

DESIGN DATA

LIVE LOAD:
HS-20 (STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20#/S.F.)

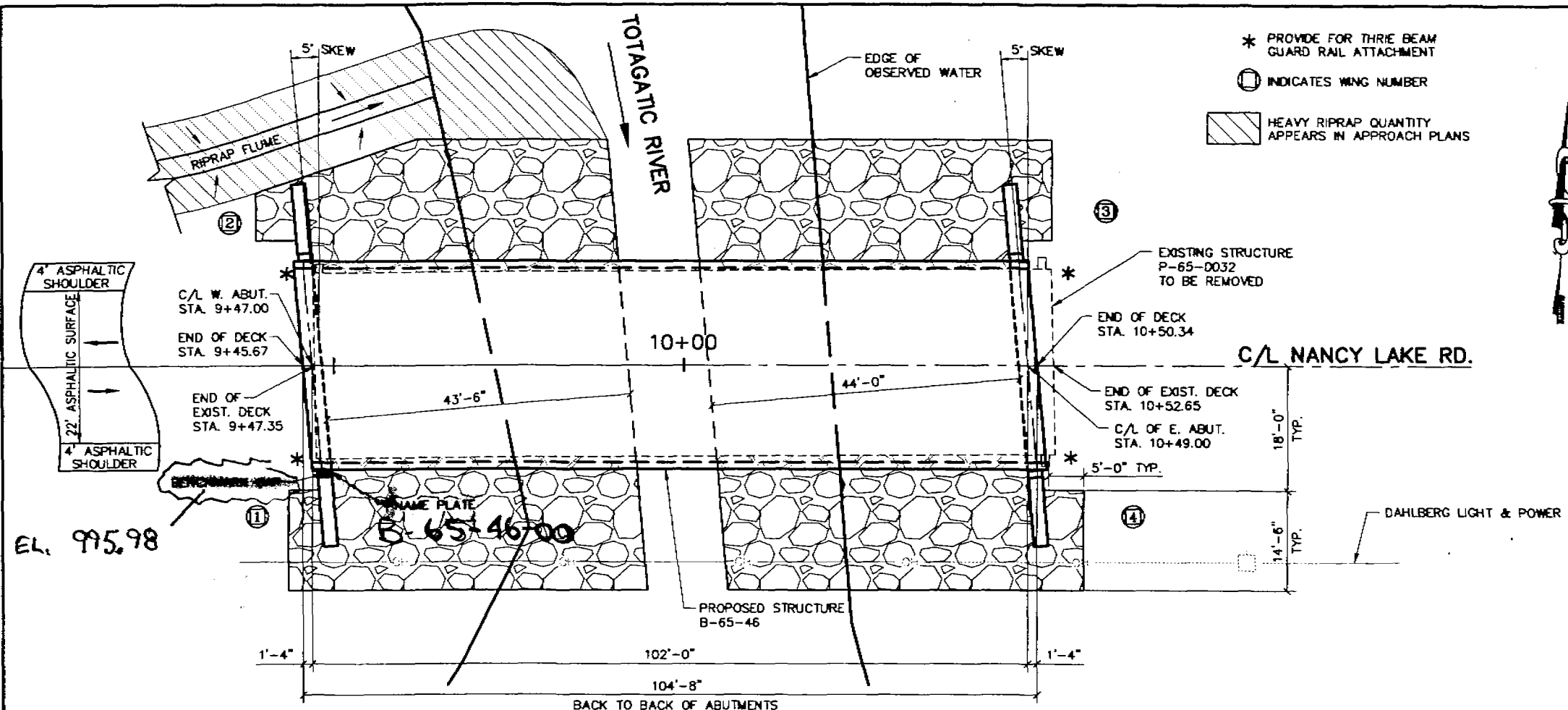
RATINGS:
INVENTORY = HS-23 OPERATING = HS-44
MAXIMUM STANDARD PERMIT VEHICLE LOAD = 250 KIPS

ULTIMATE DESIGN STRESSES:
CONCRETE MASONRY SLAB $f'_c = 4,000$ psi
ALL OTHER $f'_c = 3,500$ psi
HIGH STRENGTH BAR
STEEL REINFORCEMENT (GRADE 60) $F_y = 60,000$ psi
PRESTRESSED GIRDER
CONCRETE MASONRY $f'_c = 6000$ psi
STRANDS - 1/2" DIA. WITH
ULTIMATE TENSILE STRENGTH OF $f'_s = 270,000$ psi

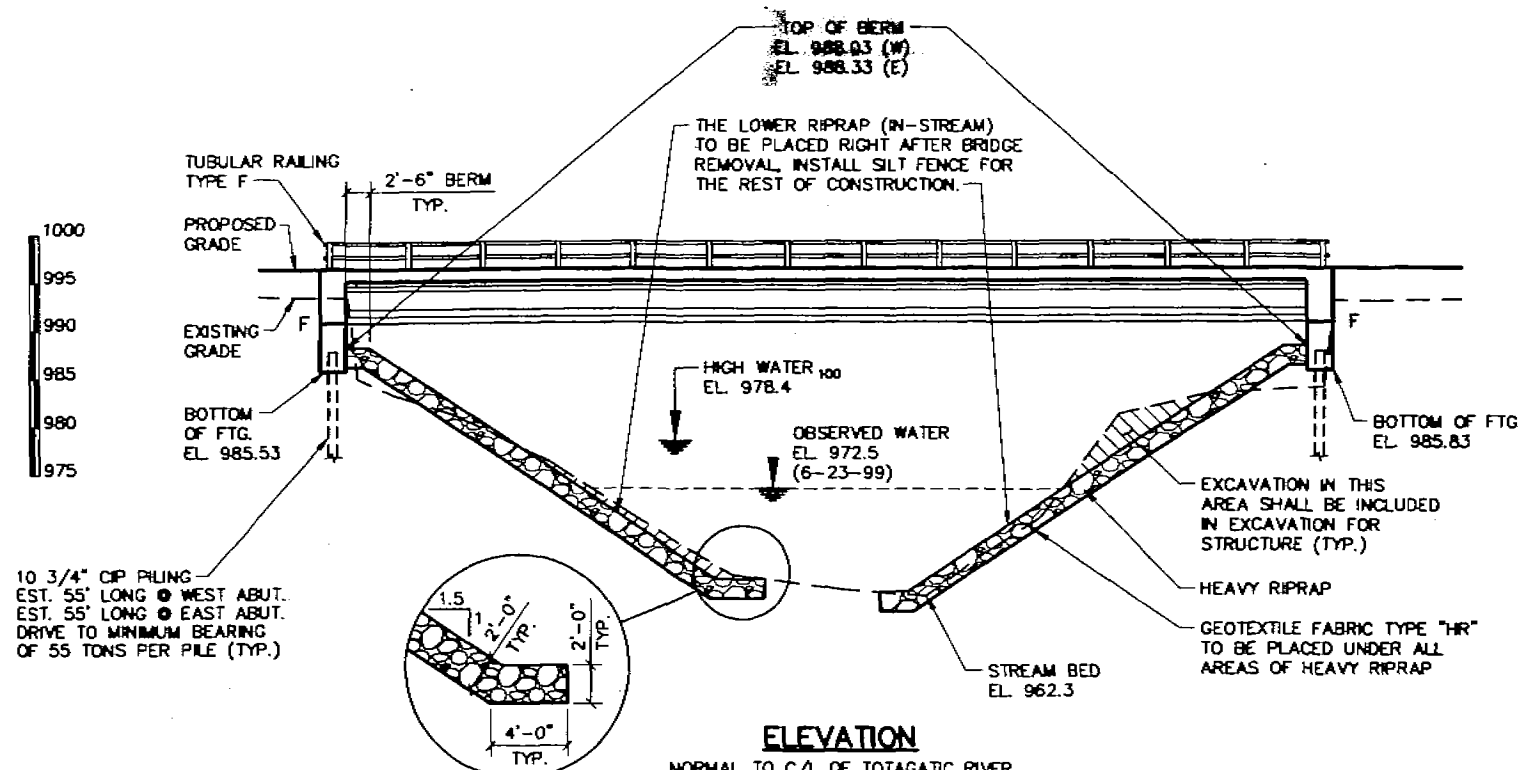
TRAFFIC DATA:
ADT = 475 (2000)
ADT = 705 (2020)
RDS = 55 M.P.H.

HYDRAULIC DATA:
100 YEAR FLOOD
DRAINAGE AREA = 302 SQ. MI.
WATERWAY AREA = 592 SQ. FT.
 $V = 7.1$ F.P.S.
 $Q_{100} = 4200$ C.F.S.
HIGH WATER EL. = 978.4
ROADWAY OVERTOPPING = NA
SCOUR CRITICAL CODE = 8

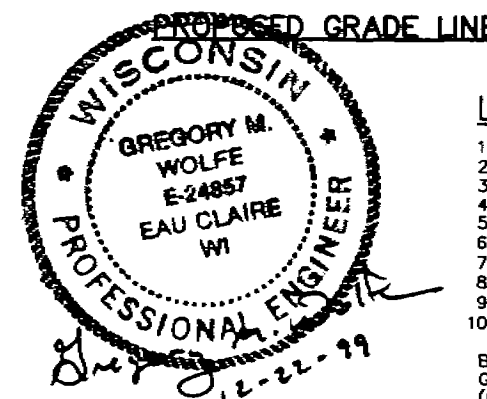
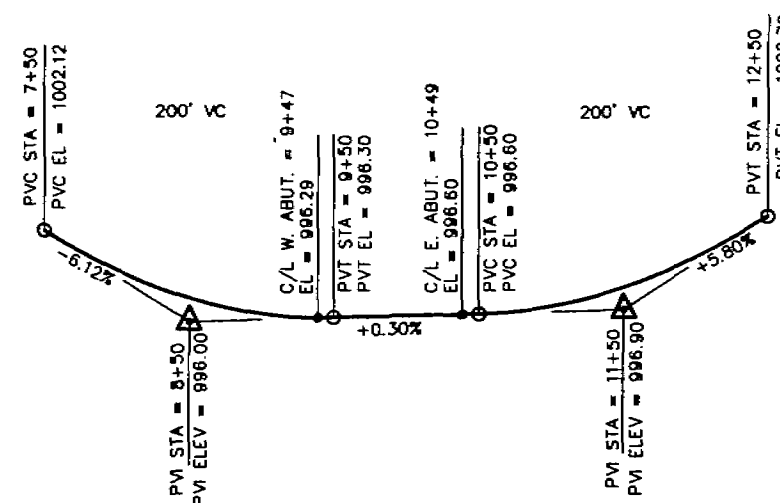
FOUNDATION DATA:
PLACE W. ABUTMENT ON 10 3/4" CIP PILING DRIVEN TO 55 TONS/PILE MINIMUM BEARING VALUE. EST. LENGTH 55'.
PLACE E. ABUTMENT ON 10 3/4" CIP PILING DRIVEN TO 55 TONS/PILE MINIMUM BEARING VALUE. EST. LENGTH 55'.



