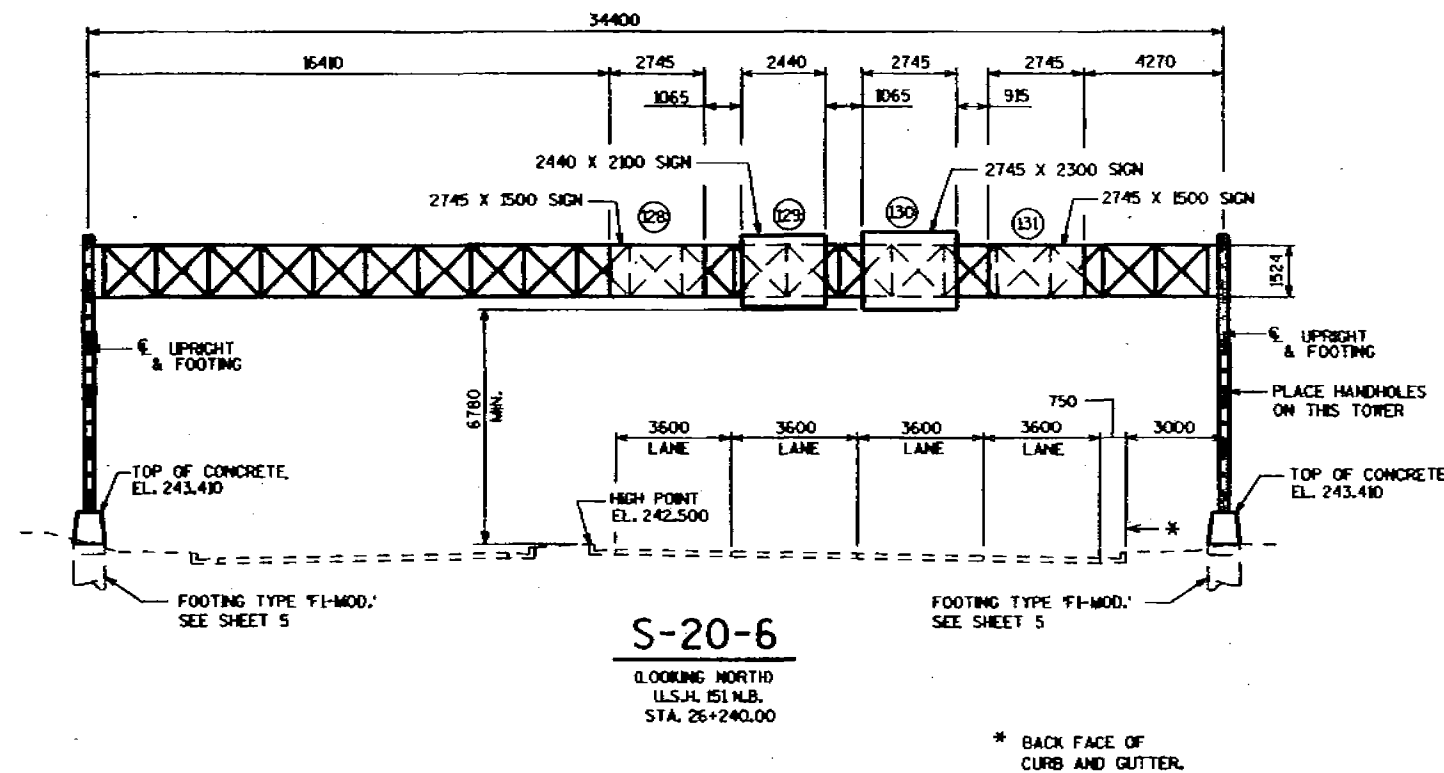


STATE PROJECT NUMBER	SHEET NO.
1420-07-70	8.1



GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
 PROVIDE SIGN BRIDGE IDENTIFICATION PLACQUE FOR ALL SIGN BRIDGES, INCIDENTAL TO "SIGN BRIDGE".
 HANDHOLES ARE REQUIRED.
 ALTERNATE DESIGNS ARE NOT ALLOWED.

○ INDICATES SIGN NUMBER.

DESIGN DATA

OVERHEAD TRUSS:
 DESIGN SIGN AREA = 75 m²
 PLUS FUTURE CATWALK & LIGHTING
 MAXIMUM SIGN DEPTH = 3650mm

TOTAL ESTIMATED QUANTITIES

SIGN BRIDGE, STRUCTURE S-20-6 ————— 1 L.S.
 CONCRETE MASONRY, SIGN SUPPORTS ————— 16.0 m³
 HIGH STRENGTH BAR STEEL REINFORCEMENT,
 SIGN SUPPORTS ————— 570 kg.

