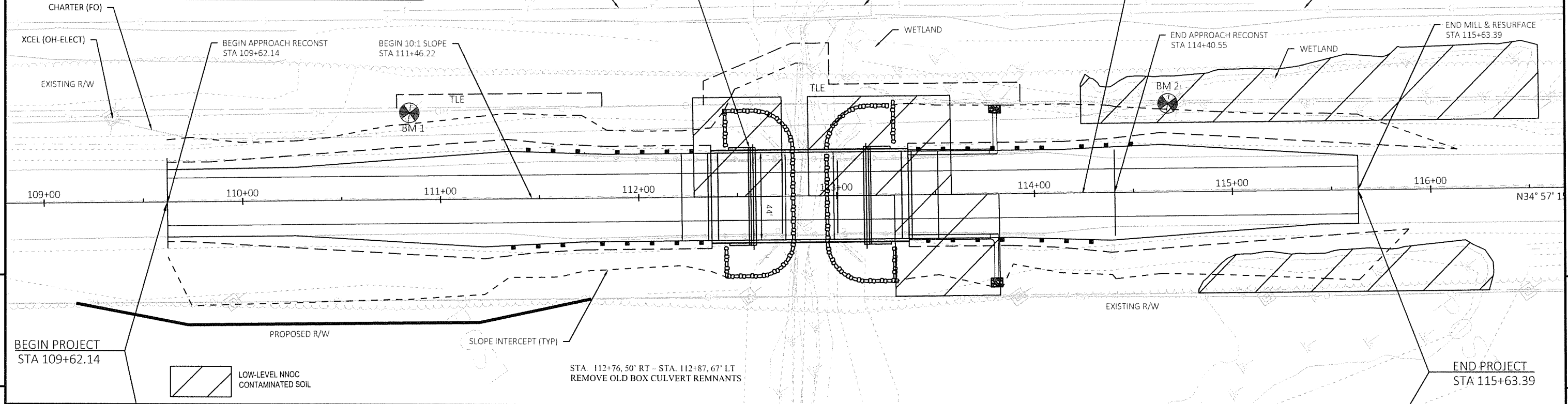
The department will pay for measured quantities at the contract unit price under the following bid item:

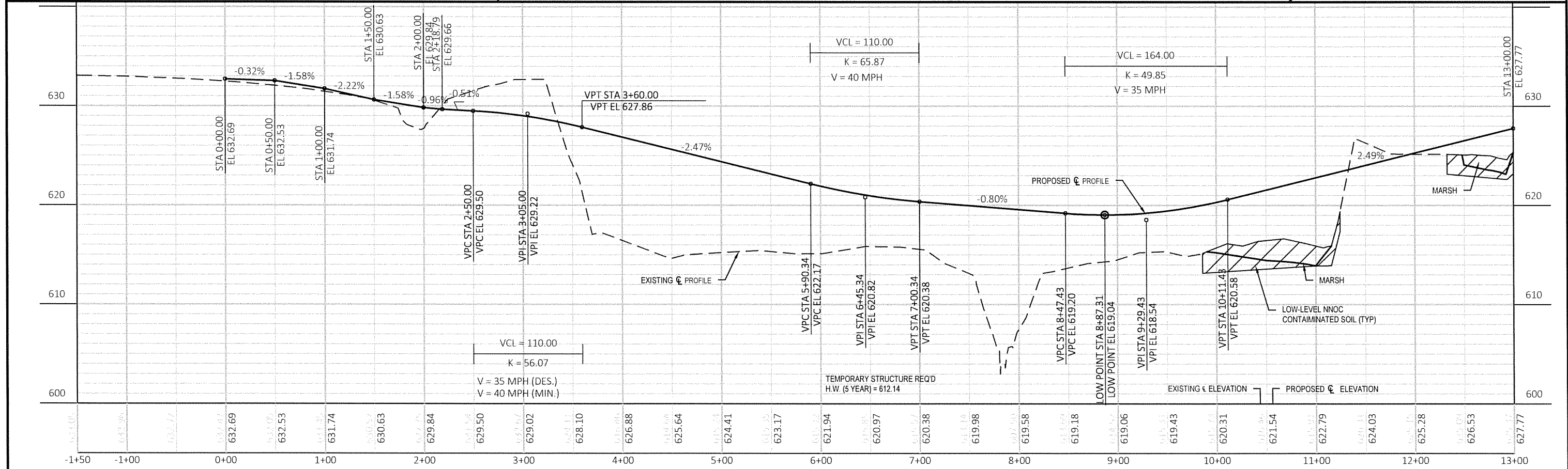
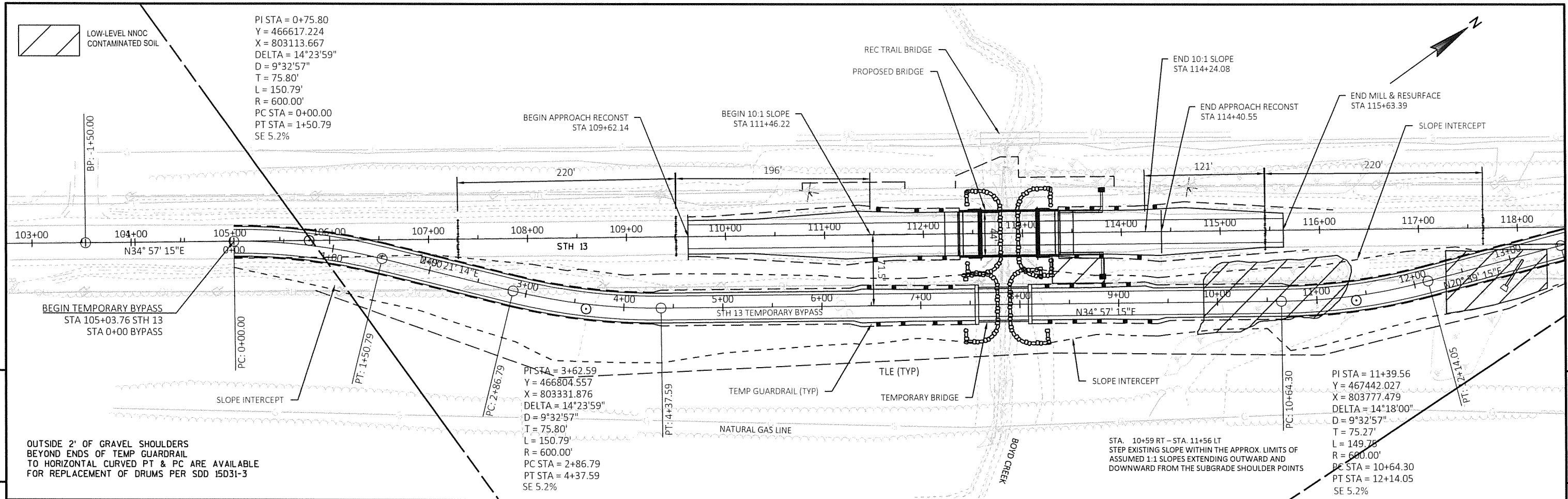
| ITEM NUMBER | DESCRIPTION | UNIT |
|-------------|--|------|
| SPV.195.01 | Excavation, Loading and Hauling of Low-Level Contaminated Soil | CY |

Payment is full compensation for excavating, loading, hauling, and transferring the contaminated soil to the WDNR-approved management site; temporary stockpiling of contaminated soil within project limits; covering, anchoring, and maintenance of the temporary stockpile; obtaining solid waste collection and transportation service operating licenses; dewatering of soils prior to transport; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

