



Wisconsin Department of Transportation

Report of Phase 4 Construction Remedial Action

STH 13 Boyd Creek Bridge, Town of Barksdale, Bayfield County, Wisconsin

WisDOT Project ID 8160-00-71

AECOM Project No. 60618489

November 2020

AECOM Imagine it.
Delivered.

November 10, 2020

Aaron Gustafson
Environmental Coordinator
Wisconsin Department of Transportation - Northwest Region
1701 North 4th Street
Superior, WI 54880

**Subject: Report of Phase 4 Construction Remedial Excavation
STH 13 Boyd Creek Bridge
Town of Barksdale, Bayfield County, Wisconsin
WisDOT Project ID: 8160-00-71
AECOM Project No. 60618489**

Dear Aaron,

AECOM is pleased to submit this report to the Wisconsin Department of Transportation (WisDOT), documenting our recently completed Phase 4 Construction Remedial Excavation (Phase 4) for the STH 13 Boyd Creek Bridge replacement project in Bayfield County, Wisconsin. The project location is indicated on enclosed Figure 1. The Phase 4 was authorized by WisDOT's signed acceptance of AECOM's Work Order No. ENV-002 via email on February 20, 2020.

The purpose of the Phase 4 was to oversee, field screen, and document the excavation and off-site disposal of soil contaminated with nitroaromatic and nitroamine organic compounds (NNOCs) during construction of a temporary bypass and new bridge over Boyd Creek. The general contractor was Northern Interstate Construction, Inc. (Northern Interstate), and the construction engineer was Krech Ojard & Associates, Inc. Construction started in May 2020; and included installation of a temporary bypass to the east of the existing bridge, demolition of the existing bridge, and construction of a new bridge. Plan and profile drawings for the new bridge and temporary bypass obtained from WisDOT are provided on enclosed Figures 2A, 2B, and 2C.

Background

The project site is located adjacent to the Former Barksdale Works (BRRTS Nos. 02-04-000156 and 02-04-550402). Soil and groundwater associated with the Former Barksdale Works are known to be contaminated with NNOCs, including dinitrotoluenes, trinitro-m-xylene, and isomers of dinitro-m-xylene.

AECOM completed a Phase 2.5 Environmental Site Investigation (Phase 2.5) at the project site for WisDOT, and documented field and analytical results in a Phase 2.5 report, dated November 19, 2018. Samples of wetland soil, subsurface soil, creek sediment, and groundwater were collected within planned construction limits for analysis. In summary, the Phase 2.5 results indicated the following:

- Low-level NNOCs were detected below NR 720 non-industrial and industrial Not-to-Exceed Direct Contact Residual Contaminant Levels in wetland soil samples collected just north of Boyd Creek.



- 2,4-Dinitrotoluene (2,4-DNT) exceeded the NR 720 Soil-to-Groundwater Pathway RCL (RCL-gw) in two wetland soil samples collected just north of Boyd Creek.
- Low-level NNOCs were detected below NR 720 RCL-gw in soil samples collected from three soil borings.
- NNOCs were below detection limits in two sediment samples taken from Boyd Creek.
- Lead was detected at apparent background concentrations and below Wisconsin regulatory standards in all soil and sediment samples.
- Groundwater was encountered at depths ranging from 5.3 feet to 16.2 feet below ground surface under water table conditions at various locations within the project limits.
- NNOCs were not detected in groundwater samples collected from soil borings sampled in May 2018 and from Monitoring Well MW-1 installed within project limits in September 2019.

Contaminated Soil and Groundwater Management Plans

AECOM prepared and submitted hazardous materials special provisions for the project to WisDOT and the Wisconsin Department of Natural Resources (WDNR) in June 2019, which included plans for management of low-level NNOC contaminated soil and groundwater during construction. A copy of the Contaminated Soil and Groundwater Management Plan submitted to Chris Saari of the WDNR, dated May 3, 2019, is enclosed.

According to the Contaminated Soil Management Plan, low-level NNOC contaminated soil excavated from designated zones within the project limits by Northern Interstate would be directly loaded into dump trucks and transferred to the nearby Former Barksdale Works site. The responsible party for the Former Barksdale Works, the Chemours Company (Chemours), designated a temporary stockpile location for the excavated soil and was responsible for the material's final disposition.

The Contaminated Groundwater Management Plan also included daily maximum and weekly average discharge levels for NNOCs calculated by the WDNR for the safe discharge of contaminated waste water to the ground surface or Boyd Creek, if generated by excavation dewatering. The discharge of low-level NNOC contaminated waste water to the ground surface or Boyd Creek that did not exceed the WDNR's calculated values would be allowed under the contractor's Dewatering Operations General Permit. A copy of the WDNR's discharge limits approval email, dated June 20, 2019, is enclosed.

In September 2019, AECOM installed Monitoring Well MW-1 on the northbound shoulder of STH 13, approximately 50 feet north of the existing Boyd Creek Bridge, and collected a groundwater sample for laboratory analysis of NNOCs. The purpose of the work was to determine if NNOC levels in waste water generated by construction excavation dewatering would exceed the WDNR's calculated daily or weekly maximum discharge limits. Pace Analytical Services reported that NNOCs were not detected above the laboratory reporting limit in the sample, demonstrating that waste water discharge limits would not likely be exceeded during construction. The installation of MW-1, groundwater sample collection, and analytical results were documented in AECOM's Additional Phase 2.5 Groundwater Sampling and Analysis Report, dated January 22, 2020.

Scope of Services

The Phase 4 scope of services generally included the following:

1. Performed oversight and documented that abandonment of Monitoring Well MW-1 was completed in accordance with the requirements of Chapter NR 141, Wis. Admin. Code, and completed a copy WDNR Well/Drillhole/Borehole Filling and Sealing Report (Form 3300-005).
2. Performed oversight and documented that excavation and management of low-level NNOC contaminated soil and excavation dewatering conformed with the management methods specified in the hazardous materials special provisions.
3. Field screened for the presence of NNOCs in representative samples collected from the excavated soil using *Expray 1*® explosive detection spray. The sampling frequency was approximately one sample for every 10 cubic yards of excavated material.
4. Assisted the excavator with segregation of low-level NNOC contaminated soil from non-contaminated soil through the use of *Expray 1*® results, available analytical data, and visual and olfactory evidence. The excavated material was designated for disposal as follows:
 - Excavation common consisting of clean soil and/or clean construction and demolition fill (such as clean soil, boulders, concrete, reinforced concrete, bituminous pavement, bricks, building stone, and unpainted or untreated wood), which are exempt materials under NR 500.08.

and

 - Low-level NNOC contaminated soil for direct loading and transfer to the designated temporary stockpile area at the Former Barksdale Works.
5. Photographed the construction remedial excavations at various stages of completion.
6. Assisted the general contractor with coordinating the transfer of low-level NNOC contaminated soil to the designated temporary stockpile area and prepared a tally of loads transferred.
7. Prepared this report documenting the Phase 4 activities.

Monitoring Well Abandonment

Northern Interstate abandoned Monitoring Well MW-1 in accordance with Chapter NR 141 requirements on June 23, 2020. The former location of MW-1 is indicated on enclosed Figure 2A. A copy of completed Form 3300-005 is enclosed.

Construction Remedial Excavation and Field Screening

Northern Interstate excavated low-level NNOC contaminated soil from the cross-hatched zones indicated on the new bridge and temporary bypass drawings provided in enclosed Figures 2A, 2B, and 2C. A total of 109 loads of low-level NNOC contaminated soil was hauled to the designated temporary stockpile location on the Former Barksdale Works site between May 26 and July 13, 2020. Each load



was transported in a standard quad-axle dump truck capable of carrying approximately 15 cubic yards of soil.

The total volume of excavated material deposited at the temporary stockpile location is estimated to be 1,635 cubic yards (approximately 2,289 tons). A tally of loads transferred from the temporary bypass and bridge construction site to the temporary stockpile location is enclosed. A photograph log is also enclosed showing typical excavation, loading and hauling activities during various stages of construction.

AECOM's field screening results using *Expray 1*® did not show colorimetric evidence of NNOC contamination in representative samples collected from the excavated soil. At least one representative sample per load of material hauled to the temporary stockpile was screened.

We appreciate the opportunity to assist WisDOT's Northwest Region with this project. If you have any questions regarding information contained in this report or if you need additional assistance, please contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Kyle W. Wagoner", followed by a long horizontal line.