PLAN
SINGLE SPAN 54" PRESTRESSED GIRDER BRIDGE



ELEVATION
NORMAL TO C/L OF TOTAGATIC RIVER



LIST OF DRAWINGS

1. GENERAL PLAN
2. QUANTITIES & NOTES
3. SUBSURFACE EXPLORATION
4. WEST ABUTMENT
5. EAST ABUTMENT
6. STEEL DIAPHRAGM DETAILS
7. 54" PRETENSIONED GIRDER DETAILS
8. SUPERSTRUCTURE
9. SUPERSTRUCTURE PLAN
10. TUBULAR STEEL RAILING TYPE "F"

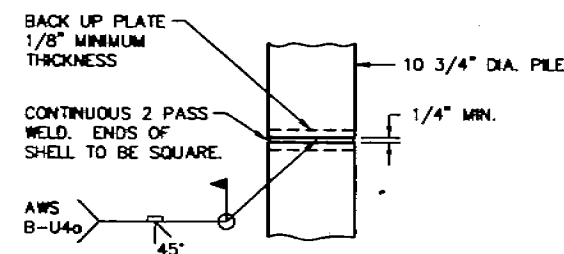
BRIDGE OFFICE CONTACT:
G.H. ANDERSON
(608) 266-8488

BENCHMARK
STA. 9+44 13.8' RT.
12" SPIKE
EL. 993.43

NO.	DATE	REVISION	BY
604 Wilson Avenue Menomonie, Wisconsin 54751 715-235-9081 800-472-7372 FAX 715-235-1777 www.cedarcorp.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-65-46 NANCY LAKE ROAD OVER TOTAGATIC RIVER			
COUNTY	WASHEURN	TOWN	MINONG
DESIGN SPEC.	AASHTO '98	LOAD	HS20
DESIGNED BY	TLP	DRAWN BY	PKF
APPROVED			DATE
STATE BRIDGE ENGINEER		DATE	
GENERAL PLAN		SHEET 1 OF 10	

TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	W. ABUT.	E. ABUT.	SUPER	TOTALS
REMOVING OLD BRIDGE, STA. 10+00	L.S.				1
EXCAVATION FOR STRUCTURES, BRIDGES B-65-46	L.S.				1
STRUCTURE BACKFILL	C.Y.	175	175		350
CONCRETE MASONRY, BRIDGES	C.Y.	28.7	28.7	111.6	169
PROTECTIVE SURFACE TREATMENT	S.Y.			349	349
PRESTRESSED GIRDER, I-TYPE, 54-INCH	L.F.			412	412
HIGH-STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	LB.	2030	2030	8300	12360
COATED HIGH-STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	LB.			11480	11480
NON-LAMINATED ELASTOMERIC BEARING PADS	EACH	4	4		8
STEEL DIAPHRAGMS, STRUCTURE B-65-46	EACH			6	6
CAST IN PLACE CONCRETE PILING DELIVERED & DRIVEN, 10 3/4"	L.F.	330	330		660
TUBULAR RAILING, TYPE "F", STRUCTURE B-65-46	L.S.			1	1
RUBBERIZED MEMBRANE WATERPROOFING	S.Y.	8	8		16
HEAVY RIPRAP	C.Y.	250	260		510
GEOTEXTILE FABRIC, TYPE "HR"	S.Y.	410	440		850
NON-BID ITEMS					
FILLER	SIZE				1/2 & 3/4



C.I.P. CONC. PILING

PILE SPICE DETAIL

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

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE FABRIC TO THE EXTENT SHOWN ON THE GENERAL PLAN SHEET AND IN THE ABUTMENT DETAILS.

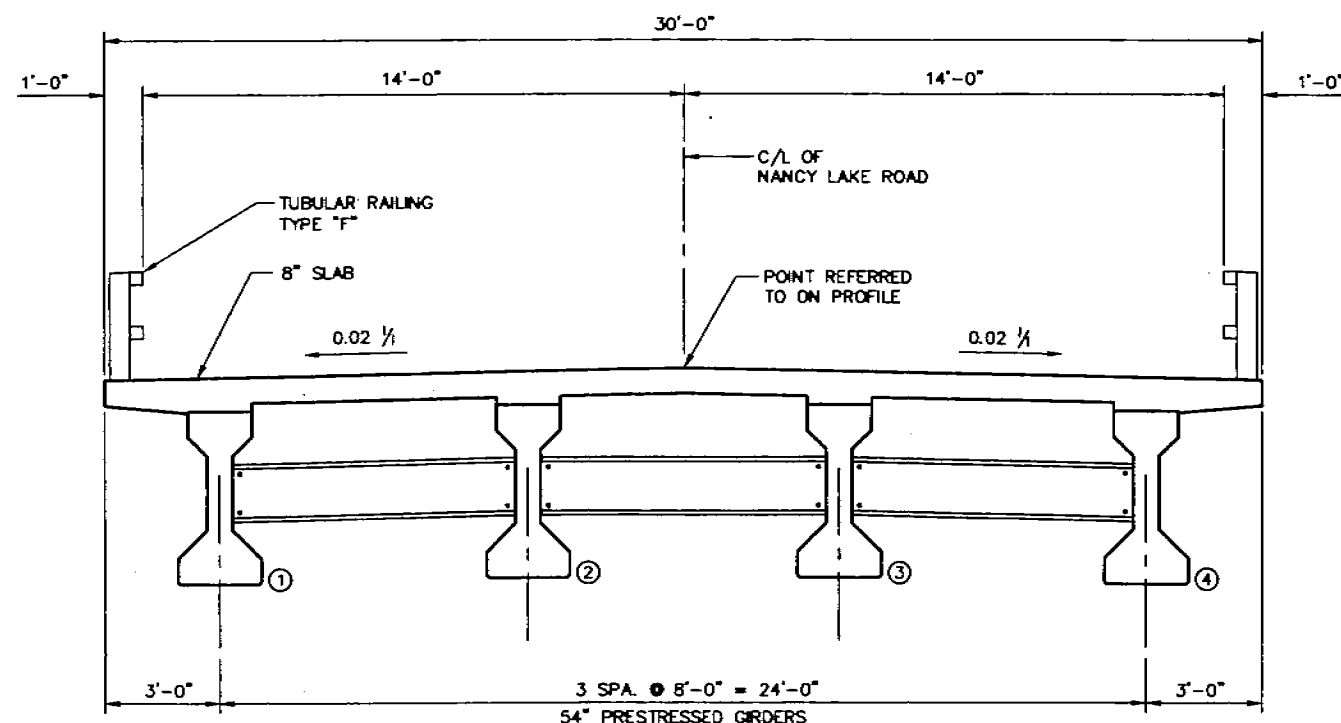
PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED TO THE TOP OF DECK.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

