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February 18, 2021

**NOTICE OF ADDENDUM  
ADDENDUM NO. 2  
CONTRACT NO. 8572**

**GARVER PATH & STARKWEATHER DRIVE ASSESSMENT DISTRICT-2021**

Revise and amend the contract document(s) for the above project as stated in this addendum, otherwise, the original document shall remain in effect.

**SPECIAL PROVISIONS:**

Remove and replace page D-8: Section 109.2 PROSECUTION OF WORK  
The special provision has been modified, changes are indicated with red text.

Remove and replace page D-20: Bid Item 90205 – SAFETY RAILING  
The bid item name has been modified, changes are indication with red text.

Remove and replace page D-23: BID ITEM 90206 EXCAVATION, HAULING, AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL  
Section E. Payment has been modified, changes are indication with red text.

Remove and replace page D-27 and page D-29: BID ITEM 90305 to 90307 – PREFABRICATED STEEL TRUSS PEDESTRIAN BRIDGE B-13-880, B-13-881, B-13-882 LRFD  
Section B.2 Design Requirements has been modified, changes are indication with red text.  
Section C.2 Finishes has been modified, changes are indication with red text.

Remove and replace page D-30: Bid Item 90308 – CUT STONE BOULDERS  
The special provision has been modified, changes are indicated with red text.

**PROPOSAL:**

See below for a summary of items that have been removed, added or revised. Refer to the proposal for updated quantities. See proposal on bidexpress.com.

**GARVER PATH ITEMS:**

Action	Bid Item	Description
MODIFY	20101	EXCAVATION CUT
ADD	20217	CLEAR STONE
MODIFY	20241	RIPRAP FILTER FABRIC, TYPE HR
DELETE	40321	UNDERCUT
MODIFY	90205	SAFETY RAILING
MODIFY	90308	CUT STONE BOULDERS

**STARKWEATHER DRIVE ITEMS:**

Action	Bid Item	Description
MODIFY	20101	EXCAVATION CUT

**PLANS:**

Remove and insert revised plan sheets as noted below.

Sheet CD-1: Earthwork Summary added

Sheets S-1, S-2, S-4, S-6, S-9, S-10, S-12, S-14 and S-18: Revisions include HSS tubing, lumber treatment, clear stone and revised quantities.

Please acknowledge this addendum on page E1 of the contract documents and/or in Section E: Bidder's Acknowledgement on Bid Express.

Electronic version of these documents can be found on the Bid Express web site at:  
<http://www.bidexpress.com>

If you are unable to download plan revisions associated with the addendum, please contact the Engineering office at 608-266-4751 receive the material by another route.

Sincerely,



Robert F. Phillips, P.E., City Engineer

## **SECTION 108.2**

### **PERMITS**

The City of Madison has obtained coverage under a WPDES General Permit No. WI-S067831-5 for Construction Site Storm Water Runoff regarding erosion control for a disturbed area greater than one acre.

The City of Madison has submitted a DNR Water Resources Application for Projects Permits (WRAPP) for the following;

- Individual Permit for a bridge over a waterway with width greater than 25 feet at Ordinary High water, IP-SC-2020-13-03401-3483, issued 1/11/2021
- General Permit for recreational development wetland, GP-SC-2020-13-03585 issued 11/16/2020.
- Notice of Intent Construction Site Storm Water Permit, FIN 74467 issued 11/30/2020.

A Preconstruction Notice (PCN) for a Nationwide Transportation General Permit (TRGP) and concurrence from the Army Corps of Engineers was submitted and a permit letter was issued October 29, 2020; File No. MVP-2020-2106-KDZ.

A City of Madison Erosion Control permit has been obtained and weekly inspections will be completed by City Staff. Contractor may be required to complete additional inspections following storm events, and this work will be paid for under the appropriate bid item. See **SECTION 210.1(b)**. A copy of the permit is available at the City of Madison, Engineering Division office.

The Contractor shall meet the conditions of the permits by properly installing and maintaining the erosion control measures shown on the plans, specified in these Special Provisions, or as directed by the Construction Engineer or his designees. This work will be paid for under the appropriate contract bid items. If appropriate items are not included in the contract, they shall be considered Extra Work. A copy of the permit is available at the City of Madison, Engineering Division office.

Copies of these permits will be provided to Contractor prior to start of construction. The Contractor must keep a copy of each individual permit on site at all times throughout construction.

The City's obtaining of these permits is not intended to be exhaustive of all permits that may be required to be obtained by the Contractor for construction of this project. It shall be the responsibility of the Contractor to identify and obtain any other permits needed for construction.

## **SECTION 109.2**

### **PROSECUTION OF WORK**

The project shall be completed on or prior to **July 1, 2022**

Work shall begin only after the start work letter is received.

The contract start date is intended to allow the Contractor time to begin design and shop drawing review of the pre-fabricated bridge in advance of actual construction.

The wetland structure B-13-882 and **its** approaches located within soft compressible soil areas including placement of the embankment fills and stone based as shown on the plans shall be completed prior to **September 1<sup>st</sup>, 2021**. Final grading and asphalt pavement of the path **from 34+00 to Milwaukee St.** including installation of the safety railing for the approaches to the structure will be completed in the **month of June 2022** or by the project completion date of **July 1, 2022**.

**All other work including Structures B-13-880 and B-13-881, Starkweather Drive, & Garver Path work shall be completed prior to November 1, 2021.**

**Method of Measurement**

Geogrid SR will be measured by the square yard acceptably completed.

**Basis of Payment.**

This work, measured as provided, will be paid for at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
90203	Geogrid Wetland	SY

Payment is full compensation for providing the furnishing, handling, storing and placement of the geogrid; and for furnishing all equipment, tools, labor and incidentals necessary to complete the work.

**BID ITEM 90205 – SAFETY RAILING**

**Description**

This Special Provision describes furnishing and installing metal railing at locations and according to details shown on the Drawings.

**Materials**

All materials for the steel railing shall be in accordance with the 513.2 of the State of Wisconsin Standard Specifications for Highway and Bridge Construction, 2021 Edition. Railing assemblies shall be galvanized and receive a two-coat paint system from the WisDOT Bureau of Structures approved products list as specified in 517.2 of the State of Wisconsin Standard Specifications for Highway and Bridge Construction, 2021 Edition.

**Construction Methods**

Construct the railing in accordance with 513.3 of the State of Wisconsin Standard Specifications for Highway and Bridge Construction, 2021 Edition.

Paint the railing with a two-coat paint system from the WisDOT Bureau of Structures approved products list as specified in 517.3 of the State of Wisconsin Standard Specifications for Highway and Bridge Construction, 2021 Edition

**Method of Measurement**

Safety Railing will be measured by the lineal feet acceptably completed.

**Basis of Payment.**

This work, measured as provided, will be paid for at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
90205	Safety Railing	LF

Payment is full compensation for furnishing and installing railing and posts; for all maintenance necessary to keep the railing and posts in satisfactory condition; and for furnishing all labor, tools, equipment, materials, and incidentals necessary to complete the Contract Work

## E Payment

ITEM NUMBER	DESCRIPTION	UNIT
90206	Excavation, Hauling, and Disposal of Petroleum Contaminated Soil	CY

Payment is full compensation for excavating, segregating, loading, hauling, disposal and treatment via bioremediation of contaminated soil; obtaining solid waste collection and transportation service operating licenses; assisting in the collection soil samples for field evaluation; and dewatering of soils before transport, if necessary.

### **BID ITEM 90300– REMOVING OLD STRUCTURE OVER WATERWAY STATION 101+50**

#### **Description**

This work shall consist of removing and disposing of the existing wood bridge and timber abutments located at the Ivy Street bridge site.

Conform to Section 203 of the State of Wisconsin Standard Specifications for Highway and Structure Construction, 2021 Edition as modified in this special provision.

*Add the following to WisDOT standard spec:*

- 203.3.6 Removals over Waterways and Wetlands
- 203.3.6.1 Removing Old Structure Over Waterway

Remove the existing structure at Ivy Street crossing over the Starkweather Creek conforming to the contractor's approved structure removal and clean-up plan. Remove all portions of the structure and all other debris that falls into the waterway or wetland. Remove large pieces of the structure within 36 hours.

Submit a structure removal and clean-up plan as part of the erosion control implementation plan required under Wis DOT standard spec 107.20. Do not start work under the structure removal and clean-up plan without the construction engineer's written approval of the plan. Include the following information in the structure removal and clean-up plan:

1. Methods and schedule to remove the structure.
2. Methods to control potentially harmful environmental impacts.
3. Methods for removing piers and abutments. If blasting in water, include restrictions that regulatory agencies and the contract require.
4. Methods for cleaning the waterway or wetlands.

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.

#### **Method of Measurement**

Removing Old Structure Over Waterway Station 101+50 will be measured as a single unit of work, acceptably completed.

#### **Basis of Payment.**

This work, measured as provided, will be paid for at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
90300	Removing Old Structure Over Waterway Station 101+50	LS

## B.2 Design Requirements

Structural design of the pedestrian bridge shall be by a professional engineer registered in the State of Wisconsin.

Design the bridge according to the most recent edition of the AASHTO LRFD Bridge Design Specifications, all current interims, and the AASHTO LRFD Guide Specifications for Design of Pedestrian Bridges, except as modified herein.

Design welded tubular connections according to the Structural Welding Code-Steel ANSI/AWS D1.1. The fracture critical requirements of ANSI/AWS D1.5 do not apply, and Charpy V-notch impact testing will not be required. Loading shall be as stated in Section 3 of the AASHTO LRFD Guide Specifications for Design of Pedestrian Bridges. The bridge shall be a half-through truss with profile as the plans show with one diagonal per panel. Chords, diagonals, verticals, bracing, and floor beams may be tube steel. Tube steel shall have a minimum thickness of 1/4 inch, angles shall have a minimum thickness of 1/4-inch, C-shaped side dams shall have a minimum web thickness of 3/16-inch, and W-shapes shall have a minimum web thickness of 1/4-inch if painted or coated and 5/16-inch if not painted or coated. All other steel shapes shall have a minimum thickness of 5/16 inch unless contract plans allow a minimum thickness of less than 5/16 inch for other steel shapes. Field splices shall be bolted with ASTM F3125 Grade A325 high strength bolts according to the "Specifications for Structural Joints Using High Strength Bolts". ~~Type 3 bolts are required for weathering steel.~~ For top and bottom chord field splices, splice plates are required on both the inside and outside surface of all four sides of the spliced tubing so that each bolt will be acting in double shear. Nuts may be welded to the splice plates to hold them in place during installation. When the collection of water inside a structural tube is a possibility, either during construction or during service, provide the tube with a drain hole at its lowest point.

If the profile grade line is on a crest vertical curve, camber the bridge to match the profile grade line the plans show plus the calculated dead load deflection. For a single span bridge, if the profile grade line has a constant slope (no vertical curve), camber the bridge to offset the calculated dead load deflection plus an amount equal to 1% of the bridge length. For a bridge with two or more spans, if the profile grade line has a constant slope (no vertical curve), camber the bridge to offset the calculated dead load deflection only. Concrete bridge decks shall be continuous over the floor beams. Concrete bridge decks may be supported by stay in place corrugated galvanized steel deck forms unless the contract plans specify removable deck forms only. The maximum depth of the stay in place corrugated steel deck forms shall be 2 inches. The steel area of the stay in place corrugated steel deck forms shall not be considered for the design of the concrete deck. Design of the stay in place corrugated steel deck forms shall be included with the truss design. The minimum slab thickness shall be 5.5 inches for removable deck forms and 6 inches for stay in place corrugated steel deck forms. For stay in place corrugated steel deck forms the 6 inch minimum is measured from the bottom of the deck form. Design the longitudinal reinforcing steel in the slab based on a wheel load located 1 foot from the face of the curb or toe plate, or a pedestrian live load of 90 psf, whichever controls.

Concrete strength ( $f'_c$ ) shall be 4,000 psi and  $F_y$  of bar steel shall be 60,000 psi. A concrete mix with a unit weight of 120 pcf or 150 pcf may be used at the option of the manufacturer/contractor. Use a design dead load of 120 pcf or 150 pcf to match the concrete mix selected. Use load factors of 1.25 for dead load and 1.75 for live load for the design of the concrete slab and floor beams. Minimum concrete cover shall be 2 inches for top reinforcement and 1 inch for bottom reinforcement. Design the bridge for expansion and contraction with a temperature range of -30° F to 120° F. Utilize Teflon slip pads or other approved material on the sliding surface of the expansion bearing assembly.

Install protective screening, when required, as the plans show. Use protective screening that is 9 gauge chain link fence with 2 inch mesh, coated as the plans show.

The bridge shall be painted with a three-coat epoxy system from the WisDOT Bureau of Structures approved products list as specified in 517.2 of the State of Wisconsin Standard Specifications for Highway and Bridge Construction, 2021 Edition.

## C.1 Delivery and Erection

Deliver the bridge by truck to the location that is nearest to the site and accessible by road. The contractor is responsible for unloading the bridge from the trucks at the time of arrival.

The manufacturer shall notify the contractor in advance of the expected arrival time. Information regarding delays after the trucks depart the plant such as inclement weather, delays in permits, rerouting by public agencies, or other circumstances shall be passed on to the contractor as soon as possible.

The manufacturer shall provide an erection procedure to the contractor and shall advise the contractor of the actual lifting weights, attachment points, and all other information needed to install the bridge. Unloading, splicing, bolting, and providing proper lifting equipment as well as all tools, equipment, labor, and miscellaneous items required to complete the work is the responsibility of the contractor. The procedure for bolting field splices shall be given to the contractor by the manufacturer.

## C.2 Finishes

When unpainted steel is specified on the plans, all fabrications shall be produced from high strength, low alloy, atmospheric corrosion resistant ASTM A847 cold-formed welded square and rectangular tubing, ASTM A606 sheet, and/or ASTM A588, ASTM A242, or ASTM A709 Grade 50W plate and structural steel shapes ( $F_y=50,000$  psi) with a minimum corrosion index of 5.8 per ASTM G101.

~~Blast-clean all exposed surfaces of weathering steel according to Steel Structures Painting Council Surface Preparation Specifications No. 7 Brush-Off Blast-Cleaning (SSPC-SP7), latest edition. Exposed surfaces of weathering steel shall be defined as those surfaces seen from the deck and from outside the structure. Stringers, floor beams, lower brace diagonals and the inside face of the truss below the deck, and bottom of the bottom chord do not need to be blasted.~~

Paint the bridge with a three-coat epoxy system from the WisDOT Bureau of Structures approved products list as specified in 517.3 of the State of Wisconsin Standard Specifications for Highway and Bridge Construction, 2021 Edition.

Provide protective surface treatment as specified in 502.3.13.2 of the State of Wisconsin Standard Specifications for Highway and Bridge Construction, 2021 Edition.

## D Measurement

Prefabricated Steel Truss Pedestrian Bridge B-13-880, B-13-881, B-13-882 LRFD will be measured as a single lump sum unit of work for the bridge, acceptably completed.

## E Payment

The work, measured as provided, will be paid at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
90305	Prefabricated Steel Truss Pedestrian Bridge B-13-880 LRFD	LS
90306	Prefabricated Steel Truss Pedestrian Bridge B-13-881 LRFD	LS
90307	Prefabricated Steel Truss Pedestrian Bridge B-13-882 LRFD	LS

Payment is full compensation for designing, manufacturing, transporting and erecting the pedestrian bridge; furnishing bearing plates, pads, bolts, anchors bolts, grout, epoxy painting system, and protective surface treatment.



## **BID ITEM 90308 CUT STONE BOULDERS**

### **Description**

This special provision describes work consisting of furnishing and placing cut-stone boulders in accordance with the requirements of the plans and these specifications.

### **Materials**

Provide stone for cut-stone boulders of durable quarry **dolomitic** limestone of approved quality that are sound, hard, dense, resistant to the action of air and water, and free from seams, cracks, or other structural defects.

Provide stone pieces for cut-stone boulders that are rectangular in shape and approved by the engineer with dimensions as shown on the plans **and meet the following minimum criteria:**

- **Snapped/natural on front, top and bottom**
- **Sawed or snapped on two 24" sides and back**
- **Water Absorption (ASTM C97): 0.66%**
- **Density (ASTM C97): 173 pcf**
- **Modulus of Rupture (ASTM C99): 1450 psi**
- **Compressive Strength w/ Rift (ASTM C170): 26,260 psi**
- **Compressive Strength across Rift: 34,000 psi**

### **Construction**

Properly trim and shape the bed for the cut-stone boulders in a stair-step configuration as shown on the plans.

