

DESIGN DATA

LIVE LOAD:

DESIGN LOADING _____ HL-93
INVENTORY RATING FACTOR _____ RF=X.XX
OPERATING RATING FACTOR _____ RF=X.XX
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) _____ 250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 P.S.F.

MATERIAL PROPERTIES:

CONCRETE MASONRY, SUPERSTRUCTURE _____ f'_c = 4,000 P.S.I.
ALL OTHER _____ f'_c = 3,500 P.S.I.
HIGH-STRENGTH BAR STEEL _____
REINFORCEMENT, GRADE 60 _____ f_y = 60,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE XX FT PILE LENGTHS AT BOTH ABUTMENTS AND XX FT PILE LENGTHS AT BOTH 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.

TRAFFIC DATA

A.D.T. (2019) _____ 370
A.D.T. (2039) _____ 410
DESIGN SPEED _____ 35 M.P.H.

HYDRAULIC DATA

100 YEAR FREQUENCY _____
DRAINAGE AREA _____ 1.06 SQ. MI.
 Q_{100} TOTAL _____ 1,550 C.F.S.
THROUGH STRUCTURE _____ 1,550 C.F.S.
OVERTOPPING ROADWAY _____ N/A.
VELOCITY - THROUGH STRUCTURE _____ 9.2 F.P.S.
WATERWAY AREA - THROUGH STRUCTURE _____ 168.4 SQ. FT.
HIGH WATER₁₀₀ ELEVATION _____ 846.60
SCOUR CRITICAL CODE _____ 5