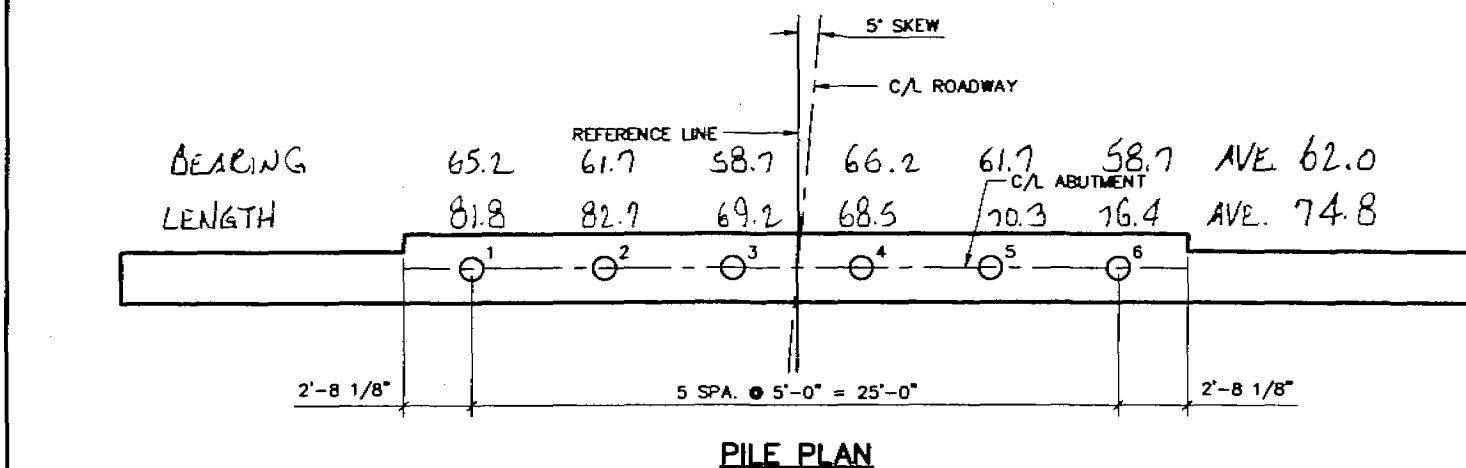
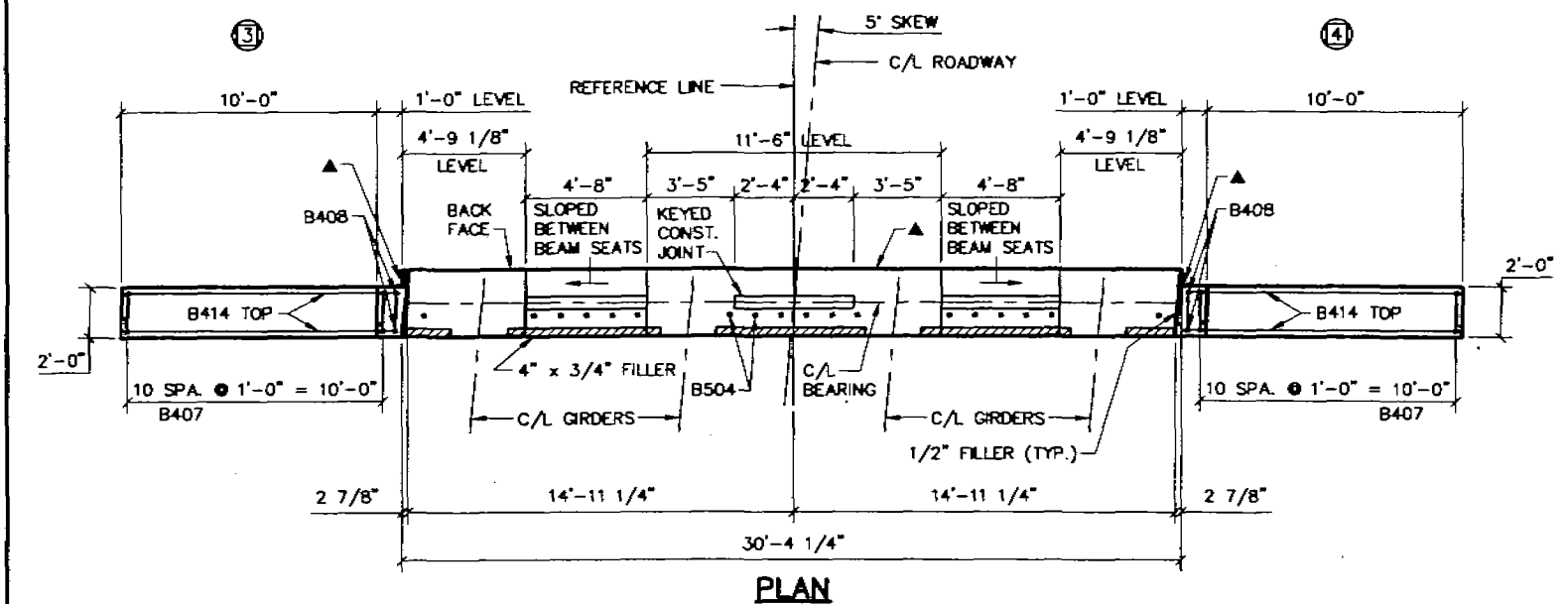
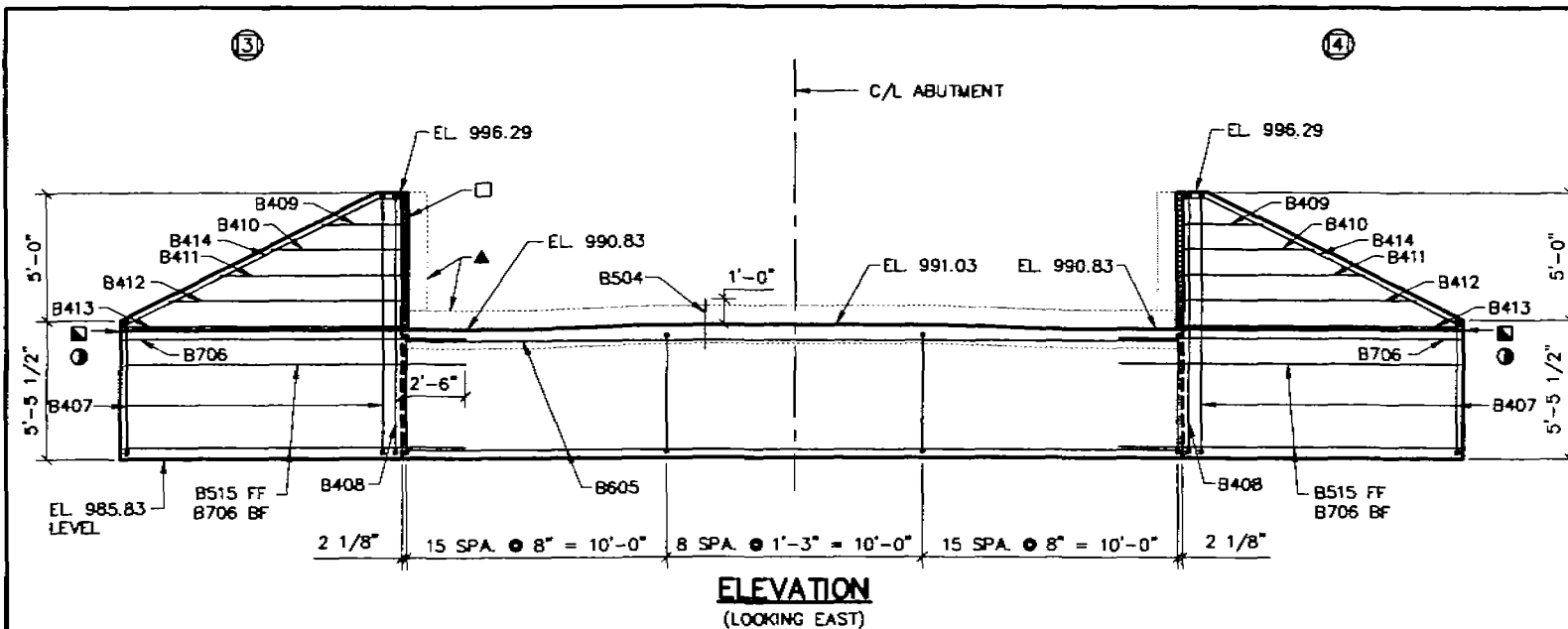
PILE SHELL MATERIAL SHALL BE A.S.T.M. DESIGNATION A-252 GRADE 2 OR EQUAL.

THE EXISTING BRIDGE (P-65-0032) IS A 105.3' LONG BY 26.6' CLEAR WIDTH THREE SPAN STEEL DECK GIRDER BRIDGE.

TK290

CROSS-SECTION THRU ROADWAY
(LOOKING EAST)

NO.	DATE	REVISION	BY
604 Wilson Avenue Menomonee, Wisconsin 54751 715-235-9081 808-472-7372 FAX 715-235-7277 www.cedarcorp.com			
engineers • architects • planners • environmental specialists land surveyors • landscape architects • interior designers			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-65-46			
CONST. SPEC.	1996	DRAWN BY	PKF PLANS CK'D TLP
QUANTITIES & NOTES			SHEET 2 OF 10



INDICATES WING NUMBER

18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS ON BACKFACE

KEYED CONSTRUCTION JOINT FORMED BY 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 AND HOLD 1/8" BELOW SURFACE OF CONC.)

3/4" V GROOVE ON FF OF WING WALL - NOT REQUIRED IF CONST. JOINT IS NOT USED

OPTIONAL KEYED CONST. CONSTRUCTION JOINT FORMED BY BEVELED 2" x 6"

BAR SERIES TABLE

MARK	NO. REQUIRED	LENGTH
B407	4 SERIES OF 11	7-10 TO 12-10

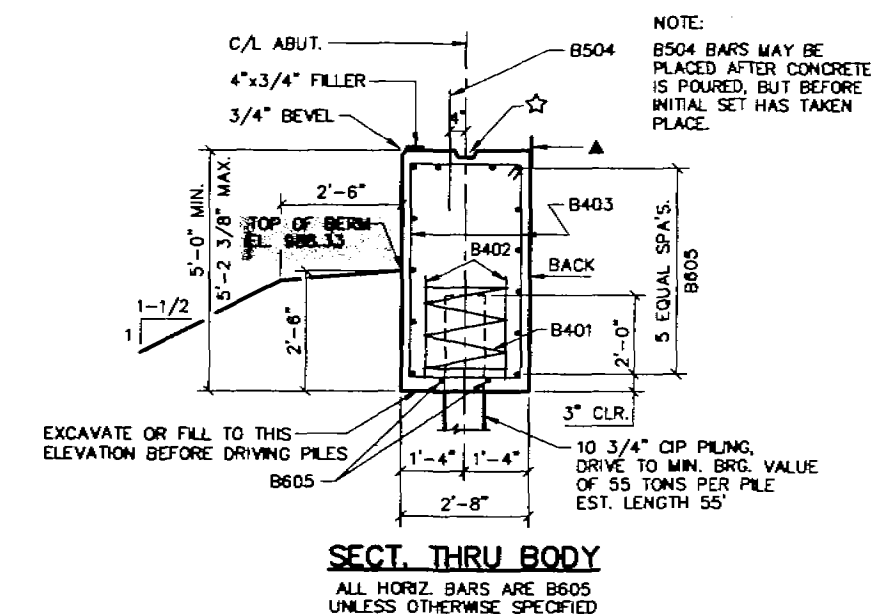
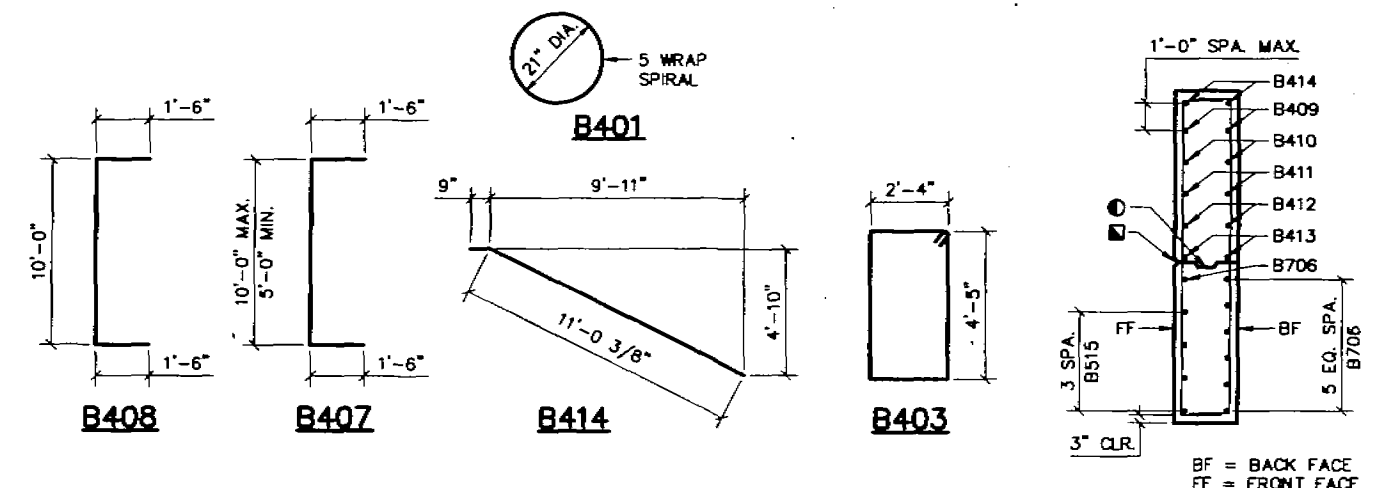
BUNDLE & TAG EACH SERIES SEPARATELY