**Cut-stone boulders shall be placed in an offset pattern such that vertical seams between stones do not horizontally align from one vertical layer of stone to the next.**

Place cut-stone boulders by any mechanical means that will produce a completed job within reasonable tolerances of the typical section shown on the plans. Firmly set each cut stone boulder with no rocking or tipping providing a firm foundation for subsequent layers. ~~Unless otherwise provided on the plans, provide cut stone boulders not less than 8 inches thick.~~ Limit hand work to the amount necessary to fill large voids or to correct segregated areas. Conform to the requirements of WisDOT standard specifications Subsection 645.3.1.7 for the placement of cut-stone boulders over **clear stone and** geotextile fabric - Type HR. Do not place cut-stone boulders against or in contact with any concrete masonry surface prior to the expiration of the curing and protection period for the concrete.

**Cut-stone boulders shall be placed at the plan elevations and locations regardless of existing water levels. Provide dewatering and protection of the work area as required for proper installation.**

Where storm sewer installations are required within the limits of the cut-stone boulder limits, coordinate the work schedule to ensure proper staging of operations.

### **Measurement**

Cut-Stone Boulders will be measured by the **exposed** square foot in place of the completed work, and the quantity thereof to be paid for will be the summation of the **exposed** square foot projections onto a **vertical horizontal** plane of the surface areas of such cut-stone boulders incorporated in the work in accordance with the contract. Only accepted work will be measured for payment and the computation of the quantity thereof will be based on the area within the limiting dimensions designated on the plans, in the contract, or established by the engineer. The **clear stone and** geotextile fabric under the cut stone boulders will be paid for under separate bid items, **20217 and 20241, respectively.**

### **Payment**

This work, measured as provided, will be paid for at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
90308	Cut-Stone Boulders	SF

Payment is full compensation for installation of the cut-stone boulders and for furnishing all labor, tools, equipment, materials and incidentals necessary to satisfactorily complete the work.



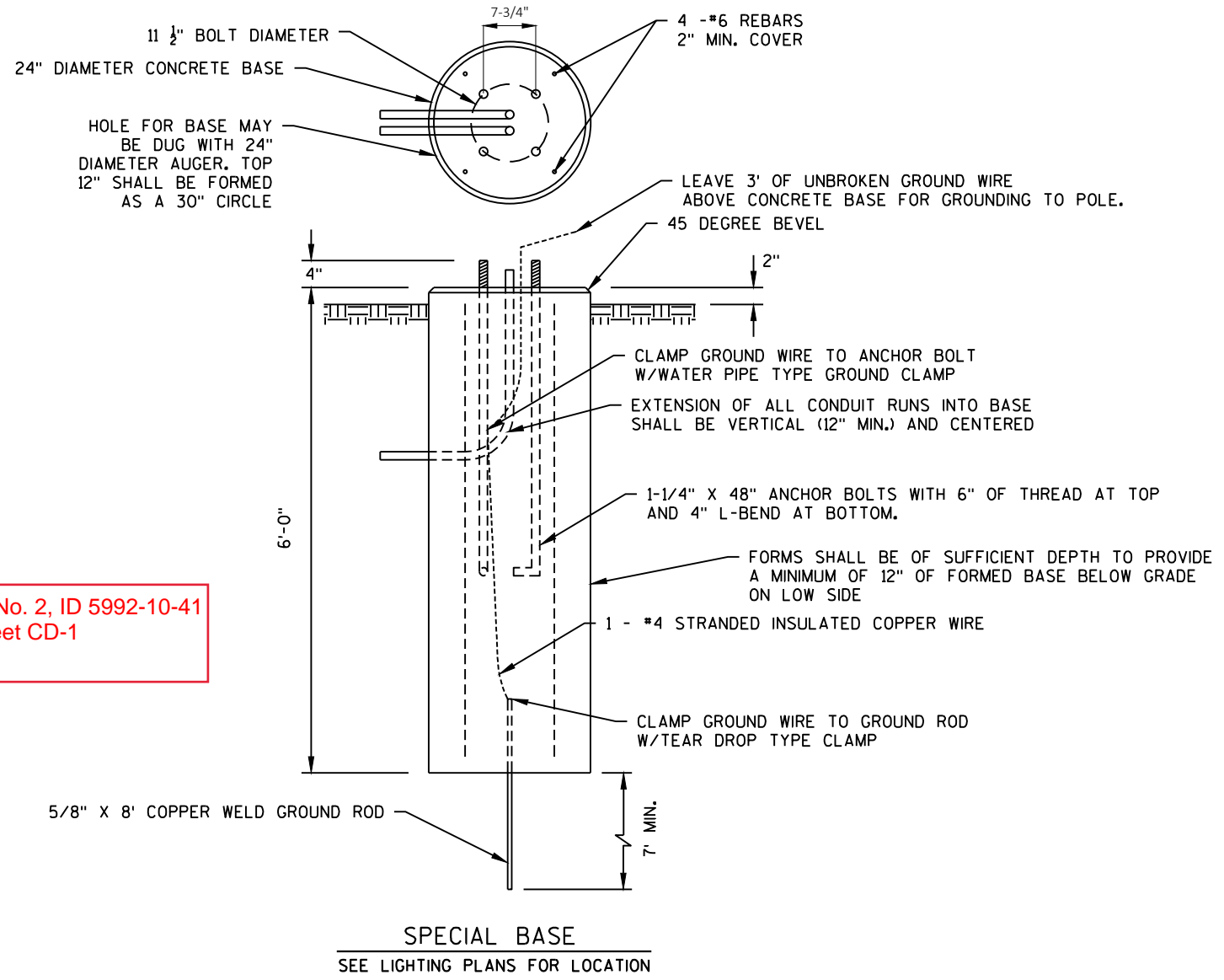
**EARTHWORK SUMMARY**

**GARVER PATH (PARTICIPATING)**

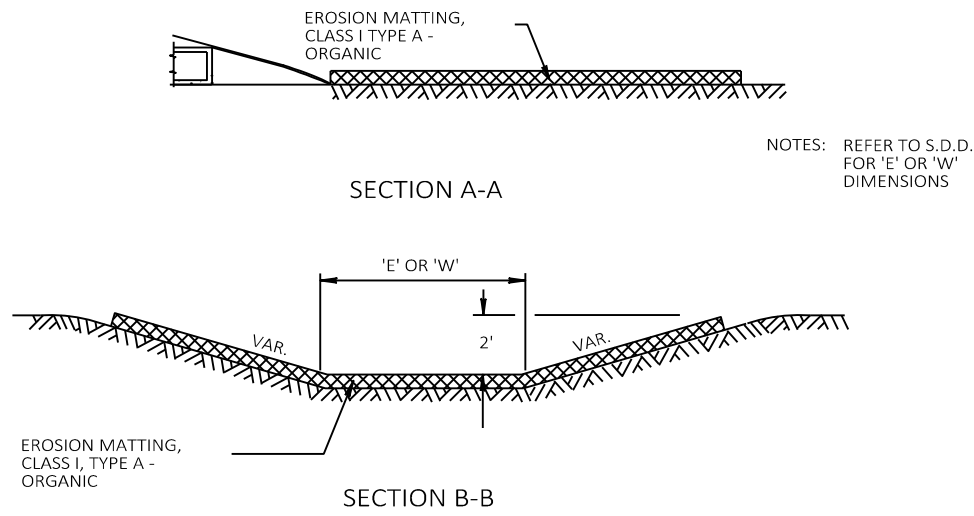
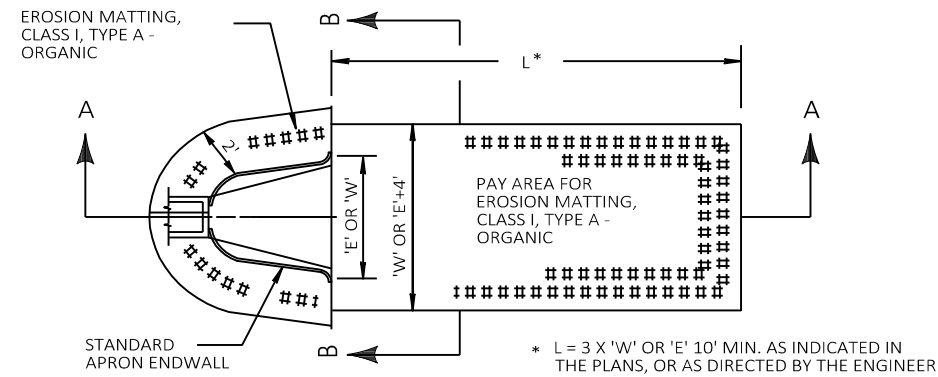
EXCAVATION CUT (MEASURED PLAN QUANTITY) = 2,575 CY  
 ESTIMATED TOPSOIL STRIPPING = 425 CY  
 ESTIMATED UNDERCUT (25% TOTAL LENGTH) = 400 CY  
 TOTAL EXCAVATION CUT = 3,400 CY  
 FILL BORROW (MEASURED PLAN QUANTITY) = 900 CY  
 SELECT FILL SAND (MEASURED PLAN QUANTITY) = 2,140 CY  
 SELECT FILL SAND (ESTIMATED ADDITIONAL ASSUMING 5' SETTLEMENT) = 1,110 CY  
 TOTAL FILL SAND = 3,250 CY

**STARKWEATHER DRIVE (NON PARTICIPATING)**

EXCAVATION CUT (MEASURED PLAN QUANTITY/TOTAL) = 1,100 CY  
 ESTIMATED UNDERCUT (25% TOTAL LENGTH) = 275 CY  
 TOTAL EXCAVATION CUT = 1,375 CY

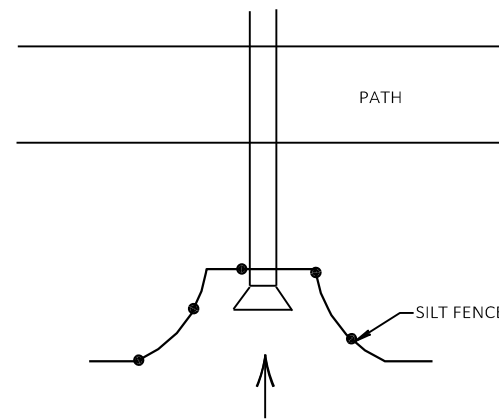


Addendum No. 2, ID 5992-10-41  
 Revised sheet CD-1  
 02/17/2021

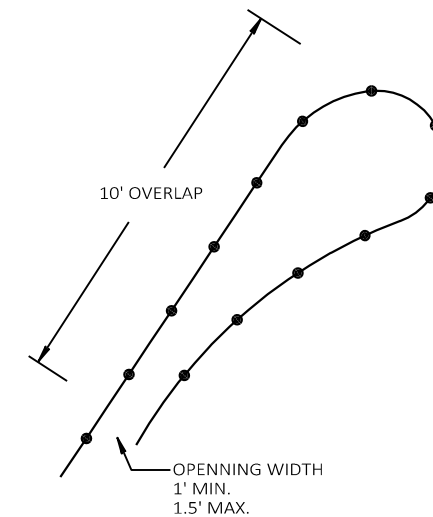


**EROSION MAT TREATMENT AT PIPE ENDWALL DETAIL**

SEE EROSION CONTROL PLAN FOR LOCATIONS



**SILT FENCE AT PIPE INLET**  
 SEE EROSION CONTROL PLAN FOR LOCATIONS



**SILT FENCE END TREATMENT**

DATE	BY
REVISION	DATE
MARK	DATE
DESIGNED BY: JRM	DATE: 11/29/20
Scale: N/A	
10160	CD-1

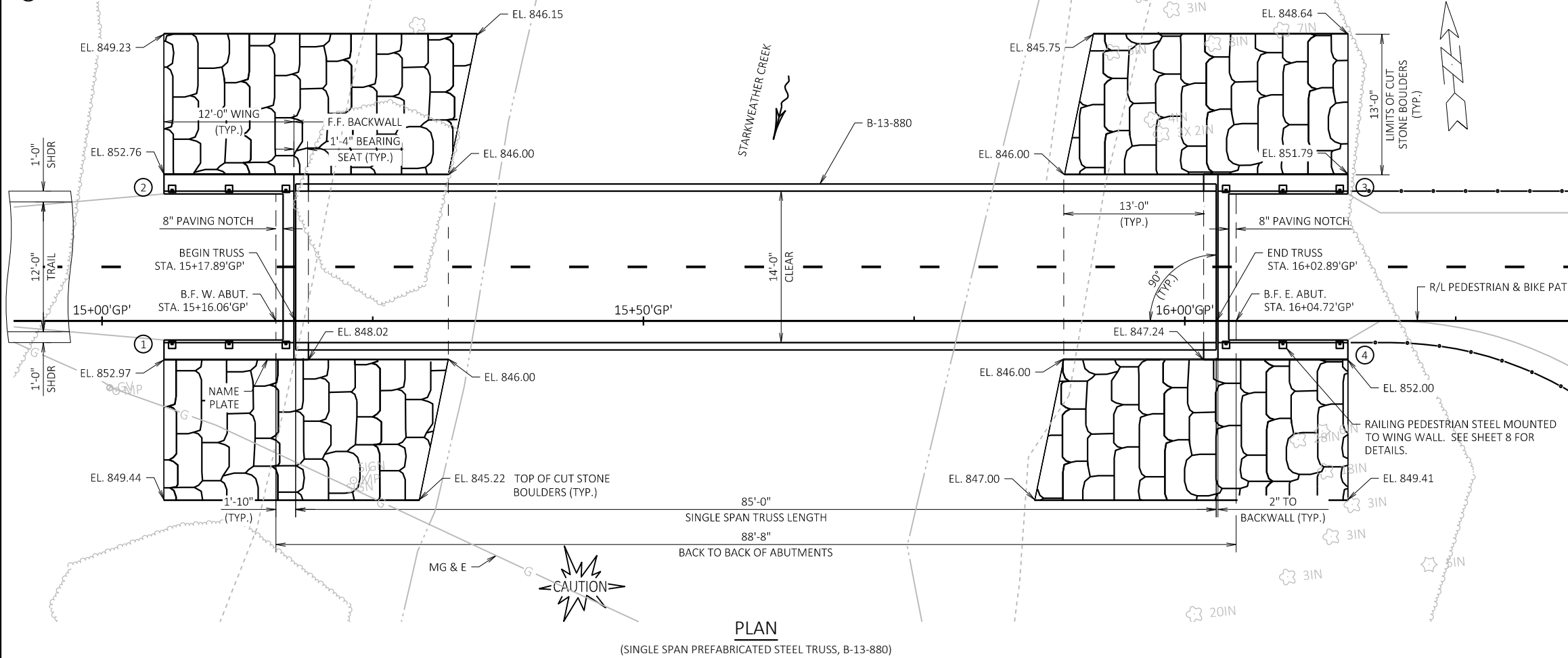
10160  
 MADISON, WI  
 8142  
 CONTRACT NO:

CONSTRUCTION DETAILS  
 GARVER PATH  
 CITY OF MADISON



10160  
 CD-1

(X) INDICATES WING NUMBER

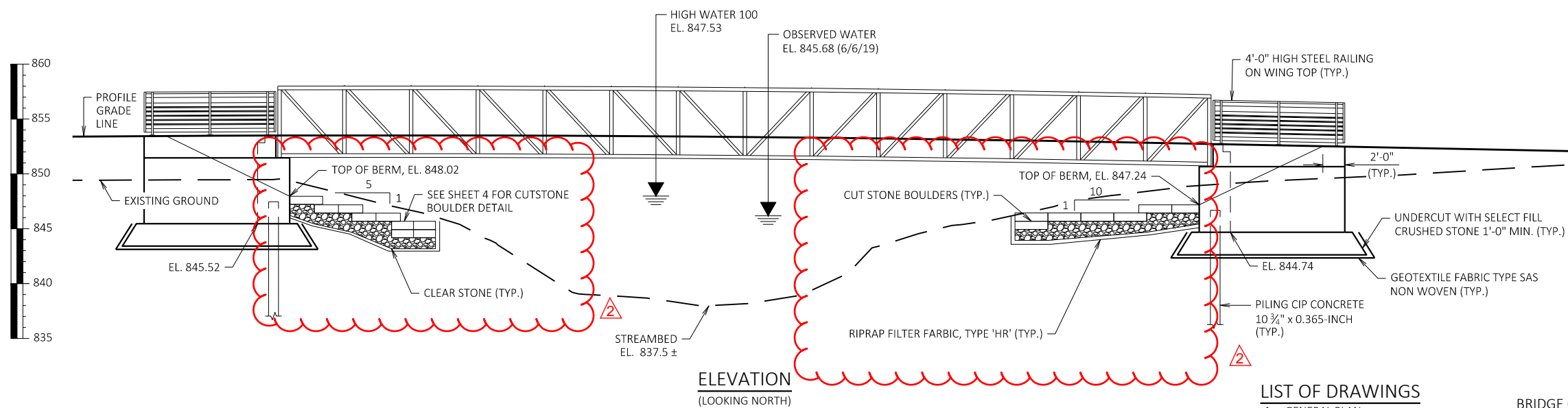


PLAN  
(SINGLE SPAN PREFABRICATED STEEL TRUSS, B-13-880)

Addendum No. 2, ID 5992-10-41  
Revised sheet S-1  
02/17/2021

NOTE:

ELEVATIONS GIVEN FOR CUT-STONE BOULDERS ARE AT TOP OF BOULDER. HEIGHT OF LOWEST COURSE TO BE 1'-0" MIN.