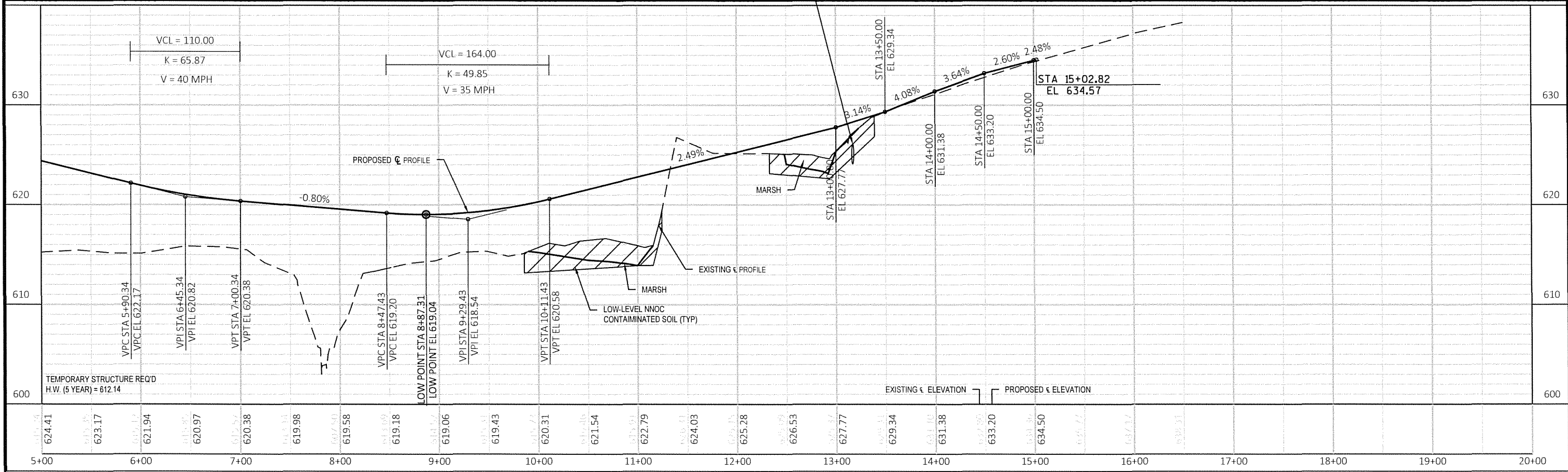
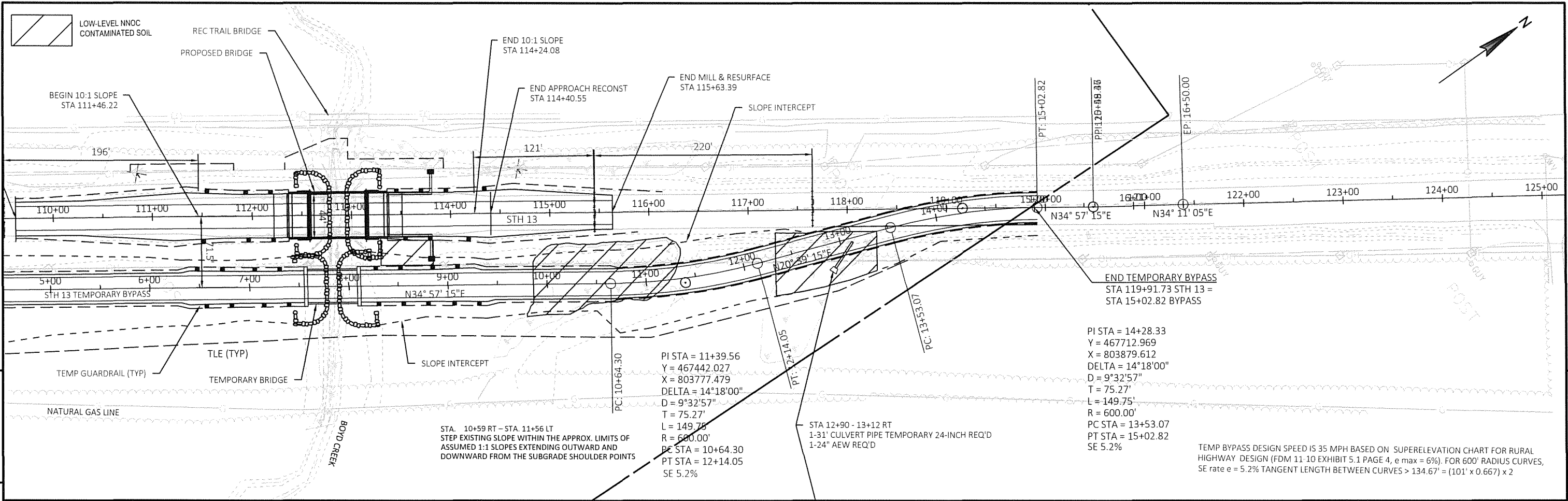
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| BENCHMARK TABLE | | | |
|-----------------|---------------------|---------------|-----------|
| NO. | STATION | DESCRIPTION | ELEVATION |
| BM1 | 110+84.91 43.38' LT | SET SPK IN PP | 621.34 |
| BM2 | 114+67.94 44.55' LT | SET SPK IN PP | 618.42 |

