INDEX OF SHEETS

TOTAL SHEETS =

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

PRAIRIE RIVER BRIDGE & APPROACHES

(BACHELORS AVENUE)

TOWN ROAD

LINCOLN COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
9859 - 05 - 70		

STATE PROJECT NUMBER

9859-05-70

RECEIVED
OCT 20 1989

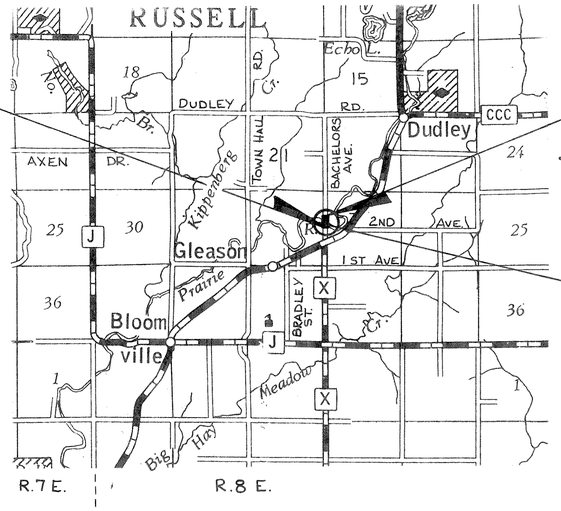
Final Plans Received As Approved For Submittal to WisDOT
10/23/89

N

DESIGN DESIGNATION

A.D.T. (1990)	=	60
A.D.T. (2010)	=	73
D.H.V.	=	
D.	=	
T.	=	8%

BEGIN PROJECT
STA. 12+00
N = 540,800 (±100')
E = 2,132,200 (±100')



END PROJECT
STA. 17+50

T. 33 N.

STRUCTURE B-35-106

T. 32 N.

CONVENTIONAL SIGNS

COUNTY LINE		COMBUSTIBLE FLUIDS (UNDER PRESSURE)	
CORPORATE LIMITS		UNDERGROUND UTILITIES	
PROPERTY LINE		GAS	G
LOT LINE		ELECTRIC	E
LIMITED HIGHWAY EASEMENT		TELEPHONE	T
EXISTING RIGHT OF WAY		SERVICE PEDESTAL	⊠
NEW RIGHT OF WAY		CABLE MARKER	P
REFERENCE LINE		POWER POLE	□
SLOPE INTERCEPT		TELEPHONE POLE	Ø
ORIGINAL GROUND		RAILROADS	
MARSH OR ROCK PROFILE		MARSH	
CULVERT IN PLACE		WOODED AREA	
CULVERT REQUIRED			
CULVERT REQUIRED (Profile)			

LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.104 MI. (RURAL)

NOTE: All coordinates shown are referenced to the WISCONSIN COORDINATE SYSTEM, CENTRAL ZONE, and are scaled from the GLEASON QUADRANGLE for identification purposes only.

APPROVED FOR LINCOLN COUNTY BY

10/23/89 DATE — Michael L. Hagen HIGHWAY COMMISSIONER

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

SEAL — LAWRENCE J. BARRIENTOS — LAND SURVEYOR — S-1167

Lawrence J. Barrientos 10-18-89

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Surveyor BAI — District Checker FWB
Designer BAI — C.O. Checker
District Supervisor RJS — C.O. Coordinator

APPROVED:

DATE: _____ DISTRICT DIRECTOR

APPROVED:

DATE: _____ REGIONAL CHIEF ROAD DESIGN ENG.

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

APPROVED:

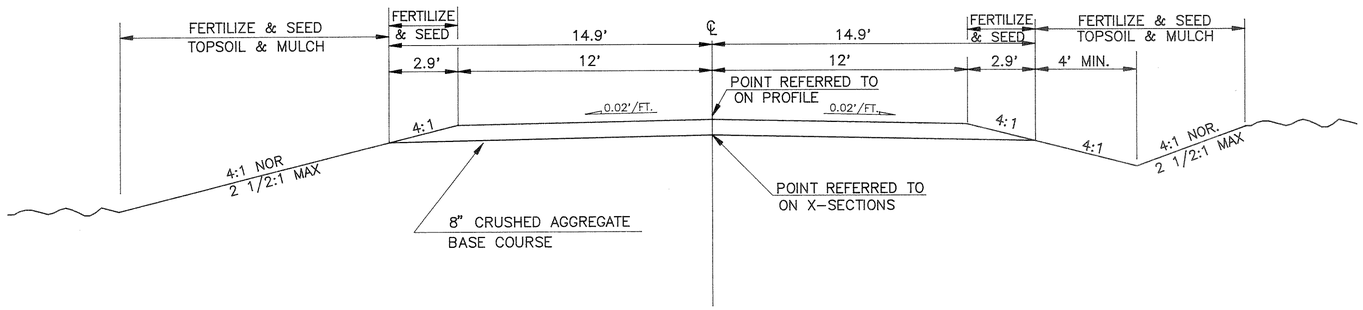
DATE: _____ DIVISION ADMINISTRATOR

905 BR

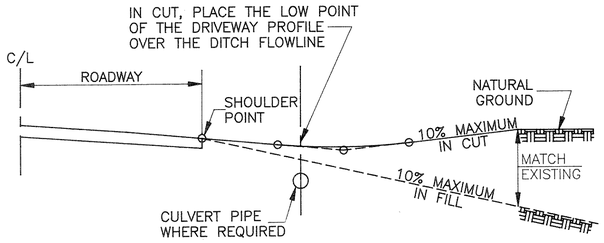
WISDOT/VEHICLE NO. 10

STATE PROJECT NUMBER	SHEET NO
9859-05-70	

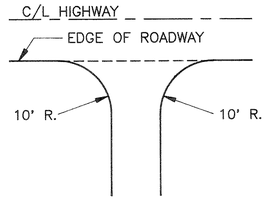
TYPICAL SECTIONS
GENERAL NOTES
LIST OF STANDARD DETAIL DRAWINGS
UTILITIES



TYPICAL CROSS SECTION

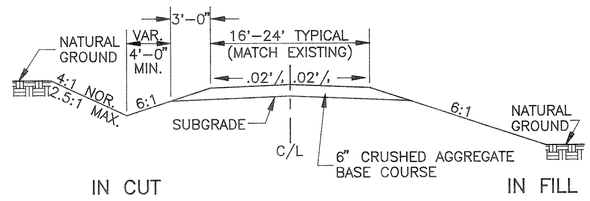


TYPICAL DRIVEWAY PROFILES



PLAN VIEW

RURAL DRIVEWAY INTERSECTION DETAIL



TYPICAL CROSS SECTION
FOR PRIVATE DRIVE

GENERAL NOTES

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE AND IS NOT SHOWN ON THE CROSS SECTIOS BUT IS MEASURED AND PAID FOR AS UNCLASSIFIED 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 AND SEEDED AS DIRECTED BY THE ENGINEER.

SHRINKAGE IS ESTIMATED AT 30% BASED ON VOLUME OF FILL.

SEED MIXTURE NUMBER 10 SHALL BE USED.

EXACT LOCATION OF ENTRANCES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

WHEN THE QUANTITY OF BASE COURSE IS MEASURED FOR PAYMENT BY THE 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.

NO TREES (AND/OR SHRUBS) ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

ORIGIN OF LEVELS – A CHISELED SQUARE ON WEST END OF SOUTH CONCRETE HEADWALL OF BRIDGE OVER PRAIRIE RIVER ALONG C.T.H. "J" ABOUT 0.1 MILE EAST OF SECTION CORNERS 1, 6, 31 AND 36, TOWNSHIPS 32 AND 33 NORTH, RANGES 7 AND 8 EAST. ELEV. 1418.00 FT.