LIST OF DRAWINGS

1. GENERAL PLAN
 2. GALVANIZED STEEL SIGN BRIDGE
 3. SIGN BRIDGE DETAILS
 4. HANDHOLE DETAILS
 5. FOOTING TYPE 'FI-MOD.'

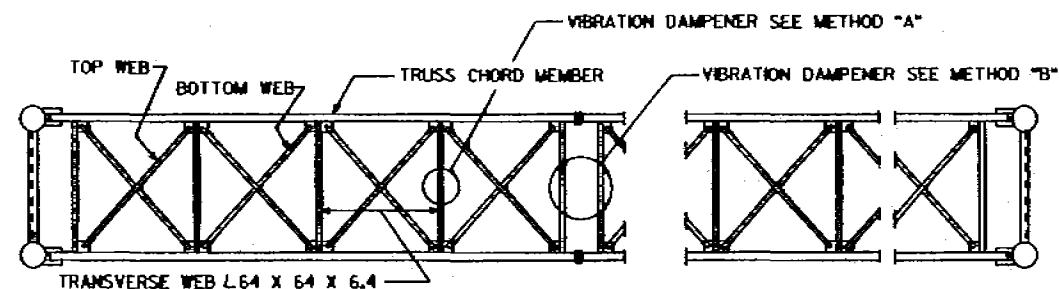
BRIDGE OFFICE CONTACT :
 KENT BAHLER (608) 266-8490
 VU THAO (608) 266-5090

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE S-20-6			
U.S.H. 151			
COUNTY	FOND DU LAC	TOWN/CITY/VILLAGE	FOND DU LAC
DESIGN SPEC.	AASHTO 1996	LOAD #5 M.P.H. CONST. SPEC.	1996
DESIGNED BY	VT	DESIGN CKD.	K.A.B.
DRAWN BY	VT	PLANS CKD.	KAD
APPROVED	[Signature]		01-06-98
CHIEF STRUCTURAL DESIGN ENGINEER		DATE	
GENERAL PLAN		SHEET 1 OF 5	
		DATE: JULY '98	

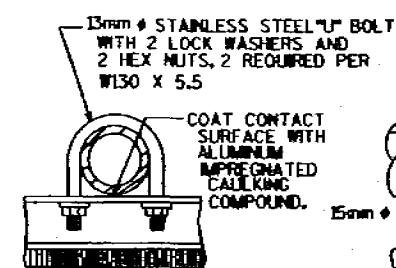
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M20-07-70

8.2

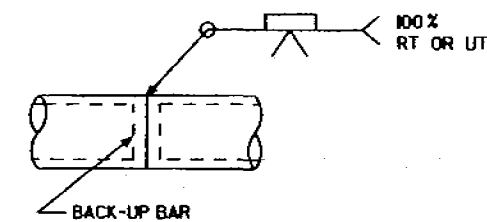
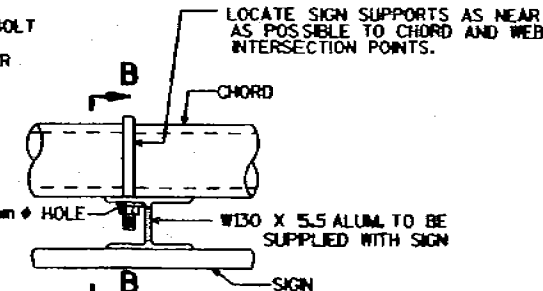


