

RFB NO. 320041



CONSTRUCTION DOCUMENTS PROJECT MANUAL

DANE COUNTY DEPARTMENT OF PUBLIC WORKS,
HIGHWAY AND TRANSPORTATION

PUBLIC WORKS ENGINEERING DIVISION
1919 ALLIANT ENERGY CENTER WAY
MADISON, WISCONSIN 53713

REQUEST FOR BIDS NO. 320041 COUNTY TRUNK HIGHWAYS N & J BRIDGE REPLACEMENTS

**BRIDGE B-13-0225
CTH N - SECTION 35
TOWN OF DUNKIRK, WISCONSIN**

**BRIDGE B-13-0178
CTH J - SECTION 28
TOWN OF VERMONT, WISCONSIN**

Due Date / Time: **TUESDAY, JANUARY 19, 2021 / 2:00 P.M.**

Location: **PUBLIC WORKS OFFICE**

Performance / Payment Bond: **100% OF CONTRACT AMOUNT**

Bid Deposit: **5% OF BID AMOUNT**

FOR INFORMATION ON THIS REQUEST FOR BIDS, PLEASE CONTACT:

JEFFERY OTTO, PROJECT MANAGER
TELEPHONE NO.: 608/283-1416
FAX NO.: 608/266-4269
E-MAIL: OTTO.JEFFERY@COUNTYOFDANE.COM

SEALS PAGE

BID NO. 320041

**PROJECT: COUNTY TRUNK HIGHWAYS N & J BRIDGE REPLACEMENTS
CTH N - SECTION 35 (TOWN OF DUNKIRK) & CTH J - SECTION 28
(TOWN OF VERMONT)**

TRANSPORTATION ENGINEER

I hereby certify that this drawing, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Wisconsin.



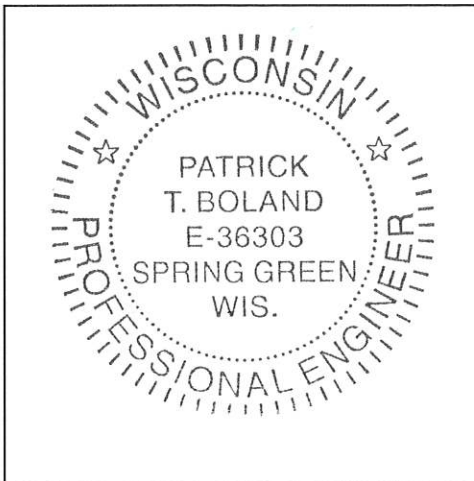


Ellery Schaffer - Registration No. E-41742-6

Dated: December 8, 2020

STRUCTURAL ENGINEER

I hereby certify that this drawing, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Wisconsin.





Patrick Boland - Registration No. E-36303

Dated: December 8, 2020

END OF SECTION

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WisDOT Specifications

DRAWINGS

Plot drawings on 11" x 17" (ANSI B) paper for correct scale or size. See drawing set for listing of drawings.

END OF SECTION

SECTION 01 11 16

INVITATION TO BID

LEGAL NOTICE

Dane County Dept. of Public Works, Hwy & Transp., 1919 Alliant Energy Center Way, Madison, WI 53713, will receive sealed Bids until:

2:00 P.M., TUESDAY, JAN. 19, 2021

RFB NO. 320041

CTH N & J BRIDGE REPLACEMENTS

TOWN OF DUNKIRK & TOWN OF VERMONT, WI

Dane County is inviting Bids for construction services to demolish & replace two highway bridges. Only firms with capabilities, experience & expertise with similar projects should obtain this Request for Bids (RFB) document & submit Bids.

RFB document may be obtained after **2:00 p.m. on Dec. 8, 2020** by downloading it from bids-pwht.countyofdane.com. Please call Jeffery Otto, Project Mgr., at 608/283-1416, or our office at 608/266-4018, for any questions or additional information.

All Bidders must be qualified as a Best Value Contractor before Bid Due Date / Time. Complete Pre-qualification Application for Contractors at publicworks.countyofdane.com/bvc or obtain one by calling 608/267-0119.

PUBLISH: 12/08/20 & 12/15/20 - WISCONSIN STATE JOURNAL

12/09/20 & 12/16/20 - THE DAILY REPORTER

END OF SECTION

SECTION 00 21 13

INSTRUCTIONS TO BIDDERS

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1. GENERAL

- A. Before submitting Bid, bidder shall thoroughly examine all Construction Documents. Successful Bidder shall be required to provide all the Work that is shown on Drawings, set forth in Specifications, or reasonably implied as necessary to complete Contract for this project.
- B. Bidder shall visit site to become acquainted with adjacent areas, means of approach to site, conditions of actual site and facilities for delivering, storing, placing, and handling of materials and equipment.
- C. Failure to visit sites or failure to examine any and all Construction Documents will in no way relieve successful Bidder from necessity of furnishing any necessary materials or equipment, or performing any work, that may be required to complete the Work in accordance with Drawings and Specifications. Neglect of above requirements will not be accepted as reason for delay in the Work or additional compensation.

2. DRAWINGS AND SPECIFICATIONS

- A. Drawings and Specifications that form part of this Contract, as stated in Article 1 of General Conditions of Contract, are enumerated in Document Index of these Construction Documents.

- B. Complete sets of Drawings and Specifications for all trades will be available to all Bidders, irrespective of category of work to be bid on, in order that all Bidders may be familiar with work of other trades as they affect their bid.

3. INTERPRETATION

- A. No verbal explanation or instructions will be given in regard to meaning of Drawings or Specifications before Bid Due Date. Bidders shall bring inadequacies, omissions or conflicts to Owner or Engineer's attention at least ten (10) calendar days before Bid Due Date. Prompt clarification will be available to all bidders by Addendum.
- B. Failure to so request clarification or interpretation of Drawings and Specifications will not relieve successful Bidder of responsibility. Signing of Contract will be considered as implicitly denoting that Contractor has thorough understanding of scope of the Work and comprehension of Construction Documents.
- C. Owner or Engineer will not be responsible for verbal instructions.

4. QUALIFICATIONS OF BIDDER (CONTRACTOR AND SUBCONTRACTOR)

- A. Before award of Contract can be approved, Owner shall be satisfied that Bidder involved meets following requirements:
 - 1. Is listed in latest edition of Wisconsin Department of Transportation Prequalified Contractor List for type of construction being performed.
 - 2. Has completed at least one (1) project of at least fifty percent (50%) of size or value of Division of work being bid and type of work completed is similar to that being bid. If greater magnitude of experience is deemed necessary, other than size or value of work, such requirements will be described in appropriate section of Specifications.
 - 3. Maintains permanent place of business.
 - 4. Can be bonded for terms of proposed Contract.
 - 5. Meets all applicable Best Value Contractor requirements.
 - 6. Has record of satisfactorily completing past projects. Criteria which will be considered in determining satisfactory completion of projects by bidder will include:
 - a. Completed contracts in accordance with drawings and specifications.
 - b. Diligently pursued execution of work and completed contracts according to established time schedule unless Owner grants extensions.
 - c. Fulfilled guarantee requirements of construction documents.
 - d. Is not presently on ineligible list maintained by County's Department of Administration for noncompliance with equal employment opportunities and affirmative action requirements.
 - e. Authorized to conduct business in Wisconsin. By submitting Bid, bidder warrants that it has: complied with all necessary requirements to do business in State of Wisconsin; that persons executing contract on its behalf are authorized to do so; and, if corporation, that name and address of bidder's registered agent are as set forth in Contract. Bidder shall notify Owner immediately, in writing, of any change in its registered agent, their address, and bidder's legal status. For partnership, term "registered agent" shall mean general partner.

- B. County's Project Manager will make such investigations as are deemed necessary to determine ability of bidder to perform the Work, and bidder shall furnish to County's Project Manager or designee all such information and data for this purpose as Project Manager may request. Owner reserves right to reject Bid if evidence submitted by, or investigation of, bidder fails to satisfy Owner that bidder is responsible and qualified to carry out obligations of Contract and to complete the Work contemplated therein.

5. BID GUARANTEE

- A. Bank certified check, cashier's check or Bid Bond, payable to County in amount not less than five percent (5%) of maximum bid, shall accompany each Bid as guarantee that if Bid is accepted, Bidder will execute and return proposed Contract and Performance and Payment Bonds within ten (10) business days after being notified of acceptance of Bid. Company issuing bonds must be licensed to do business in Wisconsin.
- B. Any bid, which is not accompanied by bid guarantee, will be considered "No Bid" and will not be read at Bid Due Date.
- C. If successful Bidder so delivers Contract, Certificate of Insurance, and Performance and Payment Bonds, check will be returned to Bidder. In case Bidder fails to deliver such Contract, insurance, and bond, amount of bid guarantee will be forfeited to County as liquidated damages.
- D. All checks tendered as bid guarantee, except those of three (3) lowest qualified, responsible bidders, will be returned to their makers within three (3) business days after Bid Due Date. All such retained checks will be returned immediately upon signing of Contract and Performance and Payment Bonds by successful Bidder.

6. WITHDRAWAL OF BIDS

- A. Bids may be withdrawn by written request received from bidder or authorized representative thereof prior to time fixed for Bid Due Date, without prejudice to right of bidder to file new Bid. Withdrawn Bids will be returned unopened. Negligence on part of bidder in preparing their Bid confers no right for withdrawal of Bid after it has been opened.
- B. No Bid may be withdrawn for period of sixty (60) calendar days after Bid Due Date.
- C. If Bid contains error, omission or mistake, bidder may limit liability to amount of bidder's guarantee by giving written Notice of Intent not to execute Contract to Owner within seventy-two (72) hours of Bid Due Date.

7. CONTRACT FORM

- A. Sample copy of contract that successful Bidder will be required to enter into is included in these Construction Documents and bidders are required to familiarize themselves with all conditions contained therein.

8. CONTRACT INTERESTS BY COUNTY PUBLIC OFFICIALS

- A. In accordance with Wisconsin Statute 946.13, county official may not bid for or enter into any contract involving receipts or disbursements of more than \$15,000.00 in a year, in which they have private pecuniary interest, direct or indirect if at same time they are authorized to

take official action with respect to making of this Contract. Any contract entered into in violation of this Statute is void and County incurs no liability thereon. This subsection does not affect application and enforcement of Wisconsin Statute 946.13 by state prosecutors in criminal courts of this state.

9. EMERGING SMALL BUSINESS PROVISIONS

- A. **Emerging Small Business Definition.** For purposes of this section, ESB is defined as:
1. Independent business concern that has been in business minimum of one year;
 2. Business located in State of Wisconsin;
 3. Business comprised of less than twenty-five (25) employees;
 4. Business must not have gross sales in excess of three million dollars (\$3,000,000.00) over past three years; and
 5. Business does not have history of failing to complete projects.
- B. **Emerging Small Business (ESB) Involvement.** Bidder shall make good faith effort to award minimum of ten percent (10%) of the Work to ESBs. Bidder shall submit report to Dane County Contract Compliance Specialist within ten (10) business days of Bid Due Date demonstrating such efforts. Good faith efforts means significant contact with ESBs for purposes of soliciting bids from them. Failure to make or demonstrate good faith efforts will be grounds for disqualification.
- C. **Emerging Small Business Report.** Emerging Small Business Enterprise Report is to be submitted by Bidder in separate envelope marked "Emerging Small Business Report". This report is due by 2:00 p.m. following specified ten (10) business days after Bid Due Date. Bidder who fails to submit Emerging Small Business Report shall be deemed not responsive.
- D. **ESB Goal.** Goal of this project is ten percent (10%) ESB participation. ESB utilizations are shown as percentage of total Bid. If Bidder meets or exceeds specified goal, Bidder is only required to submit Form A - Certification, and Form B - Involvement. Goal shall be met if Bidder qualifies as ESB.
- E. **Report Contents.** Following award of Contract, Bidder shall submit copies of executed contracts for all Emerging Small Businesses. Emerging Small Business Report shall consist of these:
1. Form A - Certification;
 2. Form B - Involvement;
 3. Form C - Contacts;
 4. Form D - Certification Statement (if appropriate); and
 5. Supportive documentation (i.e., copies of correspondence, telephone logs, copies of advertisements).
- F. **ESB Listing.** Bidders may solicit bids from *Dane County Targeted Business Directory* by going to this website. Do not click as a link; copy & paste address into a web browser.
<https://equity.countyofdane.com/documents/PDFs/Targeted-Business-Directory.xlsx>

G. **DBE Listing.** Bidders may also solicit bids from *State of Wisconsin DOT Disadvantaged Business Enterprise Unified Certification Program (DBE / UCP) Directory* by going to this website. These are not only transportation-related designers & contractors. Do not click as a link; copy & paste address into a web browser.

<https://wisconsin.gov/Documents/doing-bus/civil-rights/dbe/dbe-ucp-directory.xlsx>

H. **ESB Certification.** All contractors, subcontractors and suppliers seeking ESB certification must complete and submit Emerging Small Business Report to Dane County Contract Compliance Program.

I. **Certification Statement.** If ESB firm has not been certified by County as ESB prior to submittal of this Bid, ESB Report cannot be used to fulfill ESB goal for this project unless firm provides "Form D - Certification Statement". Certification statement must be completed and signed by ESB firm.

J. **Questions.** Questions concerning Emerging Small Business provisions shall be directed to:

OEI@countyofdane.com

or

Dane County Contract Compliance Specialist
City-County Building, Room 356
210 Martin Luther King, Jr. Blvd.
Madison, WI 53703
608/266-4192

K. **Substituting ESBs.** In event of any significant changes in subcontract arrangements or if need arises to substitute ESBs, Bidder shall report such proposed changes to Contract Compliance Specialist to making any official changes and request authorization to substitute ESB firm. Bidder further agrees to make every possible effort to replace ESB firm with another qualified ESB firm.

L. **Good Faith Efforts.** Good faith efforts can be demonstrated by meeting all of these obligations:

1. Selecting portions of the Work to be performed by ESBs in order to increase likelihood of meeting ESB goal including, where appropriate, breaking down Contract into smaller units to facilitate ESB participation.
2. Advertising in general circulation, trade associations and women / minority focus media concerning subcontracting opportunities.
3. Providing written notices to reasonable number of specific ESBs that their interest in Contract was being solicited in sufficient time to allow ESBs to participate effectively.
4. Following up on initial solicitations of interest by contacting ESBs within five (5) business days prior to Bid Due Date to determine with certainty whether ESB were interested, to allow ESBs to prepare bids.
5. Providing interested ESB with adequate information about Drawings, Specifications and requirements of Contract.
6. Using services of available minority, women and small business organizations and other organizations that provide assistance in recruitment of MBEs / WBEs / ESBs.

7. Negotiating in good faith with interested ESBs, not rejecting ESBs as unqualified without sound reason based on thorough investigation of their capabilities.
8. Submitting required project reports and accompanying documents to County's Contract Compliance Specialist within twenty-four (24) hours after Bid Due Date.

M. **Appeals Disqualification of Bid.** Bidder who is disqualified may appeal to Public Works & Transportation Committee and Equal Opportunity Commission.

10. METHOD OF AWARD - RESERVATIONS

- A. Following will be basis of award of Contract, providing cost does not exceed amount of funds then estimated by County as available to finance Contract(s):
 1. Lowest dollar amount submitted by qualified responsible bidder on Base Bid for all work comprising project, combined with such additive Owner accepted alternates.
 2. Owner reserves right to reject all bids or any bid, to waive any informality in any bid, and to accept any bid that will best serve interests of County.
 3. Unit Prices and Informational Bids will not be considered in establishing low bidder.

11. SECURITY FOR PERFORMANCE AND PAYMENTS

- A. Simultaneous with delivery of signed Contract, Bidder shall be required to furnish Performance and Payment Bonds as specified in Article 29 of General Conditions of Contract, "Contract Security". Surety Company shall be licensed to do business in Wisconsin. Performance and Payment Bonds must be dated same date or subsequent to date of Contract. Performance and Payment Bonds must emulate information in Sample Performance and Payment Bonds in Construction Documents.
- B. Provide certified copy of power of attorney from Surety Company showing that agent who signs Bond has power of attorney to sign for Surety Company. Secretary or Assistant Secretary of company must sign this certification, not attorney-in-fact. Certification must bear same or later date as Bond. Power of Attorney must emulate model power of attorney information detailed in Sample Performance and Payment Bonds.
- C. If Bidder is partnership or joint venture, State certified list, providing names of individuals constituting partnership or joint venture must be furnished. Contract itself may be signed by one partner of partnership, or one partner of each firm comprising joint venture, but Performance and Payment Bonds must be signed by all partners.
- D. If Bidder is corporation, it is necessary that current certified copy of resolution or other official act of directors of corporation be submitted showing that person who signs Contract is authorized to sign contracts for corporation. It is also necessary that corporate seal be affixed to resolution, contract, and performance and payment bonds. If your corporation has no seal, it is required that above documents include statement or notation to effect that corporation has no seal.

12. TAXES

- A. Wisconsin Statute 77.54 (9m) allows building materials that become part of local unit government facilities to be exempt from sales & use tax. Vendors & materials suppliers may not charge Bidders sales & use tax on these purchases. This does not include highways,

streets or roads. Any other Sales, Consumer, Use & other similar taxes or fees required by law shall be included in Bid.

- B. In accordance with Wisconsin Statute 71.80(16)(a), successful nonresident bidder, whether incorporated or not, and not otherwise regularly engaged in business in this state, shall file surety bond with State of Wisconsin Department of Revenue payable to Department of Revenue, to guarantee payment of income taxes, required unemployment compensation contributions, sales and use taxes and income taxes withheld from wages of employees, together with any penalties and interest thereon. Amount of bond shall be three percent (3%) of Contract or subcontract price on all contracts of \$50,000 or more.

13. SUBMISSION OF BIDS

- A. All Bids shall be submitted on standard Bid Form bound herein and only Bids that are made on this Bid Form will be considered. Entire Bid Form and other supporting documents, if any, shall be removed or copied from Construction Documents, filled out, and submitted in manner specified hereinafter. Submit completed Bid Bond with Bid as well.
- B. No bids for any subdivision or any sub-classification of the Work, except as indicated, will be accepted. Any conditional Bid, amendment to Bid Form or appended item thereto, or inclusion of any correspondence, written or printed matter, or details of any nature other than that specifically called for, which would alter any essential provision of Construction Documents, or require consideration of unsolicited material or data in determining award of Contract, will disqualify Bid. Telecommunication alterations to Bid will not be accepted.
- C. Bidders must submit single Bid for all the Work.
- D. Bid amounts shall be inserted in words and in figures in spaces provided on Bid Form; in case of conflict, written word amounts will govern.
- E. Addenda issued after Bid Letting shall become part of Construction Documents. Bidders shall acknowledge receipt of such addenda in appropriate space provided on Bid Form. Bid may be rejected if receipt of any particular addendum applicable to award of Contract has not been acknowledged on Bid Form.
- F. Bids shall be signed, placed in envelope, sealed and delivered before due time to place designated in Invitation to Bid, and identified with project name, bid number, location, category of work being bid upon, Bid Due Date, name and address of bidder.
- G. Bidder shall be responsible for sealed Bid being delivered to place designated for Bid Due Date on or before date and time specified. Bids received after time of closing will be rejected and returned to bidder unopened.
- H. Bid will be considered invalid and will be rejected if bidder has not signed it.
- I. Faxed or emailed Bids will not be accepted.
- J. Bidder's organization shall submit completed with Bid, Fair Labor Practices Certification form, included in these Construction Documents.

14. SUBCONTRACTOR LISTING

- A. Bidders are required to submit Section 00 43 36, Proposed Subcontractors Form listing all subcontractors for this project including committed prices for each subcontractor. Project

Manager must receive Form no later than when successful Bidder submits their signed Contract. Failure to submit may delay progress payments.

15. ALTERNATE BIDS

A. Not Applicable.

16. INFORMATIONAL BIDS

A. Not Applicable.

17. UNIT PRICES

- A. Provide unit prices where requested on Bid Form. Unit prices will include all costs for materials, labor, insurance, taxes, overhead and profit necessary to perform specified work. Estimated quantities are approximate only. Payment will be based upon actual quantities placed, provided or installed. Failure to provide requested unit prices may result in rejection of entire Bid.
- B. Owner reserves right to accept or reject any unit prices as given in Bid.
- C. Bidder shall refer to Bid Form and applicable specification section to determine basis of unit measure and detailed information related to each unit price item requested.

18. COMMENCEMENT AND COMPLETION

- A. Successful Bidder shall commence work when schedule and weather permit, but no later than stated in Bid Form. Contractor shall pursue the Work regularly and continuously at reasonable rate to insure completion of the Work within time stated in Bid.
- B. Should it be found impossible to complete the Work on or before time specified for completion, written request may be submitted for extension of time setting forth reasons believed to justify granting of such request. Refer to Article 20 of General Conditions of Contract, titled "Time for Completion".

19. WORK BY OWNER

A. Not Applicable.

20. SPECIAL HAZARDS COVERAGE

A. Not Applicable.

FORM A

**DANE COUNTY
EMERGING SMALL BUSINESS REPORT - CERTIFICATION**

In accordance with General Conditions of Contract, submit this Emerging Small Business Report within ten (10) days after Bid Due Date.

PROJECT NAME: _____

BID NO.: _____ BID DUE DATE: _____

BIDDER INFORMATION

COMPANY NAME: _____

ADDRESS: _____

TELEPHONE NO.: _____

CONTACT PERSON: _____

EMAIL ADDRESS: _____

FORM B

Page ___ of ___

DANE COUNTY (Copy this Form as necessary to provide complete information)
EMERGING SMALL BUSINESS REPORT - INVOLVEMENT

COMPANY NAME: _____

PROJECT NAME: _____

BID NO.: _____ BID DUE DATE: _____

ESB NAME: _____

CONTACT PERSON: _____

ADDRESS: _____

PHONE NO & EMAIL.: _____

Indicate percentage of financial commitment to this ESB: _____ % Amount: \$ _____

ESB NAME: _____

CONTACT PERSON: _____

ADDRESS: _____

PHONE NO & EMAIL.: _____

Indicate percentage of financial commitment to this ESB: _____ % Amount: \$ _____

FORM C

**DANE COUNTY
EMERGING SMALL BUSINESS REPORT - CONTACTS**

(Copy this Form as necessary to provide complete information)

COMPANY NAME: _____

PROJECT NAME: _____

BID NO.: _____ BID DUE DATE: _____

	<u>ESB FIRM NAME CONTACTED</u>	<u>DATE</u>	<u>PERSON CONTACTED</u>	<u>DID ESB BID?</u>	<u>ACC- EPT BID?</u>	<u>REASON FOR REJECTION</u>
1)	_____	_____	_____	_____	_____	_____
2)	_____	_____	_____	_____	_____	_____
3)	_____	_____	_____	_____	_____	_____
4)	_____	_____	_____	_____	_____	_____
5)	_____	_____	_____	_____	_____	_____
6)	_____	_____	_____	_____	_____	_____
7)	_____	_____	_____	_____	_____	_____
8)	_____	_____	_____	_____	_____	_____

FORM D

**DANE COUNTY
EMERGING SMALL BUSINESS REPORT - CERTIFICATION STATEMENT**

I, _____, _____ of
Name Title

_____ certify to best of my knowledge and
Company

belief that this business meets Emerging Small Business definition as indicated in Article 9 and
that information contained in this Emerging Small Business Report is true and correct.

Bidder's Signature

Date

SECTION 00 31 32

GEOTECHNICAL DATA

SUBSURFACE DRILLING AND SAMPLING INFORMATION

INVESTIGATION DATA

Subsurface investigations have been made and soil boring report by American Engineering Testing, Inc. (25 pages for CTH N & 28 pages for CTH J) are included following this page. This information was obtained for use in preparing the design; however, Bidders shall draw their own conclusions therefrom. No responsibility for subsoil quality or conditions are assumed by Engineer or Owner.



AMERICAN
ENGINEERING
TESTING, INC.

CONSULTANTS

- ENVIRONMENTAL
- GEOTECHNICAL
- MATERIALS
- FORENSICS

REPORT OF GEOTECHNICAL EXPLORATION

Proposed Replacement Bridge (B-13-876)

CTH N over Hannerville Creek

Town of Dunkirk

Dane County

AET Project No. 12-20786N

Date:

March 25, 2020

Prepared for:

Jewell Associates Engineers, Inc.

560 Sunrise Drive

Spring Green, Wisconsin 53588





March 25, 2020

Mr. Robert Hanold, P.E.
Jewell Associates Engineers, Inc.
560 Sunrise Drive
Spring Green, Wisconsin 53588

RE: Report of Geotechnical Exploration
Proposed Replacement Bridge (B-13-876)
CTH N over Hannerville Creek
Town of Dunkirk
Dane County
AET Project No. 12-20786N

Dear Mr. Hanold:

We are pleased to present the results of our subsurface exploration program and geotechnical review for your CTH N bridge project in Dane County. These services were performed according to our proposal to you dated August 23, 2019.

We are submitting an electronic (PDF) version of this geotechnical report to you. Unless you request otherwise, we will not submit any printed copies of this report to you.

We have enjoyed working with you on this phase of the project. Please contact us if you have questions about this report or require further assistance.

Sincerely,

American Engineering Testing, Inc.

A handwritten signature in blue ink, appearing to read 'Benjamin B. Mattson', with a long horizontal flourish extending to the right.

Benjamin B. Mattson, P.E.
Senior Geotechnical Engineer

Report of Geotechnical Exploration

Proposed Replacement Bridge (B-13-876); CTH N over Hannerville Creek
Town of Dunkirk; Dane County
March 25, 2020
AET Project No. 12-20786N

AMERICAN
ENGINEERING
TESTING, INC.

Signature Page

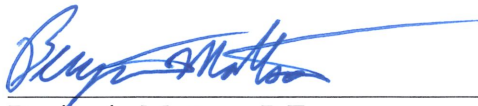
Prepared for:

Mr. Robert Hanold, P.E.
Jewell Associates Engineers, Inc.
560 Sunrise Drive
Spring Green, Wisconsin 53588

Prepared by:

American Engineering Testing, Inc.
4203 Schofield Avenue, Suite 1
Schofield, Wisconsin 54476
(715) 359-3534/www.amengtest.com

Report Authored By:



Benjamin Mattson, P.E.
Senior Geotechnical Engineer

Review Conducted By:



Blake Snyder, P.E.
Geotechnical Engineer



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Report of Geotechnical Exploration

Proposed Replacement Bridge (B-13-876); CTH N over Hannerville Creek
Town of Dunkirk; Dane County
March 25, 2020
AET Project No. 12-20786N

AMERICAN
ENGINEERING
TESTING, INC.

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 Figure 3 – *APILE* Results (Boring N-2, 10.75-inch CIP pile)

APPENDIX B Geotechnical Report Limitations and Guidelines for Use

Report of Geotechnical Exploration

Proposed Replacement Bridge (B-13-876); CTH N over Hannerville Creek
Town of Dunkirk; Dane County
March 25, 2020
AET Project No. 12-20786N

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1.0 INTRODUCTION

Jewell Associates Engineers, Inc. (Jewell) is providing planning and engineering services for a replacement bridge at the CTH N crossing of Hannerville Creek in the Town of Dunkirk in Dane County. To assist with planning and design, Jewell authorized American Engineering Testing, Inc. (AET) to conduct a subsurface exploration program at the site and perform a geotechnical engineering review for the project. This report presents the results of the above services and provides our engineering recommendations based on this data.

2.0 SCOPE OF SERVICE

AET's services were performed according to our proposal to Jewell dated August 23, 2019. The authorized scope consists of:

- Two standard penetration test borings to depths of 60 feet or refusal.
- Visual/manual classification and limited laboratory testing of the recovered soil samples.
- Geotechnical engineering review based on the gained data and preparation of this report.

These services are intended for geotechnical purposes. The scope is not intended to explore for the presence or extent of environmental contamination.

3.0 PROJECT INFORMATION

The existing structure (B-13-225) at the site is a single-span concrete flat slab bridge about 32 feet long and 31 feet wide. The new structure (B-13-876) will be a single-span prestressed girder bridge with an overall length of 52.58 feet, a clear roadway width of 30.0 feet, and a skew of 15 degrees. The bridge will be supported on sill-type (A1) abutments and driven steel piles. Final grades at the abutments will be similar to existing grades.

The above-stated information represents our understanding of the project and is an integral part of our engineering review. It is important we be contacted if there are changes from that described so we can evaluate if modifications to our recommendations are appropriate.

4.0 SUBSURFACE EXPLORATION AND LABORATORY TESTING**4.1 Subsurface Exploration**

Our subsurface exploration program for this project consisted of drilling two borings with standard penetration testing (SPT) and sampling on March 11, 2020. Jewell selected the number (two),

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planned depths (60 feet), and planned locations of the borings, which are shown on Figure 1 in Appendix A. We shifted the borings to avoid overhead utilities. The depth of boring N-2 was increased by about 5 feet to reach soil conditions estimated to exceed the maximum available pile resistance.

Prior to drilling, we contacted Wisconsin Diggers Hotline to locate public underground utilities at the site. We drilled the borings using 3¼-inch-inside-diameter hollow-stem augers and mud rotary methods. Refer to Appendix A for details on the drilling and sampling methods, the classification methods, and the water level measurement details.

The boring logs are found in Appendix A and contain information concerning soil layering, geologic description, moisture condition, and USCS classifications. Relative density or consistency is also noted for the natural soils, which are based on the standard penetration resistance (N-value).

4.2 Laboratory Testing

We performed two sieve analysis tests on the recovered soil samples. The test results are included in Appendix A.

5.0 SITE CONDITIONS**5.1 Subsurface Soils**

Below the surficial bituminous pavement, we encountered fill to depths of about 14.5 and 12 feet in borings N-1 and N-2, respectively, consisting of sand with varying gravel, silt, and clay contents. We also encountered apparent cobbles or a boulder at a depth of about 5 feet in N-1; our drill rig shaft broke attempting to drill through this layer, so we replaced the broken shaft, moved the rig 3 feet west, blind drilled to 7 feet, and resumed the boring.

The underlying soils were fine alluvium and coarse alluvium. The fine alluvium was soft to firm lean clay and loose to medium dense sandy silt. The coarse alluvium was very loose to very dense sand with varying silt and gravel contents.

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5.2 Groundwater

We measured groundwater at depths of 7.8 and 13.9 feet in borings N-1 and N-2, respectively, at the time of drilling, corresponding to elevations of 812.4 and 806.7 feet. The water level at N-1 was probably perched. The surface of Hannerville Creek was at an elevation of about 808.9 feet at the bridge; the creek was about 1 foot deep. Groundwater levels will fluctuate due to varying creek levels, along with seasonal and annual rainfall and snow melt amounts, as well as other factors.

6.0 FOUNDATION RECOMMENDATIONS

6.1 Shallow Foundations

In our judgment, a shallow foundation system is not suitable at this site due to the lack of a sufficient bearing stratum for footings within a reasonable depth. Thus, we anticipate a deep foundation system consisting of driven piles will be used for the project.

6.2 Deep Foundations

Based on our review of the borings and our analyses, it is our opinion driven concrete-filled steel pipe (CIP) piles should be used for supporting the new structure. In this report, we provide recommendations for 10.75-inch-diameter CIP piles (0.250-inch shell thickness).

We performed our pile capacity (resistance) calculations using the commercially-available software *APILE* (Ensoft, Inc.). We selected the analysis option that the program terms the “FHWA” method. This method uses the Nordlund method (granular soils) for estimating the pile resistances. The granular soil internal friction angle used was based on its relationship to standard penetration test values as presented by Peck, Hanson, and Thornburn (1974), with the N-values being corrected for the influence of the effective overburden pressure and drill rig hammer efficiency. The undrained shear strengths we selected were based on correlations with the SPT and q_p data.

The results of the *APILE* analysis we performed for CIP piles are provided in graphical form as Figures 2 and 3 in Appendix A. The pile depths and elevations listed in Table 1 are those estimated to utilize the full factored axial compression resistance (P_r) of 65 tons for 10.75-inch-diameter CIP piles, corresponding to a nominal Required Driving Resistance ($R_{n,dyn}$) of 130 tons, assuming a ϕ_{dyn} of 0.5.

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Table 1: Estimated CIP Pile Depths and Toe Elevations

Boring No.	Pile Section	Surface Elevation (feet)	Estimated Pile Toe Depth (feet)	Estimated Pile Toe Elevation (feet)
N-1	10.75-inch CIP	820.2	~60	~760.2
N-2	10.75-inch CIP	820.6	~55	~765.6

Note that the resistance graph for N-2, shown as Figure 3, indicates the estimated nominal geotechnical resistance is about 156 tons at a depth of 55 feet, but drops to about 108 tons at 60 feet, prior to increasing to greater than 200 tons at 65 feet deep. Table 1 provides an estimated depth of 55 feet to attain an R_{ndyn} value of 130 tons, but a more conservative approach would be to list a depth of 65 feet.

The actual pile lengths could be shorter or longer than estimated. The pile depths must be confirmed by an appropriate field test program. If the pile resistances determined during construction are to be estimated on the basis of hammer blows and penetration only, then we recommend a Resistance Factor (ϕ_{dyn}) of 0.50 be used with the FHWA-modified Gates Formula, per the WisDOT Bridge Manual. For example, if an R_{ndyn} of 130 tons per 10.75-inch-diameter CIP pile is obtained using the FHWA-modified Gates Formula with a Resistance Factor of 0.50, the resulting factored geotechnical axial compression resistance would then be 65 tons.

It is our opinion no downdrag (DD) loads will be applied to the piles.

