

AS BUILT PLAN

STATE OF WISCONSIN  
**DEPARTMENT OF TRANSPORTATION**

PLAN OF PROPOSED IMPROVEMENT

**LITTLE PINE CREEK BRIDGE & APPROACHES**

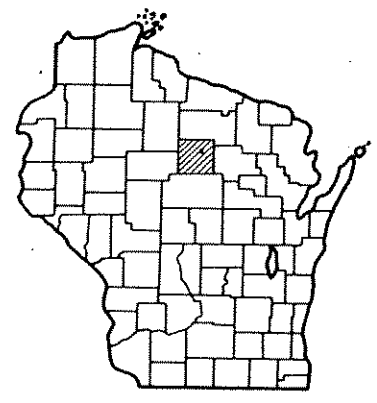
C.T.H. "H"  
 LINCOLN COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
9427-02-70	-	-

Index of Sheets

Sheet No.	1	Title
Sheet No.	2	Typical Sections and Details
Sheet No.	3-3.1	Estimate of Quantities
Sheet No.	2	Miscellaneous Quantities
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Sheet No.	5	Plan and Profile
Sheet No.	6-6.6	Standard Detail Drawings
Sheet No.	-	Standard Sign Plates
Sheet No.	8-8.6	Structure Plans
Sheet No.	-	Computer Earthwork Data
Sheet No.	9-9.2	Cross Sections

TOTAL SHEETS = 22



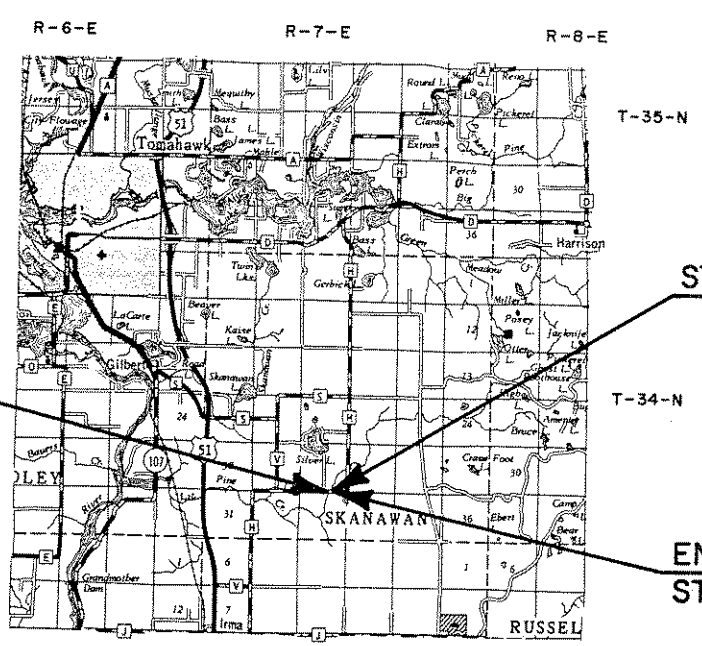
STATE PROJECT NUMBER  
**9427-02-70**

Design Designation

A.D.T. 1989	=	180
A.D.T. 2009	=	200
D.H.V. 2009	=	36
D.	=	60/40
T.	=	6 %

Conventional Signs

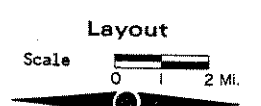
County Line	-----	Caution Symbol (Combustible fluids under pressure)	
Township or Range Line	-----	Railroads	-----
Section Line	-----	Fence	-----
Corporate or City Limits	-----	Culverts in Place	-----
Property line	-----	Culverts Required	-----
Lot Line	-----	Power Pole	-----
Existing Right of Way Line	-----	Telephone or Telegraph Pole	-----
New Right of Way Line	-----	Right of Way Markers	-----
Base or Survey Line	-----	Marsh	-----
Slope Intercept	-----	Wooded Area	-----
Existing Roadway or Private Entrance	-----	Grade Elevation	-----



BEGIN PROJECT  
 STA. 7+00  
 Y. 569,600 (±100')  
 X. 2,098,000 (±100')

STRUCTURE B-35-108

END PROJECT  
 STA. 12+50



Total Net Length of Centerline = 0.104 Mi. (Rural)

COORDINATES ARE BASED ON THE WISCONSIN COORDINATE SYSTEM, CENTRAL ZONE, AND ARE SCALED FROM THE U.S.G.S. TOPOGRAPHIC MAP, HARRISON, WISCONSIN QUADRANGLE FOR IDENTIFICATION ONLY.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO U.S.G.S. DATUM, A STANDARD TABLE STAMPED "TT 28 B 1949 1515" LOCATED APPROXIMATELY 2000 FT. EAST OF THE CTH "H" CROSSING OVER THE LITTLE PINE CREEK; ELEVATION 1514.747.

APPROVED FOR  
 LINCOLN COUNTY

9/25/89 DATE  
 Michael J. Lep COMMISSIONER

ORIGINAL PLANS  
 PREPARED BY

**MSA** MID-STATE ASSOCIATES, INC.  
 1230 S. Blvd., Baraboo, WI. 53913

Marvin S. Ruhland  
 ENGINEER  
 9-21-89 DATE

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

Surveyor MID-STATE ASSOC District Checker F.W.B.  
 Designer MID-STATE ASSOC C.O. Checker R.L.  
 District Supervisor R.J.S. C.O. Coordinator L.A.S.

Approved:  
 Date 12-8-89 James D. Drumbler District Director

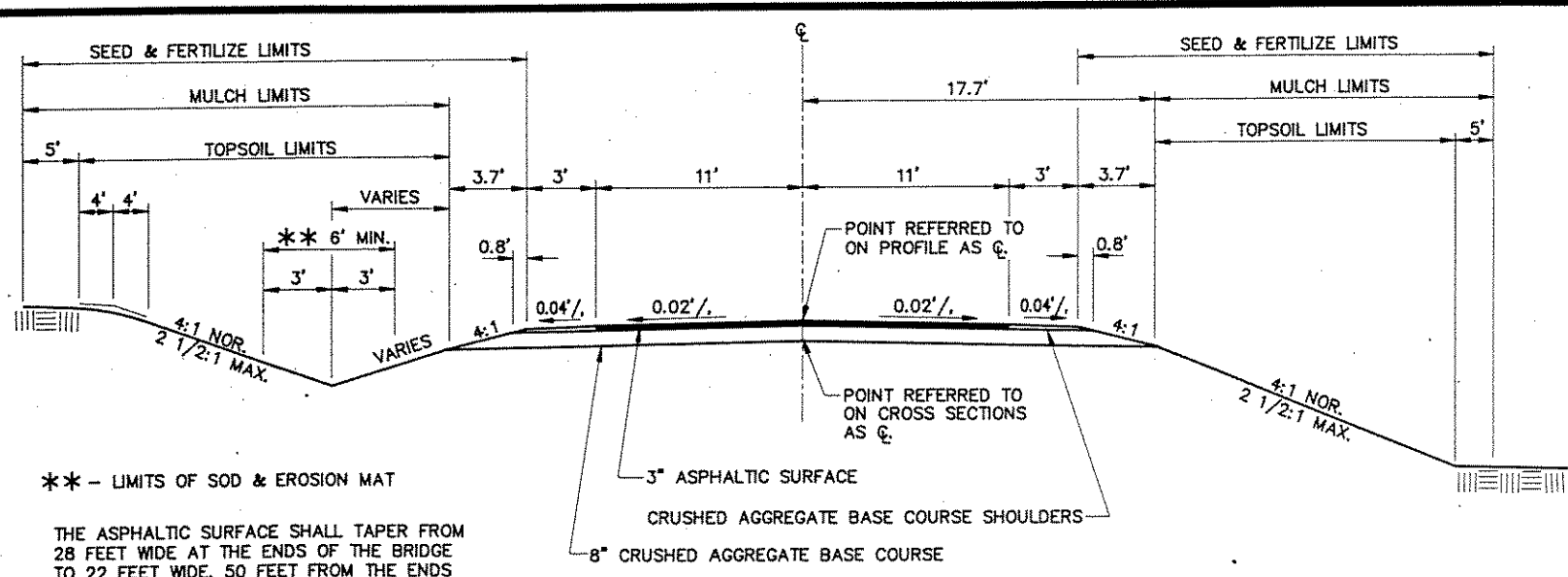
Approved:  
 Date 12/24/89 Robert W. Berg Regional Chief Road Design Engineer

U.S. DEPARTMENT OF TRANSPORTATION  
 FEDERAL HIGHWAY ADMINISTRATION  
 REGION 5 WISCONSIN DIVISION

Approved:  
 Date \_\_\_\_\_ Division Administrator

w/9427-1-70

1/11



\*\* - LIMITS OF SOD & EROSION MAT

THE ASPHALTIC SURFACE SHALL TAPER FROM 28 FEET WIDE AT THE ENDS OF THE BRIDGE TO 22 FEET WIDE, 50 FEET FROM THE ENDS OF THE BRIDGE.

THE 3-INCH ASPHALTIC SURFACE SHALL CONSIST OF A 1 1/2-INCH BINDER COURSE AND A SURFACE COURSE.

TYPICAL SECTION

STANDARD ABBREVIATIONS

B.F.	BACKFACE
B.M.	BENCH MARK
℄, C, C/L	CENTERLINE
Δ	CENTRAL ANGLE OR DELTA
CONC.	CONCRETE
D.	DEGREE OF CURVE
FERT.	FERTILIZER
F.F.	FRONT FACE
H.W.	HIGH WATER
I.D.	INSIDE DIAMETER OR DIMENSION
J.T.	JOINT
L.	LENGTH OF CURVE
P.C.	POINT OF CURVATURE
P.I.	POINT OF INTERSECTION
P.T.	POINT OF TANGENCY
P.C.W.	POLYVINYL CHLORIDE WATERSTOP
R/W	RIGHT-OF-WAY
SALV.	SALVAGED
UNCL.	UNCLASSIFIED
V.	VELOCITY
VERT.	VERTICAL
V.C.	VERTICAL CURVE

STATE PROJECT NUMBER	SHEET NO.
9427-02-70	2.0
TYPICAL SECTION, DETAILS & MISCELLANEOUS QUANTITIES	

GENERAL NOTES

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS ARE TO BE FERTILIZED, SEEDED AND MULCHED AS DIRECTED BY THE ENGINEER.

NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE FIRST BEEN INDICATED FOR REMOVAL BY THE ENGINEER IN THE FIELD.

THE CONTROL SURVEY CONDUCTED FOR THIS PROJECT MET THIRD ORDER CONTROL SURVEY SPECIFICATIONS.

SILT FENCE TO BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.

THE LOCATIONS OF EXISTING OR PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

THE WISCONSIN DEPARTMENT OF TRANSPORTATION SHALL FURNISH THE CONTRACTOR A MONUMENT WHICH SHALL BE SET IN THE STRUCTURE AS DESIGNATED BY THE ENGINEER.

SUMMARY OF MISCELLANEOUS QUANTITIES

CRUSHED AGGREGATE BASE COURSE

STATION TO STATION	BASE C.Y.	SHOULDER C.Y.
7+00 - 9+84.5	300	10
10+08.5 - 12+50	255	10

WOOD POST, 4x4-INCH x 10 FT.