ELEVATION  
(LOOKING NORTH)

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION, QUANTITIES & NOTES
3. SUBSURFACE EXPLORATION
4. WEST ABUTMENT
5. WEST ABUTMENT DETAILS
6. EAST ABUTMENT
7. EAST ABUTMENT DETAILS
8. RAILING PEDESTRIAN STEEL

BRIDGE OFFICE CONTACT  
AARON BONK, P.E.  
TELEPHONE: (608) 261-0261

CONSULTANT CONTACT  
CHAD HALVERSON, P.E.  
TELEPHONE: (608) 663-1218

DESIGN DATA

DESIGN SPECIFICATIONS:  
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS  
AASHTO LRFD BRIDGE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES

LIVE LOAD:  
90 PSF PEDESTRIAN LOAD  
20,000 LB. VEHICLE LOAD (H10)

WIND LOAD:  
WIND LOADS DESIGNED IN ACCORDANCE TO AASHTO DESIGN FOR PEDESTRIAN BRIDGES AND AASHTO SIGNS.

MATERIAL PROPERTIES:  
CONCRETE MASONRY BRIDGES  $f'_c = 4,000$  PSI  
HIGH STRENGTH BAR STEEL REINFORCEMENT GRADE 60  $f_y = 60,000$  PSI  
HIGH STRENGTH STRUCTURAL STEEL ASTM A847, A588, A606, A709 OR A242  $f_y = 50,000$  PSI  
STRUCTURAL CARBON STEEL ASTM A36  $f_y = 36,000$  PSI

FOUNDATION DATA:  
ABUTMENTS TO BE SUPPORTED ON PILING CIP CONCRETE  $10\frac{3}{4}$  X 0.365-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 110\* TONS PER PILE AS REQUIRED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 60' LONG AT THE EAST ABUTMENT AND 70' LONG AT THE WEST ABUTMENT.

\* THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

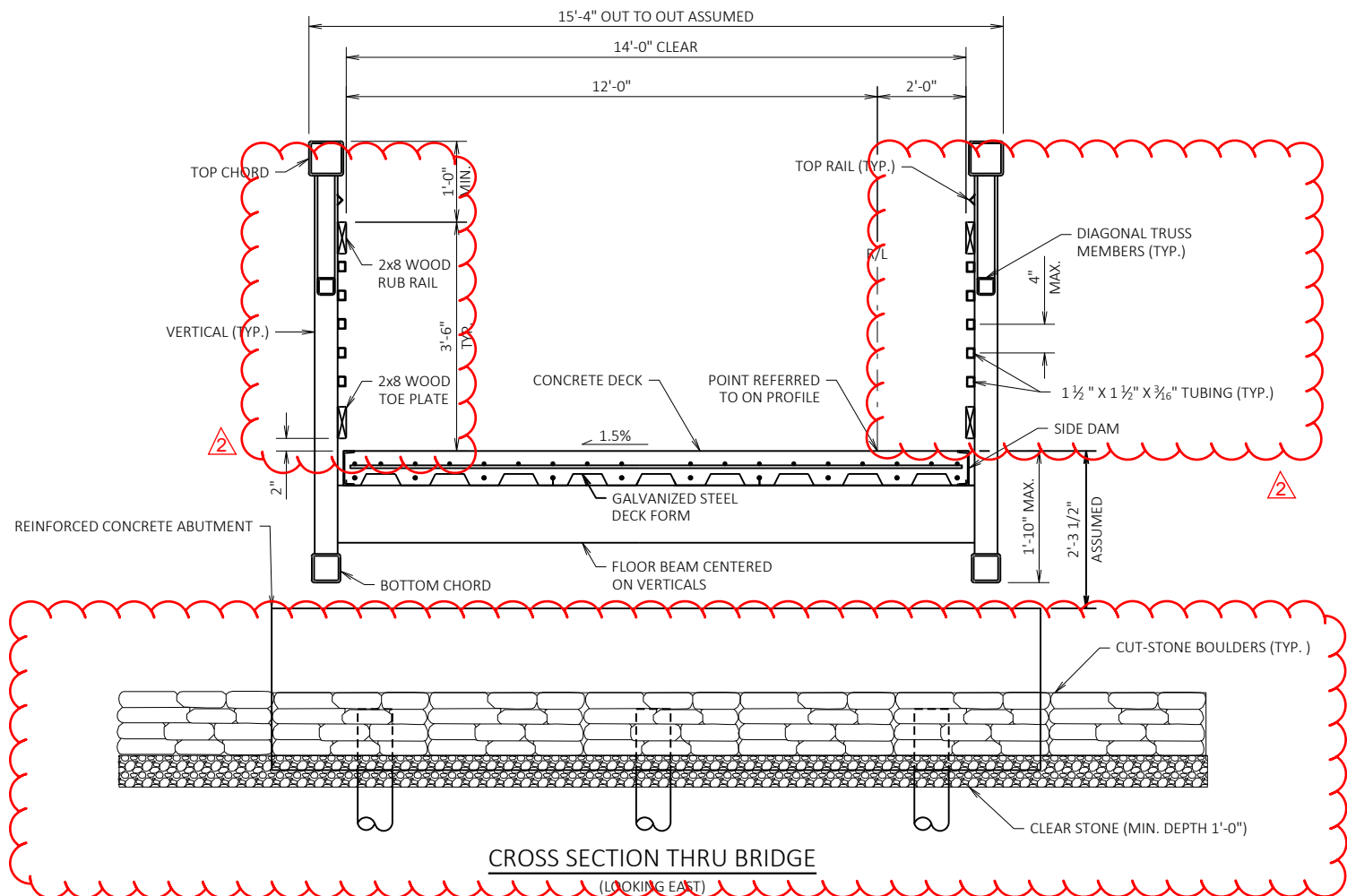
HYDRAULIC DATA:  
100 YEAR FREQUENCY  
 $Q_{100} = 1427$  C.F.S.  
VEL. = 4.47 F.P.S.  
HW<sub>100</sub> = EL. 847.53  
WATERWAY AREA = 370 SQ. FT.  
DRAINAGE AREA = 20.4 SQ. MI.  
SCOUR CRITICAL CODE = 5

2 YEAR FREQUENCY  
 $Q_2 = 290$  C.F.S.  
VEL. = 1.7 F.P.S.  
HW<sub>2</sub> = EL. 846.37



NO.	DATE	REVISION	BY
<b>KL Engineering</b> [A] Better Experience			
ACCEPTED _____ CHIEF STRUCTURES DESIGN ENGINEER DATE _____			
STRUCTURE B-13-880			
HARGROVE STREET PEDESTRIAN & BIKE PATH OVER STARKWEATHER CREEK			
COUNTY DANE		TOWN/CITY/VILLAGE MADISON	
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY CAH	DESIGN CK'D. CDH	DRAWN BY STD	PLANS CK'D. CDH
GENERAL PLAN			SHEET 1 OF 8

2/17/2021 CAH  
 ADDENDUM 2  
 10160  
 MADISON, WI  
 8142  
 CONTRACT NO.:  
 GENERAL PLAN  
 GARVER PATH  
 CITY OF MADISON  
 10160  
 S-1



**BRIDGE REACTIONS (SERVICE LOADS)**

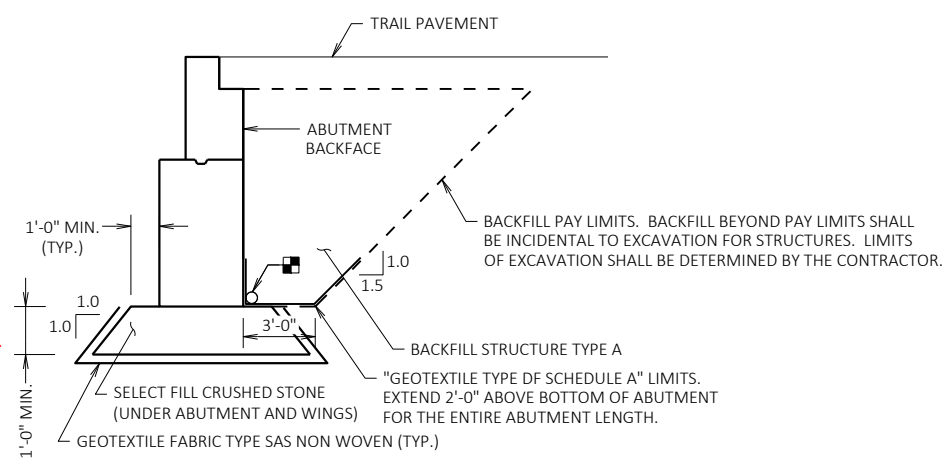
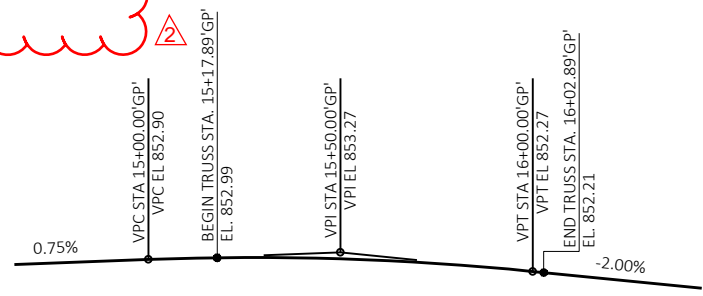
LOAD TYPE	"P" (LBS)	"H" (LBS)	"L" (LBS)
DEAD	26,290		
LIVE	27,500		
VEHICLE	14,960		
WIND		8,740	5,720
WINDWARD	-11,880		
LEEWARD	1,870		
STREAM			
THERMAL			5,280

P = VERTICAL LOAD AT EACH BASE PLATE (4 PER BRIDGE)  
H = HORIZONTAL LOAD AT EACH SUBSTRUCTURE UNIT (2 PER BRIDGE)  
L = LONGITUDINAL LOAD AT EACH FIXED BEARING (4 PER BRIDGE)

- NOTES:  
1. VALUES IN THIS TABLE ARE ESTIMATES. ACTUAL VALUES SHALL BE PROVIDED BY PREFABRICATED BRIDGE MANUFACTURER.  
2. "+" INDICATES DOWNWARD LOAD  
"-" INDICATES UPWARD LOAD

BRIDGE LENGTH = 85'  
BRIDGE CLEAR WIDTH = 14'  
DECK TYPE = CONCRETE  
LIVE LOAD = 90 PSF/H10  
RAIL HEIGHT = 54" MIN.

**Addendum No. 2, ID 5992-10-41**  
**Revised sheet S-2**  
**02/17/2021**



**STRUCTURE BACKFILL LIMITS**

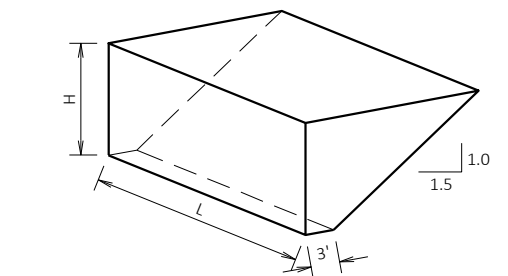
PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

**GENERAL NOTES**

DRAWINGS SHALL NOT BE SCALED.  
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.  
THE FIRST DIGIT OF A THREE DIGIT AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.  
AT ABUTMENTS, ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.  
THE EXISTING GROUND LINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.  
THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.  
EXCAVATION BELOW THE ABUTMENTS AND WINGS IS REQUIRED. UNDERCUT TO BE FILLED WITH SELECT FILL CRUSHED STONE TO A MINIMUM OF 1'-0" BELOW BOTTOM OF ABUTMENT. EXCAVATION LIMITS TO EXTEND 1'-0" BEYOND ABUTMENT AND WING DIMENSIONS.  
ALL PREFABRICATED BRIDGE DIMENSIONS ARE APPROXIMATE. CONTRACTOR SHALL VERIFY FINAL DIMENSIONS WITH BRIDGE MANUFACTURER.  
THE DISTANCE BETWEEN THE FRONT FACE OF ABUTMENT BACKWALLS SHALL BE 85'-4" WHICH INCLUDES THE EXPANSION JOINT WIDTH REQUIRED BY THE BRIDGE MANUFACTURER.  
WOOD RUB RAIL SHALL BE S4S (SURFACED 4 SIDES).  
ALL FASTENERS USED TO SECURE WOOD RUB RAILS AND TOE PLATES TO SUPPORT FRAMING SHALL BE STAINLESS STEEL.  
IF TREATED TIMBER OR LUMBER MEMBERS ARE CUT IN THE FIELD OR DURING FABRICATION, SEAL ALL CUT ENDS PER SECTION 507.3.7 OF THE WISDOT STANDARD SPECIFICATIONS.  
ALL LUMBER SHALL BE PRESSURE TREATED WITH COPPER AZOLE TYPE C (CA-C) OR MICRONIZED COPPER AZOLE (MCA) TO A RETENTION TO MEET AWPAC U4A AND IN ACCORDANCE WITH SECTION 507 OF THE WISDOT STANDARD SPECIFICATIONS.  
THE PREFABRICATED STEEL TRUSS PEDESTRIAN BRIDGE B-13-880 LRFD BID ITEM INCLUDES DESIGNING, FURNISHING AND INSTALLING THE PREFABRICATED BRIDGE, BEARING PLATES, PADS, BOLTS, ANCHOR BOLTS, GROUT, WOOD AND STEEL RAILS AND DECKING MATERIALS INCLUDING CONCRETE MASONRY AND BAR STEEL REINFORCEMENT. USE "BAR STEEL REINFORCEMENT HS COATED STRUCTURES" IN THE BRIDGE DECK.  
COAT, PAINT AND FINISH STEEL TRUSS AND RAILING PER SECTION 517 OF THE WISDOT STANDARD SPECIFICATIONS. PAINT COLOR FOR THE STEEL TRUSS AND RAILING SHALL BE FEDERAL STANDARD 595B COLOR #30045, BROWN.  
PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP OF DECK, AND TO ALL EXPOSED FACES OF THE ABUTMENTS AND WINGS.  
APPLY BRIDGE SEAT PROTECTION TO BEAM SEATS PRIOR TO SETTING BEARINGS PER SECTION 502.3.12 OF THE CURRENT WISDOT SPECIFICATIONS.  
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH CUT STONE BOULDERS AND RIPRAP FILTER FABRIC, TYPE HR (TYP.) TO THE LIMITS SHOWN ON SHEET 1 AND ON THE ABUTMENT SHEETS OR AS DIRECTED BY THE ENGINEER. THE AREAS OUTSIDE THE WINGS AND ENDS OF ABUTMENT SHALL BE COVERED WITH CUT-STONE BOULDERS TO THE LIMITS SHOWN ON SHEET 1 OR AS DIRECTED BY THE ENGINEER.  
THE TRUSS SHALL BE ANCHORED TO THE ABUTMENTS IN A MANNER TO:  
- ALLOW THERMAL MOVEMENTS OF THE SUPERSTRUCTURE ALONG C/L OF THE PEDESTRIAN BRIDGE.  
- PREVENT HORIZONTAL TRANSLATION OF THE SUPERSTRUCTURE PERPENDICULAR TO THE C/L OF THE PEDESTRIAN BRIDGE.  
THE TRUSS SHALL BE CAMBERED TO OFFSET THE CALCULATED DEAD LOAD DEFLECTION.