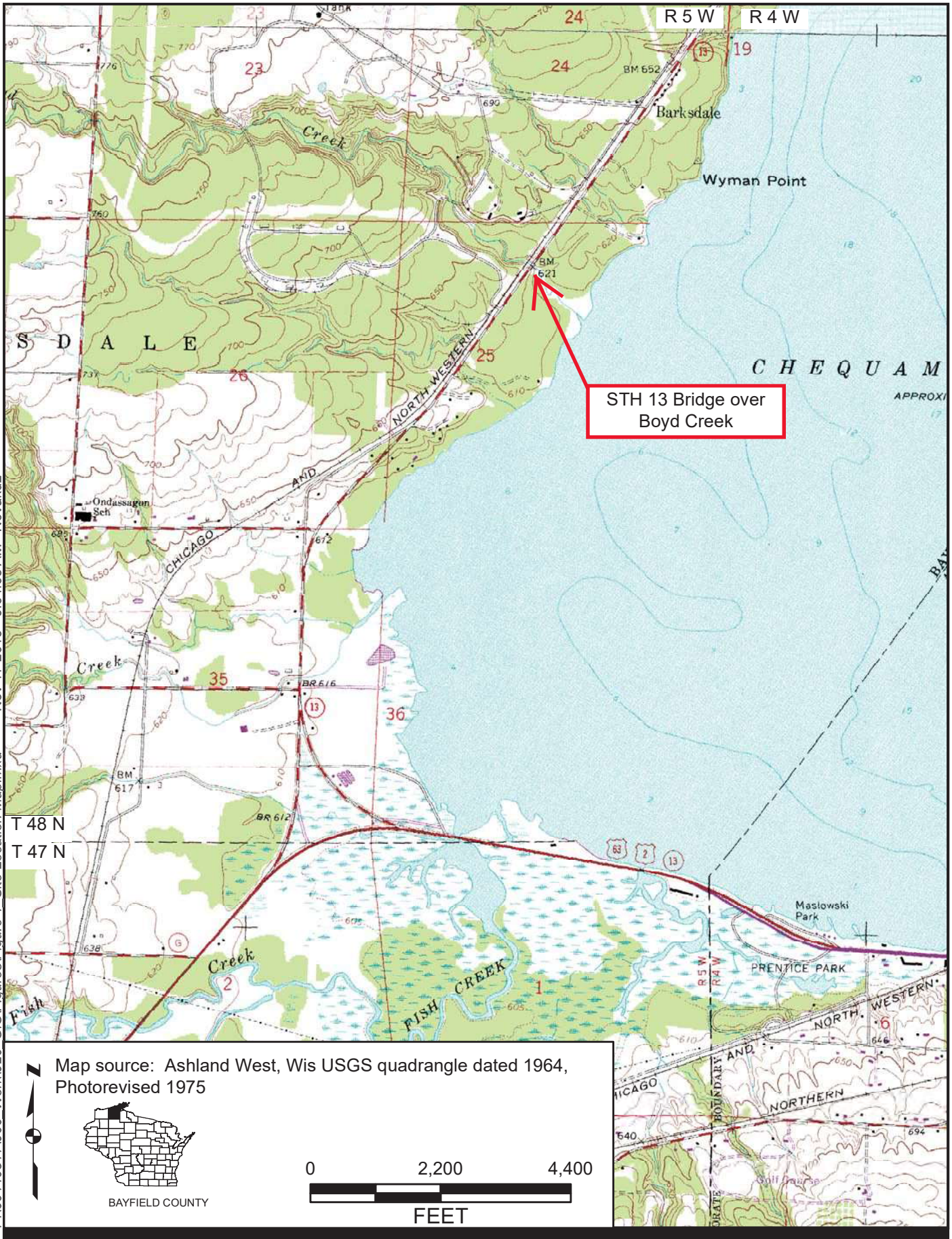
Kyle W. Wagoner, P.G., CHMM
Project Manager

Enclosures: Figure 1 – Site Location Map
Figures 2A, 2B and 2C – Site Plan
Contaminated Soil and Groundwater Management Plan
WDNR Email Approval of June 20, 2019
Abandonment Form for Monitoring Well MW-1
Tally of Loads Hauled
Photograph Log

c/encl: Sharlene TeBeest, WisDOT-BTS-ESS (electronic only)
Eric Schmidt, AECOM (electronic only)

Figures

P:\60440317\900_Work\920_GIS\Figures\Figure 1_Site Location Map.mxd Nov 17 2015 - 9:04:05 AM Novakd2



Map source: Ashland West, Wis USGS quadrangle dated 1964, Photorevised 1975



BAYFIELD COUNTY



Site Location Map

Project No.: 60618489
Date: October 2020

Phase 4 Construction Remedial Excavation
STH 13 Boyd Creek Bridge
Bayfield County
WisDOT Project ID 8160-00-71

AECOM
Figure 1

BENCHMARK TABLE			
NO.	STATION	DESCRIPTION	ELEVATION
BM 53	113+73.78 80.75' LT	NAIL SET IN 12-INCH PINE	626.37
BM 52	112+51.23 82.56' LT	NAIL SET IN 12-INCH POPPLE	615.26

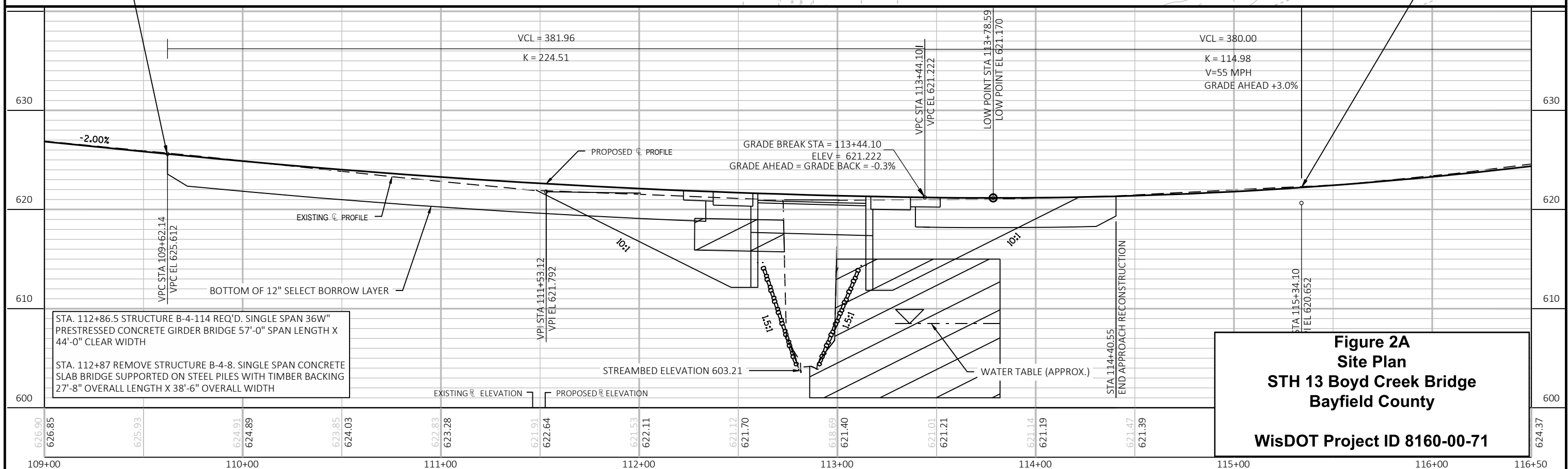
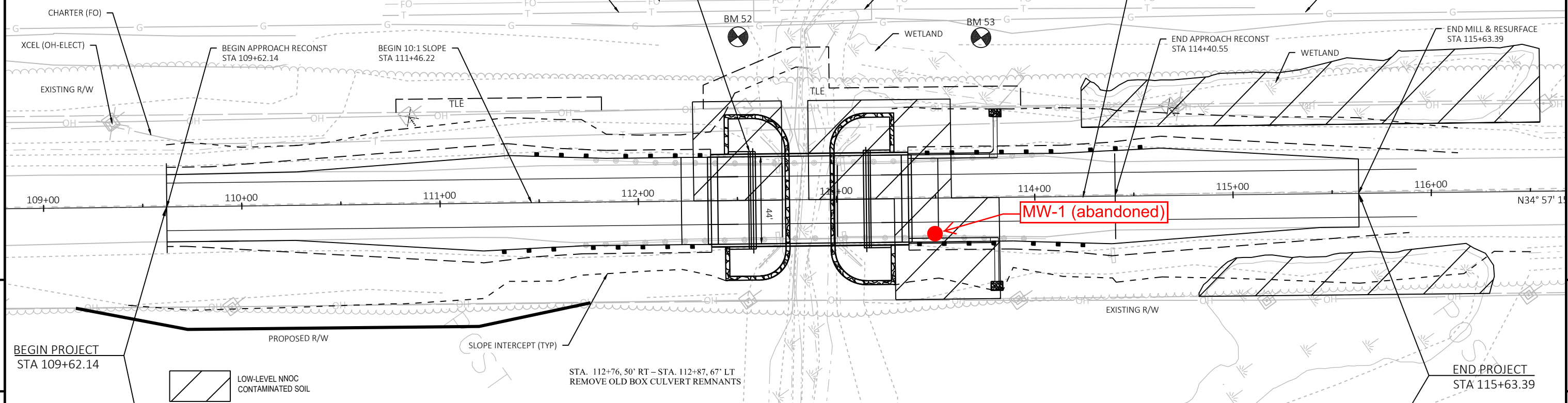


