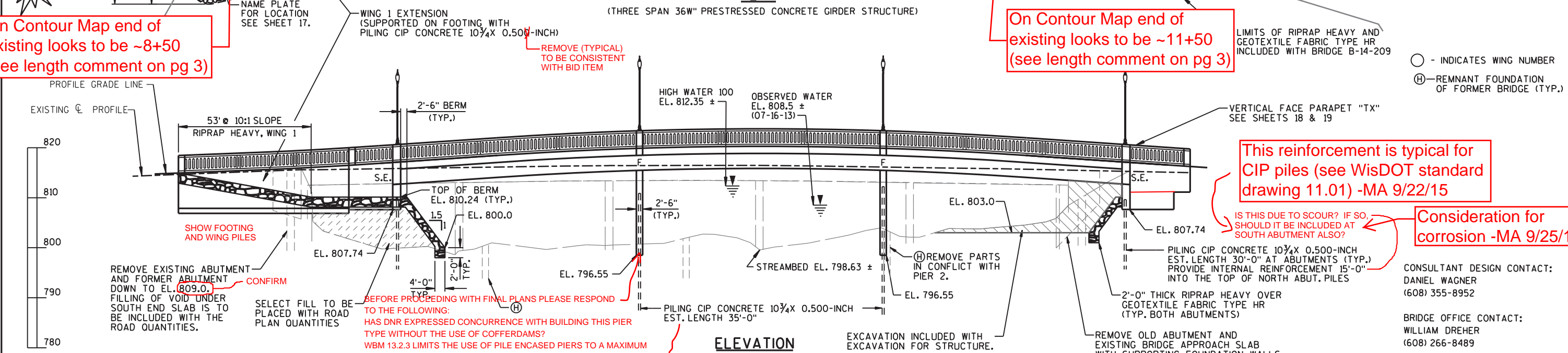


STATE PROJECT NUMBER				
3997-00-70				
BENCH MARKS NAVD 88				
NO.	STATION	DESCRIPTION	OFFSET	ELEV.
2	7+97.4	TOP NUT FIRE HYDRANT	20.3' RT.	817.29
3	11+50.3	BOLT ON NORTHEAST ABUT. CORNER	18.0' RT.	811.90



DESIGN DATA

LIVE LOAD:

DESIGN RATING : HL-93
INVENTORY RATING FACTOR : 1.XX
OPERATIONAL RATING FACTOR : 1.XX
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS.
STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY, SUPERSTRUCTURE $f'_c = 4,000$ P.S.I.
SUBSTRUCTURE $f'_c = 3,500$ P.S.I.

HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 $f_y = 60,000$ P.S.I.

36W-INCH PRESTRESSED GIRDERS
CONCRETE MASONRY $f'_c = 8,000$ P.S.I.
STRANDS - 0.60" ϕ WITH AN ULTIMATE TENSILE STRENGTH OF $f_y = 270,000$ P.S.I.

PILING CIP CONCRETE 10 3/4" X 0.500-INCH $f_y = 50,000$ P.S.I.

CONFIRM CONSISTENT WITH STD. SPEC. SECTION 550.2.1

TRAFFIC DATA:

A.A.D.T. (2017) = 2400
A.A.D.T. (2037) = 2900
R.D.S. = 30 MPH

FOUNDATION DATA:

ABUTMENTS AND PIERS TO BE SUPPORTED ON PILING CIP CONCRETE 10 3/4" X 0.500-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 150 TONS * PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTHS ARE 30'-0" AT THE ABUTMENTS, AND 35'-0" AT THE PIERS.

* 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

DRAINAGE AREA	945 SQ. MI.
Q ₁₀₀	6,300 C.F.S.
VELOCITY	2.23 F.P.S.
WATERWAY AREA	2,829 SQ. FT.
HIGH WATER ₁₀₀ ELEVATION	812.35
ROADWAY OVERFLOW DESIGN FREQUENCY	N/A
SCOUR CRITICAL CODE	5
Q ₂ HIGH WATER ELEVATION (2,080 C.F.S.)	810.22
Q _{REGULATORY}	6,470 C.F.S.
HIGH WATER REGULATORY	813.46

