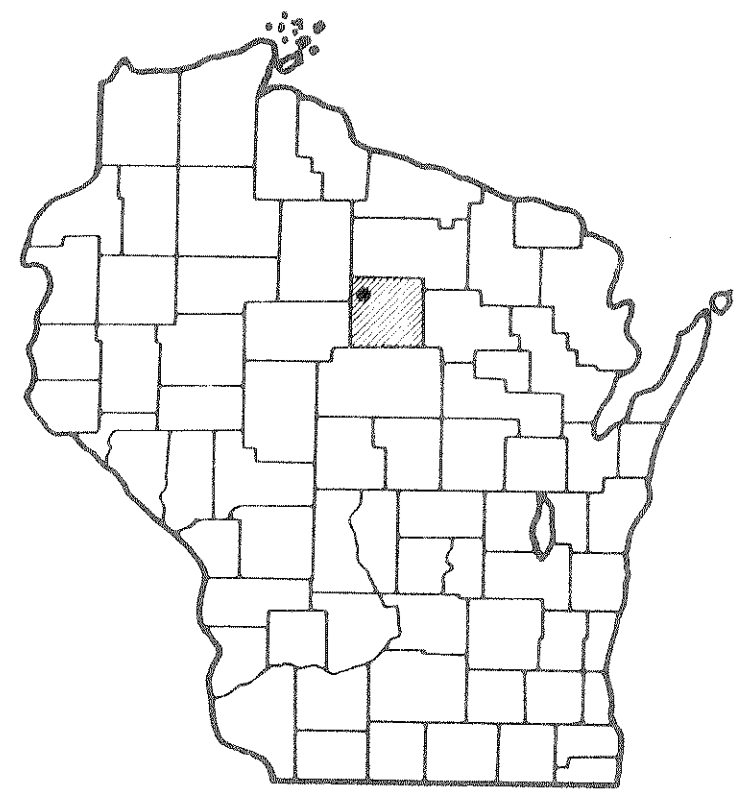


STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
9864-02-70		

Index of Sheets

Sheet No. 1	Title
Sheet No.	Typical Cross Sections
Sheet No.	Estimate of Quantities
Sheet No.	Miscellaneous Quantities
Sheet No.	Right of Way Plat
Sheet No.	Plan and Profile STA. 10+00 - 22+00
Sheet No.	Standard Details
Sheet No.	Structure Plans
Sheet No.	Computer Earthwork Data
Sheet No.	Cross Sections

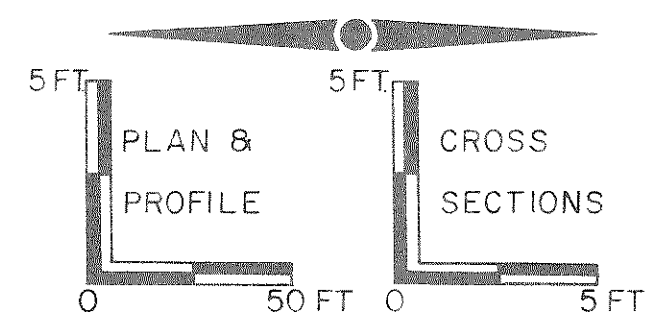
TOTAL SHEETS =



STATE OF WISCONSIN  
**DEPARTMENT OF TRANSPORTATION**  
 PLAN OF PROPOSED IMPROVEMENT

**SPIRIT RIVER BRIDGE & APPROACHES**  
**BRIDGE ROAD (TOWN ROAD)**  
**LINCOLN COUNTY**

STATE PROJECT NUMBER  
**9864-02-70**



Design Designation

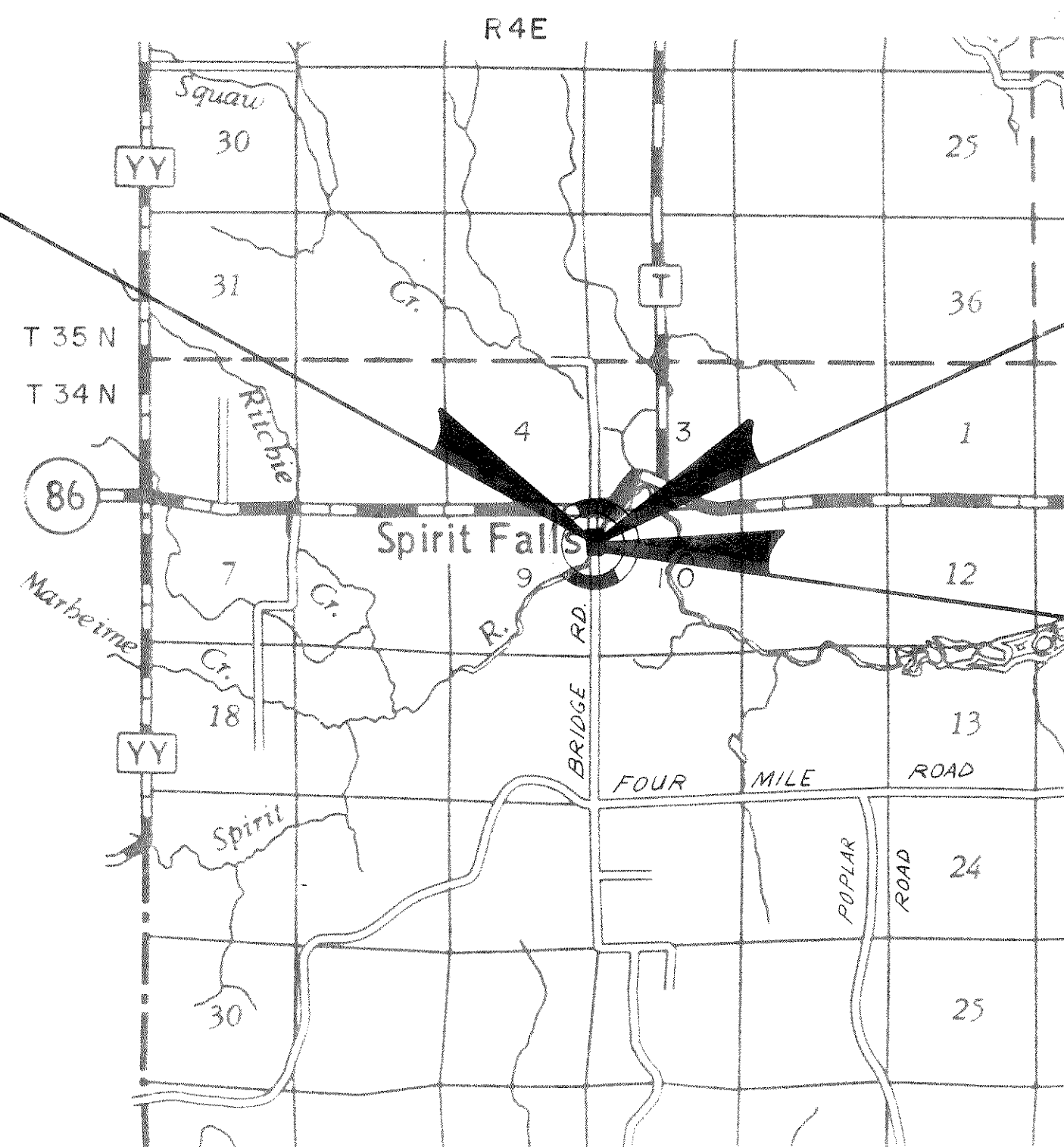
A.D.T. (1986)	■ 50
A.D.T. (2006)	■ 100
D.H.V. (2006)	■ 18
D.	■ 60/40
T.	■ 6%
V.	■ 40 M.P.H.

Conventional Signs

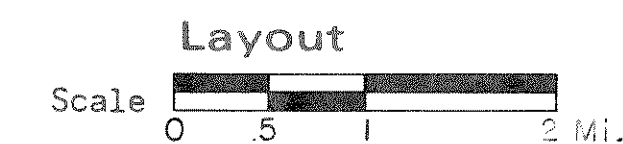
County Line	-----	Culverts in Place	-----
Township or Range Line	-----	Culverts Required	-----
Section Line	-----	Drop Inlet	-----
New Right of Way Line	-----	Power Pole	-----
Present Right of Way Line	-----	Telephone or Telegraph Pole	-----
Wire Fence	-----	Right of Way Markers	-----
Corporate or City Limits	-----	Reference Stake for Hubs Only	-----
Property Line	-----	Marsh	-----
Traveled Way or P.E.	-----	Hedge	-----
Railroads	-----	Trees	-----
Base or Survey Line	-----	Ground Elevation	-----
Caution Symbol (combustible fluids under pressure)	-----	Grade Elevation	-----

BEGIN PROJECT  
 STA. 10 + 00  
 N = 589,200 (±200')  
 E = 2,005,200 (±200')

END PROJECT  
 STA. 22 + 00



STRUCTURE B-35-91



Total Net Length of Centerline = 0.227 Mi. (RURAL)

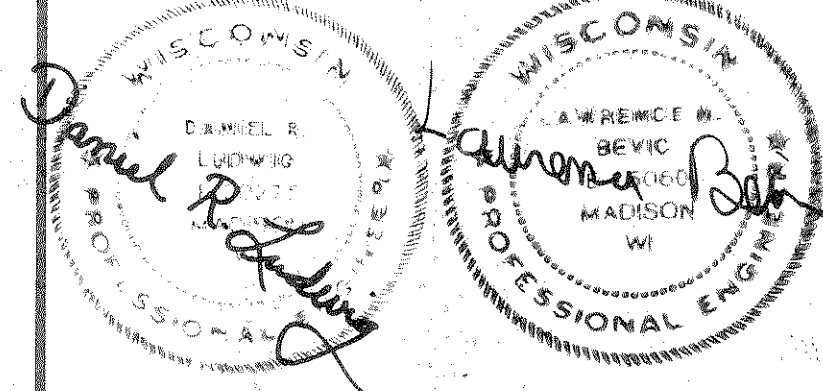
COORDINATES SCALED FROM U.S.G.S. TOPOGRAPHIC  
 MAP SPIRIT FALLS, WISCONSIN, QUADRANGLE FOR  
 IDENTIFICATION ONLY.

FILE COPY

APPROVED FOR  
 LINCOLN  
 COUNTY BY

10/9/85 (Date) *Michael J. Heup* (Signature of Official)

ORIGINAL  
 PLANS PREPARED BY  
 BARRIENTOS & ASSOCIATES, INC.  
 CONSULTING ENGINEERS  
 MADISON, WISCONSIN



STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

Surveyor BAI District Checker \_\_\_\_\_  
 Designer BAI C.O. Checker \_\_\_\_\_  
 District Supervisor \_\_\_\_\_ C.O. Coordinator \_\_\_\_\_

Approved: \_\_\_\_\_  
 Date \_\_\_\_\_ District Transportation Director

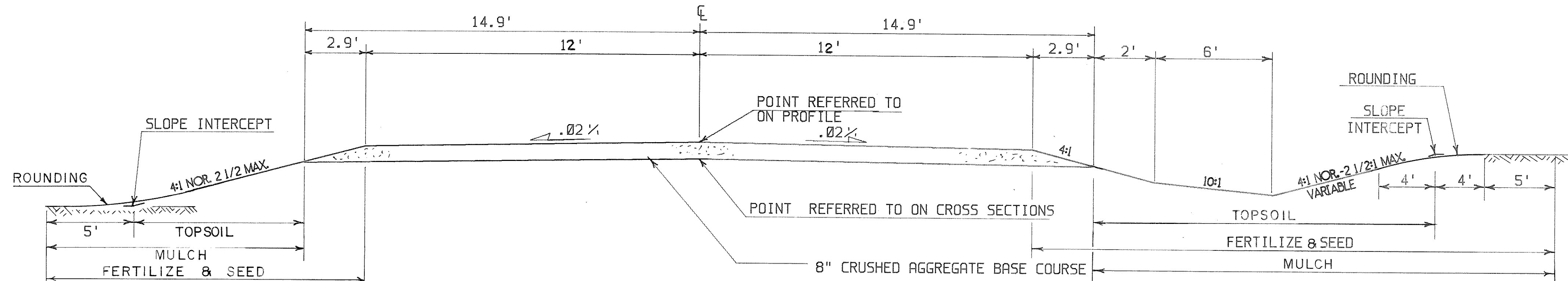
Approved: \_\_\_\_\_  
 Date \_\_\_\_\_ Chief Design Engineer

Approved: \_\_\_\_\_  
 Date \_\_\_\_\_ Director of Development

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

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

FINAL PLANS 12-20-85



TYPICAL ROADWAY CROSS SECTION

YARDAGE SUMMARY

LOCATION	UNCL. EXCAV. C.Y.	FILL C.Y.	FILL SHRINKAGE (30%)	BORROW C.Y.	WASTE C.Y.
10+00-16+34	1583	1085	1411	---	172
17+65-22+00	37	453	589	552	---
TOTAL	1620	1538	2000	360	---

SODDING			
STA. TO STA.	LOCATION	S.Y.	
15+50-16+00	LT.	84	
16+00-16+34	RT.	39	
17+65-18+00	LT.	12	
17+65-18+25	RT.	40	

CLEARING			
STA. TO STA.	LOCATION	STA.	
10+00-15+00	RT.	5.0	
15+00-16+00	LT.	1.0	
17+50-20+00	RT.	3.0	

MISCELLANEOUS QUANTITIES

OBLITERATION OF OLD ROAD	
LOCATION	STA.
17+20-19+20 LT.	2

EROSION BALES	
LOCATION	NO.
UNDISTRIB.	12

TOPSOIL, MULCHING, FERTILIZER, & SEEDING				
STA. TO STA.	MULCHING SQ. YD.	FERTILIZER CWT (TYPE A)	SEEDING POUND	TOPSOIL SQ. YD.
10+00-16+35	3404	2.00	47	2105
17+65-22+00	1426	0.75	20	835
BORROW PIT	---	0.25	3	---

PRIVATE & FIELD ENTRANCE PIPES							
STA.	LOCATION	DIA. (IN)	LENGTH (L.F.)	TYPE	R.C.C.P. THICKNESS (IN)		END TREATMENT
					STEEL	ALUMINUM	
21+60	F.E. LT.	18	24	C.P.	III	0.064 0.075	2
15+60	P.E. RT.	18	24	C.P.	III	0.064 0.075	2

GRUBBING		
STA. TO STA.	LOCATION	STA.
10+00-15+00	RT.	5.0
15+00-16+00	LT.	1.0
17+50-20+00	RT.	3.0

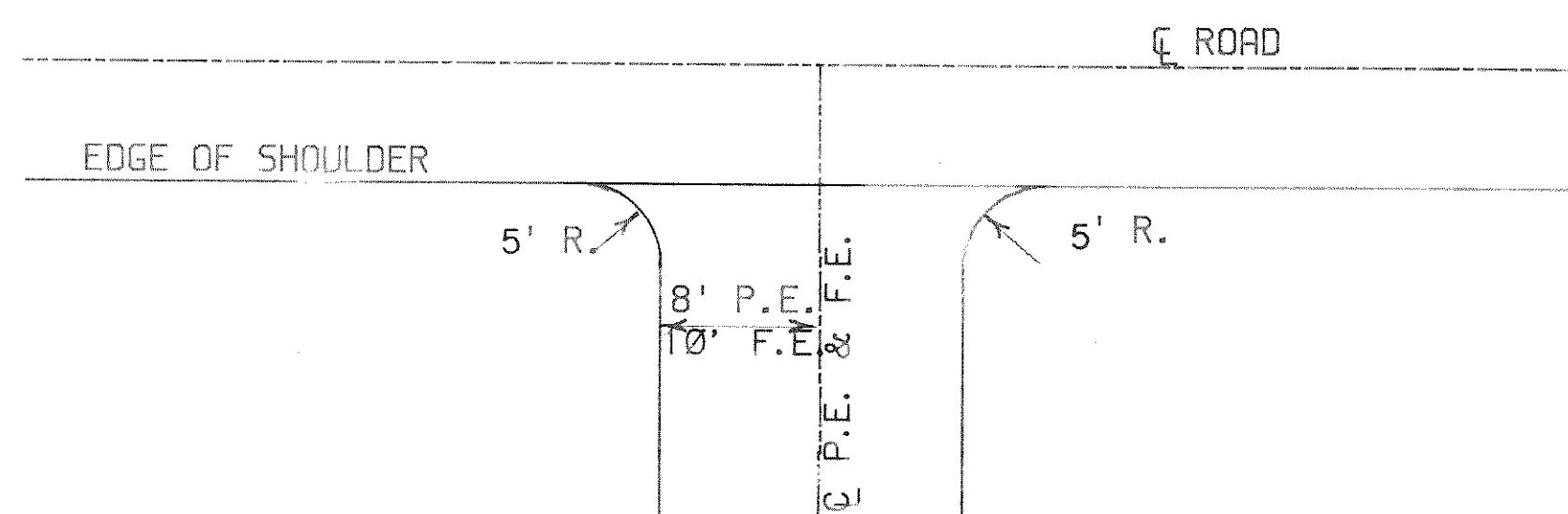
CRUSHED AGGREGATE BASE COURSE		
STA. TO STA.	LOCATION	C.Y.
10+00-16+35	MAINLINE	565
17+65-22+00	MAINLINE	387
15+65	P.E.	11
21+60	F.E.	7

REMOVING GUARDRAIL		
STA. TO STA.	LOCATION	L.F.
16+00-16+40	25' RT.	40
17+10-17+50	60' LT.	40

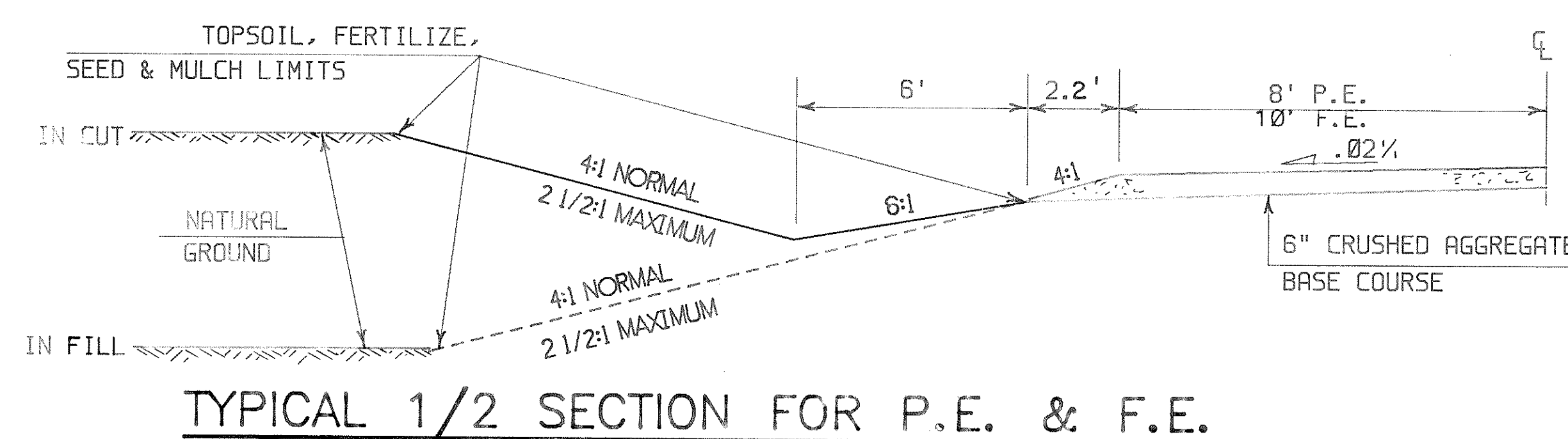
TEMPORARY SILT FENCE		
STATION	LOCATION	L.F.
16+40	LT. & RT.	100
17+40	LT. & RT.	130

LIST OF STANDARD ABBREVIATIONS

ABUT.	ABUTMENT	LT.	LEFT
AC.	ACRES	L.	LENGTH OF CURVE
AGG.	AGGREGATE	L.H.E.	LIMITED HIGHWAY EXEMPTION
AR.	AREAL	L.S.	LUMP SUM
A.D.T.	AVERAGE DAILY TRAFFIC	M.H.	MANHOLE
AVE.	AVENUE, AVERAGE	N.	NORTH
ASPH.	ASPHALT	PAV'T.	PAVEMENT
BEG.	BEGIN	P.C.	POINT OF CURVATURE
BK.	BACK	P.E.	PRIVATE ENTRANCE
B.M.	BENCHMARK	P.I.	POINT OF INTERSECTION
BIT.	BITUMINOUS	P.L.	PROPERTY LINE
C.	CENTERLINE	P.P.	POWER POLE
C & G	CURB AND GUTTER	PROP.	PROPOSED
CONC.	CONCRETE	P.T.	POINT OF TANGENT
CONST.	CONSTANT	R.	RADIUS
CON.	CONCRETE	R.C.C.P.	REINFORCED CONCRETE
COR.	CORNER	CULV.	CULVERT PIPE
CUR.	CURB	REQ'D.	REQUIRED
CURB	CURB	RT.	RIGHT
D.	DIAMETER	R/W	RIGHT-OF-WAY
D.C.	DESIGN COUNTY VOLUME	RD.	ROAD
D.H.V.	DESIGN HOURLY VOLUME	S.D.D.	STANDARD DETAIL DRAWING
ELEV.	ELEVATION	S.S.	STORM SEWER
E.	EXISTING	S.E.	SOUTHEAST, SUPERELEVATION
E.	EXTERNAL	SPEC.	SPECIFICATIONS
F.E.	FIELD ENTRANCE	SQ.	SQUARE
FT.	FOOT	S.T.H.	STATE TRUNK HIGHWAY
GR.	GRAVEL	ST.	STRAIGHT
EX.	EXCAVATION	STR.	STATION
EXIST.	EXISTING	TAN.	TANGENT
E.	EXTERNAL	T.	TANGENT LENGTH OF CURVE, TRUCKS
F.E.	FIELD ENTRANCE	UNCL.	UNCLASSIFIED
FT.	FOOT	V.	DESIGN SPEED
GR.	GRAVEL	VAR.	VARIABLE
HWY.	HIGHWAY	VERT.	VERTICAL
IN.	INCHES	U.G.	UNDERGROUND
I.	INTERSECTION ANGLE	YD.	YARD
I.P.	IRON PIN OR PIPE		
LN.	LINEAR		



PLAN OF P.E. & F.E.