Figure 2A
Site Plan
STH 13 Boyd Creek Bridge
Bayfield County
WisDOT Project ID 8160-00-71

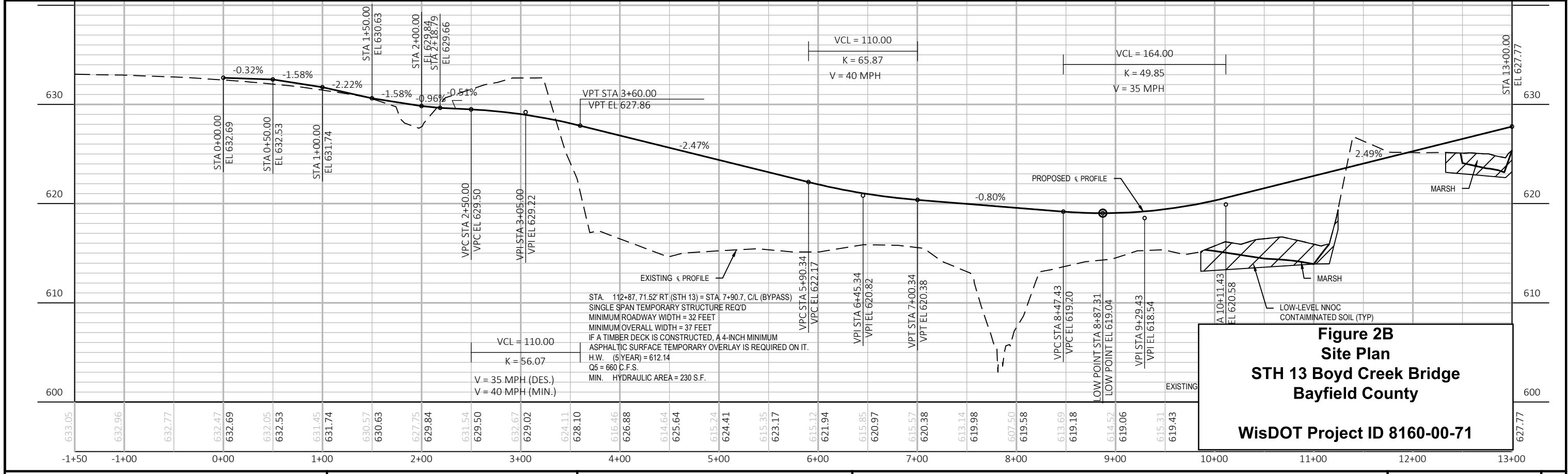
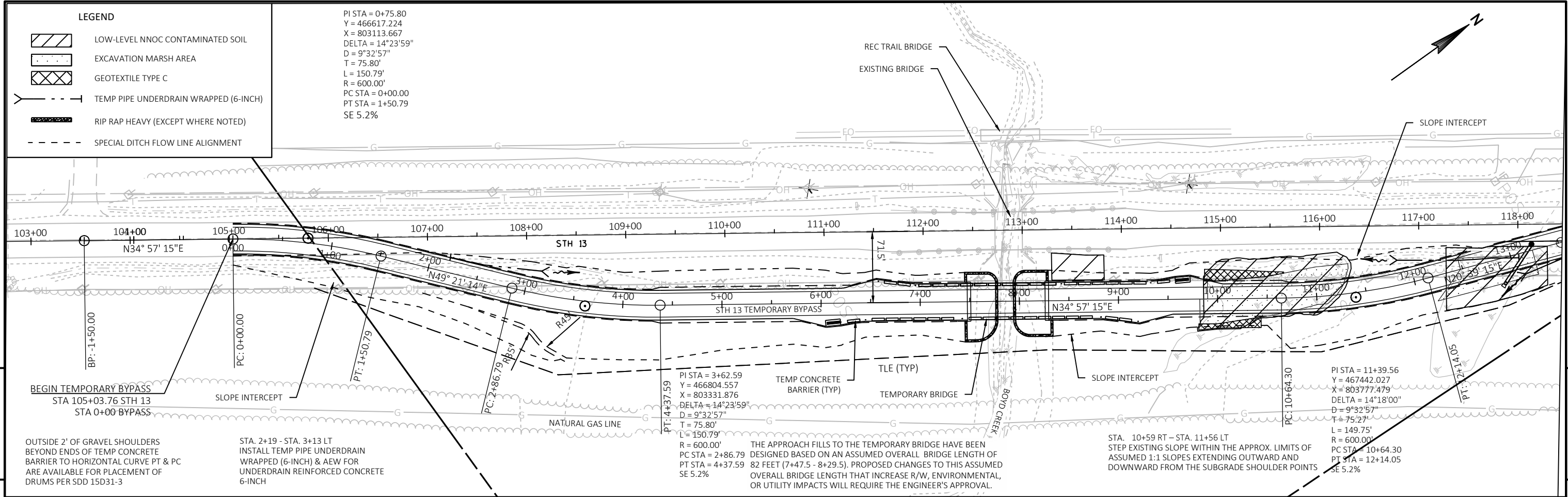


Figure 2B
Site Plan
STH 13 Boyd Creek Bridge
Bayfield County
WisDOT Project ID 8160-00-71

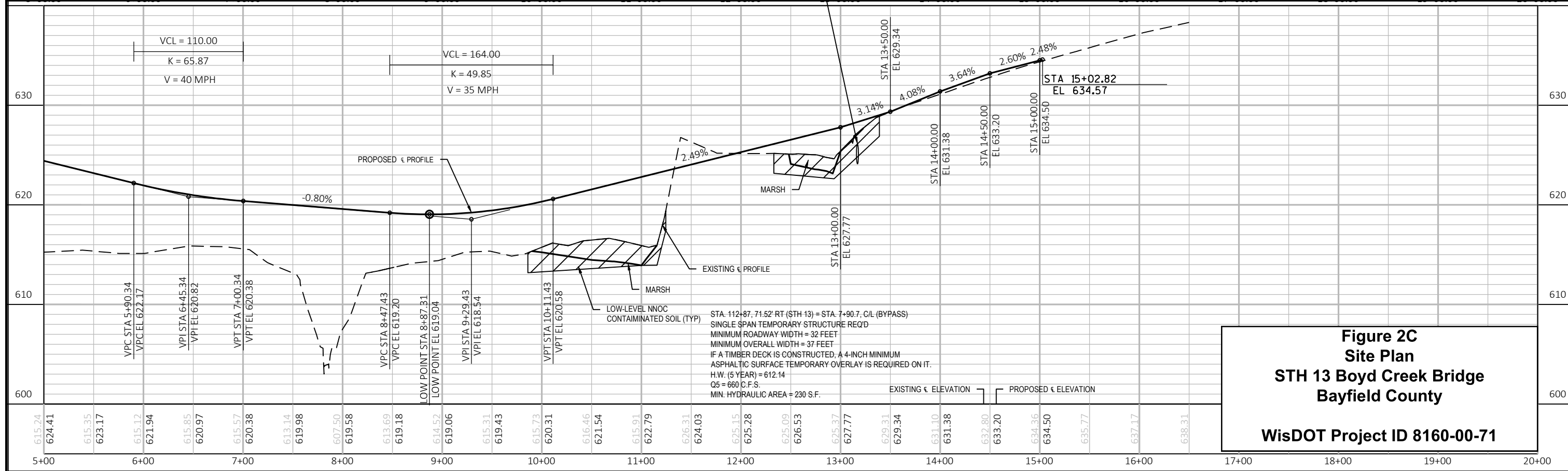
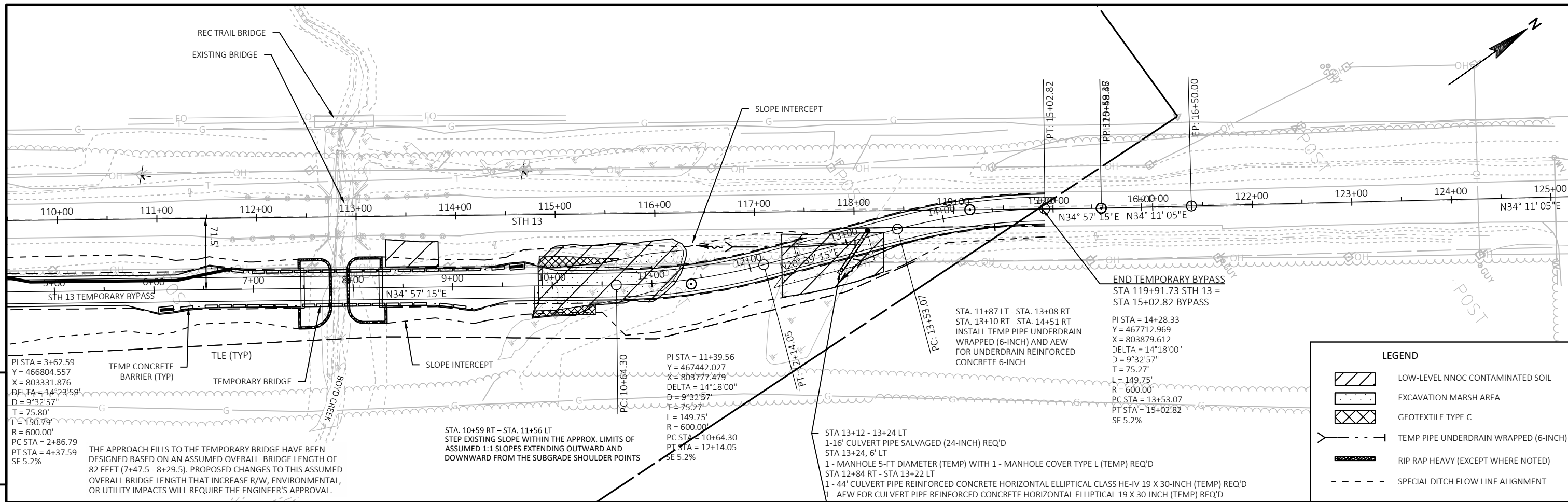