PLAN

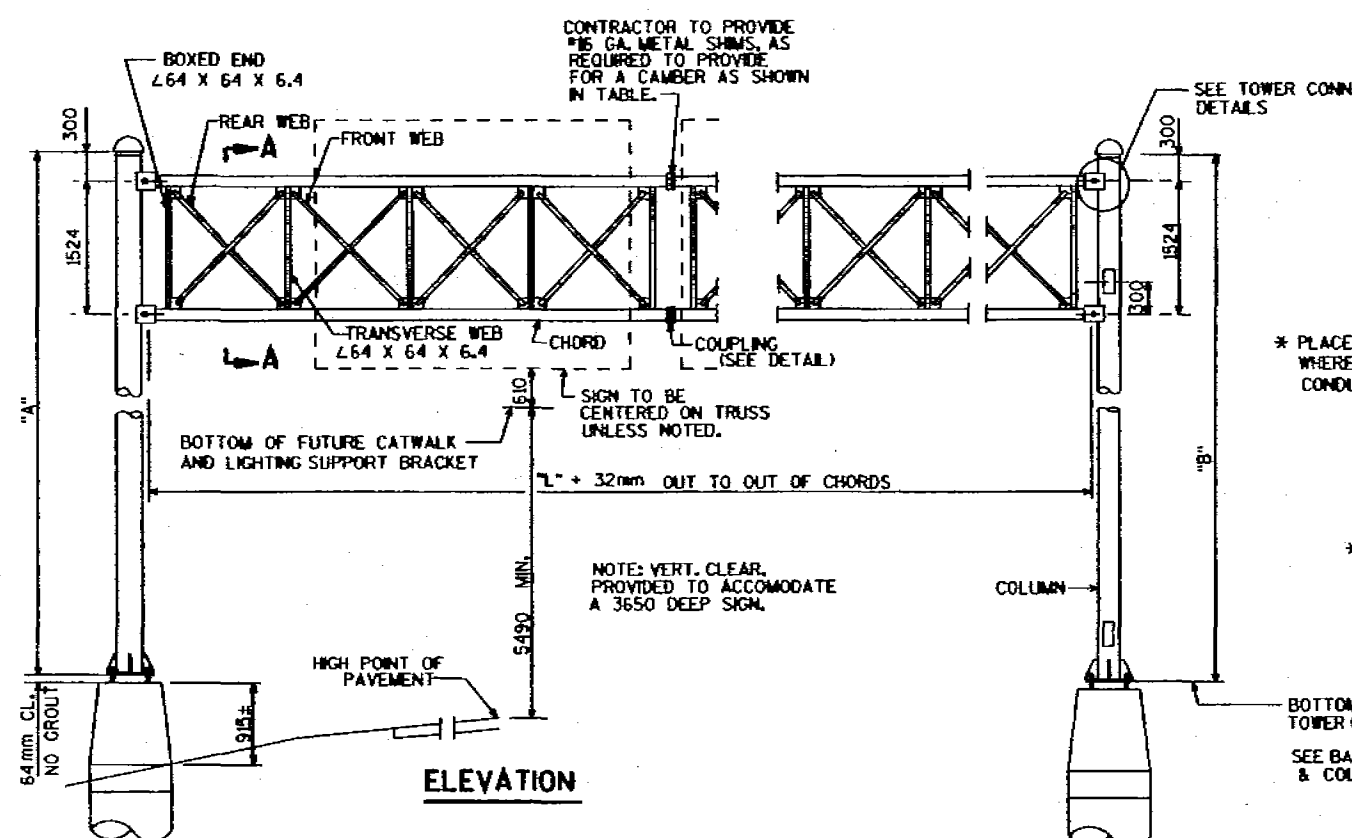


SECTION B

TYPICAL SIGN CONNECTION



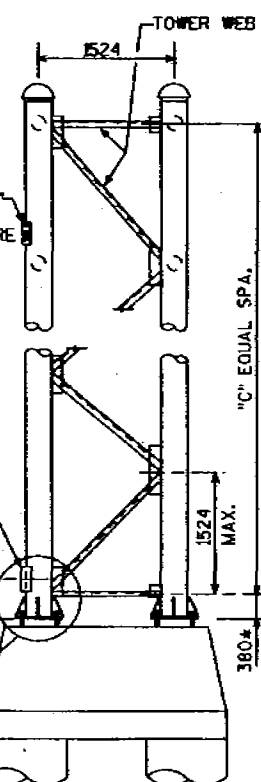
CHORD SPLICE



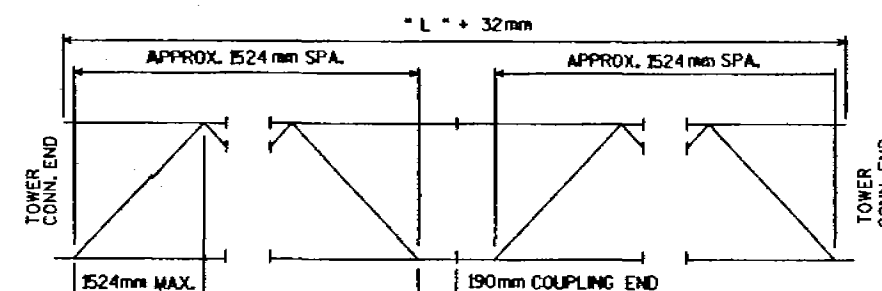
ELEVATION

* SEE "HAND-HOLE DETAILS" SHEET WHEN HANDHOLES ARE REQ'D.
* PLACE ON COLUMN WHERE ELECTRICAL CONDUIT ENTERS

* SEE "HAND-HOLE DETAILS" SHEET WHEN HANDHOLES ARE REQ'D.
* SEE BASE PLATE & COLUMN DETAIL



END VIEW

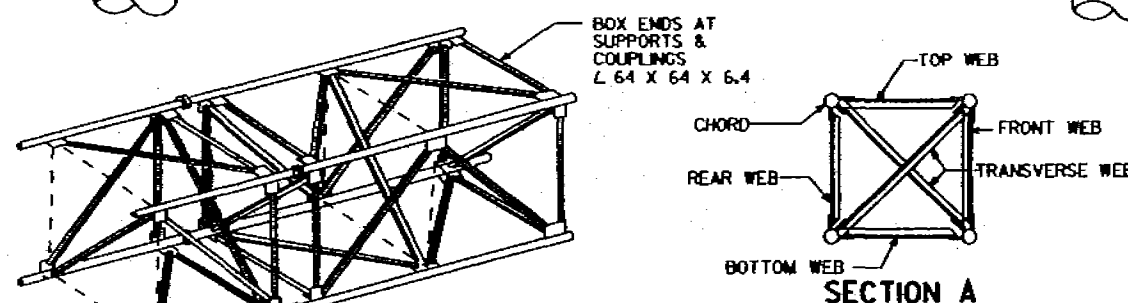


TRUSS ARRANGEMENT

FABRICATOR MAY MAKE TRUSSES ANY LENGTH KEEPING A SECTION A MINIMUM OF 6096mm & A MULTIPLE OF 1524mm CHORD FIELD SPLICES SHALL BE MADE WITH COUPLINGS CHORD SHOP SPLICE SHALL BE THE WELDED SPLICE SHOWN ABOVE.

NOTES

DRAWINGS SHALL NOT BE SCALED.
STEEL COLUMN PIPE SHALL BE A.P.I. SPEC. 5L, GRADE X42, FY = 289MPa
ALL STEEL PIPE MEMBERS OF TRUSS SHALL BE A.P.I. SPEC. 5L, GRADE X42, FY = 289MPa
PLATES, BARS, STRUCTURAL ANGLES SHALL BE A.S.T.M. A709 GRADE 36, FY = 248MPa
ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.
ALL BOLTED CONNECTIONS SHALL BE MADE WITH M20 A325M BOLTS, GALVANIZED A.S.T.M. A153, CLASS C.
WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS, IF UNIT CAN BE GALVANIZED IN ONE PIECE.
STEEL ANCHOR BOLTS SHALL BE A.A.S.H.T.O. M314-90 GRADE 380, FY = 380MPa
INSTALL VIBRATION DAMPENER AS SHOWN ON PLAN.
SIGNS OR BLANKS SHALL BE INSTALLED ON TRUSS AT TIME OF ERECTION.
BLANKS SHALL BE 1/4 THE LENGTH OF THE BRIDGE, 610mm DEEPER THAN C TO C OF CHORDS & SHALL BE CENTERED ON THE BRIDGE. SIGNS SHALL BE AS DESIGNATED IN PLANS.
THE UPPER 300mm OF ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE A.A.S.H.T.O. SPECIFICATION AS STATED IN SECTION 641 OF THE M.S. D.O.T. STANDARD SPECIFICATIONS.
WELD TEST AS PER AWS D11.



TYPICAL TRUSS SECTION

THE GENERAL PATTERN SHOWN ABOVE IS TO BE MAINTAINED WHEN ASSEMBLING TRUSSES. NOTE DIRECTION OF DIAGONALS AT JOINTS.

DESIGN DATA

DEAD LOAD - WT. OF SIGN SUPPORTING STRUCTURE, CATWALK, LIGHTS AND RAILINGS.
LIVE LOAD - SINGLE LINE LOAD OF 2.3kN DISTRIBUTED OVER 610mm OF CATWALK.
ICE LOAD - 144 Pa TO 1 FACE OF SIGN & AROUND SURFACE OF MEMBERS.
WIND PRESSURE - 137kN/m² TO SIGN AREA & EXPOSED MEMBERS.
WIND COMPONENTS
COMBINATION 1
COMBINATION 2
GROUP LOADS
1. DEAD
2. DEAD + WIND
3. DEAD + ICE + 12 kPa WIND

