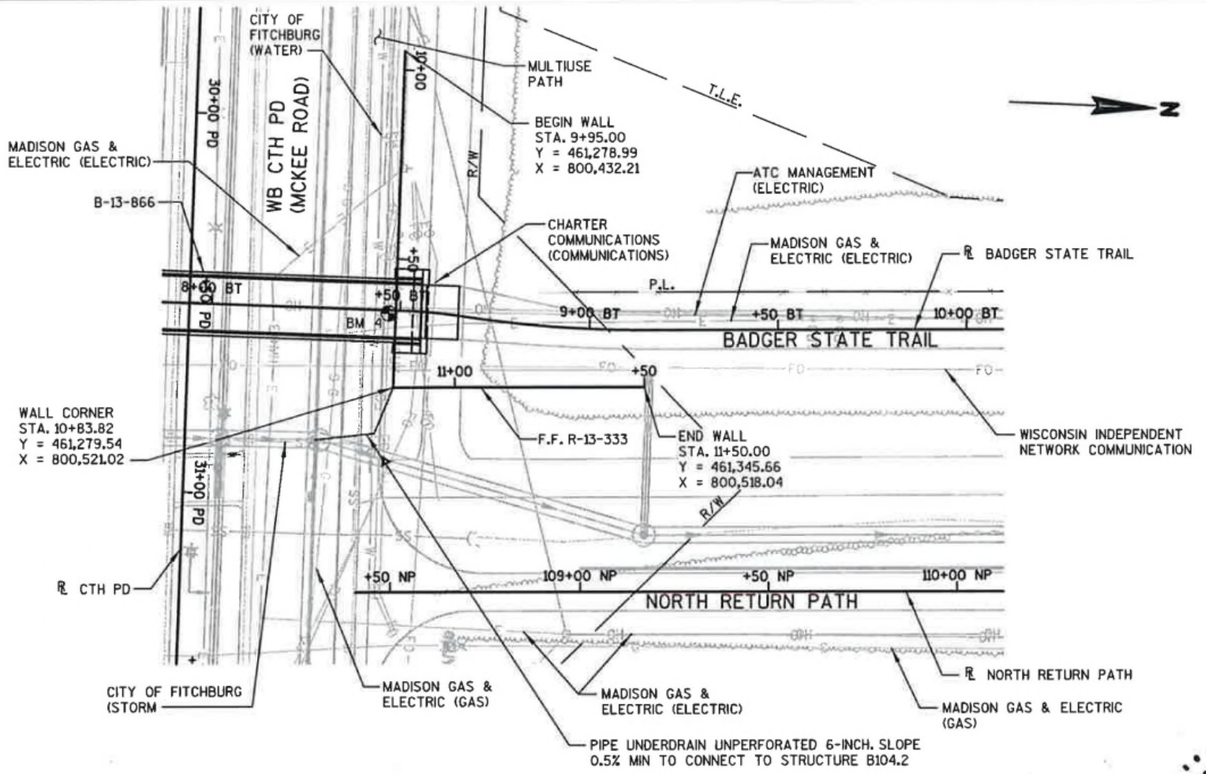
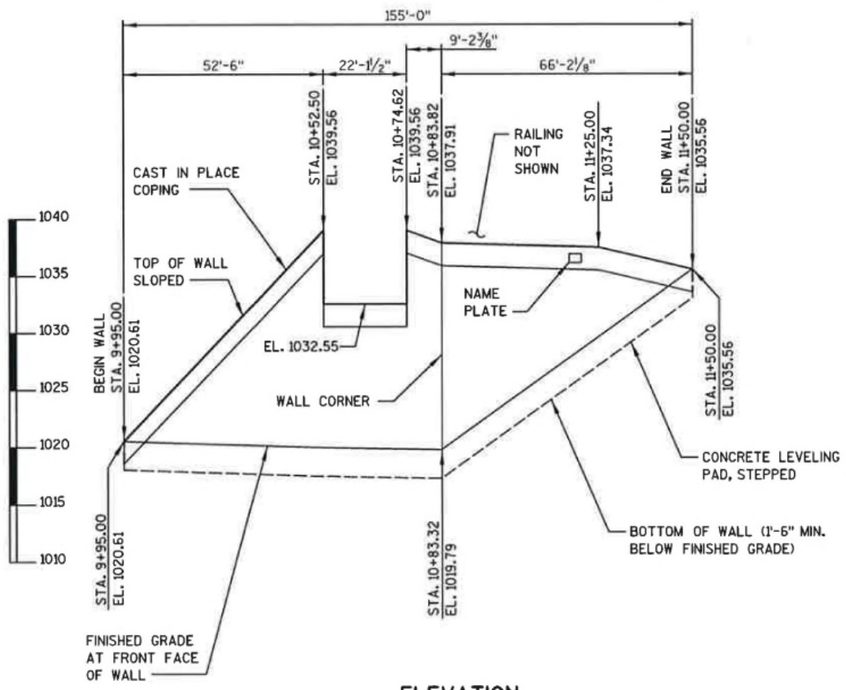


PLAN

(CONCRETE PANEL MECHANICALLY STABILIZED EARTH WALL)



ELEVATION

(LOOKING AT F.F. OF WALL)

ALLOWABLE WALL SYSTEMS

1. CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD.

LIST OF DRAWINGS

1. GENERAL PLAN
2. TYPICAL SECTIONS AND DETAILS
3. DESIGN TABLES
4. RAILING DETAILS
5. AESTHETIC & COPING DETAILS
6. SUBSURFACE EXPLORATION

BENCHMARKS

NO.	STATION	DESCRIPTION	ELEV.
5	27+19.42 PD, 75.02' LT	TOP NUT OF FIRE HYDRANT	1027.67
4	30+51.62 PD, 52.85' LT	TOP NUT OF FIRE HYDRANT	1022.34
3	34+53.47 PD, 53.87' LT	TOP NUT OF FIRE HYDRANT	1024.46

TOTAL ESTIMATED QUANTITIES

BID ITEM	BID ITEMS	UNIT	TOTALS
209.2500	BACKFILL GRANULAR GRADE 2	TON	400
513.8016	RAILING STEEL PEDESTRIAN TYPE C3	LF	138
517.1010.S.005	CONCRETE STAINING R-13-333	SF	1,875
517.1050.S.003	ARCHITECTURAL SURFACE TREATMENT R-13-333	SF	1,505
612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	35
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	125
SPV.0165.153	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD R-13-333	SF	1,875
	NON-BID ITEMS		
	PREFORMED FILLER	SIZE	3/4"
	EXPANDED POLYSTYRENE	SIZE	1"

ALL ITEMS ARE CATEGORY 0060

STATE PROJECT NUMBER
5849-02-02

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

THE PLAN QUANTITY FOR THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD R-13-333 IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF WALL TO A CONSTANT DEPTH OF 1'-6" BELOW FINISHED GRADE.