Figure 2C
Site Plan
STH 13 Boyd Creek Bridge
Bayfield County
WisDOT Project ID 8160-00-71

Contaminated Soil and Groundwater Management Plan

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.

	<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

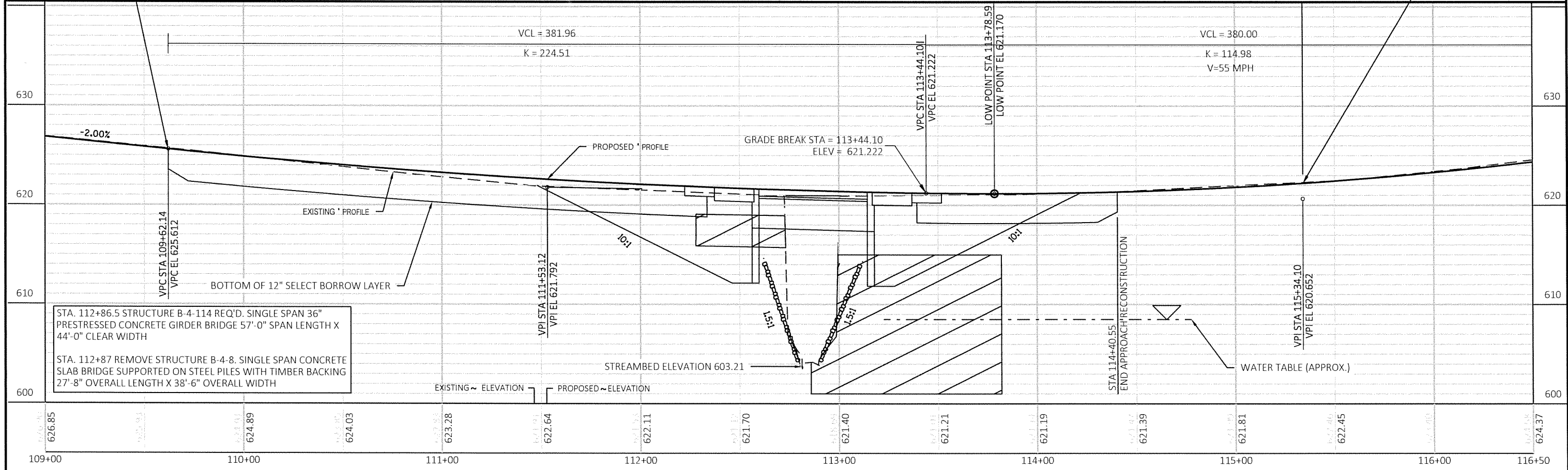
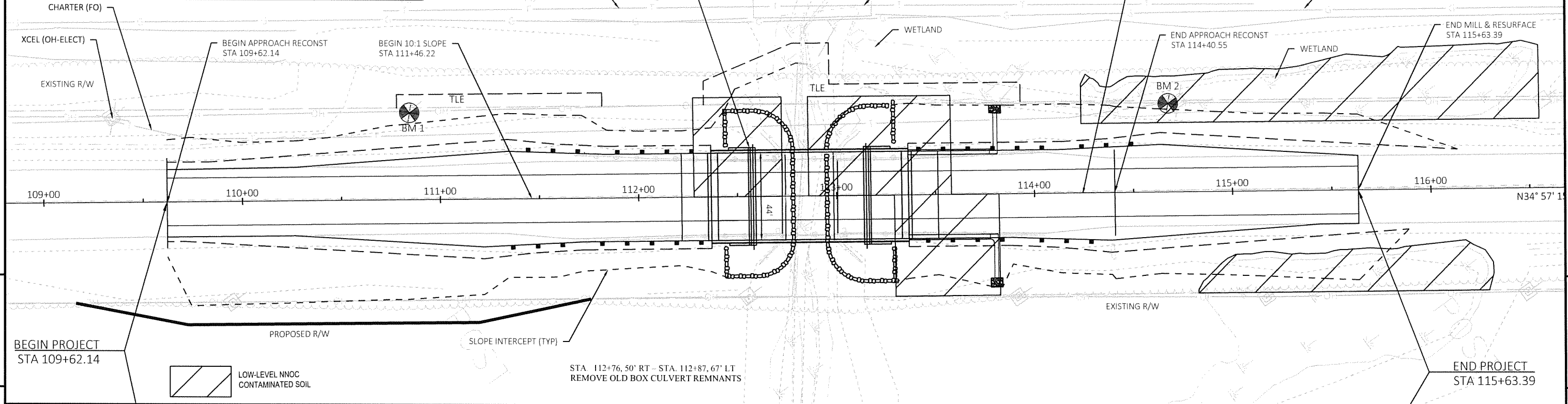
The department will pay for measured quantities at the contract unit price under the following bid item:

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

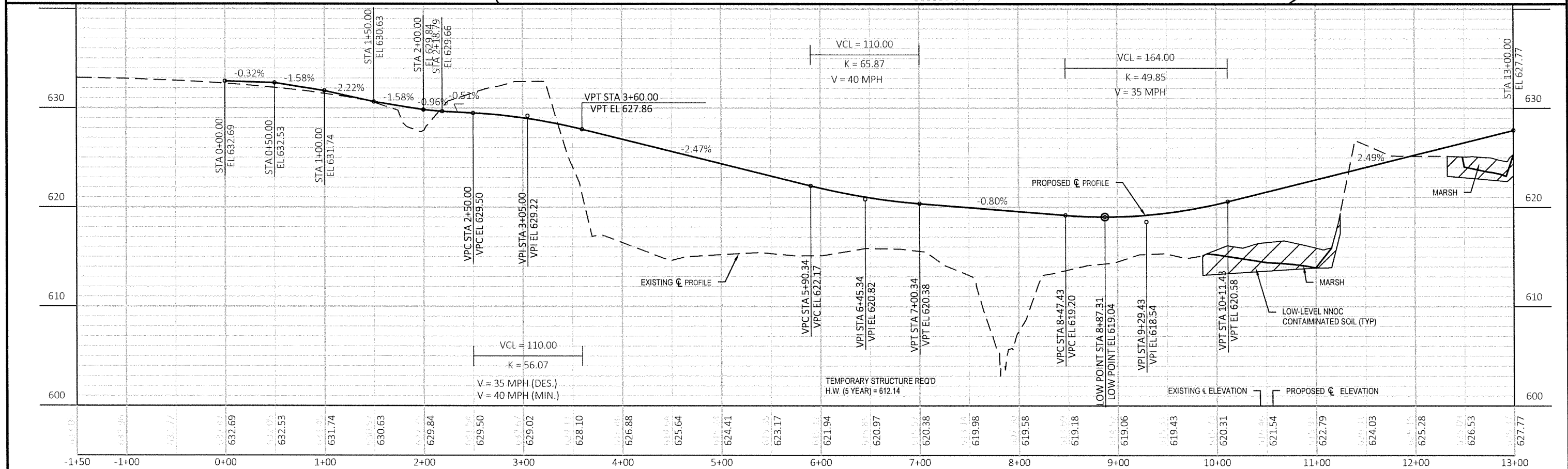
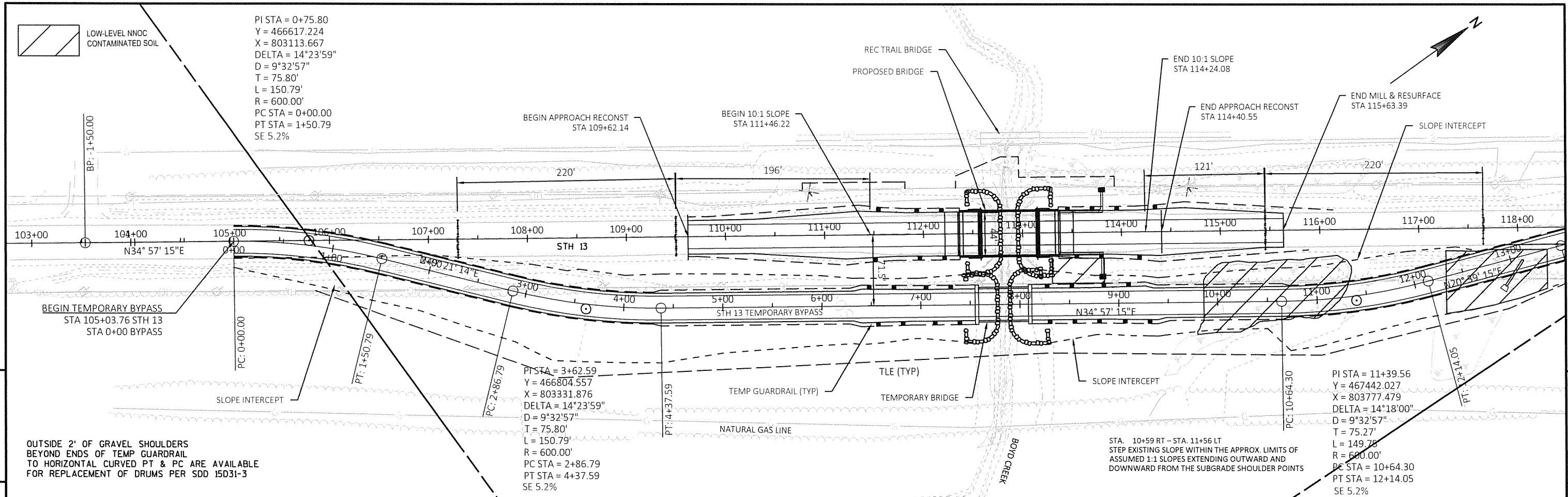
Payment is full compensation for excavating, loading, hauling, and transferring the contaminated soil to the WDNR-approved management site; temporary stockpiling of contaminated soil within project limits; covering, anchoring, and maintenance of the temporary stockpile; obtaining solid waste collection 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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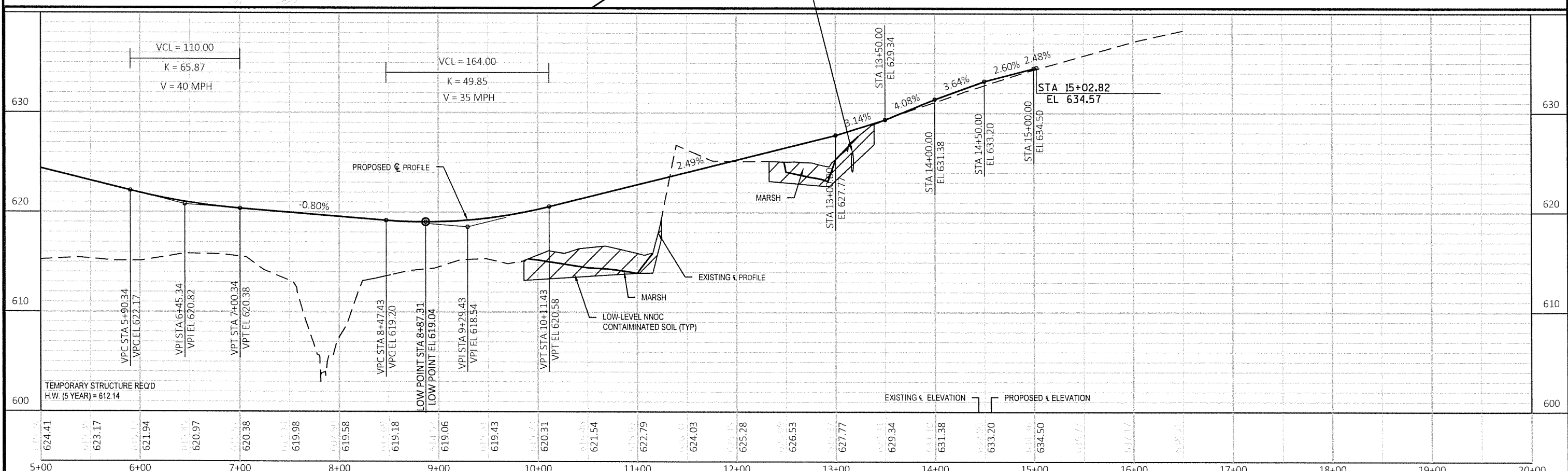
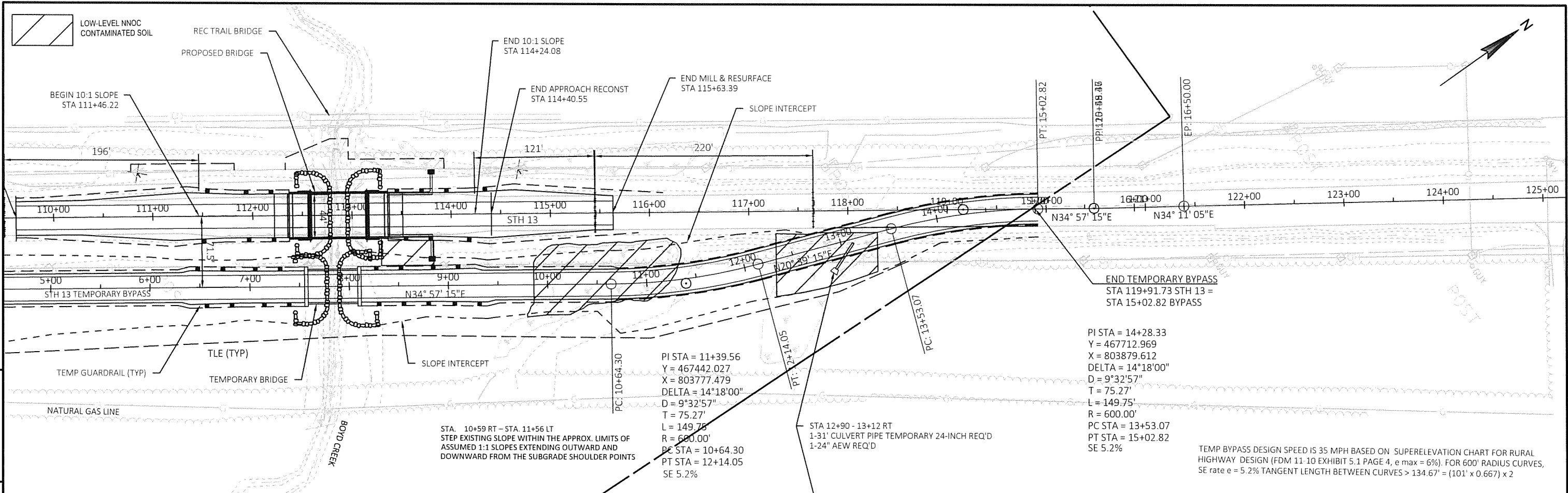
BENCHMARK TABLE			
NO.	STATION	DESCRIPTION	ELEVATION
BM1	110+84.91 43.38' LT	SET SPK IN PP	621.34
BM2	114+67.94 44.55' LT	SET SPK IN PP	618.42