The piles should have a minimum spacing of 2.5 pile diameters. For piles designed and installed per the above recommendations, we estimate the piles will each experience less than ½ inch of total geotechnical settlement (not including elastic compression of the pile due to structural loading) after loading is applied, with differential settlements about half this amount.

We recommend using pile points to reduce the risk of pile damage if cobbles and/or boulders are encountered.

The bidding contractors must submit their own pre-construction Wave Equation Analyses based on their proposed hammers, to determine that the piles can be driven to the nominal Required Driving Resistance without damaging the selected piles. We performed preliminary driveability analyses using the commercially-available software GRLWEAP 2010. Our analyses showed that

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the piles could probably be driven to the listed depths using a Delmag D16-32 hammer without exceeding the maximum allowable yield stresses, but a reduced fuel setting might be necessary.

We anticipate that driven piles at the site might be subject to some minor pile setup, where the nominal geotechnical compression resistance could increase after pile driving, as vibration ceases and excess pore water pressure dissipates from that which was induced during pile driving. If the required nominal resistance is not achieved at the estimated depths, the pile driving should cease and the piles should be restruck after a period of at least 18 hours. If the required nominal resistance is not achieved through soil setup during restruck, then the piles should be driven deeper, or additional piles may have to be driven.

We also anticipate the site soils will undergo densification as pile driving proceeds; the contractor should be prepared for the pile driving advancement rate to slow as construction proceeds. Per the Bridge Manual, our recommendations in this section do not consider densification or pile setup.

7.0 PAVEMENT DESIGN PARAMETERS

Based on the soils we encountered in our borings, we recommend using the parameters shown in Table 2 for designing the approach pavement. We provide two options for SSV, with one based on the existing soils and one if select materials will be used.

Table 2: Recommended Pavement Design Parameters

Design Parameter	Value
Frost Index	F-3
Wisconsin Design Group Index	8
Soil Support Value (SSV) – without select materials	4.75
Soil Support Value (SSV) – with select materials	5.0
Modulus of Subgrade Reaction	225 pci

8.0 LIMITATIONS

Within the limitations of scope, budget, and schedule, we have endeavored to provide our services according to generally accepted geotechnical engineering practices at this time and location. Other than this, no warranty, express or implied, is intended. Important information regarding risk management and proper use of this report is given in Appendix B entitled “Geotechnical Report Limitations and Guidelines for Use.”

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Appendix A

AET Project No. 12-20786N

Geotechnical Field Exploration and Testing

Boring Log Notes

Unified Soil Classification System

Figure 1 – Boring Locations

Subsurface Boring Logs

Gradation Curves

Figure 2 – *APILE* Results (Boring N-1, 10.75-inch CIP pile)

Figure 3 – *APILE* Results (Boring N-2, 10.75-inch CIP pile)

Appendix A
Geotechnical Field Exploration and Testing
AET Project No. 12-20786N

A.1 FIELD EXPLORATION

The subsurface conditions at the site were explored by drilling two geotechnical borings. The boring locations are shown on Figure 1.

A.2 SAMPLING METHODS

A.2.1 Split-Spoon Samples (SS)

Standard penetration (split-spoon) samples were collected in general accordance with ASTM: D1586. The ASTM test method consists of driving a 2-inch O.D. split-barrel sampler into the in-situ soil with a 140-pound hammer dropped from a height of 30 inches. After an initial set of 6 inches, the number of hammer blows to drive the sampler the next 12 inches is known as the standard penetration resistance or N-value.

In the past, standard penetration N-value tests were performed using a rope and cathead for the lift and drop system. The energy transferred to the split-spoon sampler was typically limited to about 60% of its potential energy due to the friction inherent in that system. That converted energy provided what is known as an N_{60} blow count.

Most drill rigs today incorporate an automatic hammer lift and drop system, which has higher energy efficiency and subsequently results in lower N-values than the traditional N_{60} values. We use a Pile Driving Analyzer (PDA) and an instrumented rod to measure the actual energy generated by the automatic hammer system. The drill rig (AET rig number 57) we used for this project has a measured energy transfer ratio of 89%. The N-values reported on the boring logs and the corresponding relative densities and consistencies are from the field blow counts and have not been adjusted to N_{60} values.

A.2.2 Disturbed Samples (DS)/Spin-up Samples (SU)

Sample types described as “DS” or “SU” on the boring logs are disturbed samples, which are taken from the flights of the auger. Because the auger disturbs the samples, possible soil layering and contact depths should be considered approximate.

A.2.3 Sampling Limitations

Unless actually observed in a sample, contacts between soil layers are estimated based on the spacing of samples and the action of drilling tools. Cobbles, boulders, and other large objects generally cannot be recovered from test borings, and they may be present in the ground even if they are not noted on the boring logs.

Determining the thickness of “topsoil” layers is usually limited, due to variations in topsoil definition, sample recovery, and other factors. Visual-manual description often relies on color for determination, and transitioning changes can account for significant variation in thickness judgment. Accordingly, the topsoil thickness presented on the logs should not be the sole basis for calculating topsoil stripping depths and volumes. If more accurate information is needed relating to thickness and topsoil quality definition, alternate methods of sample retrieval and testing should be employed.

A.3 CLASSIFICATION METHODS

Soil descriptions shown on the boring logs are based on the Unified Soil Classification System (USCS). The USCS is described in ASTM: D2487 and D2488. Where laboratory classification tests (sieve analysis or Atterberg Limits) have been performed, accurate classifications per ASTM: D2487 are possible. Otherwise, soil descriptions shown on the boring logs are visual-manual judgments. Charts are attached which provide information on the USCS, the descriptive terminology, and the symbols used on the boring logs.

The boring logs include descriptions of apparent geology. The geologic depositional origin of each soil layer is interpreted primarily by observation of the soil samples, which can be limited. Observations of the surrounding topography, vegetation, and development can sometimes aid this judgment.

Appendix A
Geotechnical Field Exploration and Testing
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A.4 WATER LEVEL MEASUREMENTS

The ground water level measurements are shown at the bottom of the boring logs. The following information appears under “Water Level Measurements” on the logs:

- Date and Time of measurement
- Sampled Depth: lowest depth of soil sampling at the time of measurement
- Casing Depth: depth to bottom of casing or hollow-stem auger at time of measurement
- Cave-in Depth: depth at which measuring tape stops in the borehole
- Water Level: depth in the borehole where free water is encountered
- Drilling Fluid Level: same as Water Level, except that the liquid in the borehole is drilling fluid

The true location of the water table at the boring locations may be different than the water levels measured in the boreholes. This is possible because there are several factors that can affect the water level measurements in the borehole. Some of these factors include: permeability of each soil layer in profile, presence of perched water, amount of time between water level readings, presence of drilling fluid, weather conditions, and use of borehole casing.

A.5 TEST STANDARD LIMITATIONS

Field and laboratory testing is done in general conformance with the described procedures. Compliance with any other standards referenced within the specified standard is neither inferred nor implied.

A.6 SAMPLE STORAGE

Unless notified to do otherwise, we routinely retain representative samples of the soils recovered from the borings for a period of 30 days.

BORING LOG NOTES

DRILLING AND SAMPLING SYMBOLS

Symbol	Definition
B, H, N:	Size of flush-joint casing
CA:	Crew Assistant (initials)
CAS:	Pipe casing, number indicates nominal diameter in inches
CC:	Crew Chief (initials)
COT:	Clean-out tube
DC:	Drive casing; number indicates diameter in inches
DM:	Drilling mud or bentonite slurry
DR:	Driller (initials)
DS:	Disturbed sample from auger flights
FA:	Flight auger; number indicates outside diameter in inches
HA:	Hand auger; number indicates outside diameter
HSA:	Hollow stem auger; number indicates inside diameter in inches
LG:	Field logger (initials)
MC:	Column used to describe moisture condition of samples and for the ground water level symbols
N (BPF):	Standard penetration resistance (N-value) in blows per foot (see notes)
NQ:	NQ wireline core barrel
PQ:	PQ wireline core barrel
RD:	Rotary drilling with fluid and roller or drag bit
REC:	In split-spoon (see notes) and thin-walled tube sampling, the recovered length (in inches) of sample. In rock coring, the length of core recovered (expressed as percent of the total core run). Zero indicates no sample recovered.
REV:	Revert drilling fluid
SS:	Standard split-spoon sampler (steel; 1d" is inside diameter; 2" outside diameter); unless indicated otherwise
SU:	Spin-up sample from hollow stem auger
TW:	Thin-walled tube; number indicates inside diameter in inches
WASH:	Sample of material obtained by screening returning rotary drilling fluid or by which has collected inside the borehole after "falling" through drilling fluid
WH:	Sampler advanced by static weight of drill rod and 140-pound hammer
WR:	Sampler advanced by static weight of drill rod
94mm:	94 millimeter wireline core barrel
▼:	Water level directly measured in boring
▽:	Estimated water level based solely on sample appearance

TEST SYMBOLS

Symbol	Definition
CONS:	One-dimensional consolidation test
DEN:	Dry density, pcf
DST:	Direct shear test
E:	Pressuremeter Modulus, tsf
HYD:	Hydrometer analysis
LL:	Liquid Limit, %
LP:	Pressuremeter Limit Pressure, tsf
OC:	Organic Content, %
PERM:	Coefficient of permeability (K) test; F - Field; L - Laboratory
PL:	Plastic Limit, %
q _p :	Pocket Penetrometer strength, tsf (<u>approximate</u>)
q _c :	Static cone bearing pressure, tsf
q _u :	Unconfined compressive strength, psf
R:	Electrical Resistivity, ohm-cms
RQD:	Rock Quality Designation of Rock Core, in percent (aggregate length of core pieces 4" or more in length as a percent of total core run)
SA:	Sieve analysis
TRX:	Triaxial compression test
VSR:	Vane shear strength, remolded (field), psf
VSU:	Vane shear strength, undisturbed (field), psf
WC:	Water content, as percent of dry weight
%-200:	Percent of material finer than #200 sieve

STANDARD PENETRATION TEST NOTES

The standard penetration test consists of driving the sampler with a 140 pound hammer and counting the number of blows applied in each of three 6" increments of penetration. If the sampler is driven less than 18" (usually in highly resistant material), permitted in ASTM: D1586, the blows for each complete 6" increment and for each partial increment is on the boring log. For partial increments, the number of blows is shown to the nearest 0.1' below the slash.

The length of sample recovered, as shown on the "REC" column, may be greater than the distance indicated in the N column. The disparity is because the N-value is recorded below the initial 6" set (unless partial penetration defined in ASTM: D1586 is encountered) whereas the length of sample recovered is for the entire sampler drive (which may even extend more than 18").

UNIFIED SOIL CLASSIFICATION SYSTEM
ASTM Designations: D 2487, D2488

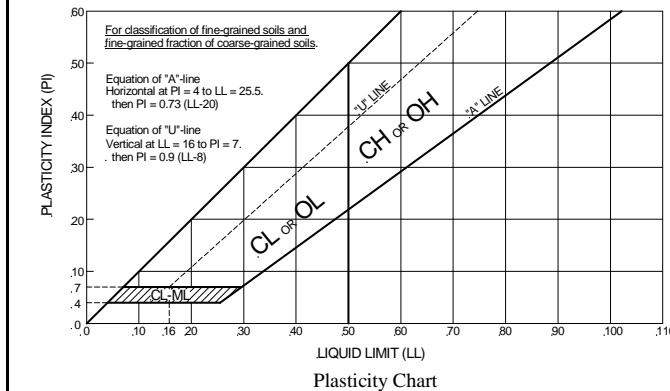
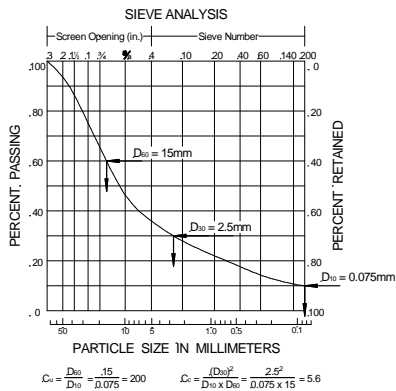
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Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests ^A				Soil Classification		
				Group Symbol	Group Name ^B	
Coarse-Grained Soils More than 50% retained on No. 200 sieve	Gravels More than 50% coarse fraction retained on No. 4 sieve	Clean Gravels Less than 5% fines ^C	$Cu \geq 4$ and $1 < Cc < 3$ ^E	GW	Well graded gravel ^F	
		Gravels with Fines more than 12% fines ^C	$Cu < 4$ and/or $1 > Cc > 3$ ^E	GP	Poorly graded gravel ^F	
		Fines classify as ML or MH	GM	Silty gravel ^{F,G,H}		
	Sands 50% or more of coarse fraction passes No. 4 sieve	Clean Sands Less than 5% fines ^D	$Cu \geq 6$ and $1 < Cc < 3$ ^E	SW	Well-graded sand ^I	
		Gravels with Fines more than 12% fines ^D	$Cu < 6$ and $1 > Cc > 3$ ^E	SP	Poorly-graded sand ^I	
		Fines classify as ML or MH	SM	Silty sand ^{G,H,I}		
(see Plasticity Chart below)	Silts and Clays Liquid limit less than 50	inorganic	PI > 7 and plots on or above "A" line ^J	CL	Lean clay ^{K,L,M}	
			PI < 4 or plots below "A" line ^J	ML	Silt ^{K,L,M}	
			Liquid limit – oven dried < 0.75 Liquid limit – not dried	OL	Organic clay ^{K,L,M,N}	
		Silts and Clays Liquid limit 50 or more	inorganic	PI plots on or above "A" line	CH	Fat clay ^{K,L,M}
				PI plots below "A" line	MH	Elastic silt ^{K,L,M}
				Liquid limit – oven dried < 0.75 Liquid limit – not dried	OH	Organic clay ^{K,L,M,P}
	Highly organic soil	inorganic	Liquid limit – not dried			Organic silt ^{K,L,M,Q}
			Primarily organic matter, dark in color, and organic in odor	PT	Peat ^R	

Notes
^ABased on the material passing the 3-in (75-mm) sieve.
^BIf field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.
^CGravels with 5 to 12% fines require dual symbols:
 GW-GM well-graded gravel with silt
 GW-GC well-graded gravel with clay
 GP-GM poorly graded gravel with silt
 GP-GC poorly graded gravel with clay
^DSands with 5 to 12% fines require dual symbols:
 SW-SM well-graded sand with silt
 SW-SC well-graded sand with clay
 SP-SM poorly graded sand with silt
 SP-SC poorly graded sand with clay

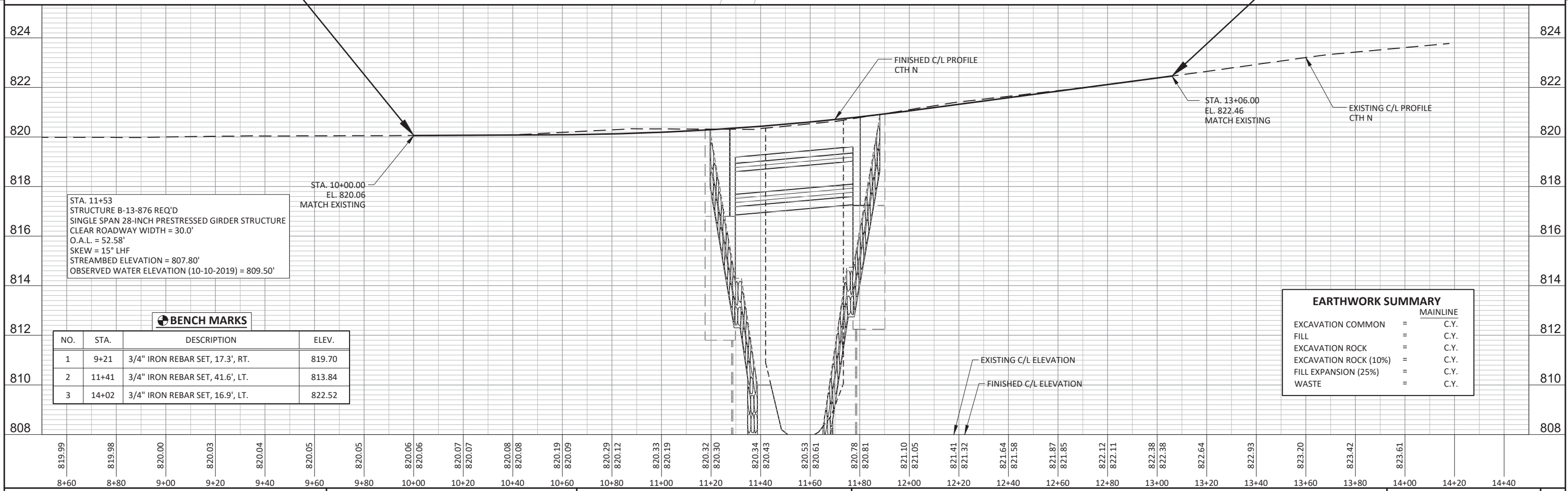
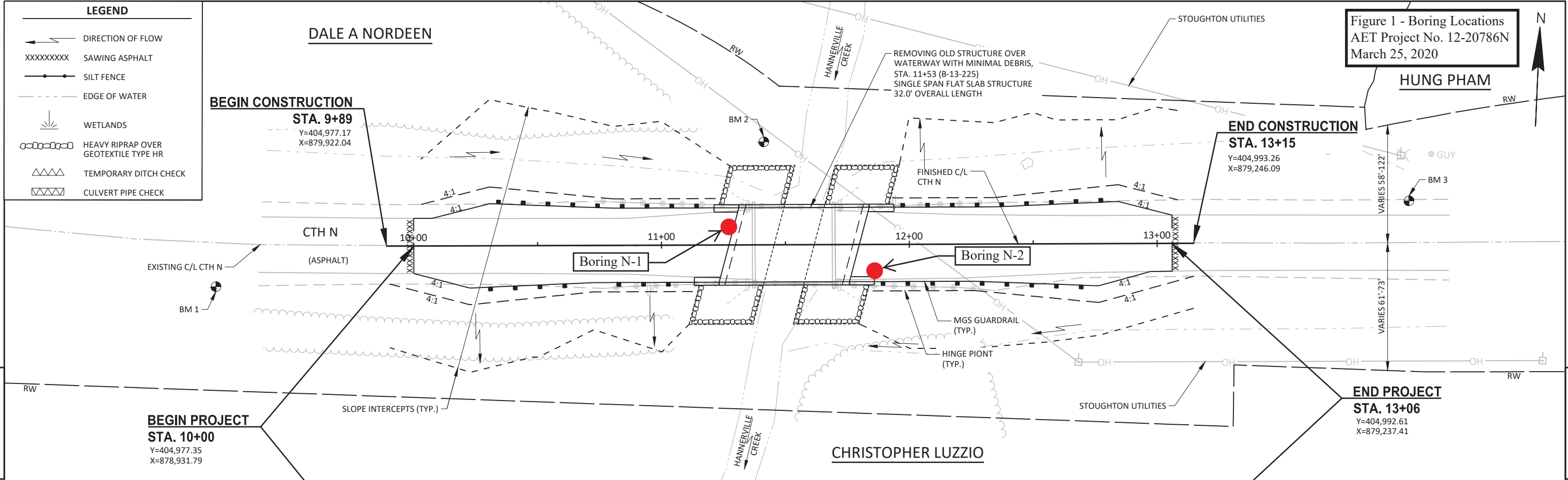
^E $Cu = D_{60} / D_{10}$, $Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$
^FIf soil contains $\geq 15\%$ sand, add "with sand" to group name.
^GIf fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.
^HIf fines are organic, add "with organic fines" to group name.
^IIf soil contains $\geq 15\%$ gravel, add "with gravel" to group name.
^JIf Atterberg limits plot is hatched area, soils is a CL-ML silty clay.
^KIf soil contains 15 to 29% plus No. 200 add "with sand" or "with gravel", whichever is predominant.
^LIf soil contains $\geq 30\%$ plus No. 200, predominantly sand, add "sandy" to group name.
^MIf soil contains $\geq 30\%$ plus No. 200, predominantly gravel, add "gravelly" to group name.
^NPI ≥ 4 and plots on or above "A" line.
^OPI < 4 or plots below "A" line.
^PPI plots on or above "A" line.
^QPI plots below "A" line.
^RFiber Content description shown below.



ADDITIONAL TERMINOLOGY NOTES USED BY AET FOR SOIL IDENTIFICATION AND DESCRIPTION

Grain Size		Gravel Percentages		Consistency of Plastic Soils		Relative Density of Non-Plastic Soils	
Term	Particle Size	Term	Percent	Term	N-Value, BPF	Term	N-Value, BPF
Boulders	Over 12"	A Little Gravel	3% - 14%	Very Soft	less than 2	Very Loose	0 - 4
Cobbles	3" to 12"	With Gravel	15% - 29%	Soft	2 - 4	Loose	5 - 10
Gravel	#4 sieve to 3"	Gravelly	30% - 50%	Firm	5 - 8	Medium Dense	11 - 30
Sand	#200 to #4 sieve			Stiff	9 - 15	Dense	31 - 50
Fines (silt & clay)	Pass #200 sieve			Very Stiff	16 - 30	Very Dense	Greater than 50
				Hard	Greater than 30		
Moisture/Frost Condition (MC Column)		Layering Notes		Peat Description		Organic Description (if no lab tests)	
D (Dry):	Absence of moisture, dusty, dry to touch.	Laminations:	Layers less than 1/2" thick of differing material or color.	Term	Fiber Content (Visual Estimate)	Soils are described as <i>organic</i> , if soil is not peat and is judged to have sufficient organic fines content to influence the Liquid Limit properties. <i>Slightly organic</i> used for borderline cases.	
M (Moist):	Damp, although free water not visible. Soil may still have a high water content (over "optimum").	Lenses:	Pockets or layers greater than 1/2" thick of differing material or color.	Fibric Peat:	Greater than 67%	Root Inclusions	
W (Wet/Waterbearing):	Free water visible intended to describe non-plastic soils. Waterbearing usually relates to sands and sand with silt.			Hemic Peat:	33 - 67%	With roots: Judged to have sufficient quantity of roots to influence the soil properties.	
F (Frozen):	Soil frozen			Sapric Peat:	Less than 33%	Trace roots: Small roots present, but not judged to be in sufficient quantity to significantly affect soil properties.	

Figure 1 - Boring Locations
 AET Project No. 12-20786N
 March 25, 2020



BEGIN PROJECT
STA. 10+00
 Y=404,977.35
 X=878,931.79

BEGIN CONSTRUCTION
STA. 9+89
 Y=404,977.17
 X=879,922.04

END CONSTRUCTION
STA. 13+15
 Y=404,993.26
 X=879,246.09

END PROJECT
STA. 13+06
 Y=404,992.61
 X=879,237.41

BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
1	9+21	3/4" IRON REBAR SET, 17.3', RT.	819.70
2	11+41	3/4" IRON REBAR SET, 41.6', LT.	813.84
3	14+02	3/4" IRON REBAR SET, 16.9', LT.	822.52

EARTHWORK SUMMARY

	MAINLINE
EXCAVATION COMMON	= C.Y.
FILL	= C.Y.
EXCAVATION ROCK	= C.Y.
EXCAVATION ROCK (10%)	= C.Y.
FILL EXPANSION (25%)	= C.Y.
WASTE	= C.Y.



SUBSURFACE BORING LOG

AET No: **12-20786N**

Log of Boring No. **N-1 (p. 1 of 2)**

Project: **Proposed Replacement Bridge (B-13-876); CTH N over Hannerville Creek; Tn Dunkirk; Dane County**

DEPTH IN FEET	ELEV. FEET	Surface Elevation 820.2 MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS										
								WC	qp	LL	PL	%-#200						
1	819.8	4.0 inches of bituminous pavement	PAVEMENT															
2	819.5	FILL (4 inches, recycled asphalt), gravelly sand with silt, fine to coarse grained, dark brown, frozen (SP-SM)	FILL		F	DS												
3	818.2																	
4	815.7	FILL, gravelly sand with silt, fine to coarse grained, brown, frozen (SP-SM)		9	M	SS	15											
5		FILL, silty sand, fine grained, a little gravel, brown, moist (SM)		50/1	M	SS	6											
6	813.2	FILL, silty sand with gravel, fine to medium grained, brown, moist (SM)																
7		Apparent cobbles or boulder at about 5 feet. Drill rig broke shaft. Moved rig 3 feet west, blind drilled to 7 feet, and continued boring.		3	M	SS	8											
8	808.2	FILL, silty sand, fine to medium grained, a little gravel, grayish brown, moist to wet (SM)		1	W	SS	12											
9		FILL, silty sand, fine to medium grained, a little gravel, brown and dark brown and gray, waterbearing (SM)		5	W	SS	4											
10	805.7	SAND WITH SILT and gravel, fine to coarse grained, dark gray, waterbearing, very loose, with lenses of black organic silt (SP-SM)	COARSE ALLUVIUM	4	W	SS	16											
11		LEAN CLAY, brown, firm (CL)	FINE ALLUVIUM															
12	802.2			5	W	SS	4											
13																		
14	797.2	SILTY SAND, fine grained, brown, waterbearing, medium dense (SM)	COARSE ALLUVIUM															
15				15	W	SS	18											
16	792.2	Sandy SILT, brown, waterbearing, loose to medium dense (ML)	FINE ALLUVIUM															
17				17	W	SS	16											

AET_CORP W-ELEV 12-20786N.GPJ AET+CPT+WELL.GDT 3/26/20

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS							NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL	
0-14.5'	3.25" HSA								
14.5-59.5'	RD w/DM	3/11/20	1025	16.5'	14.5'	15.0'	None	11.5'	
		3/11/20	1035	16.5'	14.5'	14.8'	None	7.8'	
BORING COMPLETED: 3/11/20									
DR: MD LG: SZ Rig: 57									



SUBSURFACE BORING LOG

AET No: 12-20786N

Log of Boring No. N-1 (p. 2 of 2)

Project: Proposed Replacement Bridge (B-13-876); CTH N over Hannerville Creek; Tn Dunkirk; Dane County

DEPTH IN FEET	ELEV. FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
								WC	qp	LL	PL	%-#200
36	782.2	Sandy SILT, brown, waterbearing, loose to medium dense (ML) <i>(continued)</i>	FINE ALLUVIUM <i>(continued)</i>	7	W	SS	21					
37												
38	777.2	SAND, fine grained, brown, waterbearing, dense (SP)	COARSE ALLUVIUM	33	W	SS	16					5
39												
40												
41												
42	772.2	SILTY SAND, fine grained, brown, waterbearing, medium dense (SM)		26	W	SS	18					
43												
44												
45												
46	767.2	Gravelly SAND WITH SILT, fine to coarse grained, brown, waterbearing, medium dense (SP-SM)		25	W	SS	8					
47												
48												
49												
50	762.2	SAND with gravel, fine to coarse grained, brown, waterbearing, medium dense (SP)		19	W	SS	12					
51												
52												
53												
54	758.7	SILTY SAND, fine grained, brown, waterbearing, dense (SM)		37	W	SS	17					
55												
56												
57												
58	End of boring at 61.5 feet											
59												
60												
61												

AET_CORP W-ELEV 12-20786N.GPJ AET+CPT+WELL.GDT 3/26/20



SUBSURFACE BORING LOG

AET No: **12-20786N**

Log of Boring No. **N-2 (p. 1 of 2)**

Project: **Proposed Replacement Bridge (B-13-876); CTH N over Hannerville Creek; Tn Dunkirk; Dane County**

DEPTH IN FEET	ELEV. FEET	Surface Elevation 820.6 MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS												
								WC	qp	LL	PL	%-#200								
1	820.3	4.0 inches of bituminous pavement	CONCRETE																	
2	819.1	FILL, gravelly sand, fine to coarse grained, brown, frozen (SP)	FILL		F	DS														
3		FILL, clayey sand with gravel, fine to medium grained, brown, frozen to moist (SC)		11	M	SS	18													
4	816.1																			
5		FILL, silty sand, fine to medium grained, a little gravel, brown, moist, with lenses of lean clay (SM)		7	M	SS	20													
6	813.6																			
7		FILL, sand with silt, fine to medium grained, a little gravel, olive gray, wet (SP-SM)		2	W	SS	16													
8	811.1																			
9		FILL, silty sand, fine to medium grained, a little gravel, gray and olive gray, wet, with lenses of lean clay (SM)		WH	W	SS	6													
10	808.6																			
11		SAND WITH SILT, fine to medium grained, dark gray, moist to waterbearing, very loose, with lenses of dark brown lean clay and several small pieces of wood (SP-SM)	COARSE ALLUVIUM	3	M/W	SS	18													
12	806.1																			
13		LEAN CLAY with sand, trace organics, brown, soft, with lenses of dark brown organic silty sand (CL)	FINE ALLUVIUM	2	W	SS	16													
14	802.6																			
15		No recovery in sample from 19.5 to 21.5 feet																		
16	797.6			3		SS	0													
17		SILTY SAND, fine grained, yellowish brown, waterbearing, loose (SM)	COARSE ALLUVIUM	9	W	SS	12													17
18	792.6																			
19		SILTY SAND, fine grained, brown, waterbearing, medium dense, with lenses of fine to medium grained silty sand (SM)		17	W	SS	13													
20	787.6																			
21																				
22																				
23																				
24																				
25																				
26																				
27																				
28																				
29																				
30																				
31																				
32																				
33																				
34																				

AET_CORP W-ELEV 12-20786N.GPJ AET+CPT+WELL.GDT 3/26/20

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS							NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL	
0-14.5'	3.25" HSA								
14.5-64.5'	RD w/DM	3/11/20	1329	16.5'	14.5'	14.6'	None	14.6'	
		3/11/20	1339	16.5'	14.5'	14.6'	None	13.9'	
BORING COMPLETED: 3/11/20									
DR: MD LG: SZ Rig: 57									



SUBSURFACE BORING LOG

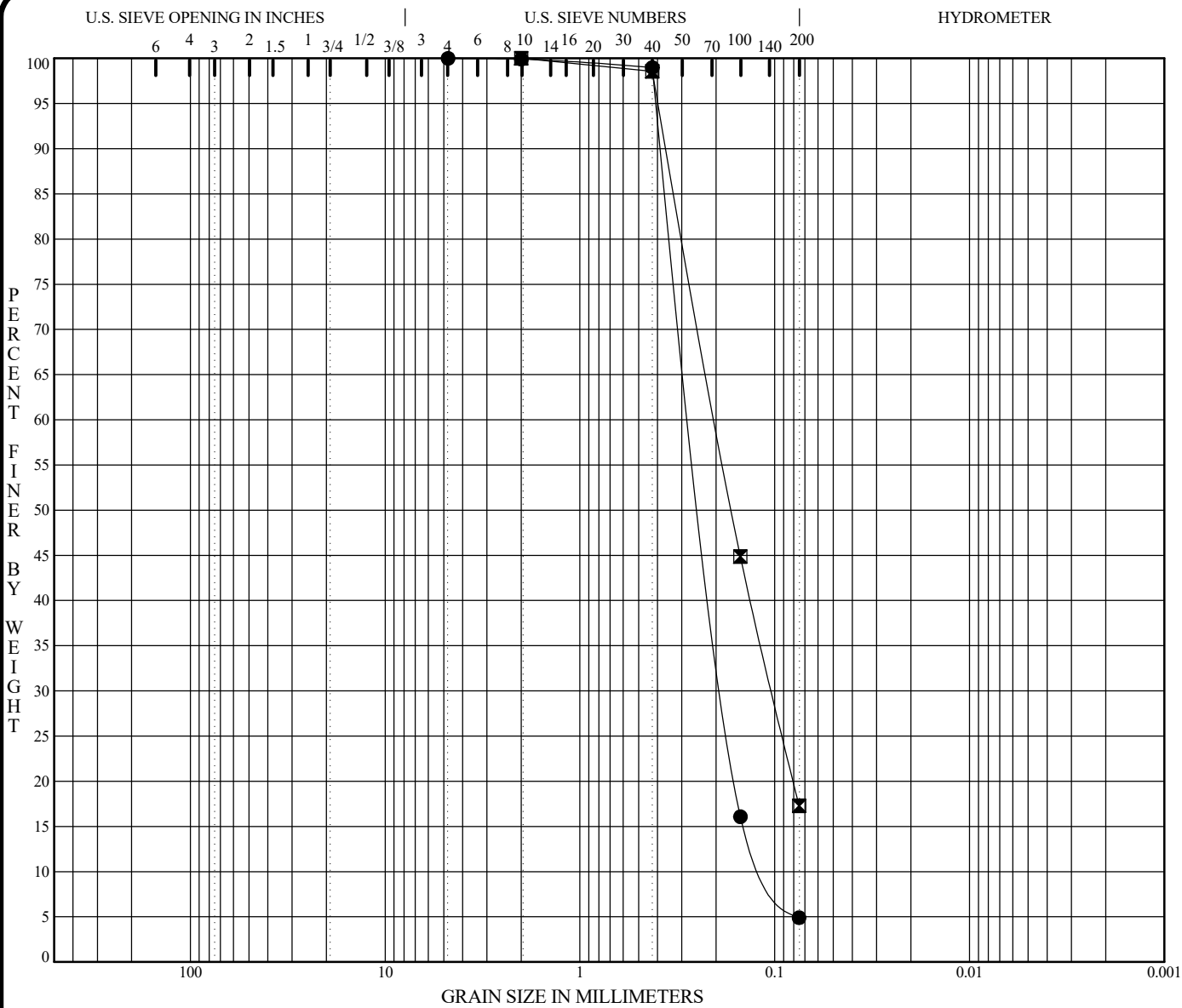
AET No: 12-20786N

Log of Boring No. N-2 (p. 2 of 2)