TYPICAL 1/2 SECTION FOR P.E. & F.E.

GENERAL NOTES

EXCAVATION BELOW SUBGRADE (E.B.S.) IS NOT NEAR TO BALANCE YARDAGE AND IS NOT SHOWN ON THE CROSS SECTION BUT IS NEARLY BALANCED FOR AN UNJUSTIFIED EXCAVATION. THE LOCATION OF EBS WILL BE DETERMINED BY THE ENGINEER.

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

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCLUSIVE OF THE ROADBED, ARE TO BE FERTILIZED, SEED AND MULCHED AS DIRECTED BY THE ENGINEER.

SHRINKAGE IS ESTIMATED AT 30%.

SEED MIXTURE NUMBER 1 SHALL BE USED.

ALL SLOPES SHALL BE TOPSOILED, FERTILIZED, SEED AND MULCHED UNLESS OTHERWISE SPECIFIED.

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

EXCAVATE BELOW SUBGRADE ALL MOUTHS OF CUTS AS DIRECTED BY THE ENGINEER IN THE FIELD.

WHEN THE QUANTITY OF ITEMS OF BASE OR SURFACE COURSE IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE COURSE SHOWN ON THE PLAN IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

WIRE WEIGHT GAGING EQUIPMENT LOCATED ON DOWNSTREAM SIDE OF EXISTING BRIDGE TO BE REMOVED BY USGS. UPON NOTIFICATION BY CONTRACTOR.

CONTACT: U.S.G.S. c/o JIM GEORGE  
1004 E. 1st ST.  
MERRILL, WI 54752  
TEL: (715) 536-2200

STANDARD DETAIL DRAWINGS

- 8E4-2 SOD OR MASONRY AND SOD DITCH CHECKS
- 8E8-1 TYPICAL INSTALLATIONS OF EROSION BALES
- 8E9-1 TEMPORARY SILT FENCE
- 12A3-4 NAME PLATE-STRUCTURES
- 15C1-7 CONSTRUCTION BARRICADES AND STANDARD SIGNS
- 15C3-1 TRAFFIC CONTROL FOR TEMPORARY ROAD CLOSURES IN RURAL AREAS

UTILITIES LOCATED WITHIN PROJECT

PRICE COUNTY ELECTRIC CO-OP  
ATT: LADDIE HOLOUBEK  
508 N. LAKE ST.  
PHILLIPS, WISCONSIN 54555  
(715) 339-2155

GENERAL TELEPHONE COMPANY  
ATT: BUD GEHRKE  
P.O. BOX 74  
MINOCQUA, WISCONSIN 54548  
(715) 356-3202

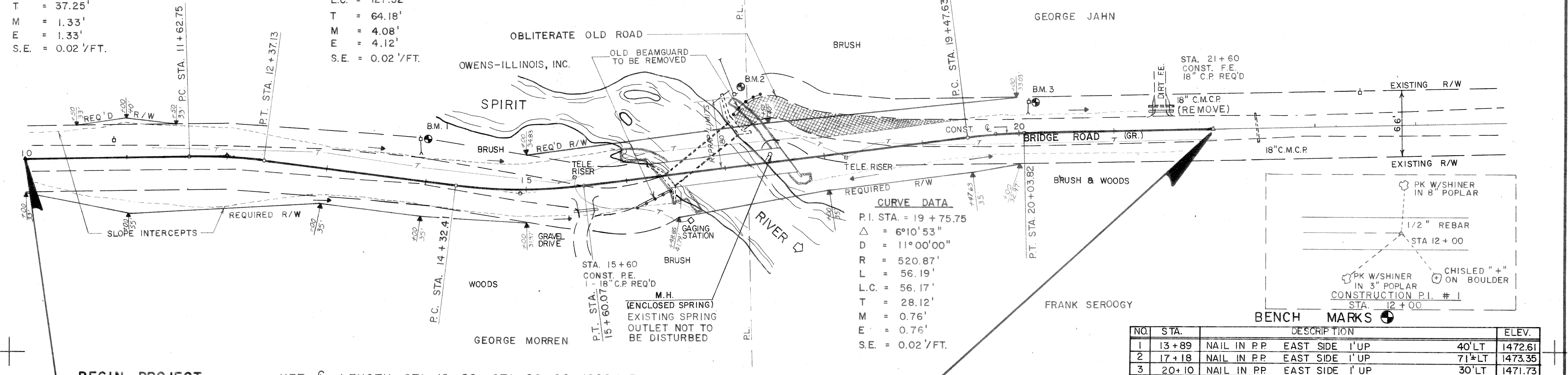
STATE PROJECT NUMBER	SHEET NO.
9864-02-70	
PLAN & PROFILE	

**CURVE DATA**  
 P.I. STA. 12+00  
 $\Delta = 8^{\circ}10'53''$   
 $D = 11^{\circ}00'00''$   
 $R = 520.87'$   
 $L = 74.38'$   
 $L.C. = 74.31'$   
 $T = 37.25'$   
 $M = 1.33'$   
 $E = 1.33'$   
 $S.E. = 0.02' / FT.$

**CURVE DATA**  
 P.I. STA. = 14+96.59  
 $\Delta = 14^{\circ}40'53''$   
 $D = 11^{\circ}30'00''$   
 $R = 498.22'$   
 $L = 127.66'$   
 $L.C. = 127.32'$   
 $T = 64.18'$   
 $M = 4.08'$   
 $E = 4.12'$   
 $S.E. = 0.02' / FT.$

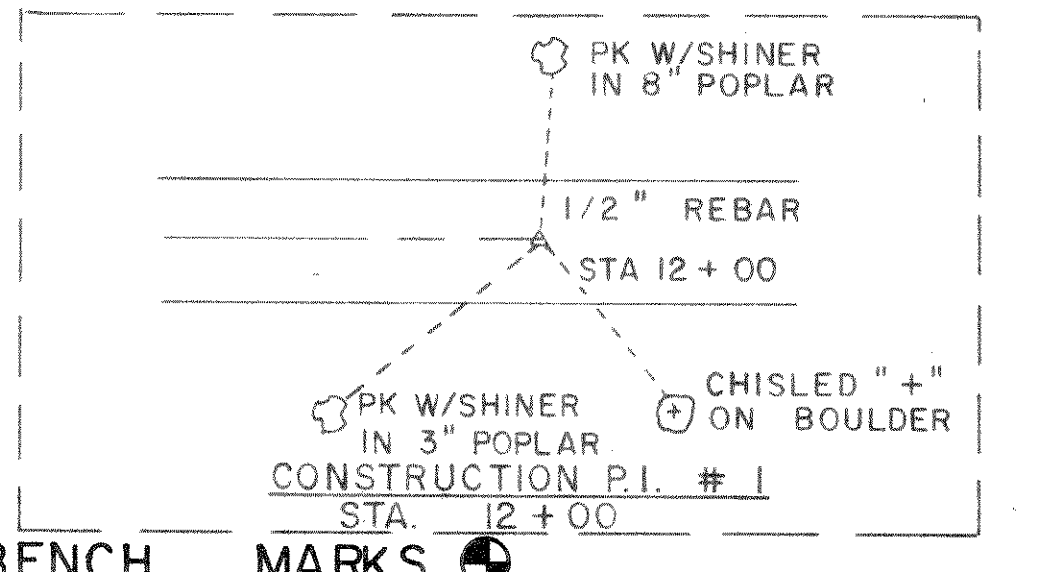
STA. 17+00  
 REMOVE STRUCTURE (P-35-64)  
 SINGLE SPAN STEEL OVERHEAD TRUSS  
 90.5' LONG, 15' WIDE

NOTE: GAGING DEVICE ON EXISTING BRIDGE  
 SHALL BE REMOVED BY CONTRACTOR -  
 SEE SPECIAL PROVISIONS.



**CURVE DATA**  
 P.I. STA. = 19+75.75  
 $\Delta = 6^{\circ}10'53''$   
 $D = 11^{\circ}00'00''$   
 $R = 520.87'$   
 $L = 56.19'$   
 $L.C. = 56.17'$   
 $T = 28.12'$   
 $M = 0.76'$   
 $E = 0.76'$   
 $S.E. = 0.02' / FT.$

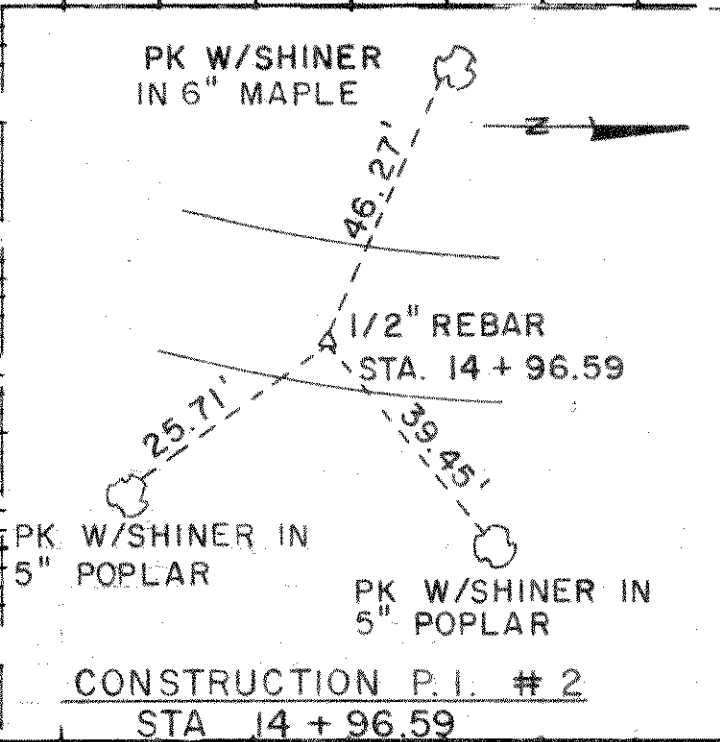
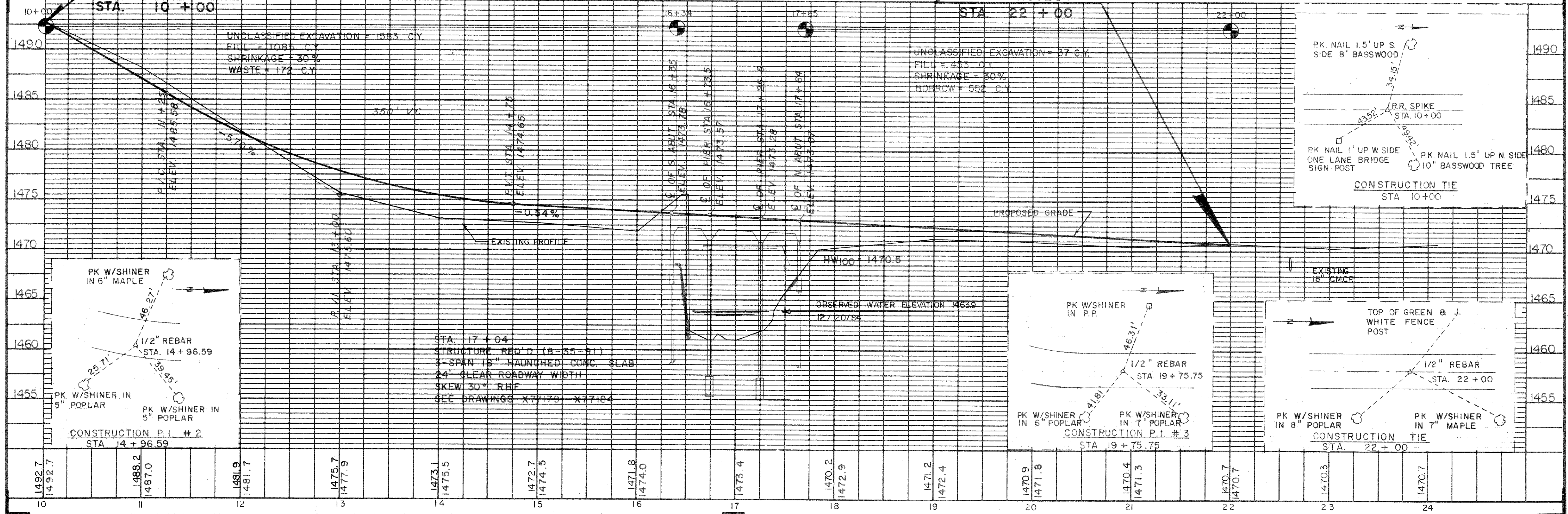
NO.	STA.	DESCRIPTION	ELEV.
1	13+89	NAIL IN P.P. EAST SIDE 1' UP	40'LT 1472.61
2	17+18	NAIL IN P.P. EAST SIDE 1' UP	71'LT 1473.35
3	20+10	NAIL IN P.P. EAST SIDE 1' UP	30'LT 1471.73



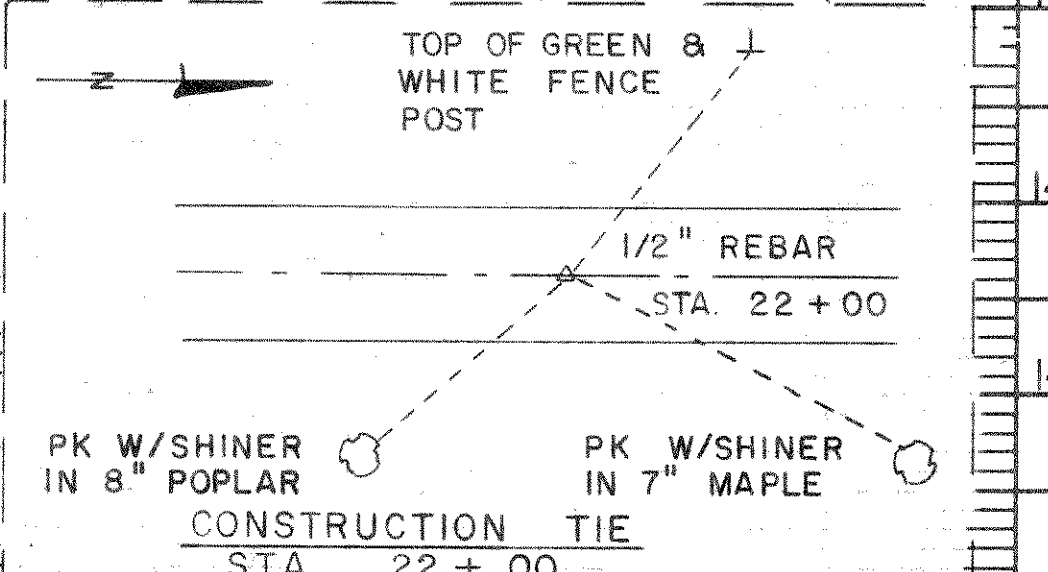
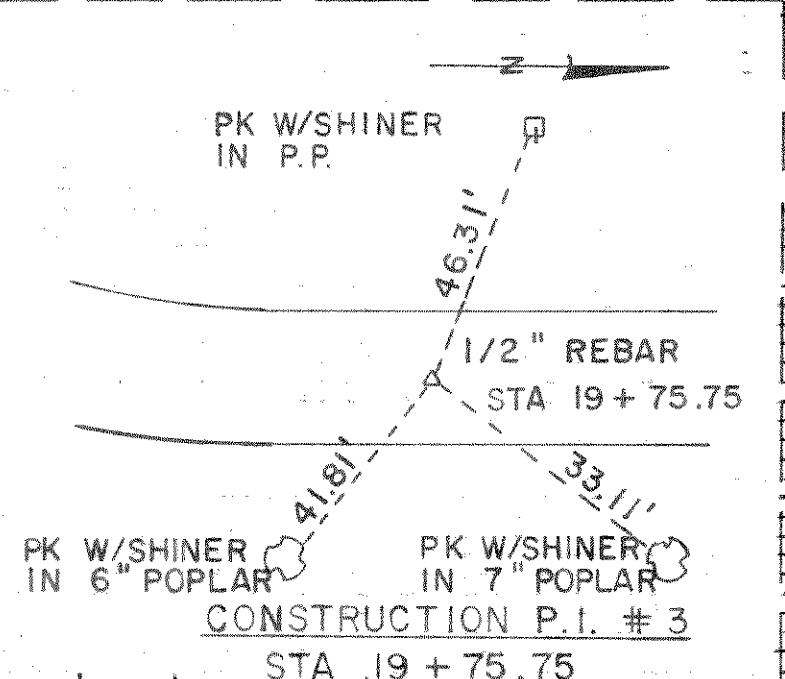
BEGIN PROJECT  
 STA. 10+00

NET LENGTH = STA. 10+00 - STA. 22+00 = 1200 L.F.

END PROJECT  
 STA. 22+00



STA. 17+04  
 STRUCTURE REQ'D (P-35-61)  
 3-SPAN 18" HAUGHED CONC. SLAB  
 24' CLEAR ROADWAY WIDTH  
 SKEW 30° R.H.P.  
 SEE DRAWINGS X-77179 - X-77184



**LIST OF DRAWINGS**

- 1. GENERAL PLAN X 77179
- 2. SUBSURFACE EXPLORATION X 77180
- 3. ABUTMENTS X 77181
- 4. PIERS X 77182
- 5. SUPERSTRUCTURE X 77183
- 6. TUBULAR RAILING TYPE "F" X 77184

**GENERAL NOTES**

DRAWINGS SHALL NOT BE SCALED.  
 BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.  
 THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED W/ HEAVY RIPRAP TO THE EXTENT SHOWN ON THIS SHEET.  
 JOINT FILLER SHALL CONFORM TO A.A.S.H.T.O. DESIGNATION M153 TYPE I II or III, OR M 213.

THIS STRUCTURE WILL REPLACE P-35-64, A SINGLE SPAN STEEL OVERHEAD TRUSS 90' LG.  
 SLAB FALSEWORK TO BE SUPPORTED ON PILES, UNLESS ALTERNATIVE METHOD IS APPROVED BY THE ENGINEER.