**TOTAL ESTIMATED QUANTITIES**

ITEM NUMBER	ITEM DESCRIPTION	UNIT	W. ABUT	E. ABUT	SUPER.	TOTAL
20140	GEOTEXTILE FABRIC TYPE SAS NON WOVEN	SY	46	46	---	92
20214	SELECT FILL CRUSHED STONE	TON	20	20	---	40
20217	CLEAR STONE	TON	93	92	---	185
20241	RIPRAP FILTER FABRIC, TYPE HR	SY	154	154	---	308
90301	PILING CIP CONCRETE 10 3/4 X 0.365-INCH	LF	210	180	---	390
90302	REINFORCED CONCRETE BRIDGE ABUTMENTS, AND WINGWALLS, B-13-880	LS	---	---	---	1
	EXCAVATION FOR STRUCTURES BRIDGES B-13-880	LS	---	---	---	1
	BACKFILL STRUCTURE TYPE A	TON	79	79	---	158
	CONCRETE MASONRY BRIDGES	CY	27	27	---	54
	PROTECTIVE SURFACE TREATMENT	SY	25	25	---	50
	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1200	1200	---	2400
	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1440	1440	---	2880
	RUBBERIZED MEMBRANE WATERPROOFING	SY	6	6	---	12
	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	98	98	---	196
	GEOTEXTILE TYPE DF SCHEDULE A	SY	10	10	---	20
90305	PREFABRICATED STEEL TRUSS PEDESTRIAN BRIDGE B-13-880 LRFD	LS	---	---	---	1
	PROTECTIVE SURFACE TREATMENT	SY	---	---	133	133
	PAINTING EPOXY SYSTEM STEEL TRUSS B-13-880	LS	---	---	1	1
90308	CUT-STONE BOULDERS	SF	910	910	---	1820
90309	RAILING PEDESTRIAN STEEL B-13-880	LF	24	24	---	48
	NON-BID ITEMS					
	BRIDGE SEAT PROTECTION					
	FILLER		1/2"	1/2"		



**ABUTMENT BACKFILL PAY QUANTITY DIAGRAM**

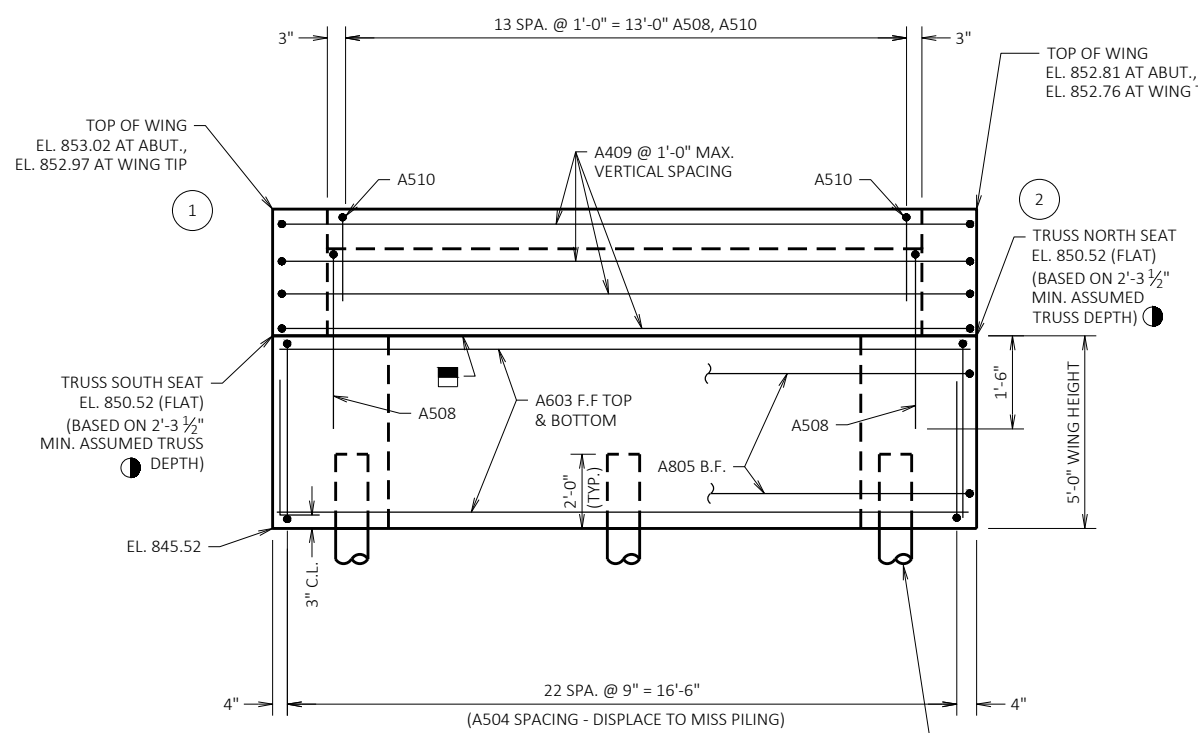
L = OUT TO OUT OF ABUTMENT, INCLUDING WINGS (FT)  
H = AVERAGE ABUTMENT FILL HEIGHT (FT)  
EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)  
V<sub>CF</sub> = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)  
V<sub>CY</sub> = V<sub>CF</sub>(EF)/27  
V<sub>TON</sub> = V<sub>CY</sub>(2.0)

**STRUCTURE B-13-880**

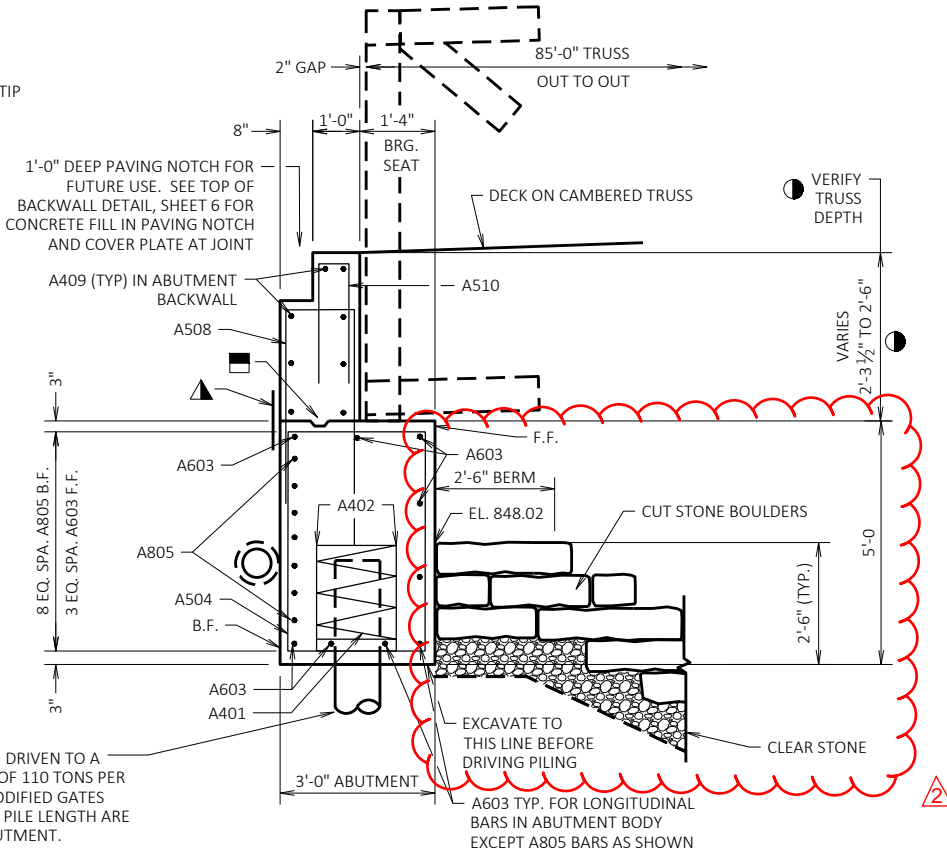
DRAWN BY STD PLANS CK'D. CDH

2/17/2021 CAH  
 ADDENDUM 2  
 10160  
 MADISON, WI  
 GARVER PATH  
 CITY OF MADISON  
 CONTRACT NO.: 8142  
 S-2  
 Scale: #####  
 DESIGNED BY: CAH  
 DATE: 10/01/2020  
 REVISION  
 MARK  
 DATE  
 BY

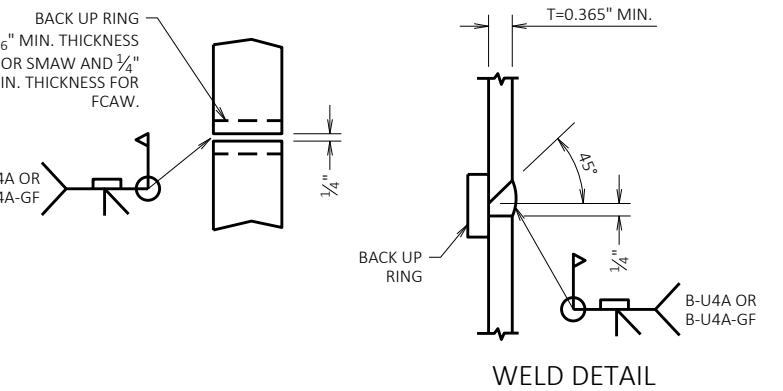




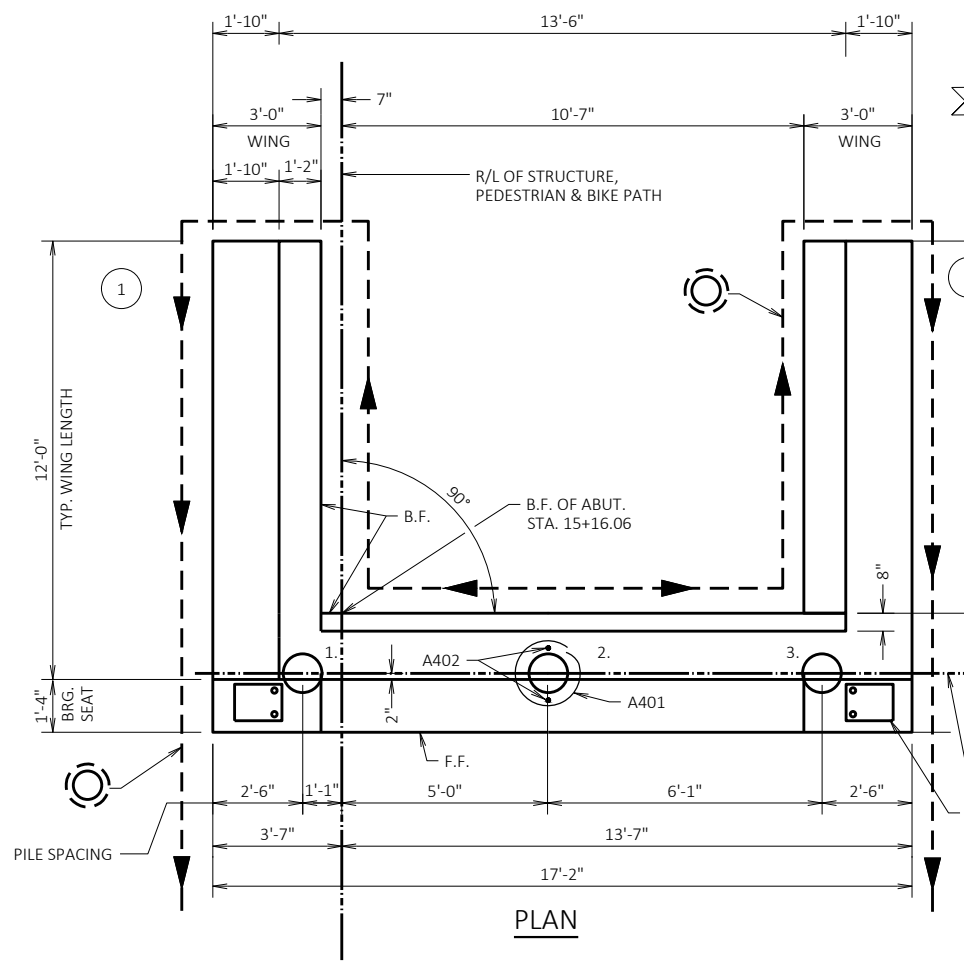
**ELEVATION**  
(LOOKING AT FRONT FACE OF ABUTMENT)



