STATE PROJECT NUMBER

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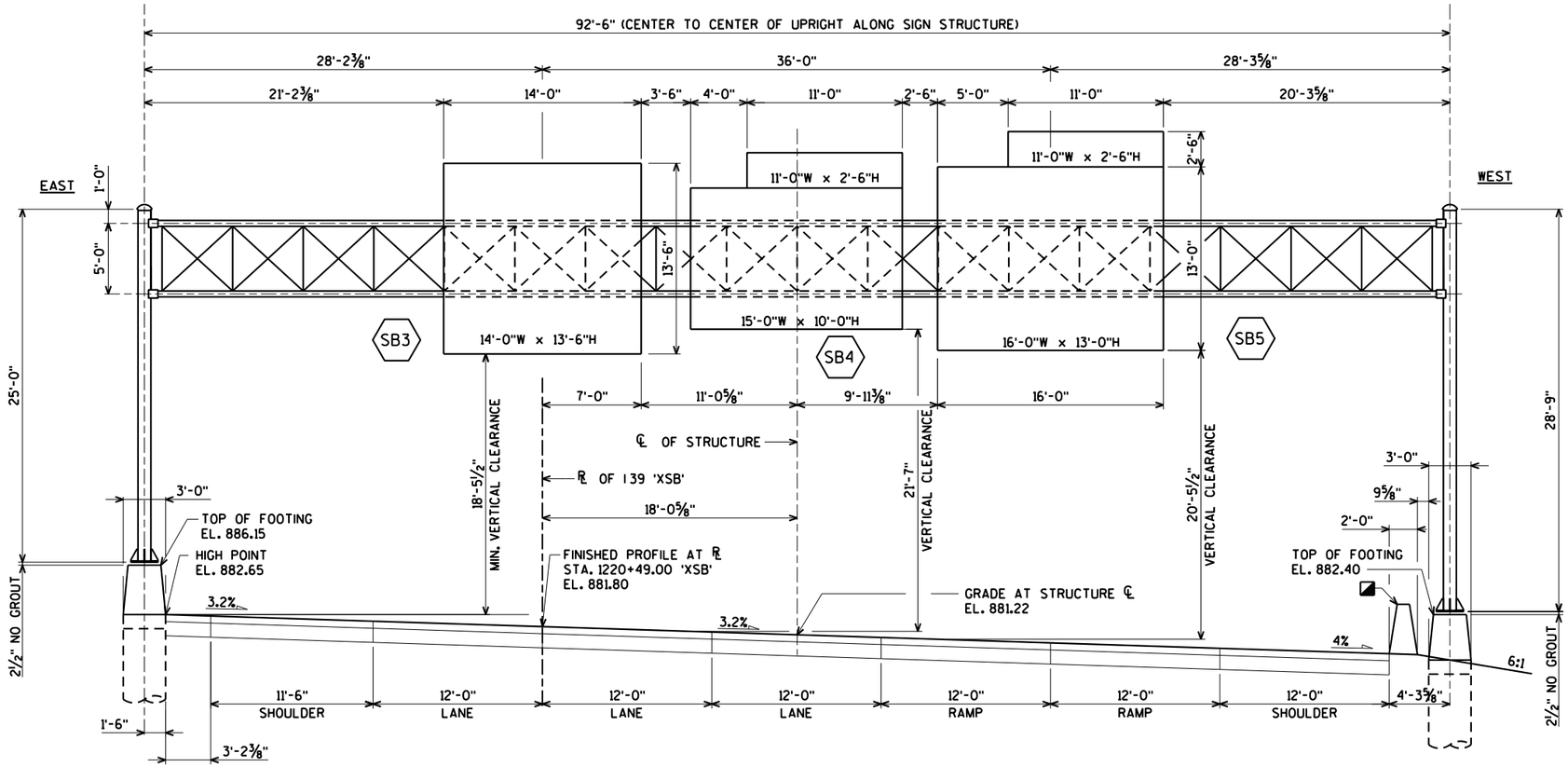
LIST OF DRAWINGS