**DESIGN DATA**

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 P.S.F.  
**RATINGS:** DESIGN RATING \_\_\_\_\_ H 20  
 INVENTORY RATING \_\_\_\_\_ H 21  
 OPERATING RATING \_\_\_\_\_ HS 25  
**ALLOWABLE DESIGN STRESSES:**  
 CONCRETE MASONRY - SLAB  $f_c = 4,000$  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:**

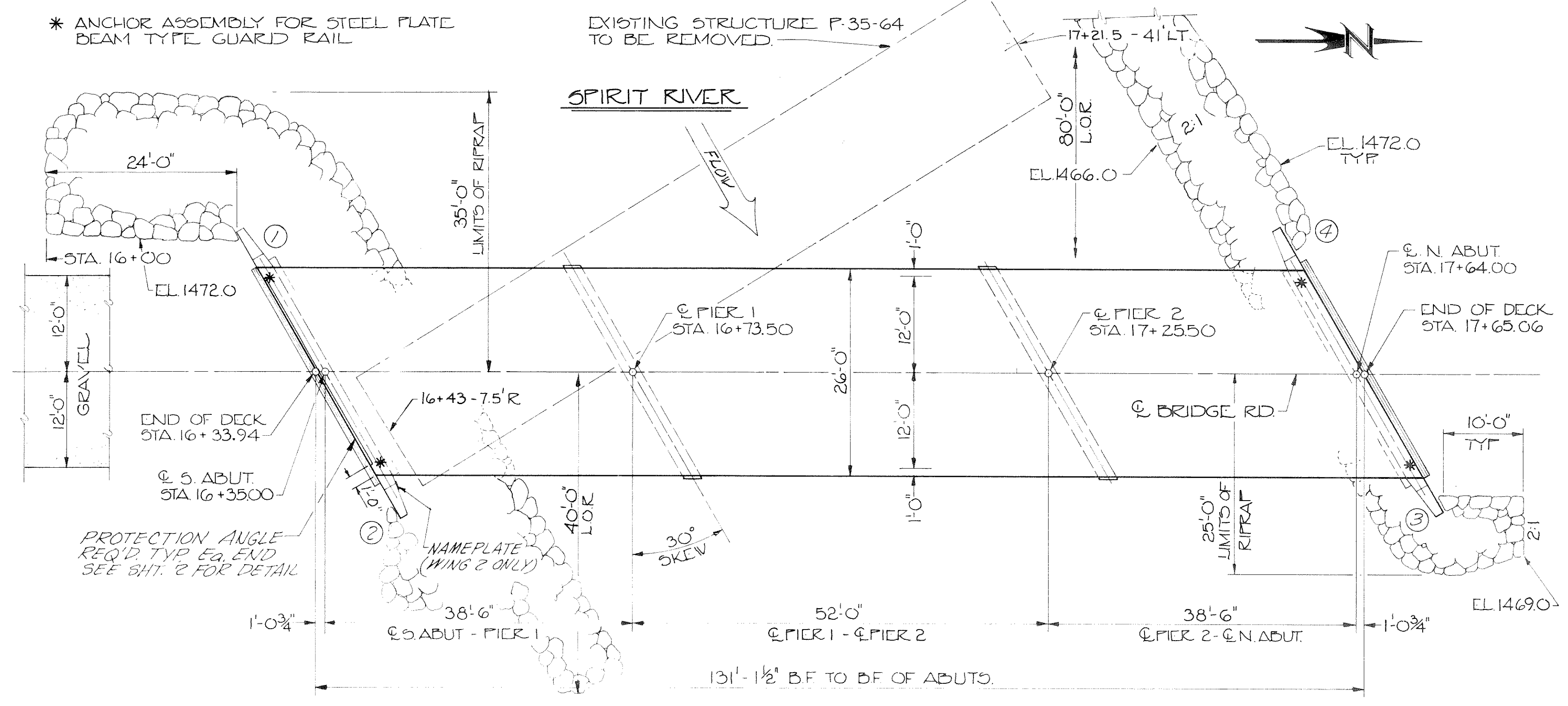
ABUTMENTS TO BE SUPPORTED ON HP 10x42 STEEL "H" PILES EST. 20'-0" LG. AND DRIVEN TO A MINIMUM BEARING VALUE OF 25 TONS/PILE.  
 PIERS TO BE FOUNDED ON SOUND ROCK MINIMUM BEARING VALUE OF 4 TON/SQ.FT.

**HYDRAULIC DATA:**

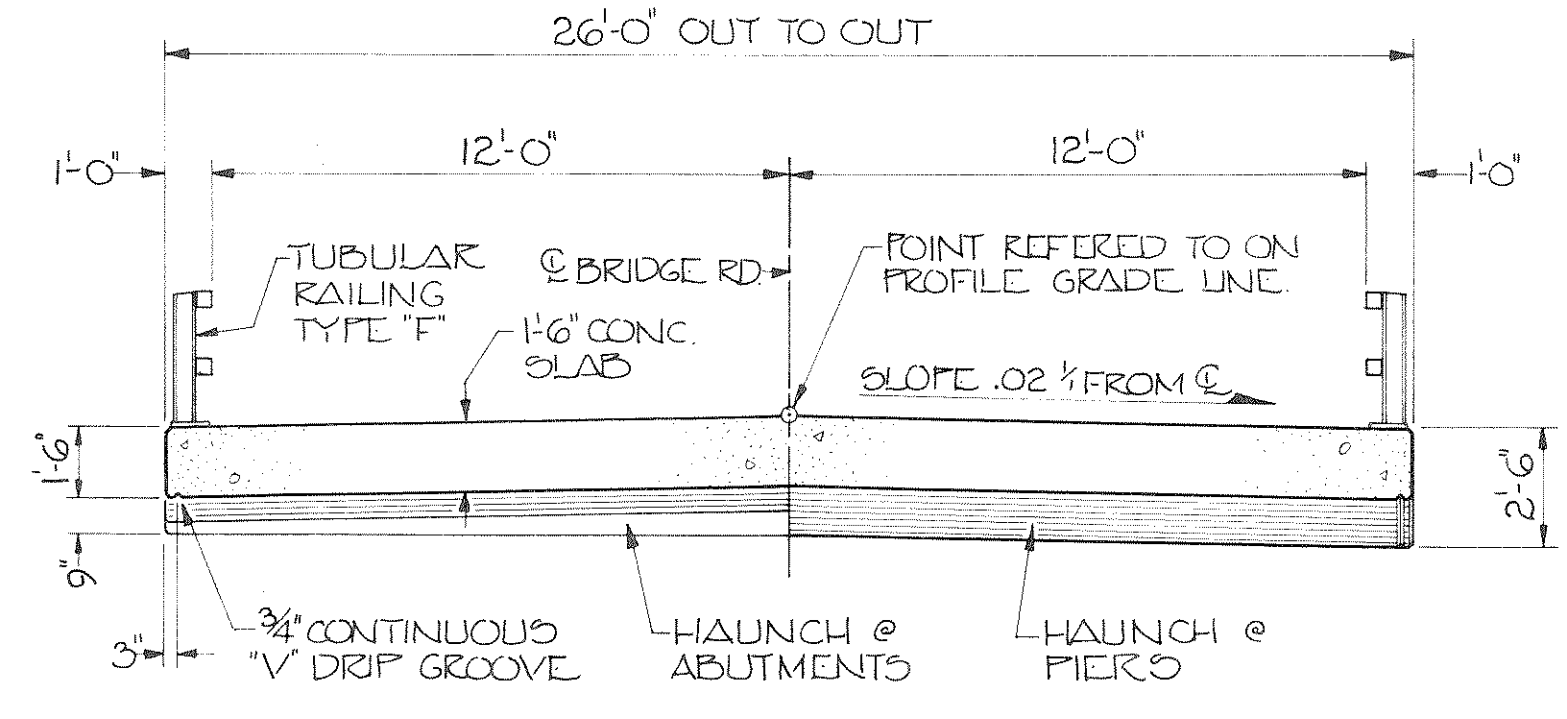
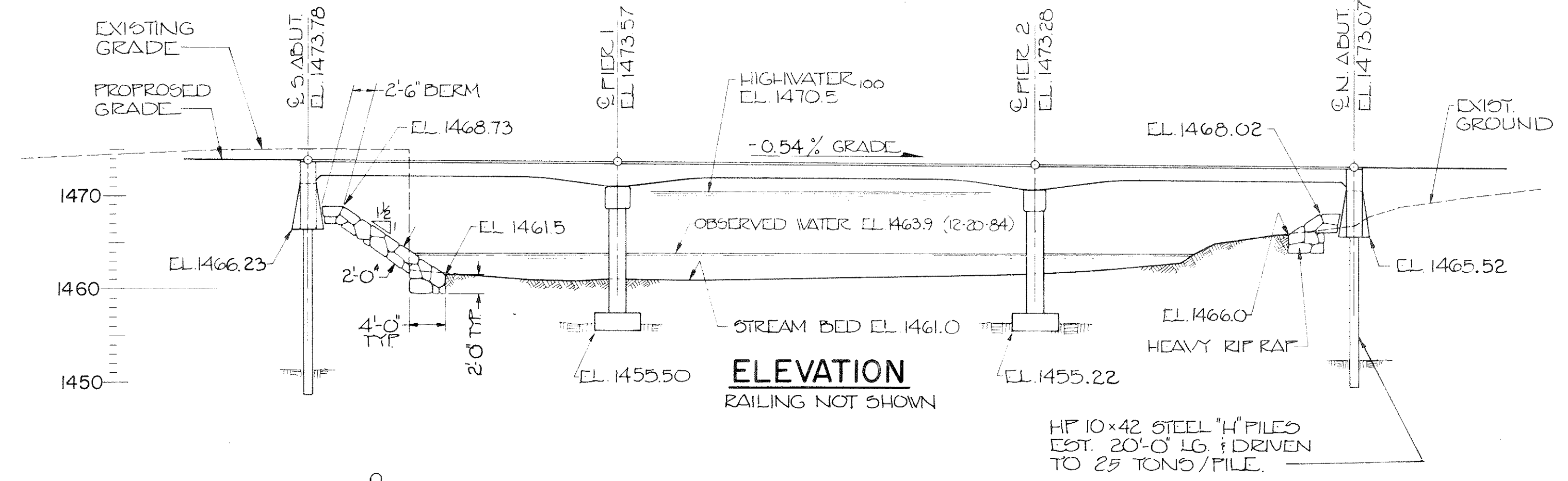
DRAINAGE AREA \_\_\_\_\_ 81.6 SQ. MI.  
 100 YEAR FREQUENCY  
 $Q_{100}$  \_\_\_\_\_ 4,400 C.F.S.  
 WATERWAY AREA \_\_\_\_\_ 829 SQ.FT.  
 VELOCITY \_\_\_\_\_ 5.3 F.P.S.  
 HIGHWATER<sub>100</sub> \_\_\_\_\_ EL. 1470.50  
 ROADWAY OVERTOPPING \_\_\_\_\_ N/A

**TRAFFIC DATA:**

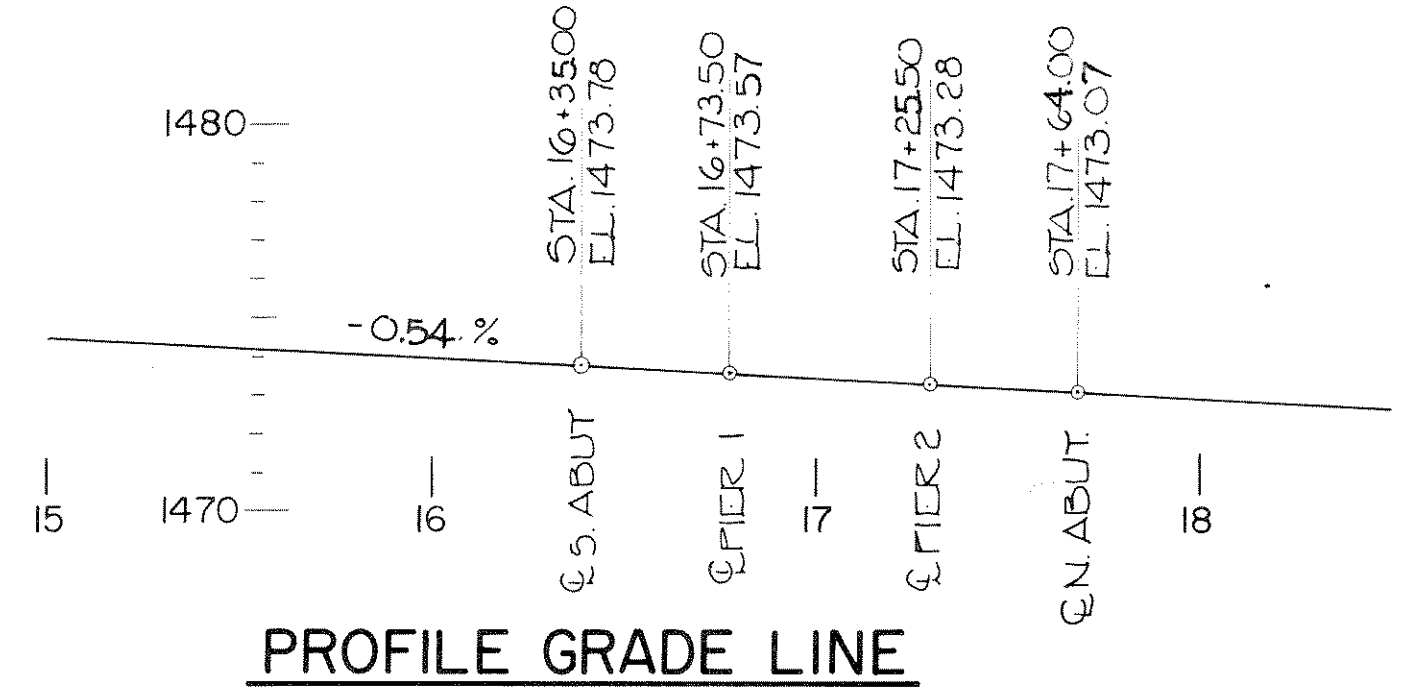
A.D.T. (1986) \_\_\_\_\_ 50  
 A.D.T. (2006) \_\_\_\_\_ 100  
 R.D.S. \_\_\_\_\_ 40 M.P.H.



**PLAN**  
 3 SPAN CONTINUOUS HAUNCHED CONC. SLAB



**CROSS SECTION THRU ROADWAY**



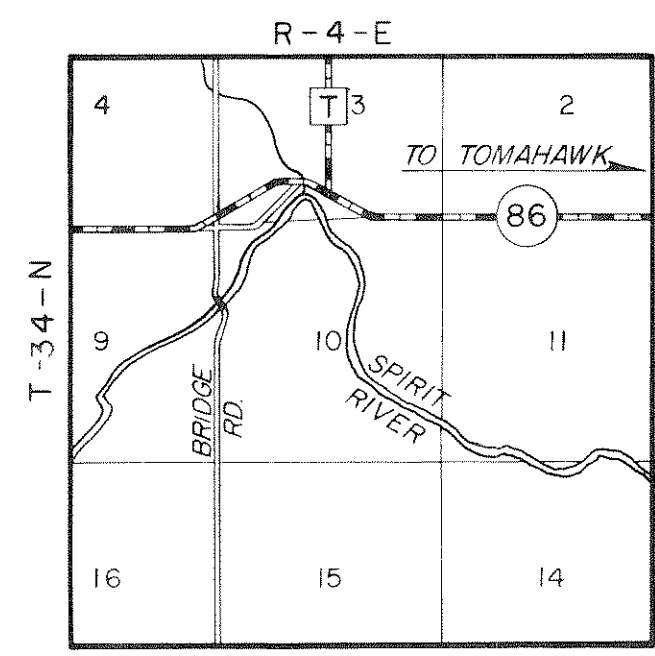
**PROFILE GRADE LINE**

**BENCH MARK LOCATION**

NO.	STA.	DESCRIPTION	ELEV.
1	13+89	NAIL IN P.F. 1' UP E. SIDE	40' LT. 1472.61
2	17+18	NAIL IN P.F. 1' UP E. SIDE	71' LT. 1473.35
3	20+10	NAIL IN P.F. 1' UP E. SIDE	30' LT. 1471.73

**TOTAL ESTIMATED QUANTITIES**

BID ITEMS	UNIT	SOUTH ABUT.	PIER NO. 1	PIER NO. 2	NORTH ABUT.	SUPER	TOTAL
REMOVING OLD STRUCTURE STA. 16+83	L.S.	-	-	-	-	-	1
EXCAVATION FOR STRUCTURES, BRIDGES B-35-91	L.S.	-	-	-	-	-	1
CONCRETE MASONRY, BRIDGES	C.Y.	17.7	45.0	45.0	17.7	214.6	340
HIGH STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	LBS.	1,380	3,590	3,590	1,380	19,095	29,035
COATED HIGH STRENGTH BAR STEEL REINFORCEMENT	LBS.	-	-	-	-	15,500	15,500
TUBULAR RAILING TYPE "F"	L.S.	-	-	-	-	1	1
HEAVY RIPRAP	C.Y.	135	-	-	105	-	240
PROTECTIVE SURFACE TREATMENT	GAL.	-	-	-	-	35	35
STRUCTURAL CARBON STEEL	LBS.	-	-	-	-	260	260
STEEL PILING, DELIVERED & DRIVEN HP 10x42	L.F.	100	-	-	100	-	200
FILLER (NON BID ITEM)	SIZE	-	-	-	-	-	1/2" & 3/4"
POLYVINYL CHLORIDE WATERSTOP (NON BID ITEM)	L.F.	36	-	-	36	-	72



**LAYOUT**

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
<b>STRUCTURE B-35-91</b>			
<b>BRIDGE RD. OVER SPIRIT RIVER</b>			
County LINCOLN		Town TOMAHAWK	
Design Spec. A.A.S.H.T.O. '83	Load H 20	Const. Spec. WIS'81	
Designed By L.M.B.	Design Checked T.E.P.	Drawn By O.R.L.	Plans Checked L.M.B.
Approved _____ STATE Bridge Engineer		Date _____	
<b>GENERAL PLAN</b>			SHEET 1 OF 6 X 77179

ABBREVIATIONS  
 F --- Fine M --- Medium C --- Coarse  
 Ws --- Weathered So --- Sound

MATERIAL SYMBOLS  
 Topsoil Silt Sandstone  
 Sand Peat Limestone  
 Gravel Clay Igneous Rock

LEGEND OF PROBING  
 Probing No. Sta. Elevation  
 95/6=95 Blows for 6" Penetration  
 Probing taken with a 350# wt. Falling 18" on a 2" O. D. Point. Refusal 95 6

LEGEND OF BORING  
 Boring No. Sta. Elev.  
 Unconfined Strength 7.7  
 Blows Per Ft. Using 140# Wt. Falling 30"  
 Wash Sample  
 Shelby Tube S. T.  
 Ground Water Elevation  
 No Ground Water Observed Above This Elevation  
 Sandy Gravel  
 Boulders or Cobbles  
 Sand  
 Silty Clay  
 Limestone

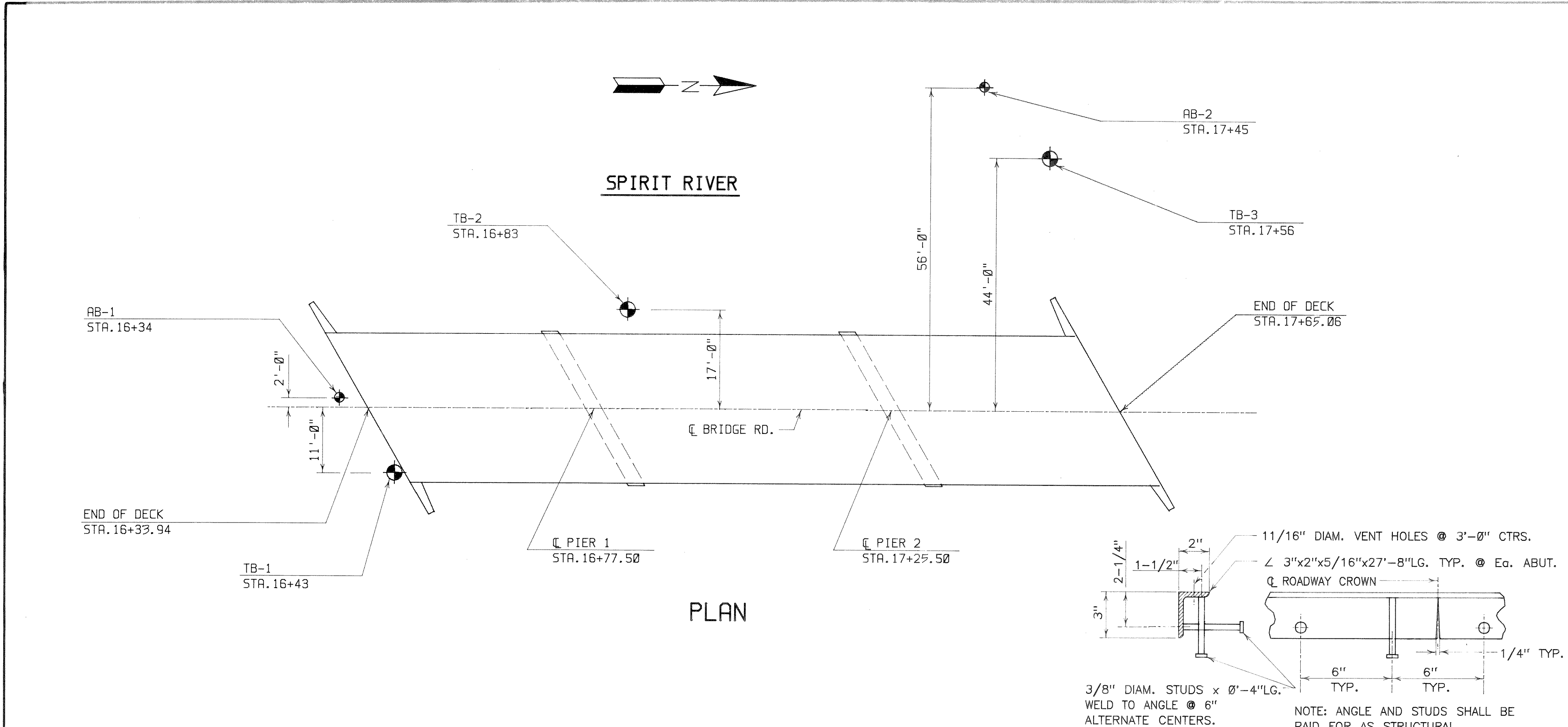
Unless otherwise specified, the blows per foot at the locations indicated are based on driving a 2" O. D. x 1.4" I. D. split spoon sampler with a 140# hammer having a free fall of 30". The blow count is taken in undisturbed soil immediately below a cased or open hole eliminating side friction on the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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

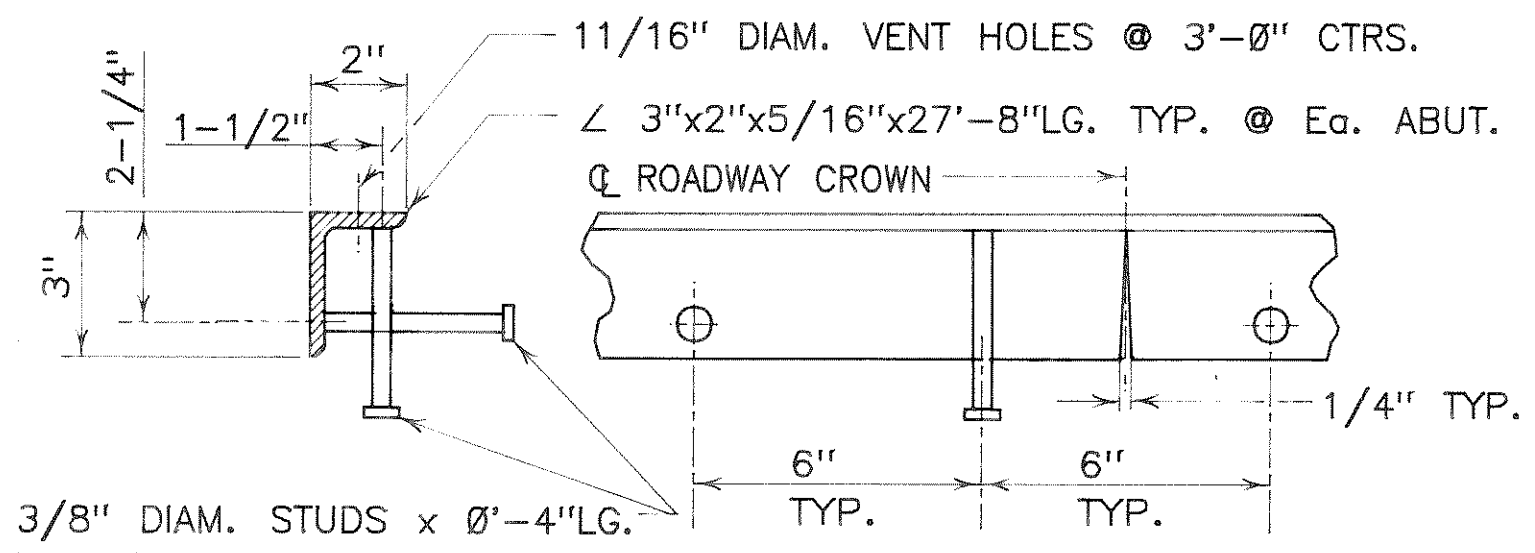
To obtain relative data concerning the character of material in and upon which the foundation might be built, borings and/or soundings were made at points approximately as indicated on this drawing. The data presented herein represents the findings of the subsurface explorations made. However, because 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.