BILL OF BARS

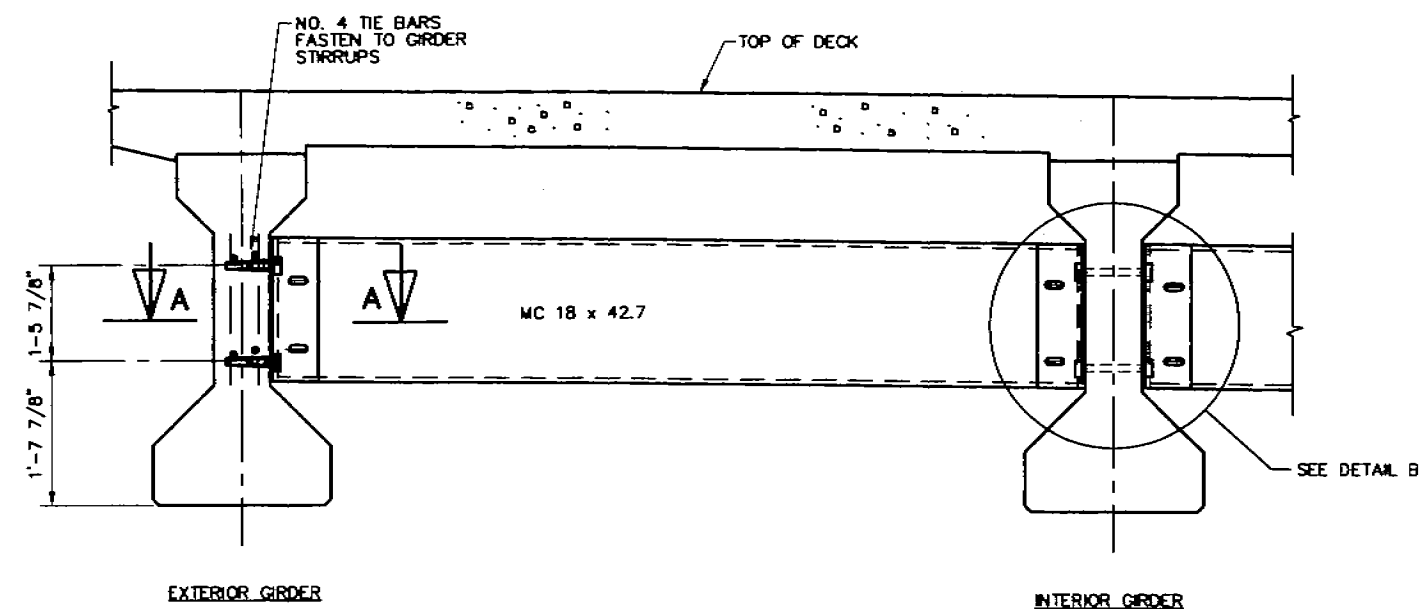
2030 # UNCOATED

BAR MARK	NO. REQUIRED	LENGTH	BENT	BAR SERIES	LOCATION
B401	6	28-0	X		BODY - ONE PER PILE
B402	12	2-3			BODY - TWO PER PILE
B403	39	14-0	X		BODY - STIRRUPS
B504	18	2-0			ABUTMENT DOWELS
B605	15	30-0			BODY - HORIZ.
B706	14	13-3			WING 3 & 4 - HORIZ.
B407	44	9-7	X		WING 3 & 4 - VERT.
B408	4	12-10	X		WING 3 & 4 - VERT.
B409	4	2-10			WING 3 & 4 - HORIZ.
B410	4	4-10			WING 3 & 4 - HORIZ.
B411	4	6-10			WING 3 & 4 - HORIZ.
B412	4	8-10			WING 3 & 4 - HORIZ.
B413	4	10-6			WING 3 & 4 - HORIZ.
B414	4	11-9	X		WING 3 & 4 - HORIZ. TOP
B515	8	13-3			WING 3 & 4 - HORIZ. FF

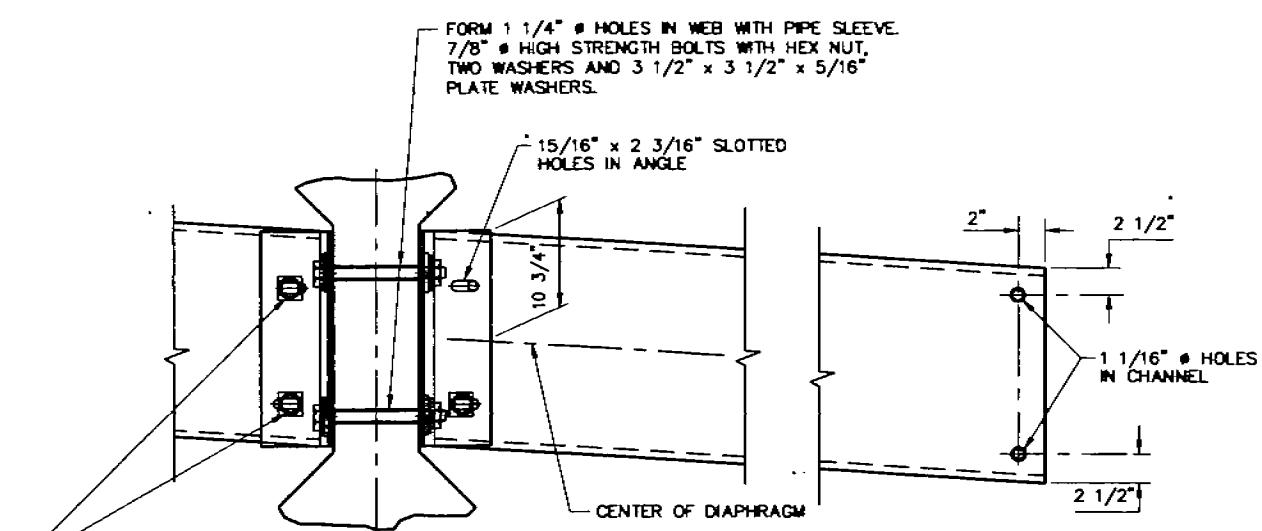
LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



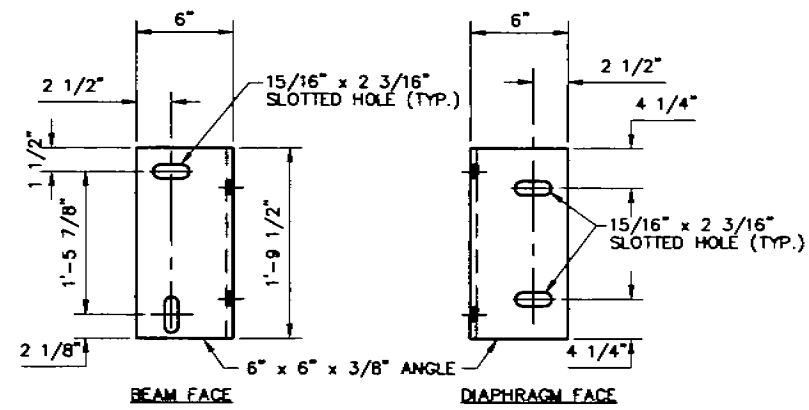
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Cedar Corporation 504 Main Avenue Madison, Wisconsin 53701 715-235-9001 800-472-7372 FAX 715-235-2727 www.cedarcorp.com		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS		
STRUCTURE B-65-46		
CONST. SPEC.	1996	DRAWN BY PKF PLANS CKD TLP
EAST ABUTMENT		SHEET 5 OF 10



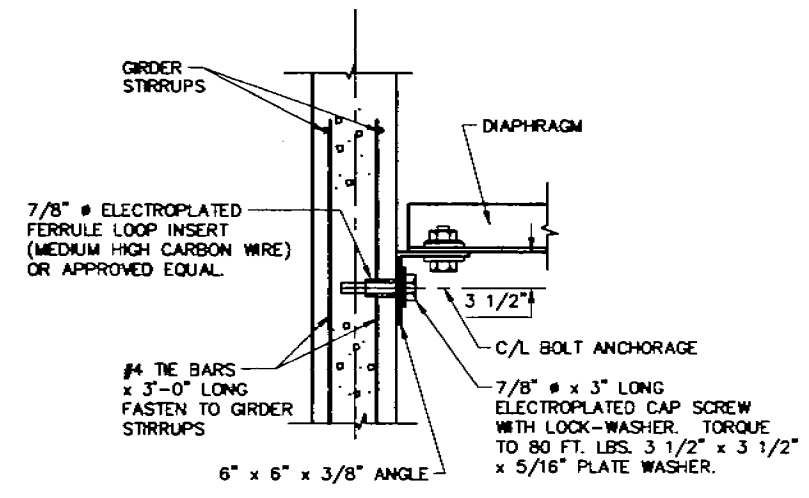
PART TRANSVERSE SECTION AT DIAPHRAGM



DETAIL B
(FOR CONTINUOUS LINE OF DIAPHRAGMS)



DIAPHRAGM SUPPORT



SECT. A-A
(FOR EXTERIOR ATTACHMENT)

NOTES

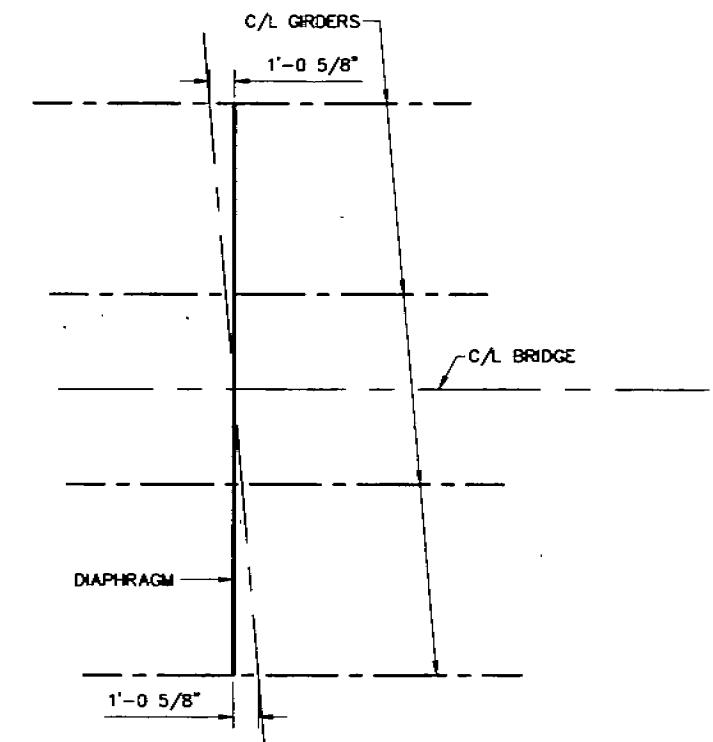
ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGM", STRUCTURE, EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

PLACE DIAPHRAGMS AT 1/3 AND 2/3 POINTS OF GIRDER.