Project: Proposed Replacement Bridge (B-13-876); CTH N over Hannerville Creek; Tn Dunkirk; Dane County

DEPTH IN FEET	ELEV. FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS					
								WC	qp	LL	PL	%-#200	
36		SAND, fine to medium grained, brown, waterbearing, loose to medium dense (SP) <i>(continued)</i>		20	W	SS	12						
37													
38													
39													
40		SAND, fine to medium grained, brown, waterbearing, loose to medium dense (SP) <i>(continued)</i>		9	W	SS	22						
41													
42													
43	777.6												
44		SILTY SAND, fine grained, brown, waterbearing, medium dense (SM)		24	W	SS	15						
45													
46													
47													
48	772.6	SAND WITH SILT, fine to medium grained, brown, waterbearing, medium dense to dense (SP-SM)		17	W	SS	17						
49													
50													
51													
52		SAND WITH SILT, fine to medium grained, brown, waterbearing, medium dense to dense (SP-SM)		35	W	SS	16						
53													
54													
55													
56		Gravelly SAND, fine to coarse grained, brown, waterbearing, medium dense (SP)		26	W	SS	9						
57													
58	762.6												
59													
60		SILTY SAND with gravel, fine grained, brown, waterbearing, very dense (SM)		67	W	SS	10						
61													
62	757.6												
63													
64		End of boring at 66.5 feet											
65													
66	754.1												

AET_CORP W-ELEV 12-20786N.GPJ AET+CPT+WELL.GDT 3/26/20



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

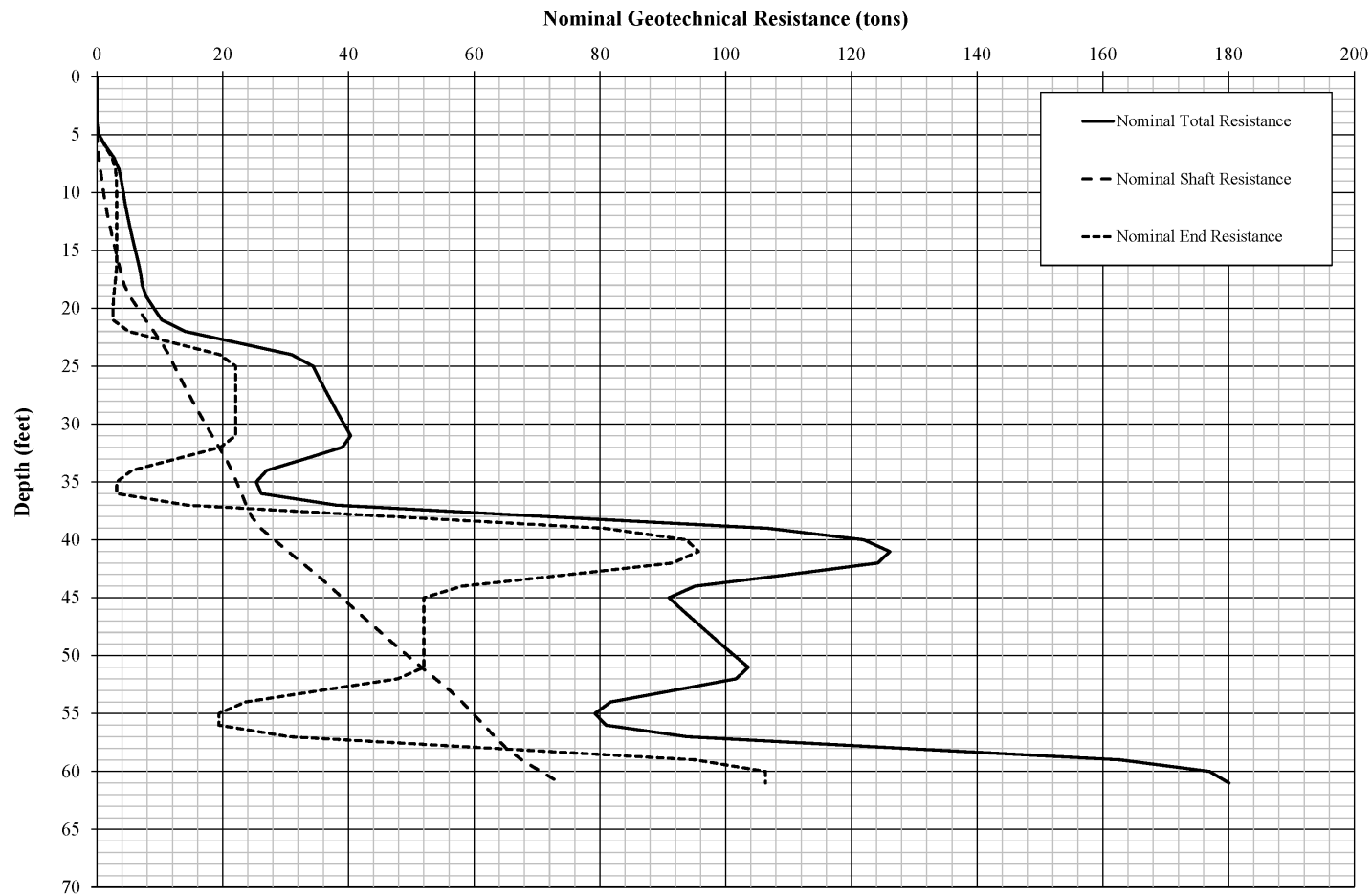
Specimen Identification	Classification	MC%	LL	PL	PI	Cc	Cu
● N-1 40.5'	Sand, fine grained (SP)					1.19	2.5
⊠ N-2 25.5'	Silty sand, fine grained (SM)						

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● N-1 40.5'	4.75	0.26	0.179	0.1029	0.0	95.1	4.9	
⊠ N-2 25.5'	2.00	0.20	0.103		0.0	82.7	17.3	

PROJECT **Proposed Replacement Bridge (B-13-876); CTH N over Hannerville Creek; Tn Dunkirk; Dane County** AET JOB NO. **12-20786N**
 DATE **3/11/20**



GRADATION CURVES



Notes

1. The resistances shown are based on a 10.75-inch-diameter CIP pile and the subsurface conditions we encountered in boring N-1.
2. The resistances shown are nominal and based on our static analyses.
3. The depths shown are from the existing surface elevation at boring N-1 (elevation 820.2 feet).

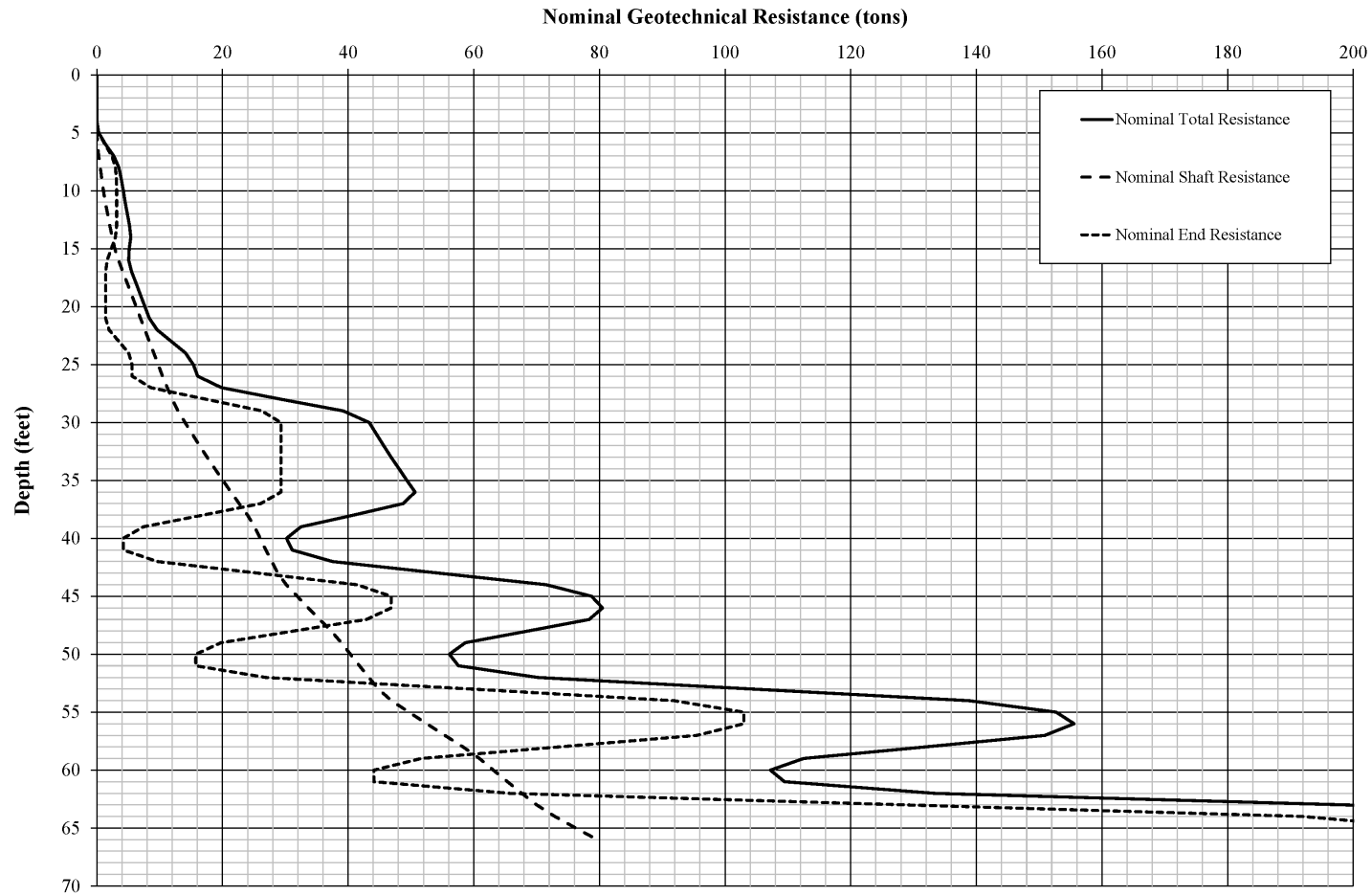


Report of Geotechnical Exploration
 Proposed Replacement Bridge (B-13-876)
 CTH N over Hannerville Creek
 Town of Dunkirk
 Dane County

Figure 2 – *APILE* Results (Boring N-1, 10.75-inch CIP pile)

Date: March 25, 2020

AET Project No.: 12-20786N



Notes

1. The resistances shown are based on a 10.75-inch-diameter CIP pile and the subsurface conditions we encountered in boring N-2.
2. The resistances shown are nominal and based on our static analyses.
3. The depths shown are from the existing surface elevation at boring N-2 (elevation 820.6 feet).



Report of Geotechnical Exploration
 Proposed Replacement Bridge (B-13-876)
 CTH N over Hannerville Creek
 Town of Dunkirk
 Dane County

Figure 3 – *APILE* Results (Boring N-2, 10.75-inch CIP pile)

Date: March 25, 2020

AET Project No.: 12-20786N

Report of Geotechnical Exploration

Proposed Replacement Bridge (B-13-876); CTH N over Hannerville Creek

Town of Dunkirk; Dane County

March 25, 2020

AET Project No. 12-20786N

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Appendix B

AET Project No. 12-20786N

Geotechnical Report Limitations and Guidelines for Use

Appendix B

Geotechnical Report Limitations and Guidelines for Use

AET Project No. 12-20786N

B.1 REFERENCE

This appendix provides information to help you manage your risks relating to subsurface problems which are caused by construction delays, cost overruns, claims, and disputes. This information was developed and provided by GBA¹, of which we are a member firm.

B.2 RISK MANAGEMENT INFORMATION

B.2.1 Geotechnical Services are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared solely for the client. No one except you should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. And no one, not even you, should apply the report for any purpose or project except the one originally contemplated.

B.2.2 Read the Full Report

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

B.2.3 A Geotechnical Engineering Report is Based on A Unique Set of Project-Specific Factors

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typically, factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,
- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, always inform your geotechnical engineer of project changes, even minor ones, and request an assessment of their impact. Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.

B.2.4 Subsurface Conditions Can Change

A geotechnical engineering report is based on conditions that existed at the time the study was performed. Do not rely on a geotechnical engineering report whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. Always contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

¹ Geoprofessional Business Association, 15800 Crabbs Branch Way, Suite 300, Rockville, MD 20855
Telephone: 301/565-2733: www.geoprofessional.org

Appendix B

Geotechnical Report Limitations and Guidelines for Use

AET Project No. 12-20786N

B.2.5 Most Geotechnical Findings Are Professional Opinions

Site exploration identified subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ, sometimes significantly, from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

B.2.6 A Report's Recommendations Are Not Final

Do not over-rely on the construction recommendations included in your report. Those recommendations are not final, because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations only by observing actual subsurface conditions revealed during construction. The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's recommendations if that engineer does not perform construction observation.

B.2.7 A Geotechnical Engineering Report Is Subject to Misinterpretation

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

B.2.8 Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should never be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, but recognizes that separating logs from the report can elevate risk.

B.2.9 Give Contractors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, but preface it with a clearly written letter of transmittal. In the letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. Be sure contractors have sufficient time to perform additional study. Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

B.2.10 Read Responsibility Provisions Closely

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their report. Sometimes labeled "limitations" many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. Read these provisions closely. Ask questions. Your geotechnical engineer should respond fully and frankly.

B.2.11 Geoenvironmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform a geoenvironmental study differ significantly from those used to perform a geotechnical study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Unanticipated environmental problems have led to numerous project failures. If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. Do not rely on an environmental report prepared for someone else.



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- ENVIRONMENTAL
- GEOTECHNICAL
- MATERIALS
- FORENSICS

REPORT OF GEOTECHNICAL EXPLORATION

Proposed Replacement Bridge (B-13-875)

CTH J over Elvers Creek

Town of Vermont

Dane County

AET Project No. 12-20786J

Date:

March 27, 2020

Prepared for:

Jewell Associates Engineers, Inc.

560 Sunrise Drive

Spring Green, Wisconsin 53588





March 27, 2020

Mr. Robert Hanold, P.E.
Jewell Associates Engineers, Inc.
560 Sunrise Drive
Spring Green, Wisconsin 53588

RE: Report of Geotechnical Exploration
Proposed Replacement Bridge (B-13-875)
CTH J over Elvers Creek
Town of Vermont
Dane County
AET Project No. 12-20786J

Dear Mr. Hanold:

We are pleased to present the results of our subsurface exploration program and geotechnical review for your CTH J bridge project in Dane County. These services were performed according to our proposal to you dated August 23, 2019.

We are submitting an electronic (PDF) version of this geotechnical report to you. Unless you request otherwise, we will not submit any printed copies of this report to you.

We have enjoyed working with you on this phase of the project. Please contact us if you have questions about this report or require further assistance.

Sincerely,

American Engineering Testing, Inc.

A handwritten signature in blue ink, appearing to read 'Benjamin B. Mattson', with a long horizontal flourish extending to the right.

Benjamin B. Mattson, P.E.
Senior Geotechnical Engineer

Report of Geotechnical Exploration

Proposed Replacement Bridge (B-13-875); CTH J over Elvers Creek
Town of Vermont; Dane County
March 27, 2020
AET Project No. 12-20786J

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Signature Page

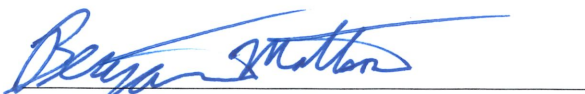
Prepared for:

Mr. Robert Hanold, P.E.
Jewell Associates Engineers, Inc.
560 Sunrise Drive
Spring Green, Wisconsin 53588

Prepared by:

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Report Authored By:



Benjamin Mattson, P.E.
Senior Geotechnical Engineer

Review Conducted By:



Blake Snyder, P.E.
Geotechnical Engineer



Report of Geotechnical Exploration

Proposed Replacement Bridge (B-13-875); CTH J over Elvers Creek
Town of Vermont; Dane County
March 27, 2020
AET Project No. 12-20786J

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7.0 PAVEMENT DESIGN PARAMETERS..... 6
8.0 LIMITATIONS..... 6

APPENDIX A Geotechnical Field Exploration and Testing
 Boring Log Notes
 Unified Soil Classification System
 Figure 1 – Boring Locations
 Subsurface Boring Logs
 Gradation Curves
 Figure 2 – *APILE* Results (Boring J-1, 10.75-inch CIP pile)
 Figure 3 – *APILE* Results (Boring J-2, 10.75-inch CIP pile)
 Figure 4 – *APILE* Results (Boring J-1, HP10x42 pile)
 Figure 5 – *APILE* Results (Boring J-2, HP10x42 pile)

APPENDIX B Geotechnical Report Limitations and Guidelines for Use

Report of Geotechnical Exploration

Proposed Replacement Bridge (B-13-875); CTH J over Elvers Creek
Town of Vermont; Dane County
March 27, 2020
AET Project No. 12-20786J

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1.0 INTRODUCTION

Jewell Associates Engineers, Inc. (Jewell) is providing planning and engineering services for a replacement bridge at the CTH J crossing of Elvers Creek in the Town of Vermont in Dane County. To assist with planning and design, Jewell authorized American Engineering Testing, Inc. (AET) to conduct a subsurface exploration program at the site and perform a geotechnical engineering review for the project. This report presents the results of the above services and provides our engineering recommendations based on this data.

2.0 SCOPE OF SERVICE

AET's services were performed according to our proposal to Jewell dated August 23, 2019. The authorized scope consists of:

- Two standard penetration test borings to depths of 35 feet or refusal.
- Visual/manual classification and limited laboratory testing of the recovered soil samples.
- Geotechnical engineering review based on the gained data and preparation of this report.

These services are intended for geotechnical purposes. The scope is not intended to explore for the presence or extent of environmental contamination.

3.0 PROJECT INFORMATION

The existing structure (B-13-178) at the site is a single-span steel deck girder bridge with an overall length of 41.6 feet and a clear width of 26.1 feet. The new structure (B-13-875) will be a single-span prestressed girder bridge with an overall length of 60.42 feet, a clear roadway width of 30.0 feet, and a skew of 30 degrees. The bridge will be supported on sill-type (A1) abutments and driven steel piles. Final grades at the abutments will be similar to existing grades.

The above-stated information represents our understanding of the project and is an integral part of our engineering review. It is important we be contacted if there are changes from that described so we can evaluate if modifications to our recommendations are appropriate.

4.0 SUBSURFACE EXPLORATION AND LABORATORY TESTING**4.1 Subsurface Exploration**

Our subsurface exploration program for this project consisted of drilling two borings with standard penetration testing (SPT) and sampling on March 10, 2020. Jewell selected the number (two),

Report of Geotechnical Exploration

Proposed Replacement Bridge (B-13-875); CTH J over Elvers Creek
Town of Vermont; Dane County
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planned depths (35 feet), and planned locations of the borings, which are shown on Figure 1 in Appendix A. The boring depths were each increased by 5 feet to reach a suitable end bearing stratum for the scenario in which H-piles are used.

Prior to drilling, we contacted Wisconsin Diggers Hotline to locate public underground utilities at the site. We drilled the borings using 3¼-inch-inside-diameter hollow-stem augers and mud rotary methods. Refer to Appendix A for details on the drilling and sampling methods, the classification methods, and the water level measurement details.

The boring logs are found in Appendix A and contain information concerning soil layering, geologic description, moisture condition, and USCS classifications. Relative density or consistency is also noted for the natural soils, which are based on the standard penetration resistance (N-value).

4.2 Laboratory Testing

We performed two sieve analysis tests on the recovered soil samples. The test results are included in Appendix A.

5.0 SITE CONDITIONS

5.1 Subsurface Soils

Below the surficial bituminous pavement, we encountered fill to depths of about 12 and 11 feet in borings J-1 and J-2, respectively, consisting of sand with varying silt and gravel contents; silt; and silty clay. We encountered apparent cobbles within the fill at a depth of about 7 feet in J-2.

The underlying soils were fine alluvium and coarse alluvium. The fine alluvium was lean clay with organics from about 12 to 13 feet in J-1, and sandy silt from 11 to 12 feet in J-2. The coarse alluvium was loose to dense gravelly sand with silt, gravelly silty sand, sand with silt and gravel, and silty gravel with sand.

Beginning at a depth of about 34.5 feet in each boring, we encountered weathered sandstone with the fabric of very dense silty sand. Each boring was terminated in sandstone at a depth of about 40 feet.

Report of Geotechnical Exploration

Proposed Replacement Bridge (B-13-875); CTH J over Elvers Creek
Town of Vermont; Dane County
March 27, 2020
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5.2 Groundwater

We measured groundwater at depths of 12.0 and 11.8 feet in borings J-1 and J-2, respectively, at the time of drilling, corresponding to elevations of 816.8 and 817.2 feet. The surface of Elvers Creek was at an elevation of about 815.8 feet at the bridge; the creek was about 1 foot deep. Groundwater levels will fluctuate due to varying creek levels, along with seasonal and annual rainfall and snow melt amounts, as well as other factors.

6.0 FOUNDATION RECOMMENDATIONS

6.1 Shallow Foundations

In our judgment, a shallow foundation system is not suitable at this site due to the lack of a sufficient bearing stratum for footings within a reasonable depth. Thus, we anticipate a deep foundation system consisting of driven piles will be used for the project.

6.2 Deep Foundations

Based on our review of the borings and our analyses, it is our opinion driven concrete-filled steel pipe (CIP) piles or steel H-piles could be used for supporting the new structure. In this report, we provide recommendations for 10.75-inch-diameter CIP piles (0.365-inch shell thickness) and HP10x42 piles. However, if CIP piles are selected, the design must consider that the minimum required pile length (for scour considerations) might be difficult to reach due to relatively shallow dense soils; further, our analyses indicated the shell thickness should be at least 0.365 inches (for 10.75-inch-diameter CIP piles) to reduce the risk of overstressing the piles during driving.

We performed our pile capacity (resistance) calculations using the commercially-available software *APILE* (Ensoft, Inc.). We selected the analysis option that the program terms the “FHWA” method. This method uses the Nordlund method (granular soils) for estimating the pile resistances. The granular soil internal friction angle used was based on its relationship to standard penetration test values as presented by Peck, Hanson, and Thornburn (1974), with the N-values being corrected for the influence of the effective overburden pressure and drill rig hammer efficiency. The undrained shear strengths we selected were based on correlations with the SPT and q_p data.

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CIP Pile Recommendations

The results of the *APILE* analysis we performed for CIP piles are provided in graphical form as Figures 2 and 3 in Appendix A. The pile depths and elevations listed in Table 1 are those estimated to utilize the full factored axial compression resistance (P_r) of 75 tons for 10.75-inch-diameter CIP piles (0.365-inch shell thickness), corresponding to a nominal Required Driving Resistance ($R_{n_{dyn}}$) of 150 tons, respectively, assuming a ϕ_{dyn} of 0.5.

Table 1: Estimated CIP Pile Depths and Toe Elevations

Boring No.	Pile Section	Surface Elevation (feet)	Estimated Pile Toe Depth (feet)	Estimated Pile Toe Elevation (feet)
J-1	10.75-inch CIP	828.8	~22 to 25	~806.8 to 803.8
J-2	10.75-inch CIP	829.0	~20 to 27	~809.0 to 802.0

The actual pile lengths could be shorter or longer than estimated. The pile depths must be confirmed by an appropriate field test program. If the pile resistances determined during construction are to be estimated on the basis of hammer blows and penetration only, then we recommend a Resistance Factor (ϕ_{dyn}) of 0.50 be used with the FHWA-modified Gates Formula, per the WisDOT Bridge Manual. For example, if an $R_{n_{dyn}}$ of 150 tons per 10.75-inch-diameter CIP pile is obtained using the FHWA-modified Gates Formula with a Resistance Factor of 0.50, the resulting factored geotechnical axial compression resistance would then be 75 tons.

The bidding contractors must submit their own pre-construction Wave Equation Analyses based on their proposed hammers, to determine that the piles can be driven to the nominal Required Driving Resistance without damaging the selected piles. We performed preliminary driveability analyses using the commercially-available software GRLWEAP 2010. Our analyses showed that 10.75-inch-diameter CIP piles (0.365-inch shell thickness) could probably be driven to the listed depths using a Delmag D16-32 hammer without exceeding the maximum allowable yield stresses, but a reduced fuel setting would probably be necessary. Additionally, as stated previously, a minimum shell thickness of 0.365 inches should be selected.

H-Pile Recommendations

The results of the *APILE* analysis we performed for HP10x42 piles are provided in graphical form as Figures 4 and 5 in Appendix A. The pile depths and elevations listed in Table 2 are those estimated to utilize the full factored axial compression resistance (P_r) of 90 tons for HP10x42 piles, corresponding to a nominal Required Driving Resistance ($R_{n_{dyn}}$) of 180 tons, respectively,

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assuming a ϕ_{dyn} of 0.5. Larger H-pile sections, such as HP10x57, would probably attain their maximum resistance values at similar depths and elevations as shown in Table 3.

Table 2: Estimated H-pile Depths and Toe Elevations

Boring No.	Pile Section	Surface Elevation (feet)	Estimated Pile Toe Depth (feet)	Estimated Pile Toe Elevation (feet)
J-1	HP10x42	828.8	~40	~788.8
J-2	HP10x42	829.0	~40	~789.0

The actual pile lengths could be shorter or longer than estimated. The pile depths must be confirmed by an appropriate field test program. If the pile resistances determined during construction are to be estimated on the basis of hammer blows and penetration only, then we recommend a Resistance Factor (ϕ_{dyn}) of 0.50 be used with the FHWA-modified Gates Formula, per the WisDOT Bridge Manual. For example, if an R_{ndyn} of 180 tons per HP10x42 pile is obtained using the FHWA-modified Gates Formula with a Resistance Factor of 0.50, the resulting factored geotechnical axial compression resistance would then be 90 tons.

The bidding contractors must submit their own pre-construction Wave Equation Analyses based on their proposed hammers, to determine that the piles can be driven to the nominal Required Driving Resistance without damaging the selected piles. We performed preliminary driveability analyses using the commercially-available software GRLWEAP 2010. Our analyses showed that HP10x42 piles could probably be driven to the listed depths using a Delmag D16-32 hammer without exceeding the maximum allowable yield stresses.

Additional Comments (CIP piles and H-piles)

It is our opinion no downdrag (DD) loads will be applied to the piles.

The piles should have a minimum spacing of 2.5 pile diameters. For piles designed and installed per the above recommendations, we estimate the piles will each experience less than ½ inch of total geotechnical settlement (not including elastic compression of the pile due to structural loading) after loading is applied, with differential settlements about half this amount.

We recommend using pile points to reduce the risk of pile damage when driving through dense granular soils, and to reduce the risk of damage if cobbles and/or boulders are encountered.

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We anticipate that driven piles at the site might be subject to some minor pile setup, where the nominal geotechnical compression resistance could increase after pile driving, as vibration ceases and excess pore water pressure dissipates from that which was induced during pile driving. If the required nominal resistance is not achieved at the estimated depths, the pile driving should cease and the piles should be restruck after a period of at least 18 hours. If the required nominal resistance is not achieved through soil setup during restrrike, then the piles should be driven deeper, or additional piles may have to be driven.

We also anticipate the site soils will undergo densification as pile driving proceeds, particularly with CIP piles; the contractor should be prepared for the pile driving advancement rate to slow as construction proceeds. Per the Bridge Manual, our recommendations in this section do not consider densification or pile setup.

7.0 PAVEMENT DESIGN PARAMETERS

Based on the soils we encountered in our borings, we recommend using the parameters shown in Table 3 for designing the approach pavement.

Table 3: Recommended Pavement Design Parameters

Design Parameter	Value
Frost Index	F-3
Wisconsin Design Group Index	7
Soil Support Value (SSV)	4.8
Modulus of Subgrade Reaction	225 pci

8.0 LIMITATIONS

Within the limitations of scope, budget, and schedule, we have endeavored to provide our services according to generally accepted geotechnical engineering practices at this time and location. Other than this, no warranty, express or implied, is intended. Important information regarding risk management and proper use of this report is given in Appendix B entitled “Geotechnical Report Limitations and Guidelines for Use.”

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Appendix A

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Geotechnical Field Exploration and Testing

Boring Log Notes

Unified Soil Classification System

Figure 1 – Boring Locations

Subsurface Boring Logs

Gradation Curves

Figure 2 – *APILE* Results (Boring J-1, 10.75-inch CIP pile)

Figure 3 – *APILE* Results (Boring J-2, 10.75-inch CIP pile)

Figure 4 – *APILE* Results (Boring J-1, HP10x42 pile)

Figure 5 – *APILE* Results (Boring J-2, HP10x42 pile)

Appendix A
Geotechnical Field Exploration and Testing
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A.1 FIELD EXPLORATION

The subsurface conditions at the site were explored by drilling two geotechnical borings. The boring locations are shown on Figure 1.

A.2 SAMPLING METHODS

A.2.1 Split-Spoon Samples (SS)

Standard penetration (split-spoon) samples were collected in general accordance with ASTM: D1586. The ASTM test method consists of driving a 2-inch O.D. split-barrel sampler into the in-situ soil with a 140-pound hammer dropped from a height of 30 inches. After an initial set of 6 inches, the number of hammer blows to drive the sampler the next 12 inches is known as the standard penetration resistance or N-value.

In the past, standard penetration N-value tests were performed using a rope and cathead for the lift and drop system. The energy transferred to the split-spoon sampler was typically limited to about 60% of its potential energy due to the friction inherent in that system. That converted energy provided what is known as an N_{60} blow count.

Most drill rigs today incorporate an automatic hammer lift and drop system, which has higher energy efficiency and subsequently results in lower N-values than the traditional N_{60} values. We use a Pile Driving Analyzer (PDA) and an instrumented rod to measure the actual energy generated by the automatic hammer system. The drill rig (AET rig number 57) we used for this project has a measured energy transfer ratio of 89%. The N-values reported on the boring logs and the corresponding relative densities and consistencies are from the field blow counts and have not been adjusted to N_{60} values.

A.2.2 Disturbed Samples (DS)/Spin-up Samples (SU)

Sample types described as “DS” or “SU” on the boring logs are disturbed samples, which are taken from the flights of the auger. Because the auger disturbs the samples, possible soil layering and contact depths should be considered approximate.

A.2.3 Sampling Limitations

Unless actually observed in a sample, contacts between soil layers are estimated based on the spacing of samples and the action of drilling tools. Cobbles, boulders, and other large objects generally cannot be recovered from test borings, and they may be present in the ground even if they are not noted on the boring logs.

Determining the thickness of “topsoil” layers is usually limited, due to variations in topsoil definition, sample recovery, and other factors. Visual-manual description often relies on color for determination, and transitioning changes can account for significant variation in thickness judgment. Accordingly, the topsoil thickness presented on the logs should not be the sole basis for calculating topsoil stripping depths and volumes. If more accurate information is needed relating to thickness and topsoil quality definition, alternate methods of sample retrieval and testing should be employed.

A.3 CLASSIFICATION METHODS

Soil descriptions shown on the boring logs are based on the Unified Soil Classification System (USCS). The USCS is described in ASTM: D2487 and D2488. Where laboratory classification tests (sieve analysis or Atterberg Limits) have been performed, accurate classifications per ASTM: D2487 are possible. Otherwise, soil descriptions shown on the boring logs are visual-manual judgments. Charts are attached which provide information on the USCS, the descriptive terminology, and the symbols used on the boring logs.

The boring logs include descriptions of apparent geology. The geologic depositional origin of each soil layer is interpreted primarily by observation of the soil samples, which can be limited. Observations of the surrounding topography, vegetation, and development can sometimes aid this judgment.

Appendix A
Geotechnical Field Exploration and Testing
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A.4 WATER LEVEL MEASUREMENTS

The ground water level measurements are shown at the bottom of the boring logs. The following information appears under “Water Level Measurements” on the logs:

- Date and Time of measurement
- Sampled Depth: lowest depth of soil sampling at the time of measurement
- Casing Depth: depth to bottom of casing or hollow-stem auger at time of measurement
- Cave-in Depth: depth at which measuring tape stops in the borehole
- Water Level: depth in the borehole where free water is encountered
- Drilling Fluid Level: same as Water Level, except that the liquid in the borehole is drilling fluid

The true location of the water table at the boring locations may be different than the water levels measured in the boreholes. This is possible because there are several factors that can affect the water level measurements in the borehole. Some of these factors include: permeability of each soil layer in profile, presence of perched water, amount of time between water level readings, presence of drilling fluid, weather conditions, and use of borehole casing.

A.5 TEST STANDARD LIMITATIONS

Field and laboratory testing is done in general conformance with the described procedures. Compliance with any other standards referenced within the specified standard is neither inferred nor implied.

A.6 SAMPLE STORAGE

Unless notified to do otherwise, we routinely retain representative samples of the soils recovered from the borings for a period of 30 days.