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
<b>STRUCTURE B-35-91</b>			
Const. Spec.	WIS. '81	Drawn By	T.L.
Plans Checked	L.M.B.		
<b>SUBSURFACE EXPLORATION</b>			SHEET 2 OF 6 <b>X 77180</b>

754-B/C

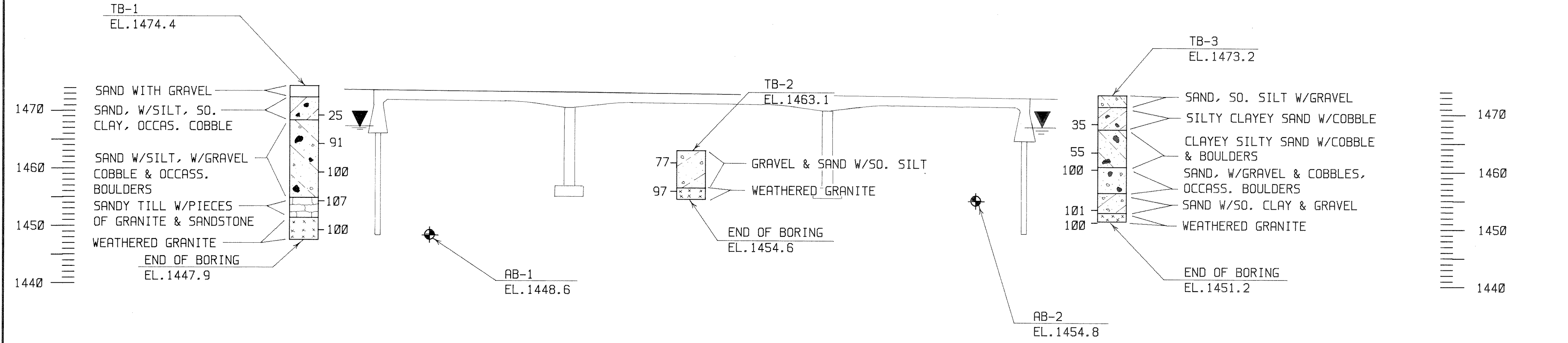


PLAN

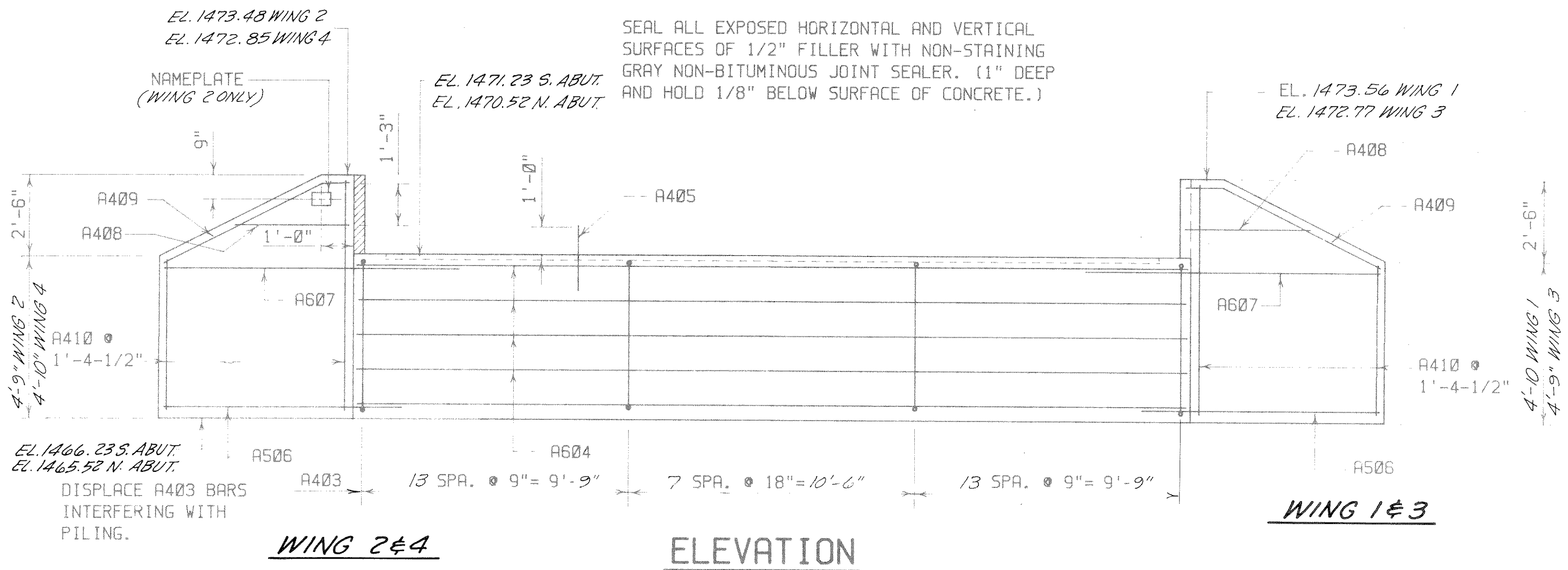


NOTE: ANGLE AND STUDS SHALL BE PAID FOR AS STRUCTURAL CARBON STEEL.

PROTECTION ANGLE DETAIL



<p>1470 1460 1450 1440</p>	<p>SAND WITH GRAVEL SAND, W/SILT, SO. CLAY, OCCAS. COBBLE SAND W/SILT, W/GRAVEL COBBLE &amp; OCCASS. BOULDERS SANDY TILL W/PIECES OF GRANITE &amp; SANDSTONE WEATHERED GRANITE END OF BORING EL. 1447.9</p>	<p>25 91 100 107 100</p>	<p>AB-1 EL. 1448.6</p>	<p>77 97</p> <p>GRAVEL &amp; SAND W/SO. SILT WEATHERED GRANITE END OF BORING EL. 1454.6</p>	<p>TB-2 EL. 1463.1</p>	<p>35 55 100 101 100</p> <p>SAND, SO. SILT W/GRAVEL SILTY CLAYEY SAND W/COBBLE &amp; BOULDERS CLAYEY SILTY SAND W/COBBLE SAND, W/GRAVEL &amp; COBBLES, OCCASS. BOULDERS SAND W/SO. CLAY &amp; GRAVEL WEATHERED GRANITE END OF BORING EL. 1451.2</p>	<p>TB-3 EL. 1473.2</p>	<p>1470 1460 1450 1440</p>
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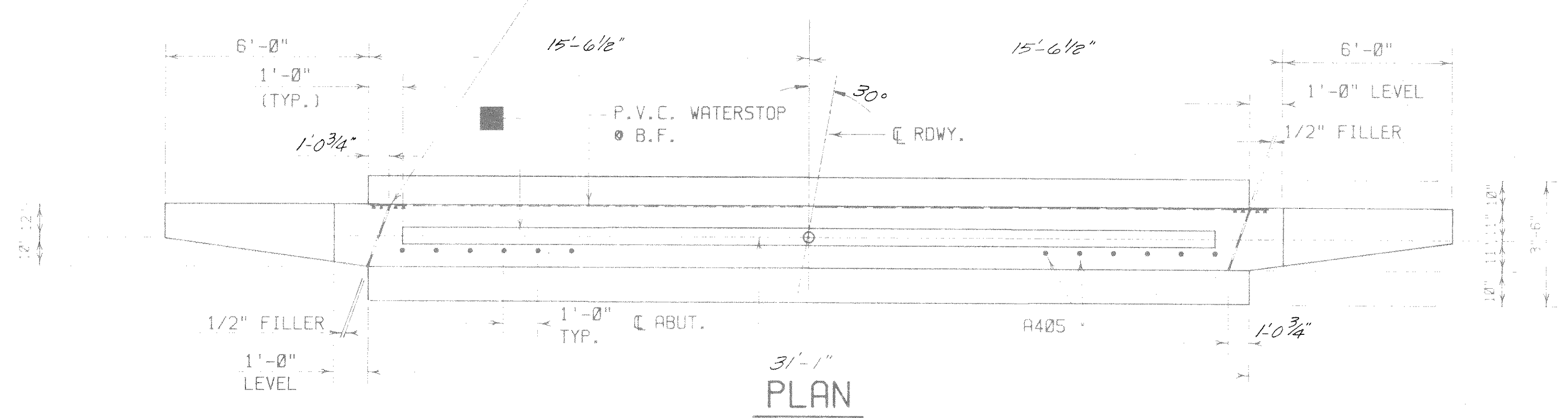
### BILL OF BARS

(THE NO. OF BARS SHOWN ARE FOR TWO ABUTS.) 2,760# (2 ABUTS.)

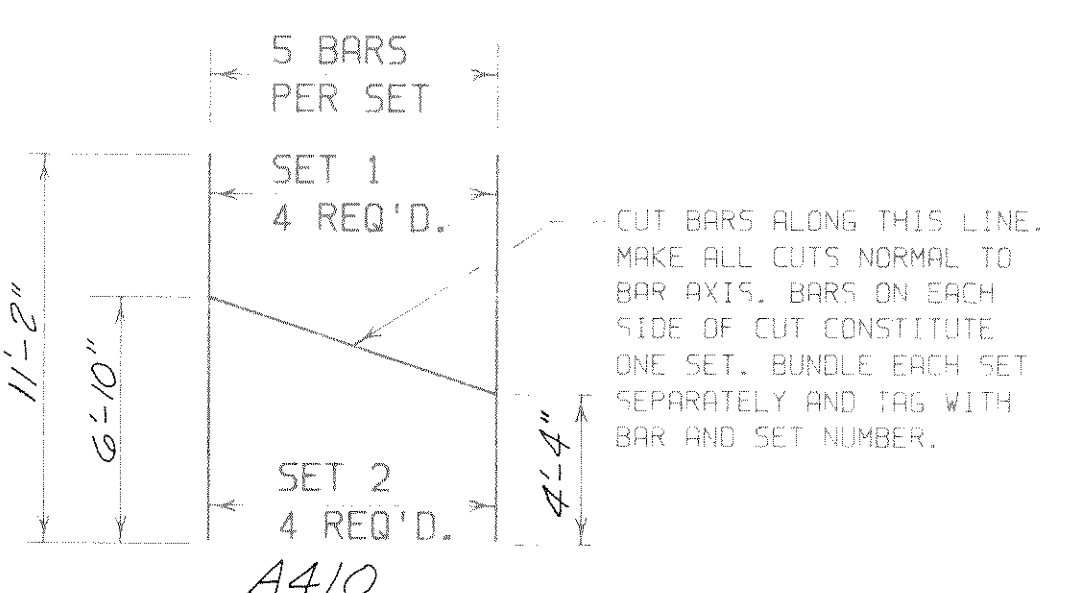
BAR MARK	NO. REQ'D.	LENGTH	BENT	CUT	LOCATION
A401	10	28'-0"	X		BODY - ONE PER PILE
A402	20	2'-3"			BODY - TWO PER PILE
A403	130	8'-2"	X		BODY - STIRRUPS
A604	24	30'-9"			BODY - HORIZ.
A405	60	2'-0"			BODY - VERT. - DOWELS
A506	40	7'-4"			WINGS - HORIZ.
A607	8	9'-1"			WINGS - HORIZ.
A408	8	3'-4"			WINGS - HORIZ.
A409	8	6'-2"	X		WINGS - TOP
A410	20	11'-2"		X	WINGS - VERT.

DISPLACE A403 BARS INTERFERING WITH PILING.

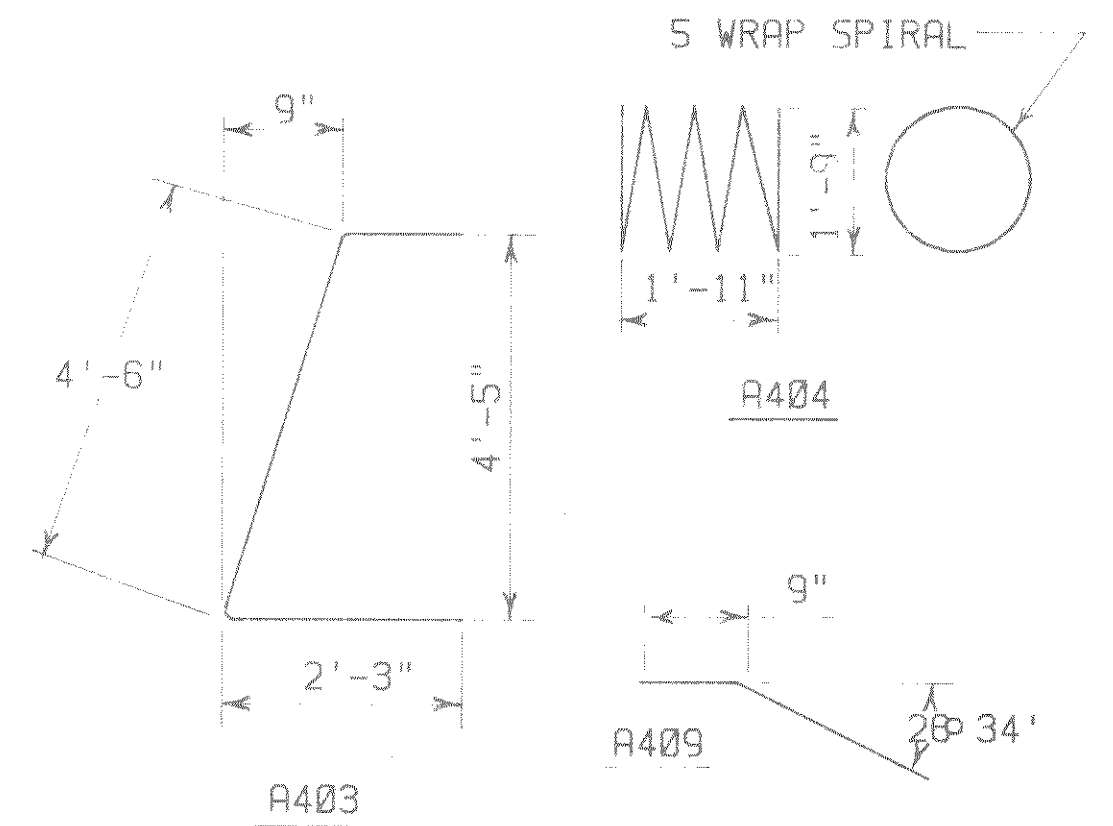
VERTICAL POLYVINYL CHLORIDE WATERSTOP TO EXTEND FROM BRIDGE SEAT TO TOP OF WING. SPLICE AT JUNCTION WITH HORIZ. WATERSTOP. P.V.C. SHALL BE BUTT - SPLICED AT ALL INTERSECTIONS BY USING A SPLICING IRON.



### WING SECTION

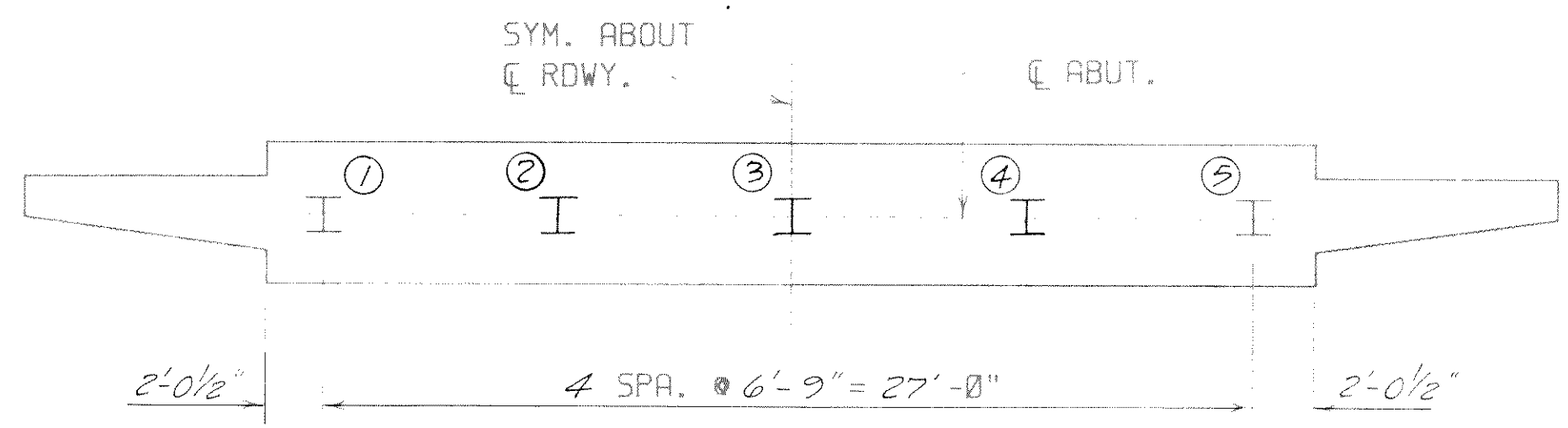


### CUTTING DIAGRAM

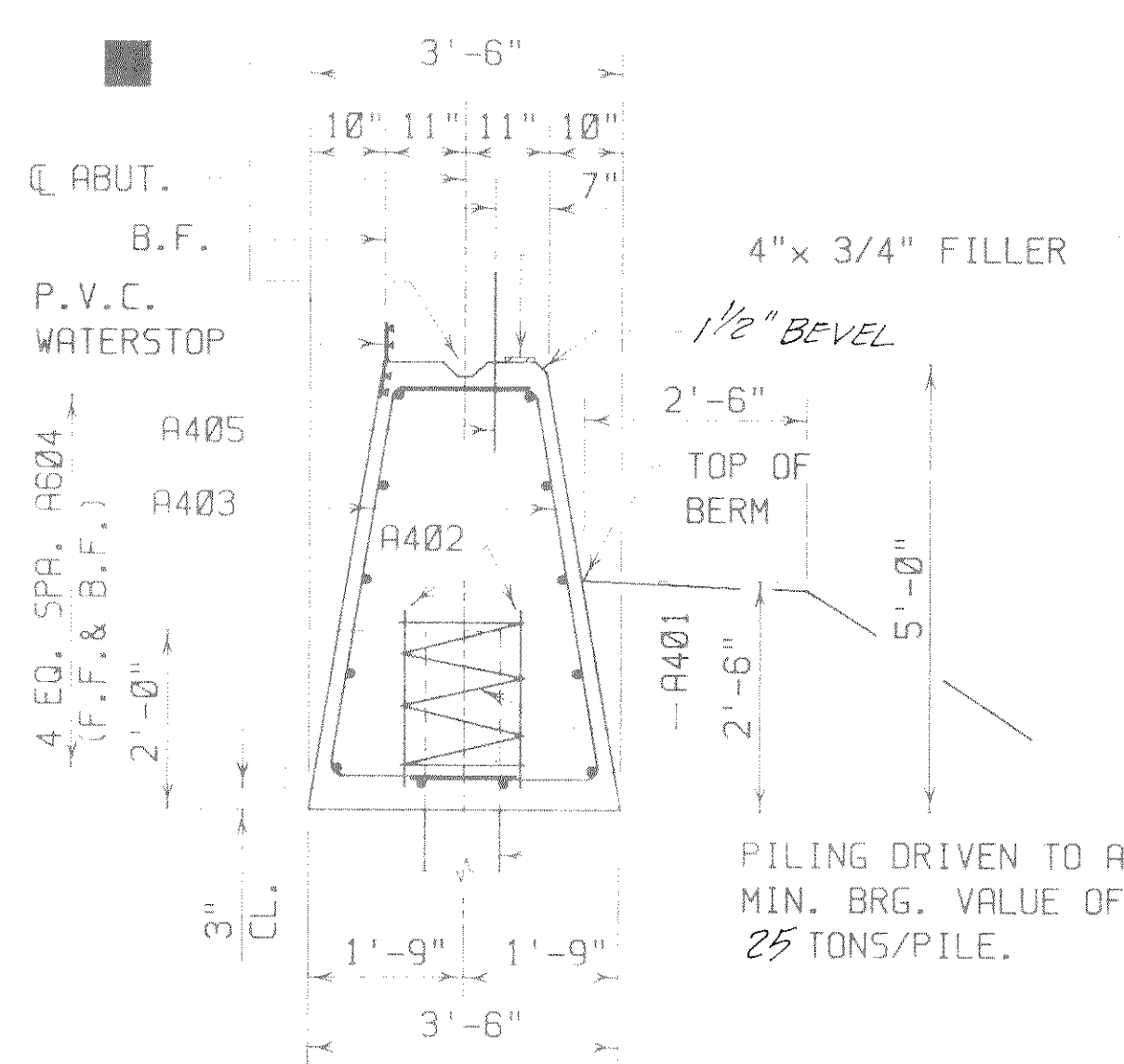


CONST. JOINT KEYWAY FORMED BY A SURFACED, BEVELED 2"x 6".