STANDARD DETAIL DRAWINGS

8E7-1	EROSION MAT
8E8-1	TYPICAL INSTALLATIONS OF EROSION BALES
8E9-3	SILT FENCE
8F1-10a	APRON ENDWALLS FOR CULVERT PIPE
12A3-4	NAME PLATE – STRUCTURES
15C1-7	CONSTRUCTION BARRICADES AND STANDARD SIGNS
15C2-1	TRAFFIC CONTROL TO CLOSE HIGHWAY UNDER CONSTRUCTION

UTILITIES

UNIVERSAL TELEPHONE COMPANY
OF NORTHERN WISCONSIN
ATTN: WILMER AHRENHOLZ
P.O. BOX 78
HAWKINS, WI 54530
(715)585-6301

WPS
ATTN: ROGER WEEGE
3200 EAST MAIN STREET
MERRILL, WI 54452
(715)536-5541

DETAIL SUMMARY OF MISCELLANEOUS QUANTITIES

CRUSHED AGGREGATE BASE COURSE

STATION TO STATION	LOCATION	C.Y.
12+00 – 14+73	MAINLINE	243
15+11 – 17+50	MAINLINE	213
12+54	P.E. LT.	11
13+75	P.E. LT.	11
15+85	F.E. RT.	12

TOPSOIL, FERTILIZER, SEED & MULCH

LOCATION	TOPSOIL SQ. YD.	FERTILIZER CWT. (TYPE B)	SEEDING POUND	MULCHING SQ. YD.
STA. 12+00 TO STA. 14+73	360	0.5	6	360
STA. 15+11 TO STA. 17+50	170	0.5	4	170

PRIVATE ENTRANCE PIPES

STATION	LOCATION	DIA. (IN)	LENGTH (L.F.)	TYPE	RCCP (CLASS)	THICKNESS (INCHES) STEEL	THICKNESS (INCHES) ALUMINUM	APRON ENDWALLS
12+54	P.E. LT.	18	24	C.P.	III	0.064	0.075	2
13+75	P.E. LT.	18	24	C.P.	III	0.064	0.075	2
15+85	F.E. RT.	18	24	C.P.	III	0.064	0.075	2

WOOD POSTS, 4X4-INCH X 10 FT.

STATION	LOCATION	EACH
14+73	LT. & RT.	2
15+11	LT. & RT.	2

SIGNS, TYPE II, REFLECTIVE

STATION	LOCATION	S.F.
14+73	LT. & RT.	6
15+11	LT. & RT.	6

SILT FENCE (SILTY SOILS)

STATION TO STATION	DELIVERED & INSTALLED L.F.	MAINTENANCE L.F.
14+00 – 14+50 RT.	50	20
15+15 – 15+50 LT.	35	15

CLEARING

LOCATION	STA.
13+00 – 14+00	1

GRUBBING

STA.
1

EROSION MAT

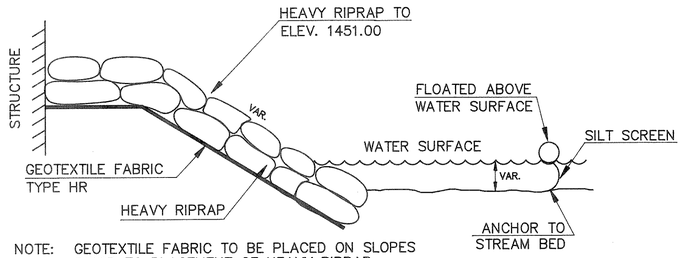
STATION TO STATION	LOCATION	S.Y.
15+17 – 15+75	RT.	70

EROSION BALES

STATION	LOCATION	EACH
13+50	RT.	5
15+25	RT.	5

SILT SCREEN

STATION	LOCATION	L.F.
14+73	S. ABUT.	75
15+11	N. ABUT.	55

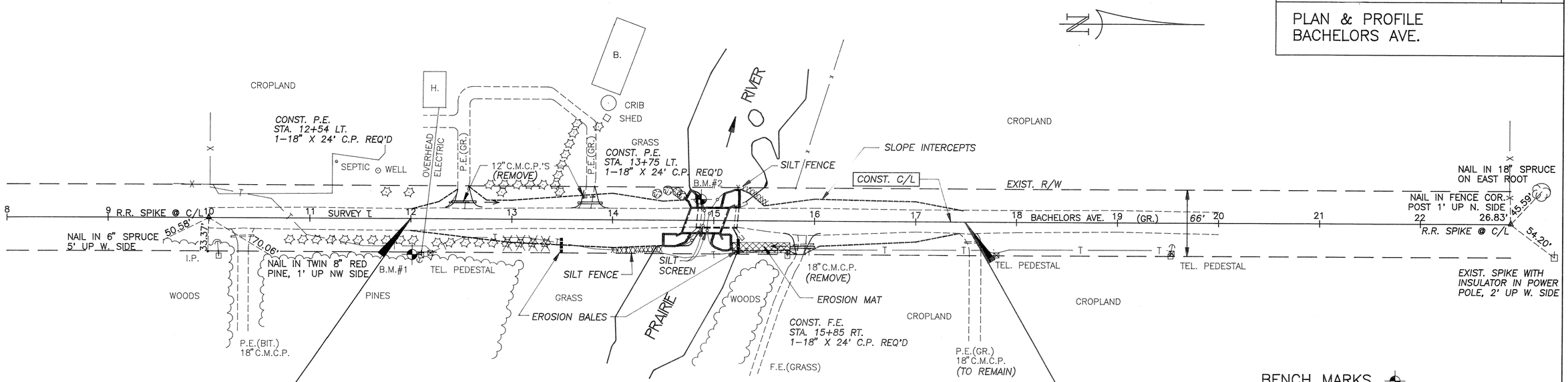


NOTE: GEOTEXTILE FABRIC TO BE PLACED ON SLOPES PRIOR TO PLACEMENT OF HEAVY RIPRAP
SILT SCREEN @ ABUTMENT SHOWN.

DETAIL FOR SILT SCREEN

STATE PROJECT NUMBER	SHEET NO.
9859-05-70	

PLAN & PROFILE
BACHELORS AVE.



BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
1	12+09.5	R.R.SPIKE IN TOP OF 8" STUMP,1.7'SO. OF P.P.,35.5'RT.	1454.88
2	14+88	CHISELED SQ. ON S.W. ABUT.,ABOUT 3'BELOW RD.GRADE,14.5'LT.	1455.70

BEGIN PROJECT
STA. 12+00

NET LENGTH OF C/L = STA. 12+00 TO STA. 17+50 = 550 L.F.

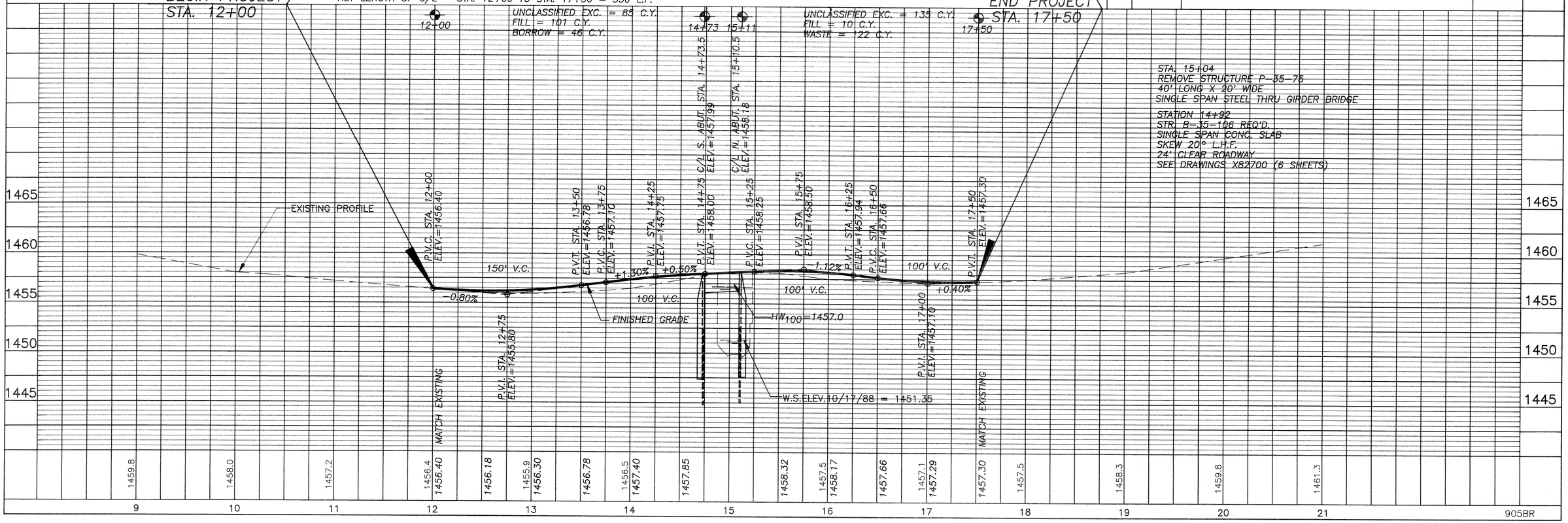
END PROJECT
STA. 17+50

UNCLASSIFIED EXC. = 85 C.Y.
FILL = 101 C.Y.
BORROW = 46 C.Y.

UNCLASSIFIED EXC. = 135 C.Y.
FILL = 10 C.Y.
WASTE = 122 C.Y.