- LIST OF DRAWINGS**
1. GENERAL PLAN
 2. CROSS SECTION
 3. QUANTITIES, PROFILE & NOTES
 4. SUBSURFACE EXPLORATION
 5. SOUTH ABUTMENT
 6. SOUTH ABUTMENT DETAILS
 7. NORTH ABUTMENT
 8. NORTH ABUTMENT DETAILS
 9. PIER 1
 10. PIER 1 DETAILS
 11. PIER 2
 12. PIER 2 DETAILS
 13. 36W" PRESTRESSED GIRDER DETAILS
 14. STEEL DIAPHRAGM DETAILS
 15. SUPERSTRUCTURE
 16. SUPERSTRUCTURE SECTIONS
 17. SUPERSTRUCTURE SECTIONS & DETAILS
 18. VERTICAL FACE PARAPET "TX"
 19. VERTICAL FACE PARAPET "TX" DETAILS
 20. ELECTRICAL CONDUIT PLAN & DETAILS

PRELIMINARY PLAN APPROVED:

9/21/15

WBM 8.3.1.5 REQUIRES 2 FEET OF FREEBOARD. THIS STRUCTURE FALLS BELOW THAT LIMIT. PLEASE INCLUDE CALCULATIONS IN FINAL DESIGN COMPS THAT CONFIRM THE SUPERSTRUCTURE CAN RESIST THE RESULTING VERTICAL AND HORIZONTAL FORCES SHOULD IT BECOME INUNDATED.

CONFIRM FUNDING OF AESTHETIC ITEMS WITH LPMC

PRIMARILY LATERAL HYDROSTATIC FORCES SINCE IT IS UNLIKELY THE GIRDERS WOULD BECOME INUNDATED ACROSS THE ENTIRE FACE OF THE BRIDGE. ALSO, EVALUATE THE AMOUNT OF ICE THAT MAY PASS UNDER THIS STRUCTURE; FORCES CAUSED BY IMPACT FROM ICE OR AN ICE JAM MIGHT NEED TO BE CONSIDERED AS WELL. -MA 9/25/15

NO.	DATE	REVISION	BY
MSA TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL 1230 South Boulevard Baraboo, WI 53913 608-356-2771 1-800-362-4505 Fax: 608-356-2770			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED		CHIEF STRUCTURES DESIGN ENGINEER	DATE
STRUCTURE B-14-209			
NORTH 2ND STREET OVER ROCK RIVER			
COUNTY	DODGE	TOWN/CITY/VILLAGE	WATERTOWN
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	DHW	DESIGN CK'D. XXX	DRAWN BY RLR PLANS CK'D. DHW
GENERAL PLAN			SHEET 1 OF 20



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-14-209	
DRAWN BY		RLR	PLANS CK'D. DHW
CROSS SECTION		SHEET 2 OF 20	

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEM	UNIT	SOUTH ABUT.	PIER 1	PIER 2	NORTH ABUT.	SUPER	TOTAL
203.0600.S.01	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+00	LS	-	-	-	-	-	1
206.1000.01	EXCAVATION FOR STRUCTURES BRIDGES (B-14-209)	LS	-	-	-	-	-	1
206.5000.01	COFFERDAMS (B-14-209)	LS	-	-	-	-	-	1
210.0100	BACKFILL STRUCTURE	CY	300	-	-	300	-	600
502.0100	CONCRETE MASONRY BRIDGES	CY	100	100	100	100	500	900
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	-	-	1730	1730
502.3210	PIGMENTED SURFACE SEALER	SY	-	-	-	-	610	610
503.0137	PRESTRESSED GIRDER TYPE I 36W-INCH	LF	-	-	-	-	2328	2328
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	4000	5000	5000	4000	-	18000
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	5000	-	-	5000	150000	160000
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	-	-	-	-	28	28
506.4000.01	STEEL DIAPHRAGMS (B-14-209)	EACH	-	-	-	-	36	36
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	20	-	-	20	-	40
550.2108	PILING CIP CONCRETE 10 3/4 X 0.50-INCH	LF	330	490	490	330	-	1640
606.0300	RIPRAP HEAVY	CY	160	-	-	140	-	300
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	120	-	-	120	-	240
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	320	-	-	280	-	600
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	-	-	-	-	0	0
652.0315	CONDUIT RIGID NONMETALLIC SCHEDULE 80 1 1/4-INCH	LF	-	-	-	-	0	0
652.0325	CONDUIT RIGID NONMETALLIC SCHEDULE 80 2-INCH	LF	-	-	-	-	0	0
653.0222	JUNCTION BOXES 18X12X6-INCH	EACH	-	-	-	-	8	8
655.0610	ELECTRICAL WIRE LIGHTING 12 AWG	LF	-	-	-	-	0	0
655.0625	ELECTRICAL WIRE LIGHTING 6 AWG	LF	-	-	-	-	0	0
SPV.0060.0X	DECORATIVE LIGHT POST TOP UNIT	EACH	-	-	-	-	8	8
SPV.0090.0X	PARAPET CONCRETE TYPE 'TX'	LF	-	-	-	-	685	685
SPV.0165.0X	ANTI-GRAFFITI COATING	SF	0	-	-	0	0	0
	NON-BID ITEMS							
	PREFORMED FILLER	SIZE	-	-	-	-	-	1/2", 3/4"