PLAN FOR DIAPHRAGM LAYOUT

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Cedar corporation 604 Wilson Avenue Menasha, Wisconsin 54751 715-235-9081 800-472-7172 715-235-2727 www.cedarcorp.com engineers • architects • planners • environmental specialists and surveyors • landscape architects • interior designers			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-65-46			
CONST. SPEC.	1996	DRAWN BY	PKF
		PLANS CK'D	TLP
STEEL DIAPHRAGM DETAILS			SHEET 6 OF 10

STATE PROJECT NUMBER	SHEET NO.
8476-02-71	8.7

NOTES

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS. ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB, EXCEPT THE OUTSIDE 2" OF GIRDER, WHICH SHALL BE TROWEL FINISHED.

PRESTRESSING STRANDS SHALL BE 1/2" DIA. - 7 WIRE LOW RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 P.S.I. AND SHALL BE FLUSH WITH THE ENDS OF THE GIRDER.

BEND EACH END OF NO. 6 STIRRUPS 5 1/2" AND NO. 4 STIRRUPS 4 1/2".

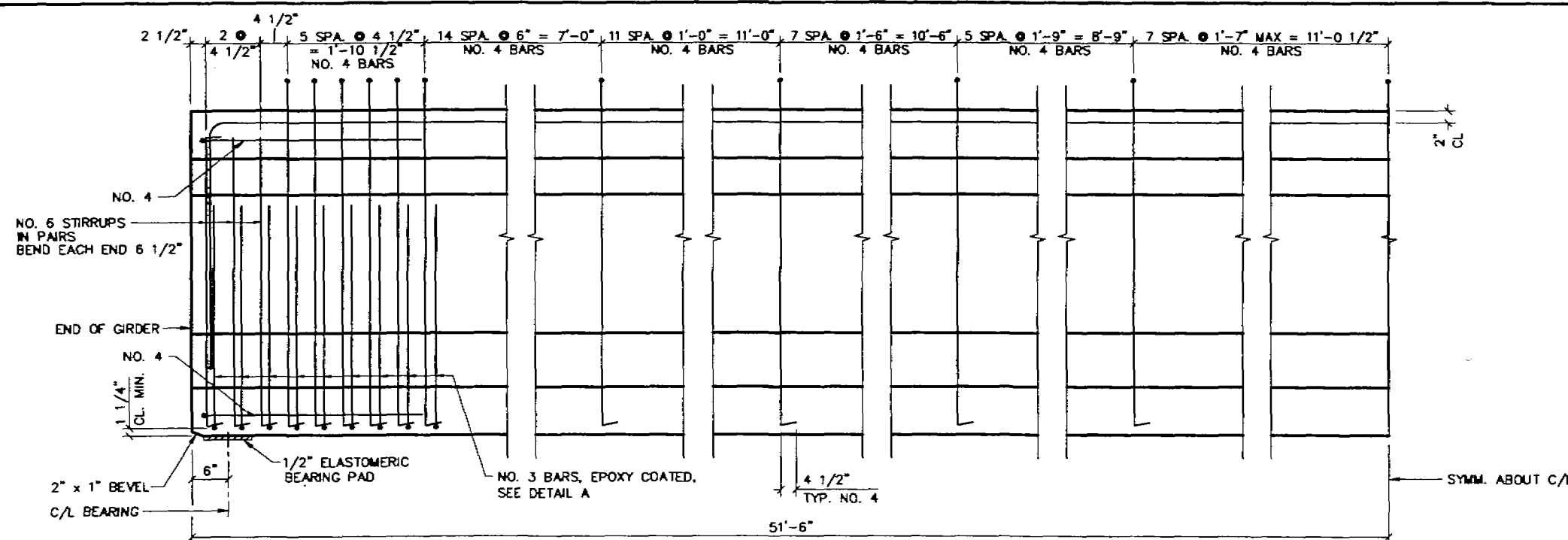
FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, 2 OPTIONS ARE AVAILABLE:

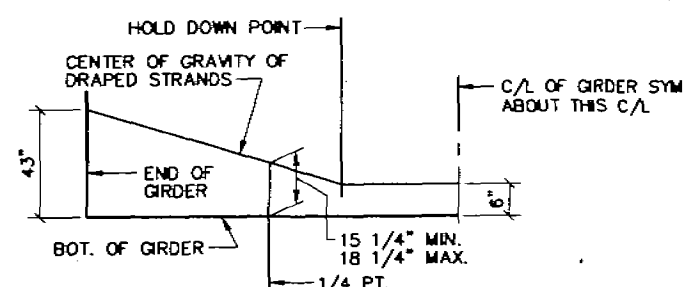
1. USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.
2. USE ASTM A615, GRADE 40 REINFORCEMENT AND A MODIFIED STIRRUP SPACING SUBMITTED TO AND APPROVED BY THE STRUCTURES DEVELOPMENT SECTION.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

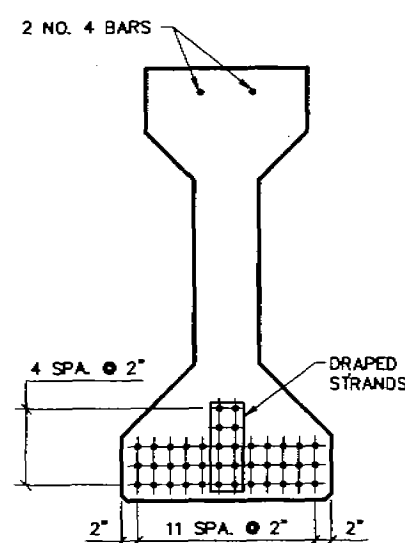
WELDED WIRE FABRIC SHALL CONFORM TO THE REQUIREMENTS OF ASTM A497.



54" GIRDER - SIDE VIEW

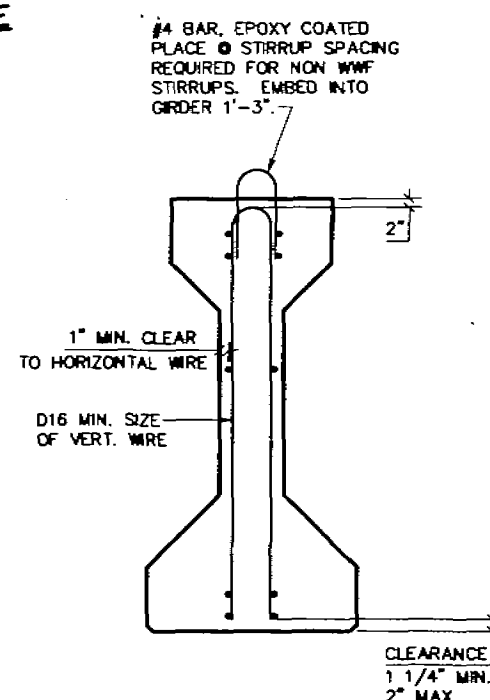


DRAPED STRAND PROFILE

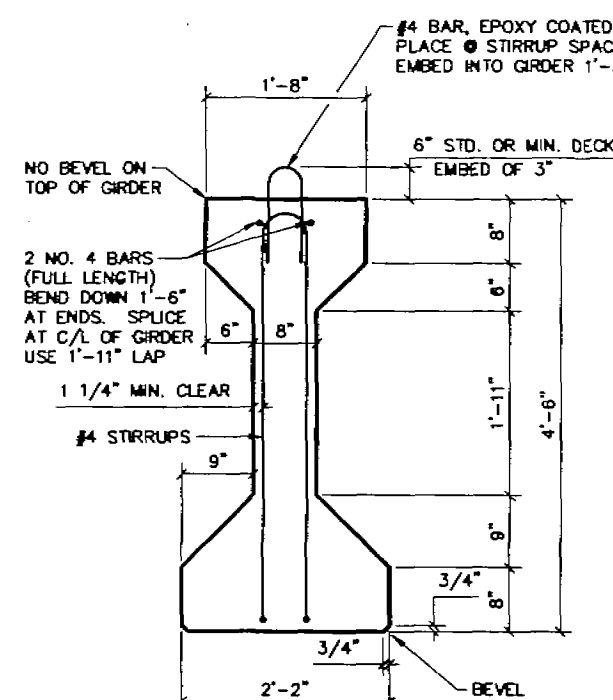


SECTION THRU GIRDER
TAKEN AT C/L OF GIRDER

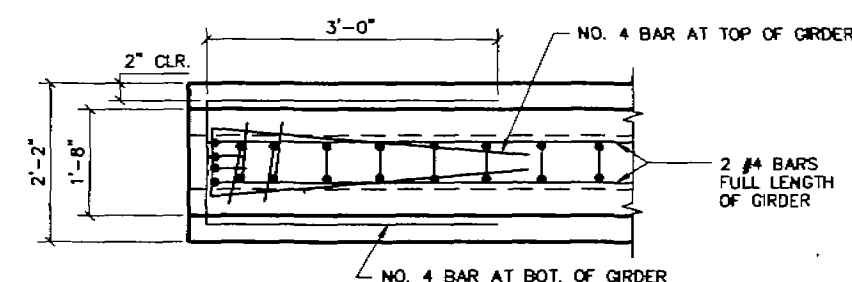
(40 STRANDS, TOTAL INITIAL PRESTRESS FORCE = 1240 KIPS)