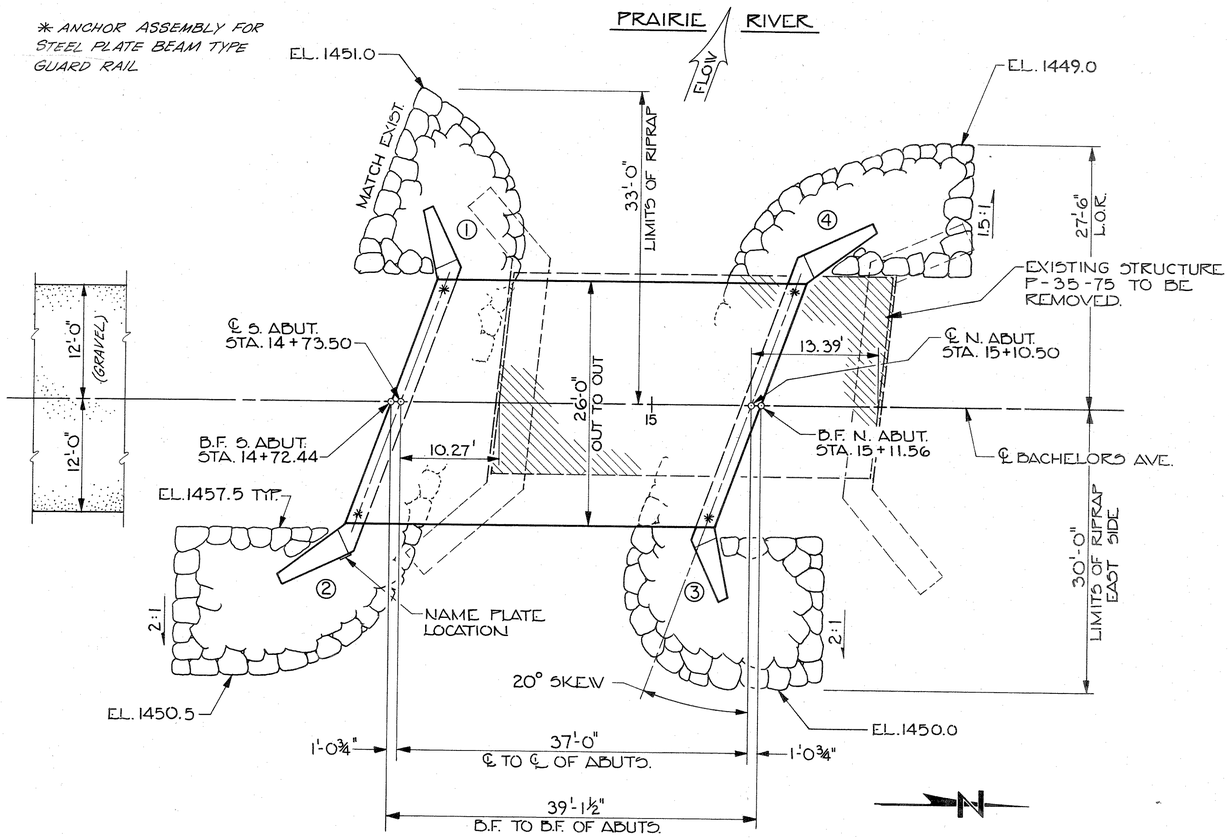
STA. 15+04
REMOVE STRUCTURE P-35-75
40' LONG X 20' WIDE
SINGLE SPAN STEEL THRU GIRDER BRIDGE

STATION 14+92
STR. B-35-106 REQ'D.
SINGLE SPAN CONC. SLAB
SKEW 20° L.H.F.
24' CLEAR ROADWAY
SEE DRAWINGS X82700 (6 SHEETS)

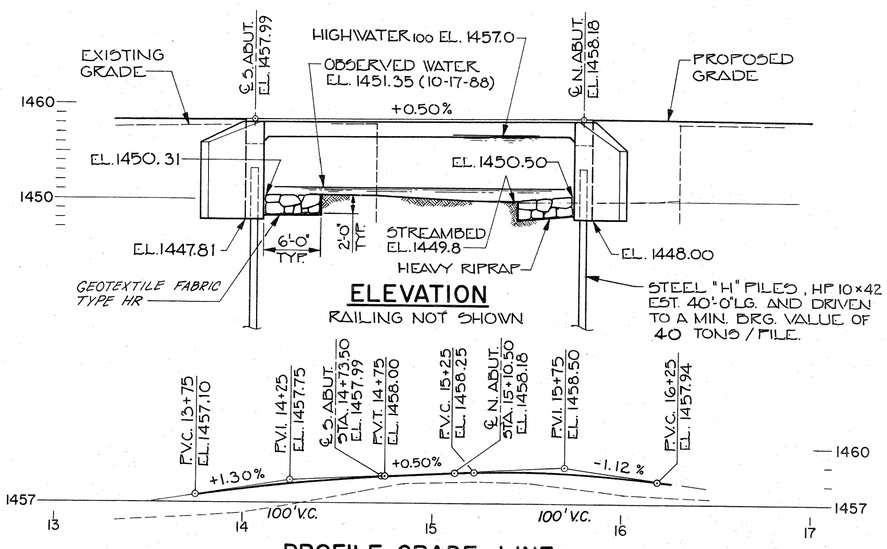


905BR

STATE PROJECT NUMBER	SHEET NO.
9859-05-70	

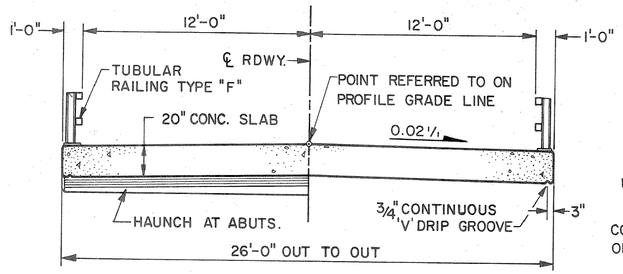


PLAN
SINGLE SPAN CONCRETE SLAB



ELEVATION
RAILING NOT SHOWN

PROFILE GRADE LINE



CROSS SECTION THRU ROADWAY

DESIGN DATA (CONT.)

HYDRAULIC DATA:

DRAINAGE AREA	63.3 SQ.MI.
HIGHWATER 100	EL. 1457.0
Q 100 – 1,900 C.F.S. — Q BRIDGE	1,758 C.F.S.
Q OVERFLOW	142 C.F.S.
WATERWAY AREA	182 SQ.FT.
VELOCITY	8.8 F.P.S.

ROADWAY OVERTOPPING

Q	12
HW	EL. 1456.3

TRAFFIC DATA

A.D.T. (1989)	60
A.D.T. (2010)	73
R.D.S.	55 M.P.H.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE SLOPES IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH 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 M213.

THIS STRUCTURE WILL REPLACE P-35-75 WHICH IS A STEEL THRU GIRDER BRIDGE 41' LG. × 21.3' WIDE.

DESIGN DATA

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

RATINGS:

DESIGN RATING	HS 20
INVENTORY RATING	HS 21
OPERATING RATING	HS 35
MAX. STD. PERMIT VEHICLE LOAD	*172 KIPS*

ALLOWABLE DESIGN STRESSES:

CONCRETE MASONRY – SLAB	f'_c = 4,000 P.S.I.
– 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 HP10×42 STEEL "H" PILES EST. 40'-0" LG. & DRIVEN TO A MIN. BEARING VALUE OF 40 TONS / PILE.

TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	S. ABUT.	N. ABUT.	SUPER	TOTAL
REMOVING OLD STRUCTURE STA. 15+04	L.S.	——	——	——	1
EXCAVATION FOR STRUCTURES, BRIDGES	L.S.	——	——	——	1
CONCRETE MASONRY, BRIDGES	C.Y.	28.3	28.3	66.4	123.0
HIGH STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	LBS.	2,090	2,090	9,255	13,435
COATED HIGH STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	LBS.	——	——	1,810	1,810
HEAVY RIPRAP	C.Y.	55	55	——	110
PROTECTIVE SURFACE TREATMENT	GAL.	——	——	5	5
GEOTEXTILE FABRIC, TYPE HR	S.Y.	85	85	——	170
STEEL PILING, DELIVERED AND DRIVEN, HP 10x42	L.F.	240	240	——	480
TUBULAR RAILING TYPE "F" B-35-106	L.S.	——	——	——	1
NON-BID ITEMS					
FILLER	SIZE	–	–	–	½" & ¾"
POLYVINYL CHLORIDE WATERSTOP	L.F.	33	33	–	66

LIST OF DRAWINGS

1. GENERAL PLAN
2. SUBSURFACE EXPLORATION
3. *ABUTMENTS*
4. *WINGS*
5. *SUPERSTRUCTURE*
6. *TUBULAR RAILING TYPE "F"*

WISCONSIN LAWRENCE A. BEVIC E-15060 MADISON PROFESSIONAL ENGINEER

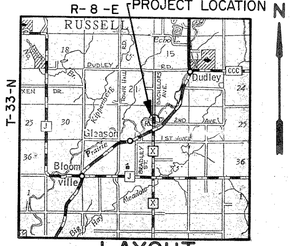
10-18-89

BRIDGE OFFICE CONTACT (608) 266-8486, DAVE BABLER

BENCH MARK LOCATION

NO.	STA.	LOCATION		ELEV.
1	12+09.5	R.R. SPIKE IN 8" STUMP	35.5' RT.	1454.88
2	14+88	CHISELED "D" ON S.W. ABUT.	14.5' LT.	1455.70

PLANS PREPARED BY:
BARRIENTOS & ASSOCIATES, INC.
CONSULTING ENGINEERS
3822 MINERAL PT. RD. – MADISON, WI. 53705
PH. 608-238-6761



LAYOUT

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-35-106

BACHELORS AVE. OVER PRAIRIE R.