EROSION CONTROL
 Q_2 _____ 170 C.F.S.
VELOCITY₂ _____ 3.4 F.P.S.
HIGH WATER₂ ELEVATION _____ 841.02

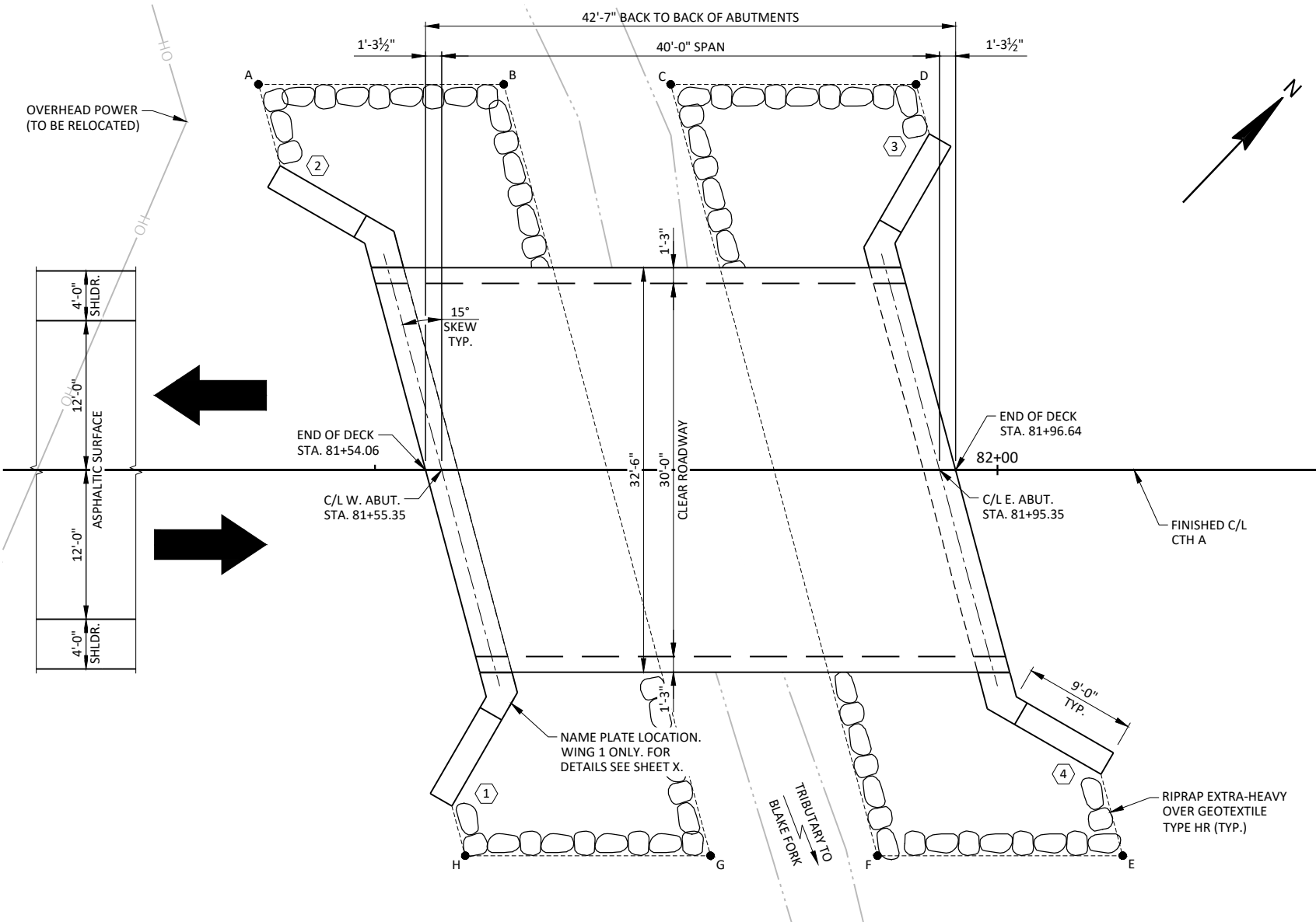
LIST OF DRAWINGS

GENERAL PLAN _____ 1.
CROSS SECTION AND QUANTITIES _____ 2.
SUBSURFACE EXPLORATION _____ 3.

INDICATES WING NUMBER

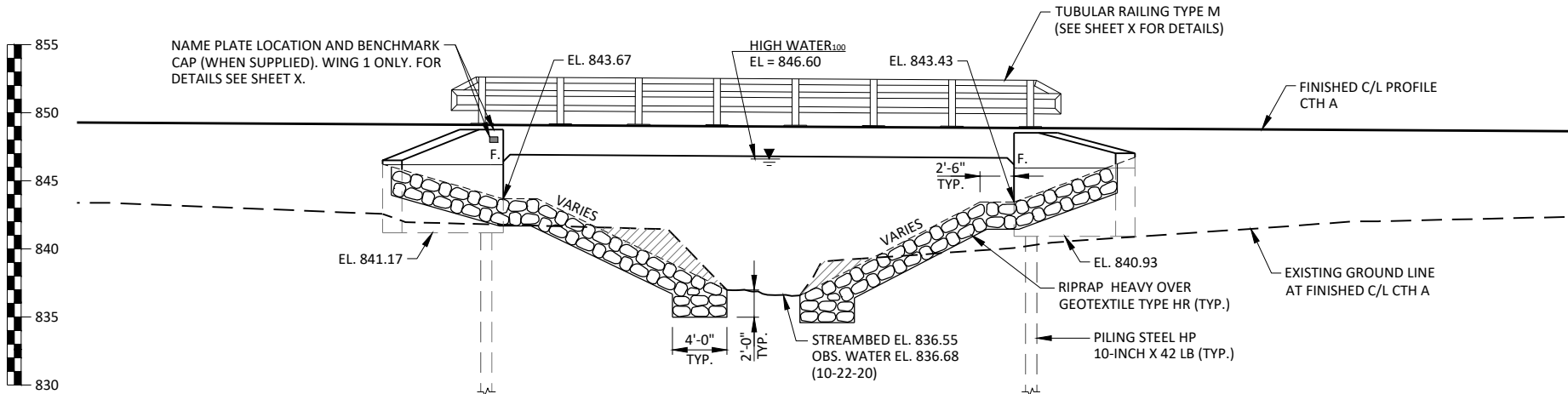
RIPRAP HEAVY LAYOUT

POINT	STATION	OFFSET
A	81+41	31' LT.
B	81+60	31' LT.
C	81+74	31' LT.
D	81+93	31' LT.
E	82+10	31' RT.
F	81+90	31' RT.
G	81+77	31' RT.
H	81+57	31' RT.