BORING LOG NOTES

DRILLING AND SAMPLING SYMBOLS

Symbol	Definition
B, H, N:	Size of flush-joint casing
CA:	Crew Assistant (initials)
CAS:	Pipe casing, number indicates nominal diameter in inches
CC:	Crew Chief (initials)
COT:	Clean-out tube
DC:	Drive casing; number indicates diameter in inches
DM:	Drilling mud or bentonite slurry
DR:	Driller (initials)
DS:	Disturbed sample from auger flights
FA:	Flight auger; number indicates outside diameter in inches
HA:	Hand auger; number indicates outside diameter
HSA:	Hollow stem auger; number indicates inside diameter in inches
LG:	Field logger (initials)
MC:	Column used to describe moisture condition of samples and for the ground water level symbols
N (BPF):	Standard penetration resistance (N-value) in blows per foot (see notes)
NQ:	NQ wireline core barrel
PQ:	PQ wireline core barrel
RD:	Rotary drilling with fluid and roller or drag bit
REC:	In split-spoon (see notes) and thin-walled tube sampling, the recovered length (in inches) of sample. In rock coring, the length of core recovered (expressed as percent of the total core run). Zero indicates no sample recovered.
REV:	Revert drilling fluid
SS:	Standard split-spoon sampler (steel; 1d" is inside diameter; 2" outside diameter); unless indicated otherwise
SU	Spin-up sample from hollow stem auger
TW:	Thin-walled tube; number indicates inside diameter in inches
WASH:	Sample of material obtained by screening returning rotary drilling fluid or by which has collected inside the borehole after "falling" through drilling fluid
WH:	Sampler advanced by static weight of drill rod and 140-pound hammer
WR:	Sampler advanced by static weight of drill rod
94mm:	94 millimeter wireline core barrel
▼:	Water level directly measured in boring
▽:	Estimated water level based solely on sample appearance

TEST SYMBOLS

Symbol	Definition
CONS:	One-dimensional consolidation test
DEN:	Dry density, pcf
DST:	Direct shear test
E:	Pressuremeter Modulus, tsf
HYD:	Hydrometer analysis
LL:	Liquid Limit, %
LP:	Pressuremeter Limit Pressure, tsf
OC:	Organic Content, %
PERM:	Coefficient of permeability (K) test; F - Field; L - Laboratory
PL:	Plastic Limit, %
q _p :	Pocket Penetrometer strength, tsf (<u>approximate</u>)
q _c :	Static cone bearing pressure, tsf
q _u :	Unconfined compressive strength, psf
R:	Electrical Resistivity, ohm-cms
RQD:	Rock Quality Designation of Rock Core, in percent (aggregate length of core pieces 4" or more in length as a percent of total core run)
SA:	Sieve analysis
TRX:	Triaxial compression test
VSR:	Vane shear strength, remolded (field), psf
VSU:	Vane shear strength, undisturbed (field), psf
WC:	Water content, as percent of dry weight
%-200:	Percent of material finer than #200 sieve

STANDARD PENETRATION TEST NOTES

The standard penetration test consists of driving the sampler with a 140 pound hammer and counting the number of blows applied in each of three 6" increments of penetration. If the sampler is driven less than 18" (usually in highly resistant material), permitted in ASTM: D1586, the blows for each complete 6" increment and for each partial increment is on the boring log. For partial increments, the number of blows is shown to the nearest 0.1' below the slash.

The length of sample recovered, as shown on the "REC" column, may be greater than the distance indicated in the N column. The disparity is because the N-value is recorded below the initial 6" set (unless partial penetration defined in ASTM: D1586 is encountered) whereas the length of sample recovered is for the entire sampler drive (which may even extend more than 18").

UNIFIED SOIL CLASSIFICATION SYSTEM
ASTM Designations: D 2487, D2488

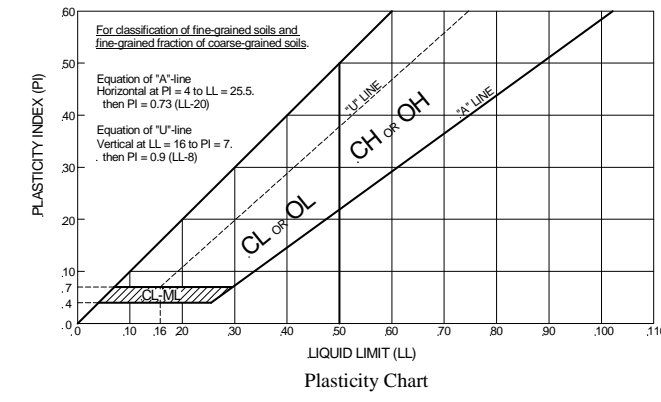
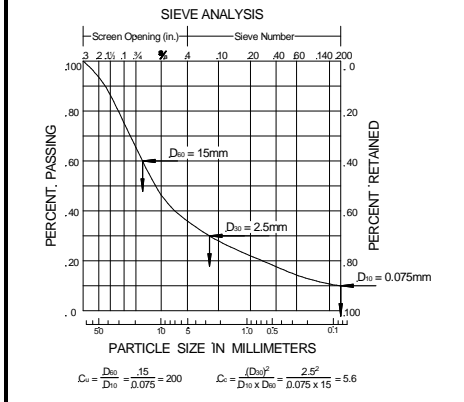
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Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests ^A				Soil Classification		
				Group Symbol	Group Name ^B	
Coarse-Grained Soils More than 50% retained on No. 200 sieve	Gravels More than 50% coarse fraction retained on No. 4 sieve	Clean Gravels Less than 5% fines ^C	$Cu \geq 4$ and $1 < Cc < 3$ ^E	GW	Well graded gravel ^F	
		Gravels with Fines more than 12% fines ^C	Fines classify as ML or MH	GM	Silty gravel ^{F,G,H}	
			Fines classify as CL or CH	GC	Clayey gravel ^{F,G,H}	
	Sands 50% or more of coarse fraction passes No. 4 sieve	Clean Sands Less than 5% fines ^D	$Cu \geq 6$ and $1 < Cc < 3$ ^E	SW	Well-graded sand ^I	
		Sands with Fines more than 12% fines ^D	Fines classify as ML or MH	SM	Silty sand ^{G,H,I}	
			Fines classify as CL or CH	SC	Clayey sand ^{G,H,I}	
Fine-Grained Soils 50% or more passes the No. 200 sieve (see Plasticity Chart below)	Silts and Clays Liquid limit less than 50	inorganic	PI > 7 and plots on or above "A" line ^J	CL	Lean clay ^{K,L,M}	
			PI < 4 or plots below "A" line ^J	ML	Silt ^{K,L,M}	
		organic	Liquid limit – oven dried < 0.75 Liquid limit – not dried	OL	Organic clay ^{K,L,M,N}	
			organic	Liquid limit – oven dried < 0.75 Liquid limit – not dried		Organic silt ^{K,L,M,O}
				PI plots on or above "A" line	CH	Fat clay ^{K,L,M}
	Silts and Clays Liquid limit 50 or more	inorganic	PI plots below "A" line	MH	Elastic silt ^{K,L,M}	
			organic	Liquid limit – oven dried < 0.75 Liquid limit – not dried	OH	Organic clay ^{K,L,M,P}
		organic		Liquid limit – oven dried < 0.75 Liquid limit – not dried		Organic silt ^{K,L,M,Q}
				PI plots below "A" line		
		Highly organic soil	Primarily organic matter, dark in color, and organic in odor	PT	Peat ^R	

Notes
^ABased on the material passing the 3-in (75-mm) sieve.
^BIf field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.
^CGravels with 5 to 12% fines require dual symbols:
 GW-GM well-graded gravel with silt
 GW-GC well-graded gravel with clay
 GP-GM poorly graded gravel with silt
 GP-GC poorly graded gravel with clay
^DSands with 5 to 12% fines require dual symbols:
 SW-SM well-graded sand with silt
 SW-SC well-graded sand with clay
 SP-SM poorly graded sand with silt
 SP-SC poorly graded sand with clay

^E $Cu = D_{60} / D_{10}$, $Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$
^FIf soil contains $\geq 15\%$ sand, add "with sand" to group name.
^GIf fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.
^HIf fines are organic, add "with organic fines" to group name.
^IIf soil contains $\geq 15\%$ gravel, add "with gravel" to group name.
^JIf Atterberg limits plot is hatched area, soils is a CL-ML silty clay.
^KIf soil contains 15 to 29% plus No. 200 add "with sand" or "with gravel", whichever is predominant.
^LIf soil contains $\geq 30\%$ plus No. 200, predominantly sand, add "sandy" to group name.
^MIf soil contains $\geq 30\%$ plus No. 200, predominantly gravel, add "gravelly" to group name.
^NPI ≥ 4 and plots on or above "A" line.
^OPI < 4 or plots below "A" line.
^PPI plots on or above "A" line.
^QPI plots below "A" line.
^RFiber Content description shown below.



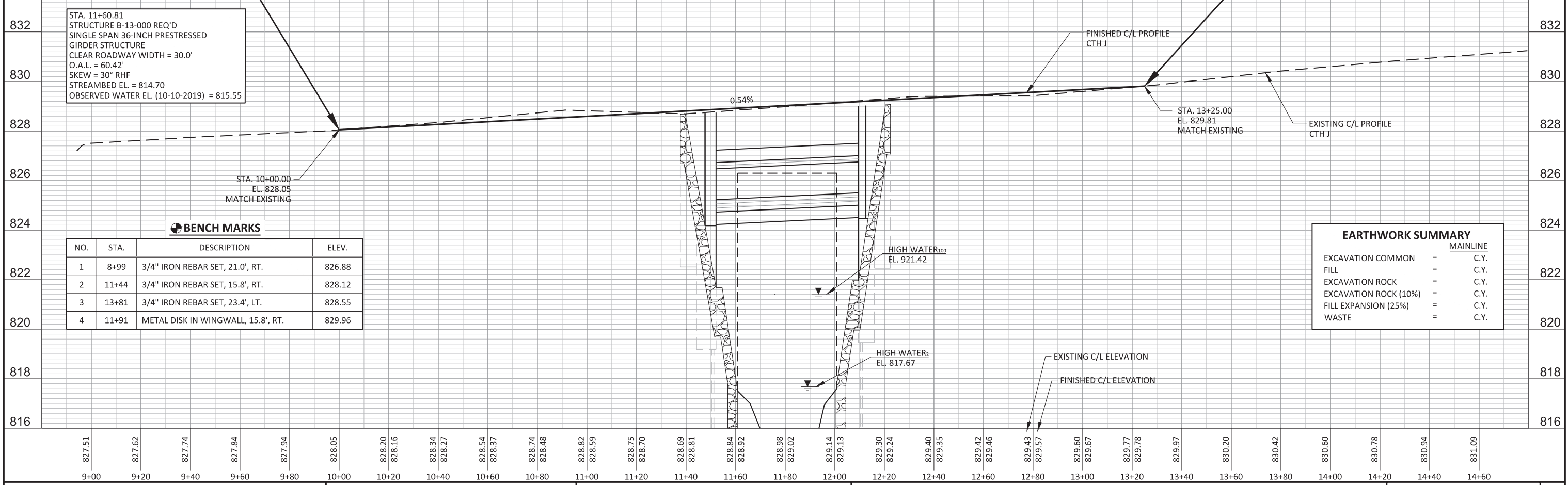
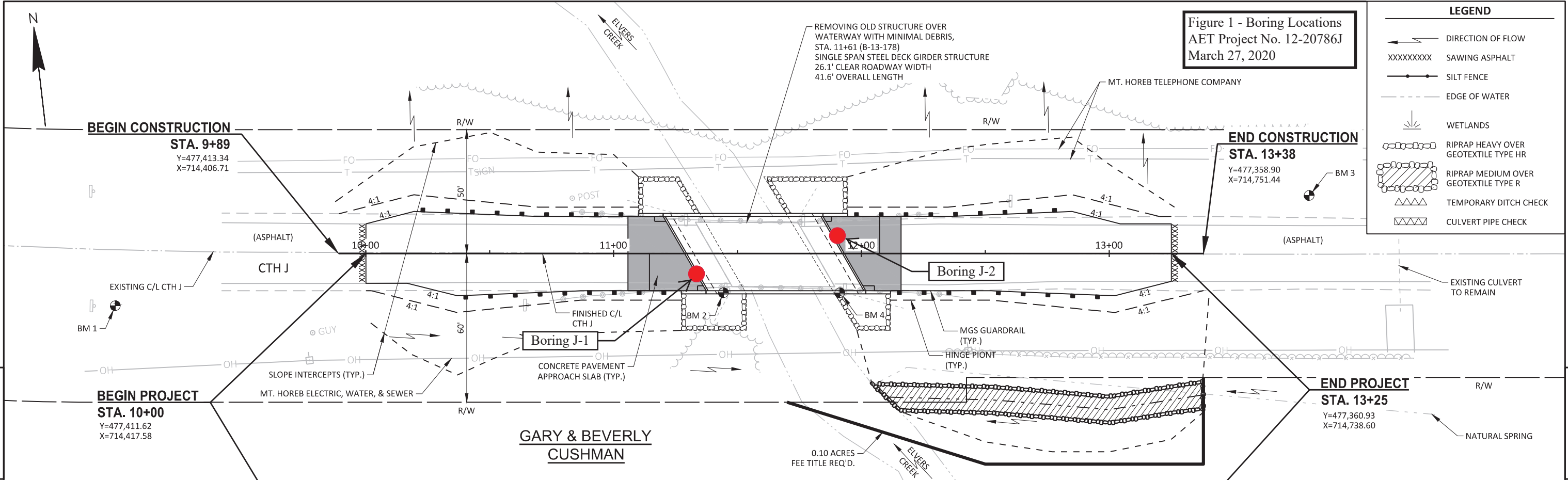
ADDITIONAL TERMINOLOGY NOTES USED BY AET FOR SOIL IDENTIFICATION AND DESCRIPTION

Grain Size		Gravel Percentages		Consistency of Plastic Soils		Relative Density of Non-Plastic Soils	
Term	Particle Size	Term	Percent	Term	N-Value, BPF	Term	N-Value, BPF
Boulders	Over 12"	A Little Gravel	3% - 14%	Very Soft	less than 2	Very Loose	0 - 4
Cobbles	3" to 12"	With Gravel	15% - 29%	Soft	2 - 4	Loose	5 - 10
Gravel	#4 sieve to 3"	Gravelly	30% - 50%	Firm	5 - 8	Medium Dense	11 - 30
Sand	#200 to #4 sieve			Stiff	9 - 15	Dense	31 - 50
Fines (silt & clay)	Pass #200 sieve			Very Stiff	16 - 30	Very Dense	Greater than 50
				Hard	Greater than 30		
Moisture/Frost Condition (MC Column)		Layering Notes		Peat Description		Organic Description (if no lab tests)	
D (Dry):	Absence of moisture, dusty, dry to touch.	Laminations: Layers less than 1/2" thick of differing material or color.		Term	Fiber Content (Visual Estimate)	Soils are described as <i>organic</i> , if soil is not peat and is judged to have sufficient organic fines content to influence the Liquid Limit properties. <i>Slightly organic</i> used for borderline cases.	
M (Moist):	Damp, although free water not visible. Soil may still have a high water content (over "optimum").					Root Inclusions	
W (Wet/ Waterbearing):	Free water visible intended to describe non-plastic soils. Waterbearing usually relates to sands and sand with silt.	Lenses: Pockets or layers greater than 1/2" thick of differing material or color.		Fibric Peat:	Greater than 67%	With roots:	Judged to have sufficient quantity of roots to influence the soil properties.
F (Frozen):	Soil frozen			Hemic Peat:	33 - 67%	Trace roots:	Small roots present, but not judged to be in sufficient quantity to significantly affect soil properties.
				Sapric Peat:	Less than 33%		

Figure 1 - Boring Locations
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LEGEND

- DIRECTION OF FLOW
- XXXXXXX SAWING ASPHALT
- SILT FENCE
- - - EDGE OF WATER
- WETLANDS
- RIPRAP HEAVY OVER GEOTEXTILE TYPE HR
- ▨ RIPRAP MEDIUM OVER GEOTEXTILE TYPE R
- △△△ TEMPORARY DITCH CHECK
- ▽▽▽ CULVERT PIPE CHECK



FILE NAME: S:\PROJECTS\D73010 DANE CO - CTH J BRIDGE B-13-0178\ SHEETPLAN\ PLAN & PROFILE SHEETS\D73010_PLAN & PROFILE.DWG PLOT DATE: 1/7/2020 4:26:16 PM PLOT BY: JONAH DRAKE PLOT SCALE: 1" = 1' LAYOUT: LAYOUT1



SUBSURFACE BORING LOG

AET No: **12-20786J**

Log of Boring No. **J-1 (p. 1 of 2)**

Project: **Proposed Replacement Bridge (B-13-875); CTH J over Elvers Creek; Town of Vermont; Dane County**

DEPTH IN FEET	ELEV. FEET	Surface Elevation 828.8 MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS											
								WC	qp	LL	PL	%-#200							
	828.0	9.0 inches of bituminous pavement	PAVEMENT																
1	827.5	FILL (5 inches, recycled asphalt), gravelly silty sand, fine to coarse grained, dark brown, frozen (SM)	FILL		F	DS													
2	826.8	FILL, gravelly silty sand, fine to coarse grained, brown, frozen (SM)		10	M	SS	10												
4	824.3	FILL, silty sand with gravel, fine to medium grained, brown and dark brown, moist (SM)		8	M	SS	18												
5		FILL, silt, gray and dark gray, moist (ML)																	
6																			
7	821.8	FILL, silty clay, gray (CL-ML)		4	M	SS	9												
8																			
9	819.3	FILL, sand with silt, fine to medium grained, brown, moist (SP-SM)		5	M	SS	15												
10																			
11																			
12	816.8	LEAN CLAY with organics, dark gray (OL)	FINE ALLUVIUM																
13	815.8	Gravelly SAND WITH SILT, fine to coarse grained, brown, waterbearing, loose to dense (SP-SM)	COARSE ALLUVIUM	10	W	SS	15												
14																			
15				28	W	SS	14												
16																			
17																			
18																			
19																			
20																			
21				38	W	SS	10												
22																			
23																			
24																			

AET_CORP W-ELEV 12-20786J.GPJ AET+CPT+WELL.GDT 3/26/20

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS							NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL	
0-14.5'	3.25" HSA								
14.5-39.5'	RD w/DM	3/10/20	1415	16.5'	14.5'	14.8'	None	13.0'	
		3/10/20	1430	16.5'	14.5'	14.8'	None	12.0'	
BORING COMPLETED: 3/10/20									
DR: MD LG: SZ Rig: 57									



SUBSURFACE BORING LOG

AET No: 12-20786J

Log of Boring No. J-1 (p. 2 of 2)

Project: Proposed Replacement Bridge (B-13-875); CTH J over Elvers Creek; Town of Vermont; Dane County

DEPTH IN FEET	ELEV. FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS										
								WC	qp	LL	PL	%-#200						
26		Gravelly SAND WITH SILT, fine to coarse grained, brown, waterbearing, loose to dense (SP-SM) <i>(continued)</i>	COARSE ALLUVIUM <i>(continued)</i>	44	W	SS	18						7					
27																		
28																		
29																		
30				42	W	SS	17											
31																		
32																		
33																		
34	794.3																	
35		Weathered sandstone: SILTY SAND, fine grained, light olive gray to yellow, waterbearing, very dense (SM)	WEATHERED SANDSTONE	68	W	SS	18											
36																		
37																		
38																		
39																		
40	788.8			50/.5	W	SS	4											
		<i>End of boring at 40.0 feet</i>																

AET_CORP W-ELEV 12-20786J.GPJ AET+CPT+WELL.GDT 3/26/20



SUBSURFACE BORING LOG

AET No: **12-20786J**

Log of Boring No. **J-2 (p. 1 of 2)**

Project: **Proposed Replacement Bridge (B-13-875); CTH J over Elvers Creek; Town of Vermont; Dane County**

DEPTH IN FEET	ELEV. FEET	Surface Elevation 829.0 MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS											
								WC	qp	LL	PL	%-#200							
1	828.1	11.0 inches of bituminous pavement	PAVEMENT																
2	827.7	FILL (5 inches, recycled asphalt), silty sand with gravel, fine to coarse grained, black, frozen (SM)	FILL		F	DS													
3	827.0	FILL, silty sand with gravel, fine to medium grained, yellowish brown and dark brown, frozen (SM)		6	M	SS	15												
4	825.5	FILL, silty sand, fine grained, a little gravel, brown, moist, with lenses of brown lean clay (SM)		2	M	SS	18												
5		FILL, silt, dark brown and dark grayish brown, moist (ML)		50/4	M	SS	6												
6		-- apparent cobbles at 7.5 feet																	
7																			
8	819.5	FILL, sand with silt, fine grained, brown, moist (SP-SM)		3	M	SS	18												
9	818.0	Sandy SILT, a little gravel, dark brown, moist to waterbearing (ML)	FINE ALLUVIUM																
10	817.0	Gravelly SILTY SAND, fine to coarse grained, brown, waterbearing, loose to medium dense (SM)	COARSE ALLUVIUM	7	W	SS	6												
11																			
12				15	W	SS	10												
13																			
14	811.0	Gravelly SAND WITH SILT, fine to coarse grained, brown, waterbearing, dense (SP-SM)		45	W	SS	16												9
15																			
16																			
17																			
18																			
19	806.0	SAND WITH SILT and gravel, fine to medium grained, brown, waterbearing, dense (SP-SM)																	
20																			
21																			
22																			
23																			
24																			

AET_CORP-W-ELEV 12-20786J.GPJ AET+CPT+WELL.GDT 3/26/20

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS							NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL	
0-14.5'	3.25" HSA								
14.5-39.5'	RD w/DM	3/10/20	1134	16.5'	14.5'	15.0'	None	13.1'	
		3/10/20	1144	16.5'	14.5'	14.8'	None	11.8'	
BORING COMPLETED: 3/10/20									
DR: MD LG: SZ Rig: 57									



SUBSURFACE BORING LOG

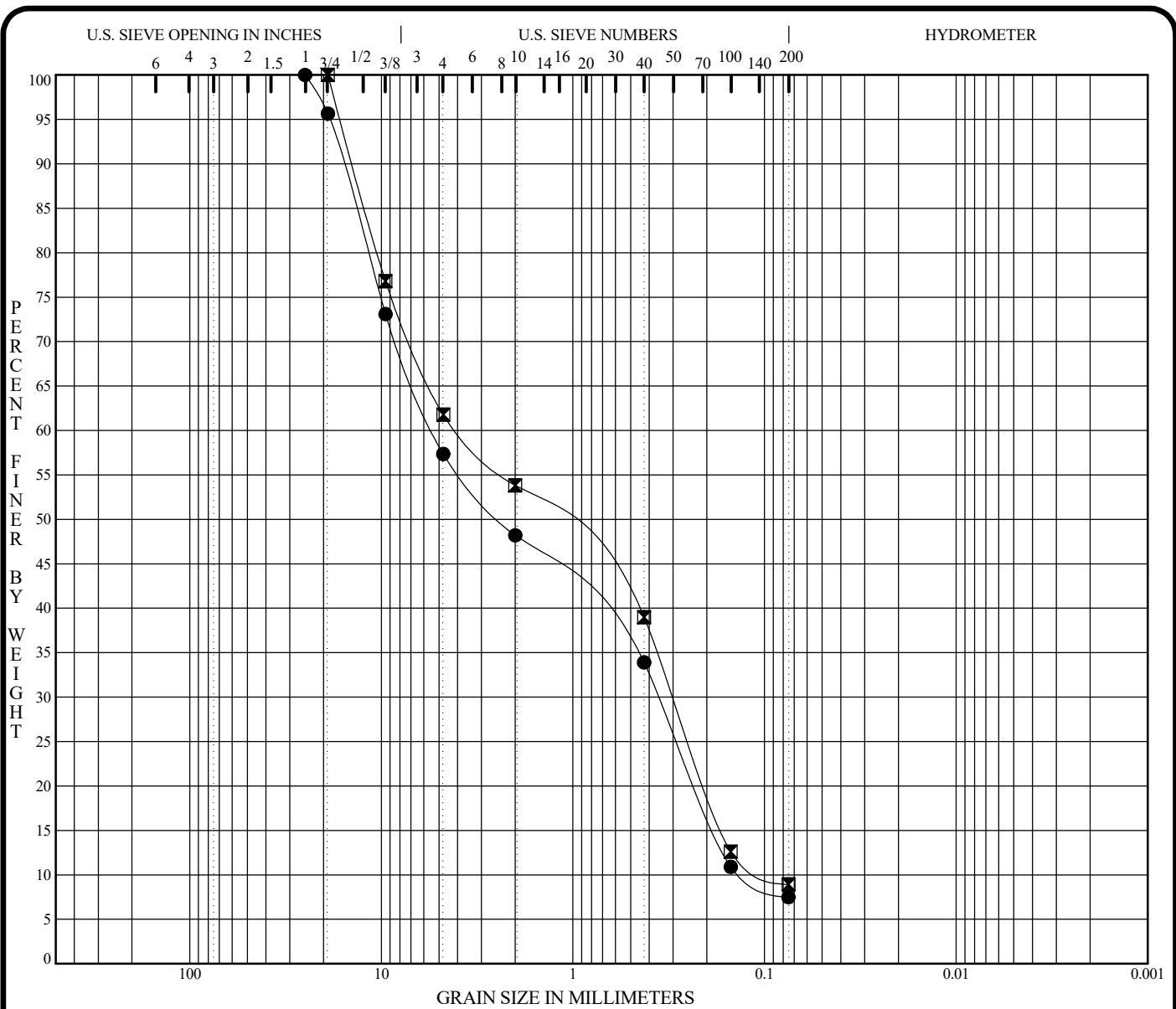
AET No: 12-20786J

Log of Boring No. J-2 (p. 2 of 2)

Project: Proposed Replacement Bridge (B-13-875); CTH J over Elvers Creek; Town of Vermont; Dane County

DEPTH IN FEET	ELEV. FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS					
								WC	qp	LL	PL	%-#200	
26	801.0	SAND WITH SILT and gravel, fine to medium grained, brown, waterbearing, dense (SP-SM) <i>(continued)</i>		38	W	SS	15						
27													
28	794.5	SILTY GRAVEL with sand, brown, waterbearing, dense (GM)		50	W	SS	13						
29													
30													
31													
32													
33													
34													
35	789.5	Weathered sandstone: SILTY SAND with gravel (sandstone pieces), fine grained, olive, waterbearing, very dense (SM)	WEATHERED SANDSTONE	50/5	W	SS	9						
36													
37													
38													
39													
	789.2	Weathered sandstone: SILTY SAND, fine grained, yellow, waterbearing, very dense (SM) <i>End of boring at 39.8 feet</i>		50/3	W	SS	2						

AET_CORP W-ELEV 12-20786J.GPJ AET+CPT+WELL.GDT 3/26/20



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

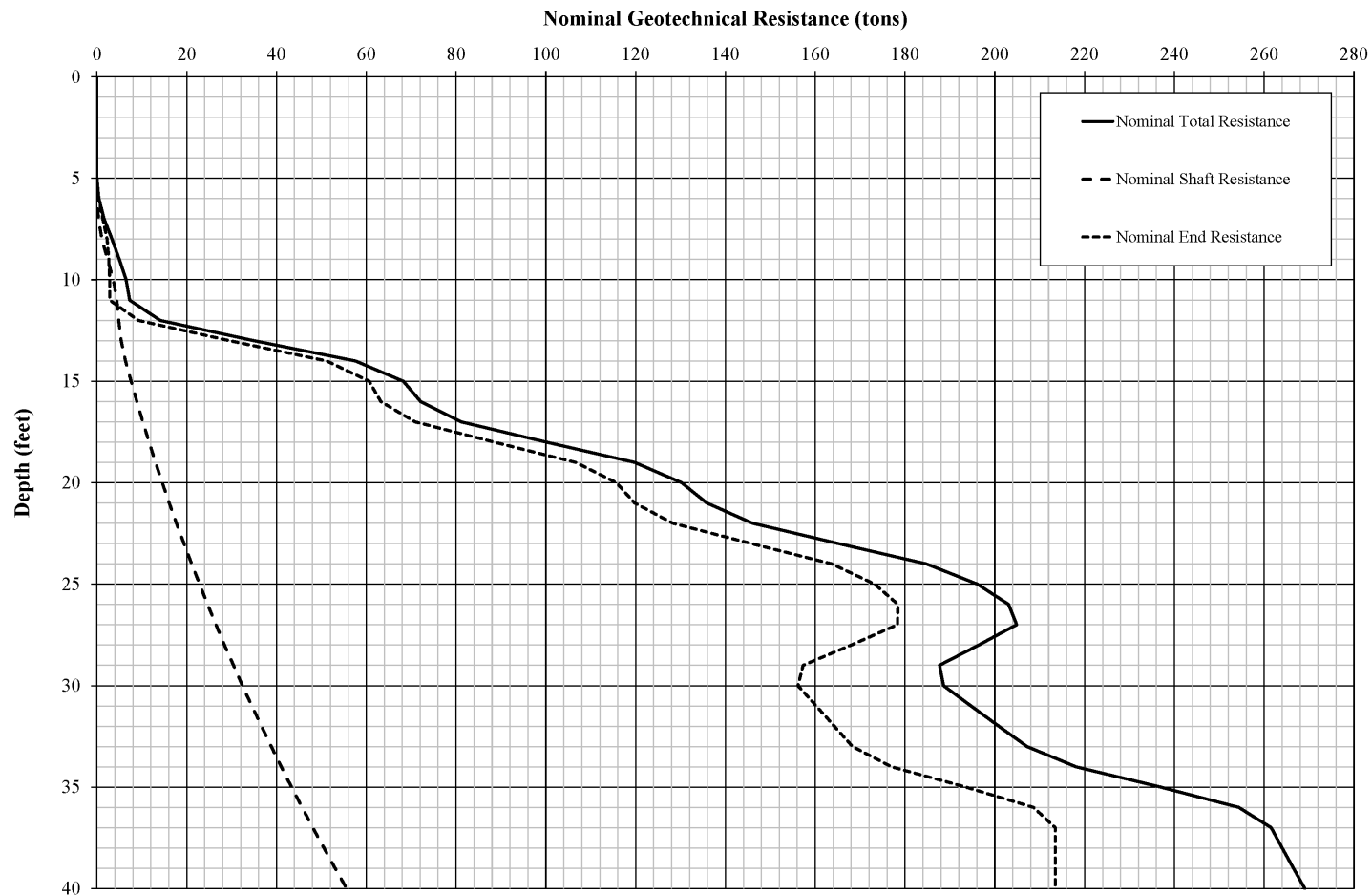
Specimen Identification	Classification	MC%	LL	PL	PI	Cc	Cu
● J-1 25.5'	Gravelly sand with silt, fine to coarse grained (SP-SM)					0.19	42.7
☒ J-2 20.5'	Gravelly sand with silt, fine to coarse grained (SP-SM)					0.25	42.7

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● J-1 25.5'	25.00	5.34	0.356	0.1250	42.6	49.9	7.5	
☒ J-2 20.5'	19.00	3.92	0.298	0.0917	38.2	52.8	8.9	

PROJECT **Proposed Replacement Bridge (B-13-875); CTH J over Elvers Creek; Town of Vermont; Dane County** AET JOB NO. 12-20786J
 DATE 3/10/20



GRADATION CURVES



Notes

1. The resistances shown are based on a 10.75-inch-diameter CIP pile and the subsurface conditions we encountered in boring J-1.
2. The resistances shown are nominal and based on our static analyses.
3. The depths shown are from the existing surface elevation at boring J-1 (elevation 828.8 feet).

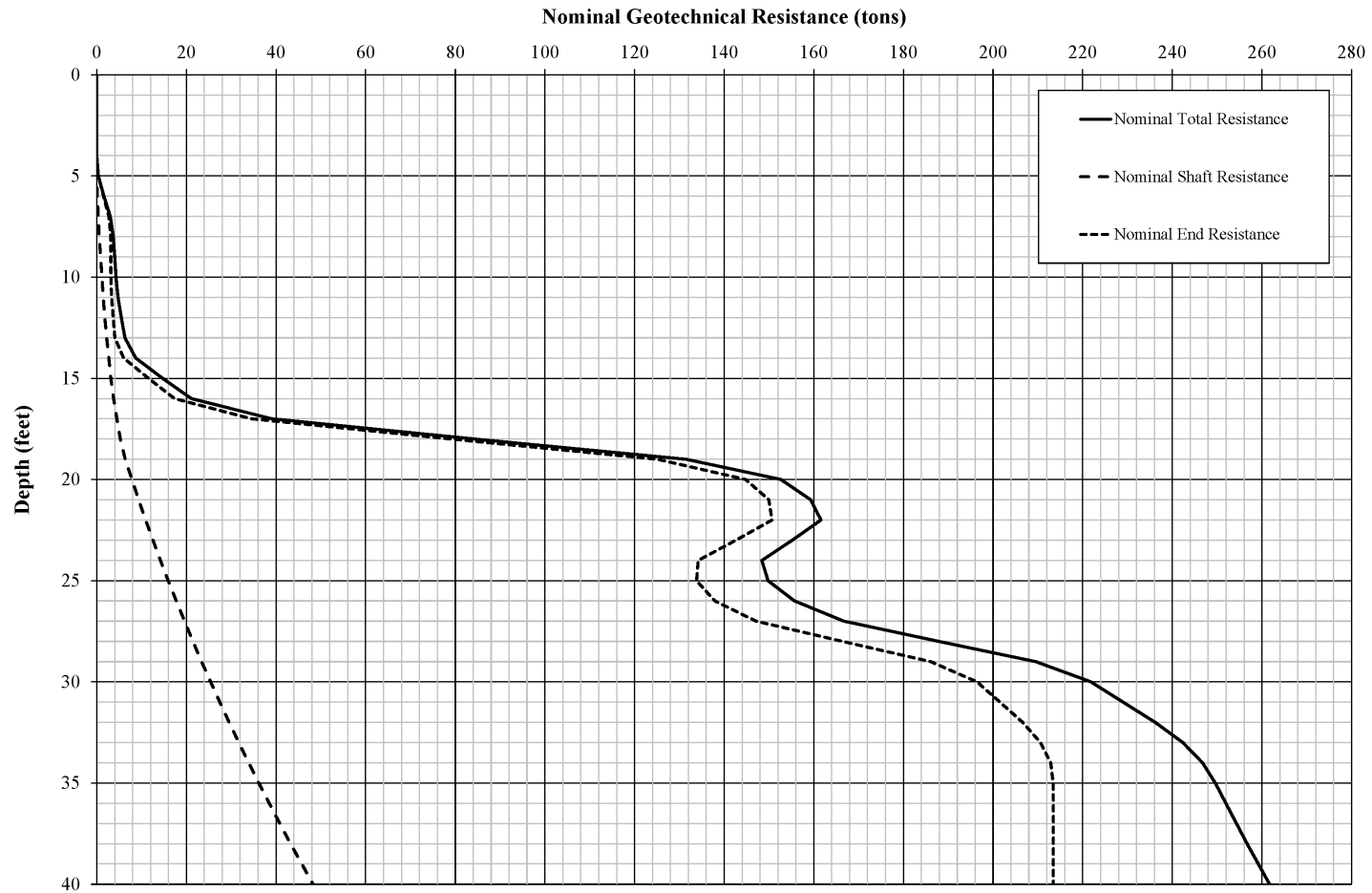


Report of Geotechnical Exploration
 Proposed Replacement Bridge (B-13-875)
 CTH J over Elvers Creek
 Town of Vermont
 Dane County

Figure 2 – *APILE* Results (Boring J-1, 10.75-inch CIP pile)

Date: March 27, 2020

AET Project No.: 12-20786J



Notes

1. The resistances shown are based on a 10.75-inch-diameter CIP pile and the subsurface conditions we encountered in boring J-2.
2. The resistances shown are nominal and based on our static analyses.
3. The depths shown are from the existing surface elevation at boring J-2 (elevation 829.0 feet).