County LINCOLN — Town RUSSELL

Design Spec. A.A.S.H.T.O. '88	Load HS 20	Const. Spec. WIS. '89	
Designed By L.M.B.	Design Checked J.T.T.	Drawn By D.R.L.	Plans Checked S.R.L.

Approved _____ State Bridge Engineer — Date _____

GENERAL PLAN

SHEET 1 OF 6

X 82700

905 DR

Form E-B-11-69

STATE PROJECT NUMBER	SHEET NO.
9859-05-70	

ABBREVIATIONS

F — Fine M — Medium C — Coarse
Ws — Weathered So — Sound

MATERIAL SYMBOLS

Topsoil, Sand, Gravel, Silt, Peat, Clay, Sandstone, Limestone, Igneous Rock

LEGEND OF PROBING

95/6=95 Blows for 6" Penetration
Probing taken with a 350# wt. Falling 18" on a 2" O. D. Point.

Probing No.
Sta.
Elevation
7 Average Blows Per Foot
Refusal 95/6

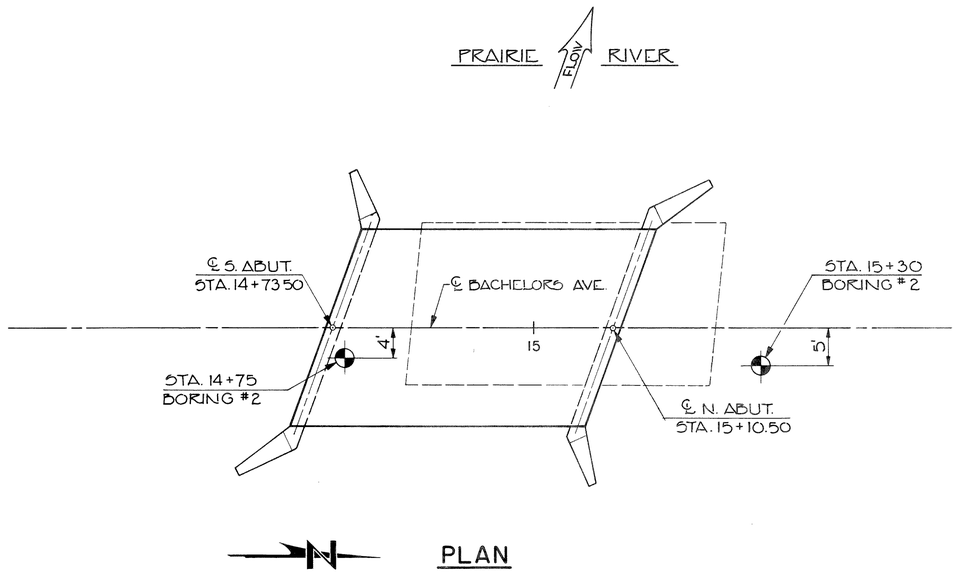
LEGEND OF BORING

Boring No.
Sta.
Elev.
Unconfined Strength — 7.7 — 7
Sandy Gravel
Blows Per Ft. Using 140# Wt. Falling 30"
F.
Boulders or Cobbles
Wash Sample
Sand
Shelby Tube — S. T.
Ground Water Elevation
Silty Clay
No Ground Water Observed Above This Elevation
So
Limestone

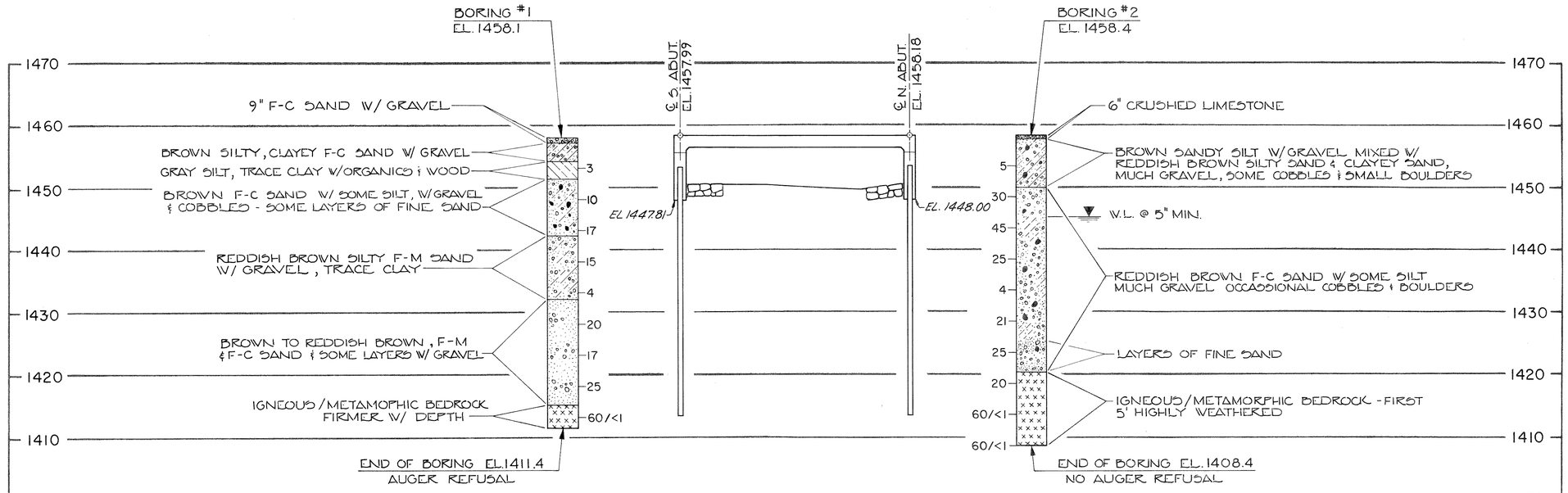
Unless otherwise specified, the blows per foot at the locations indicated are based on driving a 2" O. D. x 1.4" I. D. split spoon sampler with a 140# hammer having a free fall of 30". The blow count is taken in undisturbed soil immediately below a cased or open hole eliminating side friction on the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



PLAN



No.	Date.	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-35-106

Const. Spec.	Drawn By	Plans Checked
WIS. '89	S.R.L.	L.M.B.