LOCATION	EACH
BRIDGE	4

TOPSOIL, MULCH, FERTILIZER, SEED & EROSION BALES

STATION TO STATION	TOPSOIL S.Y.	MULCHING S.Y.	TYPE B FERT. CWT.	# 20 SEED LB.	BALES DELIVERED/INSTALLED EACH
7+00 - 9+84.5	1110	1450	1.0	45	40
10+08.5 - 12+50	540	790	0.6	25	-

SIGNS, TYPE II, REFLECTIVE

LOCATION	TYPE	S.F.
BRIDGE	W5-52	12

EROSION MAT

STATION TO STATION	DELIVERED/INSTALLED S.Y.	REMARKS
7+00 - 9+00, RT.	135	DITCH FLUME (6' WIDE MIN.)
7+00 - 9+50, LT.	165	DITCH FLUME (6' WIDE MIN.)
8+25 - 9+84.5, LT. & RT.	830	FORESLOPES
10+08.5 - 11+25, LT. & RT.	500	FORESLOPES

PAVEMENT MARKING, COLD PAINT (4-INCH)

STATION TO STATION	LOCATION	L.F.	REMARKS
7+00 - 12+50	℄	140	INTERMITTENT YELLOW
7+00 - 12+50	℄, LT.	550	YELLOW
6+84 - 13+10	LT., RT.	1252	WHITE EDGE

NOTE: EXTEND PAVEMENT MARKINGS BEYOND PROJECT LIMITS TO CONFORM TO S.D.D. minimums

SILT FENCE

LOCATION	DELIVERED (L.F.)	INSTALLED (L.F.)	MAINTENANCE (L.F.)
WEST BANK	120	120	45
EAST BANK	110	110	45

(SILT FENCE APPLICATION FOR SILTY SOILS)

SAWING EXISTING PAVEMENT

LOCATION	L.F.
STA. 7+00	22
STA. 12+50	22

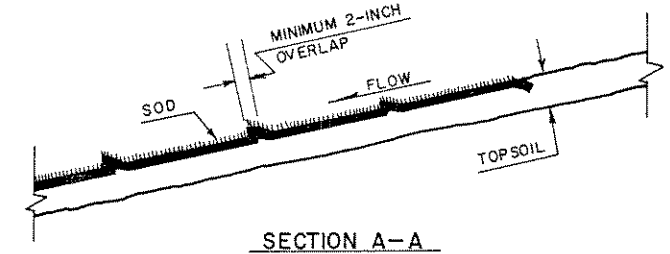
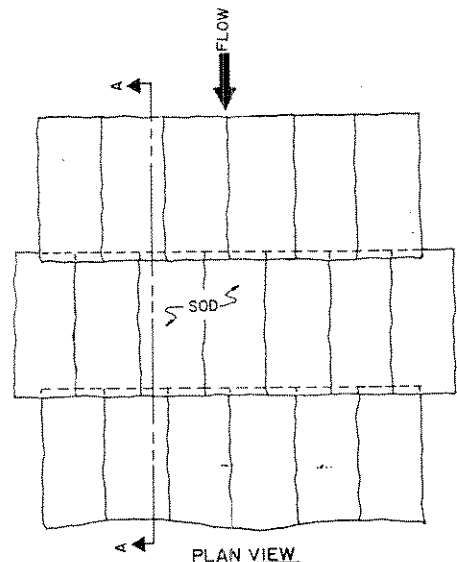
SODDING

STATION TO STATION	S.Y.	REMARKS
7+00 - 9+00, RT.	135	DITCH FLUME (6' WIDE MIN.)
7+00 - 9+50, LT.	165	DITCH FLUME (6' WIDE MIN.)
UNDISTRIBUTED	100	---

ASPHALTIC SURFACE & ASPHALTIC FLUMES

STATION TO STATION	SURFACE S.Y.	FLUMES S.Y.
7+00 - 9+84.5	720 *	
10+08.5 - 12+50	590 *	20

\* - INCLUDES PAVEMENT TAPERS AT BRIDGE ENDS. 3" FLUMES ARE BEHIND EAST SIDE BRIDGE WINGS.



NOTE: SOD SHALL BE LAID LONGITUDINALLY, AS SHOWN ON THE PLAN VIEW, AND AS DIRECTED BY THE ENGINEER. THE SOD OVERLAP WILL BE MEASURED AND ADDED TO THE IN PLACE MEASUREMENT.

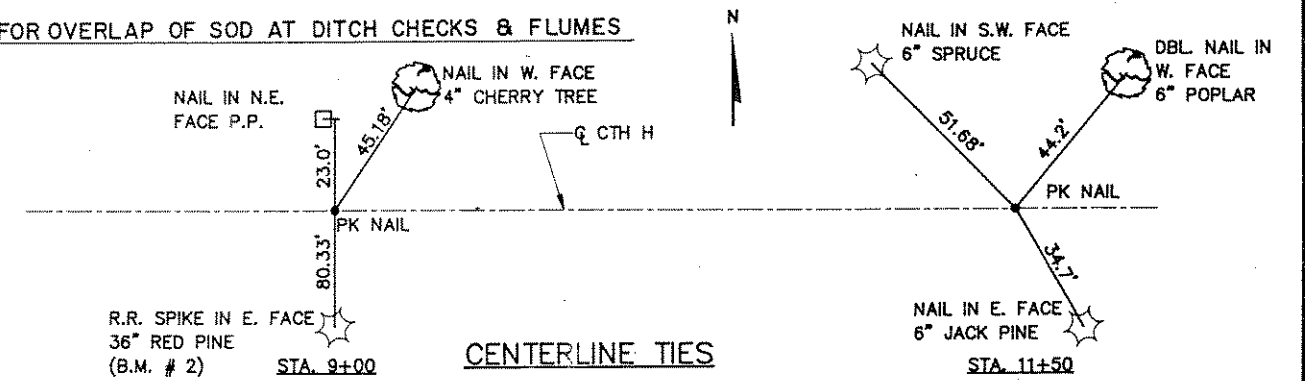
APPLICABLE STANDARD DETAIL DRAWINGS

BE7-1	EROSION MAT
BE8-1	TYPICAL INSTALLATIONS OF EROSION BALES
BE9-3	SILT FENCE
12A3-4	NAME PLATE-STRUCTURES
15C2-2	CONSTRUCTION BARRICADES AND TRAFFIC CONTROL TO CLOSE HIGHWAY
15C6-2	TRAFFIC CONTROL DEVICES FOR TWO LANE BRIDGES
15C8-3	PAVEMENT MARKING

UTILITIES

<b>ELECTRIC</b> WISCONSIN PUBLIC SERVICE CORP. 27 N. TOMAHAWK AVE. P.O. BOX 286 TOMAHAWK, WI 54487-0494 PHONE: 715-453-2177 ATTN.: JIM GRAETTINGER	<b>TELEPHONE</b> GTE NORTH INC. 8737 HWY. 51 NO. BOX 845 MINOQUA, WI 54548 PHONE: 715-356-3202 ATTN.: MILT GOETSCH
--	--

DETAIL FOR OVERLAP OF SOD AT DITCH CHECKS & FLUMES



SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER	INTEREST REQUIRED	T.L.E. ACRES	R/W ACRES REQ'D			TOTAL ACRES REM.	TOTAL ACRES
				NEW	EXISTING	TOTAL		
1	WILLIAM H. & BEVERLY MAE SCHOEPKE	FEE	—	0.12	0.44	0.56	239.44	240
2	ROBERT & VERDELL INGMAN JR.	FEE & T.L.E.	0.03	0.10	0.40	0.50	39.50	40
3	WISCONSIN PUBLIC SERVICE CORP.	NONE	—	—	—	—	—	—
4	GTE. NORTH, INC.	NONE	—	—	—	—	—	—

BENCHMARKS

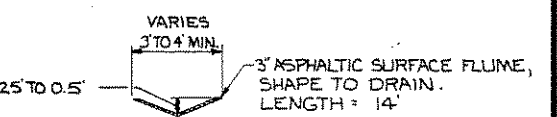
NO.	STATION	DESCRIPTION	ELEV.
1	10+11	CHISELED SQUARE ON N.E. WINGWALL 11' LT.	1477.41
2	8+55	R.R. SPIKE IN E. FACE 36" RED PINE, G.G. RT.	1486.96
3	11+58	DOUBLE NAIL IN W. FACE 6" POPLAR, 43' LT.	1477.55

STATE PROJECT NUMBER	SHEET NO.
9427-02-70	5.0
PLAN & PROFILE CTH 'H' BRIDGE & APPROACHES	
TOWN OF SKANAWAN, LINCOLN COUNTY	

R/W COURSE DATA		
COURSE	BEARING	DISTANCE
A	N0°-23'-08"E	33.00'
B	S89°-36'-52"E	50.00'
C	S0°-23'-08"W	33.00'
D	S0°-23'-08"W	33.00'
E	S0°-23'-08"W	12.00'
F	N0°-23'-08"E	12.00'
G	N0°-23'-08"E	33.00'

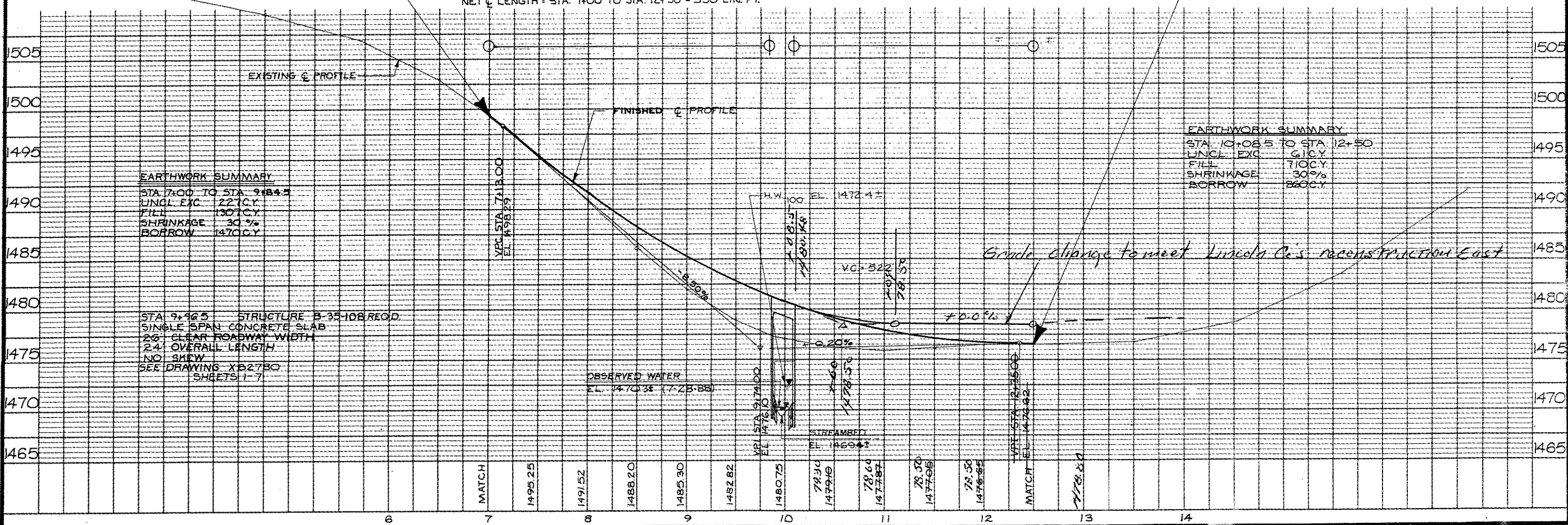
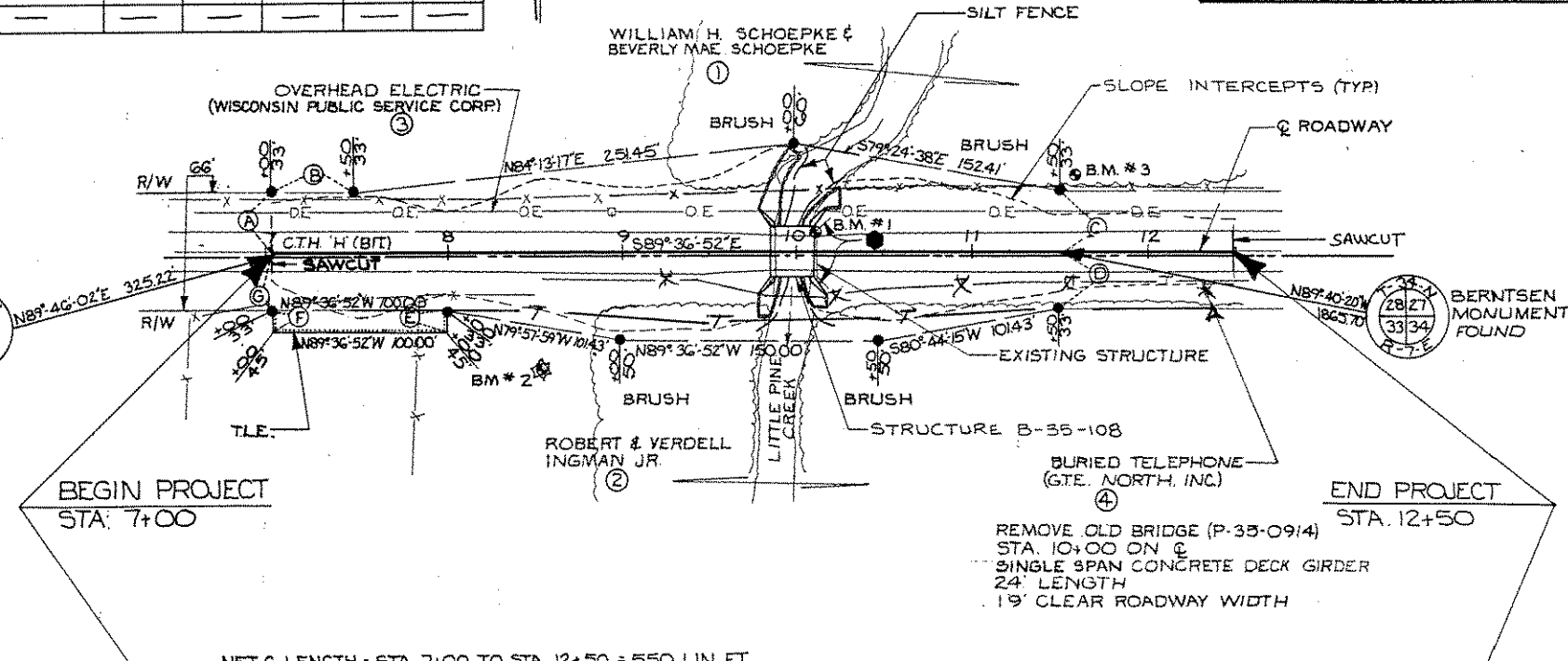
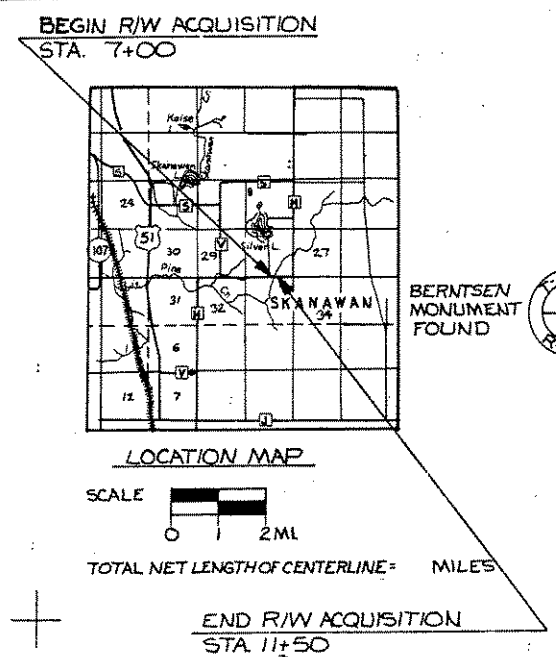
BEARINGS REFERENCED TO THE NORTH LINE OF THE N.E. 1/4 OF SECTION 33-34-7 S89°-43'-53"E

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.