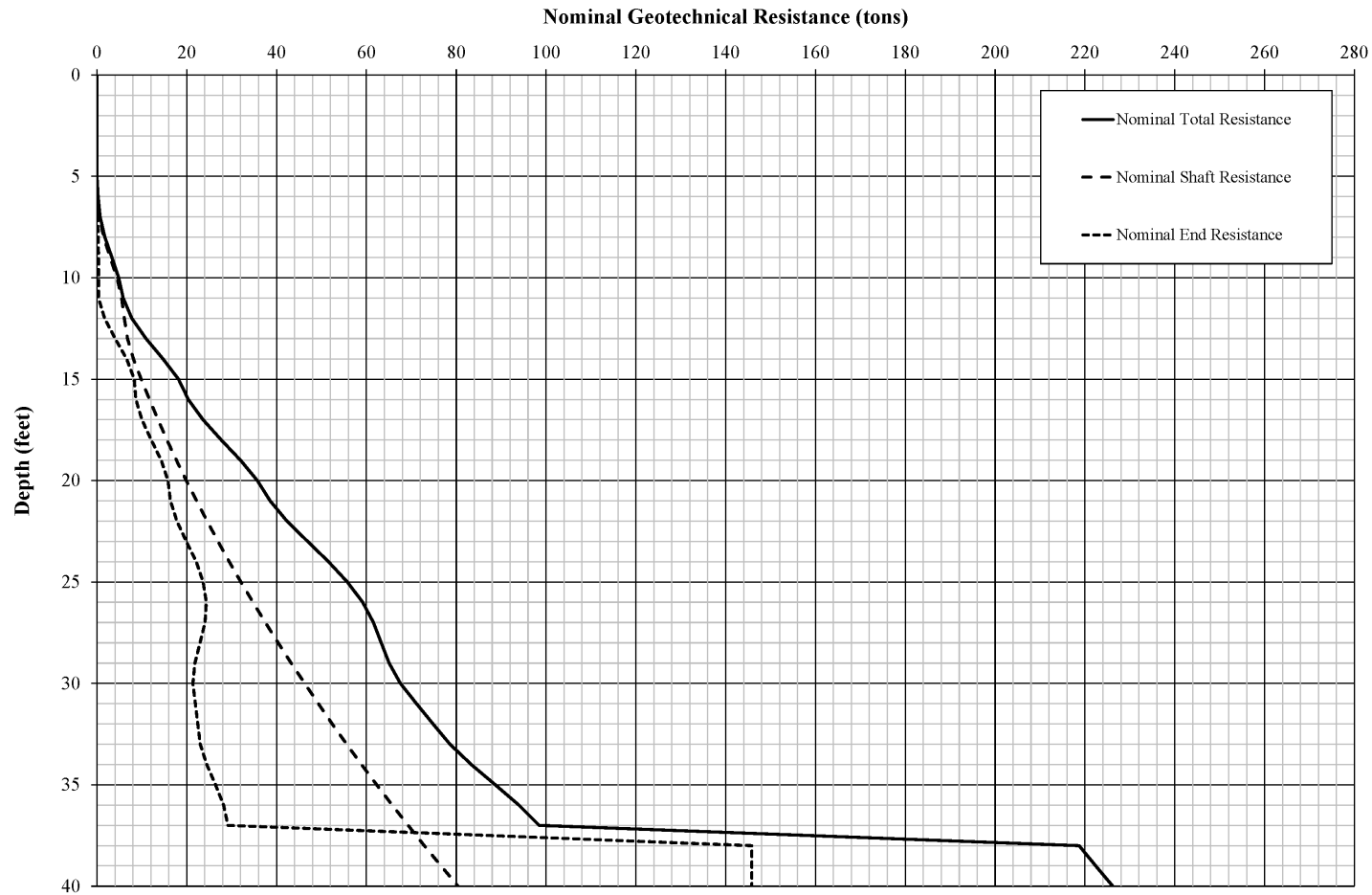


Report of Geotechnical Exploration
 Proposed Replacement Bridge (B-13-875)
 CTH J over Elvers Creek
 Town of Vermont
 Dane County

Figure 3 – *APILE* Results (Boring J-2, 10.75-inch CIP pile)

Date: March 27, 2020

AET Project No.: 12-20786J



Notes

1. The resistances shown are based on an HP10x42 pile and the subsurface conditions we encountered in boring J-1.
2. The resistances shown are nominal and based on our static analyses.
3. The depths shown are from the existing surface elevation at boring J-1 (elevation 828.8 feet).

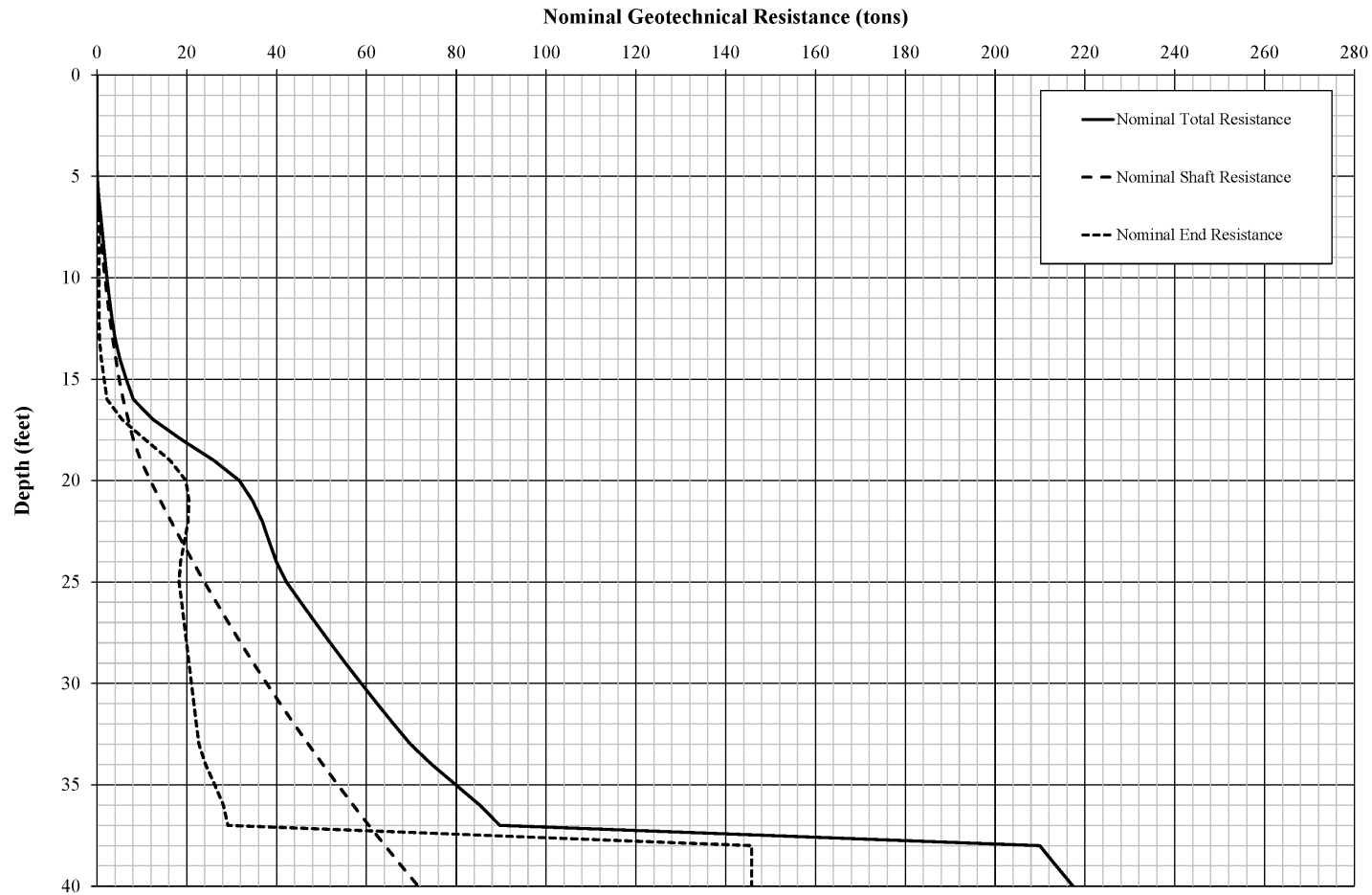


Report of Geotechnical Exploration
 Proposed Replacement Bridge (B-13-875)
 CTH J over Elvers Creek
 Town of Vermont
 Dane County

Figure 4 – *APILE* Results (Boring J-1, HP10x42 pile)

Date: March 27, 2020

AET Project No.: 12-20786J



Notes

1. The resistances shown are based on an HP10x42 pile and the subsurface conditions we encountered in boring J-2.
2. The resistances shown are nominal and based on our static analyses.
3. The depths shown are from the existing surface elevation at boring J-2 (elevation 829.0 feet).



Report of Geotechnical Exploration
 Proposed Replacement Bridge (B-13-875)
 CTH J over Elvers Creek
 Town of Vermont
 Dane County

Figure 5 – *APILE* Results (Boring J-2, HP10x42 pile)

Date: March 27, 2020

AET Project No.: 12-20786J

Report of Geotechnical Exploration

Proposed Replacement Bridge (B-13-875); CTH J over Elvers Creek

Town of Vermont; Dane County

March 27, 2020

AET Project No. 12-20786J

AMERICAN
ENGINEERING
TESTING, INC.

Appendix B

AET Project No. 12-20786J

Geotechnical Report Limitations and Guidelines for Use

Appendix B

Geotechnical Report Limitations and Guidelines for Use

AET Project No. 12-20786J

B.1 REFERENCE

This appendix provides information to help you manage your risks relating to subsurface problems which are caused by construction delays, cost overruns, claims, and disputes. This information was developed and provided by GBA¹, of which we are a member firm.

B.2 RISK MANAGEMENT INFORMATION

B.2.1 Geotechnical Services are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared solely for the client. No one except you should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. And no one, not even you, should apply the report for any purpose or project except the one originally contemplated.

B.2.2 Read the Full Report

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

B.2.3 A Geotechnical Engineering Report is Based on A Unique Set of Project-Specific Factors

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typically, factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,
- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, always inform your geotechnical engineer of project changes, even minor ones, and request an assessment of their impact. Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.

B.2.4 Subsurface Conditions Can Change

A geotechnical engineering report is based on conditions that existed at the time the study was performed. Do not rely on a geotechnical engineering report whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. Always contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

¹ Geoprofessional Business Association, 15800 Crabbs Branch Way, Suite 300, Rockville, MD 20855
Telephone: 301/565-2733: www.geoprofessional.org

Appendix B

Geotechnical Report Limitations and Guidelines for Use

AET Project No. 12-20786J

B.2.5 Most Geotechnical Findings Are Professional Opinions

Site exploration identified subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ, sometimes significantly, from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

B.2.6 A Report's Recommendations Are Not Final

Do not over-rely on the construction recommendations included in your report. Those recommendations are not final, because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations only by observing actual subsurface conditions revealed during construction. The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's recommendations if that engineer does not perform construction observation.

B.2.7 A Geotechnical Engineering Report Is Subject to Misinterpretation

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

B.2.8 Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should never be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, but recognizes that separating logs from the report can elevate risk.

B.2.9 Give Contractors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, but preface it with a clearly written letter of transmittal. In the letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. Be sure contractors have sufficient time to perform additional study. Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

B.2.10 Read Responsibility Provisions Closely

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their report. Sometimes labeled "limitations" many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. Read these provisions closely. Ask questions. Your geotechnical engineer should respond fully and frankly.

B.2.11 Geoenvironmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform a geoenvironmental study differ significantly from those used to perform a geotechnical study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Unanticipated environmental problems have led to numerous project failures. If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. Do not rely on an environmental report prepared for someone else.

Name of Bidding Firm: _____

SECTION 00 41 13

BID FORM

BID NO. 3200471

**PROJECT: COUNTY TRUNK HIGHWAYS N & J BRIDGE REPLACEMENTS
CTH N - SECTION 35 (TOWN OF DUNKIRK) & CTH J - SECTION 28
(TOWN OF VERMONT)**

**TO: DANE COUNTY DEPARTMENT OF PUBLIC WORKS, HIGHWAY &
TRANSPORTATION PROJECT MANAGER
1919 ALLIANT ENERGY CENTER WAY
MADISON, WISCONSIN 53713**

**NOTE: WISCONSIN STATUTE 77.54 (9M) ALLOWS FOR NO SALES & USE TAX ON
THE PURCHASE OF MATERIALS FOR COUNTY PUBLIC WORKS PROJECTS.**

BASE BID - UNIT PRICING:

The Work consists of construction services to demolish & replace two highway bridges. The undersigned, having examined the site where the Work is to be executed and having become familiar with local conditions affecting the cost of the Work and having carefully examined the Drawings and Specifications, all other Construction Documents and Addenda thereto prepared by Dane County Department of Public Works, Highway & Transportation hereby agrees to provide all labor, materials, equipment and services necessary for the complete and satisfactory execution of the entire Work, as specified in the Construction Documents, for the Base Bid unit pricing as follows:

Highway N - Roadway Work:

Bid Item Number	Bid Item Name / Supplemental Description	Quantity	Unit	Unit Price	Total
201.0105	Clearing	3.00	STA		
201.0205	Grubbing	3.00	STA		
204.0165	Removing Guardrail	225.00	LF		
205.0100	Excavation Common	760.00	CY		
208.0100	Borrow	200.00	CY		
213.0100	Finishing Roadway (project) 62213-1900	1.00	EACH		
305.0110	Base Aggregate Dense 3/4-Inch	110.00	TON		
305.0120	Base Aggregate Dense 1 1/4-Inch	1,420.00	TON		
415.0410	Concrete Pavement Approach Slab	122.40	SY		
455.0605	Tack Coat	75.00	GAL		
465.0105	Asphaltic Surface	240.00	TON		

Bid Item Number	Bid Item Name / Supplemental Description	Quantity	Unit	Unit Price	Total
614.2300	MGS Guardrail 3	100.00	LF		
614.2500	MGS Thrie Beam Transition	160.00	LF		
614.2610	MGS Guardrail Terminal EAT	4.00	EACH		
619.1000	Mobilization	0.50	EACH		
624.0100	Water	23.00	MGAL		
625.0500	Salvaged Topsoil	1,770.00	SY		
628.1504	Silt Fence	900.00	LF		
628.1520	Silt Fence Maintenance	1,800.00	LF		
628.1905	Mobilizations Erosion Control	6.00	EACH		
628.1910	Mobilizations Emergency Erosion Control	3.00	EACH		
628.2008	Erosion Mat Urban Class I Type B	1,770.00	SY		
628.7504	Temporary Ditch Checks	60.00	LF		
629.0210	Fertilizer Type B	1.00	CWT		
630.0120	Seeding Mixture No. 20	48.00	LB		
630.0160	Seeding Mixture No. 60	4.00	LB		
630.0200	Seeding Temporary	48.00	LB		
630.0300	Seeding Borrow Pit	2.10	LB		
630.0500	Seed Water	40.00	MGAL		
634.0612	Posts Wood 4x6-Inch X 12-FT	4.00	EACH		
637.2230	Signs Type II Reflective F	12.00	SF		
638.2602	Removing Signs Type II	8.00	EACH		
638.3000	Removing Small Sign Supports	8.00	EACH		
642.5001	Field Office Type B	0.50	EACH		
643.5000	Traffic Control	0.50	EACH		
643.0420	Traffic Control Barricades Type III	1,190.00	DAY		
643.0705	Traffic Control Warning Lights Type A	1,820.00	DAY		
643.0900	Traffic Control Signs	6,300.00	DAY		
646.1020	Marking Line Epoxy 4-Inch	1,568.00	LF		

Bid Item Number	Bid Item Name / Supplemental Description	Quantity	Unit	Unit Price	Total
650.4500	Construction Staking Subgrade	392.00	LF		
650.5000	Construction Staking Base	392.00	LF		
650.6500	Construction Staking Structure Layout (structure) B-13-876	1.00	LS		
650.9910	Construction Staking Supplemental Control (project) 62213-1900	1.00	LS		
650.9920	Construction Staking Slope Stakes	392.00	LF		
690.0150	Sawing Asphalt	44.00	LF		
715.0415	Incentive Strength Concrete Pavement	500.00	DOL	\$1.00	\$500.00

Highway N - Bridge Work:

Bid Item Number	Bid Item Name / Supplemental Description	Quantity	Unit	Unit Price	Total
203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 11+44	1.00	LS		
206.1000	Excavation for Structures Bridges (structure) B-13-876	1.00	LS		
210.1500	Backfill Structure Type A	380.00	TON		
502.0100	Concrete Masonry Bridges	137.00	CY		
502.3200	Protective Surface Treatment	215.00	SY		
503.0128	Prestressed Girder Type I 28-Inch	255.00	LF		
505.0400	Bar Steel Reinforcement HS Structures	4,860.00	LB		
505.0600	Bar Steel Reinforcement HS Coated Structures	13,940.00	LB		
506.2605	Bearing Pads Elastomeric Non-Laminated	10.00	EACH		
506.4000	Steel Diaphragms (structure) B-13-876	4.00	EACH		
513.4061	Railing Tubular Type M (structure) B-13-876	110.00	LF		
516.0500	Rubberized Membrane Waterproofing	14.00	SY		
550.0500	Pile Points	18.00	EACH		
550.2104	Piling CIP Concrete 10 ¾ x 0.25-Inch	945.00	LF		
606.0300	Riprap Heavy	265.00	CY		
612.0406	Pipe Underdrain Wrapped 6-Inch	200.00	LF		
645.0111	Geotextile Type DF Schedule A	110.00	SY		

Bid Item Number	Bid Item Name / Supplemental Description	Quantity	Unit	Unit Price	Total
645.0120	Geotextile Type HR	430.00	SY		
715.0502	Incentive Strength Concrete Structures	822.00	DOL	\$1.00	\$822.00

Bridge N Total: \$ _____
Numeric Price

_____ and ___ /100 Dollars
Written Price

Highway J - Roadway Work:

Bid Item Number	Bid Item Name / Supplemental Description	Quantity	Unit	Unit Price	Total
201.0105	Clearing	2.00	STA		
201.0205	Grubbing	2.00	STA		
204.0165	Removing Guardrail	236.00	LF		
205.0100	Excavation Common	760.00	CY		
213.0100	Finishing Roadway (project) 67256-2000	1.00	EACH		
305.0110	Base Aggregate Dense 3/4-Inch	85.00	TON		
305.0120	Base Aggregate Dense 1 1/4-Inch	1,110.00	TON		
415.0410	Concrete Pavement Approach Slab	154.00	SY		
455.0605	Tack Coat	55.00	GAL		
465.0105	Asphaltic Surface	175.00	TON		
606.0200	Riprap Medium	70.00	CY		
614.2300	MGS Guardrail 3	50.00	LF		
614.2500	MGS Thrie Beam Transition	160.00	LF		
614.2610	MGS Guardrail Terminal EAT	4.00	EACH		
619.1000	Mobilization	0.50	EACH		
624.0100	Water	18.00	MGAL		
625.0500	Salvaged Topsoil	1,390.00	SY		
628.1504	Silt Fence	970.00	LF		
628.1520	Silt Fence Maintenance	1,940.00	LF		

Bid Item Number	Bid Item Name / Supplemental Description	Quantity	Unit	Unit Price	Total
628.1905	Mobilizations Erosion Control	6.00	EACH		
628.1910	Mobilizations Emergency Erosion Control	3.00	EACH		
628.2008	Erosion Mat Urban Class I Type B	1,390.00	SY		
628.7504	Temporary Ditch Checks	24.00	LF		
629.0210	Fertilizer Type B	0.80	CWT		
630.0120	Seeding Mixture No. 20	38.00	LB		
630.0160	Seeding Mixture No. 60	3.00	LB		
630.0200	Seeding Temporary	38.00	LB		
630.0500	Seed Water	35.00	MGAL		
633.5100	Markers ROW	7.00	EACH		
634.0612	Posts Wood 4x6-Inch X 12-FT	4.00	EACH		
637.2230	Signs Type II Reflective F	12.00	SF		
638.2602	Removing Signs Type II	7.00	EACH		
638.3000	Removing Small Sign Supports	7.00	EACH		
642.5001	Field Office Type B	0.50	EACH		
643.5000	Traffic Control	0.50	EACH		
643.0420	Traffic Control Barricades Type III	1260.00	DAY		
643.0705	Traffic Control Warning Lights Type A	1400.00	DAY		
643.0900	Traffic Control Signs	8190.00	DAY		
645.0120	Geotextile Type HR	125.00	SY		
646.1020	Marking Line Epoxy 4-Inch	1,272.00	LF		
650.4500	Construction Staking Subgrade	318.00	LF		
650.5000	Construction Staking Base	318.00	LF		
650.6500	Construction Staking Structure Layout (structure) B-13-875	1.00	LS		
650.9910	Construction Staking Supplemental Control (project) 67256-2000	1.00	LS		
650.9920	Construction Staking Slope Stakes	318.00	LF		
690.0150	Sawing Asphalt	48.00	LF		
715.0415	Incentive Strength Concrete Pavement	500.00	DOL	\$1.00	\$500

Highway J - Bridge Work:

Bid Item Number	Bid Item Name / Supplemental Description	Quantity	Unit	Unit Price	Total
203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 11+51	1.00	LS		
206.1000	Excavation for Structures Bridges (structure) B-13-875	1.00	LS		
210.1500	Backfill Structure Type A	430.00	TON		
502.0100	Concrete Masonry Bridges	220.00	CY		
502.3200	Protective Surface Treatment	260.00	SY		
503.0136	Prestressed Girder Type I 36-Inch	244.00	LF		
505.0400	Bar Steel Reinforcement HS Structures	5,420.00	LB		
505.0600	Bar Steel Reinforcement HS Coated Structures	18,160.00	LB		
506.2605	Bearing Pads Elastomeric Non-Laminated	8.00	EACH		
506.4000	Steel Diaphragms (structure) B-13-875	3.00	EACH		
513.4061	Railing Tubular Type M (structure) B-13-875	131.00	LF		
516.0500	Rubberized Membrane Waterproofing	16.00	SY		
550.0500	Pile Points	16.00	EACH		
550.1100	Piling Steel HP 10-Inch X 42 Lb	560.00	LF		
606.0300	Riprap Heavy	190.00	CY		
612.0406	Pipe Underdrain Wrapped 6-Inch	200.00	LF		
645.0111	Geotextile Type DF Schedule A	130.00	SY		
645.0120	Geotextile Type HR	310.00	SY		
715.0502	Incentive Strength Concrete Structures	1,320.00	DOL	\$1.00	\$1,320.00

Bridge J Total: \$ _____
Numeric Price

_____ and ___ /100 Dollars
Written Price

Grand Total: \$ _____
Numeric Price

_____ and ___ /100 Dollars
Written Price

Receipt of the following addenda and inclusion of their provisions in this Bid is hereby acknowledged:

Addendum No(s). _____ through _____

Dated _____

Dane County Department of Public Works, Highway & Transportation must have this project completed by September 3, 2021. Assuming the Work at Highway J can be started by May 17, 2021 & Highway N can be started by June 16, 2021, what dates can you commence and complete this job?

CTH J Commencement Date: _____ Completion Date: _____
(final, not substantial)

CTH N Commencement Date: _____ Completion Date: _____
(final, not substantial)

I hereby certify that all statements herein are made on behalf of:

(Name of Corporation, Partnership or Person submitting Bid)

Select one of the following:

1. A corporation organized and existing under the laws of the State of _____, or
2. A partnership consisting of _____, or
3. A person conducting business as _____;

Of the City, Village, or Town of _____ of the State of _____.

I have examined and carefully prepared this Bid from the associated Construction Documents and have checked the same in detail before submitting this Bid; that I have full authority to make such statements and submit this Bid in (its) (their) (my) behalf; and that the said statements are true and correct. In signing this Bid, we also certify that we have not, either directly or indirectly, entered into any agreement or participated in any collusion or otherwise taken any action in restraint of free competition; that no attempt has been made to induce any other person or firm to submit or not to submit a Bid; that this Bid has been independently arrived at without collusion with any other bidder, competitor, or potential competitor; that this Bid has not been knowingly disclosed prior to the Bids Due Date to another bidder or competitor; that the above statement is accurate under penalty of perjury.

The undersigned is qualified as a Best Value Contractor or has proven their exemption. Qualification or exemption shall be complete before Bid Due Date / Time.

The undersigned further agrees to honor the Base Bid and the Alternate Bid(s) for sixty (60) calendar days from date of Award of Contract.

SIGNATURE: _____
(Bid is invalid without signature)

Print Name: _____ Date: _____

Title: _____

Address: _____

Telephone No.: _____ Fax No.: _____

Email Address: _____

Contact Person: _____

END OF SECTION

THIS PAGE IS FOR BIDDERS' REFERENCE
DO NOT SUBMIT WITH BID FORM.

BID CHECK LIST:

These items **must** be included with Bid:

Bid Form

Bid Bond

Fair Labor Practices Certification

DANE COUNTY BEST VALUE CONTRACTING QUALIFICATION

General Contractors & all Subcontractors must be qualified as a Best Value Contractor with the Dane County Public Works Engineering Division. Qualification & listing is not permanent & must be renewed every 24 months. Complete a *Best Value Contracting Application* online at:

pwht.countyofdane.com/bvc_application.aspx

DANE COUNTY VENDOR REGISTRATION PROGRAM

All bidders are strongly encouraged to be a registered vendor with Dane County. Registering allows vendors an opportunity to receive notifications for RFBs & RFPs issued by the County and provides the County with up-to-date company contact information. Complete a new form or renewal online at:

danepurchasing.com/Account/Login?

SECTION 00 43 36

PROPOSED SUBCONTRACTORS FORM

General Contractor Name: _____ Bid No: _____

Instructions:

1. Complete all information in table below.
2. Include this Form with signed Construction Contract (Section 00 52 96).
3. General contractors & subcontractors must be qualified & registered as Best Value Contractor (Dane County Ordinances, Chapter 40.07). General contractors must be qualified & registered before bids are due. Subcontractors must be qualified & registered before returning signed Construction Contract to Dane County Public Works. No contractor can perform work without being qualified & registered.
4. Sample Best Value Contracting Application is included in this RFB package for informational purposes; fill out form online (publicworks.countyofdane.com/bvc).

SUBCONTRACTOR NAME	ADDRESS & PHONE NO.	DIVISION OF WORK	\$\$ AMOUNT OF CONTRACT

Check box if there is another form page attached to include additional subcontractors.

The undersigned, for and on behalf of the General Contractor named herein, certifies the information on this Form is accurate.

Officer or Authorized Agent Signature

Date

Printed or Typed Name and Title

SUBCONTRACTOR NAME	ADDRESS & PHONE NO.	DIVISION OF WORK	\$\$ AMOUNT OF CONTRACT

END OF SECTION

COUNTY OF DANE

PUBLIC WORKS CONSTRUCTION CONTRACT

Contract No. _____ Bid No. 320041

Authority: 2020 RES - _____

THIS CONTRACT, made and entered into as of the date by which authorized representatives of both parties have affixed their signatures, by and between the County of Dane (hereafter referred to as "COUNTY") and _____ (hereafter, "CONTRACTOR"), and

WITNESSETH:

WHEREAS, COUNTY, whose address is c/o Deputy Public Works Director, 1919 Alliant Energy Center Way, Madison, WI 53713, desires to have CONTRACTOR provide County Trunk Highways N & J Bridge Replacements, CTH N - Section 35, Town of Dunkirk & CTH J - Section 28, Town of Vermont, Wisconsin ("the Project"); and

WHEREAS, CONTRACTOR, whose address is _____ is able and willing to construct the Project, in accordance with the Construction Documents;

NOW, THEREFORE, in consideration of the above premises and the mutual covenants of the parties hereinafter set forth, the receipt and sufficiency of which is acknowledged by each party for itself, COUNTY and CONTRACTOR do agree as follows:

1. CONTRACTOR agrees to construct, for the price of \$ _____ the Project and at the CONTRACTOR'S own proper cost and expense to furnish all materials, supplies, machinery, equipment, tools, superintendence labor, insurance, and other accessories and services necessary to complete the Project in accordance with the conditions and prices stated in the Bid Form, General Conditions of Contract, the drawings which include all maps, plats, plans, and other drawings and printed or written explanatory matter thereof, and the specifications therefore as prepared by Jewell Associates Engineers, Inc. (hereinafter referred to as "the Engineer"), and as enumerated in the Project Manual Table of Contents, all of which are made a part hereof and collectively evidence and constitute the Contract.
2. COUNTY agrees to pay the CONTRACTOR in current funds for the performance of the Contract subject to additions and deductions, as provided in the General Conditions of Contract, and to make payments on account thereof as provided in Article entitled, "Payments to Contractor" of the General Conditions of Contract.
3. During the term of this Contract, CONTRACTOR agrees to take affirmative action to ensure equal employment opportunities. The CONTRACTOR agrees in accordance with Wisconsin Statute 111.321 and Chapter 19 of the Dane County Code of Ordinances not to discriminate on the basis of age, race, ethnicity, religion, color, gender, disability, marital status, sexual orientation, national origin, cultural differences, ancestry, physical appearance, arrest record or conviction record, military participation or membership in the national guard, state defense force

or any other reserve component of the military forces of the United States, or political beliefs. Such equal opportunity shall include, but not be limited to, the following: employment, upgrading, demotion, transfer, recruitment, advertising, layoff, termination, training, rates of pay, and any other form of compensation. CONTRACTOR agrees to post in conspicuous places, available to all employees and applicants for employment, notices setting forth the provisions of this paragraph.

4. CONTRACTOR shall file an Affirmative Action Plan with the Dane County Contract Compliance Specialist in accord with Chapter 19 of the Dane County Code of Ordinances. CONTRACTOR must file such plan within fifteen (15) business days of the effective date of this Contract. During the term of this Contract CONTRACTOR shall also provide copies of all announcements of employment opportunities to COUNTY'S Office of Equity & Inclusion, and shall report annually the number of persons, by race, ethnicity, gender, and disability status, which apply for employment and, similarly classified, the number hired and number rejected.

5. During the term of this Contract, all solicitations for employment placed on CONTRACTOR'S behalf shall include a statement to the effect that CONTRACTOR is an "Equal Opportunity Employer".

6. CONTRACTOR agrees to furnish all information and reports required by COUNTY'S Contract Compliance Specialist as the same relate to affirmative action and nondiscrimination, which may include any books, records, or accounts deemed appropriate to determine compliance with Chapter 19, Dane County Code of Ordinances, and the provisions of this Contract.

7. This Contract is intended to be a Contract solely between the parties hereto and for their benefit only. No part of this Contract shall be construed to add to, supplement, amend, abridge or repeal existing rights, benefits or privileges of any third party or parties including, but not limited to, employees of either of the parties.

8. The entire agreement of the parties is contained herein and this Contract supersedes any and all oral agreements and negotiations between the parties relating to the subject matter hereof. The parties expressly agree that the express terms of this Contract shall not be amended in any fashion except in writing, executed by both parties.

9. CONTRACTOR must be qualified as a Best Value Contractor or have proven their exemption with Dane County Public Works Engineering Division before Bid Due Date / Time. All contractors and subcontractors must be qualified as a Best Value Contractor or have proven their exemption to perform any work under this Contract.

IN WITNESS WHEREOF, COUNTY and CONTRACTOR, by their respective authorized agents, have caused this Contract and its Schedules to be executed, effective as of the date by which all parties hereto have affixed their respective signatures, as indicated below.