ADD BID ITEM 657.6005.S ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURE, EACH

STATE PROJECT NUMBER

3997-00-70

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 BAR MARK SIGNIFIES THE BAR SIZE.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES" FOR THE ABUTMENTS AND PIERS.

THE SOUTH ABUTMENT AND RIPRAP HEAVY ARE TO BE PLACED ON FILL PLACED AS PART OF THE ROADWAY EARTHWORK QUANTITIES.

A COFFERDAM IS REQUIRED FOR THE CONSTRUCTION OF THE SOUTH ABUTMENT AND WING WALLS.

THIS STRUCTURE WILL REPLACE EXISTING BRIDGE, P-14-713, A 330' FOOT LONG STRUCTURE INCLUDING FIVE STEEL DECK GIRDER SPANS AND 15 FOOT SLAB SPANS AT EACH END. THE SLAB SPANS ARE FOUNDED ON CONCRETE FOUNDATION WALLS OVER PARTIALLY REMOVED ABUTMENTS OF THE PREVIOUS STRUCTURE. THE BRIDGE IS SET ON CONCRETE ABUTMENTS AND CONCRETE PIERS FOUNDED ON SPREAD FOOTINGS.

THE EXISTING BRIDGE PLANS ARE AVAILABLE ON THE WISDOT HSI SITE.

AT THE BACK FACES OF ABUTMENTS ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE. THE BACKFILL STRUCTURE ESTIMATED QUANTITIES ASSUMED A 1 1/2:1 EXCAVATION SLOPE AT THE ABUTMENTS AND WING WALLS.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO NAVD 88 BENCHMARK.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP OF SLAB, FACE AND TOP OF SIDEWALK.

PIGMENTED SURFACE SEALER SHALL BE APPLIED TO THE PARAPETS, PILASTERS FOR LIGHT STANDARDS, SIDEWALK OVERHANGS, AND TO THE EXTERIOR FACES AND BOTTOMS OF THE EXTERIOR GIRDERS.

ANTI-GRAFFITI COATING SHALL BE APPLIED TO THE ABUTMENT FRONT FACE AND ALL EXPOSED SURFACE OF THE ABUTMENT SIDES AND WINGS BETWEEN THE GROUND LINE AND THE BOTTOM OF THE PARAPET. ANTI-GRAFFITI COATING SHALL BE APPLIED TO ALL EXPOSED PRESTRESSED CONCRETE GIRDER SURFACES.

THE AREA OF PARAPET USED TO DETERMINE QUANTITY OF PIGMENTED SURFACE SEALER SHALL BE THE LENGTH TIMES THE SUM OF THE INSIDE HEIGHT, TOP WIDTH AND OUTSIDE HEIGHT FOR EACH PARAPET.

PLEASE ADD THE FOLLOWING NOTES FROM WBM 6.3.2.1.1:

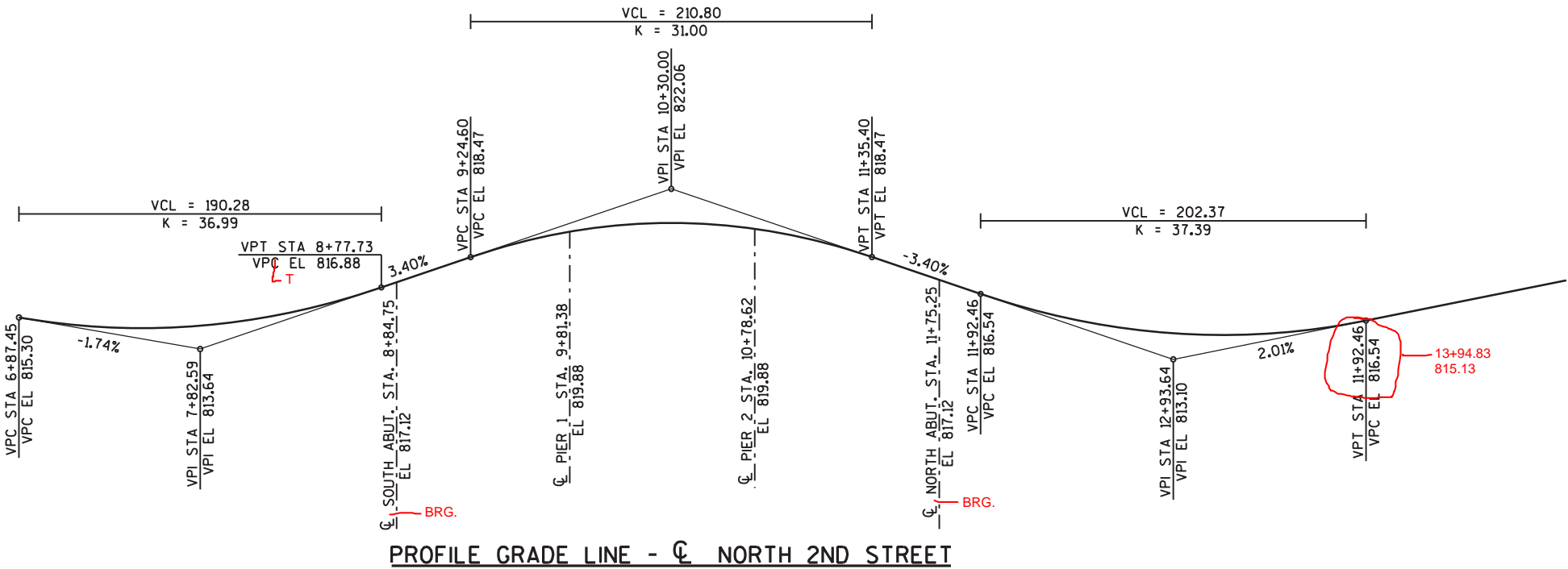
THE SLOPE OF FILL.....

THE HAUNCH CONCRETE QUANTITY.....