SUBSURFACE EXPLORATION

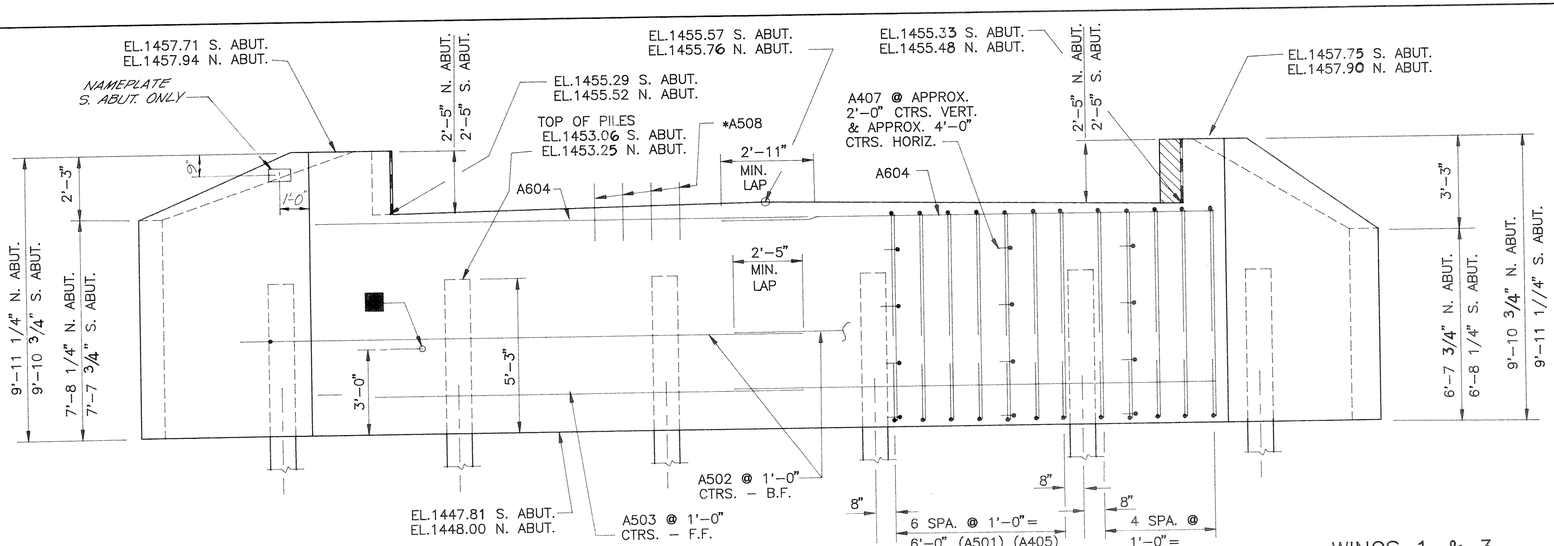
SHEET 2 OF 6

X 82700

905 BR

TELEDYNE POST N71619

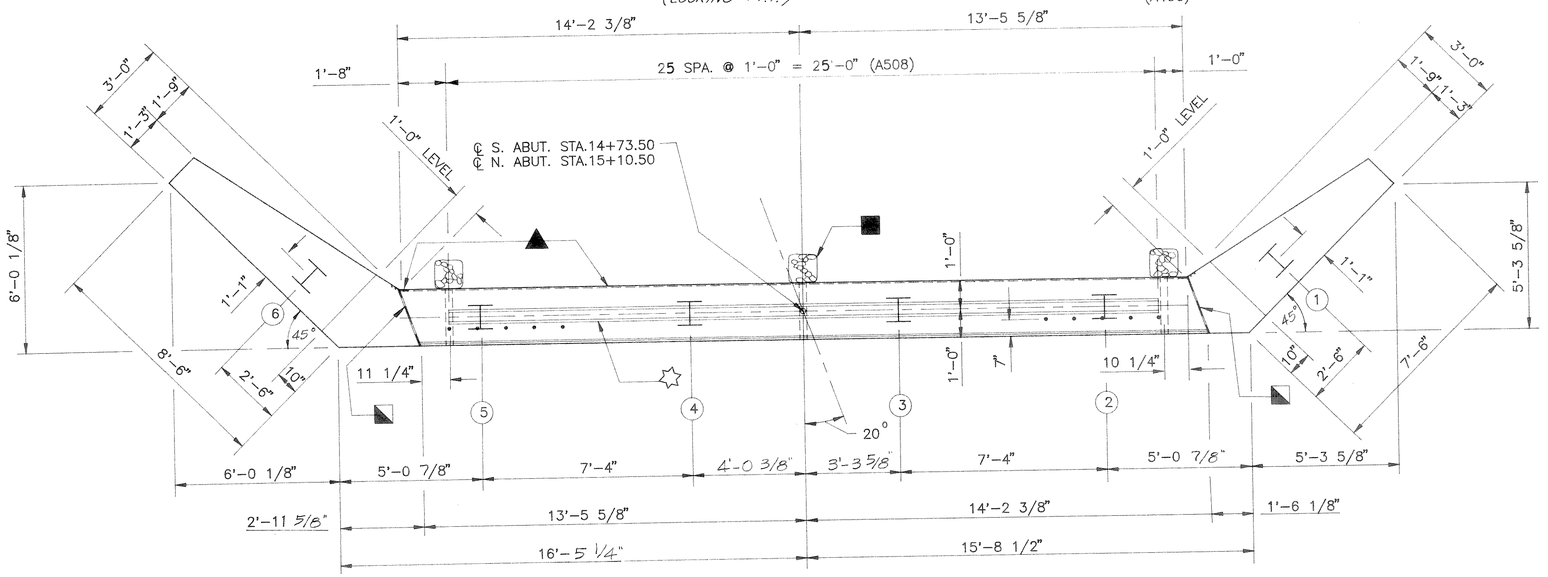
STATE PROJECT NUMBER	SHEET NO
9859-05-70	



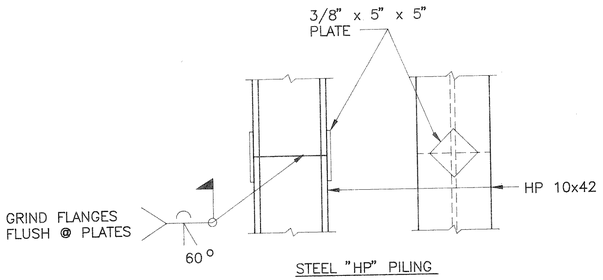
WINGS 2 & 4

WINGS 1 & 3

ELEVATION
(LOOKING @ F.F.)

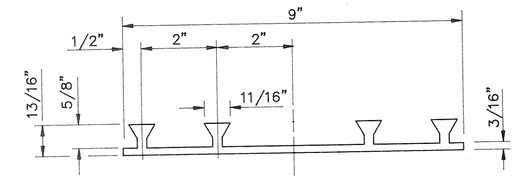


PLAN



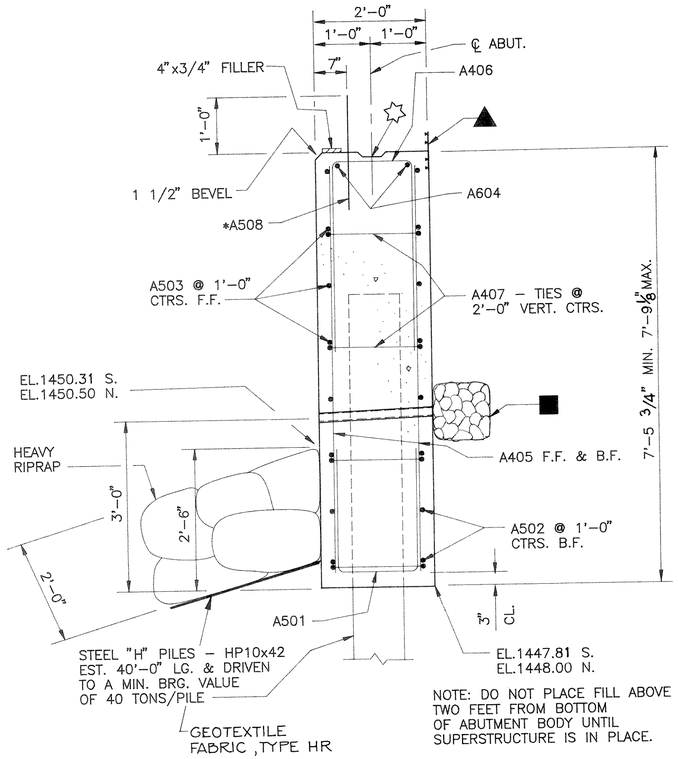
STEEL "HP" PILING

PILE SPLICE DETAILS



POLYVINYL CHLORIDE WATERSTOP

*A508 DOWEL BARS MAY BE PLACED AFTER CONCRETE IS POURED, BUT BEFORE INITIAL SET HAS TAKEN PLACE.



NOTE: DO NOT PLACE FILL ABOVE TWO FEET FROM BOTTOM OF ABUTMENT BODY UNTIL SUPERSTRUCTURE IS IN PLACE.

SECTION THRU ABUTMENT BODY

■ 2" DIA. WEEP HOLE @ LOCATIONS SHOWN. USE FILTER CLOTH W/SELECT GRANULAR MATERIAL @ EA. HOLE (ON B.F. 12"x12"x12" MIN.) COST TO BE INCIDENTAL TO "CONCRETE MASONRY BRIDGES."

▲ POLYVINYL CHLORIDE WATERSTOP TO EXTEND FULL WIDTH OF ABUT. SEAT & VERT. FROM SEAT TO TOP OF WINGS. P.C.W. SHALL BE BUTT-SPLICED AT ALL INTERSECTIONS BY USING A HEATED SPLICING IRON. HOLD FLUSH TO CONC.

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

◢ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONC.)

No.	Date.	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-35-106

Const. Spec. WIS. '89	Drawn By T.R.L.	Plans Checked S.R.L.