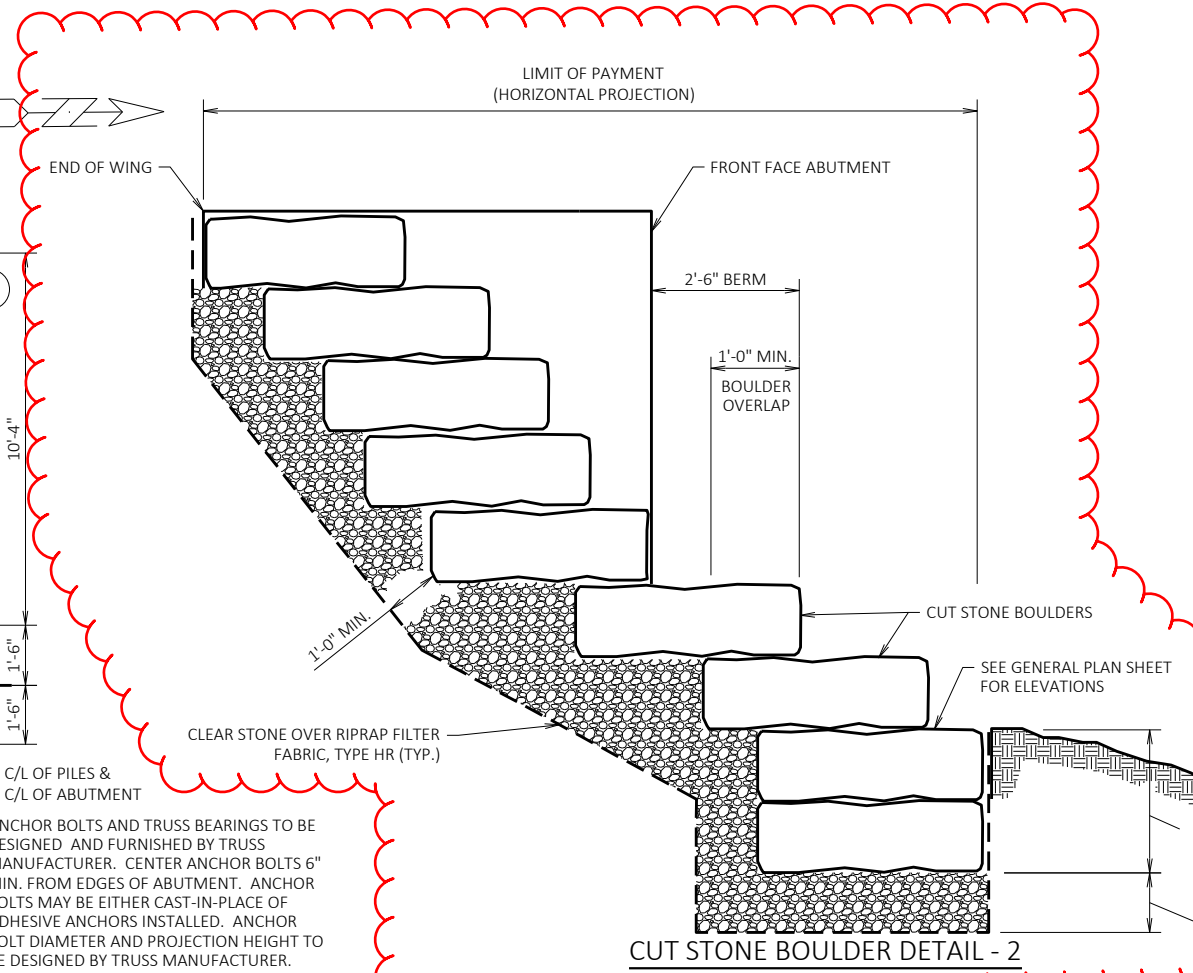
**SECTION THRU ABUTMENT**



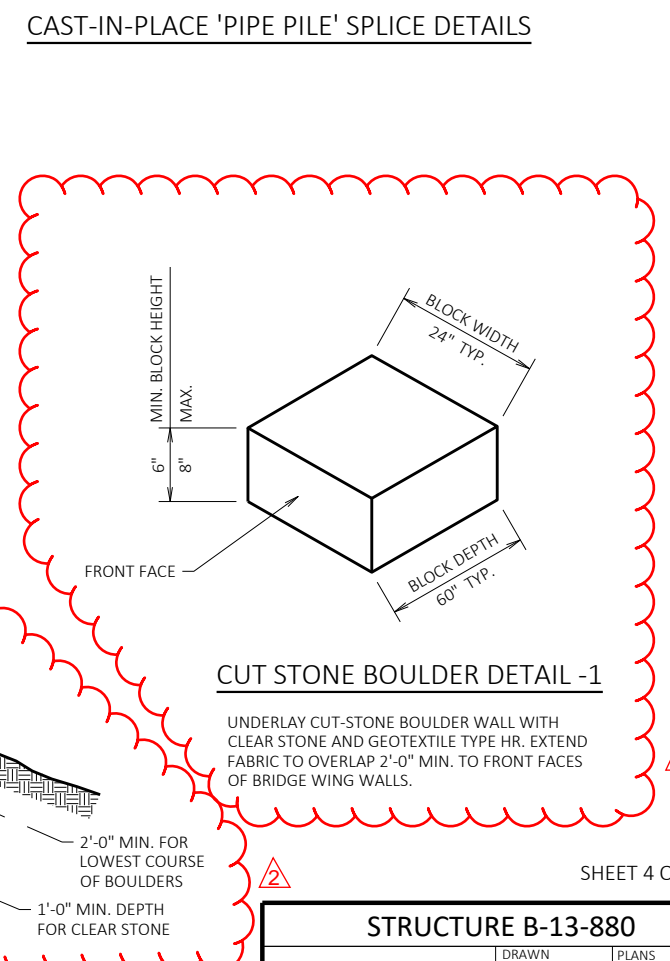
**WELD DETAIL**



**PLAN**



**CUT STONE BOULDER DETAIL - 2**



**CUT STONE BOULDER DETAIL - 1**

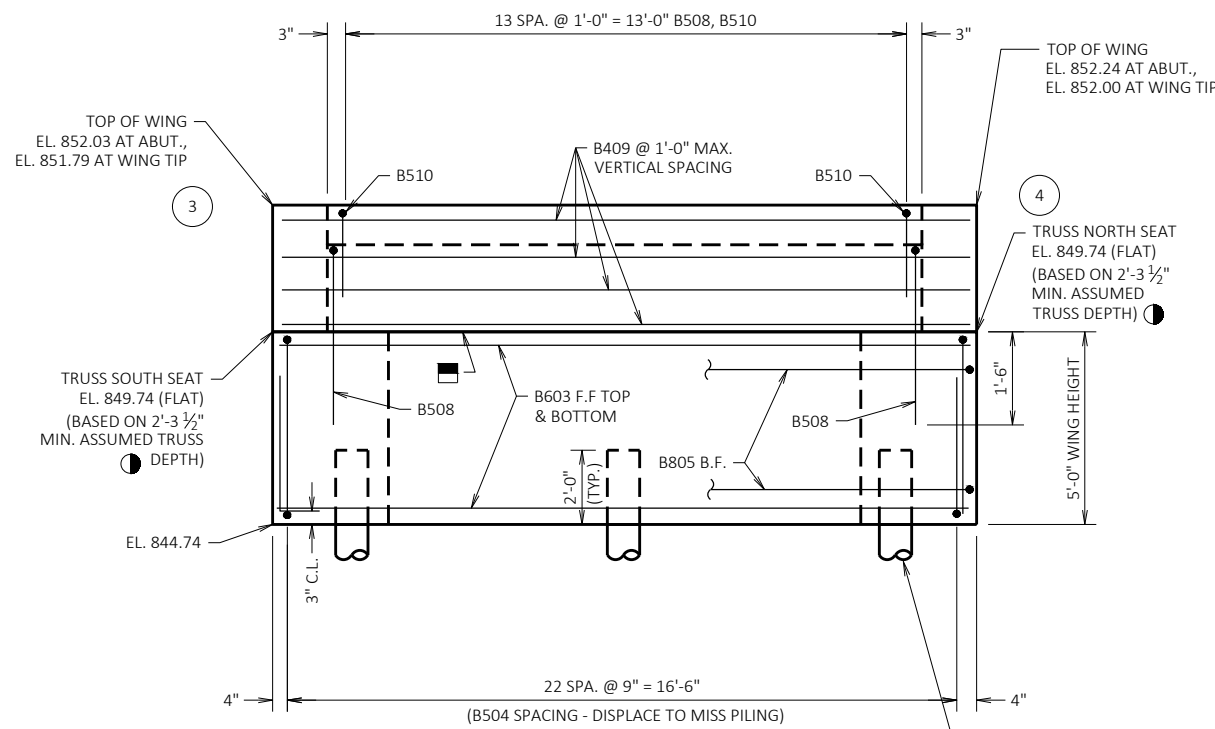
SHEET 4 OF 8

**LEGEND**

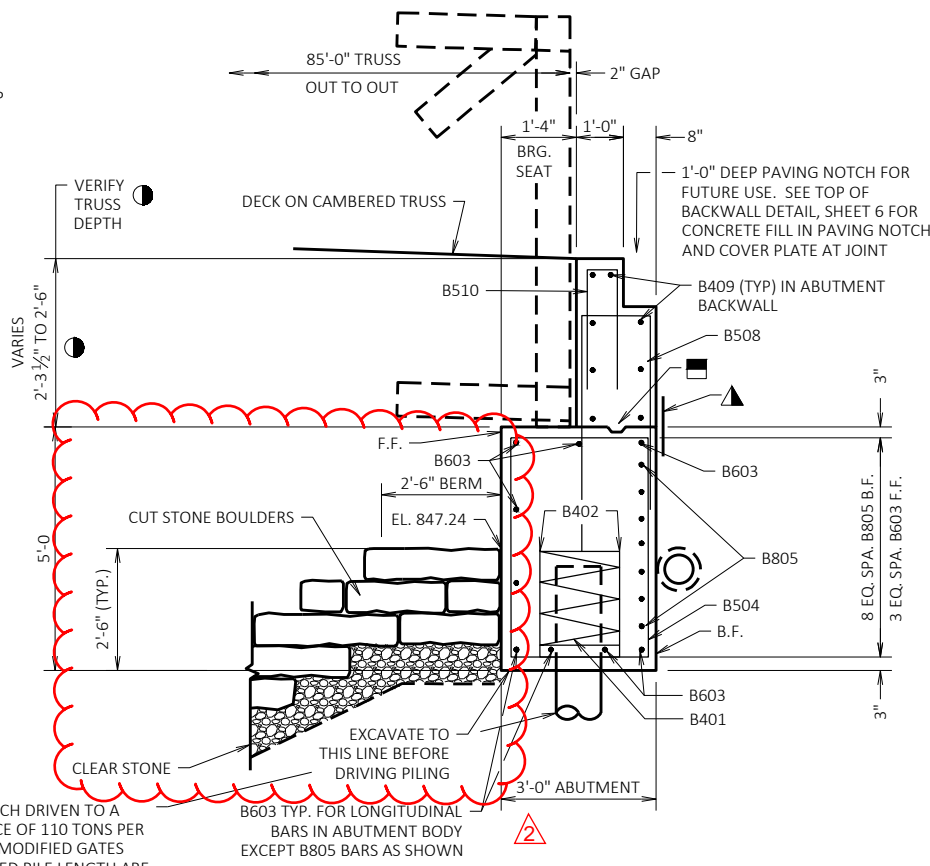
- CONSTRUCTION JOINT FORMED BY BEVELED 2X6. PLACE 3/4" BEVEL ON F.F. OF WINGS.
- SET ABUTMENT BEARING SEAT TO ELEVATION DEPENDENT ON TRUSS DEPTH. TRUSS DEPTH INCLUDES MIN. ASSUMED DEPTH TO LOW CHORD (1'-10") AND ASSUMED HEIGHT OF BEARING (5 1/2").
- ▲ HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. PLACE ON B.F. OF CONSTRUCTION JOINT AS SHOWN.
- PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE AT FACE OF CUT STONE BOULDERS. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT PROTECTION AT ENDS OF PIPE. SEE RODENT SHIELD DETAIL, SHEET 6.
- F.F. = FRONT FACE    B.F. = BACK FACE    CL. = CLEAR
- INDICATES WING NUMBER.

**Addendum No. 2, ID 5992-10-41  
Revised sheet S-4  
02/17/2021**

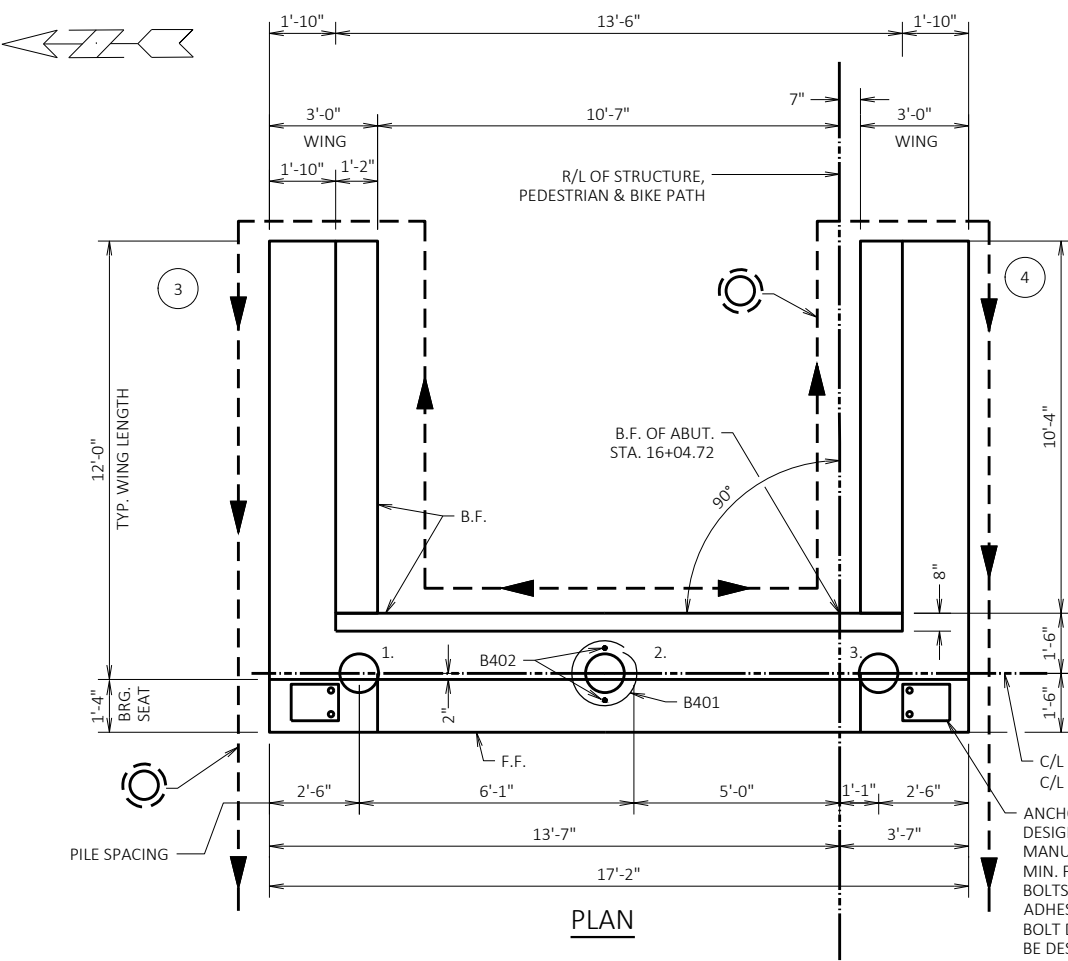
ADDENDUM 2	2/17/2021 CAH	REVISION	DATE	BY	S-4
10160	MADISON, WI	CONTRACT NO:	8142	DESIGNED BY: CAH	DATE: 10/01/2020
WEST ABUTMENT	GARVER PATH	CITY OF MADISON	10160	S-4	DRAWN BY: STD
STRUCTURE B-13-880		PLANS CK'D: CDH		S-4	



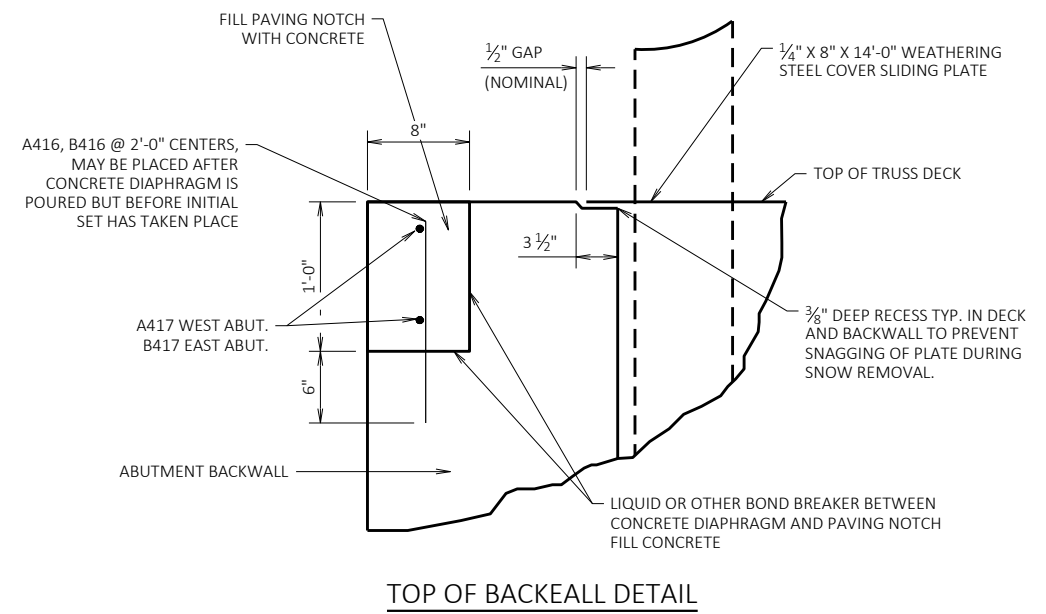
**ELEVATION**  
(LOOKING AT FRONT FACE OF ABUTMENT)



**SECTION THRU ABUTMENT**



**PLAN**

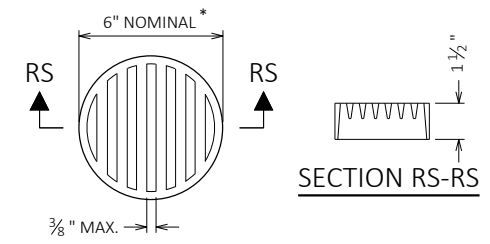


**TOP OF BACKWALL DETAIL**

**LEGEND**

- CONSTRUCTION JOINT FORMED BY BEVELED 2X6. PLACE 3/4" BEVEL ON F.F. OF WINGS.
  - SET ABUTMENT BEARING SEAT TO ELEVATION DEPENDENT ON TRUSS DEPTH. TRUSS DEPTH INCLUDES MIN. ASSUMED DEPTH TO LOW CHORD (1'-10") AND ASSUMED HEIGHT OF BEARING (5 1/2").
  - ▲ HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. PLACE ON B.F. OF CONSTRUCTION JOINT AS SHOWN.
  - PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE AT FACE OF CUT STONE BOULDERS. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT PROTECTION AT ENDS OF PIPE. SEE RODENT SHIELD DETAIL, THIS SHEET.
- F.F. = FRONT FACE    B.F. = BACK FACE    CL. = CLEAR
- INDICATES WING NUMBER.

Addendum No. 2, ID 5992-10-41  
Revised sheet S-6  
02/17/2021



**RODENT SHIELD DETAIL**

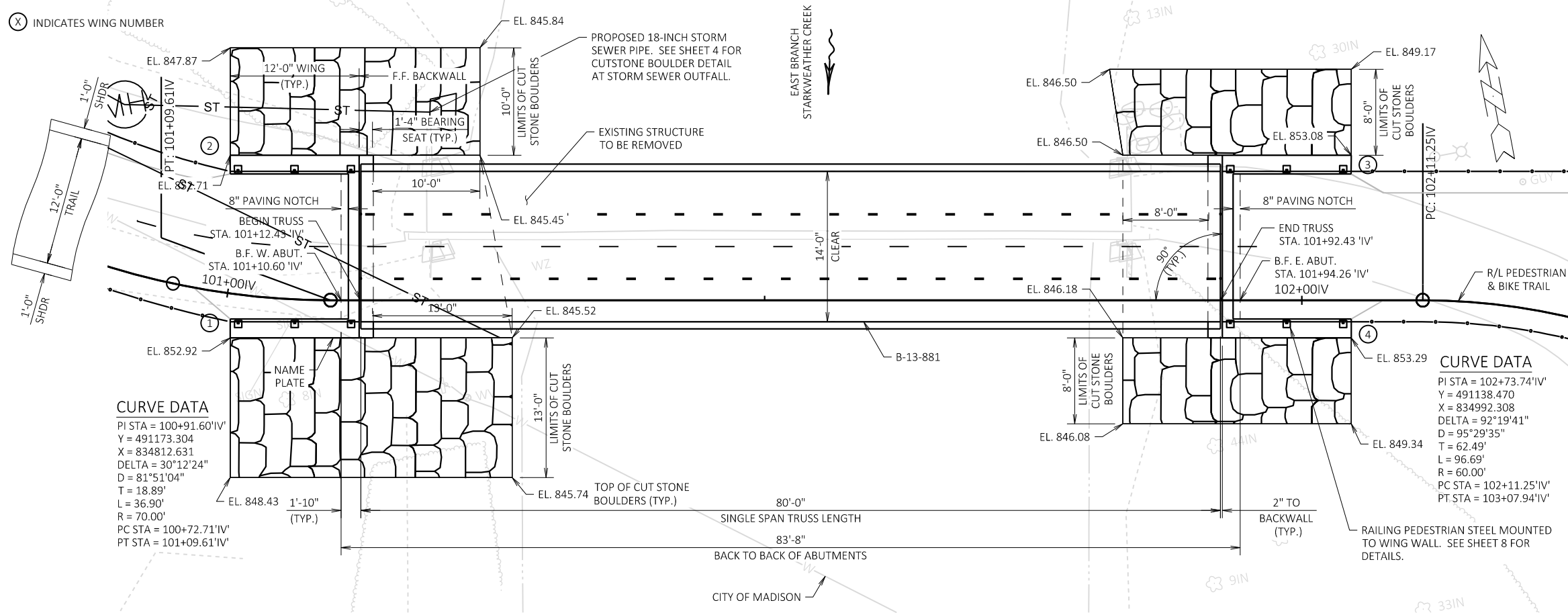
\*DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

ADDENDUM	2/17/2021 CAH	REVISION	DATE	BY	S-6
10160	MADISON, WI	8142	CONTRACT NO.:		
EAST ABUTMENT	GARVER PATH	CITY OF MADISON	10160		
			S-6		

(X) INDICATES WING NUMBER



### DESIGN DATA

DESIGN SPECIFICATIONS:  
 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS  
 AASHTO LRFD BRIDGE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES

LIVE LOAD:  
 90 PSF PEDESTRIAN LOAD  
 20,000 LB. VEHICLE LOAD (H10)

WIND LOAD:  
 WIND LOADS DESIGNED IN ACCORDANCE TO AASHTO DESIGN FOR PEDESTRIAN BRIDGES AND AASHTO SIGNS.