NOTE: A405 BARS MAY BE PLACED AFTER CONC. IS POURED, BUT BEFORE INITIAL SET HAS OCCURRED.



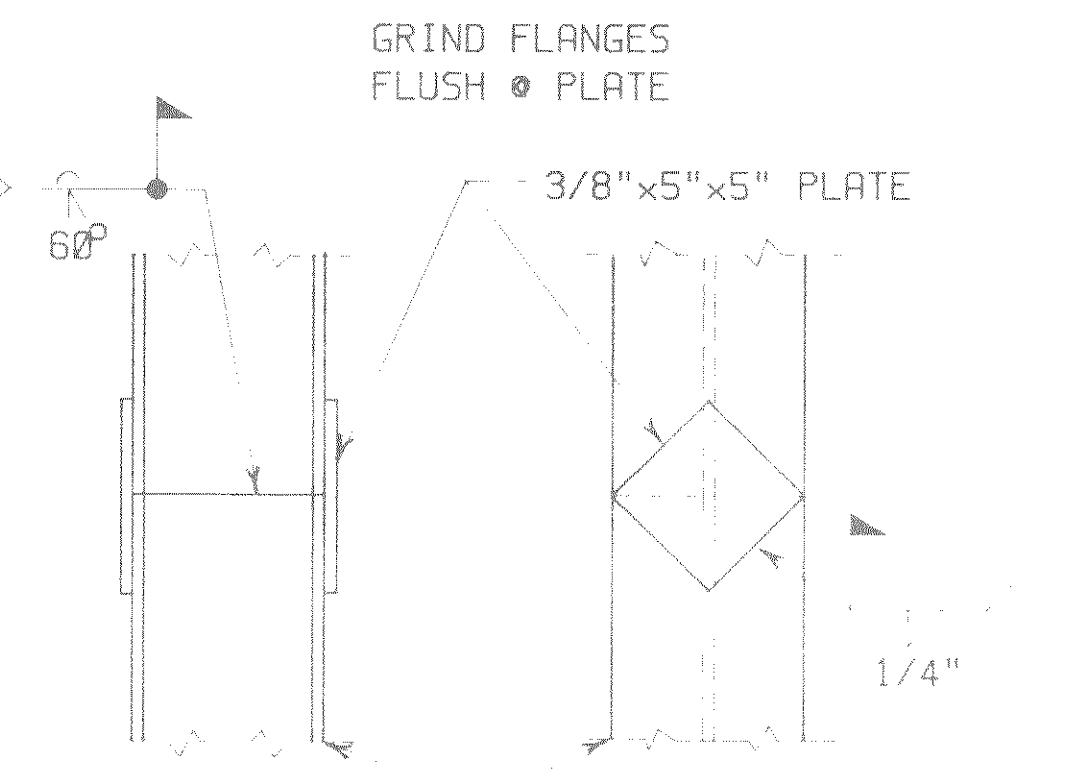
### PILE PLAN



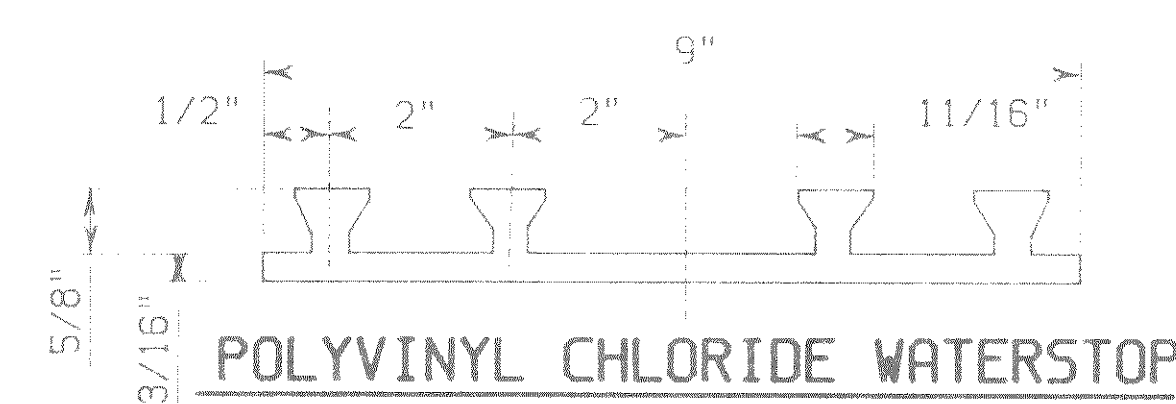
### SECT. THRU BODY

ALL HORIZ. BARS ARE A604

NOTE: FILL TO BOTTOM OF FOOTING EL. BEFORE DRIVING PILE.

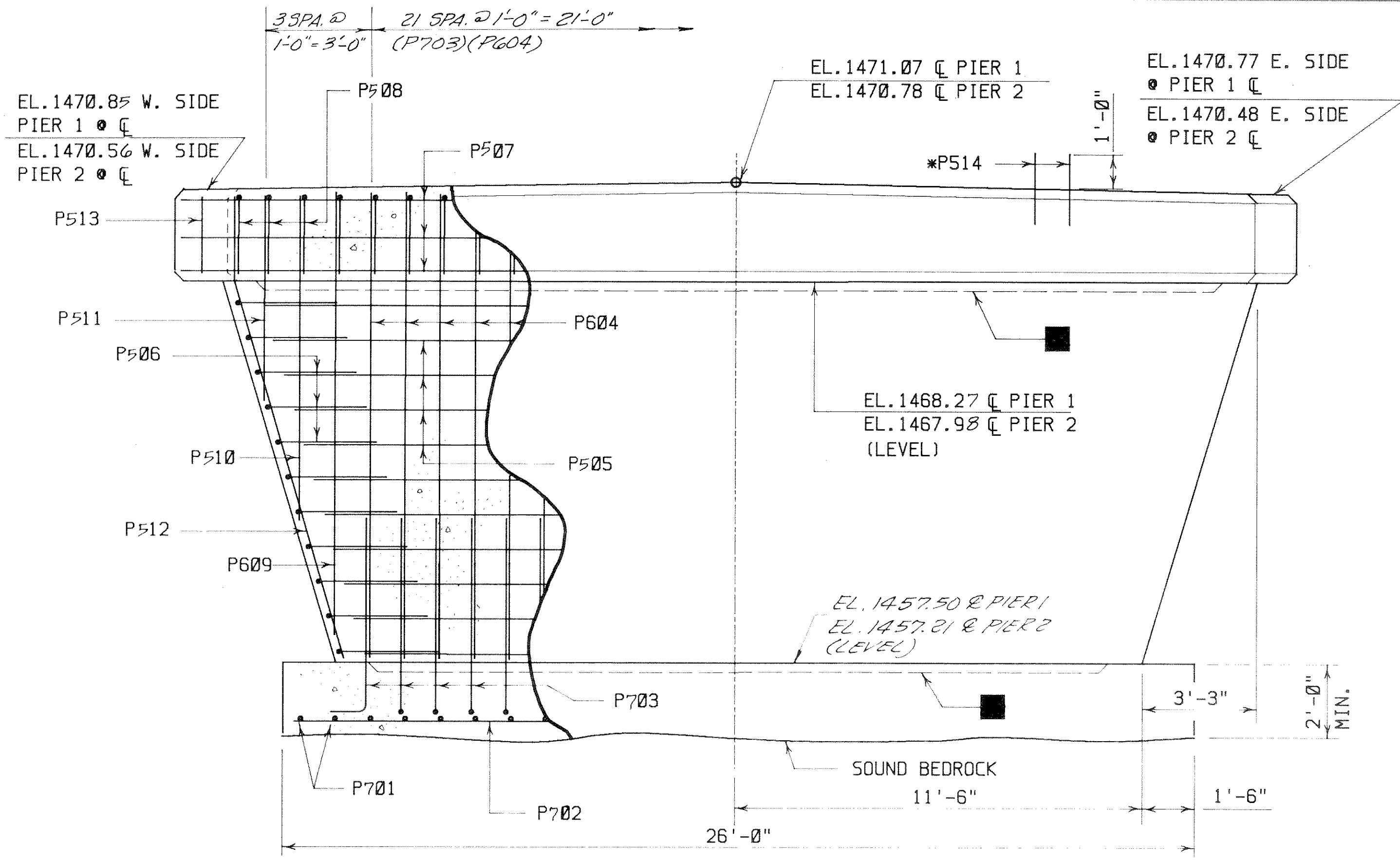


### PILE SPLICE DETAIL

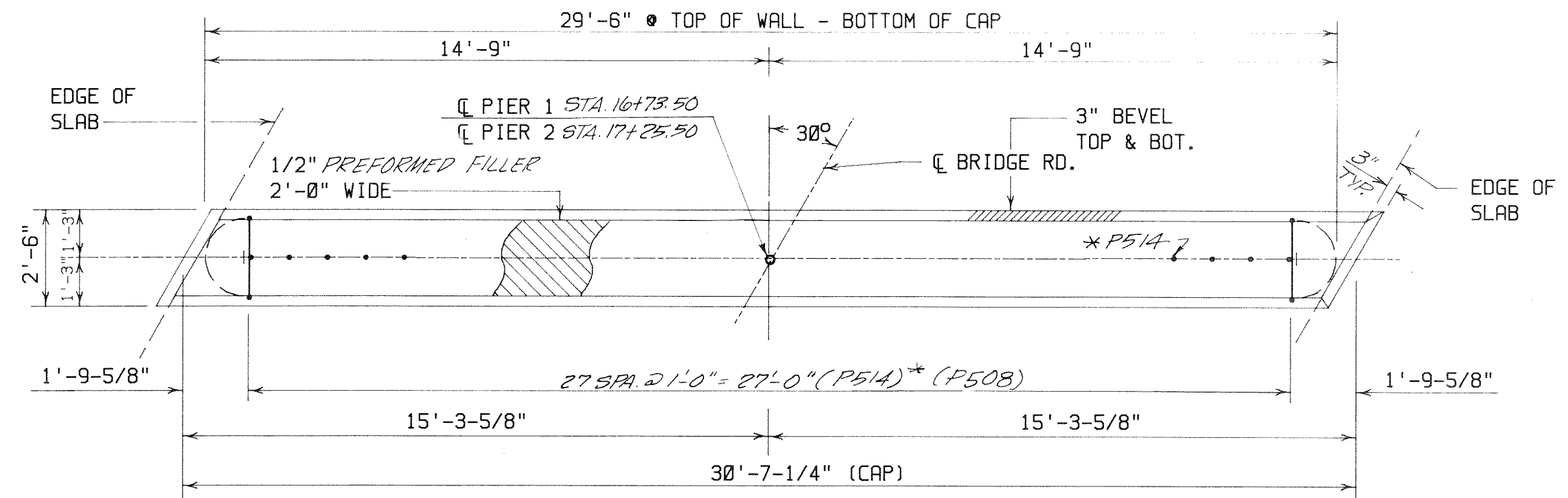


### POLYVINYL CHLORIDE WATERSTOP

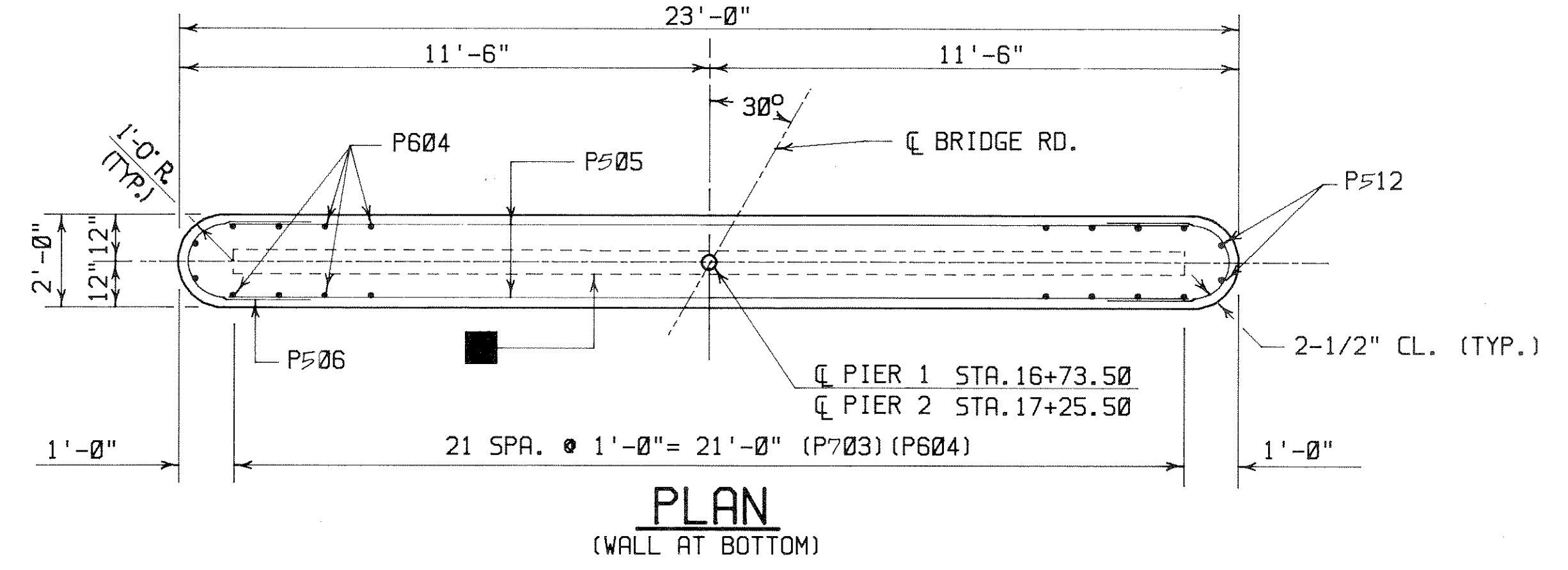
STRUCTURE B-35-91	
W.S. '81	T.L. L.M.B.
SHEET 3 OF 6	
X 77181	



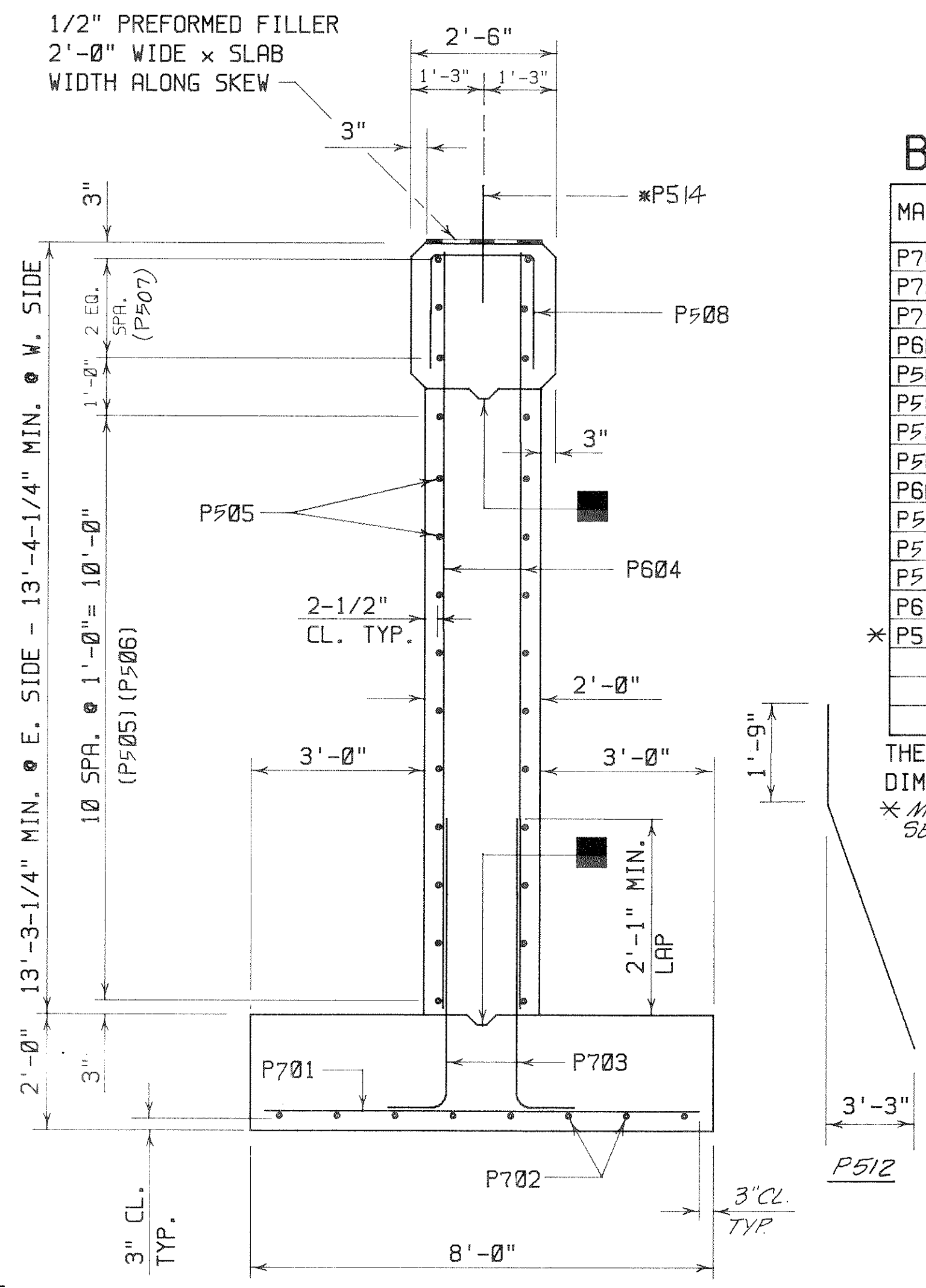
**PIER ELEVATION**



**PIER CAP PLAN**

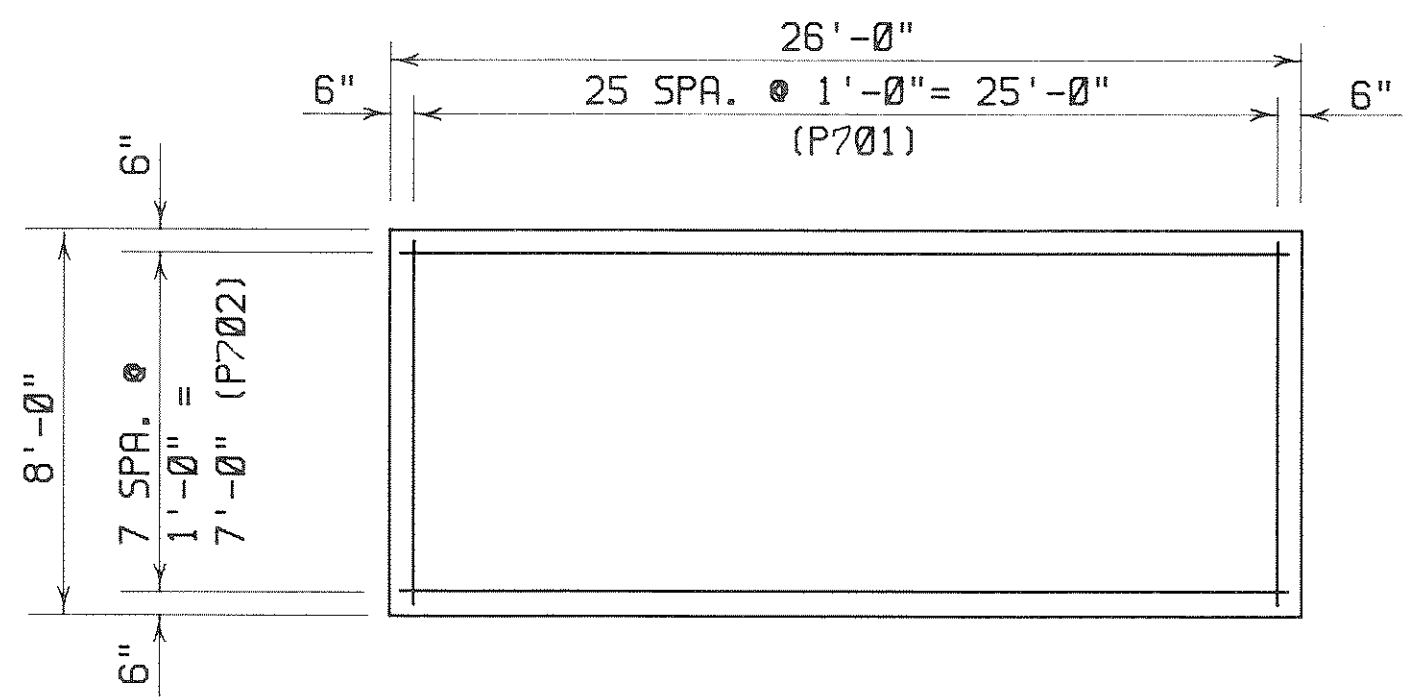


**PLAN  
(WALL AT BOTTOM)**



**TYPICAL SECTION**

NOTE: SHOULD THE BOTTOM OF FOOTING ELEVATION VARY, TOP OF PIER ELEVATION TO BE HELD WITH WALL HEIGHT CHANGING ACCORDINGLY. VERTICAL STEEL IN PIER SHAFT PROVIDES FOR VARIABLE LAP AS REQUIRED BY FIELD CONDITIONS. ENGINEER SHALL BE NOTIFIED IF VARIATION EXCEEDS 2'-0".