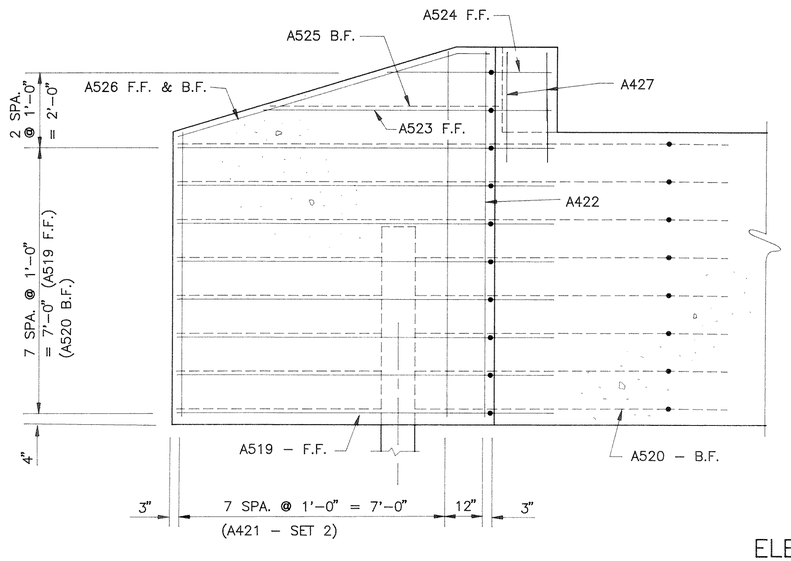
ABUTMENTS

SHEET 3 OF 6

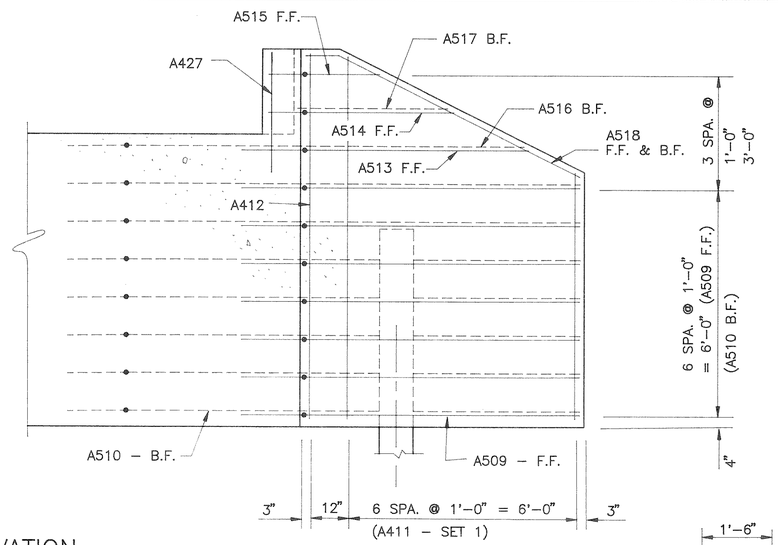
X 82700

905 BR

STATE PROJECT NUMBER	SHEET NO
9859-05-70	

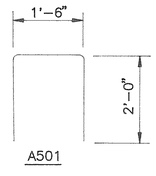


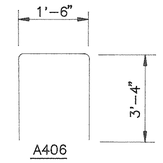
WINGS 2 & 4



WINGS 1 & 3

ELEVATION



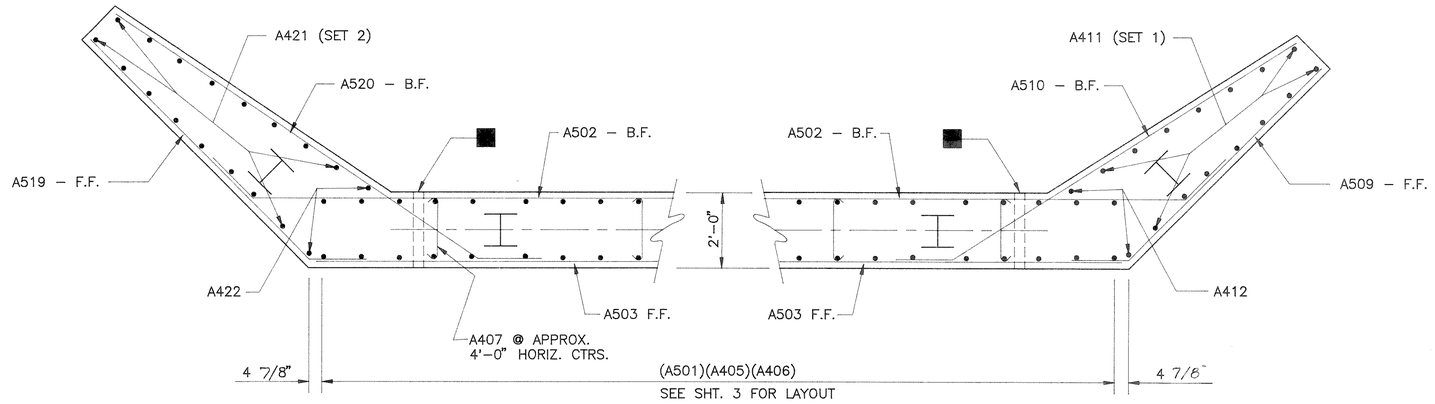


BILL OF BARS

4,180 # (2 ABUTS.)

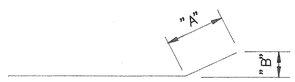
MARK	NO.	LENGTH	BENT	CUT	LOCATION
A501	62	5'-3"	X		BODY – VERT. – STIRRUP @ BTM.
A502	32	20'-4"	X		BODY – HORIZ. – B.F.
A503	32	17'-4"			BODY – HORIZ. – F.F.
A604	8	17'-7"			BODY – HORIZ. – TOP
A405	124	7'-1"			BODY – VERT. B.F. & F.F.
A406	62	8'-0"	X		BODY – VERT. – STIRRUPS @ TOP
A407	56	2'-5"	X		BODY – HORIZ. TIES
A508	52	2'-0"			BODY – VERT. – DOWELS @ TOP
A509	14	8'-8"	X		WINGS 1 & 3 – HORIZ. – F.F.
A510	14	12'-3"	X		WINGS 1 & 3 – HORIZ. – B.F.
A411	14	15'-7"		X	WINGS 1 & 3 – VERT. – F.F. & B.F.
A412	4	9'-5"			WINGS 1 & 3 – VERT. – F.F. & B.F.
A513	2	7'-2"	X		WINGS 1 & 3 – HORIZ. – F.F.
A514	2	5'-1"	X		WINGS 1 & 3 – HORIZ. – F.F.
A515	2	3'-1	X		WINGS 1 & 3 – HORIZ. – F.F.
A516	2	10'-9"	X		WINGS 1 & 3 – HORIZ. – B.F.
A517	2	3'-10"			WINGS 1 & 3 – HORIZ. – B.F.
A518	4	7'-11"	X		WINGS 1 & 3 – TOP – F.F. & B.F.
A519	16	9'-8"	X		WINGS 2 & 4 – HORIZ. – F.F.
A520	16	13'-1"	X		WINGS 2 & 4 – HORIZ. – B.F.
A421	16	16'-7"		X	WINGS 2 & 4 – VERT. – F.F. & B.F.
A422	4	9'-5"			WINGS 2 & 4 – VERT. – F.F. & B.F.
A523	2	8'-8"	X		WINGS 2 & 4 – HORIZ. – F.F.
A524	2	5'-4"	X		WINGS 2 & 4 – HORIZ. – F.F.
A525	2	2'-0"			WINGS 2 & 4 – HORIZ. – B.F.
A526	4	8'-6"	X		WINGS 2 & 4 – TOP – F.F. & B.F.
A427	6	3'-3"			ALL WINGS – VERT. CORNERS

BAR DIMENSIONS ARE OUT TO OUT OF BAR.
THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

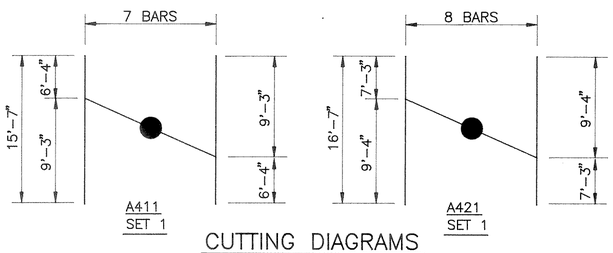


PLAN SECTION
SHOWING BAR STEEL BELOW SEAT

■ 2" DIA. WEEP HOLE @ LOCATIONS SHOWN. USE FILTER CLOTH W/SELECT GRANULAR MATERIAL @ EA. HOLE (ON B.F. 12"x12"x12" MIN.) COST TO BE INCIDENTAL TO "CONCRETE MASONRY BRIDGES."

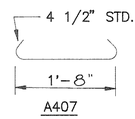


MARK	"A"	"B"
A502	1'-6"	1'-1"
A509	1'-6"	1'-1"
A510	1'-6"	10"
A513	1'-6"	1'-1"
A514	1'-4"	11"
A515	1'-4"	11"
A518	8"	4"
A519	1'-6"	1'-1"
A520	1'-6"	11"
A523	2'-8"	1'-10"
A524	2'-8"	1'-10"
A526	8"	4"
A516	1'-6"	10"



CUTTING DIAGRAMS

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



No.	Date.	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-35-106

Const. Spec. WIS. '89	Drawn By T.R.L.	Plans Checked S.R.L.