ALL DIMENSIONS, STATIONING, AND OFFSETS ARE ALONG THE FRONT FACE OF WALL AT FINISHED GROUND, UNLESS OTHERWISE SHOWN.

A NAME PLATE SHALL BE PLACED AS DIRECTED BY THE ENGINEER. CENTER NAME PLATE ON COPING.

ALL BAR STEEL REINFORCEMENT IN CAST-IN-PLACE CONCRETE IS TO BE EPOXY COATED.

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

BEVEL EXPOSED EDGES OF CONCRETE ¾-INCH, UNLESS NOTED OTHERWISE.

DESIGN DATA

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD R-13-333."

PLANS, ELEVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN IN THESE PLANS.

DESIGN FOR RETAINING WALL TO PROVIDE FOR FINISHED GRADE SLOPED BEHIND WALL AS SHOWN ON THE TYPICAL WALL SECTION AND ROADWAY CROSS SECTIONS.

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 100 PSF.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

MATERIAL PROPERTIES

CONCRETE MASONRY, COPING _____ f'c = 3,500 PSI
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 _____ fy = 60,000 PSI

DESIGN CONSULTANT CONTACT:
KYLE BETH (608) 251-4843

BRIDGE OFFICE CONTACT:
WILLIAM DREHER (608) 266-8489

NO.	DATE	REVISION	BY

STRAND ASSOCIATES®
910 WEST WINGRA DRIVE
MADISON, WISCONSIN 53715
(608)-251-4843
(608) 251-8655 FAX
WWW.STRAND.COM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED _____ _____
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE R-13-333

RET. WALL AT MCKEE RD. AND BADGER ST. TRAIL

COUNTY DANE | ~~TOWN/CITY/VILLAGE~~ FITCHBURG

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
KPB	BMO	DTH	BMO

GENERAL PLAN

SHEET 1 OF 6

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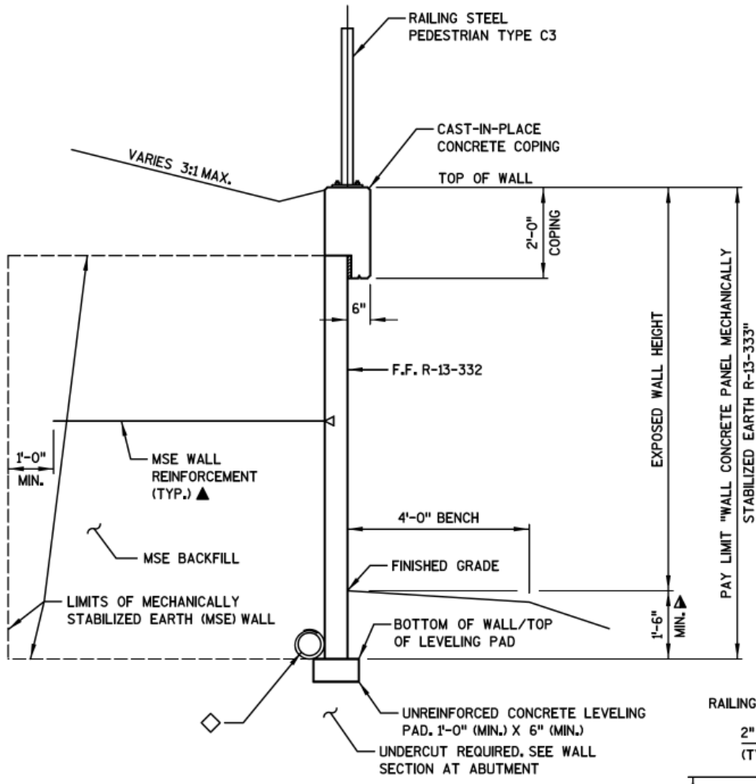
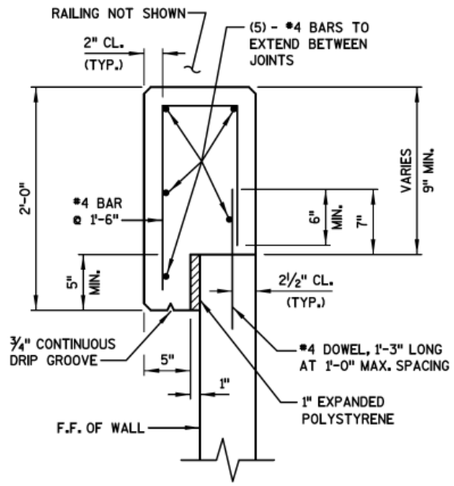
STATE PROJECT NUMBER

5849-02-02

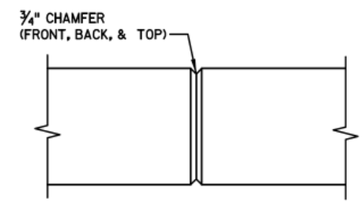


TYPICAL SECTION THRU MSE RETAINING WALL

(WALL STA. 10+00.00 TO 10+52.50)
(WALL STA. 10+74.62 TO 11+50.00)



CAST-IN-PLACE CONCRETE COPING DETAIL

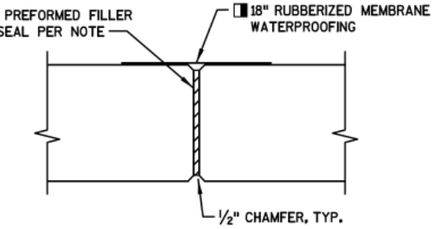


COPING CONTRACTION JOINT

DO NOT RUN BAR STEEL THRU JOINT. MAX. SPACING OF JOINT = 12'. SET JOINT LOCATION TO ALIGN WITH PANEL JOINT BELOW.

TYPICAL WALL SECTION AT ABUTMENT

(WALL STA. 10+52.50 TO 10+74.62)



COPING EXPANSION JOINT

DO NOT RUN BAR STEEL THRU JOINT. MAX. SPACING OF JOINT = 50'

▲ MINIMUM LENGTH OF MSE WALL REINFORCING STRIPS SHALL BE 70% OF THE TOTAL WALL HEIGHT (EXPOSED HEIGHT PLUS EMBEDMENT DEPTH) OR 8.0 FEET, WHICHEVER IS GREATER. SOIL REINFORCING MUST EXTEND A MINIMUM OF 3.0 FEET BEYOND THE FAILURE PLANE FOR INTERNAL STABILITY AS DEFINED BY AASHTO SPECIFICATIONS.