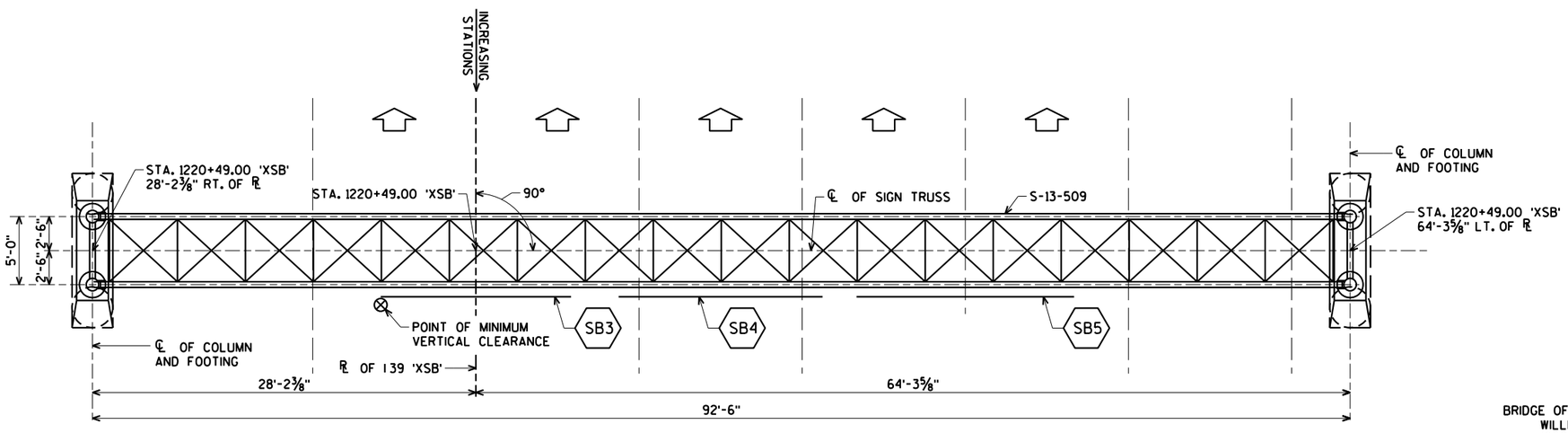
1. PRELIMINARY PLAN
2. DESIGN DATA
3. SUBSURFACE EXPLORATION



SIGN BRIDGE SUPPORT ELEVATION VIEW S-13-509

(STA. 1220+49.00 'XSB' - LOOKING SOUTH)
LOOKING AT FRONT FACE OF SIGN

◪ CONCRETE BARRIER TYPE S42. SEE ROADWAY DRAWINGS



PLAN

FOR DESIGN DATA SEE SHEET 2

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY

AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED _____ _____
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE S-13-509

I-39/90 SB OVERHEAD SIGN BRIDGE

COUNTY	~~TOWN~~/CITY/~~VILLAGE~~
DANE	MADISON

DESIGN SPEC.
STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
CBM		CJM	

PRELIMINARY PLAN

SHEET 1 OF 3

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

CONSULTANT CONTACT:
ARLEN BEAUDETTE
(715)-834-3161

I.D.

DATE:

DATE:
DATE:
DATE:

CHECKED BY:
BACK CHECKED BY:
CORRECTED BY:

10/8/2019
PENTABLE:BReau_shd_util.tbl

V:±Structures-EC±41-0660.0X - IH-39 Dane Partners General Bridge Information±_SIGN BRIDGES±S-13-509±Structure±Preliminary±S-13-509_gp prelim.dgn

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STATE PROJECT NUMBER

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TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	
641.6600.702	SIGN BRIDGE STRUCTURE S-13-509	LS	

FOUNDATION DATA

ALLOWABLE END BEARING PRESSURE = 2.0 TONS/SQ. FT.

DESIGN DATA

SIGN STRUCTURE DESIGN IS BASED ON THE FOLLOWING:

SIGN AREA = 810 SQ. FEET
MAX. SIGN DEPTH = 13.5 FEET

THE WEIGHT OF ADDITIONAL SIGN PANEL AND BRACKETS IS EQUIVALENT TO 3.0 PSF ASSUMED EVENLY DISTRIBUTED TO SIGN AREA.

DESIGNED ACCORDING TO THE 6th EDITION AND INTERIM REVISIONS OF AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS".