MATERIAL PROPERTIES:  
 CONCRETE MASONRY BRIDGES  $f'_c = 3,500$  PSI  
 HIGH STRENGTH BAR STEEL REINFORCEMENT GRADE 60  $f_y = 60,000$  PSI  
 HIGH STRENGTH STRUCTURAL STEEL ASTM A847, A588, A606, A709 OR A242  $f_y = 50,000$  PSI  
 STRUCTURAL CARBON STEEL ASTM A36  $f_y = 36,000$  PSI

FOUNDATION DATA:  
 ABUTMENTS TO BE SUPPORTED ON PILING CIP CONCRETE  $10\frac{3}{4}$  X 0.365-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 100\* TONS PER PILE AS REQUIRED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 60' LONG AT THE EAST ABUTMENT AND 65' LONG AT THE WEST ABUTMENT.

\* THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

HYDRAULIC DATA:  
**100 YEAR FREQUENCY**  
 $Q_{100} = 868$  C.F.S.  
 $VEL. = 2.26$  F.P.S.  
 $HW_{100} = EL. 849.04$   
 WATERWAY AREA = 460 SQ. FT.  
 DRAINAGE AREA = 8.2 SQ. MI.  
 SCOUR CRITICAL CODE = 5

**2 YEAR FREQUENCY**  
 $Q_2 = 268$  C.F.S.  
 $VEL. = 1.1$  F.P.S.  
 $HW_2 = EL. 846.78$

### CURVE DATA

PI STA = 102+73.74'IV'  
 Y = 491138.470  
 X = 834992.308  
 DELTA = 92°19'41"  
 D = 95°29'35"  
 T = 62.49'  
 L = 96.69'  
 R = 60.00'  
 PC STA = 102+11.25'IV'  
 PT STA = 103+07.94'IV'

### CURVE DATA

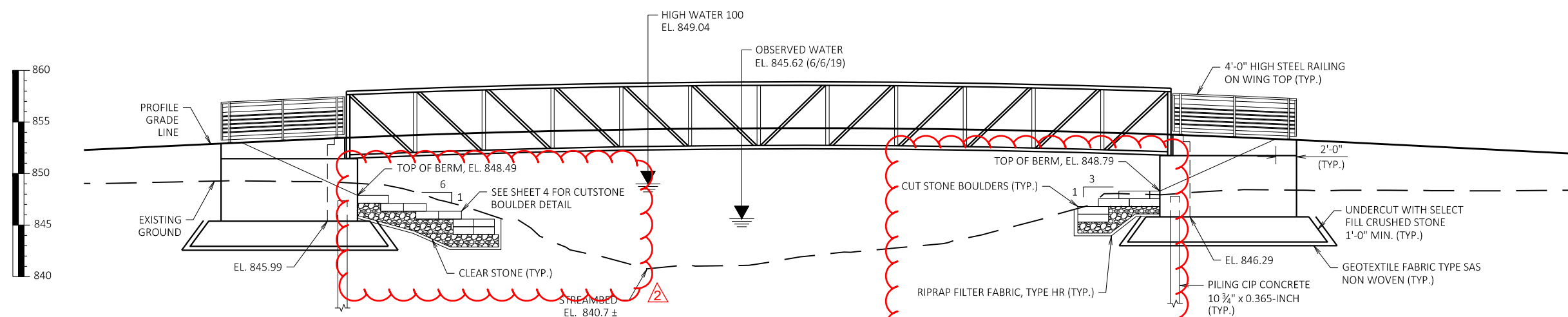
PI STA = 100+91.60'IV'  
 Y = 491173.304  
 X = 834812.631  
 DELTA = 30°12'24"  
 D = 81°51'04"  
 T = 18.89'  
 L = 36.90'  
 R = 70.00'  
 PC STA = 100+72.71'IV'  
 PT STA = 101+09.61'IV'

**PLAN**  
 (SINGLE SPAN PREFABRICATED STEEL TRUSS B-13-881)

### NOTE:

ELEVATIONS GIVEN FOR CUT-STONE BOULDERS ARE AT TOP OF BOULDER. HEIGHT OF LOWEST COURSE TO BE 1'-0" MIN.

Addendum No. 2, ID 5992-10-41  
 Revised sheet S-9  
 02/17/2021



**ELEVATION**  
 (LOOKING NORTH)

### LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION, QUANTITIES & NOTES
3. SUBSURFACE EXPLORATION
4. WEST ABUTMENT
5. WEST ABUTMENT DETAILS
6. EAST ABUTMENT
7. EAST ABUTMENT DETAILS
8. RAILING PEDESTRIAN STEEL

BRIDGE OFFICE CONTACT  
 AARON BONK, P.E.  
 TELEPHONE: (608) 261-0261

CONSULTANT CONTACT  
 CHAD HALVERSON, P.E.  
 TELEPHONE: (608) 663-1218



NO.	DATE	REVISION	BY



ACCEPTED \_\_\_\_\_  
 CHIEF STRUCTURES DESIGN ENGINEER DATE \_\_\_\_\_

**STRUCTURE B-13-881**  
 IVY STREET PEDESTRIAN & BIKE PATH OVER STARKWEATHER CREEK

COUNTY \_\_\_\_\_ TOWN/CITY/VILLAGE \_\_\_\_\_  
 DANE MADISON

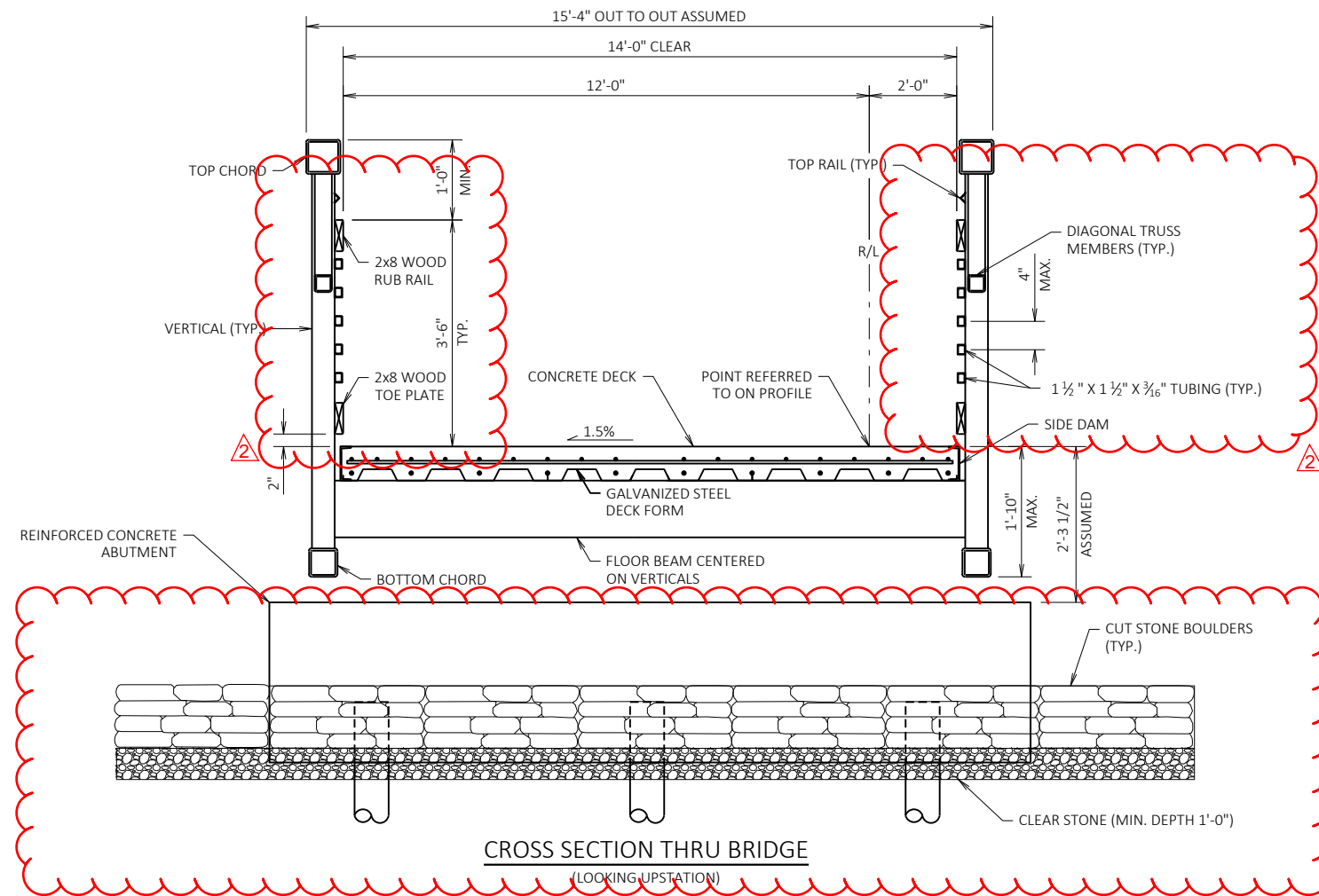
DESIGN SPEC. \_\_\_\_\_  
 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY CAH DESIGN CK'D. CDH DRAWN BY STD PLANS CK'D. CDH

GENERAL PLAN SHEET 1 OF 8

2/17/2021 CAH  
 ADDENDUM 2  
 REVISION  
 DATE BY  
 Scale: 1 IN. = 12 FT  
 S-9  
 10160  
 MADISON, WI  
 8142  
 CONTRACT NO.:  
 GENERAL PLAN  
 GARVER PATH  
 CITY OF MADISON  
 10160  
 S-9





**BRIDGE REACTIONS (SERVICE LOADS)**

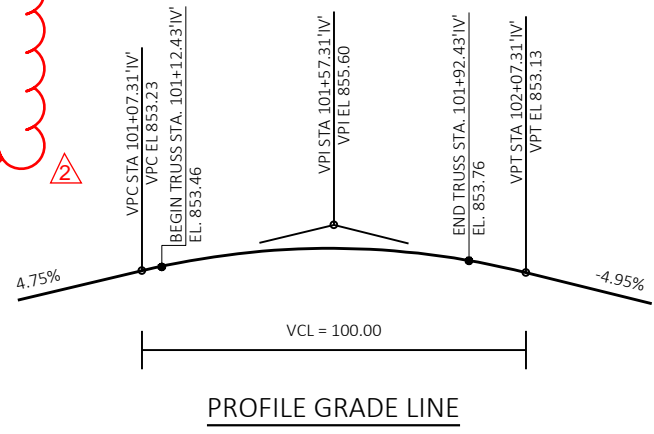
LOAD TYPE	"P" (LBS)	"H" (LBS)	"L" (LBS)
DEAD	25,095		
LIVE	26,250		
VEHICLE	14,280		
WIND		8,085	5,460
WINDWARD	-11,340		
LEEWARD	1,785		
STREAM			
THERMAL			5,040

P = VERTICAL LOAD AT EACH BASE PLATE (4 PER BRIDGE)  
H = HORIZONTAL LOAD AT EACH SUBSTRUCTURE UNIT (2 PER BRIDGE)  
L = LONGITUDINAL LOAD AT EACH FIXED BEARING (4 PER BRIDGE)

- NOTES:  
1. VALUES IN THIS TABLE ARE ESTIMATES. ACTUAL VALUES SHALL BE PROVIDED BY PREFABRICATED BRIDGE MANUFACTURER.  
2. "+" INDICATES DOWNWARD LOAD  
"-" INDICATES UPWARD LOAD

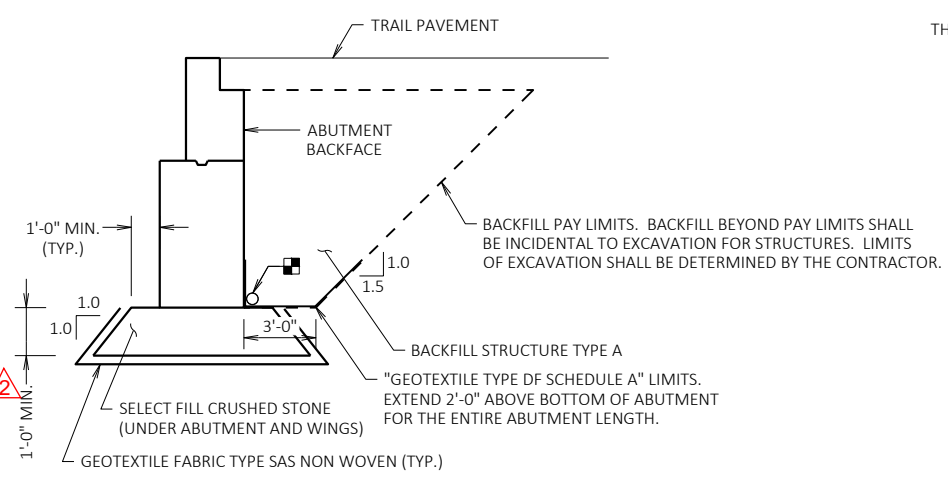
BRIDGE LENGTH = 80'  
BRIDGE CLEAR WIDTH = 14'  
DECK TYPE = CONCRETE  
RAIL HEIGHT = 54" MIN.  
LIVE LOAD = 90 PSF/H10

**Addendum No. 2, ID 5992-10-41**  
**Revised sheet S-10**  
**02/17/2021**



**TOTAL ESTIMATED QUANTITIES**

ITEM NUMBER	ITEM DESCRIPTION	UNIT	W. ABUT	E. ABUT	SUPER.	TOTAL
20140	GEOTEXTILE FABRIC TYPE SAS NON WOVEN	SY	46	46	---	92
20214	SELECT FILL CRUSHED STONE	TON	20	20	---	40
20217	CLEAR STONE	TON	79	50	---	129
20241	RIPRAP FILTER FABRIC, TYPE HR	SY	135	96	---	231
90300	REMOVING OLD STRUCTURE OVER WATERWAY STA. 101+50	LS	---	---	---	1
90301	PILING CIP CONCRETE 10 3/4 X 0.365-INCH	LF	195	180	---	375
90303	REINFORCED CONCRETE BRIDGE ABUTMENTS, AND WINGWALLS, B-13-881	LS	---	---	---	1
	EXCAVATION FOR STRUCTURES BRIDGES B-13-881	LS	---	---	---	1
	BACKFILL STRUCTURE TYPE A	TON	79	79	---	158
	CONCRETE MASONRY BRIDGES	CY	27	27	---	54
	PROTECTIVE SURFACE TREATMENT	SY	25	25	---	50
	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1200	1200	---	2400
	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1440	1440	---	2880
	RUBBERIZED MEMBRANE WATERPROOFING	SY	6	6	---	12
	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	98	98	---	196
	GEOTEXTILE TYPE DF SCHEDULE A	SY	10	10	---	20
90305	PREFABRICATED STEEL TRUSS PEDESTRIAN BRIDGE B-13-881 LRFD	LS	---	---	---	1
	PROTECTIVE SURFACE TREATMENT	SY	---	---	125	125
	PAINTING EPOXY SYSTEM STEEL TRUSS B-13-881	LS	---	---	1	1
90308	CUT-STONE BOULDERS	SF	780	480	---	1260
90309	RAILING PEDESTRIAN STEEL B-13-881	LF	24	24	---	48
	NON-BID ITEMS					
	BRIDGE SEAT PROTECTION					
	FILLER		1/2"	1/2"		



**STRUCTURE BACKFILL LIMITS**  
PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

**GENERAL NOTES**

DRAWINGS SHALL NOT BE SCALED.  
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.  
THE FIRST DIGIT OF A THREE DIGIT AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.  
AT ABUTMENTS, ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.  
THE EXISTING GROUND LINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.  
THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.  
EXCAVATION BELOW THE ABUTMENTS AND WINGS IS REQUIRED. UNDERCUT TO BE FILLED WITH SELECT FILL CRUSHED STONE TO A MINIMUM OF 1'-0" BELOW BOTTOM OF ABUTMENT. EXCAVATION LIMITS TO EXTEND 1'-0" BEYOND ABUTMENT AND WING DIMENSIONS.  
ALL PREFABRICATED BRIDGE DIMENSIONS ARE APPROXIMATE. CONTRACTOR SHALL VERIFY FINAL DIMENSIONS WITH BRIDGE MANUFACTURER.  
THE DISTANCE BETWEEN THE FRONT FACE OF ABUTMENT BACKWALLS SHALL BE 80'-4" WHICH INCLUDES THE EXPANSION JOINT WIDTH REQUIRED BY THE BRIDGE MANUFACTURER.  
WOOD RUB RAIL SHALL BE S4S (SURFACED 4 SIDES).  
ALL FASTENERS USED TO SECURE WOOD RUB RAILS AND TOE PLATES TO SUPPORT FRAMING SHALL BE STAINLESS STEEL.