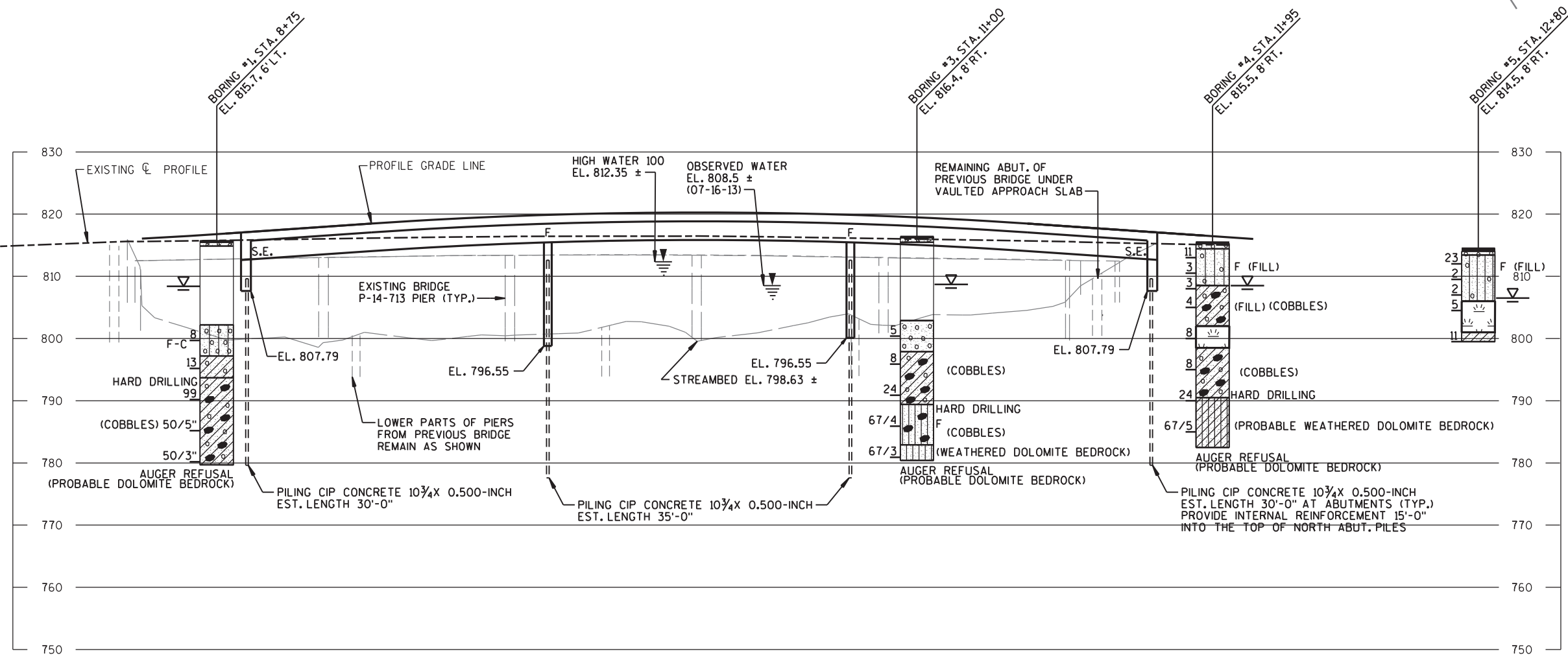
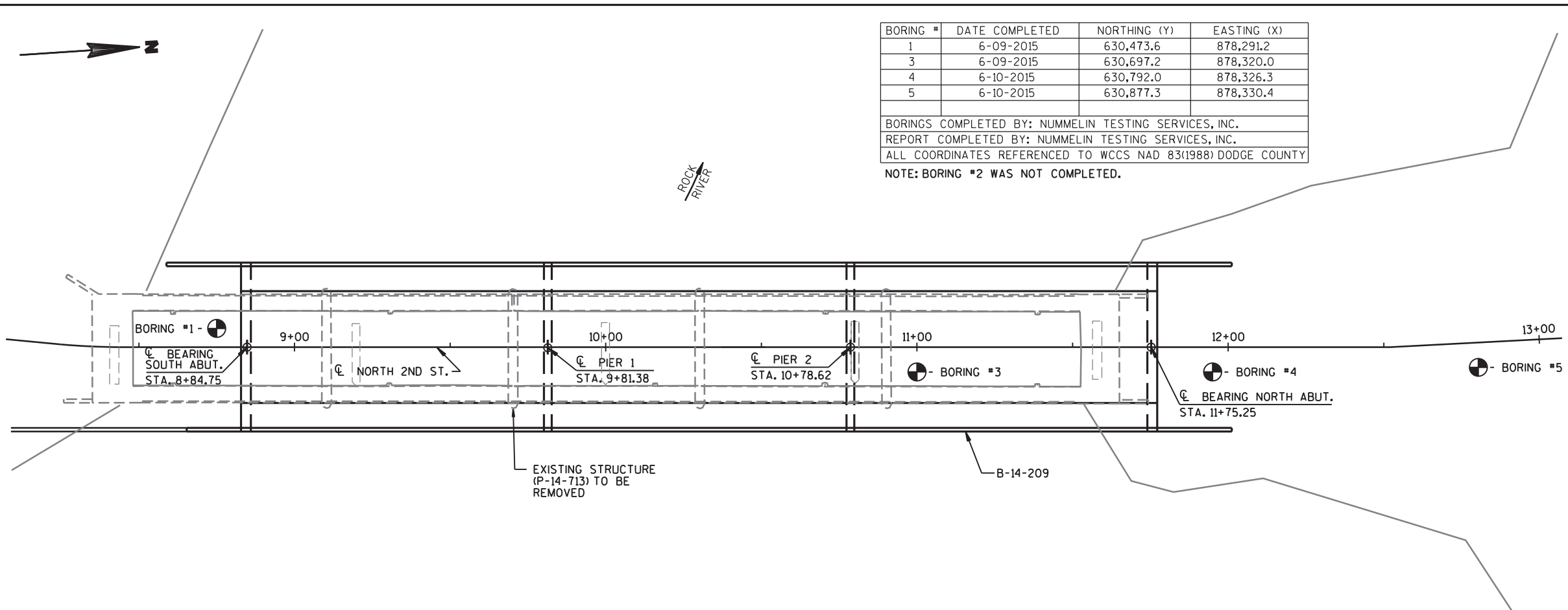
HSI also shows 5-59.5' spans = 297.5' total, which is confirmed in Sizing Report.

PLEASE CONFIRM, 243.5' ON HSI

PLEASE REVISE NOTE TO BE MORE SIMILAR TO NOTES 11 & 14 IN WBM 6.3.2.1.1



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-14-209	
DRAWN BY		RLR	PLANS CK'D. DHW
QUANTITIES, PROFILE & NOTES		SHEET 3 OF 20	



BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	6-09-2015	630,473.6	878,291.2
3	6-09-2015	630,697.2	878,320.0
4	6-10-2015	630,792.0	878,326.3
5	6-10-2015	630,877.3	878,330.4

BORINGS COMPLETED BY: NUMMELIN TESTING SERVICES, INC.
REPORT COMPLETED BY: NUMMELIN TESTING SERVICES, INC.
ALL COORDINATES REFERENCED TO WCCS NAD 83(1988) DODGE COUNTY
NOTE: BORING #2 WAS NOT COMPLETED.