PROJECT NO: 8160-00-71	HWY: STH 13	COUNTY: BAYFIELD	PLAN AND PROFILE: STH 13	SHEET	E
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PROJECT NO: 8160-00-71	HWY: STH 13	COUNTY: BAYFIELD	PLAN AND PROFILE: TEMPORARY BYPASS	SHEET	E
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PROJECT NO: 8160-00-71	HWY: STH 13	COUNTY: BAYFIELD	PLAN AND PROFILE: TEMPORARY BYPASS	SHEET	E
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WDNR Email Approval of June 20, 2019

Wagoner, Kyle

From: Moen, Trevor J - DNR <Trevor.Moen@wisconsin.gov>
Sent: Thursday, June 20, 2019 2:43 PM
To: Wagoner, Kyle
Cc: Richard, Philip E - DNR
Subject: RE: Construction Waste Water Management at STH 13 Boyd Creek Bridge (WisDOT # 8160-00-01)

Kyle,

The weekly average concentration limits would apply if the discharge occurs 4 consecutive days or more.

Regards,

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Trevor J. Moen

Phone: (920) 424-7883

Trevor.Moen@Wisconsin.gov

From: Wagoner, Kyle <KYLE.WAGONER@aecom.com>
Sent: Thursday, June 20, 2019 2:28 PM
To: Moen, Trevor J - DNR <Trevor.Moen@wisconsin.gov>
Cc: Richard, Philip E - DNR <Philip.Richard@wisconsin.gov>
Subject: FW: Construction Waste Water Management at STH 13 Boyd Creek Bridge (WisDOT #8160-00-01)

Trevor-

Can you please define what a discharge of more than 4 days means with regard to the calculated weekly average concentrations? Would that be more than 4 consecutive days? More than 4 cumulative days?

Thank you,

Kyle

Kyle Wagoner, P.G., CHMM

Project Manager

Environment

D 715.342.3038

Internal Cisco Extension 2103038

kyle.wagoner@aecom.com

AECOM

200 Indiana Avenue, Stevens Point, WI 54481

T 715.341.8110 F 715.341.7390

From: Richard, Philip E - DNR <Philip.Richard@wisconsin.gov>
Sent: Thursday, June 20, 2019 9:42 AM

To: Wagoner, Kyle <KYLE.WAGONER@aecom.com>

Subject: FW: Construction Waste Water Management at STH 13 Boyd Creek Bridge (WisDOT #8160-00-01)

Kyle,

See below from Trevor Moen.

Let me know if you have any other questions.

Philip E. Richard

Hydrogeologist

Wisconsin Department of Natural Resources

Phone: 715 762 1352

Fax: 715 762 4348

philip.richard@wisconsin.gov

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.



From: Moen, Trevor J - DNR

Sent: Thursday, June 20, 2019 9:21 AM

To: Richard, Philip E - DNR <Philip.Richard@wisconsin.gov>

Cc: Haseleu, Shawn - DNR <Shawn.Haseleu@wisconsin.gov>; Snowbank, Sheri A - DNR <Sheri.Snowbank@wisconsin.gov>

Subject: RE: Construction Waste Water Management at STH 13 Boyd Creek Bridge (WisDOT #8160-00-01)

Phil,

The calculation is not based on their sample results but aquatic toxicity data collected from different sources like SDS and other toxicity studies to establish secondary acute values and secondary chronic values for 2-Amino-4,6-Dinitrotoluene, 4-Amino-2,6-Dinitrotoluene, and 2,4,6-Trinitrotoluene. I did compare the values to the 2017 groundwater sample results but did not know if this was representative of the dewatering discharge and suggested to them to take another sample for NNOCs to confirm again that they are no detections in the groundwater near the project site. If we include the 2017 groundwater samples, they will have reasonable potential to exceed the weekly average concentration limits and should consider some treatment or other method of disposal.

Regards,

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Trevor J. Moen

Phone: (920) 424-7883

Trevor.Moen@Wisconsin.gov

From: Richard, Philip E - DNR
Sent: Thursday, June 20, 2019 8:58 AM
To: Moen, Trevor J - DNR <Trevor.Moen@wisconsin.gov>
Subject: FW: Construction Waste Water Management at STH 13 Boyd Creek Bridge (WisDOT #8160-00-01)

Hi Trevor,

Kyle Wagoner sent the below email with attachments and wanted to confirm the 2017 groundwater sample results were taken into account when you did your calculations. This data was also in the contaminated soil and groundwater management plan sent to you, but not in table form.

Thanks,

Phil

Philip E. Richard

Hydrogeologist
Wisconsin Department of Natural Resources
Phone: 715 762 1352
Fax: 715 762 4348
philip.richard@wisconsin.gov

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From: Wagoner, Kyle <KYLE.WAGONER@aecom.com>
Sent: Wednesday, June 19, 2019 9:25 AM
To: Richard, Philip E - DNR <Philip.Richard@wisconsin.gov>
Subject: RE: Construction Waste Water Management at STH 13 Boyd Creek Bridge (WisDOT #8160-00-01)

Good morning Phil-

Can you please confirm something for me? Trevor Moen's comment and recommendation below makes reference to the May 2018 groundwater sampling results for the WisDOT project site. Did he also take into account the September 2017 results for sample B-7 (Prelim) collected from the same site when reviewing our proposed waste water management plan?

Tabulated groundwater sample results are attached for September 2017 and May 2018. A site plan showing sampling locations is also attached.

Regards,

Kyle

Kyle Wagoner, P.G., CHMM

Project Manager
Environment
D 715.342.3038
Internal Cisco Extension 2103038
kyle.wagoner@aecom.com

AECOM

200 Indiana Avenue, Stevens Point, WI 54481
T 715.341.8110 F 715.341.7390

From: Richard, Philip E - DNR <Philip.Richard@wisconsin.gov>
Sent: Wednesday, June 12, 2019 2:33 PM
To: Wagoner, Kyle <KYLE.WAGONER@aecom.com>
Cc: Saari, Christopher A - DNR <Christopher.Saari@wisconsin.gov>
Subject: FW: Construction Waste Water Management at STH 13 Boyd Creek Bridge (WisDOT #8160-00-01)

Kyle,

Here's the values for 2,4,6-Trinitrotoluene.

Thanks,

Phil

Philip E. Richard

Hydrogeologist
Wisconsin Department of Natural Resources
Phone: 715 762 1352
Fax: 715 762 4348
philip.richard@wisconsin.gov

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.



From: Moen, Trevor J - DNR
Sent: Friday, May 31, 2019 8:52 AM
To: Richard, Philip E - DNR <Philip.Richard@wisconsin.gov>
Cc: Snowbank, Sheri A - DNR <Sheri.Snowbank@wisconsin.gov>; Figiel, Diane - DNR <Diane.Figiel@wisconsin.gov>; Fritz, Rachel C - DNR <Rachel.Fritz@wisconsin.gov>; Williams, Meghan C - DNR <MeghanC3.Williams@wisconsin.gov>; Saari, Christopher A - DNR <Christopher.Saari@wisconsin.gov>
Subject: RE: Construction Waste Water Management at STH 13 Boyd Creek Bridge (WisDOT #8160-00-01)

Phil,

We were able to calculate a secondary value for 2,4,6-Trinitrotoluene. The daily maximum TNT concentration in the water to be safe to discharge back to the Boyd Creek (cold water classification) shall be less than 168 ug/L. If the discharge will last more than 4-days, the weekly average concentration for TNT shall be less than 9.8 ug/L.

Based on the groundwater sampling results, looks like the secondary values for the NNOCs were met based on the results from May 2018. If these samples are most representative of the dewatering discharge then treatment of water may not be needed and the Dewatering Operations General Permit would all that will be required for the dewatering discharge to the Boyd Creek. I would recommend that they take another sample for NNOCs to confirm again that they are no detections in the groundwater near the project site.

Please contact me if you have any questions.