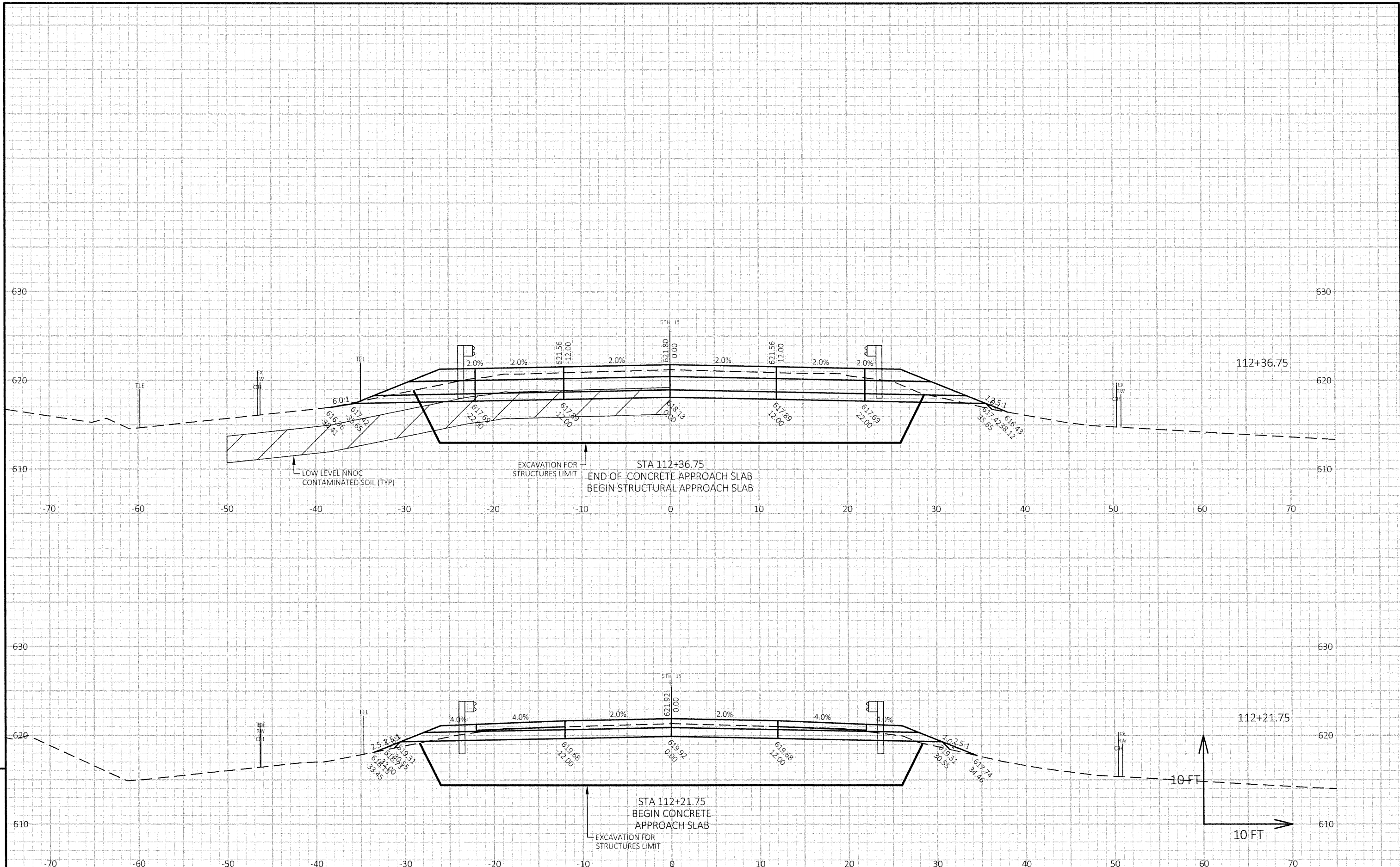




PROJECT NO: 8160-00-71 HWY: STH 13 COUNTY: BAYFIELD PLAN AND PROFILE: TEMPORARY BYPASS SHEET E



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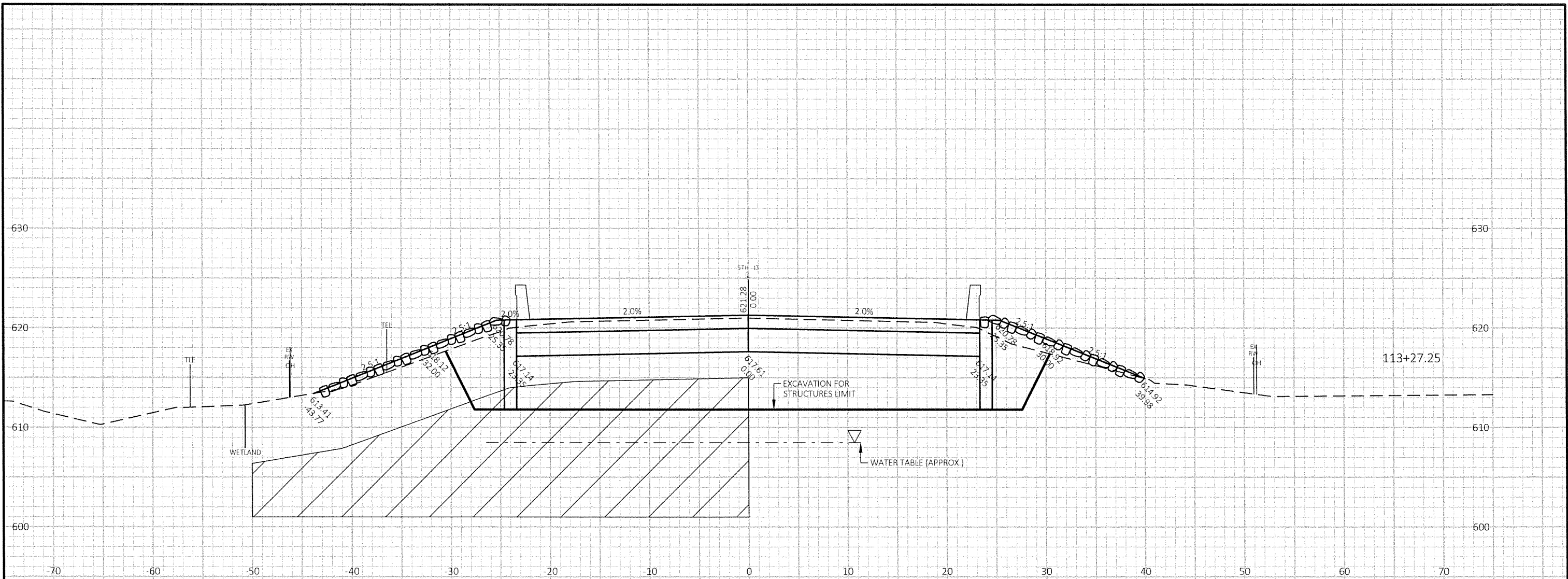
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COUNTY: BAYFIELD