ASPHALTIC FLUME  
(BEHIND BRIDGE WINGS AS NOTED)

● - SHAPE ASPHALTIC FLUME BEHIND STRUCTURE EAST WINGS DOWN TO HEAVY RIPRAP. (MIN. 3 FT. WIDE)



EARTHWORK SUMMARY  
STA. 7+00 TO STA. 9+84.5  
UNCL. EXC. 227CY  
FILL 1307CY  
SHRINKAGE 30%  
BORROW 1470CY

STA. 9+84.5 STRUCTURE B-35-108 REQ'D.  
SINGLE SPAN CONCRETE SLAB  
25' CLEAR ROADWAY WIDTH  
24' OVERALL LENGTH  
NO SKEW  
SEE DRAWING X-2780 SHEETS 1-7

EARTHWORK SUMMARY  
STA. 10+08.5 TO STA. 12+50  
UNCL. EXC. 610CY  
FILL 710CY  
SHRINKAGE 30%  
BORROW 260CY

BENCHMARKS				STATE PROJECT NUMBER	SHEET NO.
NO.	STA.	DESCRIPTION	ELEV.	9427-02-70	8.0
1	10+11	CHISELED SQUARE ON N.E. WINGWALL, 11' LT.	1477.41	NEW STRUCTURE BM DOT MON. EAST WINGWALL ELEV. 1480.20	
2	8+55	R.R. SPIKE IN E. FACE 36" RED PINE, 66' RT.	1486.96		
3	11+58	DOUBLE NAIL IN W. FACE 6" POPLAR, 43' LT.	1477.55		

**DESIGN DATA**

**LIVELOAD**

DESIGN RATING : HS-20  
 INVENTORY RATING : HS-22  
 OPERATIONAL RATING : HS-37  
 STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.  
 MAX. STD. PERMIT VEHICLE LOAD = 180 KIPS.

**ALLOWABLE DESIGN STRESSES:**

CONCRETE MASONRY - SLAB \_\_\_\_\_  $f_c' = 4,000$  P.S.I.  
 - ALL OTHER \_\_\_\_\_  $f_c' = 3,500$  P.S.I.  
 HIGH STRENGTH AND COATED HIGH STRENGTH  
 BAR STEEL REINFORCEMENT, GRADE 60 \_\_\_\_\_  $f_y = 60,000$  P.S.I.

**FOUNDATION DATA:**

ABUTMENTS SHALL BE SUPPORTED ON 10 3/4" # C.I.P. CONCRETE PILING DRIVEN TO A MIN. BEARING VALUE OF 35 TONS PER PILE. ESTIMATED PILE LENGTHS ARE 65'-0" AT BOTH ABUTMENTS.

**HYDRAULIC DATA:**

**100 YEAR FREQUENCY**

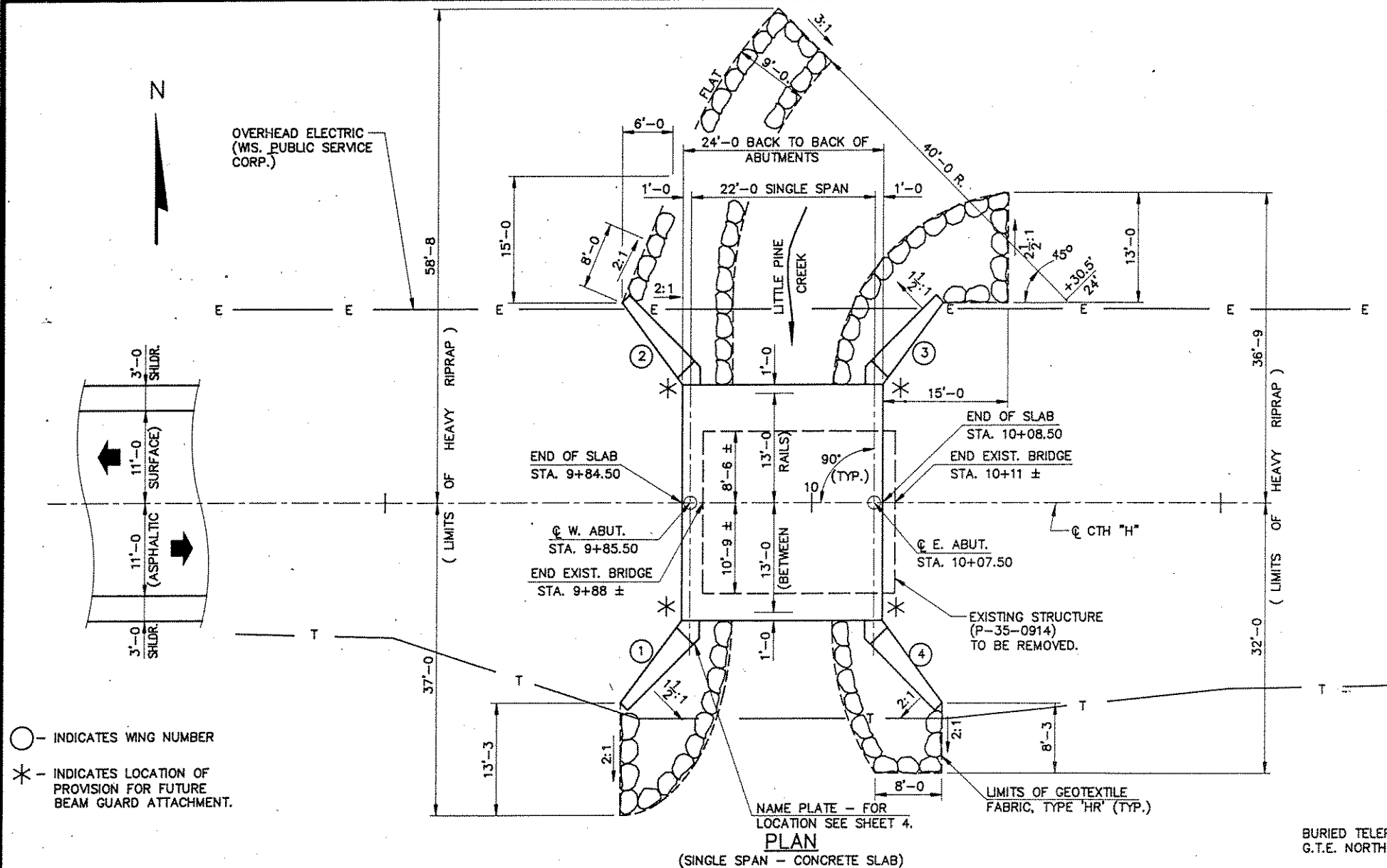
DRAINAGE AREA \_\_\_\_\_ 13.7 SQ. MI.  
 $Q_{100}$  \_\_\_\_\_ 220 C.F.S.  
 VELOCITY \_\_\_\_\_ 5.1 F.P.S.  
 WATERWAY AREA \_\_\_\_\_ 43 SQ. FT.  
 HIGH WATER<sub>100</sub> ELEVATION \_\_\_\_\_ 1472.4 ±  
 ROADWAY OVERFLOW DESIGN FREQUENCY \_\_\_\_\_ N/A

**TRAFFIC DATA:**

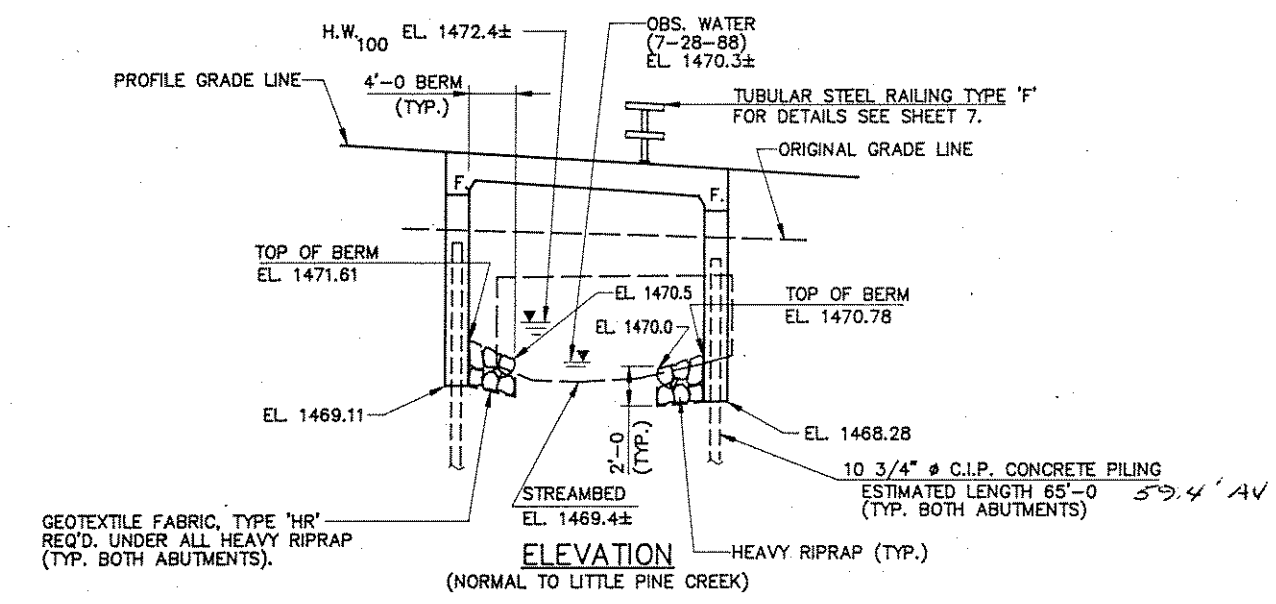
A.D.T. (1989) = 180  
 A.D.T. (2009) = 200

**LIST OF DRAWINGS - (X82780)**

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. ABUTMENTS
5. ABUTMENT DETAILS
6. SUPERSTRUCTURE
7. TUBULAR STEEL RAILING, TYPE 'F'



○ INDICATES WING NUMBER  
 \* INDICATES LOCATION OF PROVISION FOR FUTURE BEAM GUARD ATTACHMENT.