◭ MINIMUM EMBEDMENT BASED ON SITE SPECIFIC PARAMETERS. FIELD EMBEDMENTS SHALL MEET OR EXCEED THE MINIMUM EMBEDMENT. FIELD EMBEDMENT BELOW MINIMUM EMBEDMENT SHALL NOT BE INCLUDED IN THE PAY LIMITS.

* EXCAVATION SLOPE DETERMINED BY CONTRACTOR.

† SEAL ALL HORIZONTAL AND VERTICAL SURFACES OF FILLER AND EXPANDED POLYSTYRENE WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER (1-INCH DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).

⊖ UNFACTORED SUPERSTRUCTURE LATERAL LOADS TRANSFERRED TO THE ABUTMENT ARE TAKEN TO BE KIPS PER FOOT OF ABUTMENT LENGTH. THE VALUES ARE TO BE USED FOR THE LRFD DESIGN OF THE ABUTMENT BACKWALL SOIL REINFORCEMENT BY THE MSE WALL MANUFACTURER. THE FOLLOWING AASHTO LINE LOADS SHALL BE INCLUDED IN THE WALL DESIGN:

BR = 0.23 KLF WS = 0.33 KLF
TU = 0.77 KLF WL = 0.00 KLF

THE ABUTMENT BACKWALL SOIL REINFORCEMENT AND CONNECTION TO THE ABUTMENT ARE INCLUDED WITH THE BID ITEM "ABUTMENT BACKWALL SOIL REINFORCEMENT" AS SHOWN ON THE B-13-866 BRDGE PLANS.

◐ WALL SUBGRADE SHALL BE APPROVED BY THE SOUTHWEST REGION SOILS ENGINEER PRIOR TO CONSTRUCTION OF THE WALL.

◪ APPROXIMATELY 5'-0" OF UNDERCUT IS ANTICIPATED TO REMOVE THE EXISTING LAYERS OF SOFT SOIL UNDER THE WALL. THE ACTUAL DEPTH OF UNDERCUT MAY VARY AND SHALL BE DETERMINED BY THE SOUTHWEST REGION SOILS ENGINEER.

◇ PIPE UNDERDRAIN WRAPPED (6-INCH) SLOPE 0.5% MIN. TO CONNECT TO STRUCTURE B104.2.

◨ MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS. MEMBRANE WATERPROOFING INCLUDED IN BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LFRD R-13-333".

‡ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-13-333

DRAWN BY DTH | PLANS CK'D. BMO

TYPICAL SECTIONS AND DETAILS

SHEET 2

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FILE NAME : S:\MAD\1200--1299\1275\027\Micros\PLAN\080402_wd.dgn

STATE PROJECT NUMBER

5849-02-02

WALL EXTERNAL & OVERALL STABILITY EVALUATION

DIMENSIONS	EVALUATED LOCATIONS			
WALL HEIGHT (FEET)[1]	14.38	18.96	11.78	
EXPOSED WALL HEIGHT (FEET)	12.88	17.46	10.28	
MINIMUM LENGTH OF REINFORCEMENT (FEET) ◪	16	14	9	
WALL STATION	10+67.06	10+67.12	11+00	
BORING USED	BB-2, U-1			
CAPACITY TO DEMAND RATIO (CDR)[2,3]				
SLIDING (CDR>1.0)	1.0	1.4	1.4	
ECCENTRICITY (CDR>1.0)	1.5	1.7	1.7	
OVERALL STABILITY (CDR>1.0) ☆	1.1	--	--	
BEARING RESISTANCE (CDR>1.0)	1.1	1.4	2.3	
FACTORED BEARING RESISTANCE (PSF)	5900	6200	6500	

NOTES:

1. THE WALL HEIGHT INCLUDES AN EMBEDMENT OF 1.5 FT.
2. THE WALL STABILITY EVALUATION INCLUDED A SURCHARGE LOAD OF 100 PSF.
3. CDR VALUES ARE PRESENTED IN CHAPTER 14 OF THE WISDOT BRIDGE MANUAL.
4. WALL EXTERNAL STABILITY ANALYSIS ASSUMED A MINIMUM UNDERCUT OF 5 FEET TO REMOVE THE SOFT LEAN CLAY BELOW THE WALL.

* FINAL DESIGN FOR SLIDING, ECCENTRICITY, AND BEARING RESISTANCE IS THE RESPONSIBILITY OF THE CONTRACTOR'S WALL DESIGNER.

◪ THE LENGTHS PROVIDED IN THE TABLE ARE THE MINIMUM REQUIRED REINFORCEMENT LENGTH BASED UPON THE MINIMUM DESCRIBED IN THE WALL SYSTEM SPECIAL PROVISION OR EXTERNAL AND OVERALL STABILITY AT THE DESIGNATED LOCATIONS. THESE DESIGNATED LOCATIONS REPRESENT TYPICAL AND CRITICAL WALL LOCATIONS, BUT SHALL NOT BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR DESIGN LENGTHS SHALL MEET OR EXCEED THE MINIMUM VALUES REPRESENTED IN THE TABLE AT THESE DESIGNATED LOCATIONS.

☆ THE LENGTHS PROVIDED IN THE TABLE ARE THE MINIMUM REQUIRED REIINFORCEMENT LENGTHS BASED ON OVERALL STABILITY RERFORMED BY THE WALL DESIGNER COMPOUND STABILITY IS THE CONTRACTOR'S RESPONSIBILITY.

NOTES:

1. THE PROJECT SOILS ENGINEER SHOULD REVIEW THE SUBSURFACE CONDITIONS PRIOR TO CONSTRUCTION OF THE WALLS TO DETERMINE IF THE SOILS HAVE THE MINIMUM BEARING STRENGTH SHOWN IN THE TABLE ABOVE.
2. FINAL DESIGN FOR SLIDING, ECCENTRICITY, AND BEARING RESISTANCE AT OTHER WALL STATIONS IS THE RESPONSIBILITY OF THE CONTRACTOR'S WALL DESIGNER.