* * * * *

FOR CONTRACTOR:

Signature Date

Printed or Typed Name and Title

Signature Date

Printed or Typed Name and Title

NOTE: If CONTRACTOR is a corporation, Secretary should attest. In accordance with IRS Regulations, unincorporated entities are required to provide either their Social Security or Employer Number in order to receive payment for services rendered.

* * * * *

This Contract is not valid or effectual for any purpose until approved by the appropriate authority designated below, and no work is authorized until the CONTRACTOR has been given notice to proceed by COUNTY'S Deputy Public Works Director.

FOR COUNTY:

Joseph T. Parisi, County Executive Date

Scott McDonell, County Clerk Date

AIA[®] Document A310[™] – 2010

Bid Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

BOND AMOUNT:**PROJECT:**

(Name, location or address, and Project number, if any)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this _____ day of _____

_____	(Contractor as Principal)	(Seal)
(Witness)	_____	(Title)
_____	(Surety)	(Seal)
(Witness)	_____	(Title)

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.

AIA[®] Document A312[™] – 2010

Performance Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

CONSTRUCTION CONTRACT

Date:

Amount:

Description:

(Name and location)

BOND

Date:

(Not earlier than Construction Contract Date)

Amount:

Modifications to this Bond: None See Section 16

CONTRACTOR AS PRINCIPAL

Company: _____
(Corporate Seal)

SURETY

Company: _____
(Corporate Seal)

Signature: _____

Name _____
and Title: _____

(Any additional signatures appear on the last page of this Performance Bond.)

Signature: _____

Name _____
and Title: _____

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

AIA Document A312–2010 combines two separate bonds, a Performance Bond and a Payment Bond, into one form. This is not a single combined Performance and Payment Bond.

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

- .1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
- .2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
- .3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

- .1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- .2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

- .1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- .2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and
- .3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 14 Definitions

§ 14.1 **Balance of the Contract Price.** The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 14.2 **Construction Contract.** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 **Contractor Default.** Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 **Owner Default.** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 **Contract Documents.** All the documents that comprise the agreement between the Owner and Contractor.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 16 Modifications to this bond are as follows:

Sample

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

SURETY

Company: _____

(Corporate Seal)

Company: _____

(Corporate Seal)

Signature: _____
Name and Title: _____
Address _____

Signature: _____
Name and Title: _____
Address _____

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.



AIA® Document A312™ – 2010

Payment Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

AIA Document A312–2010 combines two separate bonds, a Performance Bond and a Payment Bond, into one form. This is not a single combined Performance and Payment Bond.

CONSTRUCTION CONTRACT

Date:

Amount:

Description:

(Name and location)

BOND

Date:

(Not earlier than Construction Contract Date)

Amount:

Modifications to this Bond: None See Section 18

CONTRACTOR AS PRINCIPAL

Company: *(Corporate Seal)*

SURETY

Company: *(Corporate Seal)*

Signature: _____

Name _____
and Title: _____

Signature: _____

Name _____
and Title: _____

(Any additional signatures appear on the last page of this Payment Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:**OWNER'S REPRESENTATIVE:**

(Architect, Engineer or other party:)

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

- .1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
- .2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum:

- .1 the name of the Claimant;
- .2 the name of the person for whom the labor was done, or materials or equipment furnished;
- .3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- .4 a brief description of the labor, materials or equipment furnished;
- .5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- .6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- .7 the total amount of previous payments received by the Claimant; and
- .8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

§ 16.4 **Owner Default.** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 16.5 **Contract Documents.** All the documents that comprise the agreement between the Owner and Contractor.

§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

Company: _____

(Corporate Seal)

SURETY

Company: _____

(Corporate Seal)

Signature: _____

Name and Title: _____

Address _____

Signature: _____

Name and Title: _____

Address _____

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.

SECTION 00 72 12

GENERAL CONDITIONS OF CONTRACT

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1. CONSTRUCTION DOCUMENTS

- A. Construction Documents, listed in Table of Contents of this Specification volume shall form part of this Contract and provisions of Construction Documents shall be as binding upon parties as if they were fully set forth in Contract itself.
- B. These shall also be considered as part of Construction Documents: Addenda, including additions and modifications incorporated in such addenda before execution of Contract; requests for information; construction bulletins; change orders; and written interpretations by Engineer or Project Manager that are made after execution of Contract.
- C. Construction Documents are complementary, and what is required by one shall be as binding as if required by all. Intent of Construction Documents is to include all labor, materials and equipment necessary for proper execution of the Work.

2. DEFINITIONS

- A. These terms as used in this Contract are respectively defined as follows:
 - 1. All uses of term “County” in Construction Documents shall mean Dane County.
 - 2. All uses of term “Department” in Construction Documents shall mean Department of Public Works, Highway & Transportation, which is a unit of Dane County government. Department is County agency overseeing Contract with Contractor.
 - 3. Project Manager is appointed by and responsible to Department. Project Manager has authority to act on behalf of Department and will sign change orders, payment requests and other administrative matters related to projects.
 - 4. Project Manager is responsible for supervision, administration and management of field operations involved in construction phase of this Work.
 - 5. Term “Work” includes all labor, equipment and materials necessary to produce project required by Construction Documents.
 - 6. Term “Substantial Completion” is date when project or specified area of project is certified by Engineer that construction is sufficiently completed, in accordance with Construction Documents, and as modified by any subsequent changes agreed to by parties, so that County may occupy project or specified area of project for use for which it was intended subject to permit approval for occupancy.
 - 7. Contractor is person, firm, or corporation with whom County makes Contract. Though multiple contracts may be involved, Construction Documents treat them throughout as if each were of singular number.

3. ADDITIONAL INSTRUCTIONS AND DRAWINGS

- A. Contractor may be furnished additional instructions and detail drawings as necessary to carry out the Work included in Contract. Additional drawings and instructions thus supplied to Contractor will coordinate with Construction Documents and will be so prepared that they can be reasonably interpreted as part thereof. Contractor shall carry out the Work in accordance with additional detail drawings and instructions.

4. SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- A. Unless otherwise specified, Contractor shall submit all Shop Drawings for each submission, until receiving final approval. After final approval copies for distribution and such other copies as may be required.

- B. Not Applicable.
- C. Not Applicable.
- D. Contractor shall review Shop Drawings and place their dated stamp thereon to evidence their review and approval and shall submit with reasonable promptness and in orderly sequence to cause no delay in the Work or in work of any other contractor. At time of submission, Contractor shall inform Engineer in writing of any deviation in Shop Drawings or Samples from requirements of Construction Documents. Engineer will not consider partial lists.
- E. Engineer will review and approve or reject Shop Drawings with reasonable promptness to cause no delay. Engineer's approval shall not relieve Contractor from responsibility for errors or omissions in Shop Drawings.
- F. Contractor shall not commence any work requiring Shop Drawing, Product Data or Sample submission until Engineer has approved submission. All such work shall be in accordance with approved Shop Drawings, Product Data and Samples.
- G. Contractor shall keep on site of the Work, approved or conformed copy of Shop Drawings and shall at all times give Department access thereto.
- H. By stamping and submitting Shop Drawings, Product Data and Samples, Contractor thereby represents that he or she has or will determine and verify all field measurements, field construction criteria, materials, catalog numbers, and similar data and that he or she has checked and coordinated each Shop Drawing, Product Data and Sample with requirements of the Work and of Construction Documents. Engineer shall return without examination, Shop Drawings, Product Data and Samples not so noted.
- I. All Shop Drawings from any one Contractor should be numbered consecutively and on cover sheet shall bear name and location of project, name of Contractor, date of submittal and date of each correction or revision and associated Specification section and page number.

5. CUTTING AND PATCHING

- A. Not Applicable.
- B. Contractor shall not damage or endanger portion of the Work or fully or partially completed construction of County or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. Contractor shall not cut or otherwise alter such construction by County or separate contractor except with written consent of County and of such separate contractor; such consent shall not be unreasonably withheld. Contractor shall not withhold unreasonably from County or separate contractor, Contractor's consent to cutting or otherwise altering the Work.

6. CLEANING UP

- A. Contractor shall keep premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under Contract. Contractor shall remove from and about the Work waste materials, rubbish, Contractor's tools, construction equipment, machinery, and surplus materials at completion of the Work. Contractor shall maintain streets and sidewalks around the Work site in clean condition. Contractor shall remove all spillage and prevent tracking of spillage arising from performance of the Work, into, out of, and within the Work site. Contractor shall establish regular maintenance program of

sweeping, vacuuming and / or hosing to minimize accumulation of dirt and dust upon such areas.

- B. If Contractor fails to clean up as directed in Construction Documents, County may do so and shall charge Contractor cost thereof.
- C. Not Applicable.
- D. Not Applicable.

7. USE OF SITE

- A. Contractor shall provide County and Engineer access to the Work under all circumstances.
- B. Contractor shall confine operations at site to areas permitted by County, law, ordinance, permits and Construction Documents and shall not unreasonably encumber site with materials or equipment. Contractor shall assure free, convenient, unencumbered, direct and safe access to all properties adjacent to the Work for County, its employees, invitees and guests.
- C. Contractor & subcontractors shall follow all current *Public Health - Madison & Dane County* procedures & recommendations including the mandatory use of facemasks while inside any County facility. County Project Manager shall clarify these procedures & recommendations at pre-construction meeting.

8. MATERIALS AND WORKMANSHIP

- A. Contractor shall perform all work and furnish all supplies and materials, machinery, equipment, facilities and means, necessary to complete the Work required by this Contract, within time specified, in accordance with provisions of Construction Documents.
- B. All equipment and materials incorporated in the Work covered by this Contract are to be new; use recycled and / or recovered materials to extent that such use is technically and economically feasible. Recovered materials are products recovered from solid waste in form identical to original form for use that is same as, or similar to original use. Recycled materials are products manufactured from solid waste.
- C. If requested, Contractor shall furnish satisfactory evidence as to kind and quality of construction materials proposed or used. Contractor shall furnish to Engineer, for approval, manufacturer name and model, performance capacities and other pertinent information of machinery, mechanical, electrical or other types of equipment, which Contractor plans to install.
- D. If not otherwise provided, materials and labor called for in this Contract shall be provided and performed in accordance with established practice and standards recognized by Architects, Engineers, Department, and construction industry.
- E. Reference to "Standard" specifications of any association or manufacturer, or codes of County authorities, intends most recent printed edition or catalog in effect on date that corresponds with date of Construction Documents.
- F. Whenever reference is made in Specifications that work shall be "performed", "applied", in accordance with "manufacturer's directions or instructions", Contractor to whom those

instructions are directed shall furnish three (3) printed copies of such instructions to Engineer before execution of the Work.

9. CONTRACTOR'S TITLE TO MATERIALS

- A. Contractor or any subcontractor shall not purchase materials or supplies for the Work subject to any chattel mortgage or under conditional sale contract or other agreement by which seller retains interest. Contractor warrants that all materials and supplies used in the Work are free from all liens, claims or encumbrances and Contractor has good title to them.

10. "OR EQUAL" CLAUSE

- A. Whenever equipment or materials are identified on Drawings or in Specifications by reference to manufacturer's or vendor's name, trade name, catalog number, and other identifying information, it is intended to establish standards; and any equipment or material of other manufacturers and vendors which will perform adequately duties imposed by general design will be considered equally accepted provided equipment or material so proposed is, in opinion of Engineer, of equal substance and function. Engineer and Department shall provide written approval before Contractor may purchase or install it.
- B. Equipment or materials of manufacturers, other than those named, may be used only upon following conditions:
 - 1. That, in opinion of Engineer and Department, proposed material or equipment item is fully equal or superior (in design, materials, construction, workmanship, performance, finish, etc.) to named item. No compromise in quality level, however small, is acceptable.
 - 2. That, in substituting materials or equipment, Contractor assumes responsibility for any changes in system or for modifications required in adjacent or related work to accommodate such substitution despite Engineer's and Department's approval, and all costs growing out of approval of "or equal" items shall be responsibility of Contractor. No extra costs resulting from such approval shall become responsibility of Department, Engineer or any other separate Contractor.
 - 3. It shall be understood that use of materials or equipment other than those specified, or approved equal by Engineer and Department, shall constitute violation of Contract, and that Engineer and Department shall have right to require removal of such materials or equipment and their replacement with specified materials or equipment at Contractor's expense.
- C. No request for approval of "or equal" materials will be entertained except from Contractor. Identify any request for substitution as substitution on Contractor's letter of transmittal and give reasons for substitution. Department may in its sole discretion allow substitutions of materials.

11. PATENTS AND ROYALTIES

- A. If Contractor uses any design, device or material covered by letters, patent or copyright, it is mutually agreed and understood, that, without exception, contract prices shall include all royalties or costs arising from use of such design, device or materials, in any way involved in the Work.
- B. Contractor shall indemnify and save harmless County from any and all claims for infringement by reason of use of such patent or copyright in connection with the Work agreed

to be performed under this Contract, and shall indemnify County for any cost, expense or damage which it may be obliged to pay by reason of such infringement at any time during prosecution of the Work or after completion of the Work.

12. SURVEYS, PERMITS, REGULATIONS AND TAXES

- A. Department will furnish to Contractor all site, topography and property surveys necessary for execution of the Work.
- B. Contractor shall procure all permits, licenses and approvals necessary for execution of this Contract.
- C. Contractor shall give all notices and comply with all State of Wisconsin, Federal and local laws, codes, rules and regulations relating to performance of the Work, protection of adjacent property, and maintenance of passageways, guard fences or other protective facilities.
- D. Contractor does not need to pay State and local sales & use taxes. See Wisconsin Statute 77.54 (9m).
- E. Contractor shall promptly notify Engineer of any variances of Drawings or Specifications with that of any State of Wisconsin, federal or local law, code, rule or regulation. Upon such notification, Engineer will require correction of variance to comply with applicable law, code, rule or regulation at no additional cost to Contractor.
- F. Work under this Contract shall comply with all applicable State of Wisconsin, Federal and local laws, codes and regulations.
- G. Not Applicable.

13. CONTRACTOR'S OBLIGATIONS AND SUPERINTENDENCE

- A. Contractor shall provide and pay for all materials, labor, tools, equipment, transportation and superintendence necessary to execute, complete and deliver the Work within specified time. Contractor agrees to secure at their own expense all personnel necessary to carry out the Work. Such personnel shall not be deemed County employees nor shall they have or be deemed to have any direct contractual relationship with County.
- B. Performance of any work necessary after regular working hours, on Sundays or Legal Holidays shall be without additional expense to County. Performance of any work at site at other than normal working hours must be coordinated with Project Manager.
- C. Contractor shall furnish, erect, maintain and remove such temporary works as may be required.
- D. Contractor shall observe, comply with, and be subject to all terms, conditions, requirements and limitations of Construction Documents.
- E. At the Work site, Contractor shall give personal superintendence to the Work or shall employ construction superintendent or foreman, experienced in character of work covered by Contract, who shall have full authority to act for Contractor. Understand that such superintendent or foreman shall be acceptable to Engineer and Department.

- F. Remove from project or take other corrective action upon notice from Engineer or Department for Contractor's employees whose work is considered by Engineer or Department to be unsatisfactory, careless, incompetent, unskilled or otherwise objectionable.
- G. Contractor and subcontractors shall be required to conform to Labor Laws of State of Wisconsin and various acts amendatory and supplementary thereto and to other laws, ordinances and legal requirements applicable to the Work.
- H. Presence and observation of the Work by Engineer or Project Manager shall not relieve Contractor of any obligations.

14. WEATHER CONDITIONS

- A. In event of temporary suspension of work, or during inclement weather, or whenever Engineer shall direct, Contractor shall, and shall cause subcontractors to protect carefully all work and materials against damage or injury from weather. If, in opinion of Engineer or Department, any work or materials that have been damaged or injured due to failure on part of Contractor or any subcontractors so to protect the Work, such materials shall be removed and replaced at expense of Contractor.

15. PROTECTION OF WORK AND PROPERTY

- A. Contractor shall at all times safely guard County's property from injury or loss in connection with this Contract. Contractor shall at all times safely guard and protect the Work, and adjacent property, from damage. Contractor shall replace or make good any such damage, loss or injury unless such is caused directly by errors contained in Contract, or by County, or County's duly authorized representative.
- B. Contractor may act diligently, without previous instructions from Engineer and / or Department, in emergency that threatens loss or injury of property, or safety of life. Contractor shall notify Engineer and / or Department immediately thereafter. Promptly submit any claim for compensation by Contractor due to such extra work to Engineer and / or Department for approval as provided for in Article 18 herein.

16. INSPECTION AND TESTING OF MATERIALS

- A. Authorized representatives and agents of County government shall have access at all times to the Work wherever it is in preparation or progress and Contractor shall provide facilities for such access and for inspection.
- B. Should it be considered necessary or advisable at any time before final acceptance of the Work to make examination of work already completed, by removing or tearing out same, Contractor shall upon request, promptly furnish all necessary facilities, labor and materials. If such work is found to be defective in any aspect, due to fault of Contractor or subcontractors thereof, Contractor shall assume all expenses of such examination and of satisfactory reconstruction. Contractor will be reimbursed for such examination and replacement in accordance with Article 18 - A.3., of these General Conditions of Contract if such work is found to meet requirements of Contract.
- C. If Specifications, Engineer's, or Project Manager's instructions require any work to be specially tested or approved, Contractor shall give Engineer and Project Manager timely notice of its readiness for testing or inspection. Test all materials and equipment requiring

testing in accordance with accepted or specified standards, as applicable. Engineer shall recommend laboratory or inspection agency and Department will select and pay for all initial laboratory inspection services. Should retesting be required, due to failure of initial testing, cost of such retesting shall be borne by Contractor.

- D. Cost of any testing performed by manufacturers or Contractor for substantiating acceptability of proposed substitution of materials and equipment, or necessary conformance testing in conjunction with manufacturing processes or factory assemblage, shall be borne by Contractor or manufacturer responsible.

17. REPORTS, RECORDS AND DATA

- A. Contractor shall submit to Engineer and Project Manager such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, invoices, records and other data as either may request concerning work performed or to be performed under this Contract.

18. CHANGES IN THE WORK

- A. Make no changes, except in cases of emergency, in the Work covered by approved Construction Documents without having prior written approval of Department. Charges or credits for the Work covered by approved change shall be determined by one of these methods:
1. Unit bid prices previously approved.
 2. Agreed lump sum based on actual cost of:
 - a) Labor, including foremen, and all fringe benefits that are associated with their wages.
 - b) Materials entering permanently into the Work.
 - c) Ownership or rental cost of construction tools and equipment during time of use on extra work.
 - d) Power and consumable supplies for operation of power equipment.
 - e) Workmen's Compensation Insurance, Contractor's Public Liability and Property Damage Insurance, and Comprehensive Automobile Liability Insurance.
 - f) Social Security and old age and unemployment contributions.
 - g) Add to cost under (2), fixed fee to be agreed upon, but not to exceed fifteen percent (15%) of actual cost of work performed with their own labor force. Fee shall be compensation to cover cost of supervision, overhead, bond, profit and any other general expense.
 - h) On that portion of the Work under (2) done under subcontract, Contractor may include not over seven and one-half percent (7½%) for supervision, overhead, bond, profit and any other general expense.
 - i) Department may require correct amount of costs with supporting vouchers; Contractor shall keep and present in such form as directed.
 3. Cost-plus work, with not-to-exceed dollar limit, based on actual cost of:
 - a) Labor, including foremen, and all fringe benefits that are associated with their wages.
 - b) Materials entering permanently into the Work.
 - c) Ownership or rental cost of construction tools and equipment during time of use on extra work. Rental cost cannot exceed fifty percent (50%) replacement value of rented equipment.
 - d) Power and consumable supplies for operation of power equipment.
 - e) Workmen's Compensation Insurance, Contractor's Public Liability and Property Damage Insurance, and Comprehensive Automobile Liability Insurance.
 - f) Social Security and old age and unemployment contributions.
 - g) To cost under (3), there shall be added fixed fee to be agreed upon but not to exceed fifteen percent (15%) of actual cost of work performed with their own labor force.

Fee shall be compensation to cover cost of supervision, overhead, bond, profit, and any other general expense.

- h) On that portion of the Work under (3) done under subcontract, Contractor may include not over seven and one-half percent (7½%) for supervision, overhead, bond, profit, and any other general expense.
 - i) Contractor shall keep and present, in such form as directed, correct amount of cost together with such supporting vouchers as may be required by Department.
- B. If Contractor claims that by any instructions given by Engineer, Department, by drawings or otherwise, regarding performance of the Work or furnishing of material under Contract, involves extra cost, Contractor shall give Department written notice of cost thereof within two (2) weeks after receipt of such instructions and in any event before proceeding to execute work, unless delay in executing work would endanger life or property.
- C. No claim for extra work or cost shall be allowed unless it was done in pursuance of written Change Order from Engineer and approved by Department, as previously mentioned, and claim presented with payment request submitted after changed or extra work is completed.
- D. Negotiation of cost for change in the Work shall not be cause for Contractor to delay prosecution of the Work if Contractor has been authorized in writing by Project Manager to proceed.

19. EXTRAS

- A. Without invalidating Contract, Department may order extra work or make changes by altering, adding to or deducting from the Work, contract sum being adjusted in accordance with Article 18 herein.

20. TIME FOR COMPLETION

- A. Contractor agrees that the Work shall be prosecuted regularly and diligently and complete the Work as stated in Construction Documents.

21. CORRECTION OF WORK

- A. All work, all materials whether incorporated in the Work or not, and all processes of manufacture shall at all times and places be subject to inspection of Engineer and Project Manager who shall be judge of quality and suitability of the Work, materials, and processes of manufacture for purposes for which they are used. Should they fail to meet Engineer's and Project Manager's approval they shall be reconstructed, made good, replaced or corrected, by Contractor at Contractor's expense. Immediately remove all rejected material from site.
- B. If Contractor defaults or neglects to carry out the Work in accordance with Construction Documents or fails to perform any provision of Contract, Department may, after ten (10) business days' written notice to Contractor and without prejudice to any other remedy County may have, make good such deficiencies. In such case, appropriate Change Order shall be issued deducting from Contractor's payments then or thereafter, cost of correcting such deficiencies, including cost of Engineer's additional services made necessary by such default, neglect or failure.

22. SUBSURFACE CONDITIONS FOUND DIFFERENT

- A. If Contractor encounters subsurface or latent conditions at site materially differing from those shown on Drawings or indicated in Specifications, Contractor shall immediately give notice to Engineer and Project Manager of such conditions before they are disturbed. Engineer will thereupon promptly investigate conditions, and if Engineer finds that they materially differ from those shown on Drawings or indicated in Specifications, Engineer will at once make such changes as necessary, any increase or decrease of cost resulting from such changes to be adjusted in manner provided in above Article 18 entitled "Changes in the Work".

23. RIGHT OF DEPARTMENT TO TERMINATE CONTRACT

- A. In event that any provisions of this Contract are violated by Contractor or by any subcontractors, County may serve written notice upon Contractor and Surety of its intention to terminate Contract, such notice to contain reasons for such intention to terminate Contract, and unless within ten (10) business days after serving of such notice upon Contractor, such violation or delay shall cease and satisfactory arrangement or correction be made, Contract shall, upon expiration of said ten (10) business days, cease and terminate.
- B. In event of any such termination, County shall immediately serve notice thereof upon Surety and Contractor, and Surety shall have right to take over and perform Contract subject to County's approval; provided, however, that if Surety does not commence performance thereof within ten (10) business days from date of mailing to such Surety of notice of termination, County may take over the Work and prosecute same to completion by contract, or by force account, at expense of Contractor; Contractor and Surety shall be liable to County for any excess cost occasioned County thereby, and in such event County may take possession of and utilize in completing the Work, such materials and equipment as may be on the Work site and therefore necessary.

24. CONSTRUCTION SCHEDULE AND PERIODIC ESTIMATES

- A. Contractor shall be responsible for Construction Schedule and coordination. Immediately after execution and delivery of Contract and before making first payment, Contractor shall notify all subcontractors to furnish all required information to develop Construction Schedule. Contractor and all subcontractors associated with the Work shall furnish following information from each Division of Specifications:
1. List of construction activities;
 2. Start, finish and time required for completion of each activity;
 3. Sequential relationships between activities;
 4. Identify all long lead-time items, key events, meetings or activities such as required submittals, fabrication and delivery, procurement of materials, installation and testing;
 5. Weekly definition of extent of work and areas of activity for each trade or Subcontract; and
 6. Other information as determined by Project Manager.
- B. In addition to above requested items, Contractor shall request delivery dates for all County-furnished equipment, materials or labor. This shall include any work handled by Department under separate contracts such as asbestos abatement, air and water balancing, etc. Indicate on Construction Schedule these associated delivery and installation dates.
- C. Progress Reporting:
1. Contractor shall update and publish Construction Schedule on monthly basis. Revisions to Schedule shall be by Contractor and made in same detail as original Schedule and

- accompanied by explanation of reasons for revision; and shall be subject to approval by Department.
2. Failure of Contractor to keep Schedule in updated format shall result in County hiring firm specializing in construction schedule development and deducting those costs associated with updating process from payments due Contractor.
 3. Contractor shall submit show actual percentage of each activity completed, estimated future progress, and anticipated completion time.
- D. Responsibility for timely completion requires:
1. Contractor and subcontractors understand that performance of each is interdependent upon performance of others.
 2. Whenever it becomes apparent from current schedule, that phasing or progress completion dates will not be met, Contractor must take some or all following actions at no additional cost to County:
 - a) Increase construction labor in such quantities and crafts as will eliminate backlog of work.
 - b) Increase number of working hours per shift, shifts per working day, working days per week, amount of construction equipment, or any combination of foregoing to eliminate backlog of work.
 - c) Reschedule work (yet remain in conformance with Drawings and Specifications).
 3. Prior to proceeding with any of above actions, Contractor shall notify Project Manager.
- E. Maintain current Construction Schedule at all times. Revise Construction Schedule in same detail as original and accompany with explanation of reasons for revision. Schedule shall be subject to approval by Engineer and Project Manager.

25. PAYMENTS TO CONTRACTOR

- A. Contractor shall provide:
1. Detailed estimate giving complete breakdown of contract price by Specification Division; and
 2. Periodic itemized estimates of work done for purpose of making partial payments thereon.
- B. Submit these estimates for approval first to Engineer, then to Project Manager. Costs employed in making up any of these schedules are for determining basis of partial payments and not considered as fixing basis for additions to or deductions from Contract price.
- C. County will make partial payments to Contractor for value, proportionate to amount of Contract, of all labor and material incorporated in the Work during preceding calendar month upon receipt of Application and Certificate for Payment form from Engineer and approval of Department.
- D. Contractor shall submit for approval first to Engineer, and then to Project Manager all Application and Certificate for Payment forms. If requested, Application and Certificate for Payment shall be supported by such additional evidence as may be required, showing Contractor's right to payment claimed.
- E. Application and Certificate for Payment for preparatory work and materials delivered and suitably stored at site to be incorporated into the Work at some future period, will be given due consideration. Requesting payment for materials stored off site, may be rejected, however, if deemed essential for reasons of job progress, protection, or other sufficient cause, requests will be considered, conditional upon submission by Contractor of bills of sale,

photographs and such other procedures as will adequately protect County's interest such as storage in bonded warehouse with adequate coverage. If there is any error in payment, Contractor is obligated to notify Department immediately, but no longer than ten (10) business days from receipt of payment.

- F. Payments by County will be due within forty-five (45) business days after receipt by Department of Application and Certificate for Payment.
- G. County will retain five percent (5%) of each Application and Certificate for Payment until final completion and acceptance of all the Work covered by Contract. However, any time after fifty percent (50%) of the Work has been furnished and installed at site, County will make remaining payments in full if Engineer and Project Manager find that progress of the Work corresponds with Construction Schedule. If Engineer and Project Manager find that progress of the Work does not correspond with Construction Schedule, County may retain up to ten percent (10%) of each Application and Certificate for Payment for the Work completed.
- H. All material and work covered by partial payments made shall become sole property of County, but this provision shall not be construed as relieving Contractor from sole responsibility for care and protection of materials and work upon which payments have been made, or restoration of any damaged work, or as waiver of right of County to require fulfillment of all of terms of Contract.
- I. County will make final payment within sixty (60) calendar days after final completion of the Work, and will constitute acceptance thereof.
- J. County may make payment in full, including retained percentages and less authorized deductions, upon completion and acceptance of each Division where price is stated separately in Contract.
- K. Every contractor engaged in performance of any contract for Department of Public Works, Highway & Transportation shall submit to this Department, as requested and with final application for payment for work under said contract, affidavit(s) as required to prove that all debts and claims against this Work are paid in full or otherwise satisfied, and give final evidence of release of all liens against the Work and County.

26. WITHHOLDING OF PAYMENTS

- A. County, after having served written notice on said Contractor, may either pay directly any unpaid bills of which Department has written notice, or withhold from Contractor's unpaid compensation sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged; whereupon, payment to Contractor shall be resumed in accordance with terms of this Contract, but in no event shall these provisions be construed to impose any obligations upon County to either Contractor or Contractor's Surety.
- B. In paying any unpaid bills of Contractor, County shall be deemed agent of Contractor, and any payment so made by County, shall be considered as payment made under Contract by County to Contractor and County shall not be liable to Contractor for any such payment made in good faith.
- C. Contractor shall indemnify, hold harmless and defend Dane County, its boards, commissions, agencies, officers, employees and representatives from all claims growing out of lawful

demands of subcontractors, laborers, workers, mechanics, material men, and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary, incurred in performance of this Contract.

- D. At Department's request, Contractor shall furnish satisfactory evidence that all obligations of nature designated above have been paid, discharged or waived.

27. ACCEPTANCE OF FINAL PAYMENT AS RELEASE

- A. Making of final payment shall constitute waiver of all claims by County except those arising from:
 - 1. Unsettled lien;
 - 2. Faulty or defective work appearing after substantial completion;
 - 3. Failure of the Work to comply with requirements of Construction Documents; or
 - 4. Terms of any special guarantees required by Construction Documents.
- B. Acceptance of final payment shall constitute waiver of all claims by Contractor.

28. PAYMENTS BY CONTRACTOR

- A. Contractor shall pay following not later than fifth (5th) business day following each payment received from County:
 - 1. All transportation and utility services rendered;
 - 2. All materials, tools, and other expendable equipment that have been delivered at site of the Work to extent of ninety percent (90%) of cost thereof, and balance of cost thereof when said balance is paid to Contractor; and
 - 3. Each subcontractor, respective amount allowed Contractor because of work performed by subcontractor to extent of subcontractor's interest therein.

29. CONTRACT SECURITY

- A. Contractor shall furnish Performance and Payment Bonds in amount at least equal to one hundred percent (100%) of Contract price as security for faithful performance of this Contract and payment of all persons performing labor on project under this Contract and furnishing materials in connection with this Contract.
- B. Sample Performance and Payment Bonds that Contractor will be required to execute is bound into these Construction Documents. Before construction Contract is consummated, completed Performance and Payment Bonds must be approved by Department.

30. ASSIGNMENTS

- A. Contractor shall not assign whole or any part of this Contract or any moneys due or to become due hereunder without written consent of Department. In case Contractor assigns all or any part of any moneys due or to become due under this Contract, instrument of assignment shall contain clause substantially to effect that it is agreed that right of assignee in and to any moneys due or to become due to Contractor shall be subject to prior claims of all persons, firms and corporations for services rendered or materials supplied for performance of the Work called for in this Contract.

31. MUTUAL RESPONSIBILITY OF CONTRACTORS

- A. If, through acts of neglect on part of Contractor or any subcontractor shall suffer loss or damage on the Work, Contractor agrees to settle with such subcontractor by agreement or arbitration if such other subcontractor will so settle. If such subcontractor shall assert any claim against County on account of any damage alleged to have been sustained, Department shall notify Contractor, who shall indemnify, hold harmless and defend Dane County, its boards, commissions, agencies, officers, employees and representatives against any such claim.

32. SEPARATE CONTRACTS

- A. Department may award other contracts for the Work and all Contractors shall fully cooperate with each other and carefully adjust their work to that provided under other contracts as may be directed by Department. No Contractor shall commit or permit any act that will interfere with performance of the Work by any other Contractor.
- B. Contractor shall coordinate the Work with those of other Contractors. Cooperation will be required in arrangement for storage of materials and in detailed execution of the Work. Contractor, including subcontractors, shall keep informed of progress and detail work of others and shall notify Engineer or Department immediately of lack of progress or defective workmanship on part of others. Failure of Contractor to keep informed of the Work progressing on site and failure to give notice of lack of progress or defective workmanship by others shall be construed as acceptance by Contractor of status of the Work as being satisfactory for proper coordination with Contractor's own work.

33. SUBCONTRACTS

- A. Contractor may use services of specialty subcontractors on those parts of the Work that, under normal contracting practices, are performed by specialty subcontractors.
- B. Contractor shall not award any work to any subcontractor without prior approval of Department. Qualifications of subcontractors shall be same as qualifications of Contractor. Request for subcontractor approval shall be submitted to Department fifteen (15) business days before start of subcontractor's work. If subcontractors are changed or added, Contractor shall notify Department in writing.
- C. Contractor shall be as fully responsible to County for acts and omissions of subcontractors, and of persons either directly or indirectly employed by them, as Contractor is for acts and omissions of persons directly employed by Contractor.
- D. Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the Work to bind subcontractors to Contractor by terms of General Conditions of Contract and other Construction Documents insofar as applicable to work of subcontractors and to give Contractor same power as regards terminating any subcontract that Department may exercise over Contractor under any provision of Construction Documents.
- E. Nothing contained in this Contract shall create any contractual relation between any subcontractor and County.
- F. Contractor shall insert in all subcontracts, Articles 26, 33, 43 and 45, respectively entitled: "Withholding of Payments", "Subcontracts", "Affirmative Action Provision and Minority /

Women / Disadvantaged Business Enterprises”, and “Minimum Wages”, and shall further require all subcontractors to incorporate physically these same Articles in all subcontracts.