CROSS SECTIONS: STH 13

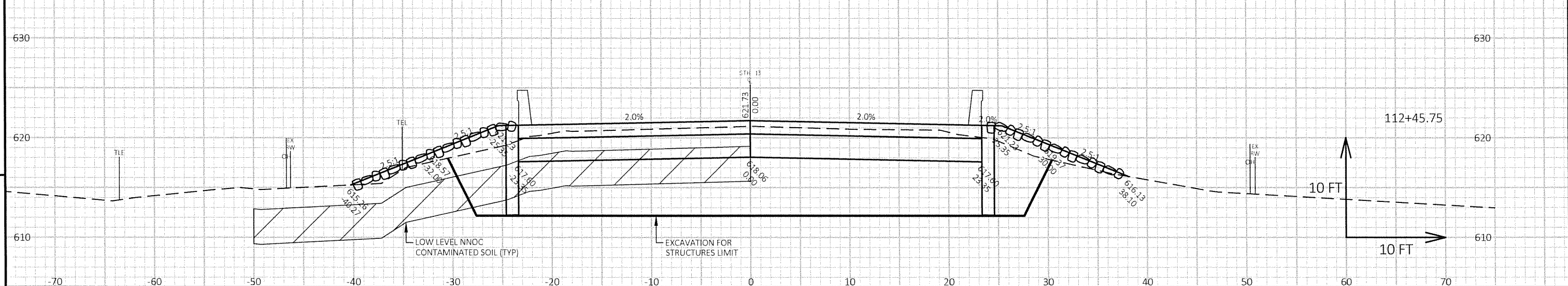
SHEET

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STA 113+16.25
DECK OF STRUCTURE
BEGIN STRUCTURAL APPROACH SLAB

STA 112+56.75
DECK OF STRUCTURE
END STRUCTURAL APPROACH SLAB



PROJECT NO: 8160-00-71

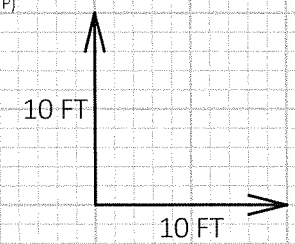
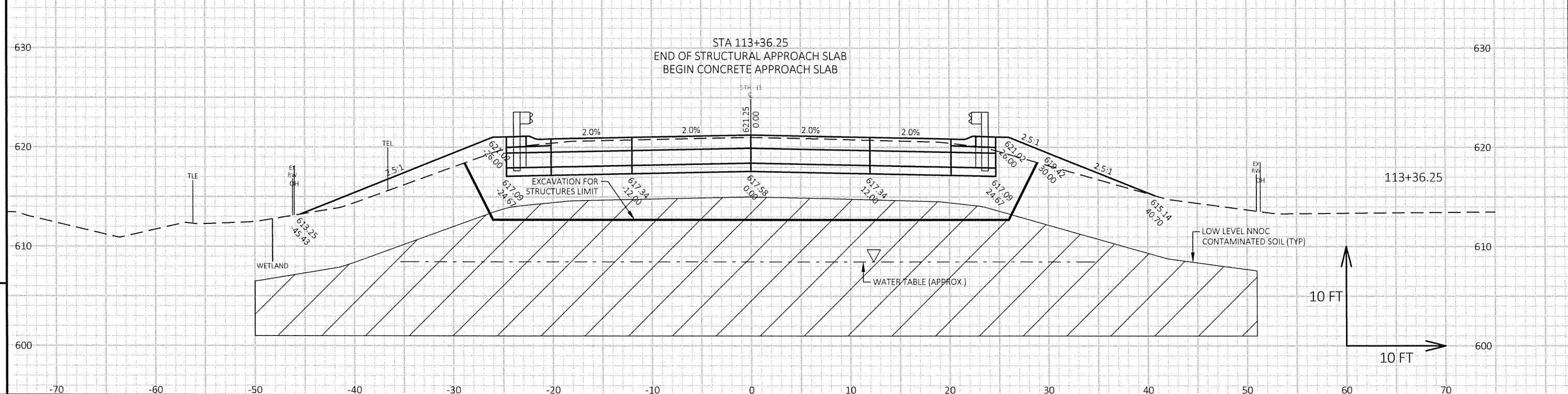
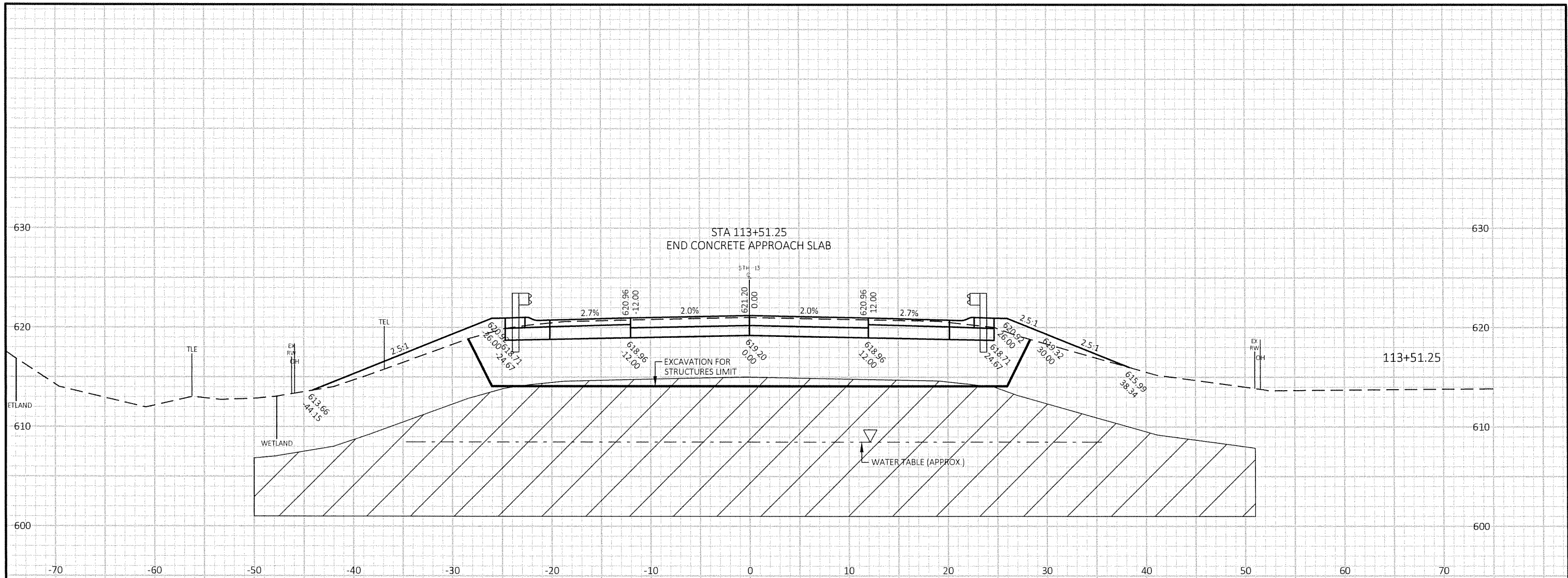
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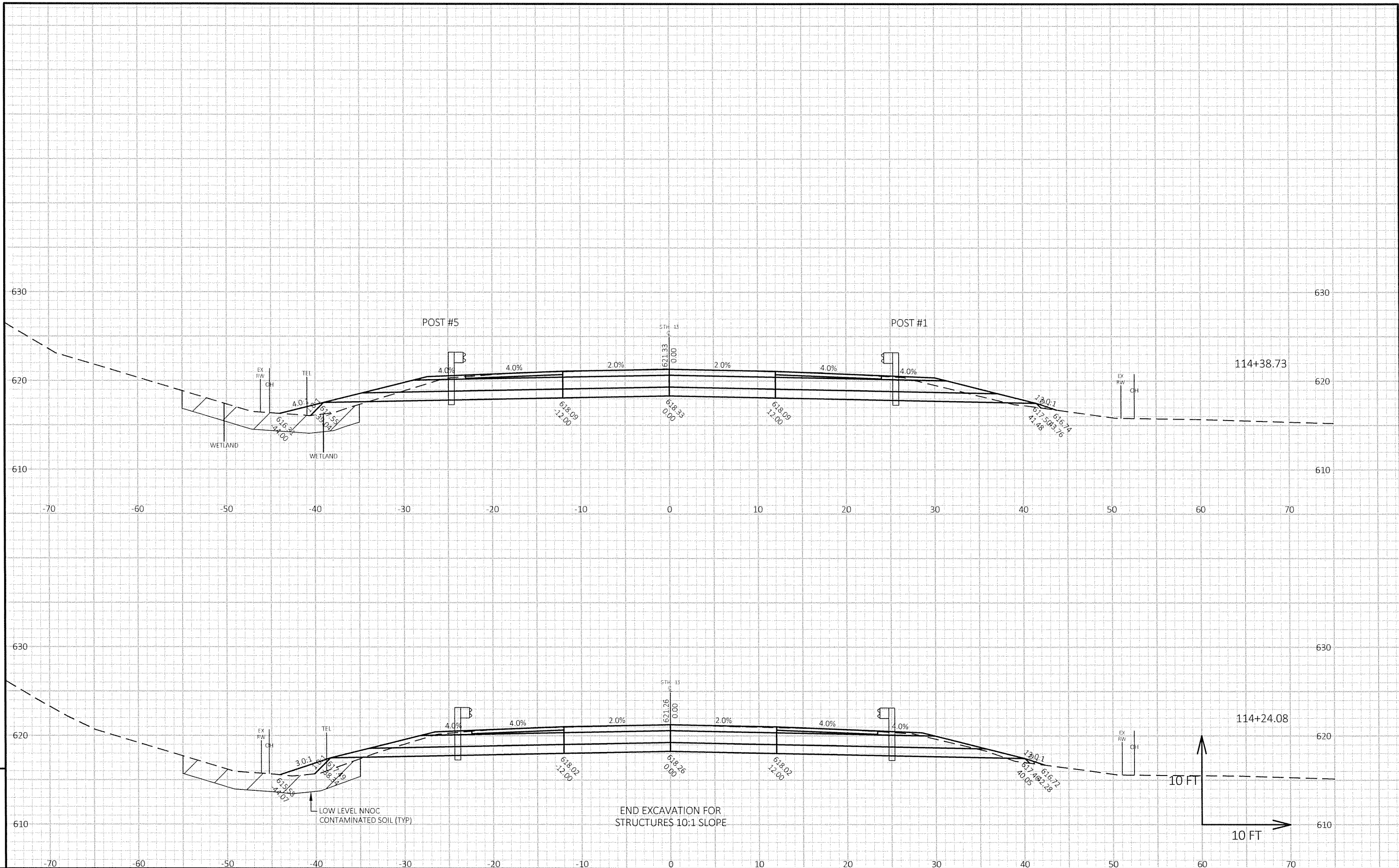
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HWY: STH 13