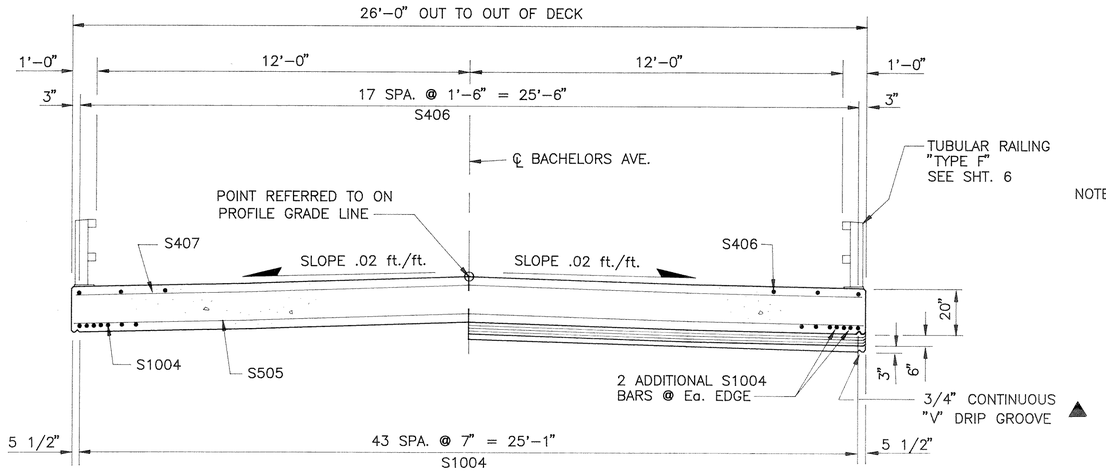
WINGS

SHEET 4 OF 6

X 82700

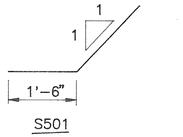
9058R

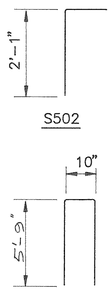
STATE PROJECT NUMBER	SHEET NO
9859-05-70	



CROSS SECTION THRU ROADWAY

NOTE: ALTERNATE TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CTRS. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CTRS.



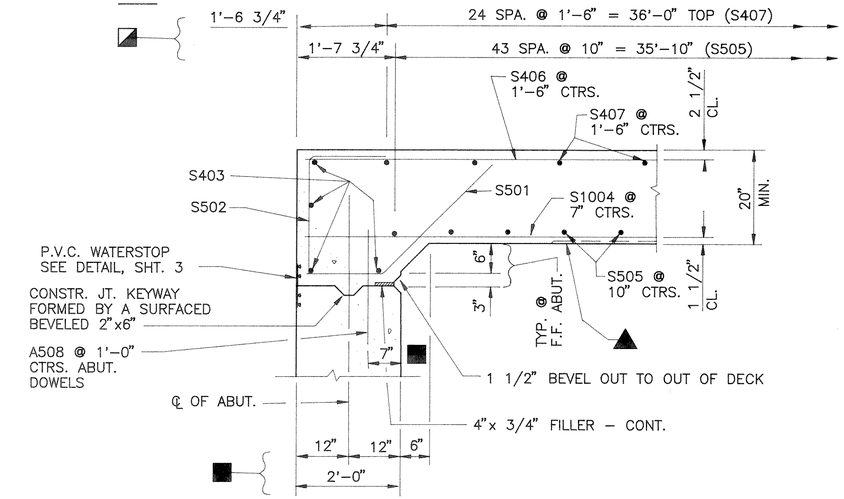


BILL OF BARS

11,065 #

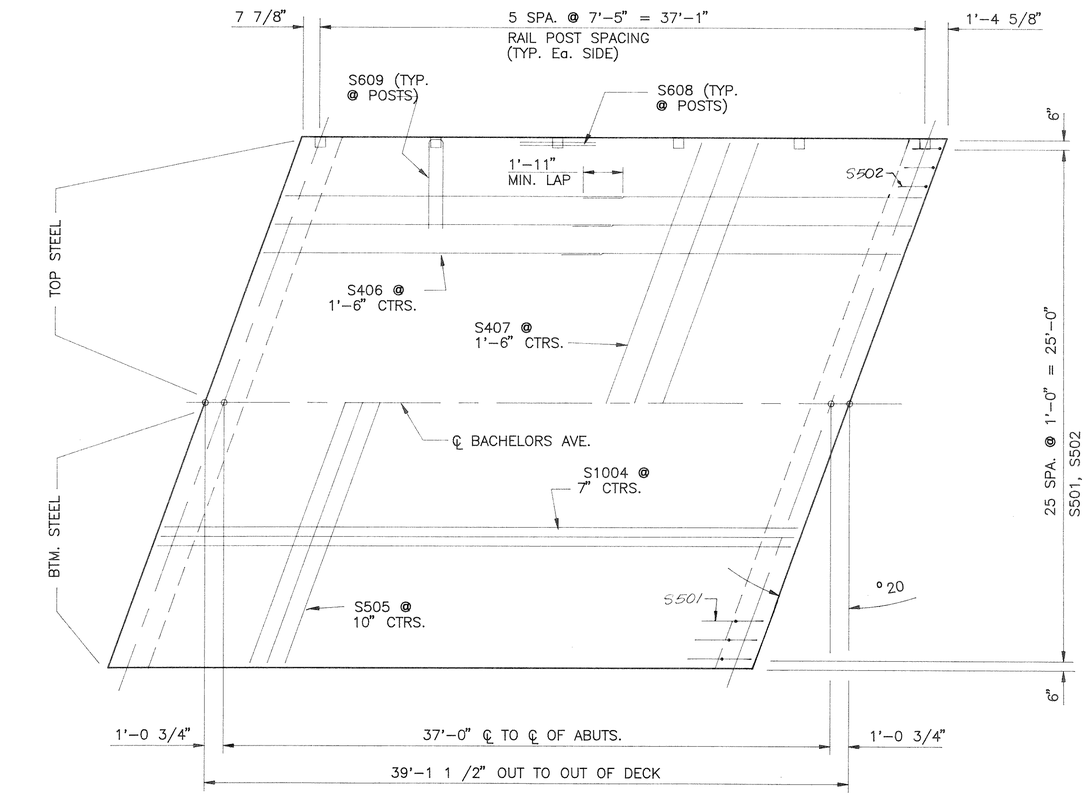
MARK	NO.	LENGTH	COAT	BENT	LOCATION
S501	52	4'-0"	X	X	HAUNCH @ ABUT.- VERT. STIRRUP
S502	52	3'-3"	X	X	HAUNCH @ ABUT.- VERT. STIRRUP
S403	8	27'-3"	X		HAUNCH @ ABUT. HORIZ.
S1004	48	38'-9"			SLAB - LONGIT. - BTM.
S505	44	27'-3"			SLAB - TRANSV. - BTM.
S406	36	20'-4"	X		SLAB - LONGIT. - TOP
S407	25	27'-3"	X		SLAB - TRANSV. - TOP
S608	24	4'-0"	X		SLAB @ RAIL POSTS - 2 Ea. POSTS
S609	12	12'-0"	X	X	SLAB @ RAIL POSTS

THE FIRST DIGIT, OR THE FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE. DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS.

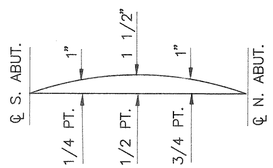


PARTIAL LONGITUDINAL SECTION

- DIMENSION IS GIVEN NORMAL TO ABUTMENT.
- DIMENSION IS GIVEN NORMAL TO ℄ OF ROADWAY.
- 3/4" CONTINUOUS "V" DRIP GROOVE TERMINATE 2'-0" FROM Ea. ABUTMENT



PLAN



CAMBER DIAGRAM

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

No.	Date.	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-35-106

Const. Spec.	WIS.'89	Drawn By	T.L.	Plans Checked	S.R.L.