SECTION THRU GIRDER
SHOWING WELDED WIRE FABRIC (WWF) STIRRUPS

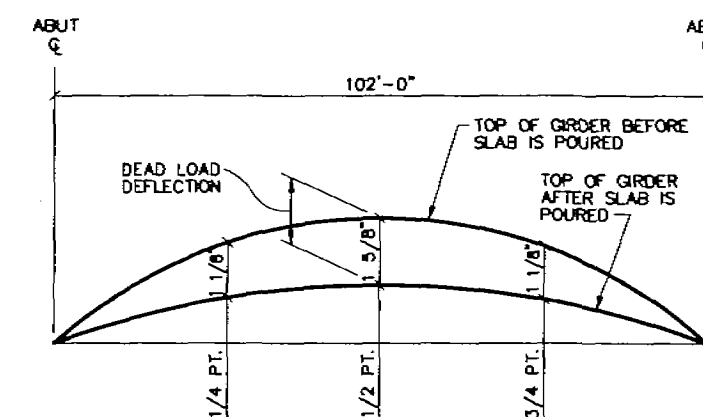


SECTION THRU GIRDER

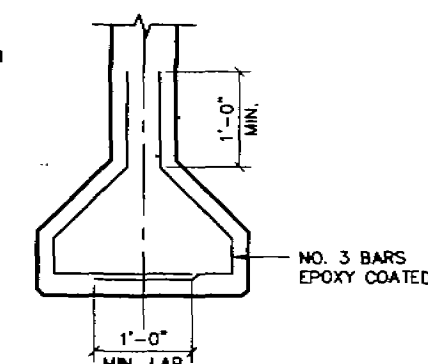


TOP VIEW OF
GIRDER ENDS

* MINIMUM CYLINDER STRENGTH OF CONCRETE
@ TIME OF TRANSFER OF PRESTRESSED FORCE
 F'_{ci} (PSI) = 4,800



DEAD LOAD DEFLECTION DATA

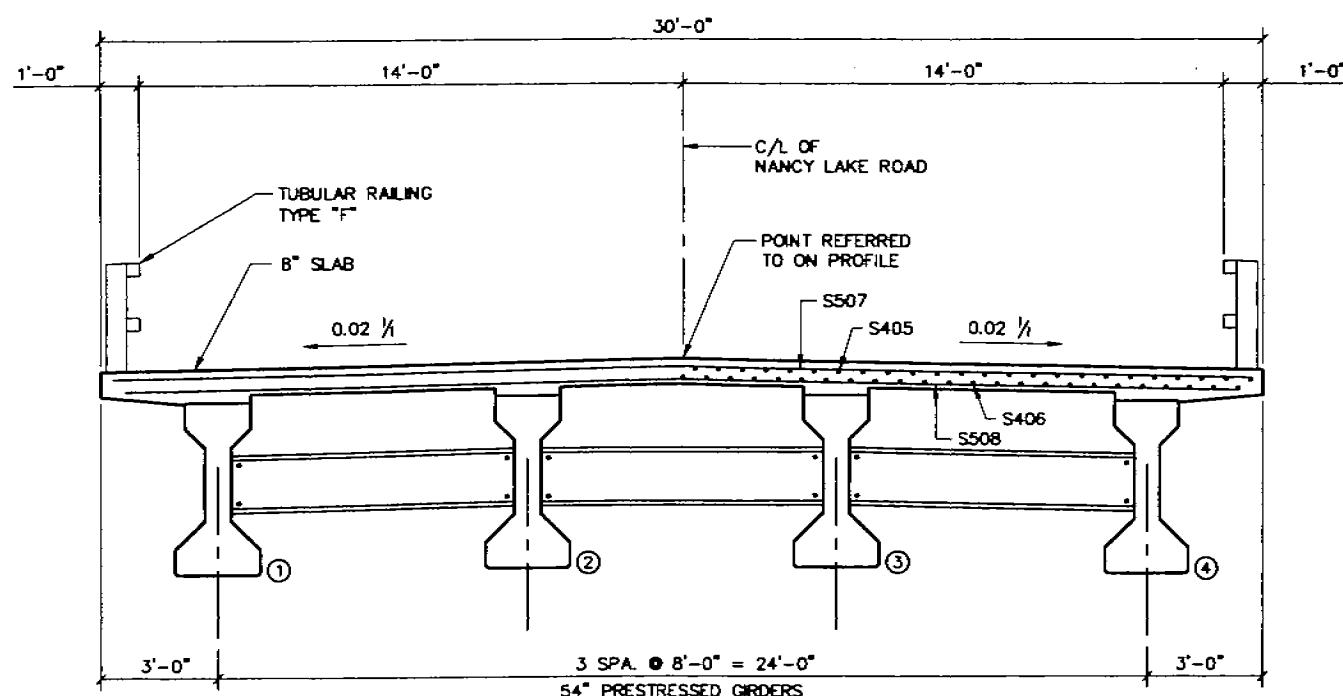


DETAIL A

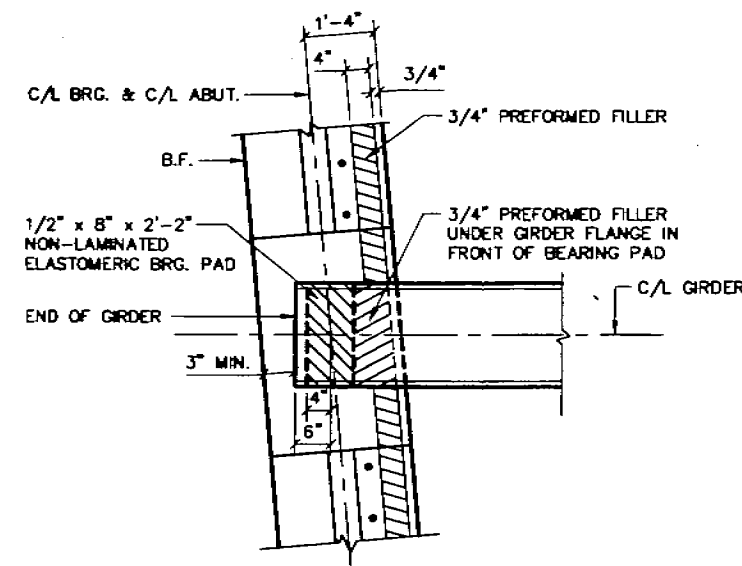
NO.	DATE	REVISION	BY
1			
Cedar corporation 604 Wilson Avenue Menomonie, Wisconsin 54751 715-235-9081 800-472-7372 FAX 715-235-2727 www.cedarcorp.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-65-46			
CONST. SPEC.	1996	DRAWN BY	PKF
		PLANS CK'D	TLP
54" PRETENSIONED GIRDER DETAILS			SHEET 7 OF 10

8476-02-71

8.8



CROSS-SECTION THRU ROADWAY
(LOOKING EAST)



BEARING PAD DETAIL

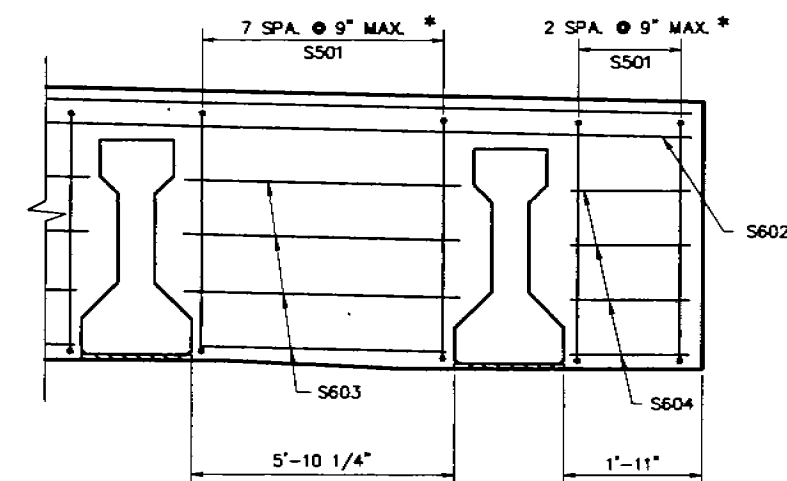
BILL OF BARS

NOTE: BAR DIMENSIONS ARE OUT TO OUT OF BAR. THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

8300 # UNCOATED 11480 # COATED

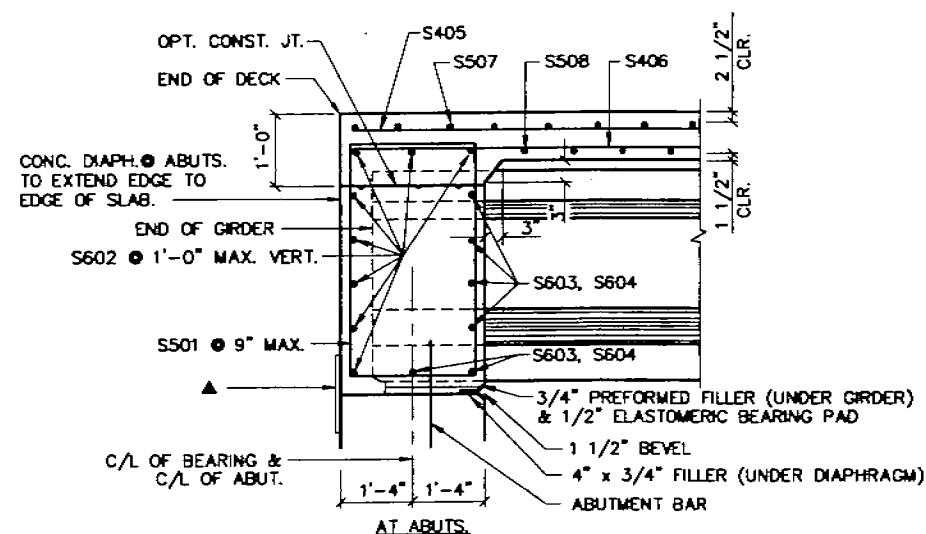
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S501	X	60	14-6	X		DIAPHRAGM @ ABUTMENTS
S602	X	16	29-8			DIAPHRAGM @ ABUTMENTS
S603	X	36	5-8			DIAPHRAGM @ ABUTMENTS
S604	X	24	1-8			DIAPHRAGM @ ABUTMENTS
S405	X	144	35-11			SLAB - TOP - LONGIT.
S406		141	35-11			SLAB - BOTTOM - LONGIT.
S507	X	168	29-8			SLAB - TOP - TRANS.
S508		159	29-8			SLAB - BOTTOM - TRANS.
S609	X	48	4-0			AT INTERIOR RAIL POSTS
S610	X	8	4-0	X		AT END RAIL POSTS
S611	X	24	12-0	X		AT INTERIOR RAIL POSTS
S612	X	4	12-0	X		AT END RAIL POSTS

* DIMENSIONS ARE PARALLEL TO GIRDER C/L



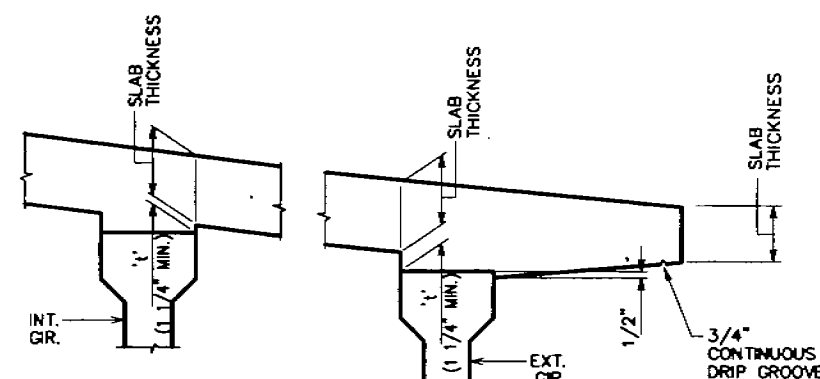
PART SECTION @ ABUTMENTS
(NORMAL TO ABUTMENT)

▲ 18" RUBBERIZED MEMBRANE WATERPROOFING



LONGITUDINAL SECT. THRU RDWY.