COUNTY: BAYFIELD

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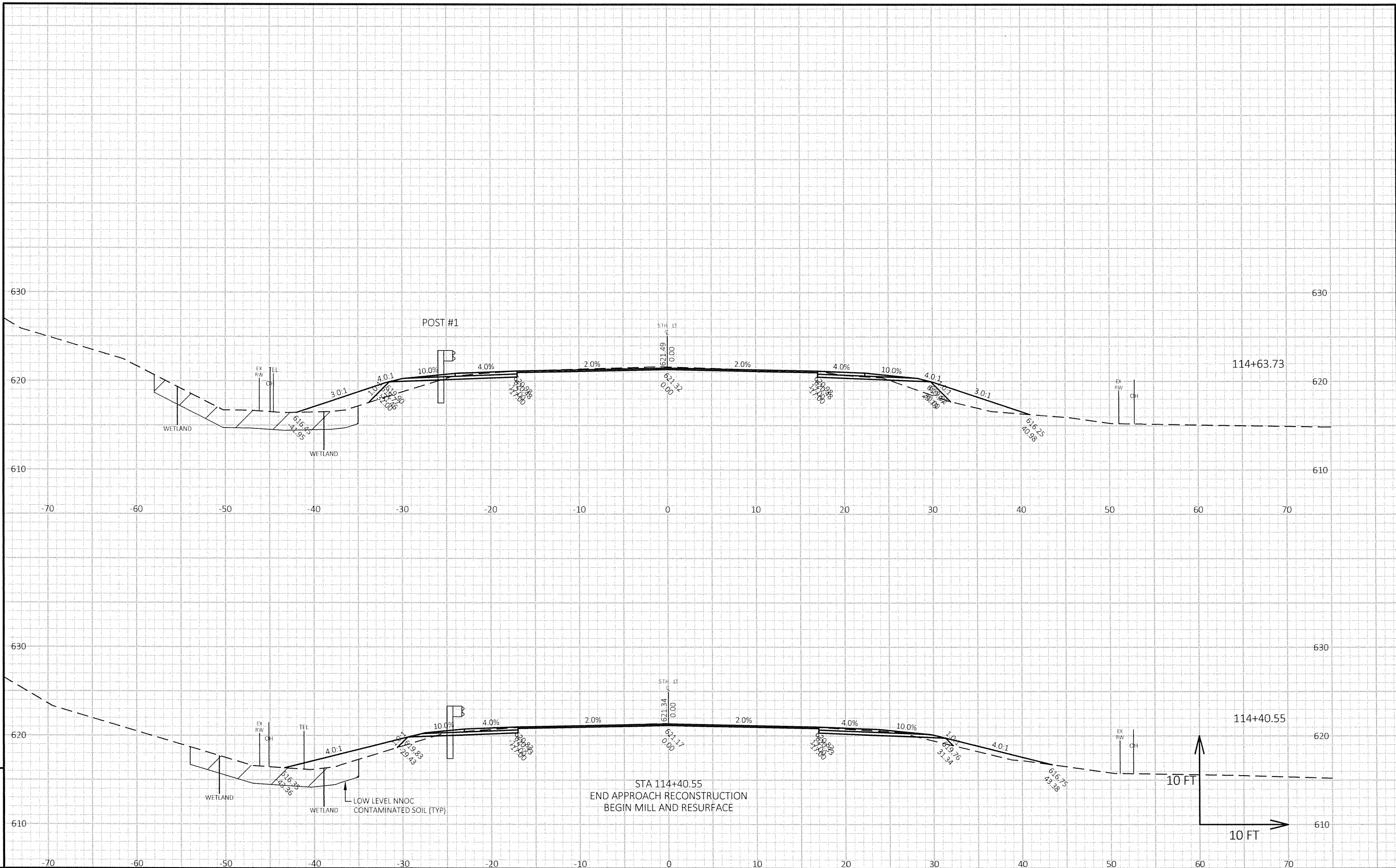
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PLOT BY: JUSTIN SHAVLIK

PLOT NAME:

PLOT SCALE: 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADD5 SHEET 49



PROJECT NO: 8160-00-71

HWY: STH 13

COUNTY: BAYFIELD

CROSS SECTIONS: STH 13

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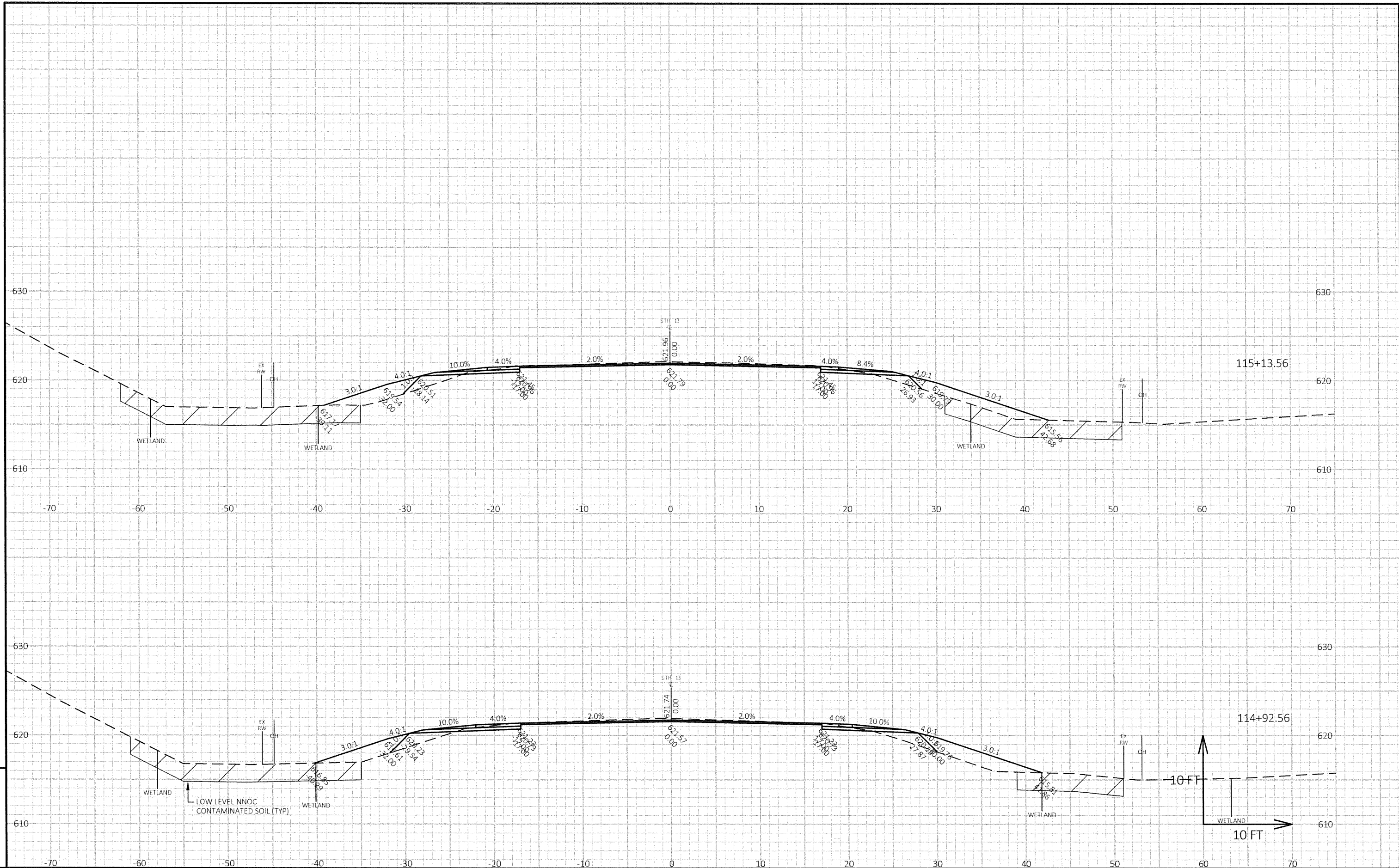
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PLOT NAME:

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WISDOT/CADD5 SHEET 49



PROJECT NO: 8160-00-71

HWY: STH 13

COUNTY: BAYFIELD

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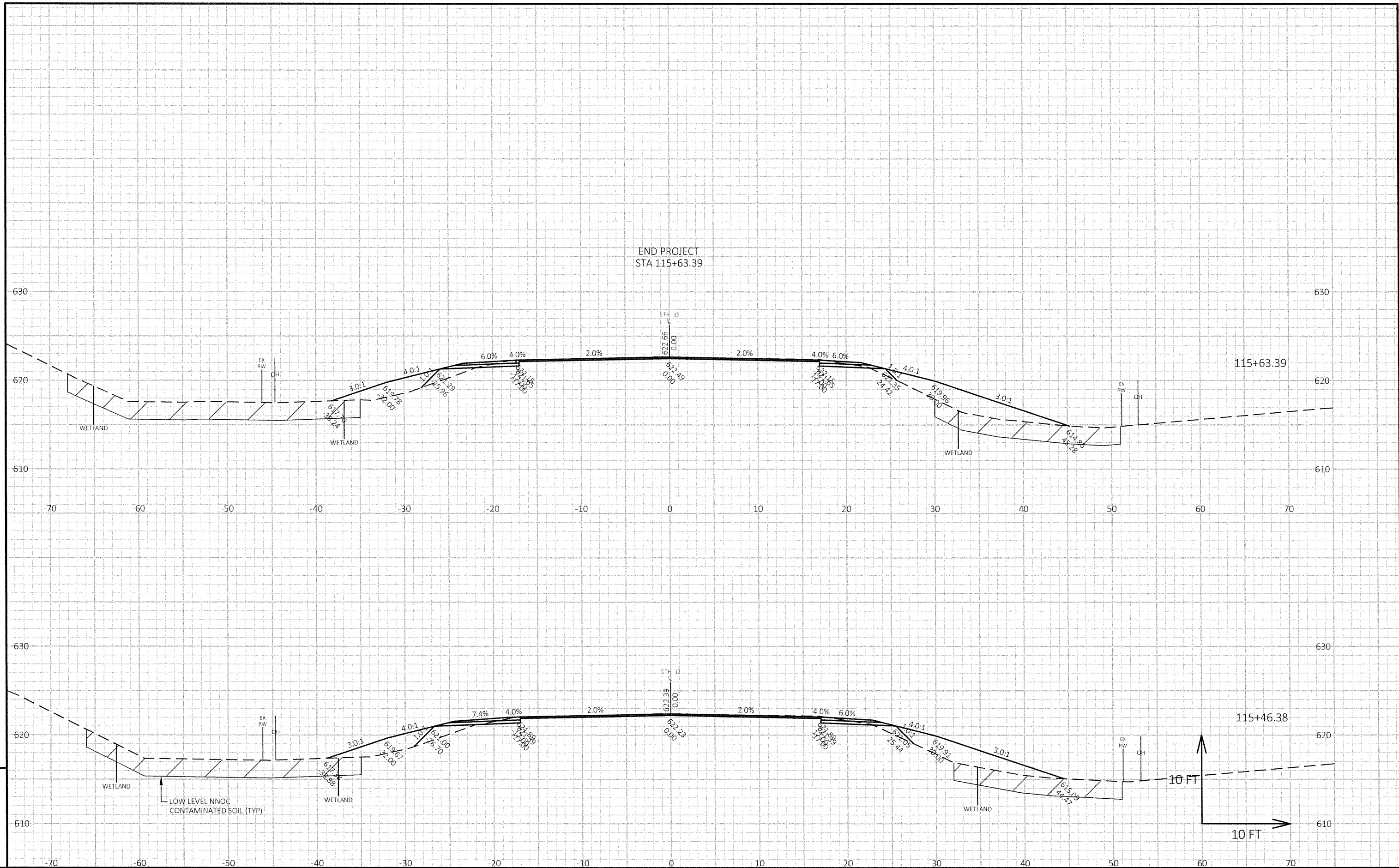
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PLOT NAME:

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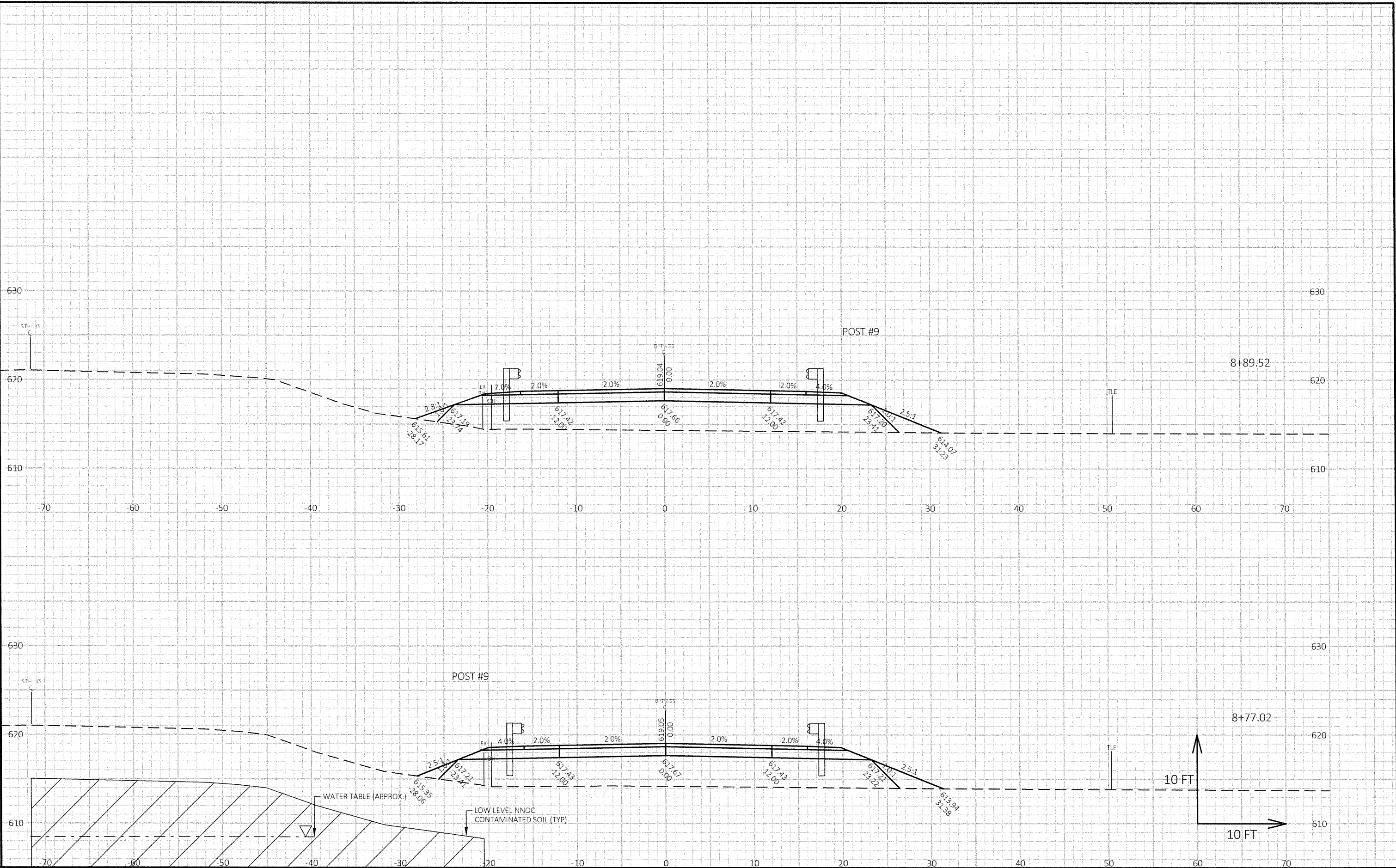
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COUNTY: BAYFIELD