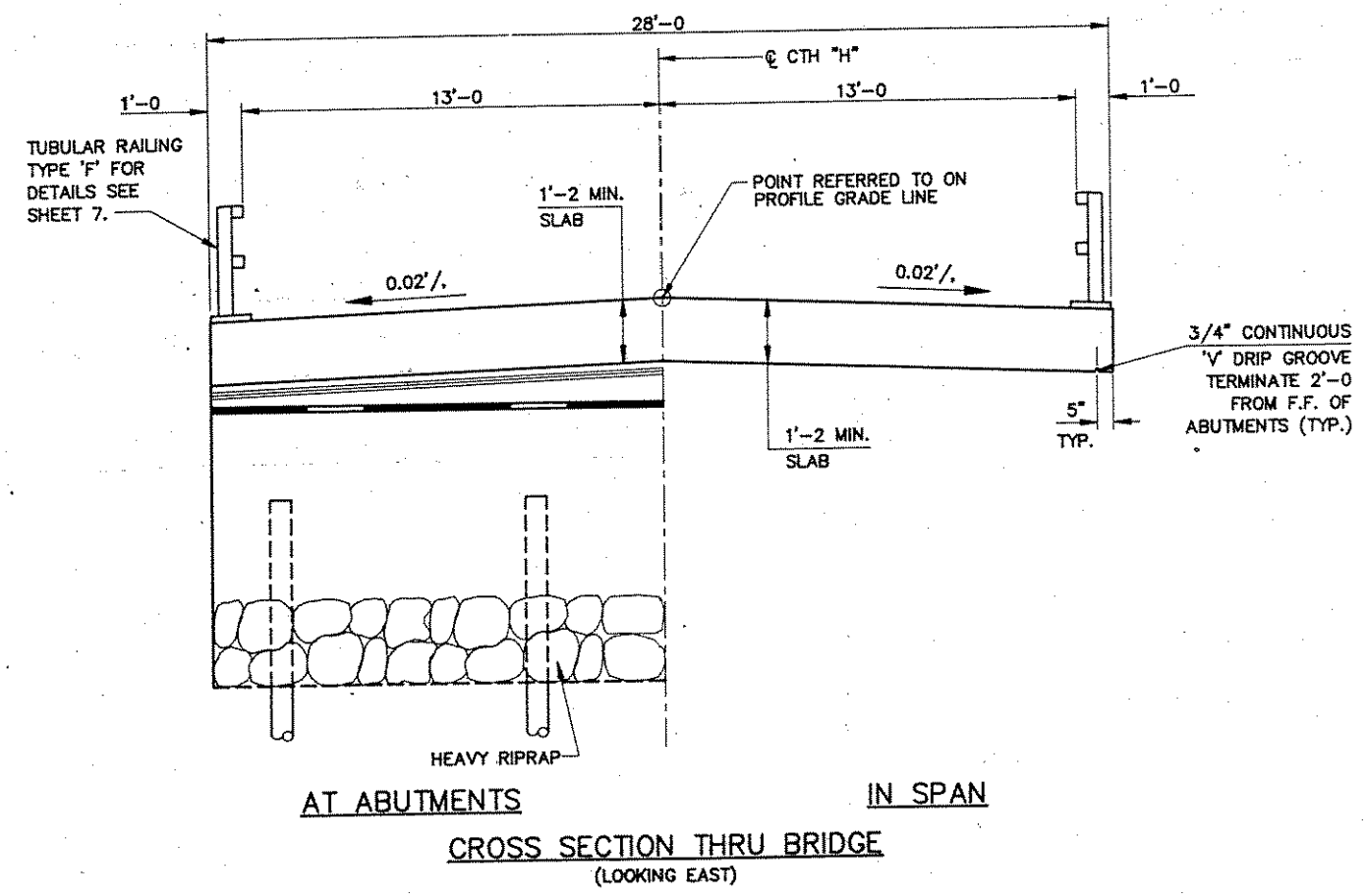


BRIDGE OFFICE CONTACT (608) 266-8486 DAVE BABLER

No.	Date	Revision	By
PLANS PREPARED BY			
<b>MSA</b> MID-STATE ASSOCIATES, INC. 1230 S. BLVD., BARABOO, WI. 53913			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-35-108			
CTH "H" OVER LITTLE PINE CREEK			
County	LINCOLN	Town/City/Village	SKANAWAN
Design Spec.	AASHTO 1988	Load	HS-20
Design By	DHW	Checked	PAC
Drawn By	RLR	Plans Checked	PAC
Approved	<i>Stanley W. Woods</i>	12-20-87	Date
GENERAL PLAN			SHEET 1 OF 7
X82780			

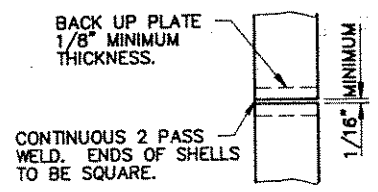
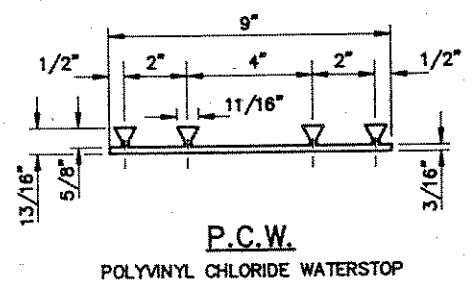
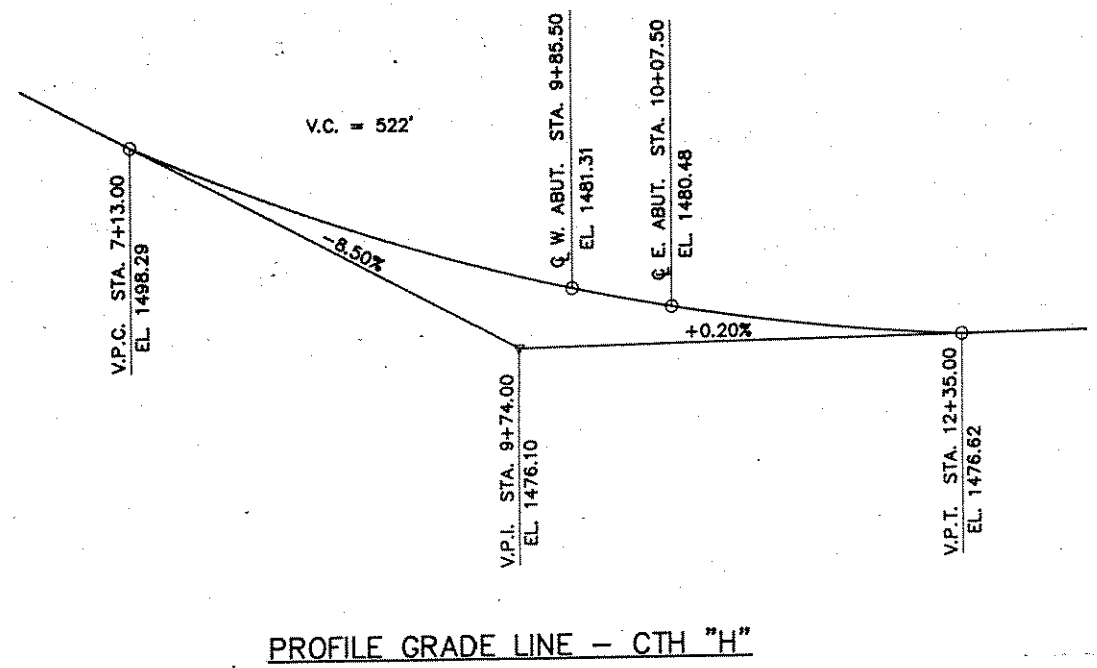
**TOTAL ESTIMATED QUANTITIES**

BID ITEMS	UNIT	WEST ABUT.	EAST ABUT.	SUPER	TOTAL
REMOVING OLD BRIDGE, STATION 10+00	L.S.				1
EXCAVATION FOR STRUCTURES, BRIDGES B-35-108	L.S.				1
CONCRETE MASONRY, BRIDGES	C.Y.	42.0	42.0	33.0	117
PROTECTIVE SURFACE TREATMENT	GAL.			3	3
HIGH-STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	LB.	3220	3220	3870	10310
COATED HIGH-STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	LB.			1020	1020
CAST-IN-PLACE CONCRETE PILING, DELIVERED AND DRIVEN, 10 3/4 INCH	L.F.	390	390		780
TUBULAR RAILING, TYPE "F", STRUCTURE B-35-108	L.S.				1
HEAVY RIPRAP	C.Y.	60	40		100
GEOTEXTILE FABRIC, TYPE "HR"	S.Y.	110	80		190
<b>NON-BID ITEMS</b>					
FILLER	SIZE				1/2" & 3/4"
POLYVINYL CHLORIDE WATERSTOP	L.F.	32	32		64



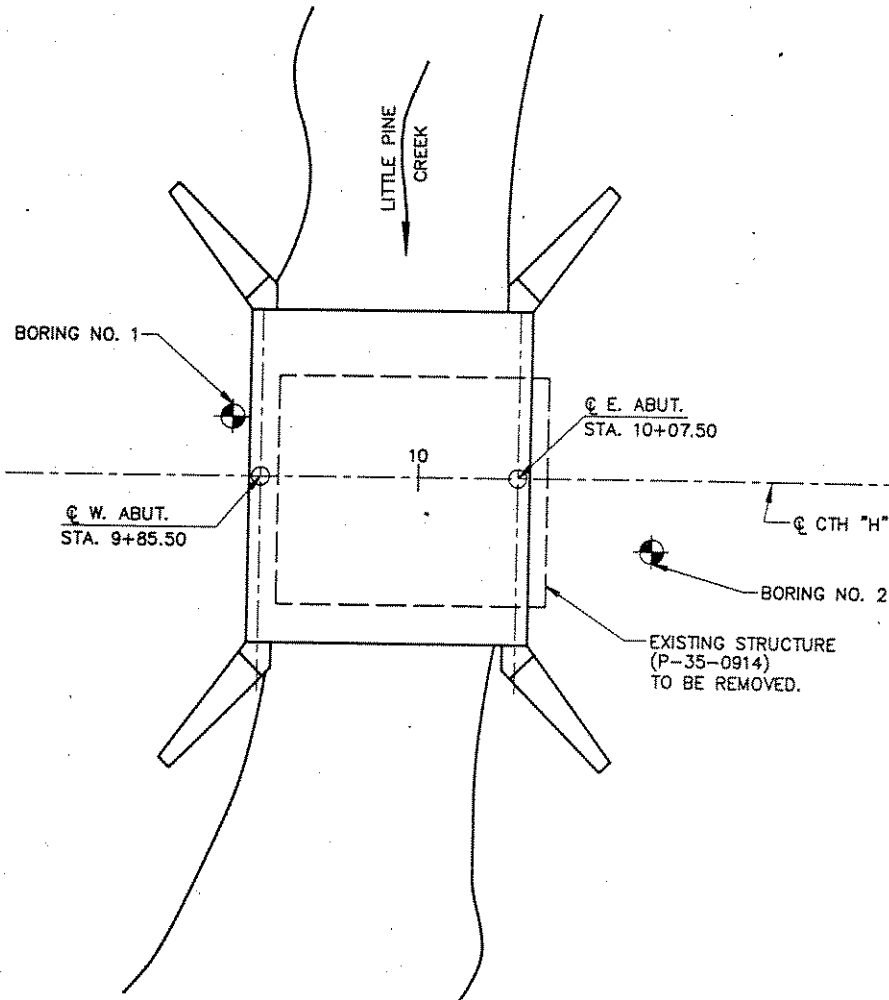
**GENERAL NOTES**

- 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.
- FILLER SHALL CONFORM TO AASHTO DESIGNATIONS M153, TYPE I, II, OR III, OR AASHTO DESIGNATION M213.
- THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP TO THE LIMITS SHOWN ON SHEET 1 AND ON THE ABUTMENT SHEETS OR AS DIRECTED BY THE ENGINEER.
- THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES" FOR THE ABUTMENTS.
- SLAB FALSEWORK SHALL BE SUPPORTED ON PILES, UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.
- THIS STRUCTURE WILL REPLACE EXISTING BRIDGE, P-35-0914, A 24 FT. LONG SINGLE SPAN CONCRETE DECK GIRDER BRIDGE.
- BACKFILL 2'-0 ABOVE THE BOTTOM OF ABUTMENT ELEVATIONS SHALL NOT BE PLACED UNTIL THE SUPERSTRUCTURE IS IN PLACE.



No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
<b>STRUCTURE B-35-108</b>			
Const. Spec. WI "89"	Drawn By RLR	Plans Checked PAC	
<b>CROSS SECTION &amp; QUANTITIES</b>			SHEET 2 OF 7
			X82780



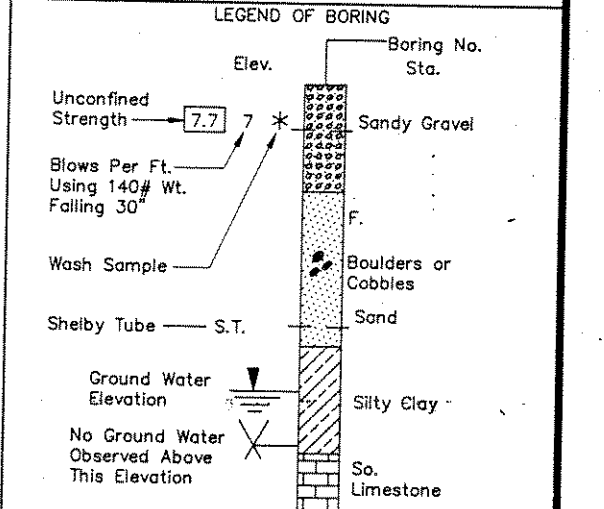
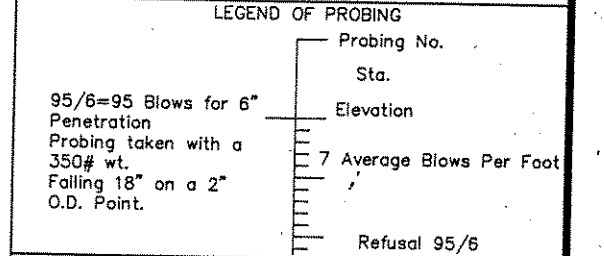


BORINGS PERFORMED BY:  
 ENVIRONMENTAL AND FOUNDATION DRILLING, INC.  
 MADISON, WISCONSIN  
 ON: JANUARY 18, 1989.