SOIL PARAMETERS

STRATUM LOCATIONS & SOIL DESCRIPTIONS	TOTAL UNIT WEIGHT	FRICTION ANGLE (DEGREES)	COHESION (PSF)
GRANULAR BACKFILL (REINFORCING ZONE OR BACKFILL	120	30	0
GRANULAR RETAINED SOIL *	135	30	0
BOR BB-1			
LEAN CLAY ELEV 1031.3-1029.8	130	0	1,000
LEAN CLAY ELEV 1029.8-1025.8	135	0	1,500
POORLY-GRADED SAND WITH GRAVEL AND COBBLES ELEV 1025.8-1021.3	130	38	0
SILTY SAND WITH GRAVEL, COBBLES, AND BOULDERS ELEV 1021.3-1012.3	135	34	0
SANDSTONE ELEV 1012.3-1009.3	120	0	72,000 (TOP) 144,000 (BOTTOM)
SANDSTONE ELEV 1009.3-997.7			144,000 (TOP) 288,000 (BOTTOM)
BOR BB-2			
LEAN CLAY ELEV 1019.5-1019.0	130	0	1,000
LEAN CLAY ELEV 1019.0-1016.5	130	0	1,500
LEAN CLAY ELEV 1016.5-1014.0	130	0	1,400
LEAN CLAY ELEV 1014.0-1011.5	135	0	1,200
SILTY SAND WITH GRAVEL, COBBLES, AND BOULDERS ELEV 1011.5-1009.0	135	33	0
SILTY SAND WITH GRAVEL, COBBLES, AND BOULDERS ELEV 1009.0-996.5	135	34	0
POORLY-GRADED GRAVEL WITH SAND AND COBBLES ELEV 996.5-991.5	135	41	0
SILTY SAND WITH GRAVEL, COBBLES, AND BOULDERS ELEV 991.5-989.5	135	31	0
POORLY-GRADED SAND WITH GRAVEL ELEV 989.5-982.5	135	43	0
POORLY-GRADED SAND WITH GRAVEL ELEV 982.5-980	135	38	0
POORLY-GRADED SAND WITH GRAVEL ELEV 980.0-970.5	135	43	0
SANDSTONE ELEV 970.5-965.5	120	0	72000 (TOP) 144,000 (BOTTOM)
BOR RW-5			
LEAN CLAY ELEV 1035.9-1034.9	130	0	1,000
LEAN CLAY ELEV 1034.9-1029.4	135	0	1,700
SILTY SAND WITH GRAVEL AND COBBLES ELEV 1029.4-1027.9	135	33	0
SILTY SAND WITH GRAVEL AND COBBLES ELEV 1027.9-1023.9	135	40	0
SILTY SAND WITH GRAVEL, COBBLES, AND BOULDERS ELEV 1023.9-1016.9	135	34	0
SANDSTONE ELEV 1016.9-1013.9	120	38	0
SANDSTONE ELEV 1013.9-1007.2	120	45	0

BOR U-1			
LEAN CLAY ELEV 1019.1-1018.9	115	0	500
POORLY-GRADED GRAVEL ELEV 1018.9-1018.4	110	29	0
GRAVELLY LEAN CLAY ELEV 1018.4-1017.9	120	0	1,000
SANDY SILTY CLAY WITH GRAVEL ELEV 1017.9-1013.1	130	0	2,000
SILTY SAND WITH GRAVEL, COBBLES, AND BOULDERS ELEV 1013.1-1011.1	128	29	0
SILTY SAND WITH GRAVEL, COBBLES, AND BOULDERS ELEV 1011.1-1002.1	135	35	0
SILTY SAND WITH GRAVEL, COBBLES, AND BOULDERS ELEV 1002.1-996.6	135	34	0
LEAN CLAY ELEV 996.6-991.6	135	0	3,700
POORLY-GRADED SAND ELEV 991.6-989.1	120	35	0
BOR U-2			
LEAN CLAY ELEV 1020.6-1020.4	115	0	500
SILTY SAND WITH GRAVEL ELEV 1020.4-1017.1	130	36	0
LEAN CLAY ELEV 1017.1-1014.6	135	0	3,300
SILTY SAND WITH GRAVEL AND COBBLES ELEV 1014.6-1007.6	135	35	0
SANDY LEAN CLAY WITH GRAVEL AND COBBLES ELEV 1007.6-996.5	135	0	4,100
SANDY LEAN CLAY WITH GRAVEL AND COBBLES ELEV 996.5-990.7	135	0	4,100
BOR U-3			
ASPHALT ELEV 1019.8-1019.7	145	--	--
SILTY GRAVEL WITH SAND ELEV 1019.7-1017.3	135	37	0
POORLY-GRADED SAND WITH SILT AND GRAVEL ELEV 1017.3-1015.8	120	33	0
SILTY SAND WITH GRAVEL AND COBBLES ELEV 1015.8-1008.8	135	40	0
CLAYEY SAND WITH GRAVEL AND COBBLES ELEV 1008.8-1001.2	135	33	0
SANDSTONE ELEV 1001.2-996.5	120	45	0
SANDSTONE ELEV 996.5-991.1	120	45	0

GEOMETRY TABLE

WALL STATION	TOP OF WALL COPING ELEV.	FINISHED GRADE ELEV.
9+95.00	1020.61	1020.61
10+00.00	1022.26	1020.56
10+25.00	1030.50	1020.33
10+50.00	1038.74	1020.10
10+52.50	1039.56	1020.08
10+52.50	1032.55	1020.08
10+74.62	1032.55	1019.87
10+74.62	1039.56	1019.87
10+75.00	1039.49	1019.87
10+83.82	1037.91	1019.79
11+00.00	1037.69	1023.62
11+25.00	1037.34	1029.53
11+50.00	1035.56	1035.56