34. PROJECT MANAGER’S AUTHORITY

- A. Project Manager shall:
 - 1. Administer and ensure compliance with Construction Documents;
 - 2. Provide responsible on-site observations of construction and have authority to request work and to stop work whenever necessary to insure proper enforcement of Construction Documents;
 - 3. Convene and chair project meetings and foreman’s coordination meetings when necessary to coordinate resolution of conflicts between Contractors, Architects, Engineers, Consultants, and Department; and
 - 4. Check and inspect material, equipment and installation procedures of all trades for proper workmanship and for compliance with Drawings, Specifications and Shop Drawings, permit no material on project site that is not satisfactory and reject work not in compliance with Construction Documents.

35. CONSULTANT’S AUTHORITY

- A. Engineer is retained by, and is responsible to Department acting for County.
- B. Engineer shall determine amount, quality, acceptability, and fitness of several kinds of work and materials that are provided under this Contract and shall decide all questions that may arise in relation to said work and construction thereof.
- C. Engineer shall decide meaning and intent of any portion of Specifications and of any Drawings where they may be found obscure or be in dispute.
- D. Engineer shall provide responsible observation of construction. Architect / Engineer has authority to stop the Work whenever such stoppage may be necessary to insure proper execution of Construction Documents.
- E. Engineer shall be interpreter of conditions of Construction Documents and judge of its performance.
- F. Within reasonable time, Engineer shall make decisions on all matters relating to progress of the Work or interpretation of Construction Documents.
- G. Engineer’s decisions are subject to review by Project Manager.

36. STATED ALLOWANCES

- A. Stated allowances enumerated in Instructions to Bidders shall cover net cost of materials or equipment, and all applicable taxes. Contractor’s cost of delivery and unloading at site, handling costs on site, labor, installation costs, overhead, profit and any other incidental costs shall be included in Contractor’s bid, but not as part of cash allowance.
- B. Department will solicit at least two (2) bids on materials or equipment for which allowance is stated and select on basis of lowest qualified responsible bid. Contractor will then be instructed to purchase “Allowed Materials”. If actual price for purchasing “Allowed Materials”, including taxes, is more or less than “Cash Allowance”, Contract price shall be

adjusted accordingly. Adjustment in Contract price shall not contain any cost items excluded from cash allowance.

37. ESTIMATES OF QUANTITIES

- A. Whenever estimated quantities of work to be done and materials to be furnished under this Contract are shown in any of Construction Documents, they are given for use in comparing bids and right is especially reserved to increase or diminish them as they may be deemed reasonably necessary or desirable by Department to complete the Work included in this Contract, and cost for such increase or diminution shall be adjusted in manner provided for in General Conditions of Contract Article 18 entitled "Changes in the Work".

38. LANDS AND RIGHTS-OF-WAY

- A. Prior to start of construction, County shall furnish all land and rights-of-way necessary for carrying out and completion of the Work to be performed under this Contract.

39. GENERAL GUARANTEE

- A. Neither final certificate of payment nor any provision in Construction Documents nor partial or entire occupancy of premises by County shall constitute acceptance of work not done in accordance with Construction Documents or relieve Contractor of liability in respect to any expressed warranties or responsibility for faulty materials or workmanship.
 - 1. In no event shall making of any payment required by Contract constitute or be construed as waiver by County of any breach of covenants of Contract or waiver of any default of Contractor and making of any such payment by County while any such default or breach shall exist shall in no way impair or prejudice right of County with respect to recovery of damages or other remedy as result of such breach or default.
- B. Contractor shall remedy and make good all defective workmanship and materials and pay for any damage to other work resulting there from, which appear within period of one (1) year from date of substantial completion, providing such defects are not clearly due to abuse or misuse by County. Department will give notice of observed defects with reasonable promptness.
- C. Guarantee on work executed after certified date of substantial completion will begin on date when such work is inspected and approved by Engineer's and Project Manager.
- D. Where guarantees or warranties are required in sections of Specifications for periods in excess of one (1) year, such longer terms shall apply; however, Contractor's Performance and Payment Bonds shall not apply to any guarantee or warranty period in excess of one (1) year.

40. CONFLICTING CONDITIONS

- A. Any provision in any of Construction Documents which may be in conflict or inconsistent with any Articles in these General Conditions of Contract or Supplementary Conditions shall be void to extent of such conflict or inconsistency.
- B. In case of ambiguity or conflict between Drawings and Specifications, Specifications shall govern.

- C. Printed dimensions shall be followed in preference to measurements by scale. Large-scale drawings take precedence over small-scale drawings. Dimensions on Drawings and details are subject to field measurements of adjacent work.

41. NOTICE AND SERVICE THEREOF

- A. Any notice to Contractor from Department relative to any part of this Contract shall be in writing and considered delivered and service thereof completed, when said notice is posted, by certified or registered mail, to Contractor at Contractor's last given address, or delivered in person to said Contractor, or Contractor's authorized representative on the Work.

42. PROTECTION OF LIVES AND HEALTH

- A. In order to protect lives and health of Contractor's employees under Contract, Contractor shall comply with all pertinent provisions of Wisconsin Administrative Code, Rules of Department of Commerce, relating to Safety and Health.
- B. Contractor alone shall be responsible for safety, efficiency and adequacy of Contractor's tools, equipment and methods, and for any damage that may result from their failure or their improper construction, maintenance or operation.

43. AFFIRMATIVE ACTION PROVISION AND MINORITY / WOMEN / DISADVANTAGED BUSINESS ENTERPRISES

- A. Affirmative Action Provisions.
 - 1. During term of their Contract, Contractor agrees not to discriminate on basis of race, religion, color, sex, handicap, age, sexual preference, marital status, physical appearance, or national origin against any person, whether recipient of services (actual or potential), employee, or applicant for employment. Such equal opportunity shall include but not be limited to following: employment, upgrading, demotion, transfer, recruitment, advertising, layoff, termination, training, rates of pay, and any other form of compensation or level of service(s). Contractor agrees to post in conspicuous places, these affirmative action standards so as to be visible to all employees, service recipients and applicants for this paragraph. Listing of prohibited bases for discrimination shall not be construed to amend in any fashion state or federal law setting forth additional bases and exceptions shall be permitted only to extent allowable in state or federal law.
 - 2. Contractor is subject to this Article only if Contractor has twenty (20) or more employees and receives \$20,000.00 or more in annual aggregate contracts with County. Contractor shall file and Affirmative Action Plan with Dane County Contract Compliance Specialist in accord with Chapter 19 of Dane County Code of Ordinances. Such plan must be filed within fifteen (15) business days of effective date of this Contract and failure to do so by said date shall constitute ground for immediate termination of Contract by County. Contractor shall also, during term of this Contract, provide copies of all announcements of employment opportunities to County's Office of Equity & Inclusion, and shall report annually number of persons, by race, sex and handicap status, who apply for employment, and, similarly classified, number hired and number rejected.
 - 3. Contact Dane County Contract Compliance Specialist at Dane County Office of Equity & Inclusion, 210 Martin Luther King, Jr. Blvd., Room 356, Madison, WI 53703, 608/266-4192.
 - 4. In all solicitations for employment placed on Contractor's behalf during term of this Contract, Contractor shall include statement to affect Contractor is "Equal Opportunity Employer". Contractor agrees to furnish all information and reports required by

County's Contract Compliance Specialist as same relate to affirmative action and nondiscrimination, which may include any books, records, or accounts deemed appropriate to determine compliance with Chapter 19, Dane County Code of Ordinances, and provision of this Contract.

- B. Minority / Women / Disadvantaged / Emerging Small Business Enterprises.
 - 1. Chapter 19.508 of Dane County Code of Ordinances is official policy of Dane County regarding utilization of, to fullest extent of, Minority Business Enterprises (MBEs), Women Business Enterprises (WBEs) Disadvantage Business Enterprises (DBEs) and Emerging Small Business Enterprises (ESBEs).
 - 2. Contractor may utilize MBEs / WBEs / DBEs / ESBEs as subcontractors or suppliers. List of subcontractors will be required of low bidder as stated in this Contract. List shall indicate which are MBEs / WBEs / DBEs / ESBEs and percentage of subcontract awarded, shown as percentage of total dollar amount of bid.

44. COMPLIANCE WITH FAIR LABOR STANDARDS

- A. During term of this Contract, Contractor shall report to County Contract Compliance Specialist, within ten (10) business days, any allegations to, or findings by National Labor Relations Board (NLRB) or Wisconsin Employment Relations Commission (WERC) that Contractor has violated statute or regulation regarding labor standards or relations. If investigation by Contract Compliance Specialist results in final determination that matter adversely affects Contractor's responsibilities under this Contract, and which recommends termination, suspension or cancellation of this Contract, County may take such action.
- B. Contractor may appeal any adverse finding by Contract Compliance Specialist as set forth in Dane County Ordinance 25.015(11)(c) through (e).
- C. Contractor shall post this statement in prominent place visible to employees: "As condition of receiving and maintaining contract with Dane County, this employer shall comply with federal, state and all other applicable laws prohibiting retaliation or union organizing."

45. DOMESTIC PARTNERSHIP BENEFITS

- A. Not Used.

46. USE AND OCCUPANCY PRIOR TO ACCEPTANCE

- A. Contractor agrees to use and occupancy of portion or unit of the Work before formal acceptance by Department, provided Department:
 - 1. Secures written consent of Contractor; except when in opinion of Project Manager, Contractor is chargeable with unwarranted delay in final cleanup of punch list items or other Contract requirements.
 - 2. Secures endorsement from insurance carrier and consent of Surety permitting occupancy of building or use of the Work during remaining period of construction, or, secures consent of Surety.
 - 3. Assumes all costs and maintenance of heat, electricity and water.
 - 4. Accepts all work completed within that portion or unit of the Work to be occupied, at time of occupancy.

47. MINIMUM WAGES

- A. Not Used.

48. CLAIMS

- A. No claim may be made until Department's Deputy Public Works Director has reviewed Engineer's decision as provided for in Article 35 of General Conditions of Contract. If any claim remains unresolved after such review by Department's Deputy Public Works Director, the claim may be filed under Wisconsin Statute 893.80. Work shall progress during period of any dispute or claim. Unless specifically agreed between parties, venue will be in Dane County, Wisconsin.

49. ANTITRUST AGREEMENT

- A. Contractor and County recognize that in actual economic practice, overcharges resulting from antitrust violations are in fact usually borne by County. Therefore, Contractor hereby assigns to County any and all claims for such overcharges as to goods and materials purchased in connection with this Contract, except as to overcharges which result from antitrust violations commencing after price is established under this Contract and any change order thereto.

50. INSURANCE

- A. Contractor Carried Insurance:
 - 1. Contractor shall not commence work under this Contract until Contractor has obtained all insurance required under this Article and has provided evidence of such insurance to Risk Manager, 425 City-County Building, 210 Martin Luther King Jr. Blvd., Madison, WI 53703. Contractor shall not allow any subcontractor to commence work until insurance required of subcontractor has been so obtained and approved. Company providing insurance must be licensed to do business in Wisconsin.
 - 2. Worker's Compensation Insurance:
 - a) Contractor shall procure and shall maintain during life of this Contract, Worker's Compensation Insurance as required by statute for all of Contractor's employees engaged in work at site of project under this Contract and, in case of any such work sublet, Contractor shall require subcontractor similarly to provide Worker's Compensation Insurance for all of latter's employees to be engaged in such work unless such employees are covered by protection afforded by Contractor's Worker's Compensation Insurance.
 - b) If any claim of employees engaged in hazardous work on project under this Contract is not protected under Worker's Compensation Statute, Contractor shall provide and shall cause each subcontractor to provide adequate Employer's Liability Insurance for protection of such of Contractor's employees as are not otherwise protected.
 - 3. Contractor's Public Liability and Property Damage Insurance:
 - a) Contractor shall procure and maintain during life of this Contract, Contractor's Public Liability Insurance and Contractor's Property Damage Insurance in amount not less than \$1,000,000 bodily injury, including accidental death, to any one person, and subject to same limit for each person, in amount not less than \$1,000,000 on account of one accident, and Contractor's Property Damage Insurance in amount not less than \$1,000,000 or combined single limit of at least \$1,000,000 with excess coverage over and above general liability in amount not less than \$5,000,000. Contractor shall add "Dane County" as additional insured for each project.

- b) Contractor's Public Liability and Property Damage Insurance shall include Products, Completed Operation, and Contractual Liability under Insurance Contract.
 "Contractor shall in all instances save, defend, indemnify and hold harmless County and Engineer against all claims, demands, liabilities, damages or any other costs which may accrue in prosecution of the Work and that Contractor will save, defend, indemnify and hold harmless County and Engineer from all damages caused by or as result of Contractor's operations" and each shall be listed as additional insured on Contractor's and subcontractors' insurance policies.
- c) Obligations of Contractor under Article 50.A.2.b) shall not extend to liability of Engineer, agents or employees thereof, arising out of:
 - 1) Preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications; or
 - 2) Giving of or failure to give directions or instructions by Engineer, agents or employees thereof provided such giving or failure to give is primary cause of injury or damage.
- d) Contractor shall procure and shall maintain during life of this Contract, Comprehensive Automobile Liability Insurance covering owned, non-owned and hired automobiles for limits of not less than \$1,000,000 each accident single limit, bodily injury and property damage combined with excess coverage over and above general liability in amount not less than \$5,000,000.
- e) Contractor shall either:
 - 1) Require each subcontractor to procure and to maintain during life of subcontract, subcontractor's Public Liability Property Damage Insurance, and Comprehensive Automobile Liability Insurance of type and in same amount specified in preceding paragraphs; or
 - 2) Insure activities of subcontractors in Contractor's own policy.
- 4. Scope of Insurance and Special Hazards: Insurance required under Article 50.A.2 & 50.A.3. hereof shall provide adequate protection for Contractor and subcontractors, respectively, against damage claims which may arise from operations under this Contract, whether such operation be by insured or by anyone directly or indirectly employed by insured and also against any of special hazards which may be encountered in performance of this Contract as enumerated in Supplementary Conditions.
- 5. Proof of Carriage of Insurance: Contractor shall furnish Risk Manager with certificates showing type, amount, class of operations covered, effective dates, dates of expiration of policies and "Dane County" listed as additional insured. Such certificates shall also contain (substantially) following statement: "Insurance covered by this certificate will not be canceled or materially altered, except after ten (10) business days written notice has been received by Risk Manager."

B. Builder's Risk:

- 1. County shall provide Builder's Risk insurance coverage for its insurable interests in construction or renovation projects with completed value of \$1,000,000 or less. Therefore, if project completed value is more than \$1,000,000, Contractor shall obtain and maintain in force, at its own expense, Builder's Risk Insurance on all risks for amount equal to full completed value of covered structure or replacement value of alterations or additions. Any deductible shall not exceed \$25,000 for each loss. Policy shall include occupancy clause and list Dane County as loss payee.

C. Indemnification / Hold Harmless:

- 1. Contractor shall indemnify, hold harmless and defend Dane County, its boards, commissions, agencies, officers, employees and representatives from and against all claims, damages, losses and expenses including attorneys' fees arising out of or resulting from performance of the Work, provided that any such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of

- tangible property (other than the Work itself) including loss of use resulting therefrom, and is caused in whole or in part by any act or omission of Contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by part indemnified hereunder.
2. In any and all claims against Dane County, its boards, commissions, agencies, officers, employees and representatives or by any employee of Contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, indemnification obligation under this Contract shall not be limited in any way by any limitation on amount or type of damages, compensation or benefits payable by or for Contractor or any subcontractor under worker's compensation acts, disability benefits or other employee benefit acts.
 3. Obligations of Contractor under this Contract shall not extend to liability of Engineer, its agents or employees arising out of:
 - a) Preparation or approval of maps, drawings, opinion, reports, surveys, change orders, designs or specifications; or
 - b) Giving of or failure to give directions or instruction by Engineer, its agents or employees provided such giving or failure to give is primary cause of injury or damage.
 4. Dane County shall not be liable to Contractor for damages or delays resulting from work by third parties or by injunctions or other restraining orders obtained by third parties.

51. WISCONSIN LAW CONTROLLING

- A. It is expressly understood and agreed to by parties hereto that in event of any disagreement or controversy between parties, Wisconsin law shall be controlling.


END OF SECTION

SECTION 00 73 00

SUPPLEMENTARY CONDITIONS

1. APPLICATION & CERTIFICATE FOR PAYMENT

- A. Every contractor engaged in performance of any contract for Department of Public Works, Highway & Transportation shall submit partial and final Application & Certificate for Payment for work under said contract. Form shall provide similar information as shown on AIA G702™ and G703™ forms (samples shown below). Forms shall be submitted to project Engineer for approval.



Document G702™ – 1992

Application and Certificate for Payment

TO OWNER:	PROJECT:	APPLICATION NO:	Distribution to:
		PERIOD TO:	OWNER <input type="checkbox"/>
FROM CONTRACTOR:	VIA ARCHITECT:	CONTRACT FOR:	ARCHITECT <input type="checkbox"/>
		CONTRACT DATE:	CONTRACTOR <input type="checkbox"/>
		PROJECT NOS:	FIELD <input type="checkbox"/>
			OTHER <input type="checkbox"/>

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract. AIA Document G703™, Continuation Sheet, is attached.

1. ORIGINAL CONTRACT SUM \$ _____

2. NET CHANGE BY CHANGE ORDERS \$ _____

3. CONTRACT SUM TO DATE (Line 1 + 2) \$ _____

4. TOTAL COMPLETED & STORED TO DATE (Column G on G703) \$ _____

5. RETAINAGE:

a. _____ % of Completed Work
(Columns D + E on G703) \$ _____

b. _____ % of Stored Material
(Column F on G703) \$ _____

Total Retainage (Lines 5a + 5b, or Total in Column I of G703) \$ _____

6. TOTAL EARNED LESS RETAINAGE \$ _____
(Line 4 minus Line 5 Total)

7. LESS PREVIOUS CERTIFICATES FOR PAYMENT \$ _____
(Line 6 from prior Certificate)

8. CURRENT PAYMENT DUE \$ _____

9. BALANCE TO FINISH, INCLUDING RETAINAGE \$ _____
(Line 3 minus Line 6)

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner	\$	\$
Total approved this month	\$	\$
TOTAL	\$	\$
NET CHANGES by Change Order	\$	

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR:

By: _____ Date: _____

State of: _____

County of: _____

Subscribed and sworn to before me this _____ day of _____

Notary Public:
My commission expires: _____

ARCHITECT'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising this application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED \$ _____

(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)

ARCHITECT:

By: _____ Date: _____

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

Continuation Sheet

AIA Document G702™-1992, Application and Certificate for Payment, or G732™-2009, Application and Certificate for Payment, Construction Manager as Adviser Edition, containing Contractor's signed certification is attached. In tabulations below, amounts are in US dollars. Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NO:
APPLICATION DATE:
PERIOD TO:
ARCHITECT'S PROJECT NO:

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED		F MATERIALS PRESENTLY STORED <i>(Not in D or E)</i>	G TOTAL COMPLETED AND STORED TO DATE <i>(D+E+F)</i>	H BALANCE TO FINISH <i>(C-G)</i>	I RETAINAGE <i>(if variable rate)</i>
			D FROM PREVIOUS APPLICATION <i>(D-E)</i>	E THIS PERIOD				
GRAND TOTAL								

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.

AIA Document G703™ – 1992. Copyright © 1963, 1965, 1966, 1967, 1970, 1978, 1983 and 1992 by The American Institute of Architects. All rights reserved. **WARNING:** This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. Purchasers are permitted to reproduce ten (10) copies of this document when completed. To report copyright violations of AIA Contract Documents, e-mail The American Institute of Architects' legal counsel, copyright@aia.org. 10-12-04-044

END OF SECTION



Department of Public Works, Highway & Transportation
Public Works Engineering Division

608/266-4018

Gerald J. Mandli, P.E.
Commissioner / Director

Joseph T. Parisi
County Executive

Deputy Director
Todd Draper

1919 Alliant Energy Center Way
Madison, Wisconsin 53713
Fax: 608/267-1533
www.countyofdane.com/pwht/public_works.aspx

BEST VALUE CONTRACTING APPLICATION

CONTRACTORS / LICENSURE APPLICANTS

The Dane County Department of Public Works requires contractors & subcontractors to be a Best Value Contractor before being hired. Contractor & subcontractor application documents should be turned in immediately. Contractor approval or exemption must be complete prior to Bid Due Date / Time. All subcontractors must also be approved or prove their exemption before performing any work under a County contract. This document shall be completed, properly executed, along with the necessary attachments and additional information that the County requires for the protection and welfare of the public in the performance of a County contract.

Contractors or subcontractors of any tier who attain qualification status will retain that status for a period of two (2) years from the date of qualification. Contractors shall notify the Dane County Department of Public Works, Highway & Transportation within fifteen (15) days of any changes to its business or operations that are relevant to the application. Failure to do so could result in suspension, revocation of the contractor's qualification, debarment from County contracts for up to three (3) years and / or other sanctions available under the law.

No contracts will be awarded for construction work performed on Dane County projects unless the contractor is currently approved as a Wisconsin Trade Trainer or has applied for approval as an Apprenticeship Trade Trainer to the Wisconsin Department of Workforce Development and agrees to an acceptable apprenticeship program. If you are not currently approved as a Wisconsin Trade Trainer, or have not applied for approval as an Apprenticeship Trade Trainer, please contact the Department of Workforce Development - Bureau of Apprenticeship Standards at 608/266-3133 or visit their web site at: <https://dwd.wisconsin.gov/apprenticeship/>.

EXEMPTIONS

- Contractors who employ less than five (5) apprenticeable trade workers are not required to qualify.
- Contractors performing work that does not apply to an apprenticeable trade, as outlined in Appendix A.
- The contractor / subcontractor provides sufficient documentation to demonstrate one or more of the following:
 - apprentices are not available in a specific geographic area;
 - the applicable apprenticeship program is unsuitable or unavailable; or
 - there is a documented depression of the local construction market which prevents compliance.

SEC.	PROOF OF RESPONSIBILITY	CHECK IF APPLICABLE
1	Does your firm possess all technical qualifications and resources, including equipment, personnel and financial resources, necessary to perform the work required for any project or obtain the same through the use of responsible, qualified subcontractors?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
2	Will your firm possess all valid, effective licenses, registrations or certificates required by federal, state, county, or local law, which are necessary for the type of work to be performed including, but not limited to, those for any type of trade work or specialty work?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
3	Will your firm meet all bonding requirements as required by applicable law or contract specifications?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
4	Will your firm meet all insurance requirements as required by applicable law or specifications, including general liability insurance, workers compensation insurance and unemployment insurance requirements?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
5	Will your firm maintain a substance abuse policy for employees hired for public works contracts that comply with Wis. Stats. Sec. 103.503?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
6	Will your firm fully abide by the equal opportunity and affirmative action requirements of all applicable laws, including County ordinances?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
7	In the past three (3) years, has your firm had control or has another corporation, partnership or other business entity operating in the construction industry controlled it? If so, please attach a statement explaining the nature of the firm relationship?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
8	In the past three (3) years, has your firm had any type of business, contracting or trade license, certification or registration revoked or suspended?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
9	In the past three (3) years, has your firm been debarred by any federal, state or local government agency?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
10	In the past three (3) years, has your firm defaulted or failed to complete any contract?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
11	In the past three (3) years, has your firm committed a willful violation of federal, state or local government safety laws as determined by a final decision of a court or government agency authority.	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
12	In the past three (3) years, has your firm been in violation of any law relating to your contracting business where the penalty for such violation resulted in the imposition of a penalty greater than \$10,000?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
13	Is your firm an active Wisconsin Trade Trainer as determined by the Wisconsin Bureau of Apprenticeship Standards?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
14	Is your firm exempt from being qualified with Dane County?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach reason for exemption.
15	Does your firm acknowledge that in doing work under any County Public Works Contract, it will be required to use as subcontractors only those contractors that are also qualified with the County or become so within five (5) days after the Bid Due Date?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
16	Contractor has been in business less than one year?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
17	Is your firm a first time Contractor requesting a one time exemption, but, intend to comply on all future contracts and are taking steps typical of a "good faith" effort?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>

SIGNATURE SECTION

Your firm's Officer, or the individual who would sign a bid and / or contract documents must sign this document.

I do hereby certify that all statements herein contained are true and correct to the best of my knowledge:

Signature: _____

(Application is invalid without signature)

Print Name: _____ Date: _____

Title: _____

NAME AND ADDRESS OF CONTRACTOR	
Name of Firm:	
Address:	
City, State, Zip:	
Phone Number:	
Fax Number:	
E-mail Address:	

REMEMBER!

RETURN ALL TO FORMS AND ATTACHMENTS, OR QUESTIONS TO:

**TODD DRAPER
EMAIL: DRAPER@COUNTYOFDANE.COM
OFFICE: (608) 267-0119, FAX: (608) 267-1533**

**DANE COUNTY DEPARTMENT OF PUBLIC WORKS, HIGHWAY & TRANSPORTATION
1919 ALLIANT ENERGY CENTER WAY
MADISON, WI 53713**

APPENDIX A

APPRENTICEABLE TRADES:

- Bricklayer
- Carpenter
- Cement Mason (Concrete Finisher)
- Cement Mason (Heavy Highway)
- Construction Craft Laborer
- Data Communications Installer
- Electrician
- Elevator Mechanic / Technician
- Environmental Systems Technician / HVAC Service Technician / HVAC Install & Service
- Glazier
- Heavy Equipment Operator / Operating Engineer
- Insulation Worker (Heat & Frost)
- Iron Worker (Assembler, Metal Buildings)
- Painter / Decorator
- Plasterer
- Plumber
- Roofer / Waterproofer
- Sheet Metal Worker
- Sprinkler Fitter
- Steamfitter (Service & Refrigeration)
- Taper & Finisher
- Telecommunications (Voice, Data & Video) Installer / Technician
- Tile Setter

END OF SECTION

SECTION 00 73 11

FAIR LABOR PRACTICES CERTIFICATION

The undersigned, for and on behalf of the BIDDER, APPLICANT or PROPOSER named herein, certifies as follows:

- A. That he or she is an officer or duly authorized agent of the above-referenced BIDDER, APPLICANT or PROPOSER, which has a submitted a bid, application or proposal for a contract or agreement with the county of Dane.
- B. That BIDDER, APPLICANT or PROPOSER has (check one):

_____ not been found by the National Labor Relations Board (“NLRB”) or the Wisconsin Employment Relations Commission (“WERC”) to have violated any statute or regulation regarding labor standards or relations in the seven years prior to the signature date of this Certification.

_____ been found by the National Labor Relations Board (“NLRB”) or the Wisconsin Employment Relations Commission (“WERC”) to have violated any statute or regulation regarding labor standards or relations in the seven years prior to the signature date of this Certification.

Officer or Authorized Agent Signature

Date

Printed or Typed Name and Title

Printed or Typed Business Name

NOTE: You can find information regarding the violations described above at: www.nlr.gov and werc.wi.gov.

For reference, Dane County Ordinance 25.09 is as follows:

- (1) BIDDER RESPONSIBILITY. (a) Any bid, application or proposal for any contract with the county, including public works contracts regulated under chapter 40, shall include a certification indicating whether the bidder has been found by the National Labor Relations Board (NLRB) or the Wisconsin Employment Relations Committee (WERC) to have violated any statute or regulation regarding labor standards or relations within the last seven years. The Controller shall investigate any such finding and make a recommendation to the committee, which shall determine whether the conduct resulting in the finding affects the bidder’s responsibility to perform the contract.

If you indicated that the NLRB or WERC have found you to have such a violation, you must include copies of any relevant information regarding such violation with your proposal, bid or application.

Include this completed Certification with your bid, application or proposal.

END OF SECTION

SECTION 01 00 00
GENERAL REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Summary
 2. Summary of the Work
 3. Contractor Use of Premises
 4. Applications for Payment
 5. Change Procedures
 6. Alternates
 7. Coordination
 8. Conferences
 9. Progress Meetings
 10. Job Site Administration
 11. Submittal Procedures
 12. Proposed Products List
 13. Shop Drawings
 14. Product Data
 15. Samples
 16. Manufacturers' Instructions
 17. Manufacturers' Certificates
 18. Quality Assurance / Quality Control of Installation
 19. References
 20. Protection of Installed Work
 21. Parking
 22. Staging Areas
 23. Occupancy During Construction and Conduct of Work
 24. Protection
 25. Progress Cleaning
 26. Products
 27. Transportation, Handling, Storage and Protection
 28. Product Options
 29. Substitutions
 30. Contract Closeout Procedures
 31. Final Cleaning
 32. As-Built and Record Drawings and Specifications

1.2 SUMMARY OF THE WORK

- A. Project Description: Perform the Work as specified and detailed in Construction Documents package. Contractor to provide demolition and replacement of two existing highway bridges.

- B. Work by Owner: Not applicable
- C. Permits: Prior to commencement of the Work, Contractor to secure any and all necessary permits for completion of the Work and facility occupancy. Provide Project Manager with copies of all permits.
- D. Diggers Hotline:
 - 1. It is General Contractor's responsibility to contact Diggers Hotline to have all utility locations marked prior to excavation and planning excavation so as not to delay the Work.
 - 2. Diggers Hotline shall also be used to obtain information on safe working clearances from overhead lines.
 - 3. Completely comply with all requirements of each affected utility company.
 - 4. It is General Contractor's responsibility to contact & hire private utility locating services if necessary.

1.3 CONTRACTOR USE OF PREMISES

- A. Limit use of premises to allow work by Contractors or Subcontractors and access by Owner.
- B. Coordinate utility outages and shutdowns with Owner.
- C. Contractors or Subcontractors shall not visit the site if they are or have recently been ill.

1.4 APPLICATIONS FOR PAYMENT

- A. Submit each Application for Payment on AIA G702™ and G703™ forms or approved contractors invoice form. Contractor shall have these forms notarized and signed.
- B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.
- C. Payment Period: Monthly.
- D. Submit Applications for Payment to Engineer electronically for initial approval. Engineer will forward approved copies to Owner who will also approve & process for payment.

1.5 CHANGE PROCEDURES

- A. Contractor's costs for Products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead and profit will be included in Change Orders authorizing expenditure of funds from contingency allowance.

1.6 ALTERNATES

- A. Alternates quoted on Bid Form shall be reviewed and accepted or rejected at Owner's option.

- B. Coordinate related work and modify surrounding work as required.
- C. Schedule of Alternates: there are no alternates proposed for this project.

1.7 COORDINATION

- A. Coordinate scheduling, submittals, and work of various sections of Specifications to assure efficient and orderly sequence of installation of interdependent construction elements.
- B. Verify utility requirement characteristics of operating equipment are compatible with building utilities.
- C. Coordinate space requirements and installation of mechanical and electrical work that are indicated diagrammatically on Drawings.
- D. Refer to Drawings for recommended work sequence and duration.
- E. Contractor shall provide Project Manager with work plan that ensures the Work will be completed within required time of completion.
- F. Construct work in stages to accommodate Dane County Public Works, Highway & Transportation operations. All activities shall be coordinated at weekly project meetings unless noted otherwise in these specifications.
- G. Project Manager may choose to photograph or videotape site or workers as the Work progresses.

1.8 CONFERENCES

- A. Project shall have pre-bid conference; see Instructions to Bidders.
- B. Owner will schedule preconstruction conference after Award of Contract for all affected parties.
- C. Contractor shall submit Construction Schedule at pre-construction meeting.
- D. When required in individual Specification section, convene pre-installation conference at project site prior to commencing work of Section.
- E. Safe distancing & face masks are required for all conference attendees. Conferences will be limited to 10 people; please limit number of attending staff & subcontractors.

1.9 PROGRESS MEETINGS

- A. Day & time of progress meetings to be determined at pre-construction meeting.

- B. Schedule and administer meetings throughout progress of the Work at minimum of one (1) per week, with Project Manager, involved Dane County staff & other individuals as required.
- C. Preside at meetings, record minutes, and distribute copies within two (2) business days to those affected by decisions made.
- D. Attendance at progress meetings by General Contractor, subcontractors, or their authorized representative, is mandatory.
- E. Contractors shall give verbal reports of progress on the Work, discuss schedule for upcoming period and present all conflicts, discrepancies or other difficulties for resolution.
- F. In-person meetings shall be limited & shall follow current *Public Health - Madison & Dane County* procedures & recommendations (see publichealthmdc.com/documents/office_space_checklist.pdf and publichealthmdc.com/coronavirus/forward-dane/current-order). Whenever possible, meetings shall be held via teleconference or videoconference, to be hosted by contractor or consultant. Dane County reserves right to mandate safe physical distancing & use of face masks by all personnel while inside any County facility or on any County grounds.

1.10 JOB SITE ADMINISTRATION

- A. Contractor shall have project superintendent on site at minimum for weekly progress meetings for the duration of the Work.
- B. Contractor shall not change their project superintendent or project manager for duration of the Work without written permission of Project Manager.
- C. Engineer shall have representative on site regularly during progress of the Work.

1.11 SUBMITTAL PROCEDURES

- A. Submittal form to identify Project, Contractor, Subcontractor or supplier; and pertinent Construction Documents references.
- B. Apply Contractor's stamp, signed or initialed, certifying that review, verification of Products required, field dimensions, adjacent construction work, and coordination of information is in accordance with requirements of the Work and Construction Documents.
- C. Identify variations from Construction Documents and Product or system limitations that may be detrimental to successful performance of completing the Work.
- D. Revise and resubmit submittals as required; identify all changes made since previous submittal.