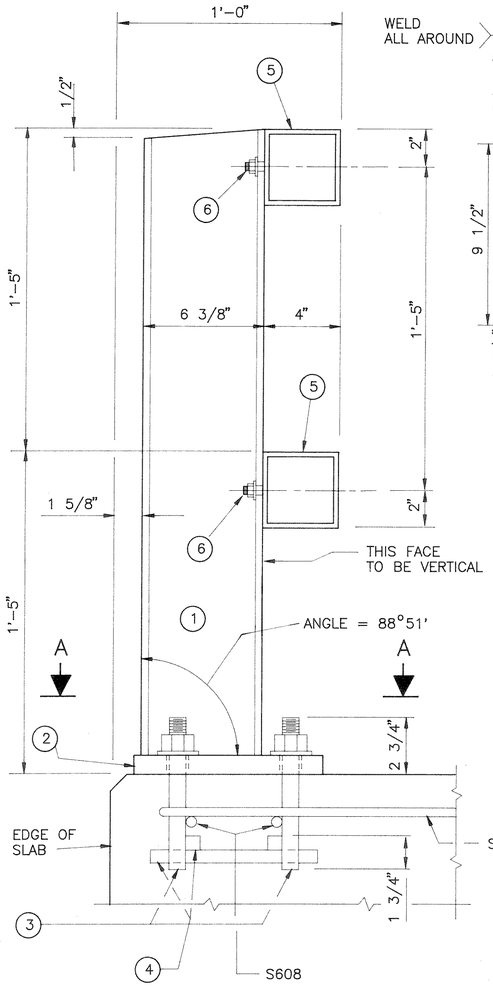
SUPERSTRUCTURE

SHEET 5 OF 6

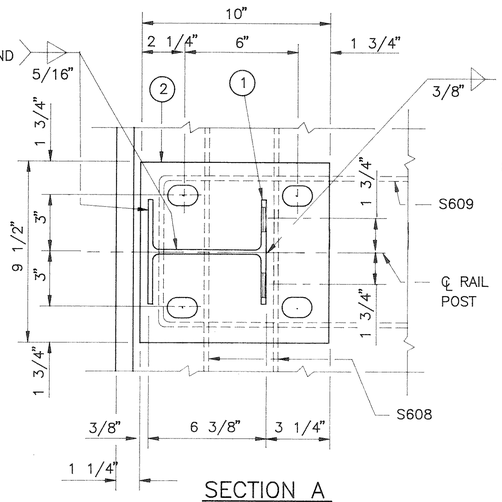
X82700

905 BR

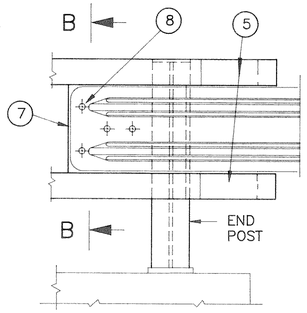
STATE PROJECT NUMBER	SHEET NO
9859-05-70	



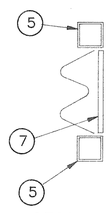
SECTION THRU RAILING



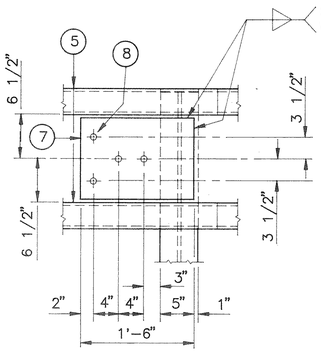
SECTION A

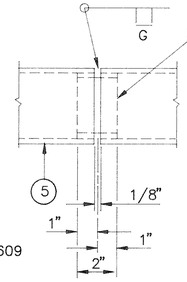


DETAIL AT END POST
(PLATE BEAM GUARD RAIL ATTACHMENT)

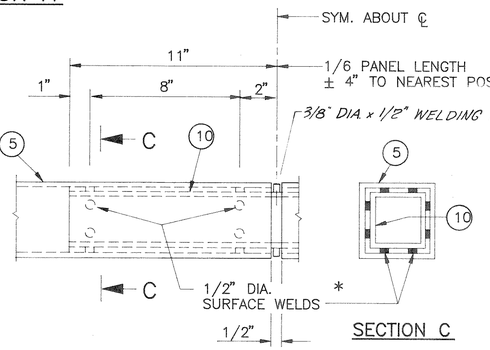


SECTION B





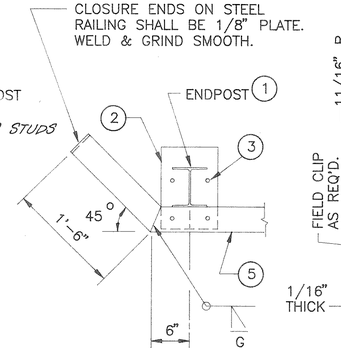
SHOP RAIL SPLICE DETAIL
(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



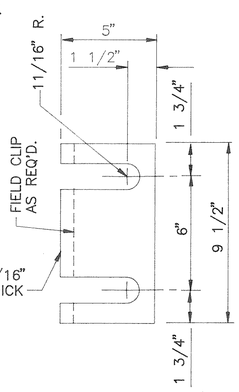
SECTION C

FIELD ERECTION JOINT DETAIL

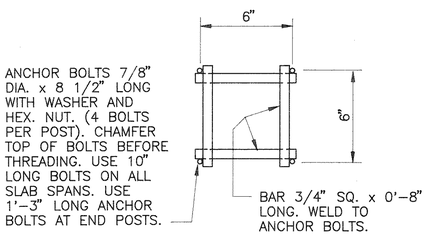
* MIN. 5/8" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.



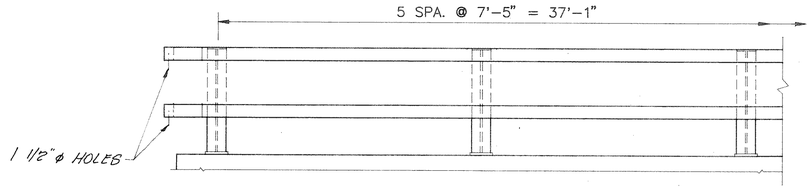
END DETAIL FOR WINGS



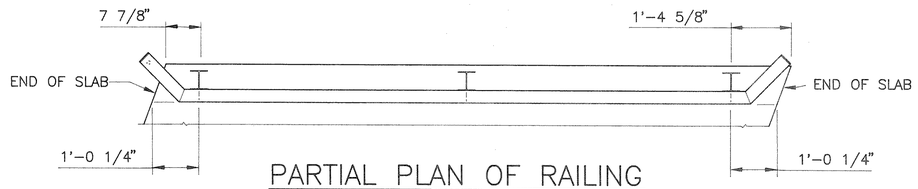
POST SHIM DETAIL
(4 PER POST)



ANCHOR BOLT DETAIL



PARTIAL ELEVATION OF RAILING



PARTIAL PLAN OF RAILING

LEGEND

1. W6x25 WITH 1 1/4" DIA. HOLES ON EACH SIDE OF POST FLANGE. FOR STUD NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POST NORMAL TO GRADE LINE.
2. PLATE 1"x9 1/2"x0'–10", WITH 1 1/16"x1 1/2" SLOTTED HOLES FOR ANCHOR BARS NO.3. WELD TO NO. 1 AS SHOWN.
3. A449 OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION ANCHOR BAR 7/8" DIA.x 1'–3" LONG AT END POSTS AND 10" LONG AT ALL OTHER POST LOCATIONS FOR CONCRETE SLAB STRUCTURES AND 8 1/2" LONG AT ALL OTHER POST LOCATIONS FOR PRESTRESSED GIRDER STRUCTURES. (MIN. YIELD OF 92 K.S.I. AND ELONGATION OF 14%) WITH A325 NUT AND WASHER. 4 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 3. CHAMFER TOP OF BOLTS BEFORE THREADING.
4. BAR 3/4" SQ.x0'–8" LONG. WELD TO ANCHOR BAR NO. 3
5. TS 4x4x.25 STRUCTURAL TUBING, CONFORMING TO A.S.T.M. DESIGNATION A36. ATTACH TO NO. 1 WITH STUDS NO. 6.
6. 1 5/8" DIA.x 1 1/2" LONG SHOP WELDED STUDS, WITH HEX. NUT AND 2" WASHERS. 4 PER POSTS REQ'D. (2 REQ'D. AT EACH LOCATION.)
7. PLATE 3/4"x1'–0"x1'–6". WELD TO END RAIL POST AS SHOWN IN DETAIL. REQUIRED AT BEAM GUARD ATTACHMENTS ONLY.
8. 1" DIA. HOLES IN PLATE NO.7 FOR 7/8" DIA. A325 BOLTS W/HEX NUTS AND WASHERS.
9. SQUARE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT" WITH A MINIMUM OUT TO OUT DIMENSION OF 3 13/32".
10. TS 3x3x.25x1'–10" LONG. PROVIDE 1/2" DIA. SURFACE WELDS ON ALL SIDES AS SHOWN. GRIND WELDS TO FIT FREE INTO I.D. OF NO.5 PROVIDE 3/8" DIA. x1/2" WELDING STUDS ON TOP AND BOTTOM SURFACES AT CENTERLINE.

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, NO.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 NO.3 SHALL BE GALVANIZED AFTER FABRICATION.

FILL BOLT SLOT OPENINGS IN POSTS SHIMS AND PLATE NO.2 WITH NON–STAINING GRAY NON–BITUMINOUS JOINT SEALER.

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.

WELD WITH E70 ELECTRODES.

No.	Date.	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B–35–106

Const. Spec. WIS. '89	Drawn By T.L.	Plans Checked S.R.L.

TUBULAR RAILING TYPE "F"

SHEET 6 OF 6

X 82700

9058R