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-333

DRAWN BY DTH | PLANS CK'D. BMO

DESIGN TABLES

SHEET 3

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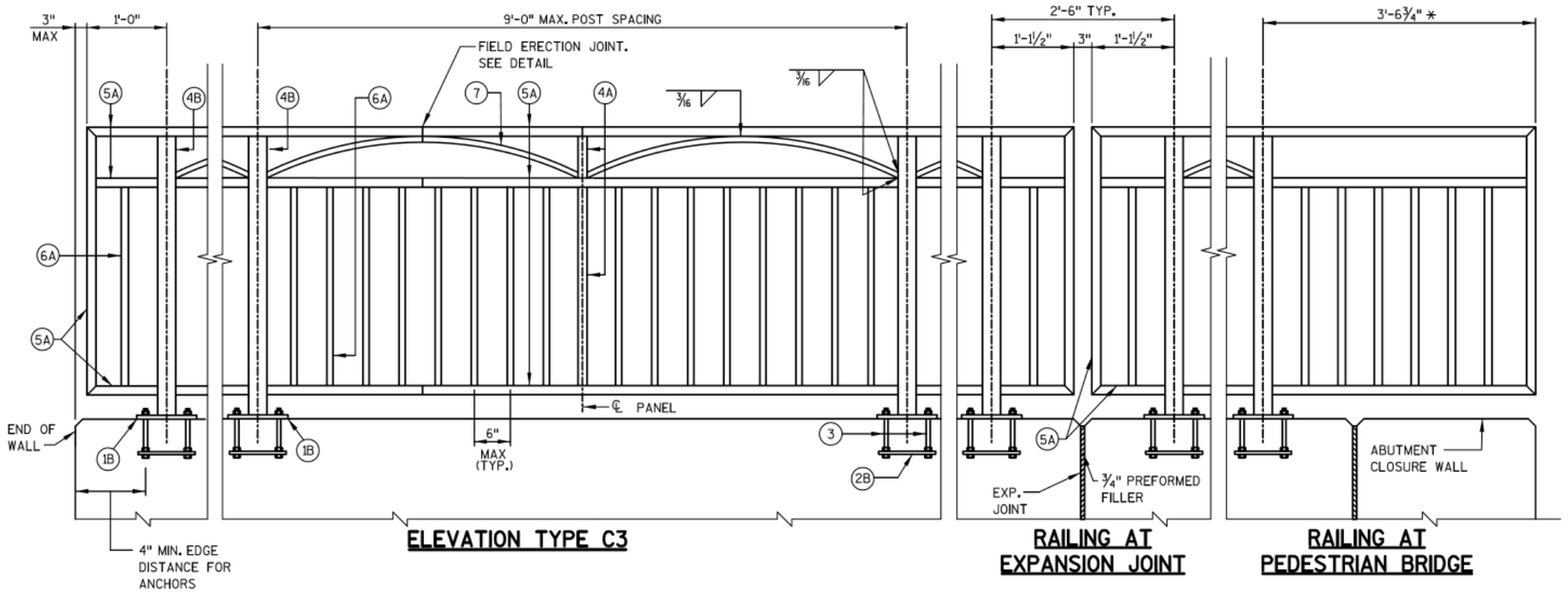
STATE PROJECT NUMBER

5849-02-02



ELEVATION TYPE C3

RAILING AT EXPANSION JOINT

RAILING AT PEDESTRIAN BRIDGE

LEGEND

(1B) PLATE ⅝" X 6" X 10" WITH ¾" X 1½" SLOTTED HOLES

(2B) ¼" X 5" X 9" ANCHOR PLATE WITH 11/16 " ϕ HOLES FOR THR'D. RODS NO. 3.

(3) ⅝" DIA. X 9" LONG, TYPE 316 STAINLESS STEEL THREADED RODS (MIN. TENSILE STRENGTH = 70 KSI) WITH NUT AND WASHERS OF SAME ALLOY GROUP. ALTERNATE ANCHORAGE: CONCRETE ADHESIVE ANCHORS ⅝-INCH. EMBED 7" IN CONCRETE FOR RAIL POSTS. ADHESIVE ANCHORS SHALL CONFORM TO SECTION 502.2.12 OF THE STANDARD SPECIFICATIONS.

(4A) STRUCTURAL TUBING 3" X 1½" X 3/16". PLACE VERTICAL. WELD TO NO. 1 & 5.

(4B) STRUCTURAL TUBING 3" X 3" X 3/16". PLACE VERTICAL. WELD TO NO. 1 & 5.

(5A) STRUCTURAL TUBING 3" X 1½" X 3/16" RAILS. WELD TO NO. 1 & NO. 4. INSIDE OF TUBE TO BE PAINTED AT ALL FIELD ERECTION JOINTS.

(6A) BAR 1" X 1" PICKETS. WELD TO NO. 5. (SPACE AT 6" MAX ℄ TO ℄ SPACING). PLACE VERTICAL.

(7) BAR 1" X 1". BEND TO REQUIRED RADIUS. WELD TO NO. 4 & 5.

(9A) RECTANGULAR SLEEVE FABRICATED FROM 3/16" PLATES. PROVIDE "SLIDING FIT".

(10A) RECTANGULAR SLEEVE FABRICATED FROM 3/16" PLATES. (1'-4" @ FIELD ERECTION JTS.)

* DIMENSION CALCULATED ASSUMING 16'-8" OUT-TO-OUT WIDTH OF STEEL TRUSS PEDESTRIAN BRIDGE. DIMENSION SHALL BE ADJUSTED AS REQUIRED DURING CONSTRUCTION TO PROVIDE GAP OF 6" OF LESS BETWEEN END OF RAILING AND STEEL TRUSS.

RAILING NOTES

BID ITEM SHALL BE "RAILING STEEL TYPE PEDESTRIAN TYPE C3", WHICH SHALL INCLUDE ALL STEEL ITEMS SHOWN.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL PLATES, BARS, AND RECTANGULAR SLEEVES SHALL CONFORM TO ASTM A709 GRADE 36. ALL STRUCTURAL TUBING SHALL CONFORM TO ASTM A500 GRADE B.

ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING. SET NORMAL TO GRADE.

CUT BOTTOM OF POST TO MAKE POST VERTICAL IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTION.

STEEL SHIMS SHALL BE PROVIDED & USED UNDER BASE PLATES WHERE REQUIRED FOR ALIGNMENT, AND SHALL BE GALVANIZED.

■ CAULK AROUND PERIMETER OF BASE PLATES, NO. 1, AND FILL BOLT SLOT OPENINGS IN SHIMS AND BASE PLATES WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

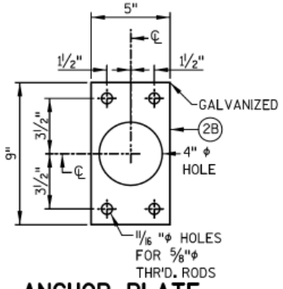
ALL MATERIAL (EXCEPT NO. 3) SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, THE STEEL RAILING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER SSPC SPECIFICATIONS. PAINT OVER GALVANIZING WITH AN APPROVED TIE COAT AND TOP COAT AS SPECIFIED IN CONTRACT DOCUMENTS. THE RAILING SHALL BE PAINTED FEDERAL COLOR NO. 14090 (GREEN).

VENT HOLES SHALL BE DRILLED IN POST AND RAIL MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

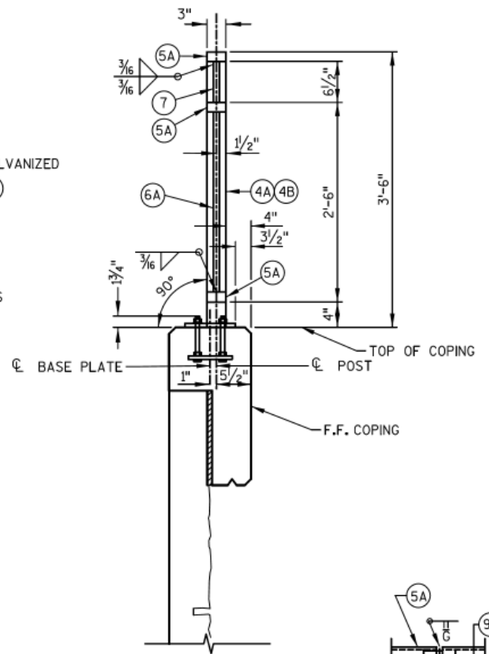
RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE 3 OR 4 POSTS.