Regards,

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Trevor J. Moen

Phone: (920) 424-7883

Trevor.Moen@Wisconsin.gov

From: Wagoner, Kyle <KYLE.WAGONER@aecom.com>
Sent: Thursday, January 31, 2019 2:23 PM
To: Saari, Christopher A - DNR <Christopher.Saari@wisconsin.gov>
Cc: Pooler, Cary <cary.pooler@aecom.com>; Schmidt, Eric <Eric.Schmidt@aecom.com>; Keppers, Philip - DOT <Philip.Keppers@dot.wi.gov>; Pesola, Gregory - DOT <Gregory.Pesola@dot.wi.gov>; Gustafson, Aaron G - DOT <aaron.gustafson@dot.wi.gov>; King, Orville - DOT <Orville.King@dot.wi.gov>; bradley.s.nave@chemours.com;
Richard, Philip E - DNR <Philip.Richard@wisconsin.gov>
Subject: Construction Waste Water Management at STH 13 Boyd Creek Bridge (WisDOT #8160-00-01)
Importance: High

Chris-

To follow up yesterday's discussion regarding options for management of low-level NNOC contaminated waste water that could be generated during the construction of Boyd Creek Bridge next year, be it waste water from surface water and/or groundwater sources, I believe the most practicable, least costly and preferable option for the project was offered by Cary Pooler. His suggestion to discharge construction site waste water onto the ground surface downslope from the bridge has merit for the following reasons:

1. Boyd Creek is predominately a gaining stream within the project area and regularly receives both surface water and groundwater that is known to contain low concentrations of few NNOCs from the former Barksdale Works site. NNOCs detected by the laboratory (Pace) in groundwater samples collected from the project site by AECOM for WisDOT identified only a few compounds for which there appear to be no Chapter NR 140 standards, namely the following:
 - 2-Amino-4,6-Dinitrotoluene
 - 4-Amino-2,6-Dinitrotoluene
 - 2,4,6-Trinitrotoluene

A copy of the tabulated laboratory results taken from AECOM's Phase 2.5 hazmat investigation report for the project site is attached for reference.

2. Low concentrations of NNOCs have been detected in soil and sediment within the project area and downstream of the project area by Chemours.
3. There is no use of groundwater (potable or other) downgradient of the project area.

4. The highest detected NNOC in groundwater (TNT) is known to rapidly degrade (3 hours or less) in surface water via photolytic mechanisms.

Based on the above it's reasonable to assume:

- With regard to the presence of NNOCs in groundwater, the chemical quality of surface water and groundwater is virtually equivalent within the project limits and further downgradient of the site.
- That extraction and subsequent discharge of groundwater onto the ground surface downstream of the project site will not adversely affect any media or pose any unacceptable risks to human health or the environment.

Please keep this rationale in mind when discussing the on-site discharge option for waste water management with your colleagues at the WDNR.

We look forward to receiving your response and guidance in this matter in the near future. Don't hesitate to contact me should you have any questions or need anything else.

Sincerely,

Kyle

Kyle Wagoner, P.G., CHMM
Project Manager
Environment
D 715.342.3038
Internal Cisco Extension 2103038
kyle.wagoner@aecom.com

AECOM
200 Indiana Avenue, Stevens Point, WI 54481
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Abandonment Form for Monitoring Well MW-1

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

Verification Only of Fill and Seal

Route to DNR Bureau:

Drinking Water Watershed/Wastewater Remediation/Redevelopment

Waste Management Other: _____

1. Well Location Information **2. Facility / Owner Information**

County BAYFIELD	WI Unique Well # of Removed Well	Hicap #	Facility Name STH 13 BOYA CREEK BRIDGE
Latitude / Longitude (see instructions) 46.61 N 90.94 W	Format Code <input checked="" type="checkbox"/> DD <input type="checkbox"/> DDM	Method Code <input type="checkbox"/> GPS008 <input type="checkbox"/> SCR002 <input type="checkbox"/> OTH001	Facility ID (FID or PWS)
1/4 NE 1/4 NW or Gov't Lot #	Section 25	Township 48 N	Range 5 <input type="checkbox"/> E <input checked="" type="checkbox"/> W
Well Street Address NO ADDRESS	Well City, Village or Town TOWN OF BARKSALE	Well ZIP Code 54891	License/Permit/Monitoring # MW-1
Subdivision Name	Lot #	Original Well Owner WISDOT	Present Well Owner WISDOT
Reason for Removal from Service BRIDGE CONSTRUCTION	WI Unique Well # of Replacement Well	Mailing Address of Present Owner P.O. Box 7965, Rm. 5 South S513.12	City of Present Owner MADISON
		State WI	ZIP Code 53707-7965

3. Filled & Sealed Well / Drillhole / Borehole Information **4. Pump, Liner, Screen, Casing & Sealing Material**

<input checked="" type="checkbox"/> Monitoring Well	Original Construction Date (mm/dd/yyyy) 09/16/2019	Pump and piping removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Water Well	If a Well Construction Report is available, please attach.	Liner(s) removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Borehole / Drillhole		Liner(s) perforated? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Construction Type: <input checked="" type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug		Screen removed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock		Casing left in place? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Total Well Depth From Ground Surface (ft.) 15.5 ft.	Casing Diameter (in.) 2 in.	Was casing cut off below surface? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Lower Drillhole Diameter (in.)	Casing Depth (ft.) 5.5 ft.	Did sealing material rise to surface? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Was well annular space grouted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown		Did material settle after 24 hours? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
If yes, to what depth (feet)?	Depth to Water (feet) 9ft 6 in	If yes, was hole retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
		If bentonite chips were used, were they hydrated with water from a known safe source? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
		Required Method of Placing Sealing Material
		<input type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped
		<input type="checkbox"/> Screened & Poured (Bentonite Chips) <input checked="" type="checkbox"/> Other (Explain): Removed completely and backfilled
		Sealing Materials
		<input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Concrete
		<input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Bentonite Chips
		For Monitoring Wells and Monitoring Well Boreholes Only:
		<input type="checkbox"/> Bentonite Chips <input type="checkbox"/> Bentonite - Cement Grout
		<input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole			
From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Surface	15.5	less than 0.013	MA
Grade A structural backfill			
Removed by Northern Interstate Construction			

6. Comments

Complete Removal for New structure - Pipe / casing were removed & backfilled w/ structural backfill

7. Supervision of Work			DNR Use Only	
Name of Person or Firm Doing Filling & Sealing KRECH OSARD	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy) 6/23/2020	Date Received	Noted By
Street or Route State Highway 13	Telephone Number (218) 590-3369	Comments		
City Ashland	State WI	ZIP Code 54806	Signature of Person Doing Work 	Date Signed 6/23/20

Tally of Loads Hauled

Load	Truck Company	Truck ID	Date	Time	Expray	Notes
1	NIC	9	26-May	7:56	Negative	TS/CLM Mix, Saturated
2	NIC	8	26-May	8:50	Negative	TS/CLM Mix, Saturated
3	NIC	8	26-May	9:30	Negative	TS/CLM Mix, Saturated
4	NIC	9	26-May	9:45	Negative	TS/CLM Mix, Saturated
5	NIC	8	26-May	9:55	Negative	TS/CLM Mix, Saturated
6	NIC	9	26-May	10:05	Negative	TS/CLM Mix, Saturated
7	NIC	8	26-May	10:30	Negative	TS/CLM Mix, Saturated
8	NIC	9	26-May	10:37	Negative	TS/CLM Mix, Saturated
9	NIC	8	26-May	11:03	Negative	TS/CLM Mix, Saturated
10	NIC	9	26-May	11:08	Negative	TS/CLM Mix, Saturated
11	NIC	8	26-May	11:28	Negative	TS/CLM Mix, Saturated
12	NIC	9	26-May	11:38	Negative	TS/CLM Mix, Saturated
13	NIC	8	26-May	11:57	Negative	TS/CLM Mix, Saturated
14	NIC	9	26-May	12:06	Negative	TS/CLM Mix, Saturated
15	NIC	8	26-May	12:30	Negative	TS/CLM Mix, Saturated
16	NIC	9	26-May	12:40	Negative	TS/CLM Mix, Saturated
17	NIC	8	26-May	12:55	Negative	TS/CLM Mix, Saturated
18	NIC	9	26-May	13:06	Negative	TS/CLM Mix, Saturated
19	NIC	9	26-May	13:36	Negative	TS/CLM Mix, Saturated
20	NIC	8	26-May	13:45	Negative	TS/CLM Mix, Saturated
21	NIC	9	26-May	14:10	Negative	TS/CLM Mix, Saturated
22	NIC	8	26-May	14:20	Negative	TS/CLM Mix, Saturated
23	NIC	9	26-May	14:35	Negative	TS/CLM Mix, Saturated
24	NIC	8	26-May	14:47	Negative	TS/CLM Mix, Saturated
25	NIC	9	26-May	15:00	Negative	TS/CLM Mix, Saturated
26	NIC	8	26-May	15:15	Negative	TS/CLM Mix, Saturated
27	NIC	9	26-May	15:25	Negative	TS/CLM Mix, Saturated
28	NIC	8	26-May	15:40	Negative	TS/CLM Mix, Saturated
29	NIC	9	26-May	15:50	Negative	TS/CLM Mix, Saturated
30	NIC	8	26-May	16:15	Negative	TS/CLM Mix, Saturated
31	NIC	9	26-May	16:18	Negative	TS/CLM Mix, Saturated
32	NIC	8	26-May	16:41	Negative	TS/CLM Mix, Saturated
33	NIC	9	26-May	16:48	Negative	TS/CLM Mix, Saturated
34	NIC	8	26-May	17:05	Negative	TS/CLM Mix, Saturated
35	NIC	9	26-May	17:15	Negative	TS/CLM Mix, Saturated
36	NIC	8	26-May	17:30	Negative	TS/CLM Mix, Saturated
37	NIC	9	26-May	17:37	Negative	TS/CLM Mix, Saturated
38	NIC	9	1-Jun	7:41	Negative	TS/CLM Mix
39	NIC	6	1-Jun	7:48	Negative	TS/CLM Mix
40	NIC	9	1-Jun	8:04	Negative	TS/CLM Mix
41	NIC	6	1-Jun	8:11	Negative	TS/CLM Mix
42	NIC	9	1-Jun	8:26	Negative	TS/CLM Mix
43	NIC	6	1-Jun	8:34	Negative	TS/CLM Mix
44	NIC	9	1-Jun	8:48	Negative	TS/CLM Mix
45	NIC	6	1-Jun	8:56	Negative	TS/CLM Mix
46	NIC	9	1-Jun	9:10	Negative	TS/CLM Mix