IF TREATED TIMBER OR LUMBER MEMBERS ARE CUT IN THE FIELD OR DURING FABRICATION, SEAL ALL CUT ENDS PER SECTION 507.3.7 OF THE WISDOT STANDARD SPECIFICATIONS.  
ALL LUMBER SHALL BE PRESSURE TREATED WITH COPPER AZOLE TYPE C (CA-C) OR MICRONIZED COPPER AZOLE (MCA) TO A RETENTION TO MEET AWPAC UC4A AND IN ACCORDANCE WITH SECTION 507 OF THE WISDOT STANDARD SPECIFICATIONS.

THE PREFABRICATED STEEL TRUSS PEDESTRIAN BRIDGE B-13-881 LRFD BID ITEM INCLUDES DESIGNING, FURNISHING AND INSTALLING THE PREFABRICATED BRIDGE, BEARING PLATES, PADS, BOLTS, ANCHOR BOLTS, GROUT, WOOD AND STEEL RAILS AND DECKING MATERIALS INCLUDING CONCRETE MASONRY AND BAR STEEL REINFORCEMENT. USE "BAR STEEL REINFORCEMENT HS COATED STRUCTURES" IN THE BRIDGE DECK.

COAT, PAINT AND FINISH STEEL TRUSS AND RAILING PER SECTION 517 OF THE WISDOT STANDARD SPECIFICATIONS. PAINT COLOR FOR THE STEEL TRUSS AND RAILING SHALL BE FEDERAL STANDARD 595B COLOR #30045, BROWN.

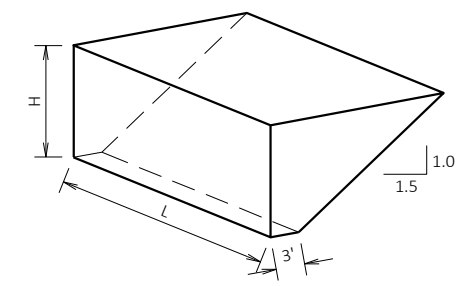
PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP OF DECK, AND TO ALL EXPOSED FACES OF THE ABUTMENTS AND WINGS.

APPLY BRIDGE SEAT PROTECTION TO BEAM SEATS PRIOR TO SETTING BEARINGS PER SECTION 502.3.12 OF THE CURRENT WISDOT SPECIFICATIONS.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH CUT STONE BOULDERS AND RIPRAP FILTER FABRIC, TYPE HR (TYP.) TO THE LIMITS SHOWN ON SHEET 1 AND ON THE ABUTMENT SHEETS OR AS DIRECTED BY THE ENGINEER. THE AREAS OUTSIDE THE WINGS AND ENDS OF ABUTMENT SHALL BE COVERED WITH CUT-STONE BOULDERS TO THE LIMITS SHOWN ON SHEET 1 OR AS DIRECTED BY THE ENGINEER.

THE TRUSS SHALL BE ANCHORED TO THE ABUTMENTS IN A MANNER TO:  
- ALLOW THERMAL MOVEMENTS OF THE SUPERSTRUCTURE ALONG C/L OF THE PEDESTRIAN BRIDGE.  
- PREVENT HORIZONTAL TRANSLATION OF THE SUPERSTRUCTURE PERPENDICULAR TO THE C/L OF THE PEDESTRIAN BRIDGE.

THE TRUSS SHALL BE CAMBERED TO OFFSET THE CALCULATED DEAD LOAD DEFLECTION.

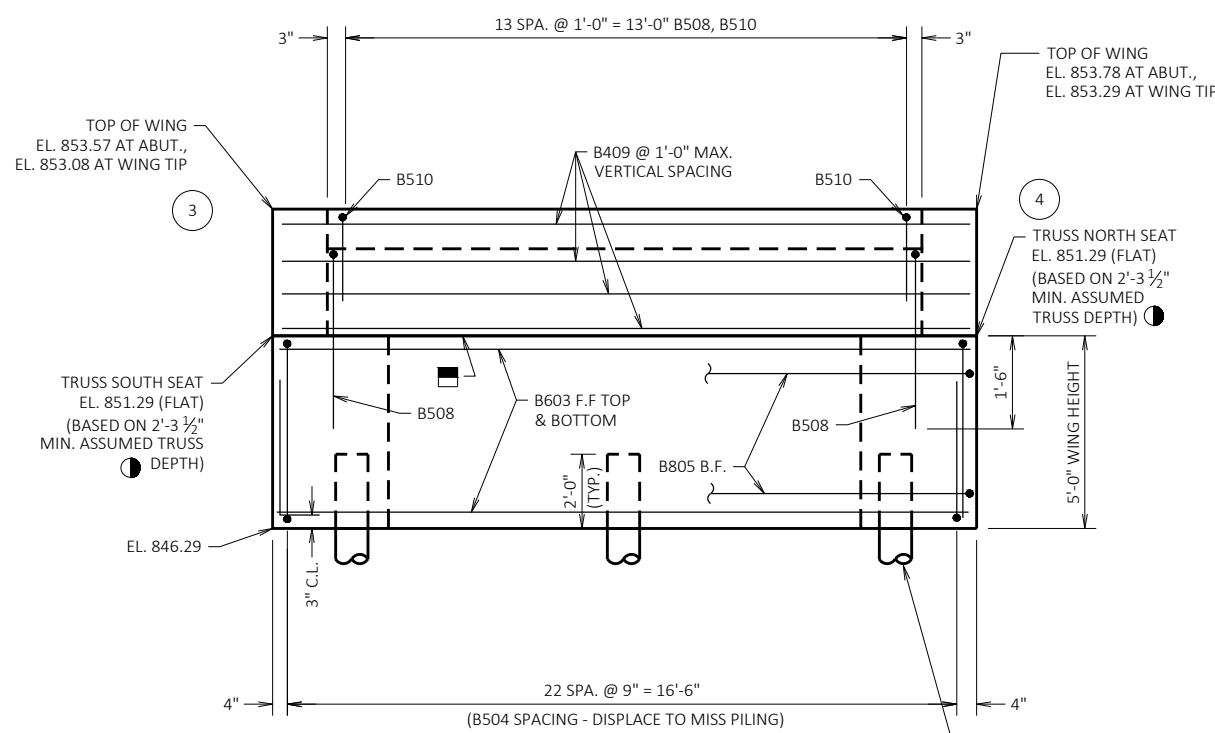


**ABUTMENT BACKFILL PAY QUANTITY DIAGRAM**  
L = OUT TO OUT OF ABUTMENT, INCLUDING WINGS (FT)  
H = AVERAGE ABUTMENT FILL HEIGHT (FT)  
EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)  
 $V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)$   
 $V_{CY} = V_{CF}(EF)/27$   
 $V_{TON} = V_{CY}(2.0)$

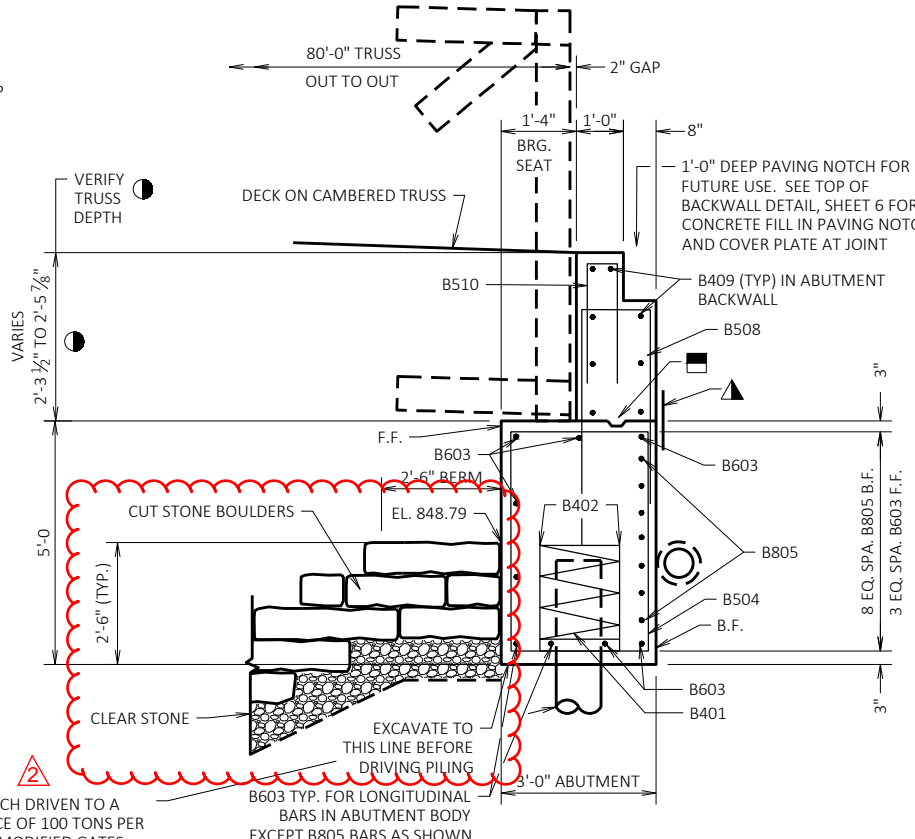
2/17/2021 CAH  
ADDENDUM 2  
10160  
MADISON, WI  
GARVER PATH  
CITY OF MADISON  
CONTRACT NO.: 8142  
S-10



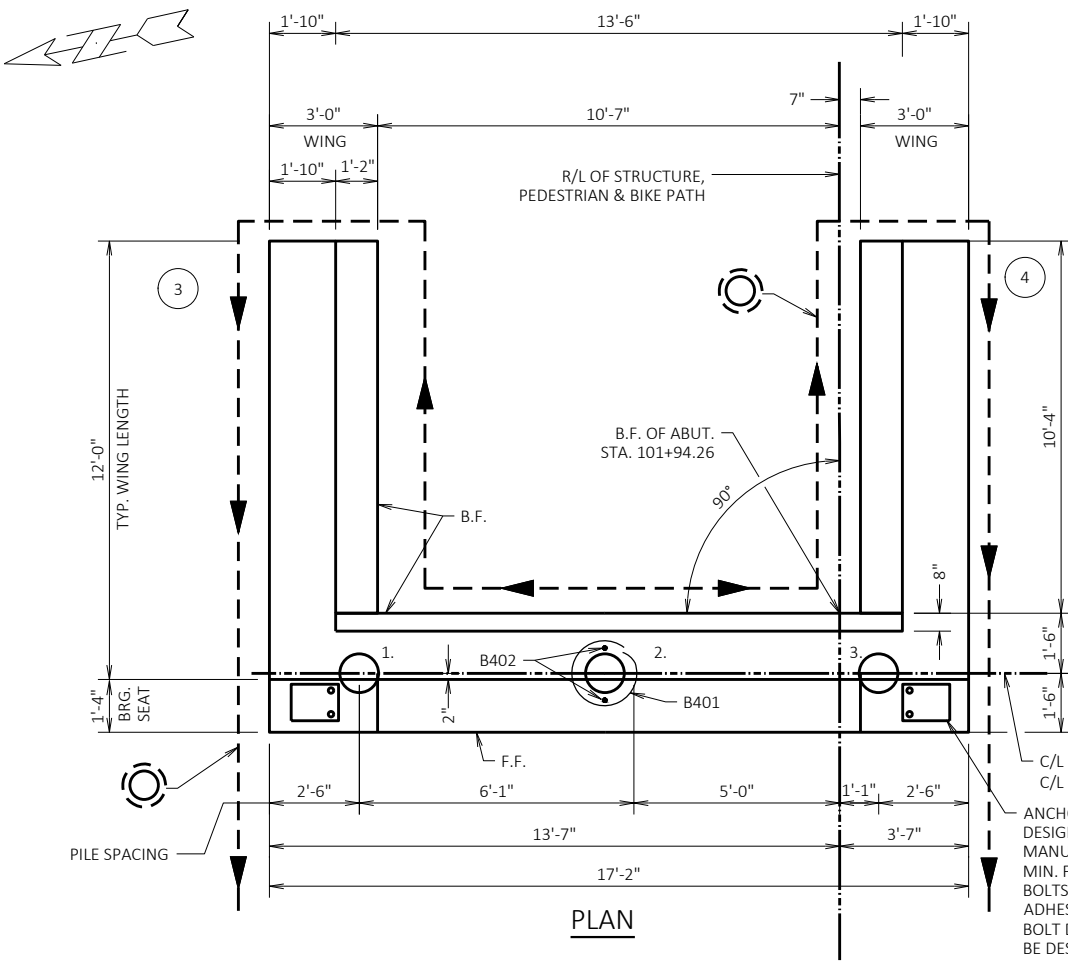




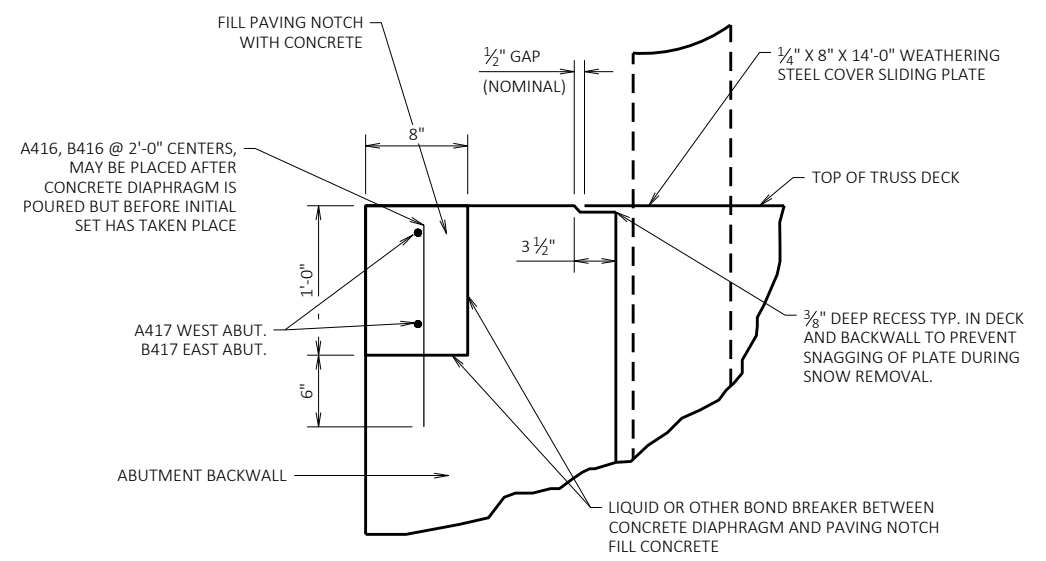
**ELEVATION**  
(LOOKING AT FRONT FACE OF ABUTMENT)



**SECTION THRU ABUTMENT**



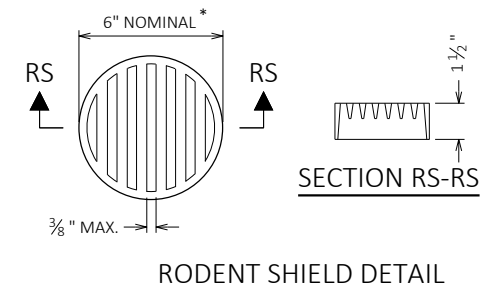
**PLAN**



**TOP OF BACKFILL DETAIL**

- LEGEND**
- CONSTRUCTION JOINT FORMED BY BEVELED 2X6. PLACE 3/4" BEVEL ON F.F. OF WINGS.
  - SET ABUTMENT BEARING SEAT TO ELEVATION DEPENDENT ON TRUSS DEPTH. TRUSS DEPTH INCLUDES MIN. ASSUMED DEPTH TO LOW CHORD (1'-10") AND ASSUMED HEIGHT OF BEARING (5 1/2").
  - ▲ HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. PLACE ON B.F. OF CONSTRUCTION JOINT AS SHOWN.
  - PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE AT FACE OF CUT STONE BOULDERS. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT PROTECTION AT ENDS OF PIPE. SEE RODENT SHIELD DETAIL, THIS SHEET.
- F.F. = FRONT FACE    B.F. = BACK FACE    CL. = CLEAR
- INDICATES WING NUMBER.