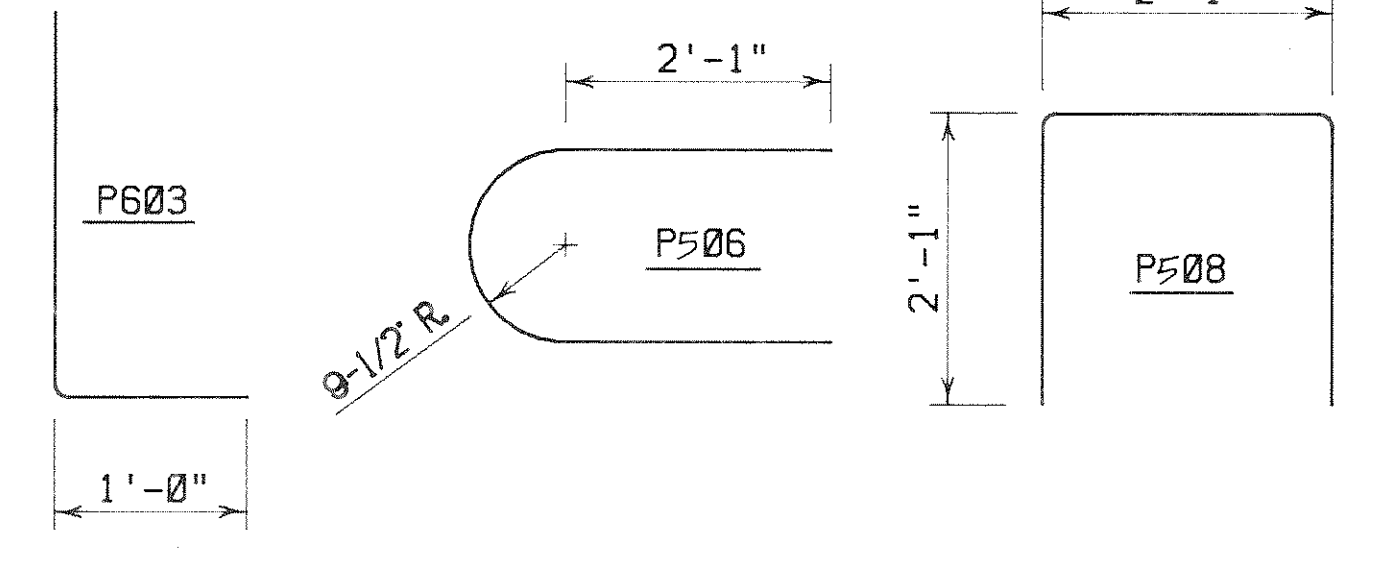


**FOOTING PLAN**

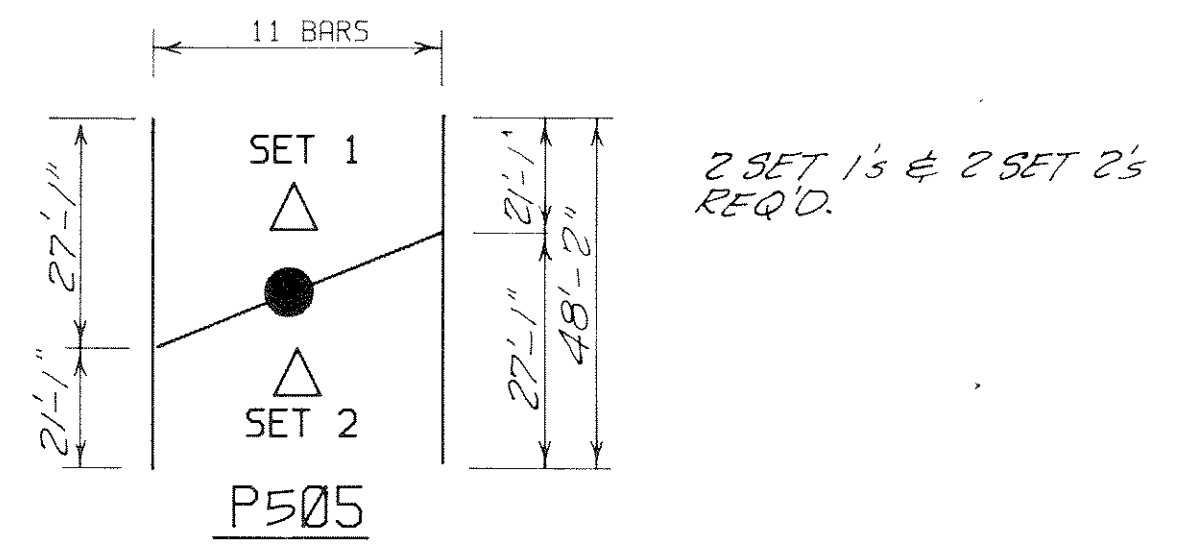
**BILL OF BARS** 7,180# (2 PIERS)

MARK	NO.	LENGTH	BENT	CUT	LOCATION
P701	52	7'-6"			FOOTING TRANS.
P702	16	25'-6"			FOOTING LONG.
P703	88	6'-6"	X		FOOTING DOWELS VERT.
P604	88	13'-1"			WALL VERT.
P505	22	48'-2"		X	WALL HORIZ.
P506	44	6'-8"	X		STIRRUPS @ END OF WALL
P507	12	30'-1"			CAP HORIZ.
P508	56	5'-11"	X		CAP TOP STIRRUPS VERT.
P609	8	12'-6"			WALL VERT.
P510	8	9'-2"			WALL VERT.
P511	8	5'-10"			WALL VERT.
P512	8	13'-6"	X		WALL VERT.
P613	4	2'-1"			CAP VERT @ END
*P514	56	2'-0"			CAP DOWELS VERT.

THE FIRST DIGIT OF A THREE DIGIT BAR MARK SIGNIFIES BAR SIZE. DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS. \* MAY BE PLACED AFTER CONC. IS POURED, BUT BEFORE INITIAL SET HAS TAKEN PLACE.

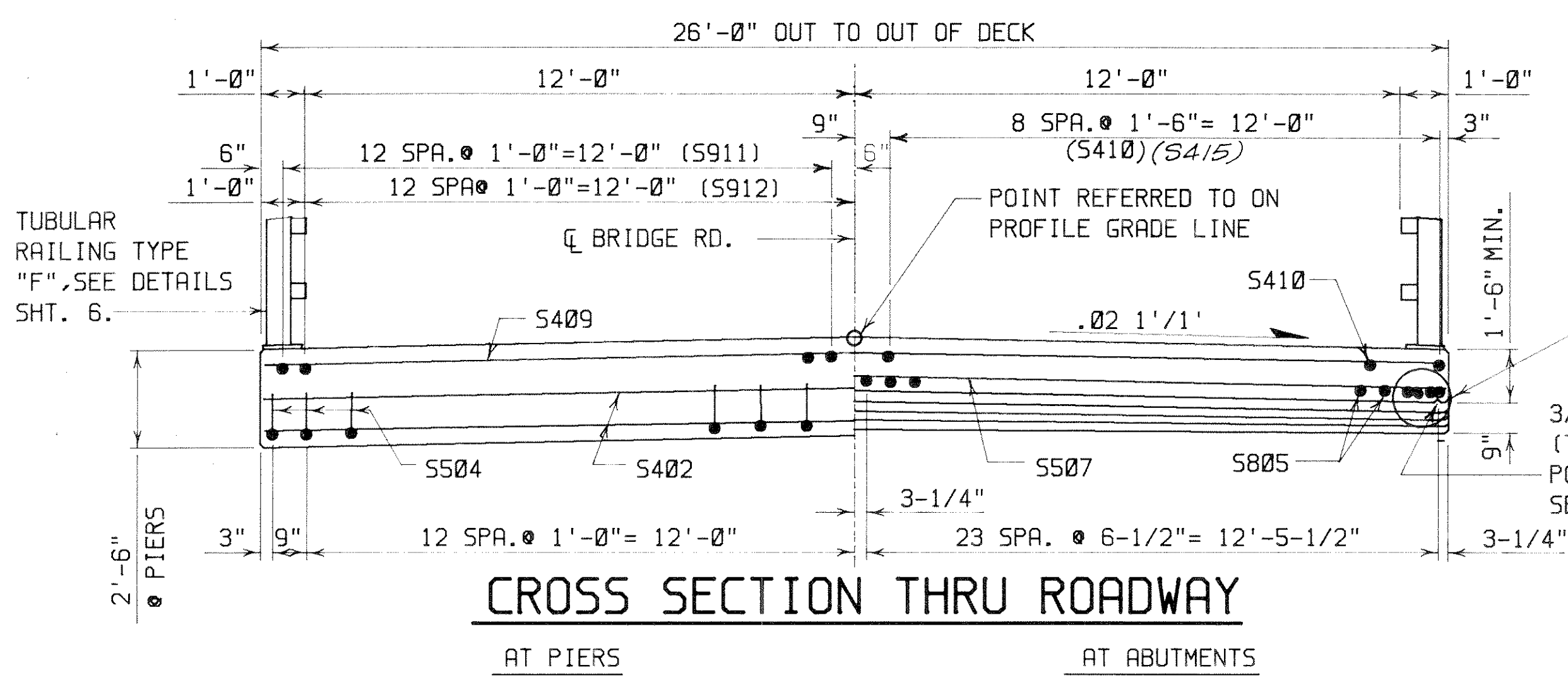


CONSTRUCTION JOINT KEYWAY FORMED BY A SURFACED, BEVELED 2"x 6".



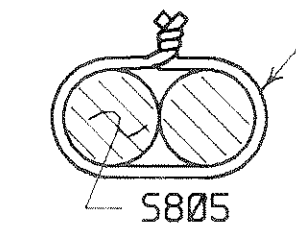
● MARK AND CUT ALL BARS ALONG THIS LINE. MAKE ALL CUTS NORMAL TO BAR AXIS.  
 △ CUT, BUNDLE AND MARK ALL BARS WITH BAR AND SET NUMBER.

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
<b>STRUCTURE B-35-91</b>			
Const. Spec. WIS. '81	Drawn By J.L.	Plans Checked L.M.B.	
<b>PIERS 1&amp;2</b>			SHEET 4 OF 6
			X 77182

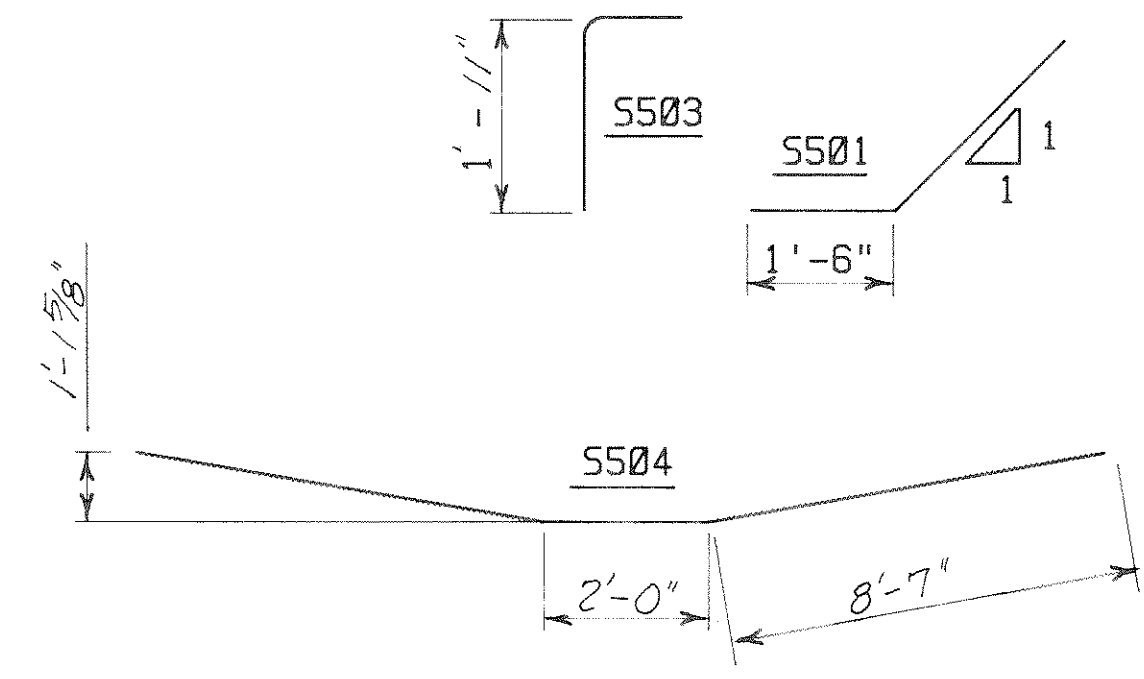


ALTERNATE TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS @ APPROX. 3'-0" CTRS., BTM. LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS @ APPROX. 4'-0" CTRS.

WIRE BARS TOGETHER @ 2'-0" CTRS.



**BUNDLING DETAIL**



**BILL OF BARS**

MARK	NO.	LENGTH	BENT	CUT	LOCATION
S501	54	3'-6"	X		HAUNCH @ ABUTS. STIRRUPS
S502	16	29'-7"			HAUNCH @ ABUTS. & PIERS TRANS.
S503	54	3'-1"	X		HAUNCH @ ABUTS. STIRRUPS
S504	54	19'-2"	X		HAUNCH @ PIERS LONGIT.
S805	104	32'-10"			SLAB BTM. SPANS 1&3 LONGIT.
S806	52	39'-0"			SLAB BTM. SPAN 2 LONGIT.
S507	50	29'-7"			SLAB BTM. SPANS 1&3 TRANS.
S508	25	29'-7"			SLAB BTM. SPAN 2 TRANS.
S409	87	29'-7"			SLAB TOP TRANS.
S410	36	17'-11"			SLAB TOP SPANS 1&3 LONGIT.
S911	52	36'-4"			SLAB @ PIERS TOP LONGIT.
S912	52	35'-7"			SLAB @ PIERS TOP LONGIT.
S613	36	10'-0"	X		SLAB 1 @ E. RAIL POST
S614	72	4'-0"			SLAB 2 @ E. RAIL POST
S415	18	11'-9"			SLAB TOP SPAN 2 LONGIT.

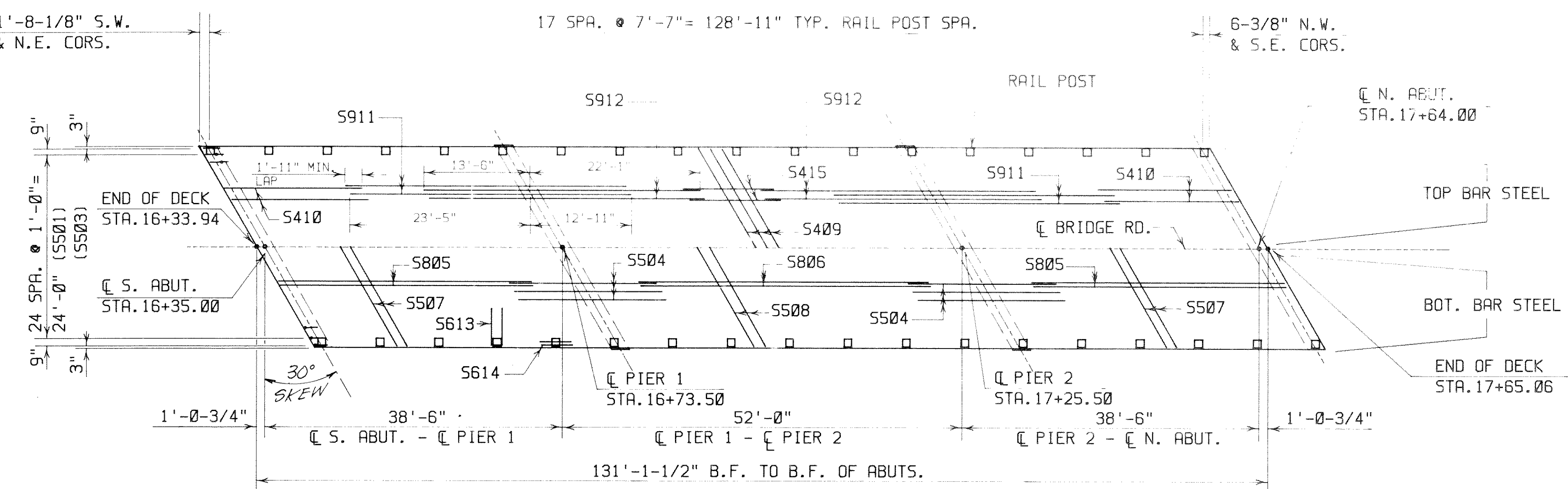
19,095# (UNCOATED)  
15,500# (COATED)

THE FIRST DIGIT OF A THREE DIGIT BAR MARK SIGNIFIES BAR SIZE. DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS.