DEAD LOAD = 3 PSF OF SIGN, WT. OF SUPPORTING STRUCTURE
LIVE LOAD = N/A
ICE LOAD = 3 PSF TO ONE FACE OF SIGN AND AROUND SURFACE OF MEMBERS.
WIND PRESSURE = 90 MPH (3-SECOND GUST) TO SIGN AREA AND EXPOSED MEMBERS.
FATIGUE - NOT APPLICABLE

WIND COMPONENTS	NORMAL	TRANSVERSE
COMBINATION 1	1.0	0.2
COMBINATION 2	0.6	0.3

GROUP LOADS	% OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD + WIND	133
3. DEAD + ICE + ½(WIND)•	133

•MIN. VALUE OF 25 PSF FOR GROUP 3.

MATERIAL PROPERTIES

CONCRETE MASONRY _____ f'c = 3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) _____ fy = 60,000 p.s.i.
COLUMNS & CHORD PIPES (API 5L, GRADE X42, PSL-2) _____ fy = 42,000 p.s.i. ••
STRUCTURAL ANGLES, PLATES, & BARS (ASTM A709, GRADE 36) _____ fy = 36,000 p.s.i.
ANCHOR RODS (ASTM F1554, GRADE 55)
HEAVY HEX NUTS (ASTM A563A), WASHERS (ASTM F436) _____ fy = 55,000 p.s.i.
HIGH STRENGTH BOLTS (ASTM A325) _____ fy = 92,000 p.s.i.

STRUCTURAL MEMBERS GALVANIZED (ASTM A123)
HARDWARE GALVANIZED (ASTM A153, CLASS C)

•• AN ALTERNATE MATERIAL MAY BE SUBSTITUTED, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION. SEE SECTION 39.3 IN THE BRIDE MANUAL FOR ACCEPTABLE MATERIAL.

TRAFFIC DATA

A.A.D.T. = 47,750 (2021)
A.A.D.T. = 58,000 (2040)
R.D.S. = 70 M.P.H.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALTERNATE DESIGNS ARE NOT ALLOWED.

SIGN BRIDGE IDENTIFICATION PLAQUE SHALL BE INCIDENTAL TO "SIGN BRIDGE STRUCTURE S-13-509".

ALL H.S. BOLTED CONNECTIONS SHALL BE MADE WITH ¾" DIA. A325 GALVANIZED BOLTS.

FIELD CONNECTIONS SHALL BE INSTALLED WITH DTI WASHERS.

ALL STRUCTURAL STEEL MEMBERS, PLATES, ANCHOR RODS, HS. BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED PER SECTION 641 OF THE WisDOT STANDARD SPECIFICATIONS.

WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS, IF UNIT CAN BE GALVANIZED IN ONE PIECE.

WELD TEST AS PER AWS D1.1.

SIGNS OR BLANKS SHALL BE INSTALLED ON TRUSS AT THE TIME OF ERECTION. BLANKS SHALL BE ¼ THE LENGTH OF THE BRIDGE, 2'-0" DEEPER THAN ℄ TO ℄ OF CHORDS. SIGNS SHALL BE AS DESIGNATED IN PLANS.

THE STRUCTURE MUST BE ASSEMBLED IN THE SHOP TO ASSURE FIT UP PER SECTION 641.33 OF THE WISDOT STANDARD SPECIFICATIONS.

CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO FABRICATION OF STRUCTURE.

SEE SIGN PLATE NO. A4-6 OF THE SIGN PLATE MANUAL FOR INSTRUCTION ON CENTERING SIGN VERTICALLY ON TRUSS.

CONTRACTOR SHALL VERIFY UTILITY CONFLICTS PRIOR TO CONSTRUCTION OF FOOTINGS.

EXACT LOCATION OF SIGN BRIDGE SHALL BE DETERMINED BY THE REGION TRAFFIC ENGINEER.

LOCATE SIGN PANELS OVER THE APPROXIMATE LANE BASED ON SIGN PANEL ARROWS AND LANE CONFIGURATION.

PROFILE GRADE LINE

(I-39 XSB)