PLANS PREPARED BY:  
 MID-STATE ASSOCIATES, INC.  
 BARABOO, WISCONSIN

STATE PROJECT NUMBER	SHEET NO.
9427-02-70	8.2

ABBREVIATIONS		
F - Fine	M - Medium	C - Coarse
Ws - Weathered	So - Sound	
MATERIAL SYMBOLS		
Topsoil	Silt	Sandstone
Sand	Peat	Limestone
Gravel	Clay	Igneous Rock

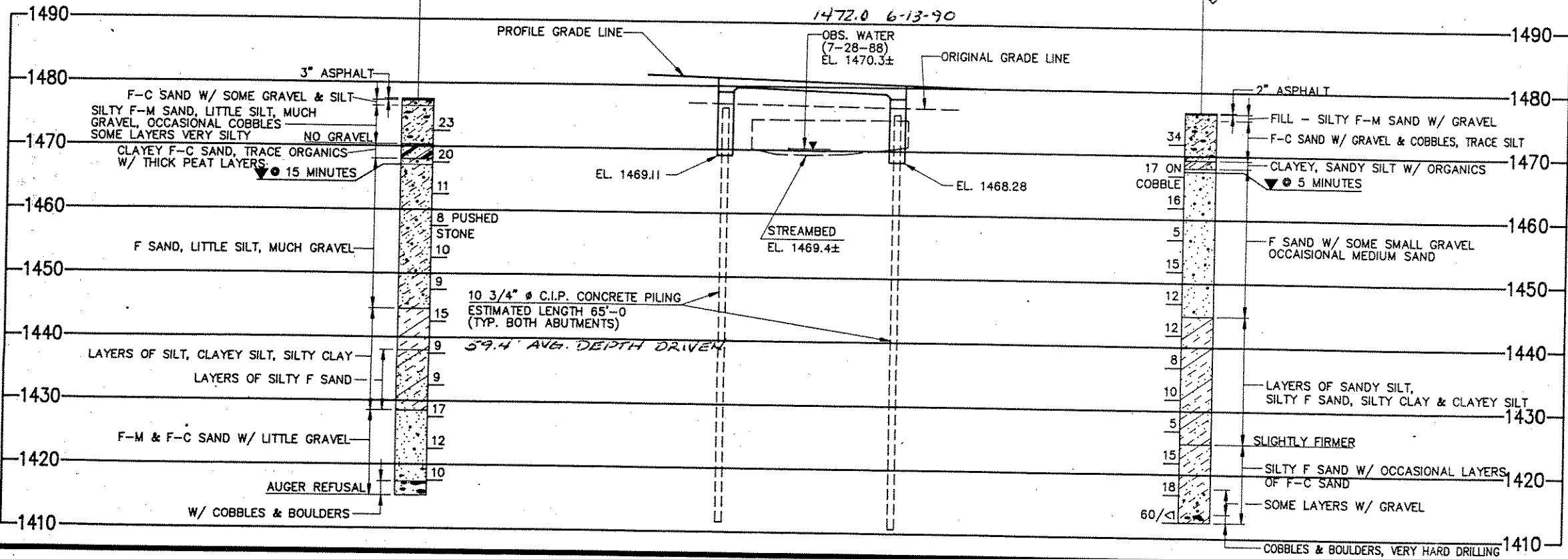


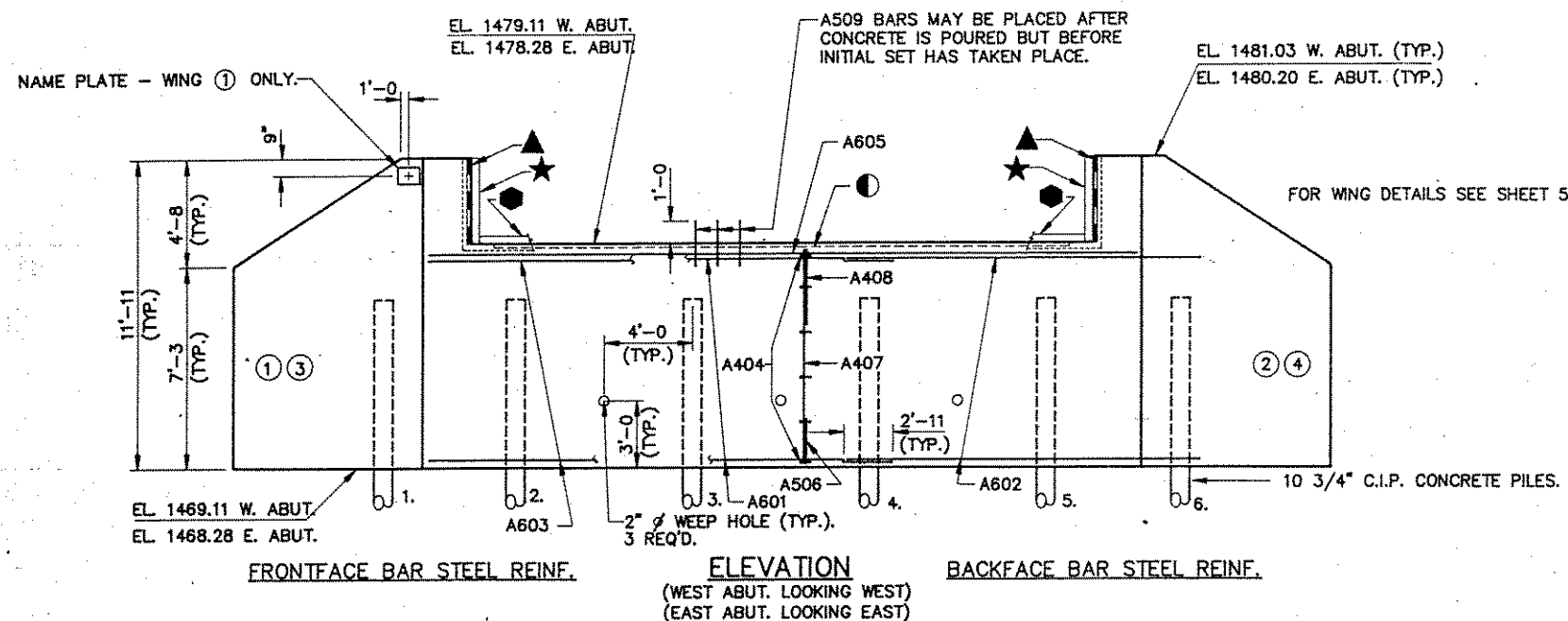
Unless otherwise specified, the blows per foot at the locations indicated are based on driving a 2" O.D. x 1.4" I.D. split spoon sampler with a 140# hammer having a free fall of 30". The blow count is taken in undisturbed soil immediately below a cased or open hole eliminating side friction on the drive pipe.

**SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION**

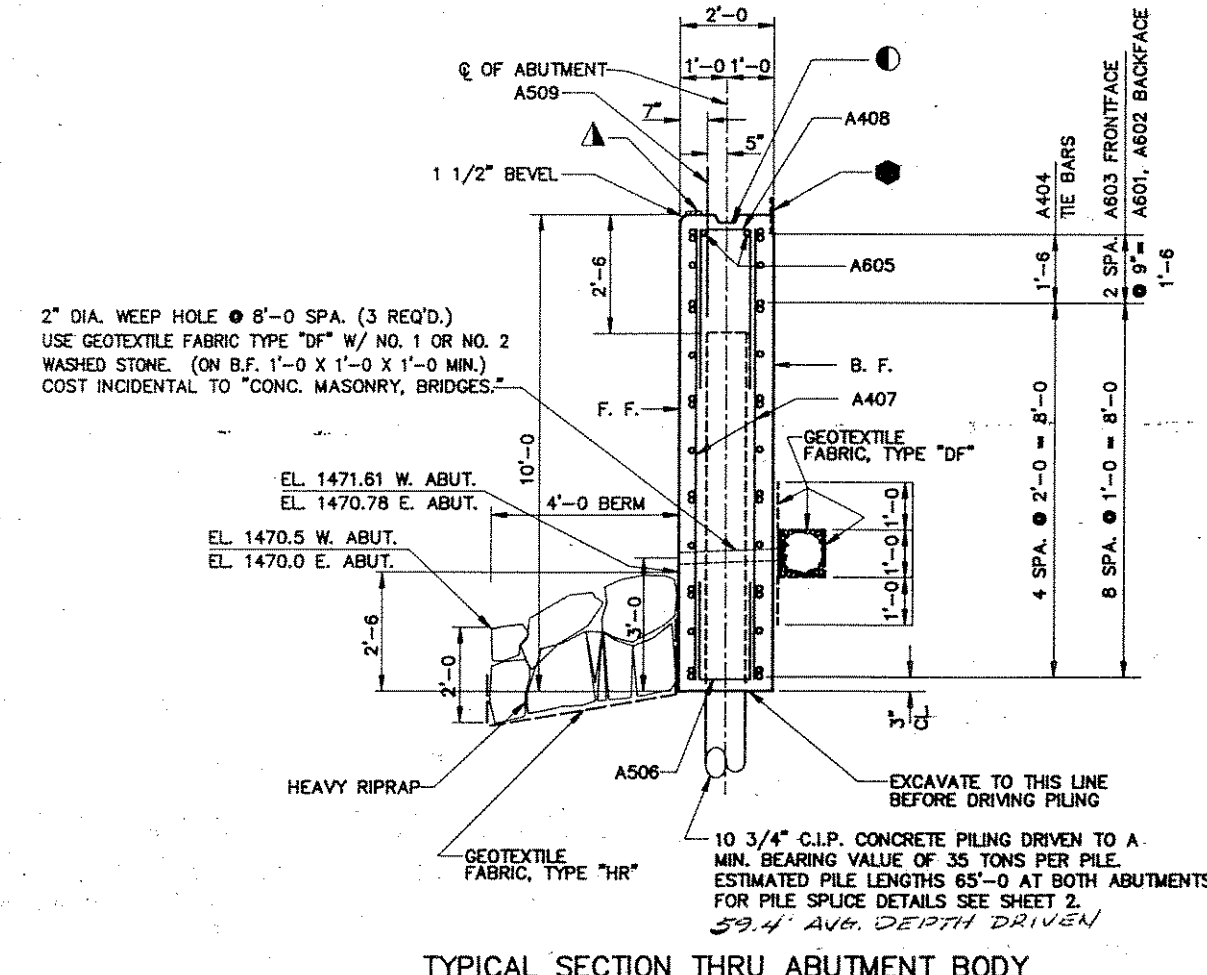
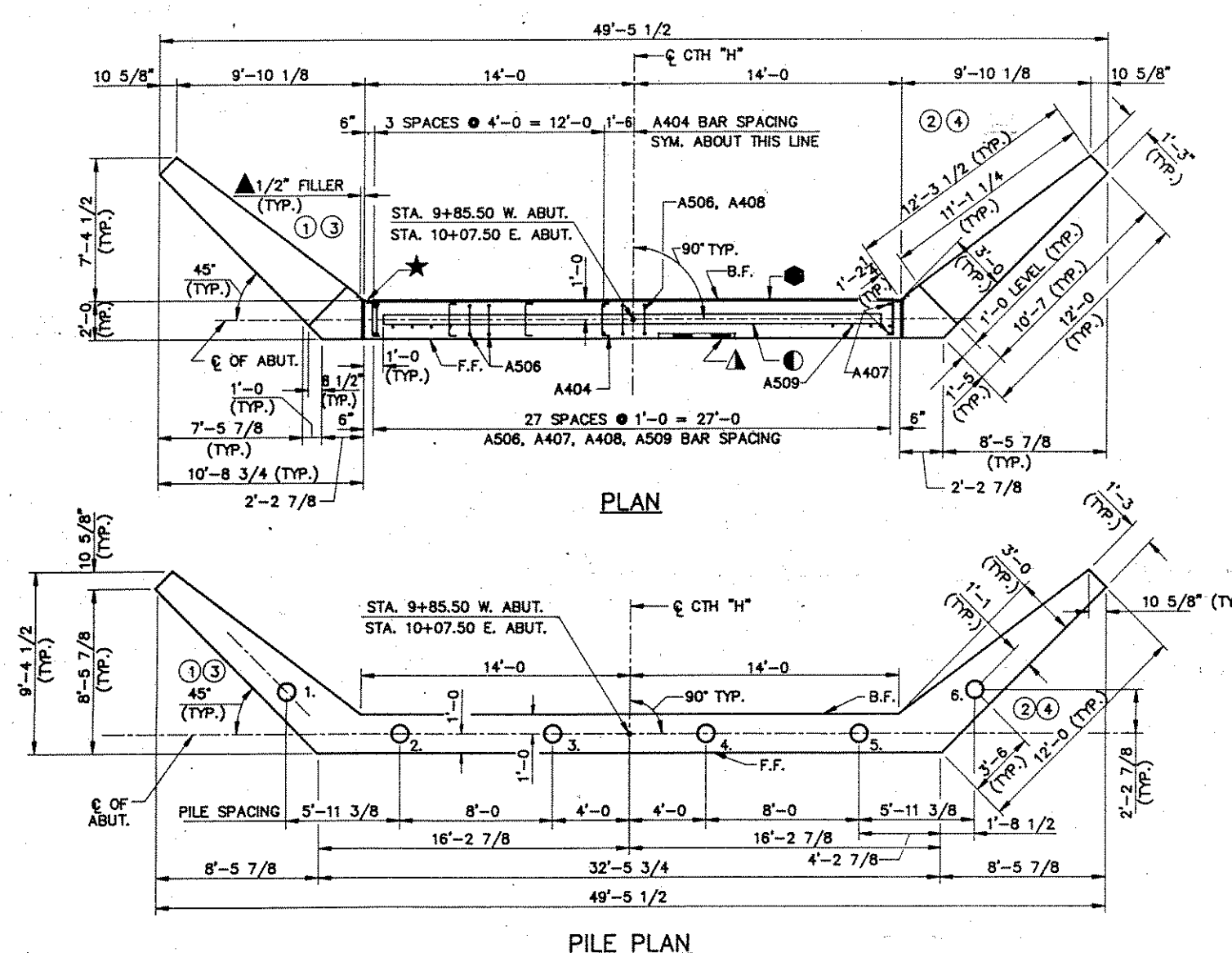
To obtain relative data concerning the character of material in and upon which the foundation might be built, borings and/or soundings were made at points approximately as indicated on this drawing. The data presented herein represents the findings of the subsurface explorations made. However, because the depths investigated are limited and the area of the borings and/or soundings is very small in relation to the entire area, the Division of Highways does not warrant conditions below the depths investigated or that the classification of material encountered in these investigations is necessarily typical of the entire site.