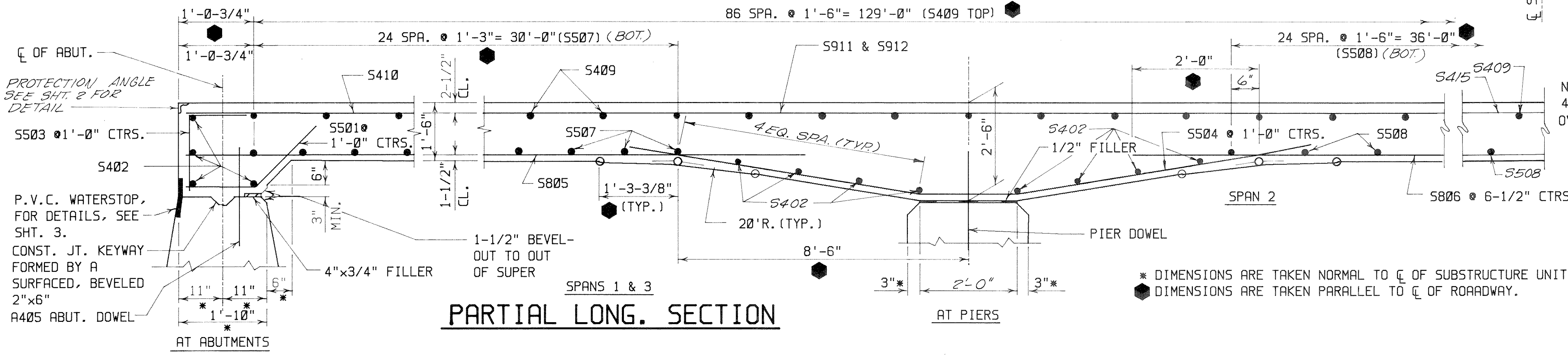
\* THESE BARS TO BE COATED

ALL SLAB DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT ANY CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

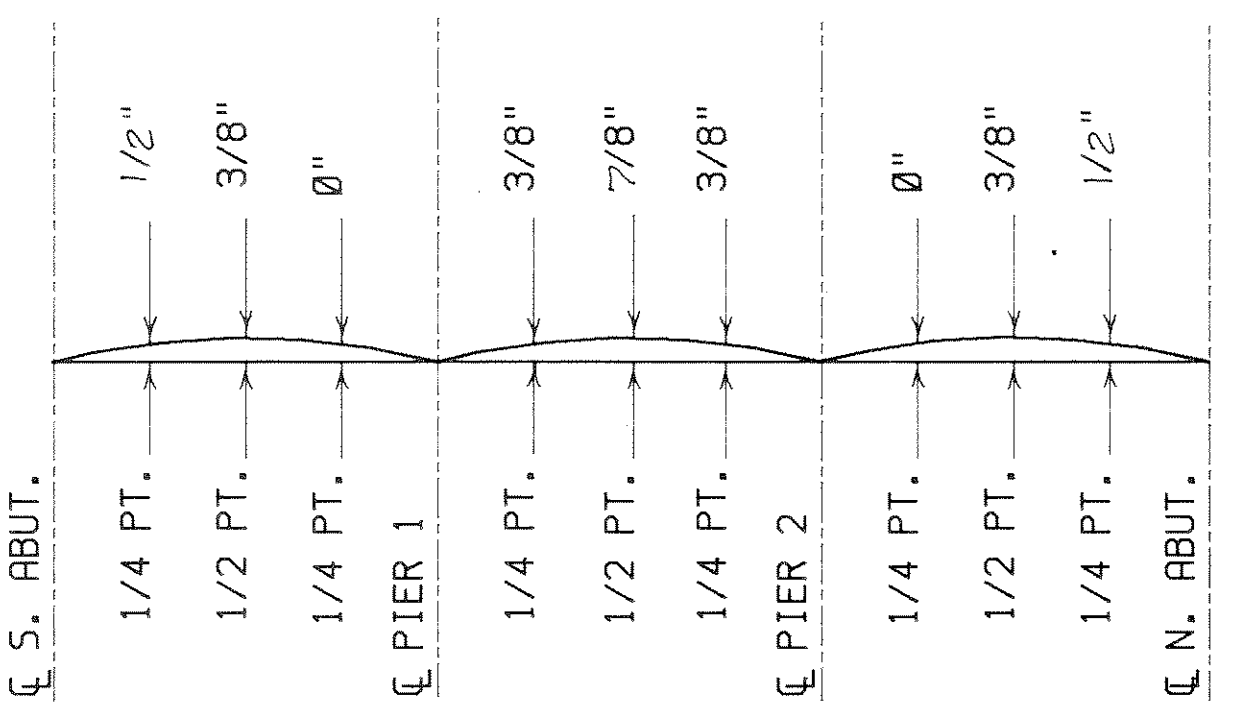
PROVIDE CAMBER AS SHOWN BELOW TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE PLASTIC FLOW. THIS DOES NOT INCLUDE AN ALLOWANCE FOR FORM SETTLEMENT. DEADLOAD DEFLECTION ONLY EQUALS APPROXIMATELY 1/4 OF CAMBER VALUES SHOWN.