Addendum No. 2, ID 5992-10-41  
Revised sheet S-14  
02/17/2021

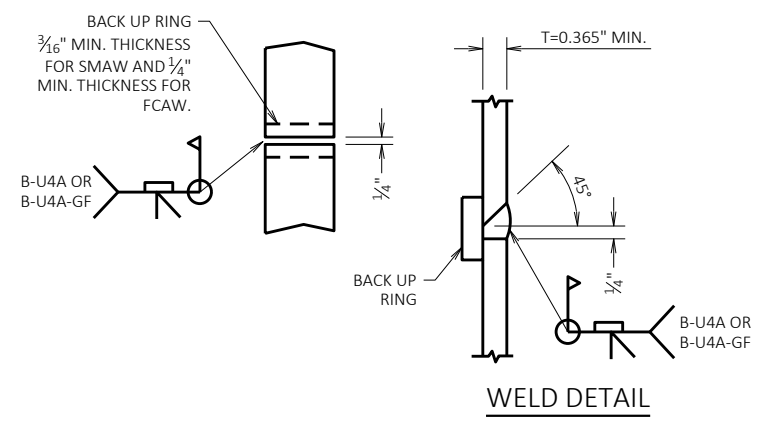


**RODENT SHIELD DETAIL**

\*DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

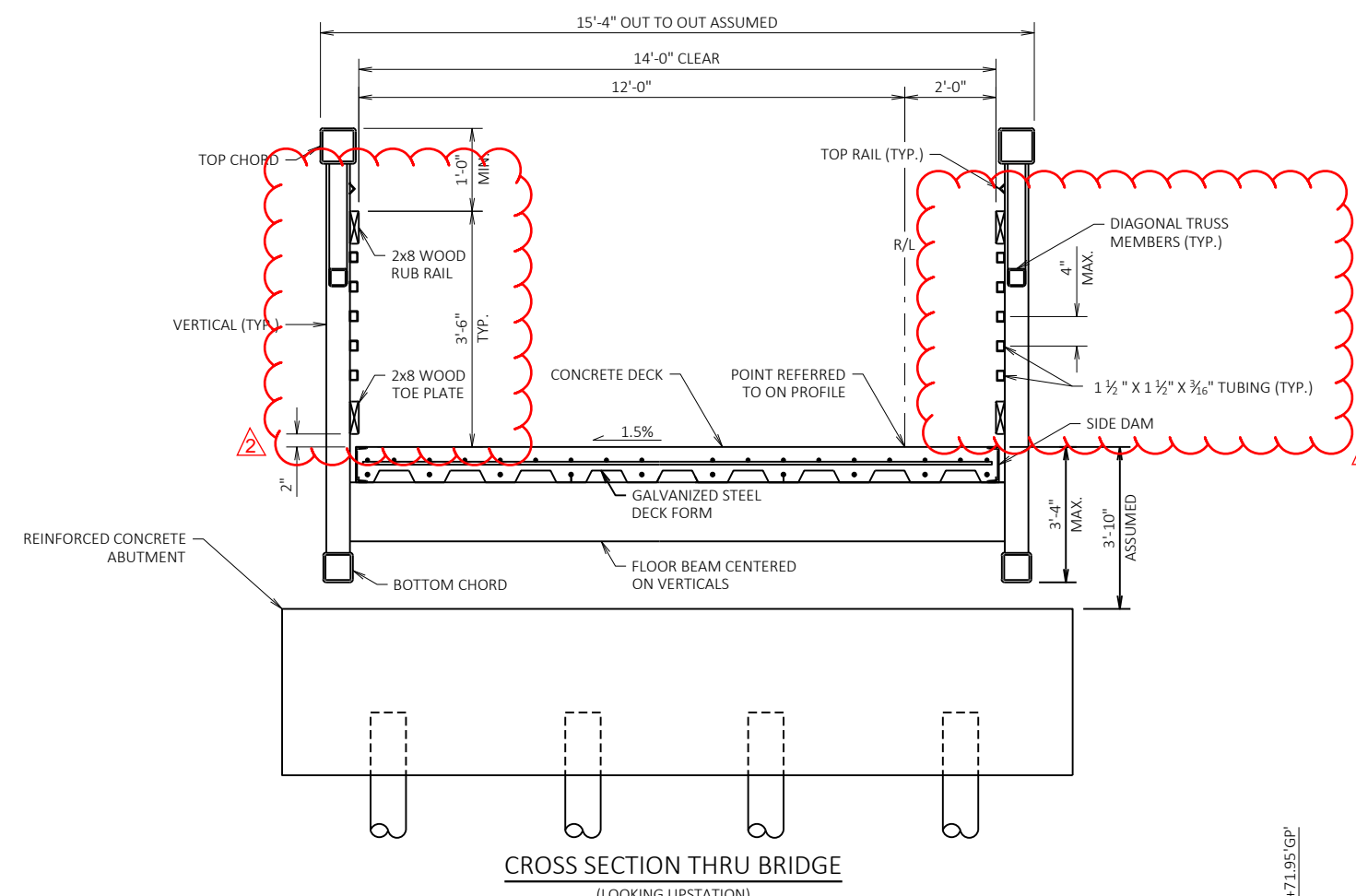


**CAST-IN-PLACE 'PIPE PILE' SPLICE DETAILS**

ADDENDUM 2	2/17/2021 CAH	REVISION	DATE	BY	S-14
10160	MADISON, WI	8142	CONTRACT NO.:		
EAST ABUTMENT	GARVER PATH	CITY OF MADISON	SHEET 6 OF 8		
STRUCTURE B-13-881			DRAWN BY: STD	PLANS CK'D: CDH	10160
S-14			10160		

**Addendum No. 2, ID 5992-10-41**  
**Revised sheet S-18**  
**02/08/2021**

2/17/2021 CAH  
 ADDENDUM 2  
 10160  
 MADISON, WI  
 8142  
 CONTRACT NO:  
 CITY OF MADISON  
 GARVER PATH  
 WISCONSIN  
 10160  
 S-18



**BRIDGE REACTIONS (SERVICE LOADS)**

LOAD TYPE	"P" (LBS)	"H" (LBS)	"L" (LBS)
DEAD	48,300		
LIVE	44,415		
VEHICLE	14,385		
WIND		20,475	6,090
WINDWARD	-22,785		
LEEWARD	6,090		
STREAM			
THERMAL			9,660

P = VERTICAL LOAD AT EACH BASE PLATE (4 PER BRIDGE)  
 H = HORIZONTAL LOAD AT EACH SUBSTRUCTURE UNIT (2 PER BRIDGE)  
 L = LONGITUDINAL LOAD AT EACH FIXED BEARING (4 PER BRIDGE)

NOTES:  
 1. VALUES IN THIS TABLE ARE ESTIMATES. ACTUAL VALUES SHALL BE PROVIDED BY PREFABRICATED BRIDGE MANUFACTURER.  
 2. "+" INDICATES DOWNWARD LOAD  
 "-" INDICATES UPWARD LOAD

BRIDGE LENGTH = 135'  
 BRIDGE CLEAR WIDTH = 14'  
 DECK TYPE = CONCRETE  
 RAIL HEIGHT = 54" MIN.  
 LIVE LOAD = 90 PSF/H10

**GENERAL NOTES**

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.

THE FIRST DIGIT OF A THREE DIGIT AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

AT ABUTMENTS, ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

THE EXISTING GROUND LINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

EXCAVATION BELOW THE ABUTMENTS AND WINGS IS REQUIRED. UNDERCUT TO BE FILLED WITH SELECT FILL CRUSHED STONE TO A MINIMUM OF 1'-0" BELOW BOTTOM OF ABUTMENT. EXCAVATION LIMITS TO EXTEND 1'-0" BEYOND ABUTMENT AND WING DIMENSIONS.

ALL PREFABRICATED BRIDGE DIMENSIONS ARE APPROXIMATE. CONTRACTOR SHALL VERIFY FINAL DIMENSIONS WITH BRIDGE MANUFACTURER.

THE DISTANCE BETWEEN THE FRONT FACE OF ABUTMENT BACKWALLS SHALL BE 135'-4" WHICH INCLUDES THE EXPANSION JOINT WIDTH REQUIRED BY THE BRIDGE MANUFACTURER.

WOOD RUB RAIL SHALL BE S4S (SURFACED 4 SIDES).

ALL FASTENERS USED TO SECURE WOOD RUB RAILS AND TOE PLATES TO SUPPORT FRAMING SHALL BE STAINLESS STEEL.

IF TREATED TIMBER OR LUMBER MEMBERS ARE CUT IN THE FIELD OR DURING FABRICATION, SEAL ALL CUT ENDS PER SECTION 507.3.7 OF THE WISDOT STANDARD SPECIFICATIONS.

ALL LUMBER SHALL BE PRESSURE TREATED WITH COPPER AZOLE TYPE C (CA-C) OR MICRONIZED COPPER AZOLE (MCA) TO A RETENTION TO MEET AWPA UC4A AND IN ACCORDANCE WITH SECTION 507 OF THE WISDOT STANDARD SPECIFICATIONS.

THE PREFABRICATED STEEL TRUSS PEDESTRIAN BRIDGE B-13-882 LRFD BID ITEM INCLUDES DESIGNING, FURNISHING AND INSTALLING THE PREFABRICATED BRIDGE, BEARING PLATES, PADS, BOLTS, ANCHOR BOLTS, GROUT, WOOD AND STEEL RAILS AND DECKING MATERIALS INCLUDING CONCRETE MASONRY AND BAR STEEL REINFORCEMENT. USE "BAR STEEL REINFORCEMENT HS COATED STRUCTURES" IN THE BRIDGE DECK.

COAT, PAINT AND FINISH STEEL TRUSS AND RAILING PER SECTION 517 OF THE WISDOT STANDARD SPECIFICATIONS. PAINT COLOR FOR THE STEEL TRUSS AND RAILING SHALL BE FEDERAL STANDARD 595B COLOR #30045, BROWN.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP OF DECK, AND TO ALL EXPOSED FACES OF THE ABUTMENTS AND WINGS.

APPLY BRIDGE SEAT PROTECTION TO BEAM SEATS PRIOR TO SETTING BEARINGS PER SECTION 502.3.12 OF THE CURRENT WISDOT SPECIFICATIONS.

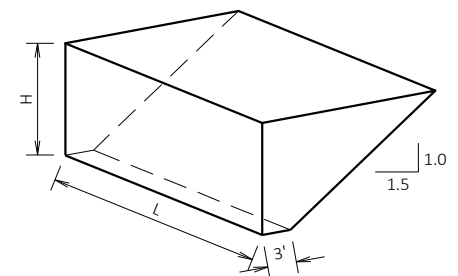
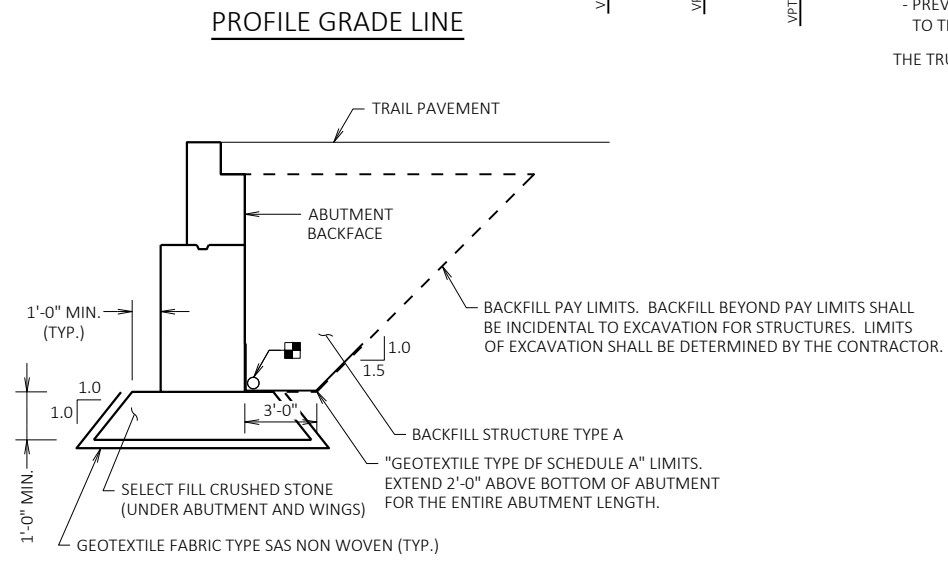
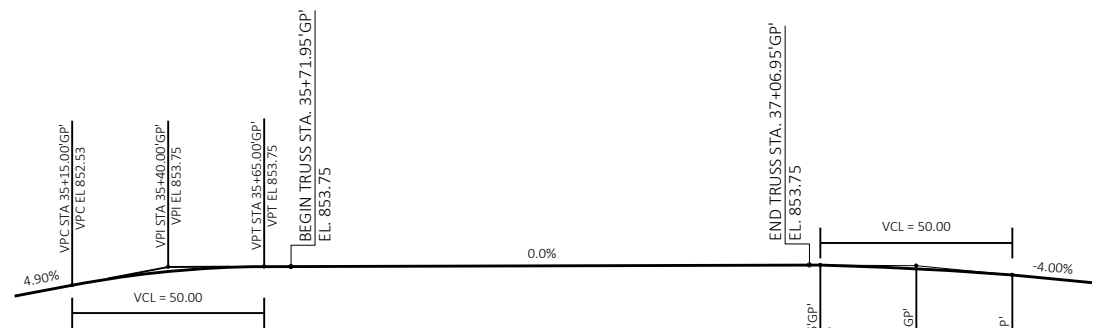
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE VEGETATED SLOPE TO THE LIMITS SHOWN ON SHEET 1 AND ON THE ABUTMENT SHEETS OR AS DIRECTED BY THE ENGINEER. THE AREAS OUTSIDE THE WINGS AND ENDS OF ABUTMENT SHALL BE COVERED WITH VEGETATED SLOPE.

THE TRUSS SHALL BE ANCHORED TO THE ABUTMENTS IN A MANNER TO:  
 - ALLOW THERMAL MOVEMENTS OF THE SUPERSTRUCTURE ALONG C/L OF THE PEDESTRIAN BRIDGE.  
 - PREVENT HORIZONTAL TRANSLATION OF THE SUPERSTRUCTURE PERPENDICULAR TO THE C/L OF THE PEDESTRIAN BRIDGE.

THE TRUSS SHALL BE CAMBERED TO OFFSET THE CALCULATED DEAD LOAD DEFLECTION.

**TOTAL ESTIMATED QUANTITIES**

ITEM NUMBER	ITEM DESCRIPTION	UNIT	S. ABUT	N. ABUT	SUPER.	TOTAL
20140	GEOTEXTILE FABRIC TYPE SAS NON WOVEN	SY	46	46	---	92
20214	SELECT FILL CRUSHED STONE	TON	20	20	---	40
90301	PILING CIP CONCRETE 10 3/4 X 0.365-INCH	LF	280	340	---	620
90304	REINFORCED CONCRETE BRIDGE ABUTMENTS, AND WINGWALLS, B-13-882	LS	---	---	---	1
	EXCAVATION FOR STRUCTURES BRIDGES B-13-882	LS	---	---	---	1
	BACKFILL STRUCTURE TYPE A	TON	109	109	---	218
	CONCRETE MASONRY BRIDGES	CY	31	31	---	62
	PROTECTIVE SURFACE TREATMENT	SY	30	30	---	60
	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1220	1220	---	2440
	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1730	1730	---	3460
	RUBBERIZED MEMBRANE WATERPROOFING	SY	6	6	---	12
	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	98	98	---	196
	GEOTEXTILE TYPE DF SCHEDULE A	SY	10	10	---	20
90305	PREFABRICATED STEEL TRUSS PEDESTRIAN BRIDGE B-13-882 LRFD	LS	---	---	---	1
	PROTECTIVE SURFACE TREATMENT	SY	---	---	210	210
	PAINTING EPOXY SYSTEM STEEL TRUSS B-13-882	LS	---	---	1	1
90309	RAILING PEDESTRIAN STEEL B-13-882	LF	24	24	---	48
	NON-BID ITEMS					
	BRIDGE SEAT PROTECTION					
	FILLER		1/2"	1/2"		



**ABUTMENT BACKFILL PAY QUANTITY DIAGRAM**

L = OUT TO OUT OF ABUTMENT, INCLUDING WINGS (FT)  
 H = AVERAGE ABUTMENT FILL HEIGHT (FT)  
 EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)  
 $V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)$   
 $V_{CY} = V_{CF}(EF)/27$   
 $V_{TON} = V_{CY}(2.0)$

**STRUCTURE BACKFILL LIMITS**

PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.