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<b>SUBSURFACE EXPLORATION</b>		SHEET 3 OF 7	
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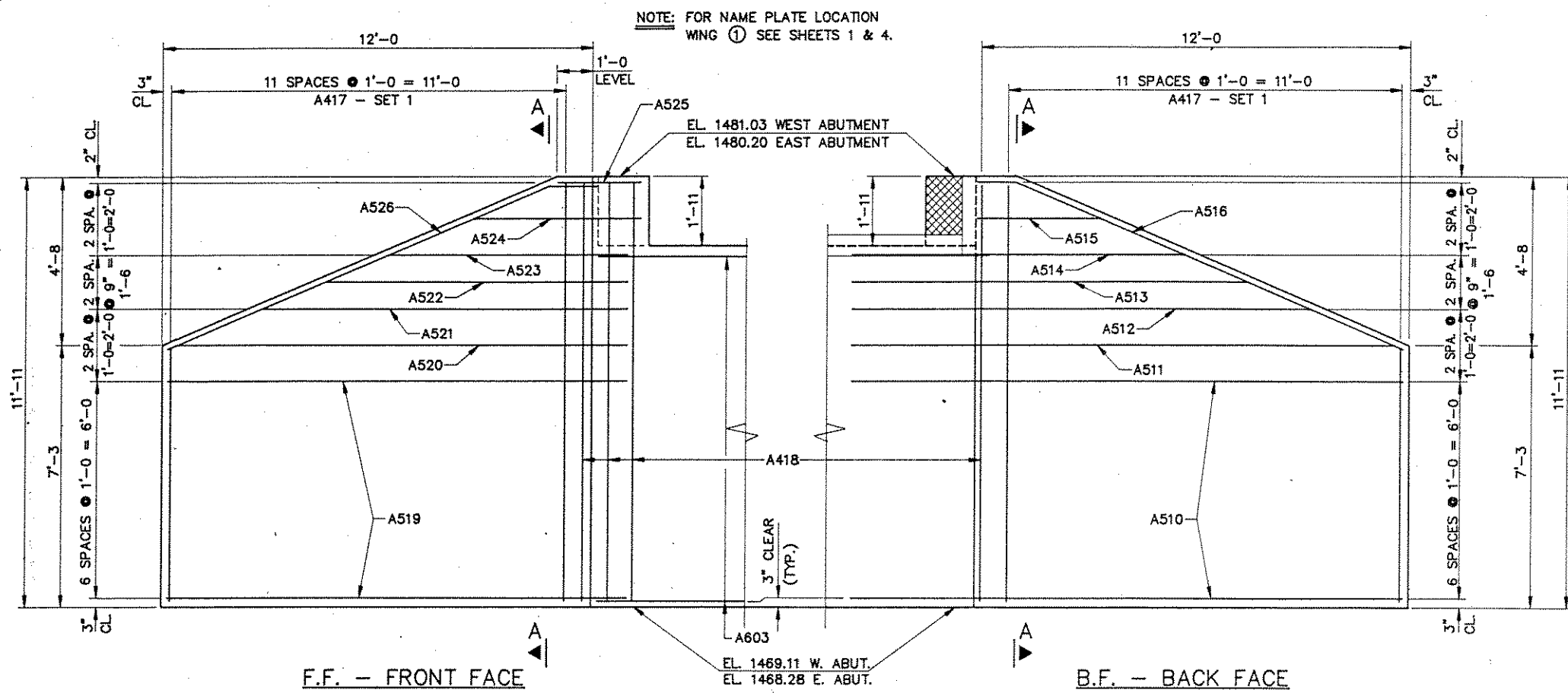




- LEGEND**
- — KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2 X 6.
  - ★ — VERTICAL P.C.W. EXTEND FROM 5" BELOW BRIDGE SEAT TO 1" BELOW THE TOP OF WINGS. BUTT-SPLICE AT ALL INTERSECTIONS WITH HORIZ. P.C.W. BY USING A HEATED SPLICING IRON. HOLD FLUSH WITH FACE OF CONCRETE.
  - — HORIZONTAL P.C.W., EXTEND BETWEEN VERT. P.C.W. AT WINGS. HOLD FLUSH WITH FACE OF CONCRETE.
  - ▲ — 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE).
  - ▲ — 4" X 3/4" FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF SLAB.
- FOR P.C.W. DETAILS SEE SHEET 2



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F.F. - FRONT FACE

B.F. - BACK FACE

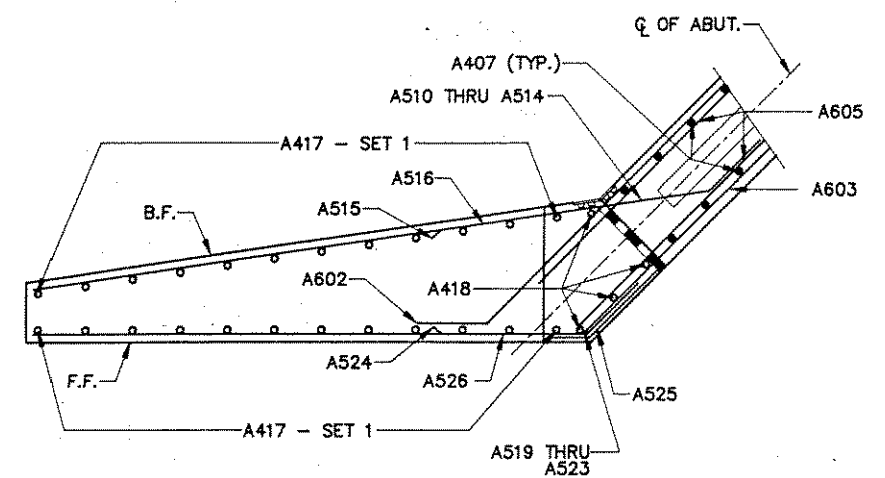
ELEVATION

BILL OF BARS (2 ABUTMENTS)

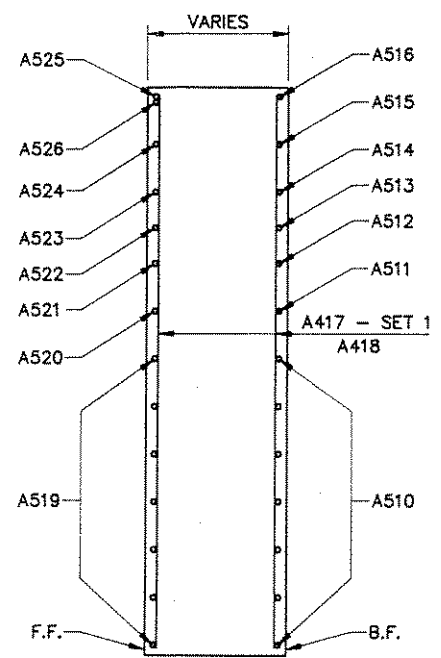
6440 LBS.

MARK	NO. REQ'D	LENGTH	BENT	CUT. DIAGR.	LOCATION
A601	22	10-11			BODY - B.F. - HORIZ. CENTER
A602	44	16-8	X		& WING - - -
A603	22	32-4			- F.F. - -
A404	96	2-3	X		- TIES - -
A605	4	32-4			- TOP - -
A506	56	5-4	X		- BOTTOM - VERT.
A407	112	9-8			- F.F. & B.F. - -
A408	56	8-1	X		- TIES TOP - -
A509	56	2-0			- DOWELS - -
A510	28	16-3	X		WINGS - ALL - B.F. - HORIZ.
A511	4	15-11	X		- - -
A512	4	13-7	X		- - -
A513	4	11-10	X		- - -
A514	4	10-0	X		- - -
A515	4	3-5			- - -
A516	4	12-11	X		- - - TOP
A417	48	18-7		X	- F.F. & - VERT.
A418	16	11-7			- - -
A519	28	13-3	X		- - - HORIZ.
A520	4	12-11	X		- - -
A521	4	10-7	X		- - -
A522	4	8-10	X		- - -
A523	4	7-1	X		- - -
A524	4	5-2	X		- - -
A525	4	3-0	X		- - - TOP
A526	4	12-9	X		- - -

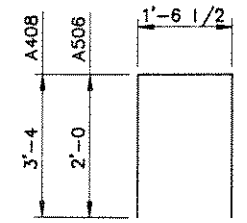
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



PLAN

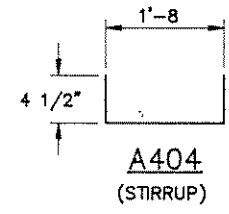


SECTION A-A THRU WINGS

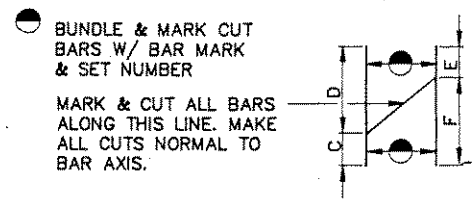


A506, A408

MARK	A	B
A602 A519 THRU A523	1'-6	45°
A510 THRU A514	1'-6	37°
A516	1'-4	23°
A524	2'-0	45°
A525	1'-0	45°
A526	1'-2	23°



A404 (STIRRUP)