**PLAN**



**PARTIAL LONG. SECTION**



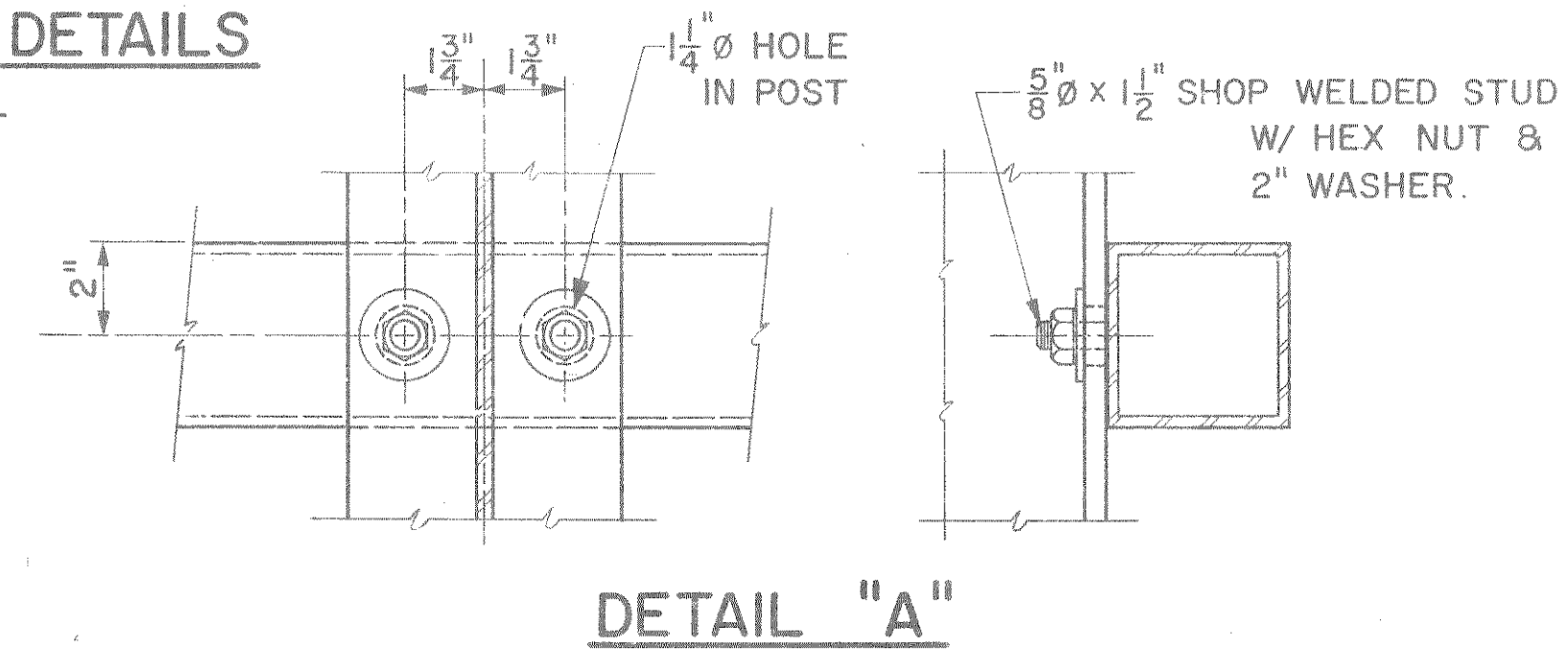
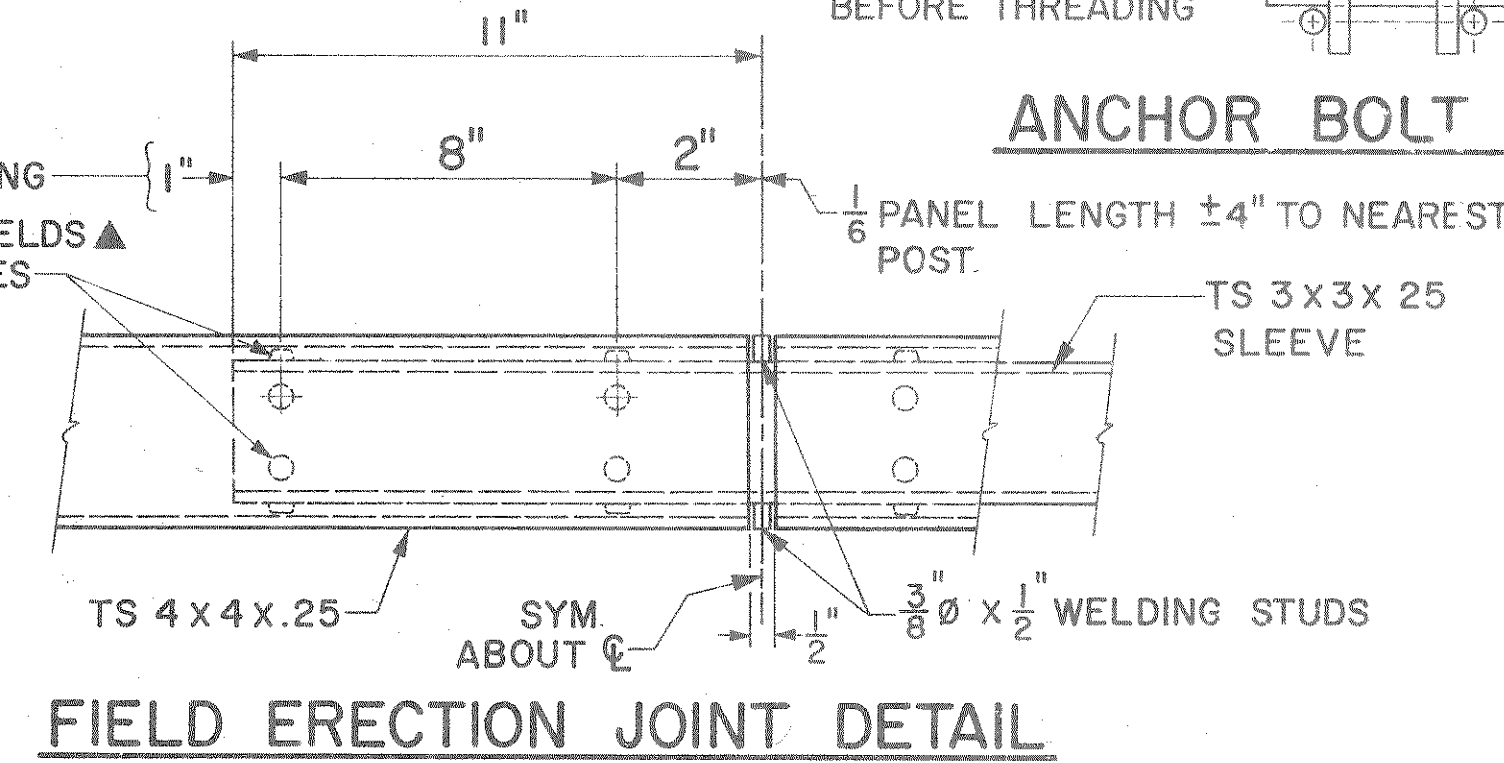
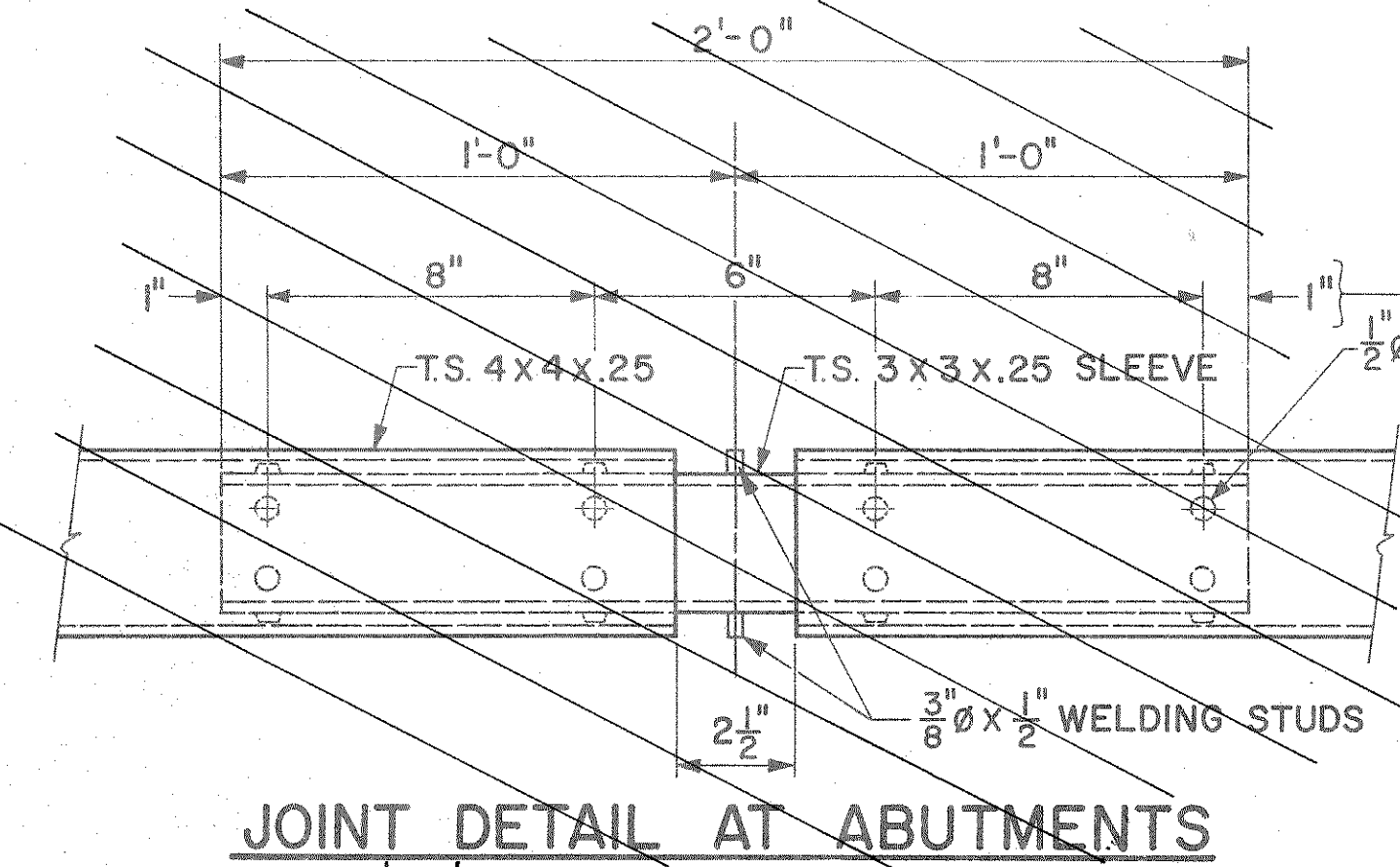
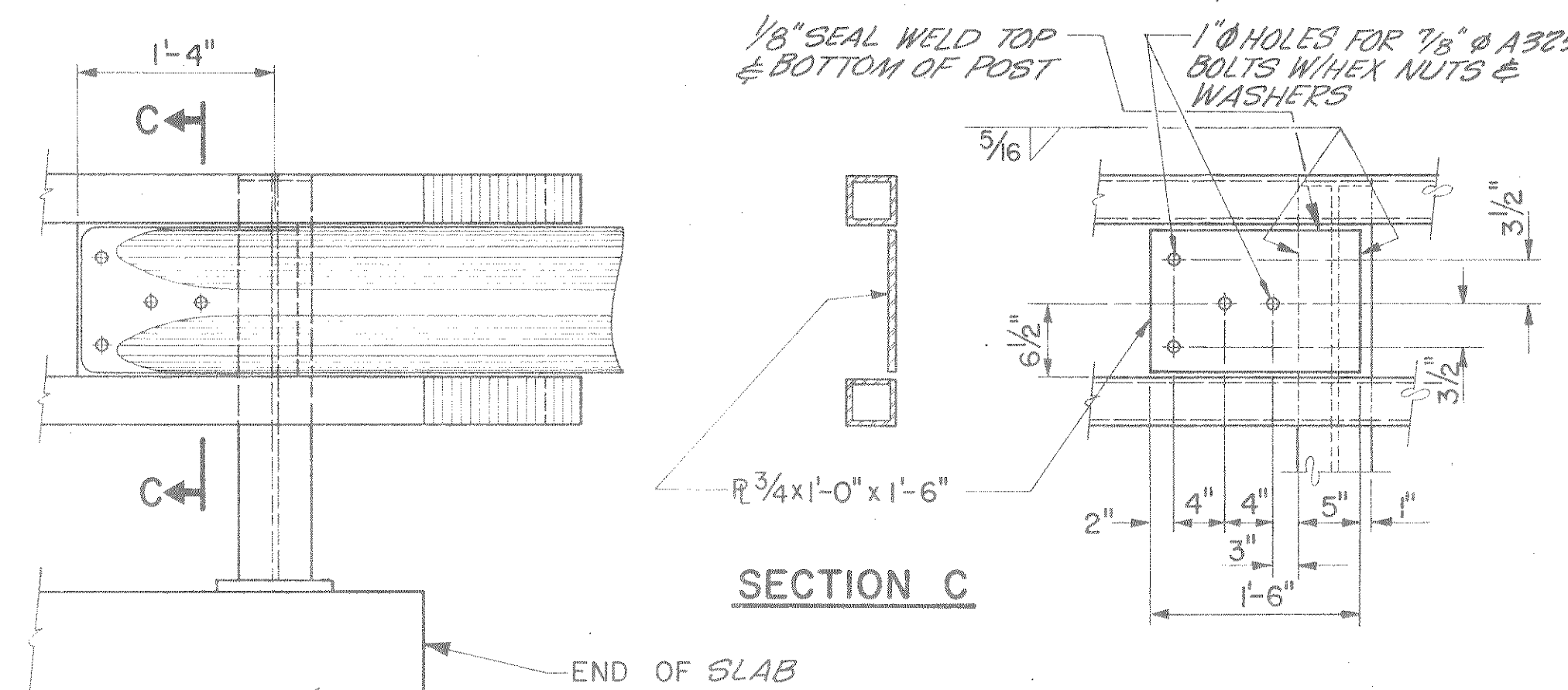
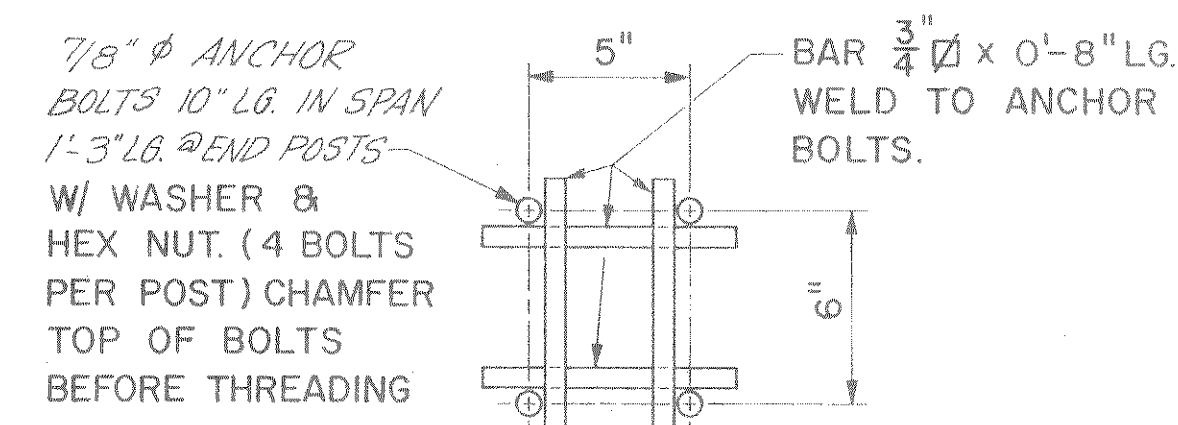
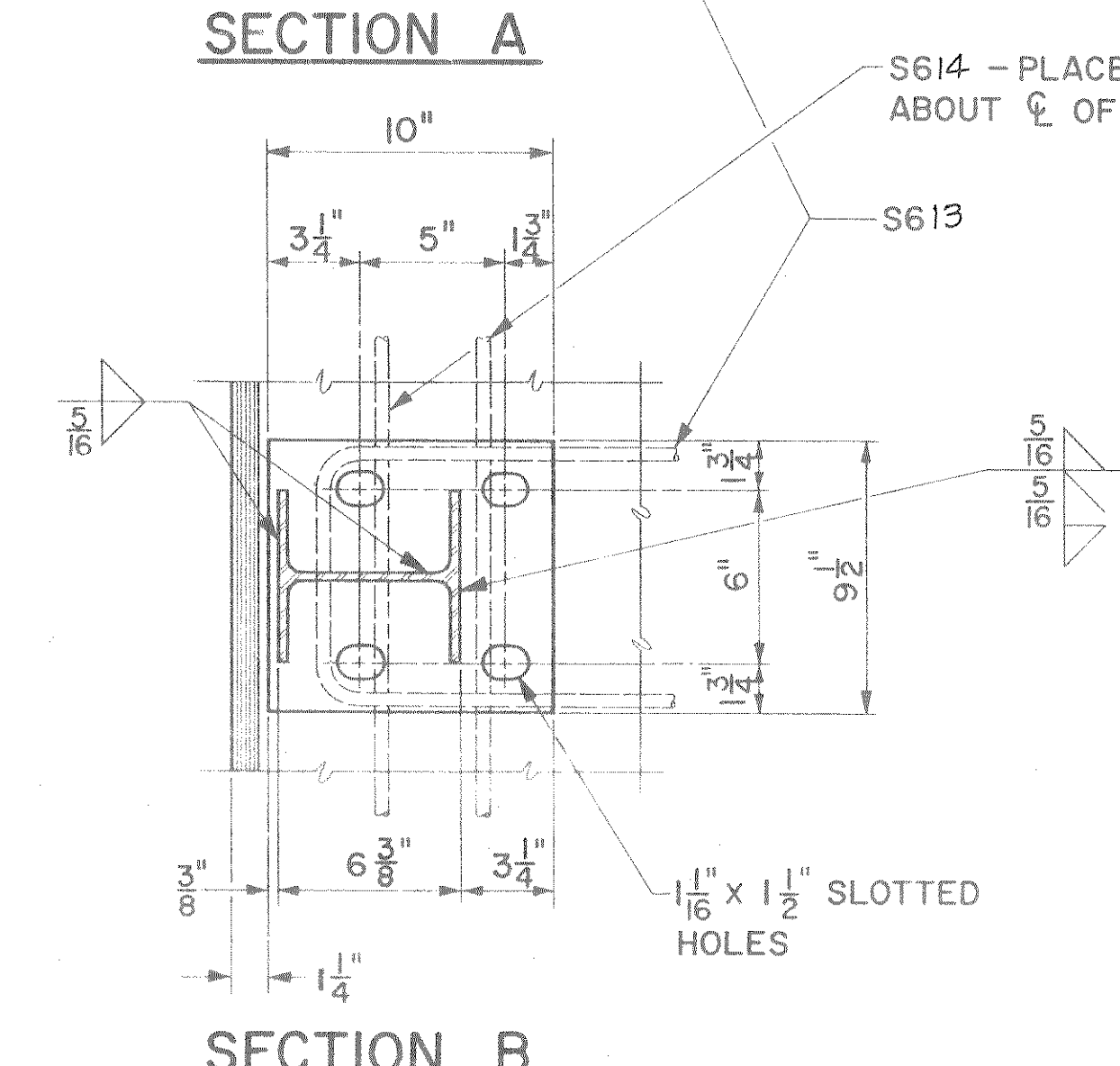
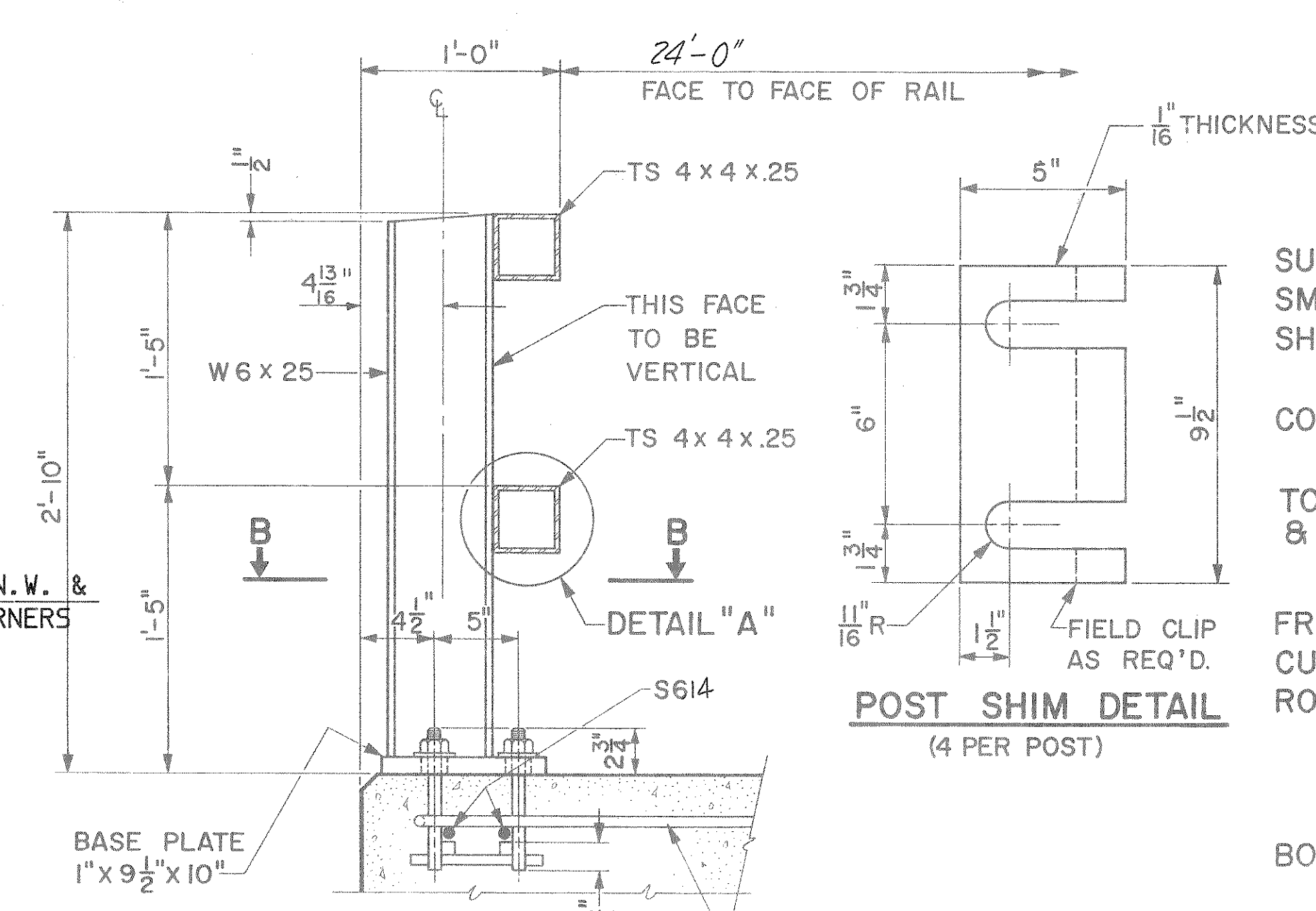
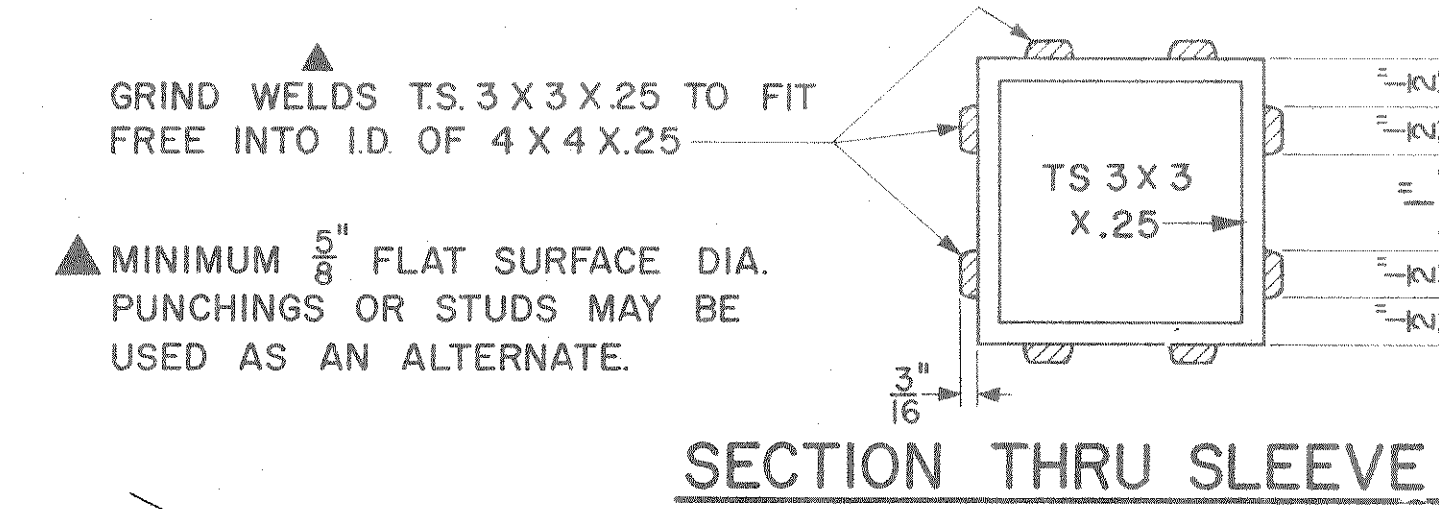
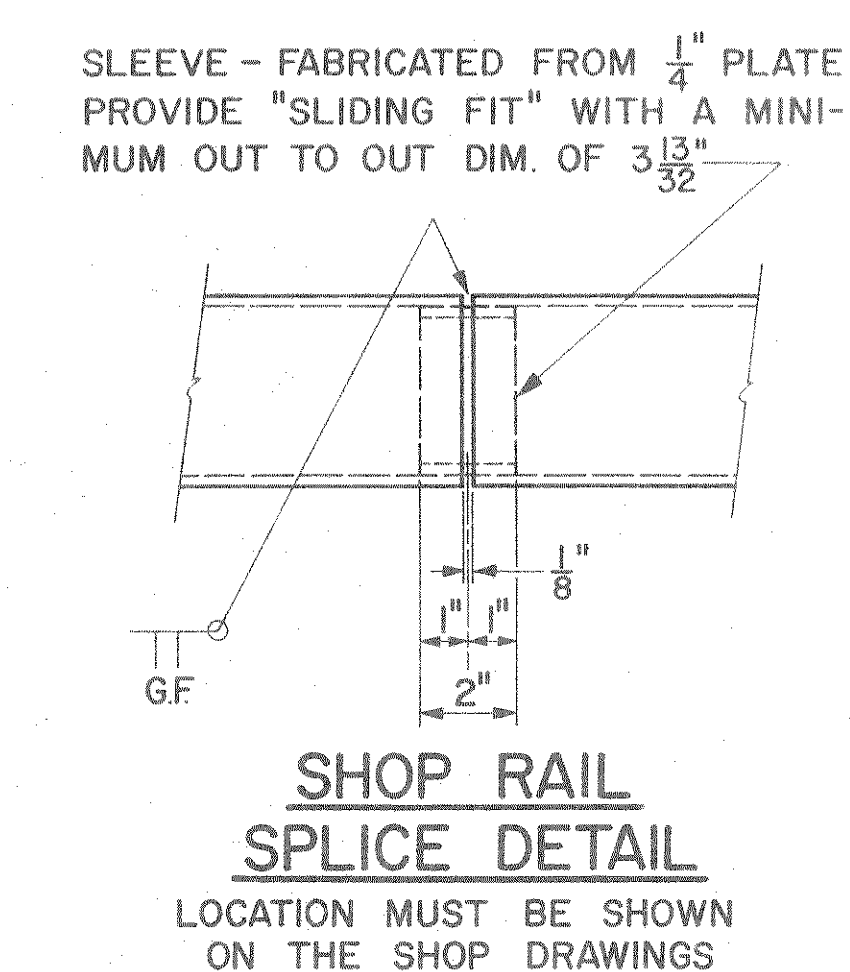
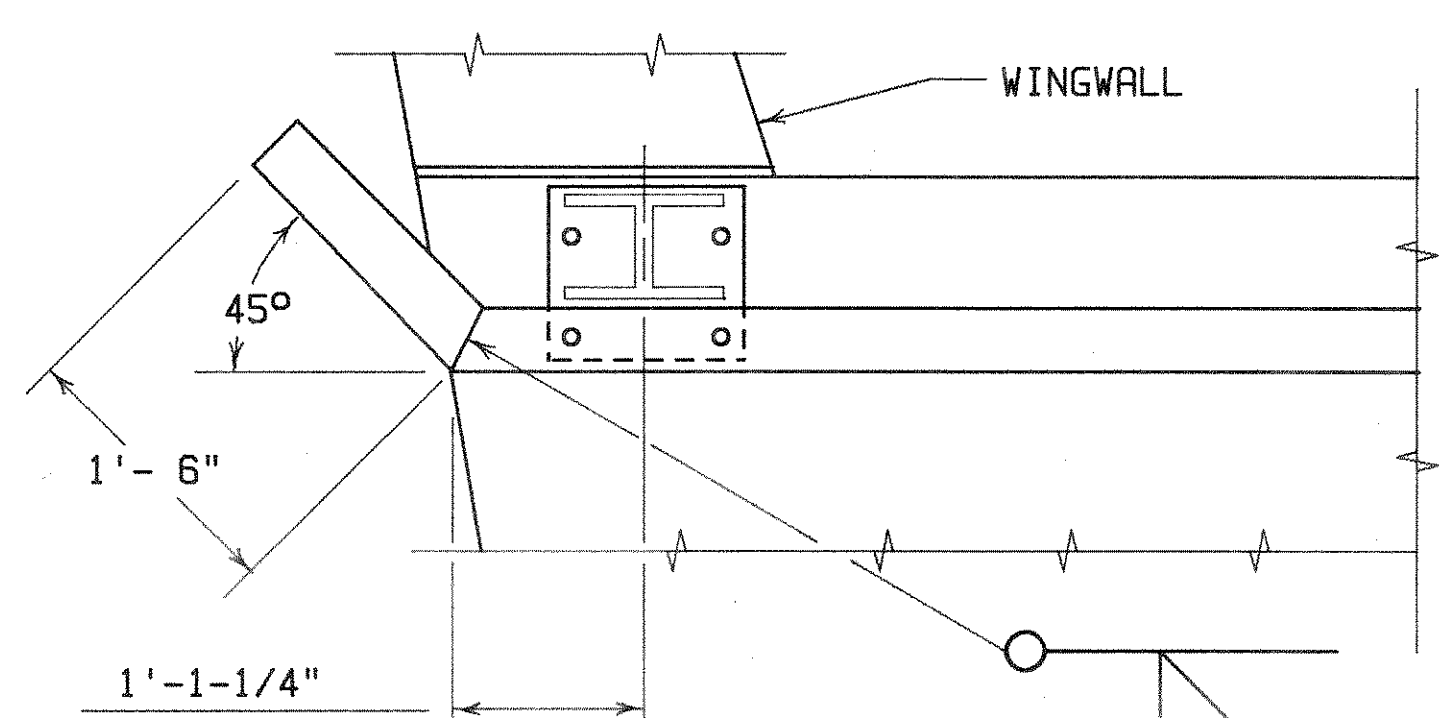
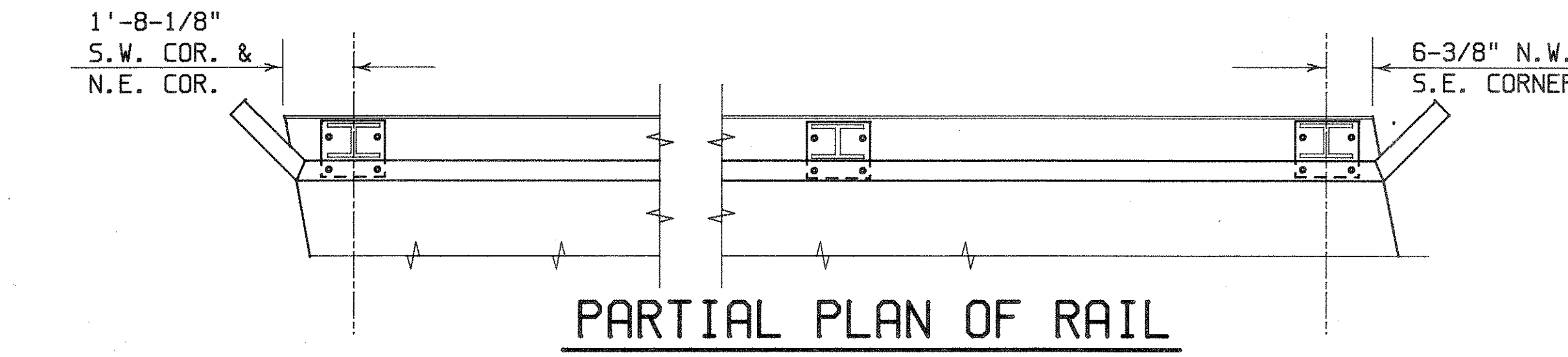
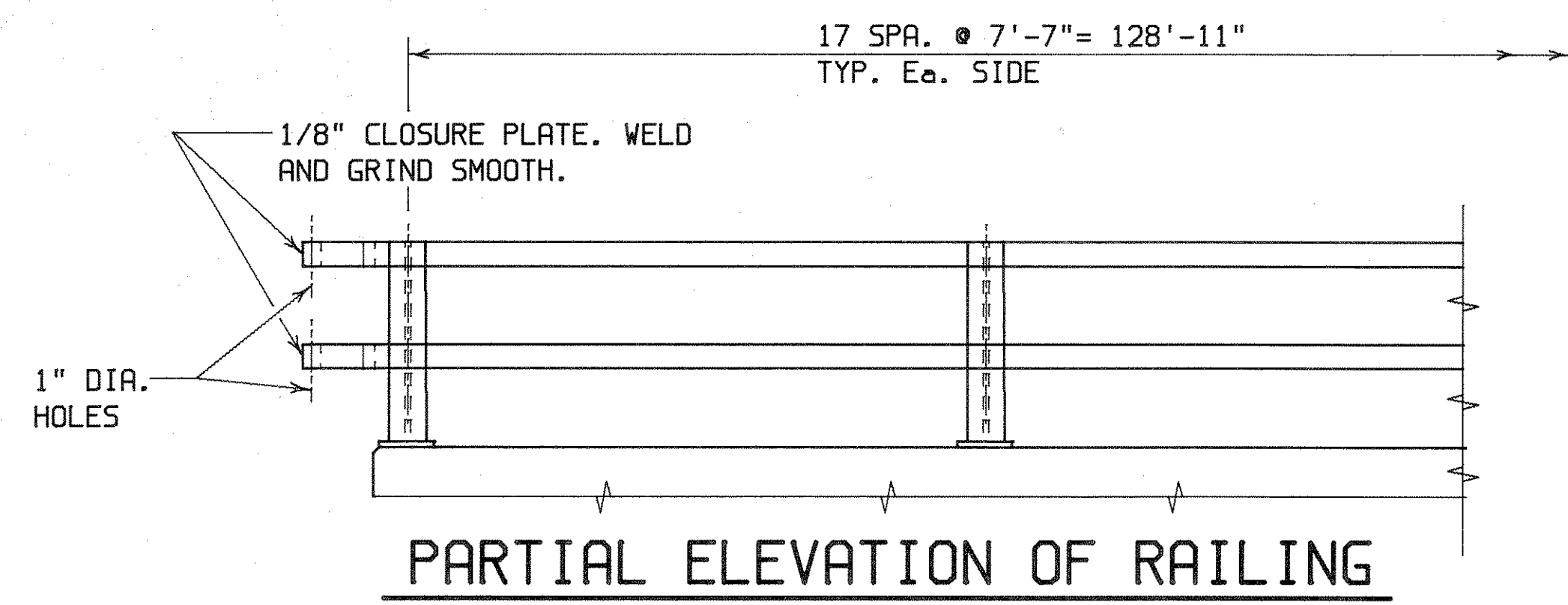
**CAMBER DIAGRAM**

NOTE: THE CONC. IN ANY SPAN SHALL BE PLACED WITHIN 4 HOURS OF THE TIME THAT CONC. WAS PLACED OVER THE ADJACENT PIER.

\* DIMENSIONS ARE TAKEN NORMAL TO C OF SUBSTRUCTURE UNITS.  
● DIMENSIONS ARE TAKEN PARALLEL TO C OF ROADWAY.

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
<b>STRUCTURE B-35-91</b>			
Const. Spec. WIS. '81	Drawn By T.L.	Plans Checked L.M.B.	
<b>SUPERSTRUCTURE</b>			SHEET 5 OF 6 X 77183





**GENERAL NOTES**

- BID ITEM SHALL BE 'TUBULAR RAILING, TYPE F'
- 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.
- RAILING SHALL BE 4x4x.25 STRUCTURAL TUBING CONFORMING TO A.S.T.M. DESIGNATION A36.
- ANCHOR BOLTS SHALL BE 7/8" NOMINAL CONFORMING TO A.S.T.M. A449 WITH 3" THREAD AND HIGH STRENGTH NUTS & WASHERS.
- POSTS, BASE PLATES AND SHIMS SHALL BE MADE FROM MATERIAL CONFORMING TO A.S.T.M. DESIGNATION A36. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST NORMAL TO GRADE LINE.
- PLACE ANCHOR BOLTS NORMAL TO BASE PLATE.
- ALL MEMBERS, INCLUDING UPPER 4" OF ANCHOR BOLTS, SHALL BE GALVANIZED AFTER FABRICATION.
- RAILING SHALL BE FABRICATED IN 2 OR 3 PANEL LENGTHS.
- BEAM GUARD ATTACHMENT MAY BE WELDED TO RAILS AND RAILS MAY BE WELDED TO POSTS.
- FILL POST ANCHOR BOLT HOLES WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.
- CALK EXPOSED OPENINGS BETWEEN SHIMS.
- STEEL SHIMS SHALL BE USED UNDER POSTS WHERE REQUIRED FOR ALIGNMENT.
- PRIOR TO GALVANIZING ALL STEEL RAILING SHALL BE GIVEN A NO. 6 COMMERCIAL BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
<b>STRUCTURE B-35-91</b>			
Const. Spec.	WIS. '81	Drawn By	T.L.
Plans Checked	L.M.B.		
TUBULAR RAILING		SHEET 6 OF 6	
TYPE "F"		X 77184	