TOUCH-UP PAINTING TO BE DONE AT COMPLETION OF STEEL RAILING INSTALLATION TO THE SATISFACTION OF THE ENGINEER AT NO EXTRA COST.

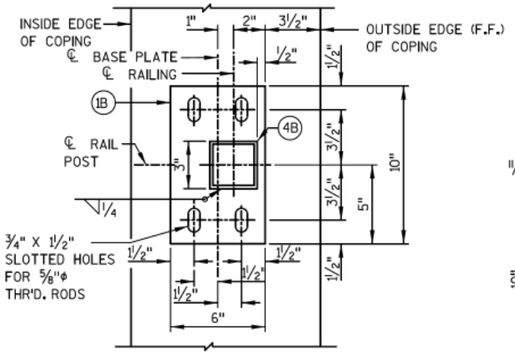
COORDINATE POST LAYOUT WITH MSE WALL COPING EXPANSION JOINT LAYOUT.



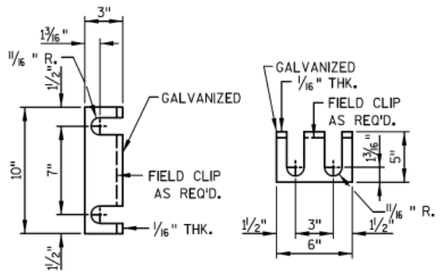
ANCHOR PLATE



SECTION THRU RAILING

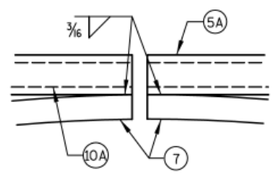


TYPICAL RAIL POST BASE PLATE

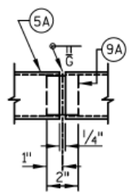


RAIL POST SHIM DETAIL

(2 SETS PER POST)

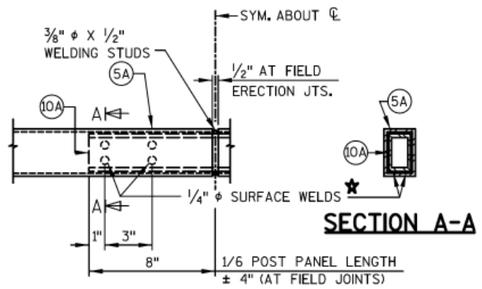


FIELD ERECTION JOINT



SHOP RAIL SPLICE DETAIL

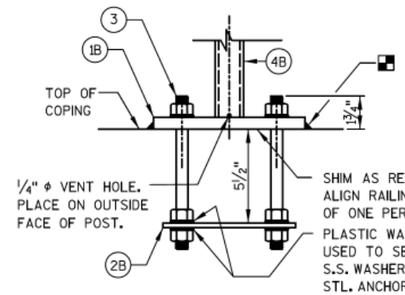
(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



FIELD ERECTION JOINT DETAIL

★ MIN. ⅝" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.

SECTION A-A



ANCHORAGE FOR RAIL POSTS

NOTE: ANCHOR PLATE NOT REQUIRED WHEN ADHESIVE ANCHORS ARE USED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-13-333

DRAWN BY DTH | PLANS CK'D. BMO

RAILING DETAILS

SHEET 4

FILE NAME : S:\MAD\1200--1299\1275\027\Micros\PLAN\080404_cd.dgn

STATE PROJECT NUMBER
5849-02-02

NOTES:

PROVIDE AESTHETIC DETAILS SHOWN IN THIS PLAN AND AS NOTED IN THE SPECIAL PROVISIONS.

ALL STONE EDGES ADJACENT TO VERTICAL PANEL JOINTS SHALL BE FLUSH CUT.

AVERAGE RELIEF IS ¾" FOR THE STONES WITH A MAXIMUM RELIEF OF 2" FOR THE JOINTS.

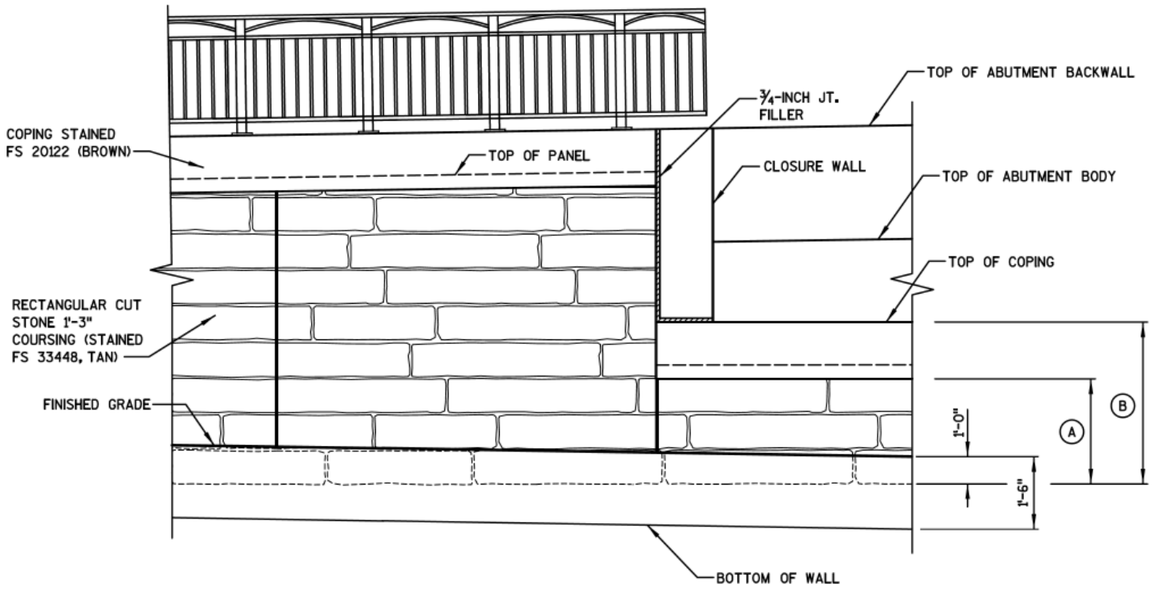
ALL PANELS ARE TO BE STAINED PER DETAILS ON THIS SHEET.