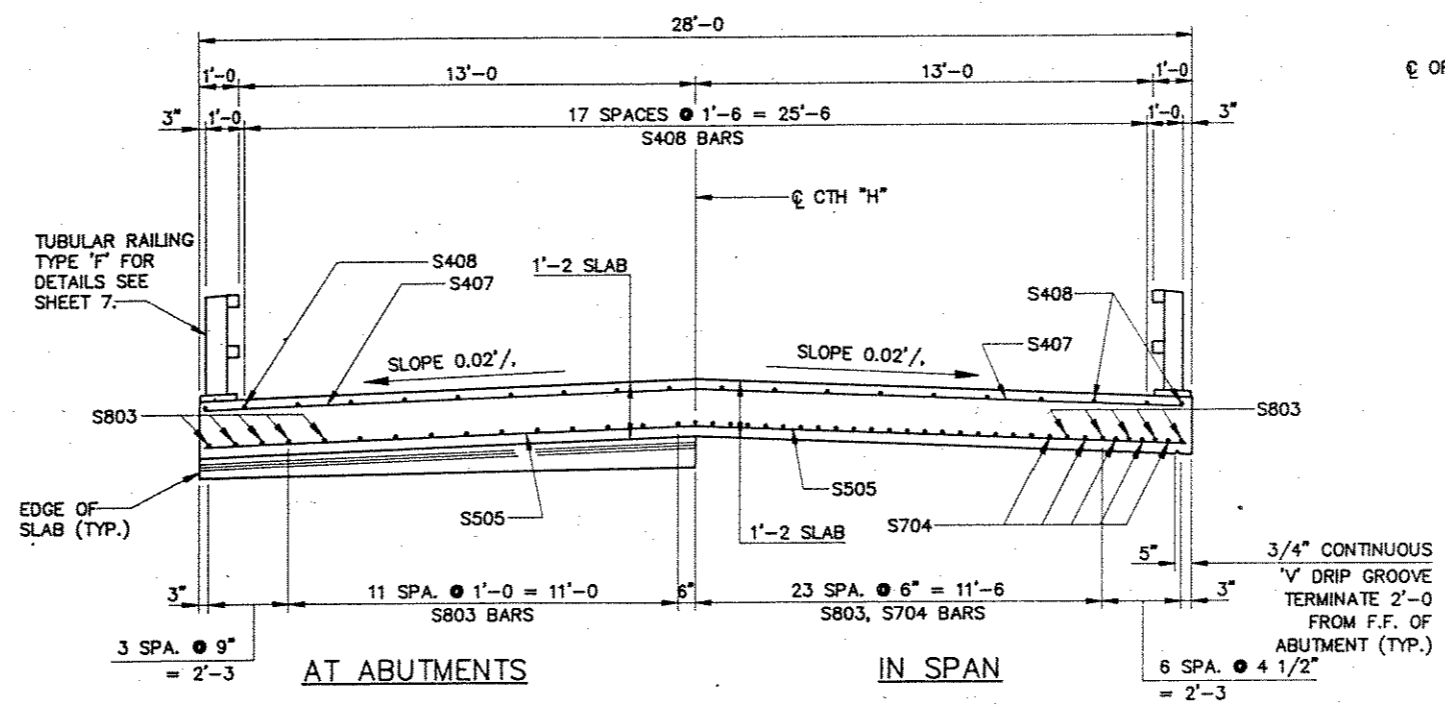


CUTTING DIAGRAM

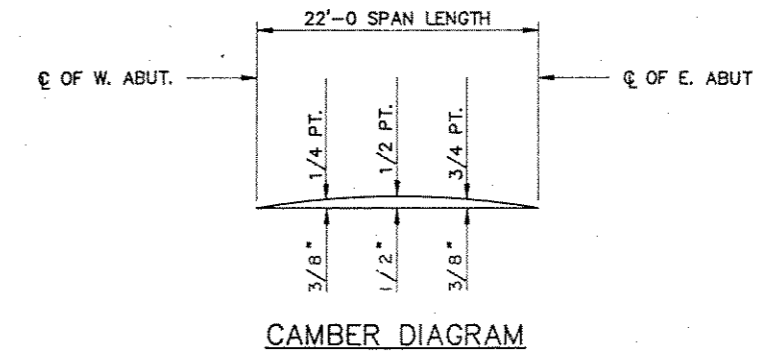
MARK	C	D	E	F	NO. OF BARS/SET	SETS REQ'D
A417 SET 1	7'-0	11'-7	7'-0	11'-7	12	8

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CROSS SECTION THRU BRIDGE (LOOKING EAST)



CAMBER SPANS AS SHOWN TO PROVIDE FOR DEADLOAD DEFLECTION AND FUTURE PLASTIC FLOW. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. DEADLOAD DEFLECTION ONLY APPROXIMATELY 1/4 OF CAMBER VALUES SHOWN.

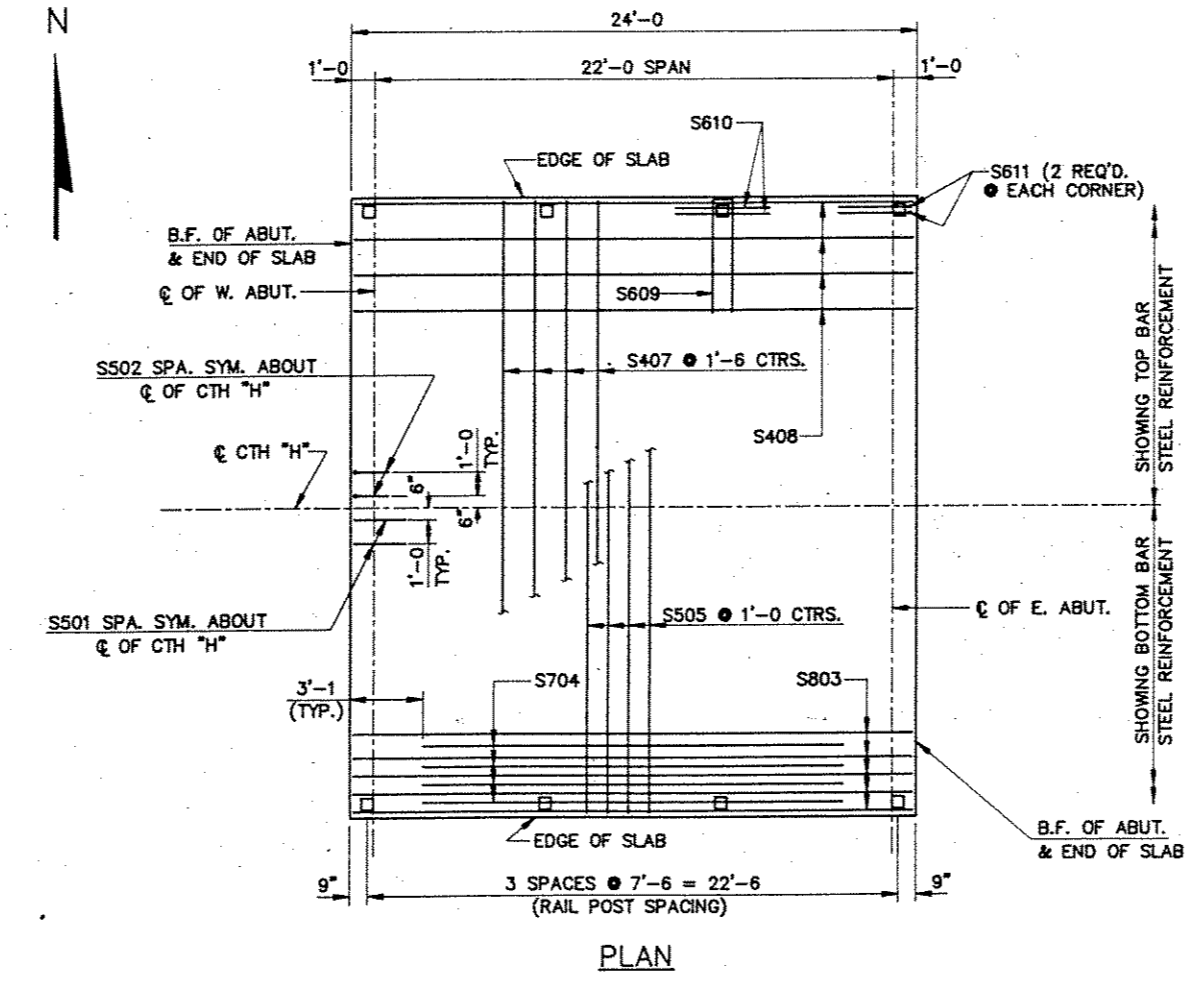
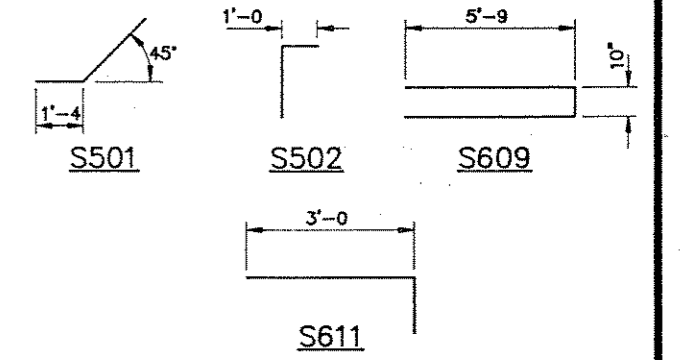
GENERAL NOTES

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).  
ALTERNATE TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

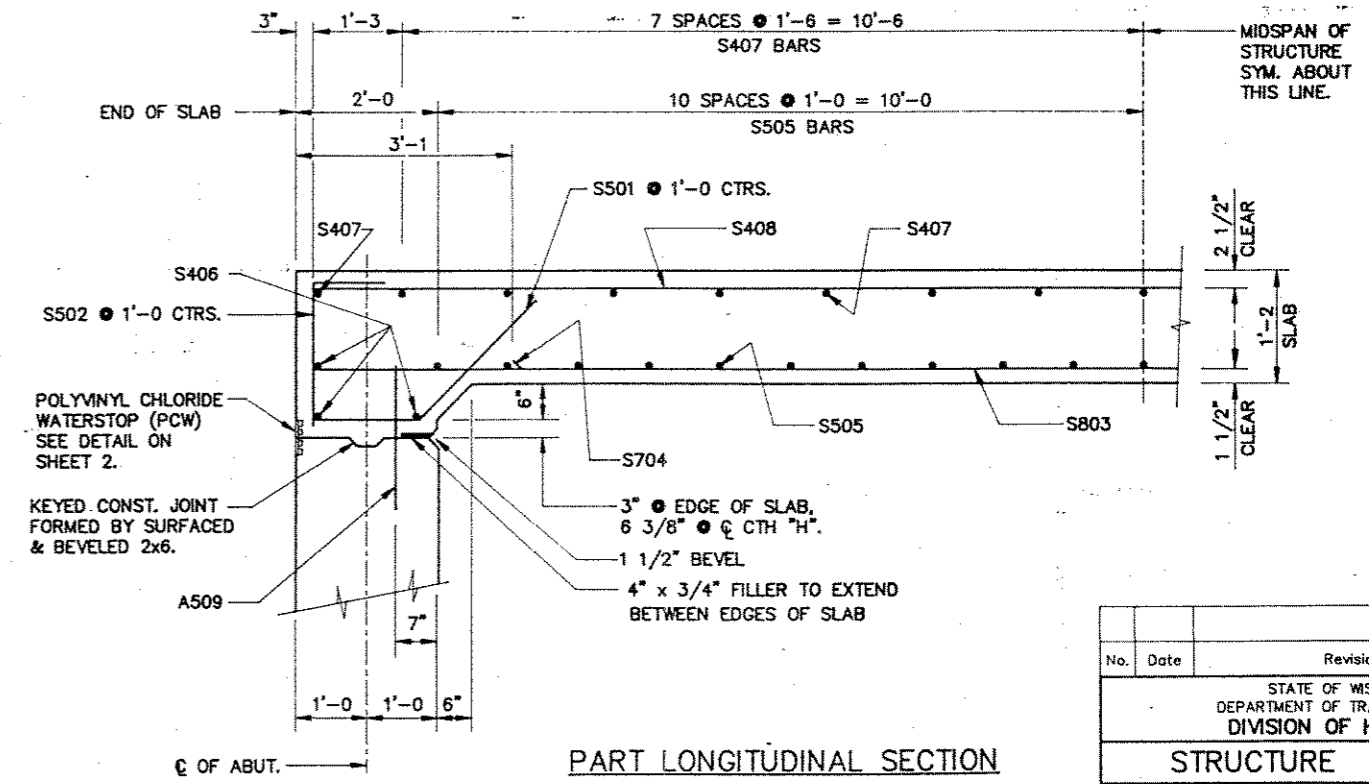
BILL OF BARS COATED 1020 LBS. UNCOATED 3870 LBS.