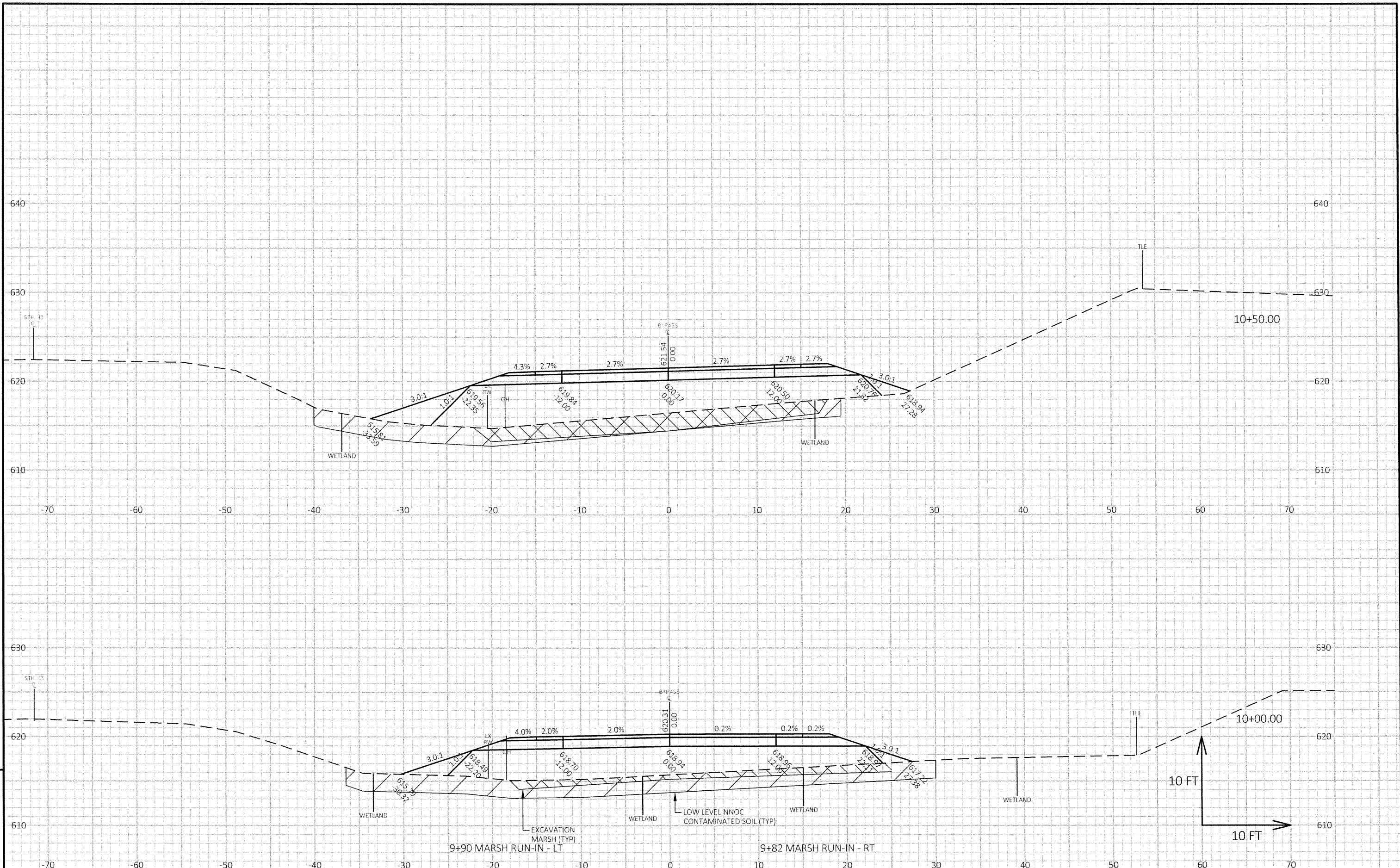
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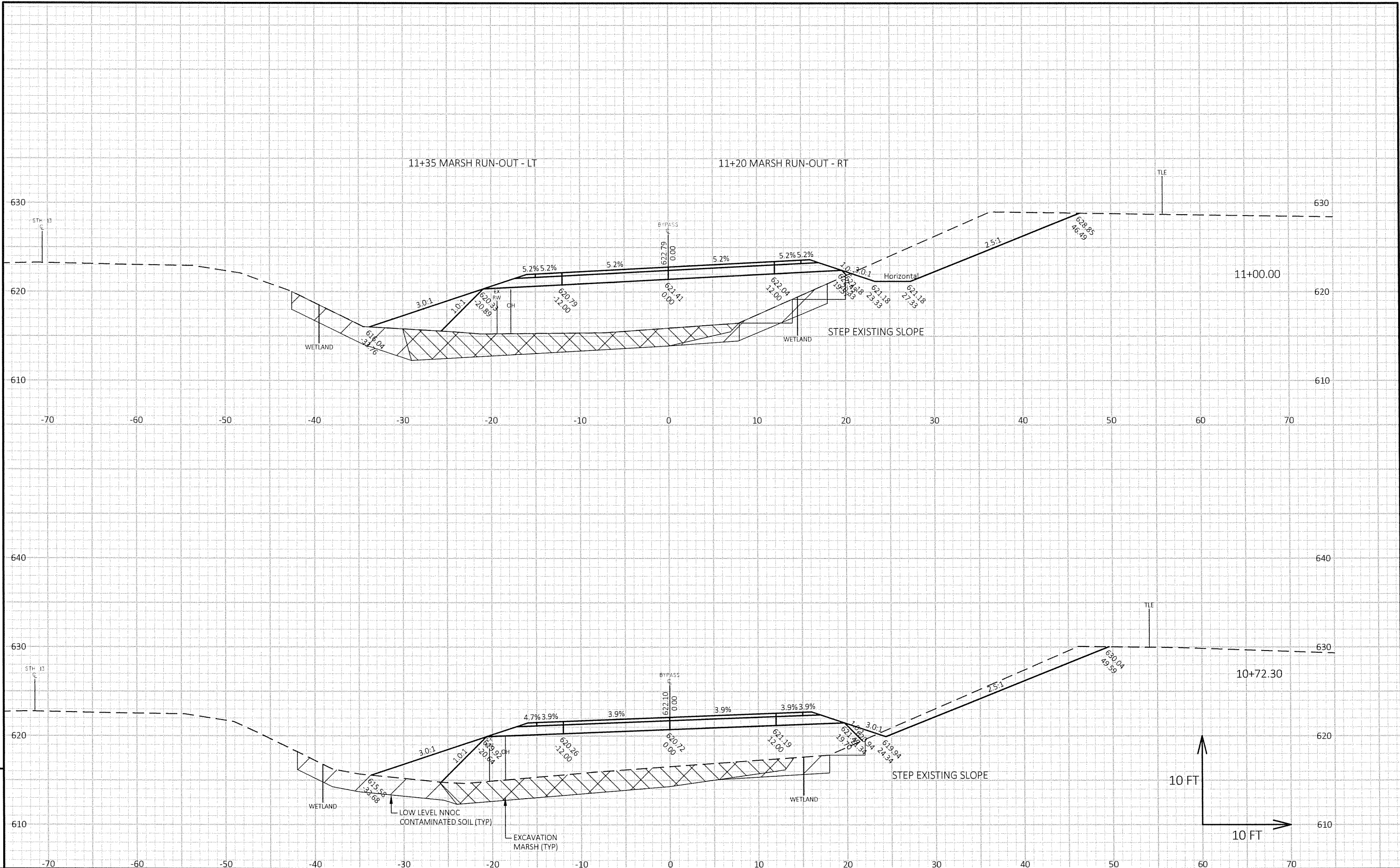
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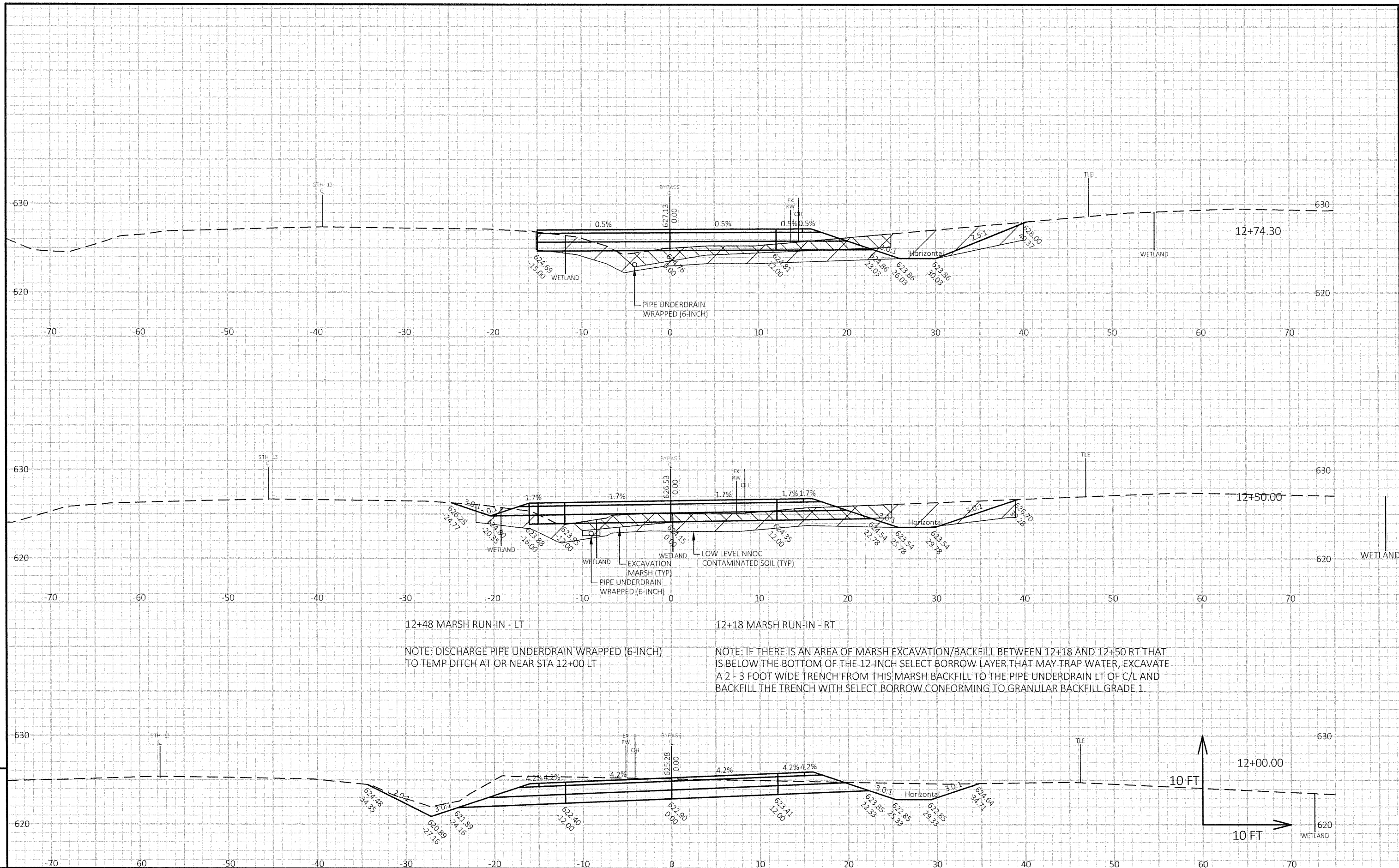
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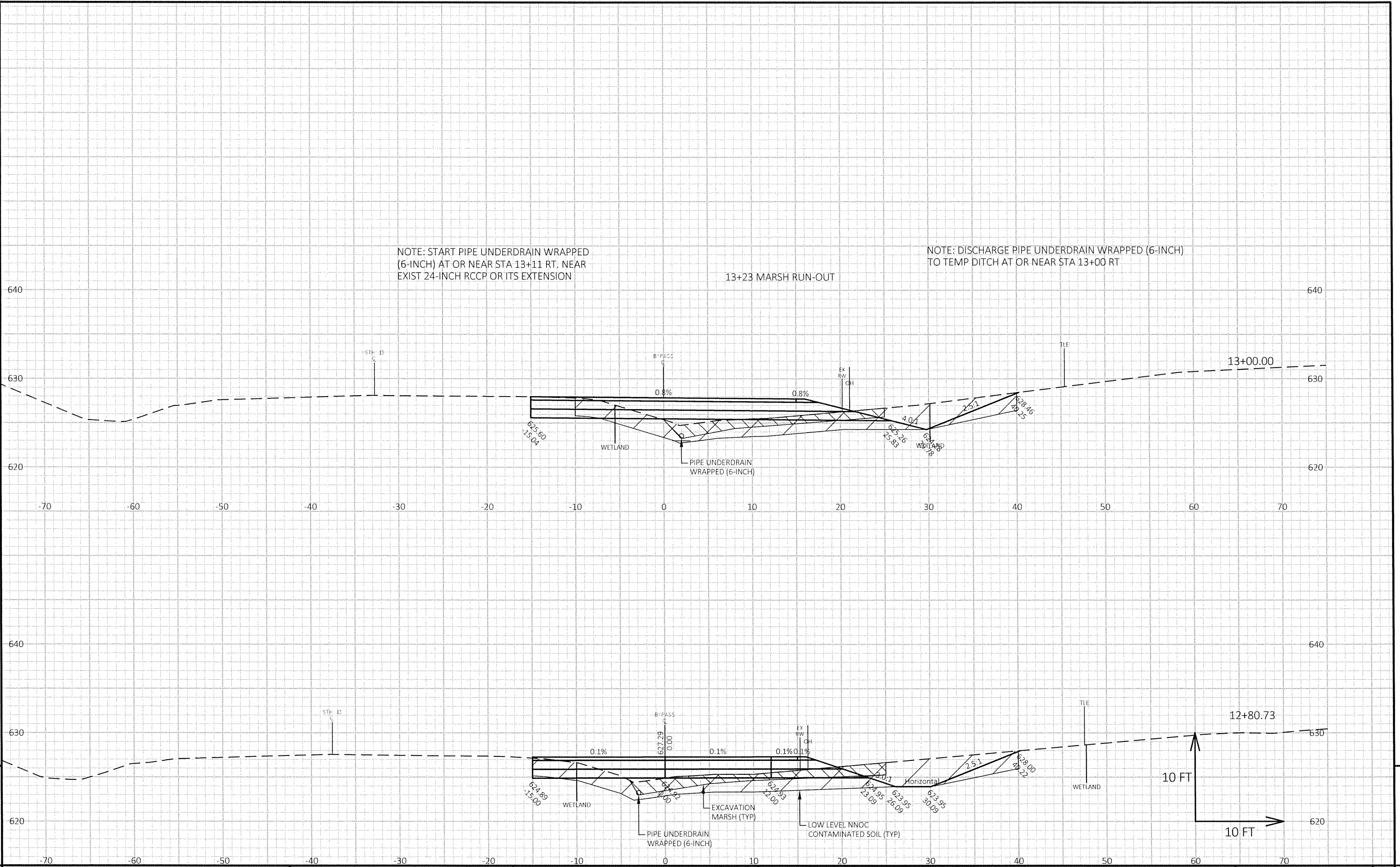