BENCH MARK:
CAPPED REBAR MONUMENT
STA. 1195'XSB'+39.7, 25.7-FT RT.
EL. 770.08

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-13-509

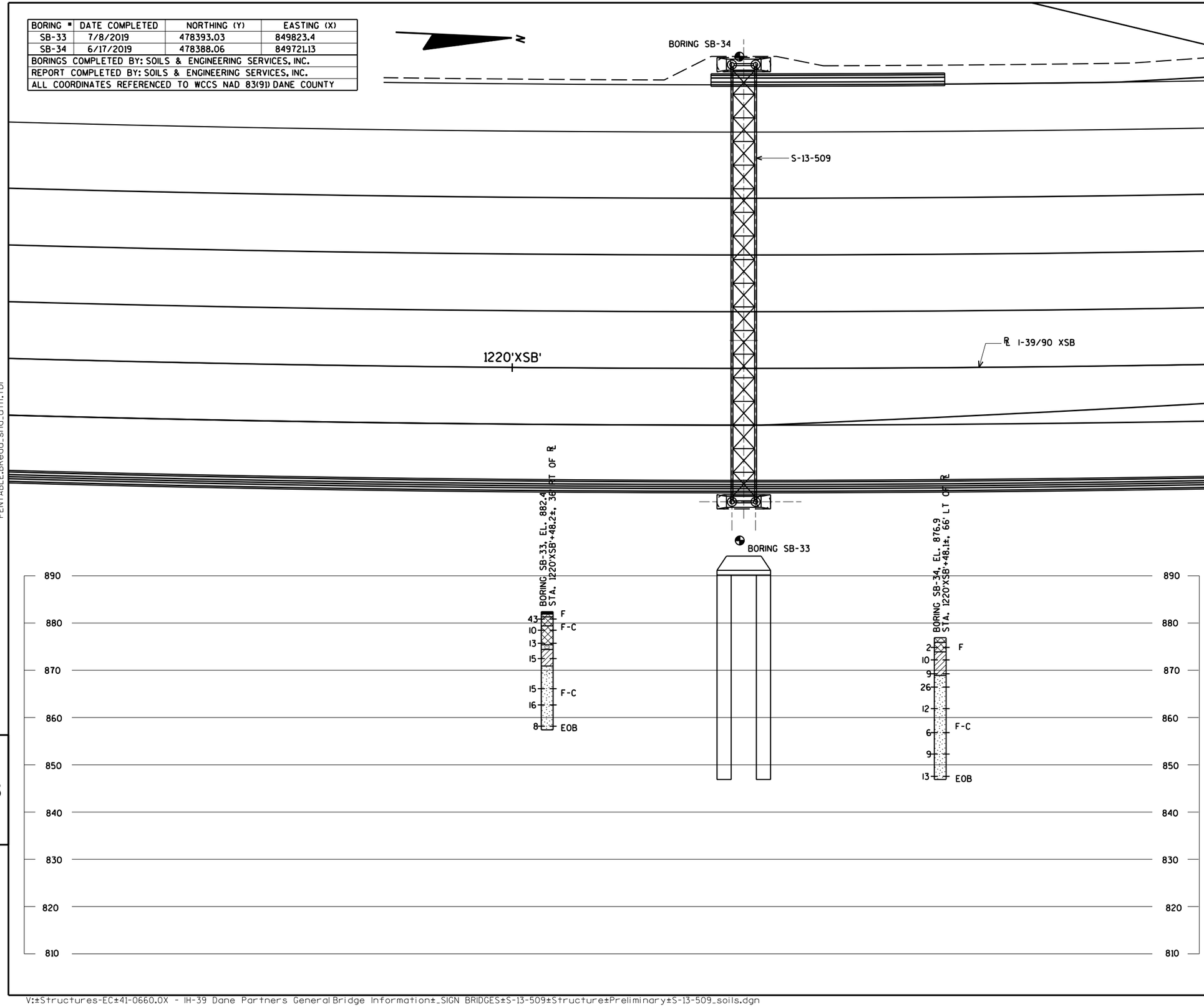
DRAWN BY CJM | PLANS CK'D.

DESIGN DATA

SHEET 2 OF 3

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
SB-33	7/8/2019	478393.03	849823.4
SB-34	6/17/2019	478388.06	849721.13
BORINGS COMPLETED BY: SOILS & ENGINEERING SERVICES, INC.			
REPORT COMPLETED BY: SOILS & ENGINEERING SERVICES, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) DANE COUNTY			



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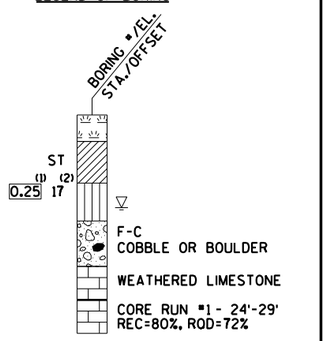
MATERIAL SYMBOLS

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 S-13-509

DRAWN BY CJM | PLANS CK'D.

SUBSURFACE EXPLORATION

SHEET 3 OF 3

10/8/2019
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