STATE PROJECT NUMBER
3997-00-70

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

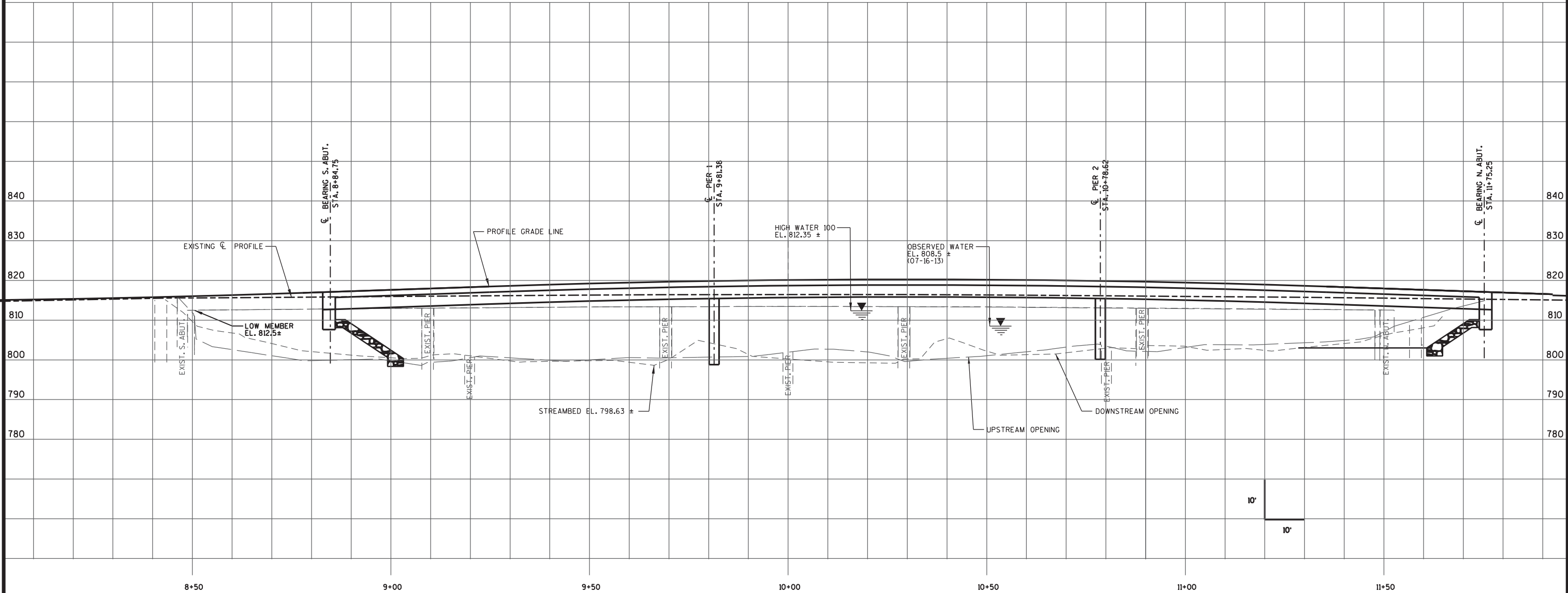
ABBREVIATIONS
F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

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.

8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-14-209	
DRAWN BY		RLR	PLANS CK'D. DHW
SUBSURFACE EXPLORATION		SHEET 4 OF 20	



STRUCTURE ELEVATION - 36W"

HYDRAULIC EXHIBIT

NORTH 2ND STREET BRIDGE
OVER ROCK RIVER
WATERTOWN, WI

MSA
PROFESSIONAL SERVICES

TRANSPORTATION • MUNICIPAL • REMEDIATION
DEVELOPMENT • ENVIRONMENTAL
1230 South Boulevard Baraboo, WI 53913
608-356-2771 1-800-362-4505 Fax: 608-356-2770

F.B.	930 620	CADD	69005.HX.DGN	SHEET	1	OF	1
DRAWN BY	RLR	DATE	5/14/2015	CHECKED BY	SCALE	AS SHOWN	FILE NO.