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| PROJECT NO: 8160-00-71 | HWY: STH 13 | COUNTY: BAYFIELD | CROSS SECTIONS: TEMPORARY BYPASS | SHEET | E |
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12+48 MARSH RUN-IN - LT
 NOTE: DISCHARGE PIPE UNDERDRAIN WRAPPED (6-INCH) TO TEMP DITCH AT OR NEAR STA 12+00 LT

12+18 MARSH RUN-IN - RT
 NOTE: IF THERE IS AN AREA OF MARSH EXCAVATION/BACKFILL BETWEEN 12+18 AND 12+50 RT THAT IS BELOW THE BOTTOM OF THE 12-INCH SELECT BORROW LAYER THAT MAY TRAP WATER, EXCAVATE A 2 - 3 FOOT WIDE TRENCH FROM THIS MARSH BACKFILL TO THE PIPE UNDERDRAIN LT OF C/L AND BACKFILL THE TRENCH WITH SELECT BORROW CONFORMING TO GRANULAR BACKFILL GRADE 1.



NOTE: START PIPE UNDERDRAIN WRAPPED (6-INCH) AT OR NEAR STA 13+11 RT. NEAR EXIST 24-INCH RCCP OR ITS EXTENSION

NOTE: DISCHARGE PIPE UNDERDRAIN WRAPPED (6-INCH) TO TEMP DITCH AT OR NEAR STA 13+00 RT

13+23 MARSH RUN-OUT

13+00.00

12+80.73

PROJECT NO: 8160-00-71 HWY: STH 13 COUNTY: BAYFIELD CROSS SECTIONS: TEMPORARY BYPASS SHEET E

FILE NAME: \\SEHCF1\PROJECTS\UZ\W\WITNW\137636\CIVIL 3D\SHEETSPLAN\090201_XS_3R_CONCPARAPETS.DWG PLOT DATE: 2/11/2019 2:14 PM PLOT BY: JUSTIN SHAVLIK PLOT NAME: PLOT SCALE: 1 IN:10 FT HORZ. / 1 IN:10 FT VERT. WISDOT\CADD SHEET 49

LAYOUT NAME - 090217_XS - Bypass

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