ALL EXPOSED SURFACES OF FORMLINED BLOCKS TO BE SPLIT FACE INCLUDING FACES, CORNERS AND EDGES.

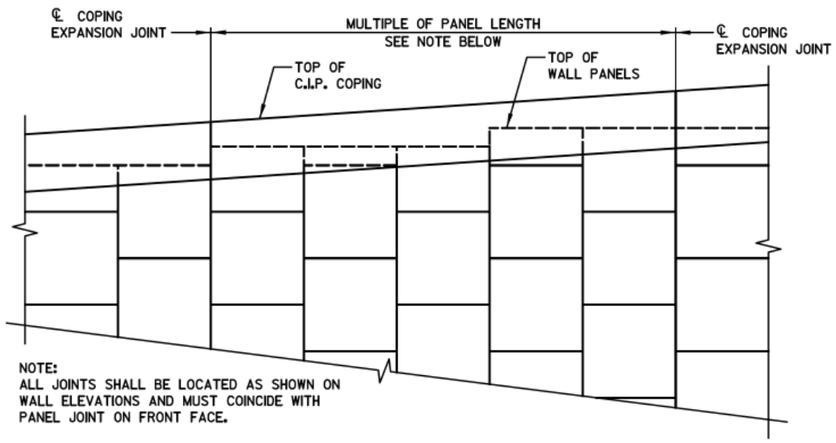
FORMLINER COURSING SHALL BE LEVEL AND CONTINUOUS ACROSS VERTICAL PANEL JOINTS.

(A) PAY LIMITS FOR "ARCHITECTURAL SURFACE TREATMENT" (BOTTOM OF COPING TO 1' BELOW FINISHED GRADE)

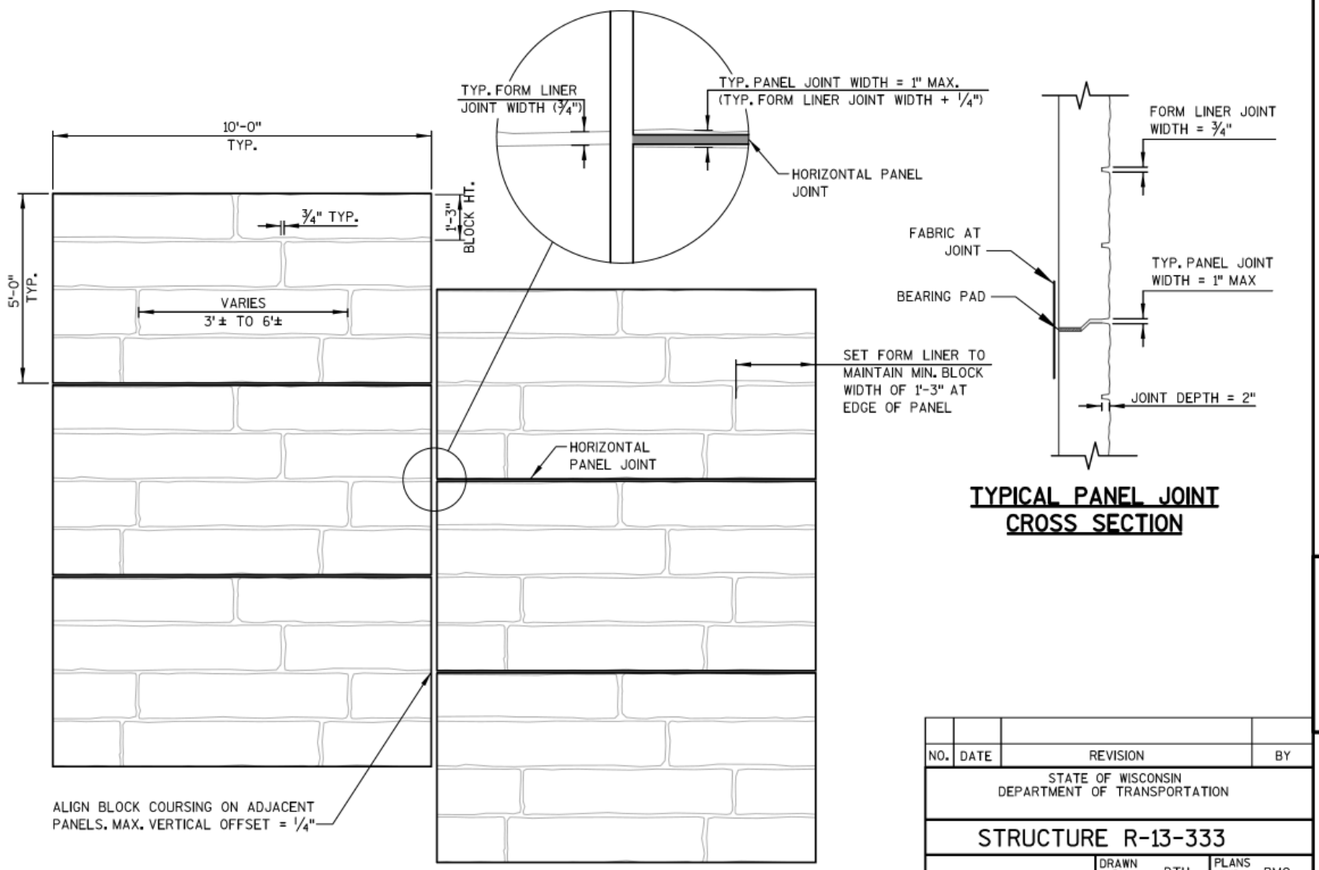
(B) PAY LIMITS FOR "CONCRETE STAINING" (TOP OF COPING TO 1' BELOW FINISHED GRADE)



PARTIAL WALL ELEVATION



C.I.P. COPING PARTIAL ELEVATION



TYPICAL PANEL AESTHETIC DETAILS

TYPICAL PANEL JOINT CROSS SECTION

8

8

NO.	DATE	REVISION	BY

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DEPARTMENT OF TRANSPORTATION