MARK	NO. REQ'D. COATED	UN-COATED	LENGTH	BENT	LOCATION
S501	56		3-6	X	DIAPHRAGM @ ABUTS. - LONGIT.
S502	56		2-7	X	" " " " - VERT.
S803	30		23-8		SLAB BOTTOM - LONGIT.
S704	29		17-10		" " " " - " "
S505	21		27-8		" " " " - TRANS.
S406	6		27-8		" " " " @ ABUT. - " "
S407	17		27-8		" " " " TOP - " "
S408	20		23-8		" " " " - LONGIT.
S609	8		12-0	X	" " @ RAIL POST, ONE PER POST
S610	8		4-0		" " " " TWO - " "
S611	8		4-0	X	" " " " CORNER POSTS AS NOTED

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



PLAN



PART LONGITUDINAL SECTION

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**LEGEND**

- ① W 6 X 25 WITH 1/4" DIA. HOLES ON EACH SIDE OF POST FLANGE FOR STUD (6). CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- ② PLATE 1" X 9 1/2" X 10" WITH 1/16" X 1/2" SLOTTED HOLES FOR ANCHOR BOLTS (3). WELD TO (1) AS SHOWN.
- ③ A 449 OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION ANCHOR BOLT 7/8" DIA. X 1'-3" LONG AT BRIDGE END POSTS AND 10' LONG AT ALL OTHER POST LOCATIONS. (MIN. YIELD OF 92 K.S.I. AND ELONGATION OF 14%) WITH A 325 NUT AND WASHER. 4 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE (2).
- ④ BAR 3/4" SQ. X 8" LONG. WELD TO ANCHOR BOLTS (3).
- ⑤ TS 4 X 4 X .25 STRUCTURAL TUBING, CONFORMING TO A.S.T.M. DESIGNATION A36. ATTACH TO (1) WITH STUDS (6).
- ⑥ 5/8" DIA. X 1/2" LG. SHOP WELDED STUDS, WITH HEX. NUT AND 2 WASHERS. 4 PER POST. (2 REQ'D. AT EACH LOCATION).
- ⑦ SQUARE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE 'SLIDING FIT' WITH A MINIMUM OUT TO OUT DIMENSION OF 3 13/32".
- ⑧ TS 3 X 3 X .25 X 1'-10" LONG. PROVIDE 1/2" DIA. SURFACE WELDS ON ALL SIDES AS SHOWN. GRIND WELDS TO FIT FREE INTO I.D. OF (5). PROVIDE 3/8" DIA. X 1/2" WELDING STUDS ON TOP AND BOTTOM SURFACES AT CENTERLINE.
- ⑨ PLATE 3/4" X 1'-0" X 1'-6". WELD TO END RAIL POST AS SHOWN IN DETAIL. REQUIRED AT BEAM GUARD ATTACHMENTS ONLY.
- ⑩ 1" DIA. HOLES IN PLATE (9) FOR 7/8" DIA. A 325 BOLTS W/HEX NUTS AND WASHERS.

**GENERAL NOTES**

BID ITEM SHALL BE "TUBULAR RAILING TYPE 'F'" WHICH INCLUDES ALL ITEMS SHOWN.

RAILING SHALL BE FABRICATED IN 2 OR 3 PANEL LENGTHS.

POSTS BASE PLATES (2) 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 CUT.

ALL MEMBERS INCLUDING UPPER 4" OF (3) SHALL BE GALVANIZED AFTER FABRICATION.

FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE (2) WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER SEAL BOTTOM EDGES OF PLATE (2) TO DECK.

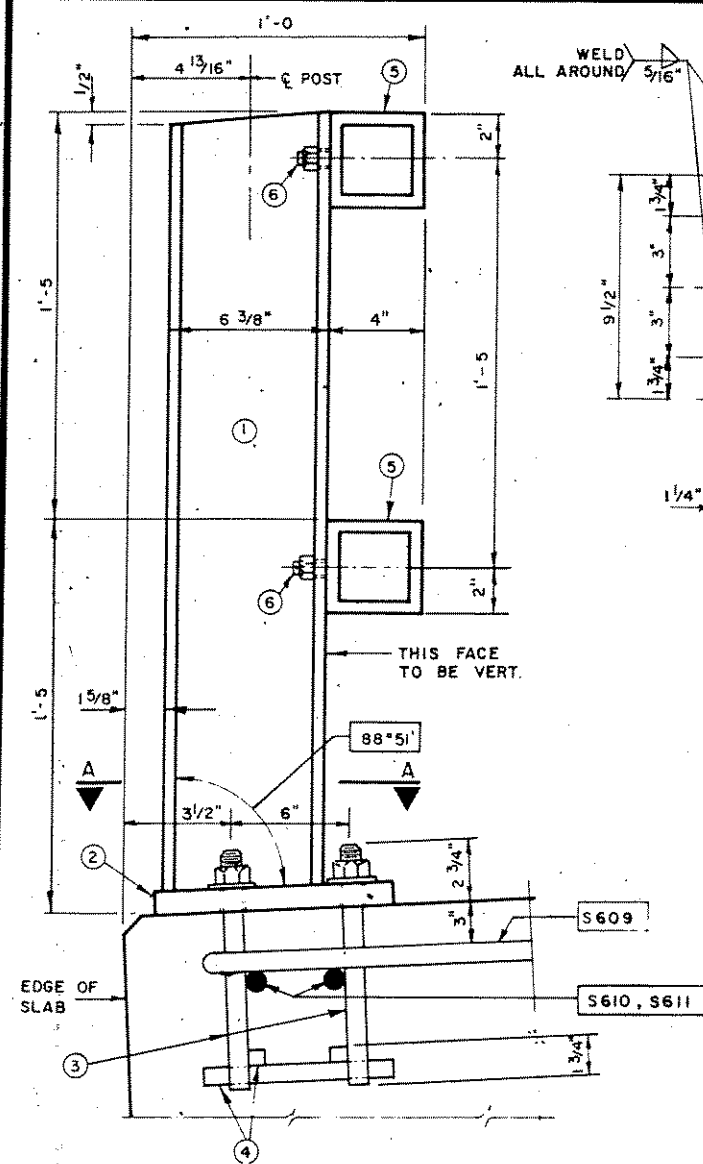
ALL MATERIALS USED IN FABRICATION SHALL BE MADE FROM MATERIALS CONFORMING TO A.S.T.M DESIGNATION A36 UNLESS NOTED OTHERWISE.

STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.

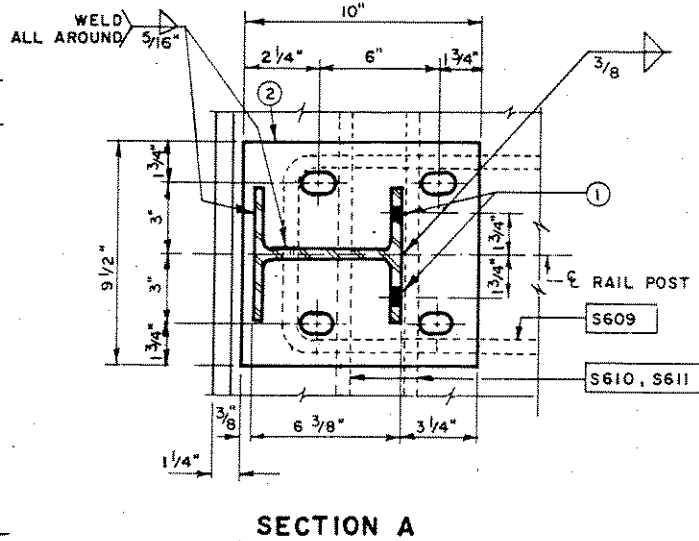
PRIOR TO GALVANIZING, ALL STEEL RAILING SHALL BE GIVEN A NO 6 COMMERCIAL BLAST CLEANING BY S.S.P.C SPECIFICATIONS. BLAST CLEANING IS NOT REQUIRED FOR COLD FORMED TUBING (5), EXCEPT TO REMOVE WELDING SLAG AND IMPERVIOUS SUBSTANCES.

ALL POST SPACINGS ARE MEASURED HORIZONTALLY ALONG CENTERLINE OF POST BASE.

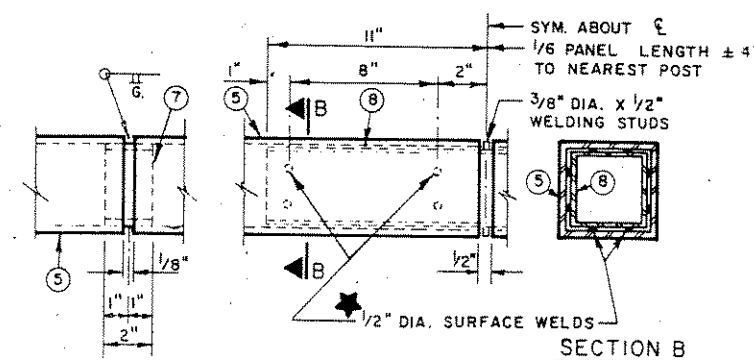
WELD WITH E70 ELECTRODES.



**SECTION D THRU RAILING**



**SECTION A**

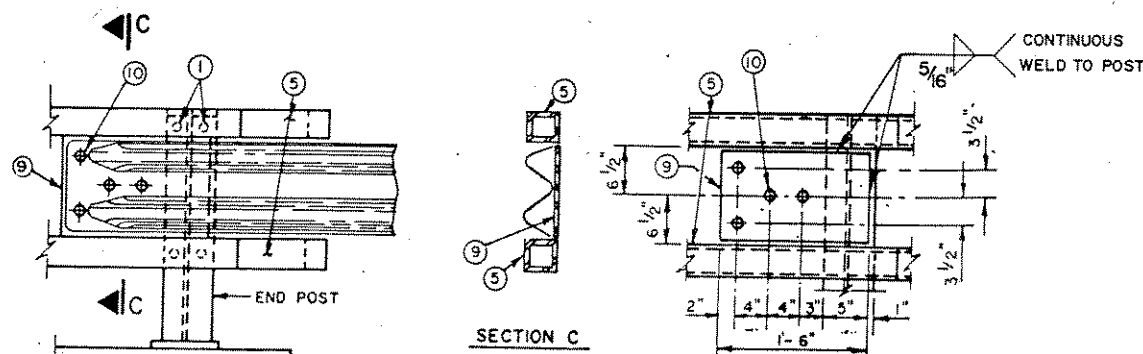


**SHOP RAIL SPLICE DETAIL**

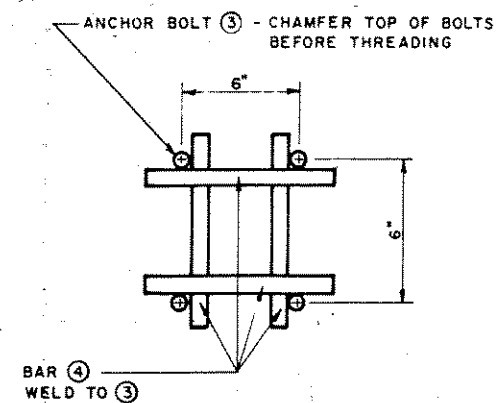
(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)

**FIELD ERECTION JOINT DETAIL**

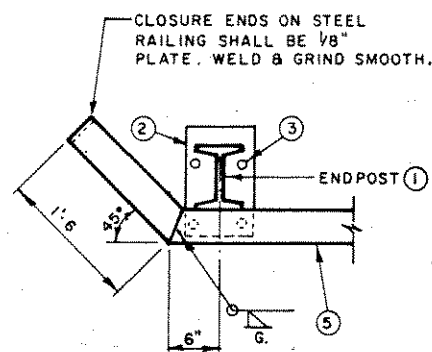
★ MIN. 5/8" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.



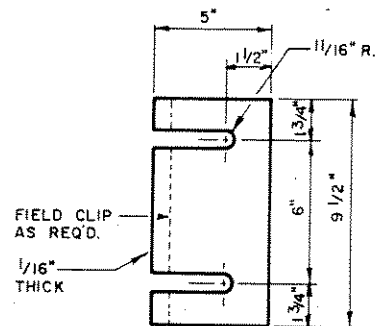
**DETAIL AT END POSTS**



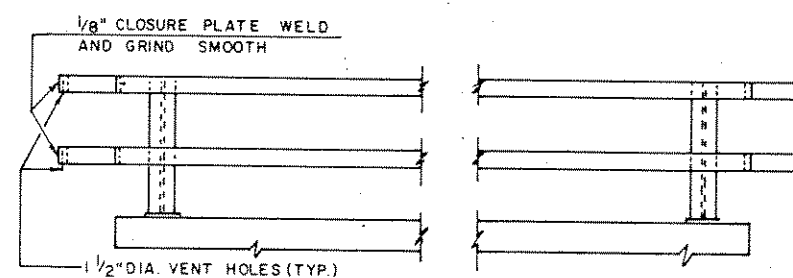
**ANCHOR BOLT DETAIL**



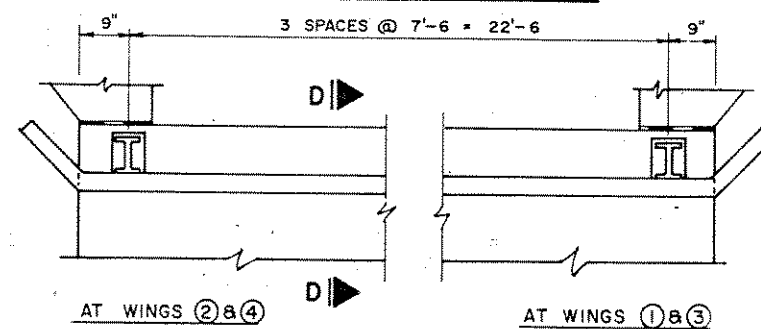
**RAIL END DETAIL**



**POST SHIM DETAIL**  
(4 PER POST)



**PART ELEVATION OF RAILING**



**PART PLAN OF RAILING**

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<b>STRUCTURE B-35-108</b>			
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<b>TUBULAR STEEL RAILING TYPE 'F'</b>			SHEET 7 OF 7
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