NOTE: S501 ARE PLACED PARALLEL TO GIRDER C/L

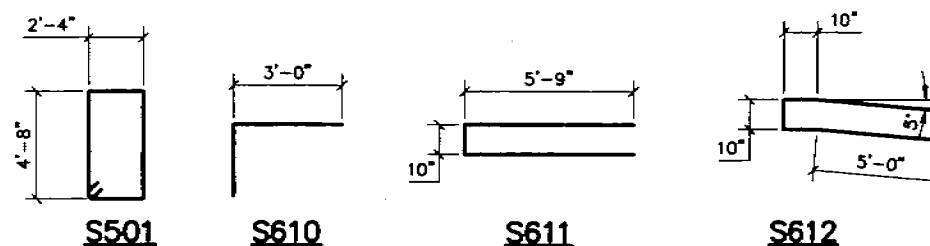


SLAB HAUNCH DETAIL

IF 1 1/4" MINIMUM HAUNCH HEIGHT 'H' CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. MAXIMUM HAUNCH HEIGHT EQUALS "STIRRUP PROJECTION" MINUS 3". NOTIFY BRIDGE OFFICE FOR HAUNCH HEIGHTS OVER 4".

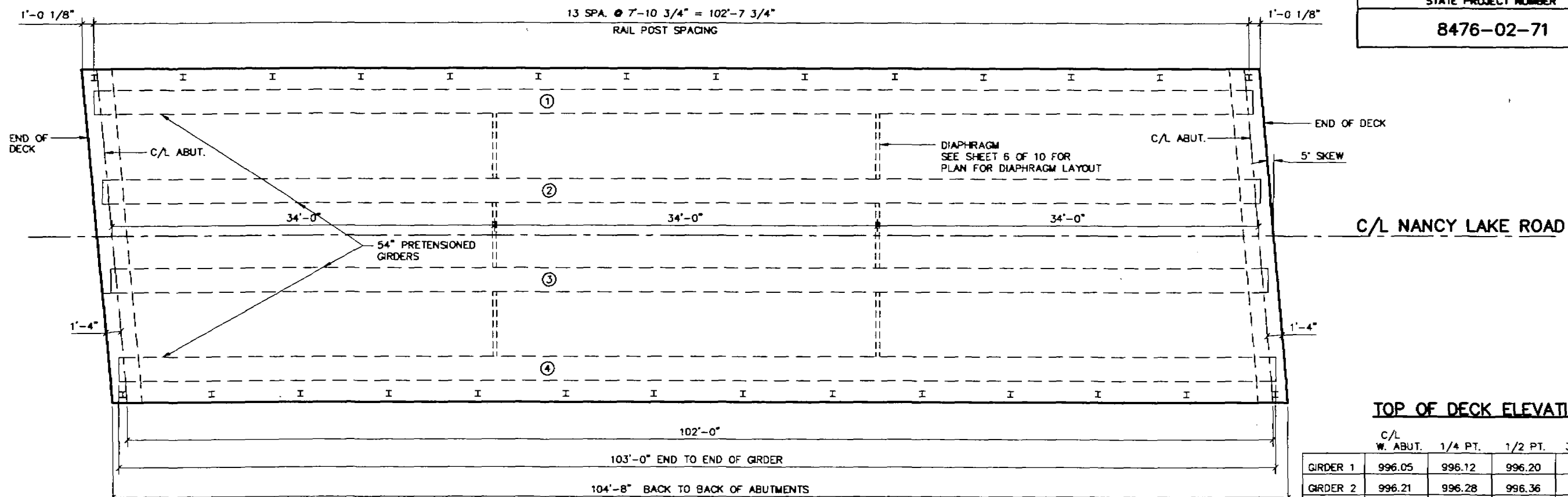
TO DETERMINE 'H': ELEV. OF TOP OF GIRDERS AT C/L OF SUBSTRUCTURE UNITS & AT 1/4 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEADLOAD DEFLECTION
- SLAB THICKNESS
= HAUNCH HEIGHT 'H'



NO.	DATE	REVISION	BY
504 Wilson Avenue Monroeville, Missouri 64151			
715-235-9081 800-472-7372 engineers • architects • planners • environmental specialists land surveyors • landscape architects • interior designers FAX 715-235-2727 www.cedarcorp.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-65-46			
CONST. SPEC.	1996	DRAWN BY	PKF
		PLANS CK'D	TLP
SUPERSTRUCTURE			SHEET 8 OF 10

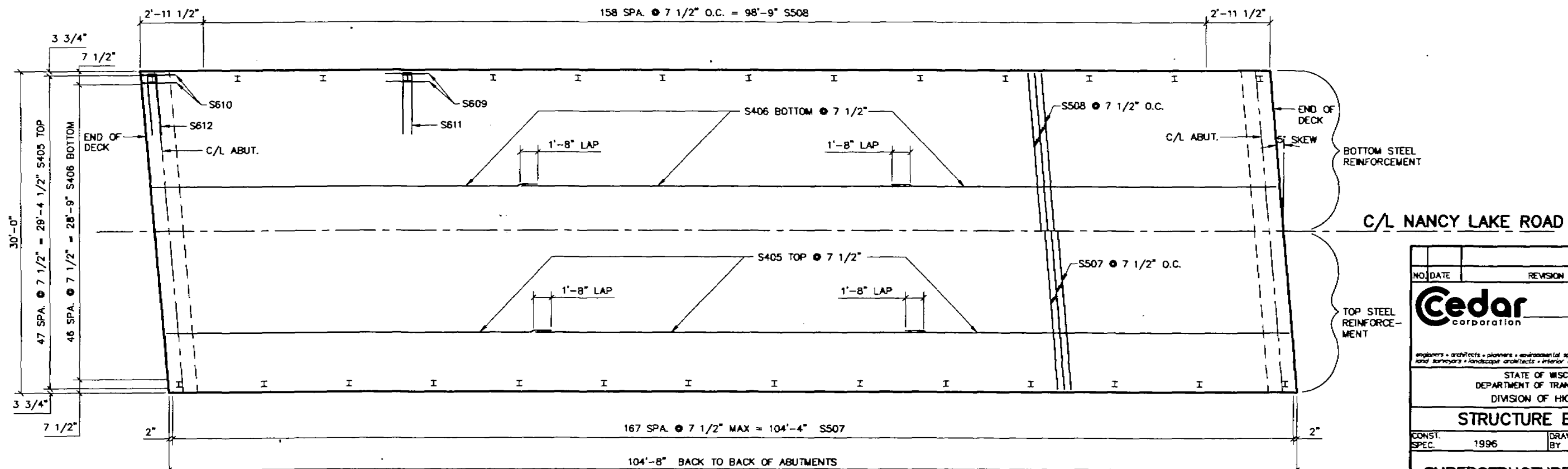
STATE PROJECT NUMBER	SHEET NO.
8476-02-71	8.9



PLAN

TOP OF DECK ELEVATIONS

	C/L W. ABUT.	1/4 PT.	1/2 PT.	3/4 PT.	C/L E. ABUT.
GIRDER 1	996.05	996.12	996.20	996.28	996.36
GIRDER 2	996.21	996.28	996.36	996.44	996.52
GIRDER 3	996.21	996.28	996.36	996.44	996.52
GIRDER 4	996.05	996.12	996.20	996.28	996.36



STEEL LAYOUT PLAN

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STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-65-46			
CONST. SPEC.	1996	DRAWN BY	PKF
		PLANS CK'D	TLP
SUPERSTRUCTURE PLAN			SHEET 9 OF 10

LEGEND

- W6x25 WITH 1 1/4" DIA. HOLES ON EACH SIDE OF POST FOR STUD NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- PLATE 1"x9 1/2"x10", WITH 1 1/16"x1 1/2" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.
- A325-7/8" DIA. x 8" LONG HEX BOLTS (GALVANIZED) WITH A325 NUT AND WASHER. 4 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-2" LONG AT END POSTS.
- 1/4" x 8" x 8" FLAT BAR, WITH 15/16" DIA. HOLES FOR ANCHOR BOLTS NO. 3.
- TS 4x4x0.25 STRUCTURAL TUBING, CONFORMING TO A.S.T.M. DESIGNATION A501 OR A500 GRADE B, ATTACH TO NO. 1 WITH STUDS NO. 6.
- 5/8" DIA. x 1-1/2" LONG SHOP WELDED STUDS, WITH HEX. NUT AND 2" WASHERS. (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
- PLATE 3/8" x 1'-4" x 1'-8". BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THREE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5.
- 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5 FOR 7/8" DIA. A325 BOLTS W/HEX NUTS AND WASHERS.
- SQUARE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT" WITH A MINIMUM OUT TO OUT DIMENSION OF 3 13/32".
- TS 3"x3"x.25x(1'-10" AT FIELD JOINTS) 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. x 1/2" 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 LENGTHS THAT INCLUDE 3 OR 4 POSTS.