STRUCTURE R-13-333

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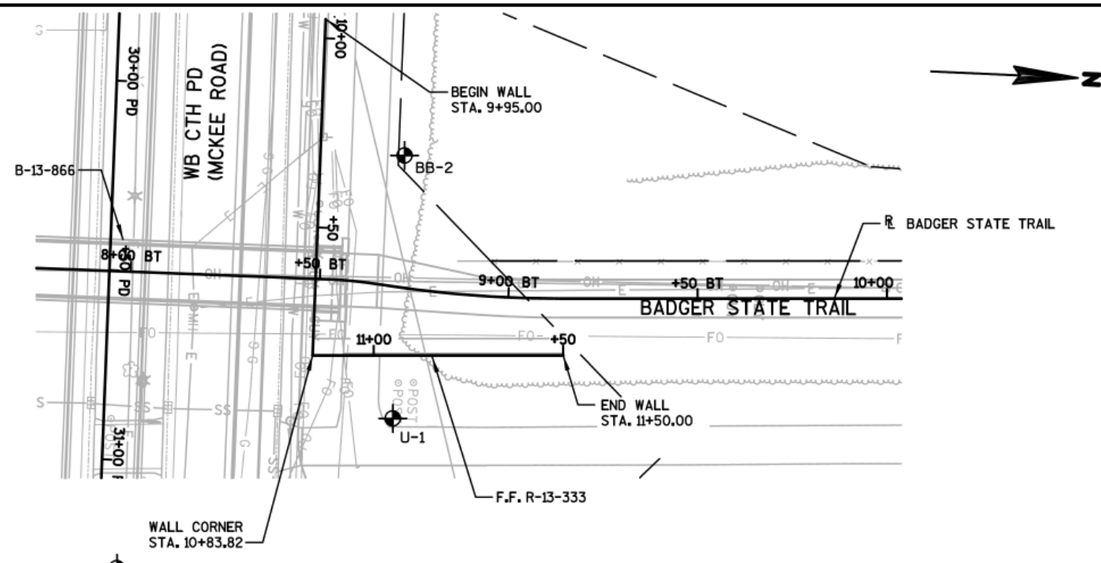
AESTHETIC & COPING DETAILS

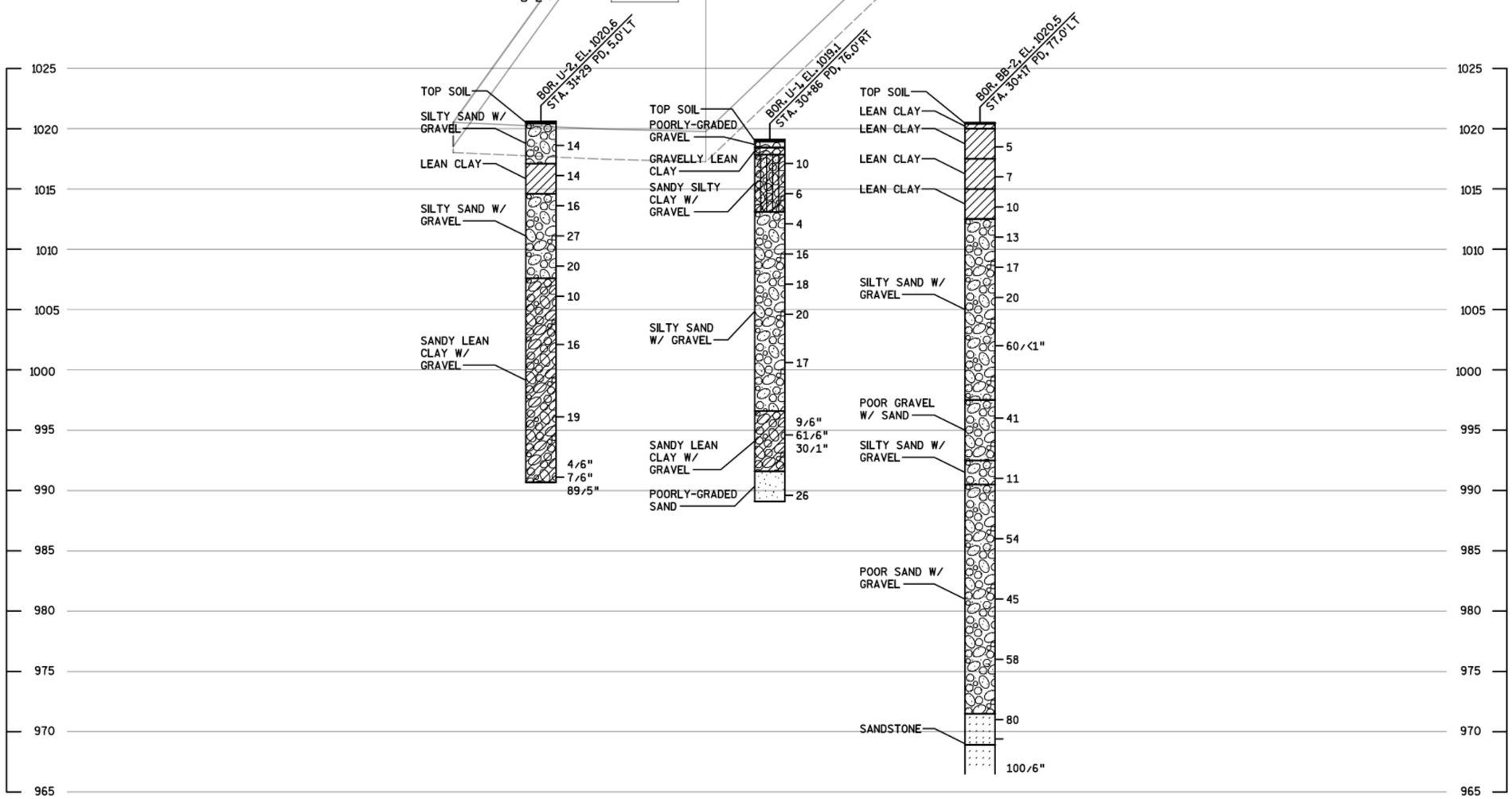
SHEET 5

FILE NAME : S:\MAD\1200--1299\1275\027\Micros\PLAN\080405_cd.dgn

BORINGS PERFORMED AND REPORT COMPLETED BY:
SOILS & ENGINEERING SERVICES, INC. (SES)
1102 STEWART STREET
MADISON, WI 53713

BORINGS WERE PERFORMED ON 11/27/2017
AND 01/09/2019.





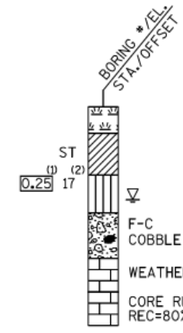
STATE PROJECT NUMBER

5849-02-02

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/ META

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- AT TIME OF DRILLING
- END OF DRILLING
- AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-13-333

DRAWN BY DTH | PLANS CK'D. BMO

SUBSURFACE EXPLORATION

SHEET 6

8

8

SCALE =

FILE NAME : S:\MAD\1200--1299\1275\027\Micros\PLAN\080406_sx.dgn