PLAN B-22-000

(SINGLE SPAN REINFORCED CONCRETE FLAT SLAB)



ELEVATION

(NORMAL TO TRIB. TO BLAKE FORK)

DESIGN CONSULTANT

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BRIDGE OFFICE CONTACT

AARON BONK, PE
(608) 261-0261

NO.	DATE	REVISION	BY
JEWELL associates engineers, inc. Engineers - Architects - Surveyors			
560 SUNRISE DRIVE SPRING GREEN, WI 53588 OFFICE: (608) 588-7484 www.JewellAssoc.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED		CHIEF STRUCTURES DESIGN ENGINEER	DATE
STRUCTURE B-22-000			
CTH A OVER WATERWAY/HIGHWAY			
COUNTY	GRANT	TOWN/VILLAGE	LITTLE GRANT
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	DESIGN CK'D.	DRAWN BY	PTB
GENERAL PLAN			SHEET 1 OF 3

DRAWINGS SHALL NOT BE SCALED.

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

JOINT FILLER SHALL CONFORM TO A.A.S.H.T.O. DESIGNATION MI53, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M213.

THE SLOPE OF FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS, OR AS DIRECTED BY THE ENGINEER IN THE FIELD.

AT THE BACK FACE OF ABUTMENTS, ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A. SEE THIS SHEET FOR DETAIL.

ANY EXCAVATION BELOW THE ABUTMENT AND ASSOCIATED ABUTMENT BEDDING MATERIALS REQUIRE THE APPROVAL OF THE ENGINEER IN THE FIELD.

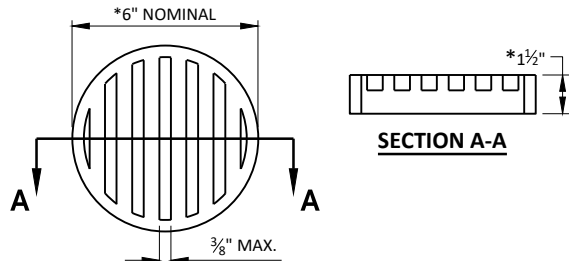
APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF THE DECK, THE SIDES OF THE DECK AND EXTERIOR 12" OF THE UNDERSIDE OF THE DECK (CONCRETE MATERIAL ONLY).

ALL STATIONS AND ELEVATIONS SHOWN ARE IN FEET.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS AN ALTERNATIVE METHOD IS APPROVED BY THE ENGINEER IN THE FIELD.

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



NOTES:

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

ORIENT SHIELD SO SLOTS ARE VERTICAL

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

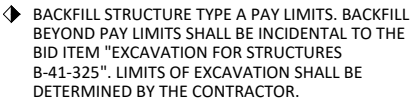
THE RODENT SCREEN SHALL BE A PVC GRATE SIMILAR TO THIS
DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR
STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF
THIS SCREEN TO THE EXPOSED ENDS OF THE PIPE UNDERDRAIN. THE
SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR
MORE NO. 10 X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