1.12 PROPOSED PRODUCTS LIST

- A. Within fifteen (15) business days after date of Award of Contract, submit complete list of major Products proposed for use, with name of manufacturer, trade name, and model number of each Product.

1.13 SHOP DRAWINGS

- A. Submit number of copies that Contractor requires, plus copies for Engineer & Project Manager.

1.14 PRODUCT DATA

- A. Submit number of copies that Contractor requires, plus copies for Engineer & Project Manager.
- B. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturer's standard data to provide information unique to this Project.

1.15 SAMPLES

- A. Submit samples to illustrate functional and aesthetic characteristics of Product.
- B. Submit samples of finishes from full range of manufacturers' standard colors, textures, and patterns for Project Manager's selection.

1.16 MANUFACTURERS' INSTRUCTIONS

- A. When specified in individual Specification sections, submit manufacturers' printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for Product Data.

1.17 MANUFACTURERS' CERTIFICATES

- A. When specified in individual Specification sections, submit manufacturers' certificate to Project Manager for review, in quantities specified for Product Data.
- B. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

1.18 QUALITY ASSURANCE / QUALITY CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce work of specified quality.
- B. Comply fully with manufacturers' instructions.

- C. Comply with specified standards as minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

1.19 REFERENCES

- A. Conform to reference standard by date of issue current as of date for receiving bids.
- B. Should specified reference standard conflict with Construction Documents, request clarification from Project Manager before proceeding.

1.20 PROTECTION OF INSTALLED WORK

- A. Protect installed work and provide special protection where specified in individual Specification sections.

1.21 PARKING

- A. Arrange for temporary parking areas to accommodate construction personnel. Parking shall be available at the Work site.
- B. All contractors and their employees shall cooperate with General Contractor and others in parking of vehicles to avoid interference with normal operations and construction activities.
- C. Do not obstruct existing service drives and parking lots with equipment, materials and / or vehicles. Keep accessible for Owner's use at all times.

1.22 STAGING AREAS

- A. Coordinate staging areas with Project Manager prior to starting the Work.
- B. On-site space for use as staging areas and storage of materials is limited and will be apportioned among various Contractors as their needs dictate with due regard for storage requirements of each Contractor. Each Contractor shall be responsible for safety of equipment and materials that are stored on site.

1.23 OCCUPANCY DURING CONSTRUCTION AND CONDUCT OF WORK

- A. Contractors may not work at site if they are ill or have something contagious.
- B. Smoking is prohibited on Dane County property.
- C. Owner reserves right at any time to dismiss from premises any Contractor or construction personnel that do not uphold requirements of this Section.
- D. Owner shall not be held liable for any lost time, wages, or impacts to construction schedule by any Contractor or construction personnel dismissed for failure to uphold requirements of this Section.

- E. Work is normally done during business hours (7:00 am to 4:30 pm), but working outside these hours is permissible with Owner's authorization. Work performed on Saturday shall be by permission of Owner.
- F. Contractor shall, at all times, provide approved, safe walkways and work site entrances for use by Owner.
- G. Contractor shall provide adequate protection for all parts of site, its contents and occupants wherever the Work under this Contract is to be performed.
- H. Contractor is responsible for providing & maintaining temporary toilet facilities.
- I. Contractor & subcontractors shall follow all current *Public Health - Madison & Dane County* procedures & recommendations (see publichealthmdc.com/documents/office_space_checklist.pdf and publichealthmdc.com/coronavirus/forward-dane/current-order). Dane County reserves right to mandate safe physical distancing & use of face masks by all personnel while inside any County facility or on any County grounds.

1.24 PROTECTION

- A. Contractor shall protect from damage / injury all trees, shrubs, hedges, plantings, grass, mechanical, electrical & plumbing equipment, walks and driveways and pay for any damage to same resulting from insufficient or improper protection.
- B. Contractor shall provide and maintain barricades & signage to prohibit public access to construction site.
- C. Contractor shall provide and maintain guard lights at all barricades, railings, obstructions in streets, roads or sidewalks and at all trenches adjacent to public walks or roads.

1.25 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition.

1.26 PRODUCTS

- A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work, but does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components specifically identified for reuse.
- B. Do not use materials and equipment removed from existing premises, except as specifically identified or allowed by Construction Documents.

1.27 TRANSPORTATION, HANDLING, STORAGE AND PROTECTION

- A. Transport, handle, store and protect Products in accordance with manufacturer's instructions.

1.28 PRODUCT OPTIONS

- A. Where definite material is specified, it is not intentional to discriminate against "equal" product made by another manufacturer. Intention is to set definite standard of material quality. Should bidder choose to bid materials other than those specified, bidder shall submit said materials specifications to Project Manager for approval at least seven (7) business days prior to Bid Due Date.
- B. Products and materials that are not specified, but have been approved for use by Project Manager shall be identified in addenda to all bidding contractors.
- C. Requests for material or product substitutions submitted after Bid Due Date shall not be considered. Owner reserves right to approve or reject substitutions based on Specification requirements and intended use.

1.29 SUBSTITUTIONS

- A. Project Manager shall consider requests for Substitutions only up to seven (7) business days prior to date of Bid Due Date.
- B. Document each request with complete data substantiating compliance of proposed Substitution with Construction Documents.
- C. Submit formal requests for Substitution for consideration. Limit each request to one (1) proposed Substitution.
- D. Substitutions shall not change contract price established at Bid Due Date.

1.30 CONTRACT CLOSEOUT PROCEDURES

- A. Submit written certification that Construction Documents have been reviewed, the Work has been inspected, and the Work is complete in accordance with Construction Documents and ready for Project Manager's inspection.
- B. Submit final Application for Payment identifying total adjusted Contract Sum / Price, previous payments, and amount remaining due.

1.31 FINAL CLEANING

- A. Execute final cleaning prior to final inspection.
- B. Clean interior and exterior surfaces exposed to view.
- C. Remove waste and surplus materials, rubbish, and construction facilities from site.

1.32 AS-BUILT AND RECORD DRAWINGS AND SPECIFICATIONS

- A. Contractor-produced Drawings and Specifications shall remain property of Contractor whether Project for which they are made is executed or not. Contractor shall furnish Engineer with original marked up redlines of Construction Documents' drawings and specifications that shall include all Addendums, Change Orders, Construction Bulletins, on-site changes, field corrections, etc. These are project As-Built Drawings & Specifications.
- B. Engineer shall update original Construction Documents to include all Addendums & any other changes including those provided by Contractor in As-Built Drawings & Specifications. These updates are project Record Drawings & Specifications.
- C. Engineer shall furnish Project Manager with Record Drawings as detailed in Professional Services Agreement.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 74 19

CONSTRUCTION WASTE MANAGEMENT, DISPOSAL & RECYCLING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Summary
 - 2. Waste Management Goals
 - 3. Construction and / or Demolition Waste Management
 - 4. Waste Management Plan
 - 5. Reuse
 - 6. Recycling
 - 7. Materials Sorting and Storage On Site
 - 8. Lists of Recycling Facilities Processors and Haulers
 - 9. Waste Management Plan Form
- B. Related Sections:
 - 1. Section 01 00 00 - General Requirements

1.2 WASTE MANAGEMENT GOALS

- A. Dane County requires that as many waste materials as possible produced as result of this project be salvaged, reused or recycled in order to minimize impact of construction waste on landfills and to minimize expenditure of energy and cost in fabricating new materials.

1.3 CONSTRUCTION AND / OR DEMOLITION WASTE MANAGEMENT

- A. All construction and demolition waste suitable for recycling may go to Dane County Construction & Demolition Recycling Facility located at 7102 US Hwy 12, Madison, located across from Yahara Hills Golf Course. This facility can receive mixed loads of construction and demolition waste. For complete list of acceptable materials see www.countyofdane.com/pwht/recycle/CD_Recycle.aspx.
- B. Dane County Landfill, also at 7102 US Hwy 12, Madison, must receive all other waste from this project. www.countyofdane.com/pwht/recycle/landfill.aspx.

1.4 WASTE MANAGEMENT PLAN

- A. Contractor shall develop Waste Management Plan (WMP) for this project. Dane County's Special Projects & Materials Manager may be contacted with questions. Outlined in RECYCLING section of this specification are examples of materials that can be recycled or reused as well as recommendations for waste sorting methods.
- B. Contractor shall complete WMP and include cost of recycling / reuse in Bid. WMP will be submitted to Project Manager within fifteen (15) business days of Bid Due date. Copy of blank WMP form is in this Section. Submittal shall include cover letter and WMP form with:

1. Information on:
 - a. Types of waste materials produced as result of work performed on site;
 - b. Estimated quantities of waste produced;
 - c. Identification of materials with potential to be recycled or reused;
 - d. How materials will be recycled or reused;
 - e. On-site storage and separation requirements (on site containers);
 - f. Transportation methods; and
 - g. Destinations.

1.5 REUSE

- A. Contractors and subcontractors are encouraged to reuse as many waste materials as possible. Salvage should be investigated for materials not reusable on site.

1.6 RECYCLING

- A. These materials may be recycled at Dane County Construction & Demolition Recycling Facility:
 1. Wood.
 2. Wood Pallets.
 3. PVC Plastic (pipe, siding, etc.).
 4. Asphalt & Concrete.
 5. Bricks & Masonry.
 6. Cardboard.
 7. Metal.
- B. These materials can be recycled elsewhere in Dane County area:
 1. Foam Insulation & Packaging (extruded and expanded).
 2. Barrels & Drums.
- C. All materials must be recycled at WDNR permitted waste processing facilities that adhere to all State Statutes.

1.7 MATERIALS SORTING AND STORAGE ON SITE

- A. Contractor shall provide separate containers for recyclable materials. Number of containers will be dependent upon project and site conditions.
- B. Contractor shall provide on-site locations for subcontractors supplied recycling containers to help facilitate recycling.
- C. Mixed loads of recycled materials are allowed only per instructions at www.countyofdane.com/pwht/recycle/CD_Recycle.aspx.

1.8 LISTS OF RECYCLING FACILITIES PROCESSORS AND HAULERS

- A. Refer to www.countyofdane.com/pwht/recycle/CD_Recycle.aspx for information on Dane County Construction & Demolition Recycling Facility.
- B. Web site www.countyofdane.com/pwht/recycle/categories.aspx lists current information for Dane County Recycling Markets. Contractors can also contact Allison Rath sack at 608/266-4990, or local city, village, town recycling staff

listed at site www.countyofdane.com/pwht/recycle/contacts.aspx. Statewide listings of recycling / reuse markets are available from UW Extension at <https://www.uwgb.edu/shwec/>.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

WASTE MANAGEMENT PLAN FORM



Contractor Name: _____

Address: _____

Phone No.: _____ Recycling Coordinator: _____

MATERIAL	ESTIMATED QUANTITY	DISPOSAL METHOD (CHECK ONE)	RECYCLING / REUSE COMPANY OR DISPOSAL SITE
Salvaged & reused building materials	_____ cu. yds. _____ tons	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
Wood	_____ cu. yds. _____ tons	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
Wood Pallets	_____ units	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
PVC Plastic	_____ cu. ft. _____ lbs.	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
Asphalt & Concrete	_____ cu. ft. _____ lbs.	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
Bricks & Masonry	_____ cu. ft. _____ lbs.	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
Cardboard	_____ cu. ft. _____ lbs.	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
Metals	_____ cu. yds. _____ tons	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
Foam Insulation	_____ cu. ft. _____ lbs.	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
Barrels & Drums	_____ units	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
Glass	_____ cu. yds. _____ tons	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
Other	_____	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
Other	_____	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
Other	_____	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
Other	_____	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____

SECTION 2000

STANDARD SPECIFICATIONS FOR ROADWAY CONSTRUCTION

PART 1 ROADWAY CONSTRUCTION

- 1.1 SCOPE OF WORK
- 1.2 SOURCE OF MATERIALS
- 1.3 STANDARD SPECIFICATIONS

PART 2 BRIDGE CONSTRUCTION

- 2.1 SCOPE OF WORK
- 2.2 SOURCE OF MATERIALS
- 2.3 STANDARD SPECIFICATIONS

PART 3 SPECIAL PROVISIONS

- 3.1 PROSECUTION AND PROGRESS
- 3.2 TRAFFIC
- 3.3 UTILITIES
- 3.4 INFORMATION TO BIDDERS, U.S. ARMY CORPS OF ENGINEERS SECTION 404 PERMIT
- 3.5 ENVIRONMENTAL PROTECTION, AQUATIC EXOTIC SPECIES CONTROL
- 3.6 ENVIRONMENTAL PROTECTION
- 3.7 EROSION CONTROL STRUCTURES
- 3.8 NOTICE TO CONTRACTOR, NOTIFICATION OF DEMOLITION AND/OR RENOVATION NO ASBESTOS FOUND
- 3.9 REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 11+51, ITEM 203.0600.S.01 // REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 11+44, ITEM 203.0600.S.02
- 3.10 ABUTMENT CONSTRUCTION
- 3.11 PRESTRESSED GIRDER TYPE I 28-INCH, ITEM 503.0128 // PRESTRESSED GIRDER TYPE I 36-INCH, ITEM 503.0136
- 3.12 FIELD OFFICE

SECTION 1 – ROADWAY CONSTRUCTION

1.1 SCOPE OF WORK

The Work under this Division shall consist of clearing, grubbing, salvaged guardrail, grading, base aggregate dense, asphaltic surface, guardrail, signing, traffic control, erosion control, finishing items, and all incidental items necessary to complete the Work as shown on the drawings and included in the proposal and contract.

1.2 SOURCE OF MATERIALS

All materials are subject to Dane County approval before incorporation into the work. Submit Source of Materials report to Dane County for review and approval.

1.3 STANDARD SPECIFICATIONS

Unless otherwise indicated, standard specifications shall refer to the State of Wisconsin Department of Transportation, "Standard Specifications for Highway and Structure Construction," Latest Edition. Unless otherwise specified or required, all work shall conform to the requirements of the Standard Specifications, Parts 2 through 7.

The Specifications, method of Measurement and Basis of Payment for the following items are provided in the standard specifications:

Item	Section
Clearing and Grubbing	201
Removing or Abandoning Miscellaneous Structures	204
Roadway and Drainage Excavation	205
Borrow	208
Finishing Roadway	213
Dense-Graded Base	305
Concrete Pavement	415
Asphaltic Materials	455
Asphaltic Surface	465
Riprap	606
Semi-rigid Barrier Systems and End Treatments	614
Mobilization	619
Water	624
Topsoil and Salvaged Topsoil	625
Erosion Control	628
Fertilizer and Agricultural Limestone	629
Seeding	630
Delineators and Markers	633
Wood and Tubular Steel Sign Posts	634
Signing	637
State Owned Signs and Supports	638
Field Facilities	642
Traffic Control	643
Pavement Marking	646
Geosynthetics	645
Pavement Marking	646
Construction Staking	650
Sawing	690
Quality Management Program	700

SECTION 2 – BRIDGE CONSTRUCTION

2.1 SCOPE OF WORK

The Work under this Division shall consist of all items related to construction of a bridge including excavation, backfill, concrete, reinforcing, riprap, geotextile fabric, and all incidentals.

2.2 SOURCE OF MATERIALS

All materials are subject to Dane County approval before incorporation into the work. Submit a source of materials report to Dane County for review and approval.

2.3 STANDARD SPECIFICATIONS

Unless otherwise indicated, standard specifications shall refer to the State of Wisconsin Department of Transportation, "Standard Specifications for Highway and Structure Construction," Latest Edition. Unless otherwise specified or required, all work shall conform to the requirements of the Standard Specifications, Parts 2 through 7.

The Specifications, method of Measurement and Basis of Payment for the following items are provided in the standard specifications:

Item	Section
Removing Old Culverts and Bridges	203
Excavation for Structures	206
Structure Backfill	210
Concrete Bridges	502
Prestressed Concrete Members	503
Steel Reinforcement	505
Steel Bridges	506
Railing	513
Waterproofing	516
Driven Piles	550
Riprap	606
Underdrains	612
Geosynthetics	645
Quality Management Program	700

SECTION 3 – SPECIAL PROVISIONS

These SPECIAL PROVISIONS govern wherever there is a conflict or discrepancy with the standard specifications.

Where these SPECIAL PROVISIONS refer to DEPARTMENT, they shall refer to COUNTY as identified in the Agreement.

3.1 PROSECUTION AND PROGRESS

Begin work within ten calendar days after PROJECT MANAGER issues a written notice to do so.

Provide the time frame for construction of the project within the 2021 construction season to the ENGINEER & PROJECT MANAGER in writing within a month after executing the contract but at least 14 calendar days before the preconstruction conference. The time frame shall be consistent with the contract completion time of 40 working days for each site.

To revise the time frame, submit a written request to the ENGINEER & PROJECT MANAGER at least two weeks before the beginning of the intended time frame. The PROJECT MANAGER will approve or deny that request based on the conditions cited in the request and its effect on the DEPARTMENT's scheduled resources.

CTH J

Complete all work at this site within 40 working days.

Fish Spawning

There shall be no instream disturbance of Elvers Creek as a result of construction activity under or for this contract, from September 15 to May 15 both dates inclusive, in order to avoid adverse impacts upon the spawning in this cold water class 2 trout stream.

Any change to this limitation will require submitting a written request by the CONTRACTOR to the ENGINEER & PROJECT MANAGER, subsequent review and concurrence by the Department of Natural Resources (WDNR) in the request, and final approval by the PROJECT MANAGER. The approval will include all conditions to the request as mutually agreed upon by DEPARTMENT and WDNR.

Migratory Birds

Swallow and other migratory birds' nests have been observed on or under the existing bridge. All active nests (when eggs or young are present) of migratory birds are protected under the federal Migratory Bird Treaty Act.

The nesting season for swallows and other birds is usually between May 1 and August 30. Either prevent active nests from becoming established, or apply for a depredation permit from the US Fish and Wildlife Service for work that may disturb or destroy active nests. The need for a permit may be avoided by removing the existing bridge structure prior to nest occupation by birds, or clearing nests from all structures before the nests become active in early spring. As a last resort, prevent birds from nesting by installing a suitable netting device on the remaining structure prior to nesting activity. Include the cost for preventing nesting in the cost of Removing Old Structure Over Waterway with Minimal Debris.

Dane County will prevent nesting until the construction contract is executed. Upon removal of the existing structure, carefully remove and place structure netting outside the slope intercept inside the right-of-way. Salvage netting back to Dane County. Contact Jeffrey Otto, P.E., Dane County Highway Department PROJECT MANAGER, (608) 283-1416.

CTH N

Complete all work at this site within 40 working days.

Fish Spawning

There shall be no instream disturbance of Hannerville Creek as a result of construction activity under or for this contract, from March 1 to June 15 both dates inclusive, in order to avoid adverse impacts upon the spawning in this warm water fishery.

Any change to this limitation will require submitting a written request by the CONTRACTOR to the ENGINEER & PROJECT MANAGER, subsequent review and concurrence by the Department of Natural Resources (WDNR) in the request, and final approval by the PROJECT MANAGER. The approval will include all conditions to the request as mutually agreed upon by DEPARTMENT and WDNR.

3.2 TRAFFIC

Close CTH J and CTH N to traffic during construction and detour according to the drawing details.

3.3 UTILITIES

This contract does not come under the provision of Administrative Rule Trans 220.

CTH J

Mount Horeb Electric has overhead electric facilities located along the south side of CTH J. Utility poles are located at approximately Station 9+68, 44' right and Station 12+33, 39' right of the finished roadway centerline. During the placement of heavy riprap on the south side of the roadway the overhead electric line will be in conflict. Mount Horeb Electric will temporarily de-energize the overhead electric during construction in this area. Notify Mount Horeb Electric a minimum of five calendar days before the line needs to be de-energized.

Mount Horeb Telephone Company has underground telephone and fiber optic located along the north side of CTH J. The underground telephone is located at distances varying from 33' to 38' left of the finished roadway centerline and the fiber optic is located at distances varying from 38' to 42' left. No conflict is anticipated with the underground telephone and fiber optic lines.

CTH N

AT&T Distribution has overhead electric facilities located along the north side of CTH N. A utility pole is located at approximately Station 13+89, 35' left of the finished roadway centerline. No conflict is anticipated with the pole nor overhead electric line.

Stoughton Utilities had overhead electric facilities located on both sides of CTH N at the time of the project's survey. As shown in the plan and profile, a utility pole was located at approximately Station 12+59, 48' right of the finished roadway centerline and an overhead electric line crossed the finished roadway centerline at approximately Station 11+95. Stoughton Utilities has stated that, during the fall of 2020, they replaced/relocated the overhead facilities with an underground cable which is now located underneath where AT&T's overhead facilities crosses Hannerville Creek. No conflict is anticipated.

3.4 INFORMATION TO BIDDERS, U.S. ARMY CORPS OF ENGINEERS SECTION 404 PERMIT

The department has obtained a U.S. Army Corps of Engineers Section 404 permit. Comply with the requirements of the permit in addition to requirements of the special provisions. A copy of the permit is available from the regional office by contacting Jeffrey Otto, P.E., Dane County Highway Department PROJECT MANAGER, (608) 283-1416.

3.5 ENVIRONMENTAL PROTECTION, AQUATIC EXOTIC SPECIES CONTROL

Exotic invasive organisms such as VHS, zebra mussels, purple loosestrife, and Eurasian water milfoil are becoming more prolific in Wisconsin and pose adverse effects to waters of the state. Wisconsin State Statutes 30.07, "Transportation of Aquatic Plants and Animals; Placement of Objects in Navigable Waters", details the state law that requires the removal of aquatic plants and zebra mussels each time equipment is put into state waters.

At construction sites that involve navigable water or wetlands, use the follow cleaning procedures to minimize the chance of exotic invasive species infestation. Use these procedures for all equipment that comes in contact with waters of the state and/or infested water or potentially infested water in other states.

Ensure that all equipment that has been in contact with waters of the state, or with infested or potentially infested waters, has been decontaminated for aquatic plant materials and zebra mussels before being used in other waters of the state. Before using equipment on this project, thoroughly disinfect all equipment that has come into contact with potentially infested waters. Guidelines from the Wisconsin Department of Natural Resources for disinfection are available at:

<http://dnr.wi.gov/topic/invasives/disinfection.html>

Use the following inspection and removal procedures:

1. Before leaving the contaminated site, wash machinery and ensure that the machinery is free of all soil and other substances that could possibly contain exotic invasive species;
2. Drain all water from boats, trailers, bilges, live wells, coolers, bait buckets, engine compartments, and any other area where water may be trapped;
3. Inspect boat hulls, propellers, trailers and other surfaces. Scrape off any attached mussels, remove any aquatic plant materials (fragments, stems, leaves, seeds, or roots), and dispose of removed mussels and plant materials in a garbage can before leaving the area or invested waters; and
4. Disinfect your boat, equipment and gear by either:
 - 4.1. Washing with ~212°F water (steam clean), or
 - 4.2. Drying thoroughly for five days after cleaning with soap and water and/or high pressure water, or
 - 4.3. Disinfecting with either 200 ppm (0.5 oz per gallon or 1 Tablespoon per gallon) Chlorine for 10-minute contact time or 1:100 solution (38 grams per gallon) of Virkon Aquatic for 20- to 30-minute contact time. Note: Virkon is not registered to kill zebra mussel veligers nor invertebrates like spiny water flea. Therefore, this disinfect should be used in conjunction with a hot water (>104°F) application.

Complete the inspection and removal procedure before equipment is brought to the project site and before the equipment leaves the project site.

3.6 ENVIRONMENTAL PROTECTION

All disturbed bank areas shall be adequately protected and restored as soon as feasible.

Removal of vegetative cover must be restricted, and exposure of bare ground kept to the minimum amount necessary to complete construction. Restoration of disturbed soils shall take place as soon as conditions permit. Place all temporary stockpiles in an upland location and protected with erosion control measures. Do not stockpile materials in waterways, or floodplains.

3.7 EROSION CONTROL STRUCTURES

Within three calendar days after completing the excavation for a substructure unit, place riprap or other

permanent erosion control items required by the contract or deemed necessary by the engineer around the unit at a minimum to a height equivalent to the calculated water elevation resulting from a storm that occurs on the average of once every two years (Q2) as shown on the plan, or as the engineer directs.

In the event that construction activity does not disturb the existing ground below the Q2 elevation, the above timing requirements for permanent erosion control shall be waived.

3.8 NOTICE TO CONTRACTOR, NOTIFICATION OF DEMOLITION AND/OR RENOVATION NO ASBESTOS FOUND

CTH J

Ethan Turriff, License Number All-238194, inspected Structure B-13-178 for asbestos on January 2, 2020. No regulated Asbestos Containing Material (RACM) was found on this structure. A copy of the inspection report is available from: Jeffrey Otto, P.E., Dane County Highway Department PROJECT MANAGER, (608) 283-1416.

In accordance with NR447 and DHS159, ensure that DNR or DHS receives a completed Notification of Demolition and/or Renovation (DNR Form 4500-113 (R 4/11), or subsequent revision) via U.S. mail, hand-delivery, or using the online notification system at least 10 working days before beginning any construction or demolition. Pay all associated fees. Provide a copy of the completed 4500-113 form to Jeffrey Otto, P.E., Dane County Highway Department PROJECT MANAGER, (608) 283-1416. In addition, comply with all local or municipal asbestos requirements.

Use the following information to complete WisDNR form 4500-113:

- Site Name: Structure B-13-178, CTH J over Elvers Creek
- Site Address: 1.0 mile south of JCT CTH JJ
- Ownership Information: Dane County, 2302 Fish Hatchery Rd, Madison, WI 53713
- Contact: Jeffrey Otto, P.E., Dane County Highway Department PROJECT MANAGER
- Phone: (608) 283-1416
- Age: 59 years old. This structure was constructed in 1961.
- Area: 1185 SF of deck

Insert the following paragraph in Section 6.g.:

If asbestos not previously identified is found or previously non-friable asbestos becomes crumbled, pulverized, or reduced to a powder, stop work immediately, notify the ENGINEER, and the ENGINEER will notify the Dane County Highway Department at (608) 283-1416 for an emergency response in accordance with the following:

Whenever the construction operations encounter or expose an abnormal condition that may indicate the presence or a hazardous substance, immediately discontinue construction operations near the abnormal condition and notify ENGINEER. Treat all abnormal conditions with extreme caution. Abnormal conditions include, but are not limited to the following:

1. The presence of a tank or barrel.
2. An obnoxious odor.
3. Excessively hot earth.
4. Smoke.
5. Visible fumes.
6. Discolored earth or sheen on groundwater.

Do not resume construction operations in this area until notified. CONTRACTOR may continue to work in other areas of the project acceptable to ENGINEER.

Take actions to prevent the hazardous substance from spreading into an uncontaminated area.

Dispose of hazardous substances conforming to the requirements and regulations of the responsible state or federal agencies. If ENGINEER or PROJECT MANAGER requires CONTRACTOR to dispose of the hazardous substance and the contract does not provide for this work, the Work is extra work. If the responsible state or federal agency requires special procedures for the disposal, DEPARTMENT will arrange with qualified persons to dispose of the substance.

Keep material wet until it is abated or until it is determined to be non-asbestos containing material.

CTH N

Ethan Turriff, License Number All-238194, inspected Structure B-13-225 for asbestos on January 2, 2020. No regulated Asbestos Containing Material (RACM) was found on this structure. A copy of the inspection report is available from: Jeffrey Otto, P.E., Dane County Highway Department PROJECT MANAGER, (608) 283-1416.

In accordance with NR447 and DHS159, ensure that DNR or DHS receives a completed Notification of Demolition and/or Renovation (DNR Form 4500-113 (R 4/11), or subsequent revision) via U.S. mail, hand-delivery, or using the online notification system at least 10 working days before beginning any construction or demolition. Pay all associated fees. Provide a copy of the completed 4500-113 form to Jeffrey Otto, P.E., Dane County Highway Department PROJECT MANAGER, (608) 283-1416. In addition, comply with all local or municipal asbestos requirements.

Use the following information to complete WisDNR form 4500-113:

- Site Name: Structure B-13-225, CTH N over Hannerville Creek
- Site Address: 2.9 miles west of CTH X
- Ownership Information: Dane County, 2302 Fish Hatchery Rd, Madison, WI 53713
- Contact: Jeffrey Otto, P.E., Dane County Highway Department PROJECT MANAGER
- Phone: (608) 283-1416
- Age: 57 years old. This structure was constructed in 1963.
- Area: 1040 SF of deck

Insert the following paragraph in Section 6.g.:

If asbestos not previously identified is found or previously non-friable asbestos becomes crumbled, pulverized, or reduced to a powder, stop work immediately, notify the ENGINEER, and the ENGINEER will notify the Dane County Highway Department at (608) 283-1416 for an emergency response in accordance with the following:

Whenever the construction operations encounter or expose an abnormal condition that may indicate the presence of a hazardous substance, immediately discontinue construction operations near the abnormal condition and notify ENGINEER. Treat all abnormal conditions with extreme caution. Abnormal conditions include, but are not limited to the following:

1. The presence of a tank or barrel.
2. An obnoxious odor.
3. Excessively hot earth.
4. Smoke.

5. Visible fumes.
6. Discolored earth or sheen on groundwater.

Do not resume construction operations in this area until notified. CONTRACTOR may continue to work in other areas of the project acceptable to ENGINEER.

Take actions to prevent the hazardous substance from spreading into an uncontaminated area.

Dispose of hazardous substances conforming to the requirements and regulations of the responsible state or federal agencies. If ENGINEER or PROJECT MANAGER requires CONTRACTOR to dispose of the hazardous substance and the contract does not provide for this work, the Work is extra work. If the responsible state or federal agency requires special procedures for the disposal, DEPARTMENT will arrange with qualified persons to dispose of the substance.

Keep material wet until it is abated or until it is determined to be non-asbestos containing material.

**3.9 REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 11+51, ITEM 203.0600.S.01
REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 11+44, ITEM 203.0600.S.02**

Conform to standard spec 203 as modified in this special provision.

Add the following to standard spec 203:

203.3.6 Removals Over Waterways and Wetlands

203.3.6.2 Removing Old Structure Over Waterway with Minimal Debris

- (1) Remove the existing Structure B-13-178, CTH J over Elvers Creek, and existing Structure B-13-225, CTH N over Hannerville Creek in large sections and conforming to the contractor's approved structure removal and clean-up plan. During superstructure removal, prevent all large pieces and minimize the number of small pieces from entering the waterway or wetland. Remove all reinforcing steel, all concrete, and all other debris that falls into the waterway or wetland. The contractor may leave limited amounts of small concrete pieces scattered over the waterway floor or wetland only if the engineer allows.
- (2) Submit a structure removal and clean-up plan as part of the erosion control implementation plan required under standard spec 107.20. Do not start work under the structure removal and clean-up plan without the department's written approval of the plan. Include the following information in the structure removal and clean-up plan:
 - Methods and schedule to remove the structure.
 - Methods to control potentially harmful environmental impacts.
 - Methods for superstructure removal that prevent all large pieces and minimize the number of small pieces from entering the waterway or wetlands.
 - Methods to control dust and contain slurry.
 - Methods for removing piers and abutments. If blasting in water, include restrictions that regulatory agencies and the contract require.
 - Methods for cleaning the waterway or wetlands.
- (3) If stockpiling spoil material, place it on an upland site an adequate distance from the waterway, wetland, or any open water created by excavation. Install silt fence between the spoil pile and the

waterway, wetland, or excavation site.

Add the following Removing Old Structure bid item to standard spec 203.5.1:

<u>ITEM NUMBER</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
203.0600.S.01	Removing Old Structure Over Waterway With Minimal Debris Station 11+51	LS
203.0600.S.02	Removing Old Structure Over Waterway With Minimal Debris Station 11+44	LS

3.10 ABUTMENT CONSTRUCTION

Determine the method of construction, and observe the following conditions:

1. If a cofferdam is used, build the cofferdam of non-erodable material.
2. Concrete poured under water will be allowed; pour the concrete conforming to standard spec 502.3.5.3. Ensure that the forms are tight to prevent leakage of concrete into the stream. Treat all displaced water by filtration, settling basin, or other means sufficient to reduce the cement content before discharging the water into the stream.
3. Excavated material from the stream may be utilized in the fill slopes so long as it is covered with other suitable material to prevent it from eroding back into the stream.

3.11 PRESTRESSED GIRDER TYPE I 28-INCH, ITEM 503.0128 PRESTRESSED GIRDER TYPE I 36-INCH, ITEM 503.0136

The engineer will inspect the prestressed girders at the prestress concrete manufacturing plant. Notify Ellery Schaffer, P.E., Jewell Associates Engineers, phone (608) 459-6027 a minimum of one week prior to when the inspection will be needed.

Replace the first sentence of standard spec 503.2.2 paragraph (2) with the following:

Ensure concrete attains a minimum 28-day compressive strength of 8000 psi for prestressed I-type girders.

3.12 FIELD OFFICE

Add the following to standard spec 642:

For field offices without handwashing facilities, provide and maintain a portable handwashing station at every project field office. The station shall include a hands-free sink with foot pump-operated faucet, soap dispenser, paper towel dispenser, fresh water supply, and collection tank for gray water. Regularly service and maintain the handwashing station and all supplies as needed, and properly dispose of all materials. Costs associated with the handwashing station are incidental to the field office bid item.

END OF SECTION