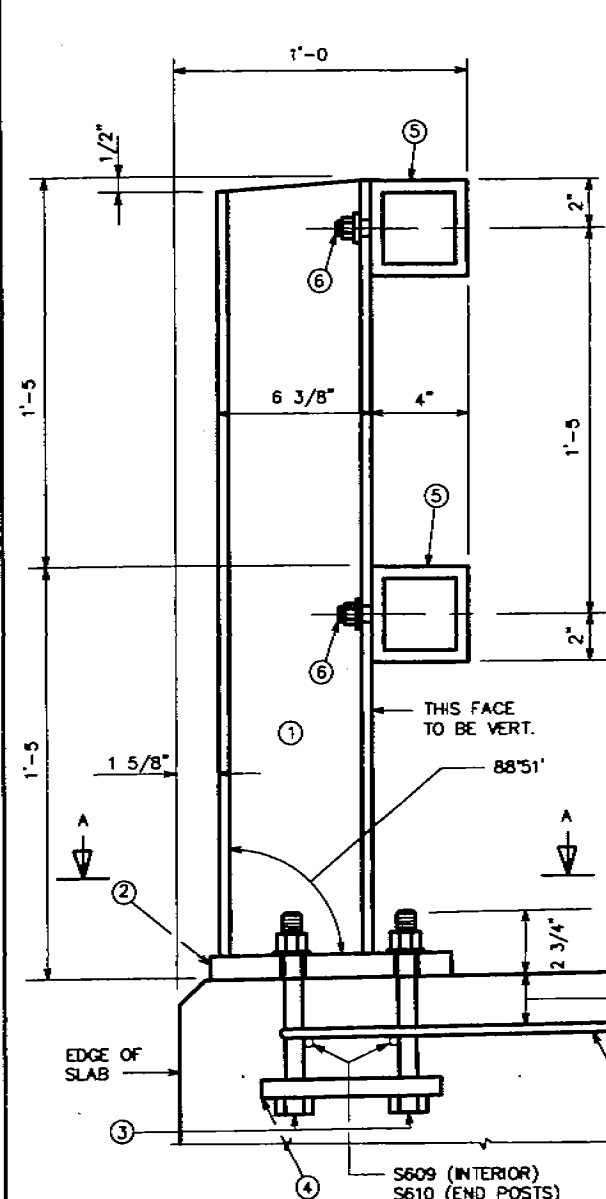
POSTS BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 4) SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.

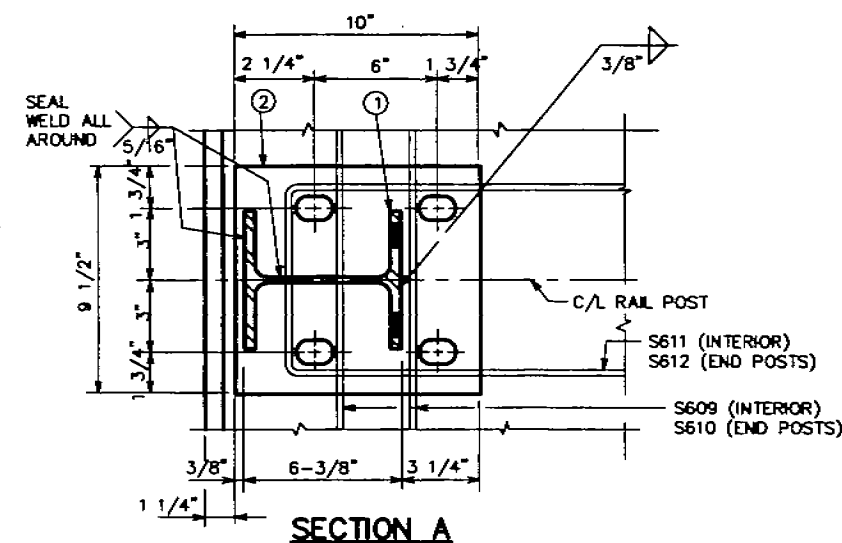
ALL MATERIALS USED IN FABRICATION SHALL BE MADE FROM MATERIALS CONFORMING TO A.S.T.M. DESIGNATION A709 GRADE 36 UNLESS NOTED OTHERWISE.

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

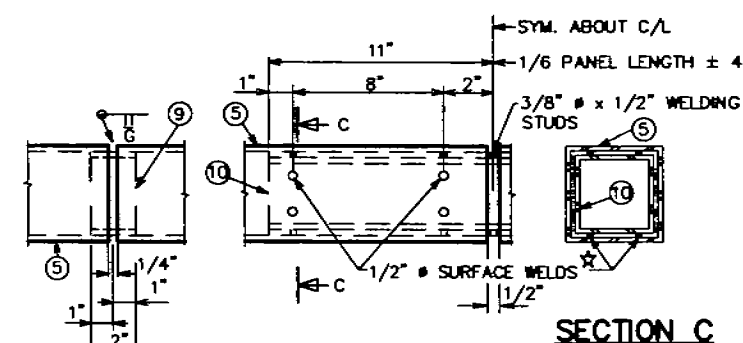
STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.



SECTION THRU RAILING ON DECK



SECTION A



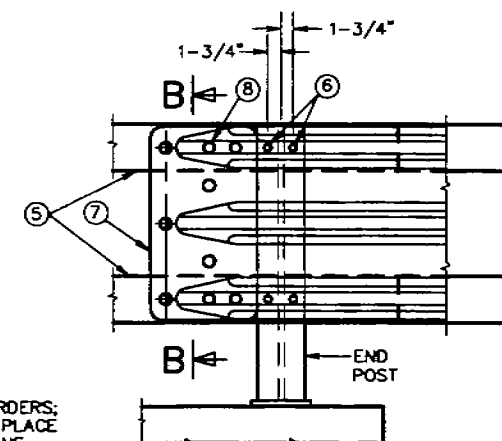
SECTION C

SHOP RAIL SPICE DETAIL

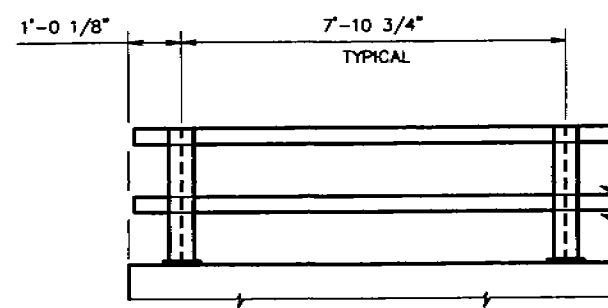
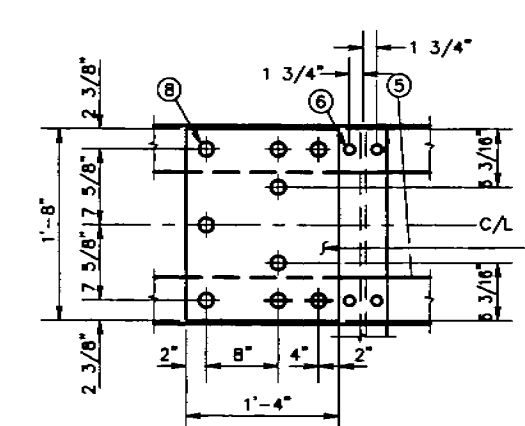
(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)

FIELD ERECTION JOINT DETAIL

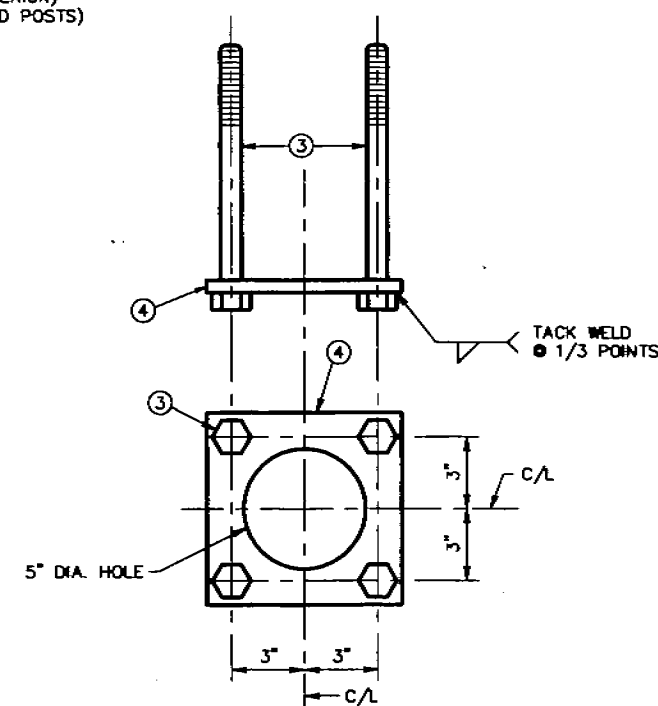
★ MIN. 5/8" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.



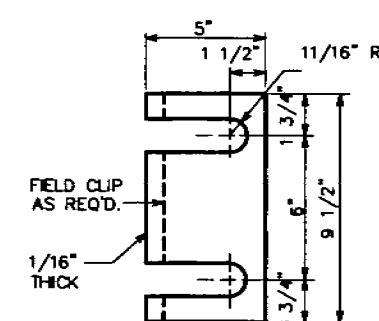
SECTION B
DETAIL AT END POST
(THREE BEAM RAIL ATTACHMENT)



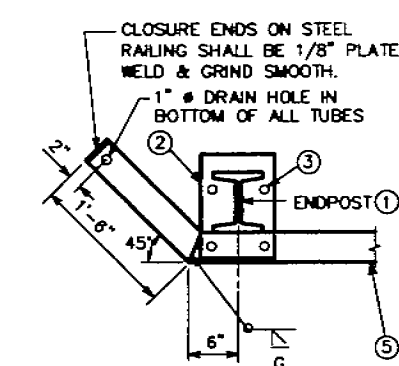
PART ELEVATION OF RAILING



ANCHORAGE DETAIL



POST SHIM DETAIL
(4 PER POST)



DETAIL FOR END POSTS

NO.	DATE	REVISION	BY
Cedar corporation 604 Wilson Avenue Menomonee, Wisconsin 54751 715-235-9000 900-472-7372 FAX 715-235-7372 www.cedarcorp.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-65-46			
CONST. SPEC.	1996	DRAWN BY	PKF
TUBULAR STEEL RAILING TYPE "F"			PLANS OCD. TLP
			SHEET 10 OF 10