AT ABUTMENT

IN SPAN

PROPOSED CROSS-SECTION THROUGH ROADWAY

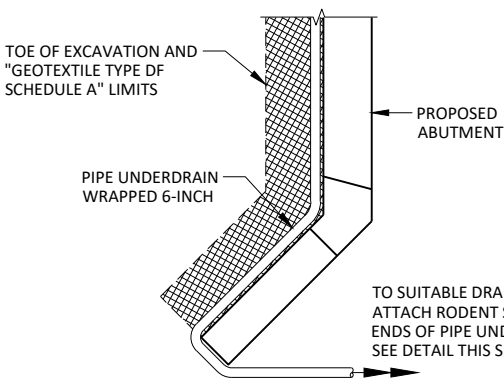
LOOKING EAST



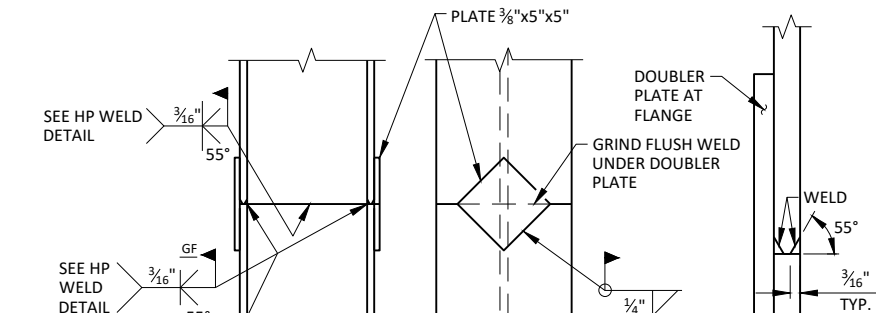
- PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON THIS SHEET. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."

BACKFILL STRUCTURE DETAIL

(TYPICAL AT ABUTMENTS. ABUTMENT BODY SHOWN - WING WALLS SIMILAR)



PIPE UNDERDRAIN DETAIL



HP WELD DETAIL

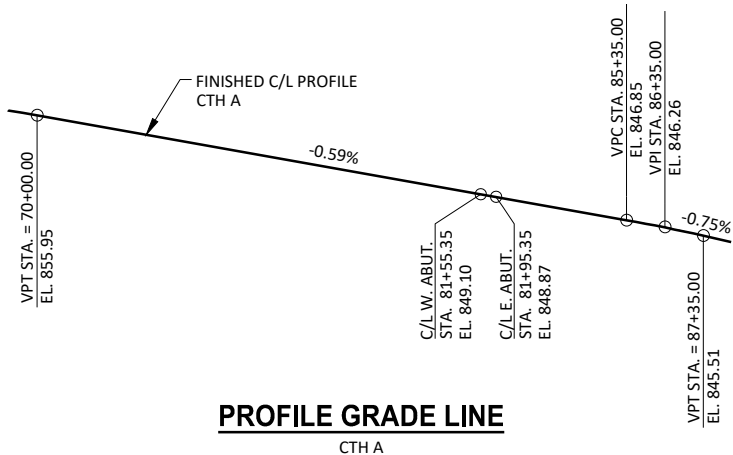
FLANGE SHOWN, WEB SIMILAR

PILE SPLICE DETAIL

STEEL "HP" PILE MATERIAL SHALL BE ASTM A 572 GRADE 50.

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	UNIT	W. ABUT.	SUPER	E. ABUT.	TOTALS
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-22-000	LS	--	--	--	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	--	--	--	--
502.0100	CONCRETE MASONRY BRIDGES	CY	--	--	--	--
502.3200	PROTECTIVE SURFACE TREATMENT	SY	--	--	--	--
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	--	--	--	--
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	--	--	--	--
513.4061	RAILING TUBULAR TYPE M	LF	--	--	--	--
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	--	--	--	--
550.0500	PILE POINTS	EACH	--	--	--	--
550.1100	PIILING STEEL HP 10-INCH X 42 LB	LF	--	--	--	--
606.0300	RIPRAP HEAVY	CY	--	--	--	--
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	--	--	--	--
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	--	--	--	--
645.0120	GEOTEXTILE TYPE HR	SY	--	--	--	--
	NON-BID ITEMS					
	FILLER	SIZE				½" & ¾"
	NAME PLATE					



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-22-000			
		DRAWN BY	PTB PLANS CK'D.
CROSS SECTION AND QUANTITIES		SHEET 2 OF 3	