Load	Truck Company	Truck ID	Date	Time	Expray	Notes
47	NIC	6	1-Jun	9:18	Negative	TS/CLM Mix
48	NIC	9	1-Jun	9:38	Negative	TS/CLM Mix
49	NIC	6	1-Jun	9:46	Negative	TS/CLM Mix
50	NIC	9	1-Jun	10:04	Negative	TS/CLM Mix
51	NIC	6	1-Jun	10:12	Negative	TS/CLM Mix
52	NIC	9	1-Jun	10:25	Negative	TS/CLM Mix
53	NIC	6	1-Jun	10:34	Negative	TS/CLM Mix
54	NIC	9	1-Jun	10:50	Negative	TS/CLM Mix
55	NIC	6	1-Jun	10:59	Negative	TS/CLM Mix
56	NIC	9	1-Jun	11:11	Negative	TS/CLM Mix
57	NIC	6	1-Jun	11:24	Negative	TS/CLM Mix
58	NIC	9	1-Jun	11:36	Negative	TS/CLM Mix
59	NIC	6	1-Jun	13:40	Negative	TS/CLM Mix
60	NIC	9	1-Jun	13:49	Negative	TS/CLM Mix
61	NIC	6	1-Jun	14:06	Negative	TS/CLM Mix
62	NIC	9	1-Jun	14:15	Negative	TS/CLM Mix
63	NIC	6	1-Jun	14:30	Negative	TS/CLM Mix
64	NIC	9	1-Jun	14:37	Negative	TS/CLM Mix
65	NIC	6	1-Jun	14:53	Negative	TS/CLM Mix
66	NIC	9	1-Jun	15:01	Negative	TS/CLM Mix
67	NIC	6	1-Jun	15:18	Negative	TS/CLM Mix
68	NIC	9	1-Jun	15:25	Negative	TS/CLM Mix
69	NIC	6	1-Jun	16:00	Negative	TS/CLM Mix
70	NIC	9	1-Jun	16:05	Negative	TS/CLM Mix
71	NIC	6	1-Jun	16:20	Negative	TS/CLM Mix
72	NIC	9	1-Jun	16:30	Negative	TS/CLM Mix
73	NIC	6	1-Jun	16:40	Negative	TS/CLM Mix
74	NIC	9	1-Jun	16:52	Negative	TS/CLM Mix
75	NIC	6	1-Jun	17:00	Negative	TS/CLM Mix
76	NIC	9	1-Jun	17:12	Negative	TS/CLM Mix
77	NIC	6	18-Jun	8:48	Negative	MSF with Pebble-Cobble Clasts
78	NIC	6	18-Jun	9:15	Negative	MSF with Pebble-Cobble Clasts
79	NIC	4	18-Jun	9:34	Negative	MSF with Pebble-Cobble Clasts
80	NIC	6	18-Jun	10:00	Negative	MSF with Pebble-Cobble Clasts
81	NIC	6	18-Jun	10:18	Negative	MSF with Pebble-Cobble Clasts
82	NIC	4	18-Jun	10:46	Negative	MSF with Pebble-Cobble Clasts
83	NIC	6	18-Jun	10:53	Negative	MSF with Pebble-Cobble Clasts
84	NIC	4	18-Jun	11:20	Negative	MSF with Pebble-Cobble Clasts
85	NIC	6	18-Jun	11:30	Negative	MSF with Pebble-Cobble Clasts
86	NIC	19	22-Jun	11:05	Negative	MSF with Pebble-Cobble Clasts
87	NIC	6	22-Jun	11:10	Negative	MSF with Pebble-Cobble Clasts
88	NIC	19	22-Jun	11:40	Negative	MSF with Pebble-Cobble Clasts
89	NIC	6	22-Jun	11:46	Negative	MSF with Pebble-Cobble Clasts
90	NIC	19	22-Jun	12:11	Negative	MSF with Pebble-Cobble Clasts
91	NIC	6	22-Jun	12:17	Negative	MSF with Pebble-Cobble Clasts
92	NIC	19	22-Jun	12:41	Negative	MSF with Pebble-Cobble Clasts

Photograph Log

Site Name: Phase 4 Construction Remedial Action	Site Location: STH 13 Boyd Creek Bridge, Town of Barksdale, WI	Project No.: 60618489
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Photo No.: 1	Date: 6/2/2020
Direction Photo Taken: Northeast	
Description: Excavation of low-level NNOC contaminated soil from temporary bypass north of Boyd Creek	



Photo No.: 2	Date: 6/2/2020
Direction Photo Taken: Northeast	
Description: Loading low-level NNOC contaminated soil excavated from temporary bypass north of Boyd Creek	



Site Name:
Phase 4 Construction Remedial Action

Site Location:
STH 13 Boyd Creek Bridge, Town of Barksdale, WI

Project No.
60618489

Photo No. 3	Date: 6/18/2020
Direction Photo Taken: Northwest	
Description: Excavation of low-level NNOC contaminated soil on south side of bridge	



Photo No. 4	Date: 6/18/2020
Direction Photo Taken: Southwest	
Description: Loading low-level NNOC contaminated soil excavated from south side of bridge	



Site Name:
Phase 4 Construction Remedial Action

Site Location:
STH 13 Boyd Creek Bridge, Town of Barksdale, WI

Project No.
60618489

Photo No.
5

Date:
6/22/2020

Direction Photo Taken:

West

Description:

Excavation of low-level NNOC contaminated soil from north side of bridge



Photo No.
6

Date:
6/22/2020

Direction Photo Taken:

Southeast

Description:

Low-level NNOC contaminated soil excavation on north side of bridge



Site Name:
Phase 4 Construction Remedial Action

Site Location:
STH 13 Boyd Creek Bridge, Town of Barksdale, WI

Project No.
60618489

Photo No. 7	Date: 6/22/2020
Direction Photo Taken: West	
Description: Excavation of low-level NNOC contaminated soil from north side of bridge	



Photo No. 8	Date: 6/23/2020
Direction Photo Taken: West	
Description: Removal of Monitoring Well MW-1 casing and screen during abandonment	





About AECOM

AECOM is built to deliver a better world. We design, build, finance, and operate infrastructure assets for governments, businesses, and organizations in more than 150 countries. As a fully integrated firm, we connect knowledge and experience across our global network of experts to help clients solve their most complex challenges. From high-performance buildings and infrastructure, to resilient communities and environments, to stable and secure nations, our work is transformative, differentiated, and vital. A *Fortune 500* firm, AECOM had revenue of approximately \$18 billion during fiscal year 2019. See how we deliver what others can only imagine at aecom.com and [@AECOM](https://twitter.com/AECOM).

KYLE WAGONER

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aecom.com