NORMAL
LO
0.6

TRANSVERSE
0.2
0.3

% OF ALLOWABLE STRESS
100
140
140

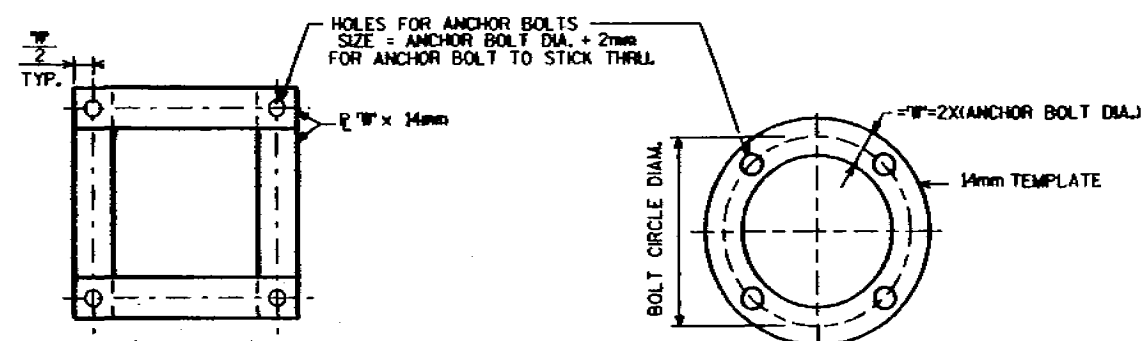
TABLE

STRUCTURE	A	B	C	CHORDS O.D. X THK.	TOP & BOT. WEB	FRONT & REAR WEB	COUPLING PLATE "D" & "T"	BOLT CIRCLE DIA. "D2"	NO. OF BOLTS IN COUPLING	CAMBER	COLUMN O.D. X THK.	TOWER WEBS	"L"
S-20-6	8080	8080	5	141.3 X 6.6	L 64 X 64 X 6.4	L 64 X 64 X 6.4	285* X 25.4	230	10	70	273.1 X 9.3	L 102 X 102 X 9.5	34019

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE S-20-6			
CONST. SPEC.	1996	DRAWN BY	VT
GALVANIZED STEEL SIGN BRIDGE		PLANS CDD	KAB
		SHEET	2

1420-07-70

8.3

ALTERNATE
ANCHOR PLATE / TEMPLATE PLAN

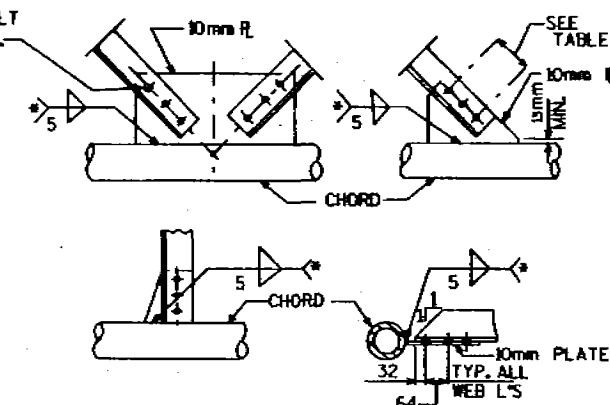
ANCHOR PLATE / TEMPLATE PLAN

CAP FABRICATED FROM STEEL
PLATES (MIN. THICK. 5mm) WILL BE
ACCEPTABLE, SUBJECT TO
APPROVAL BY THE ENGINEER.

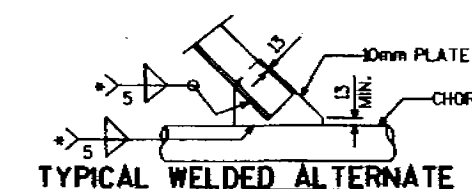
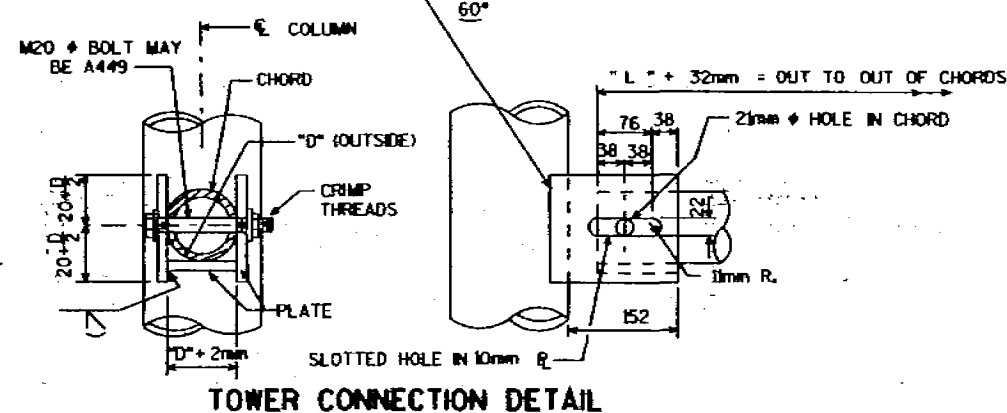
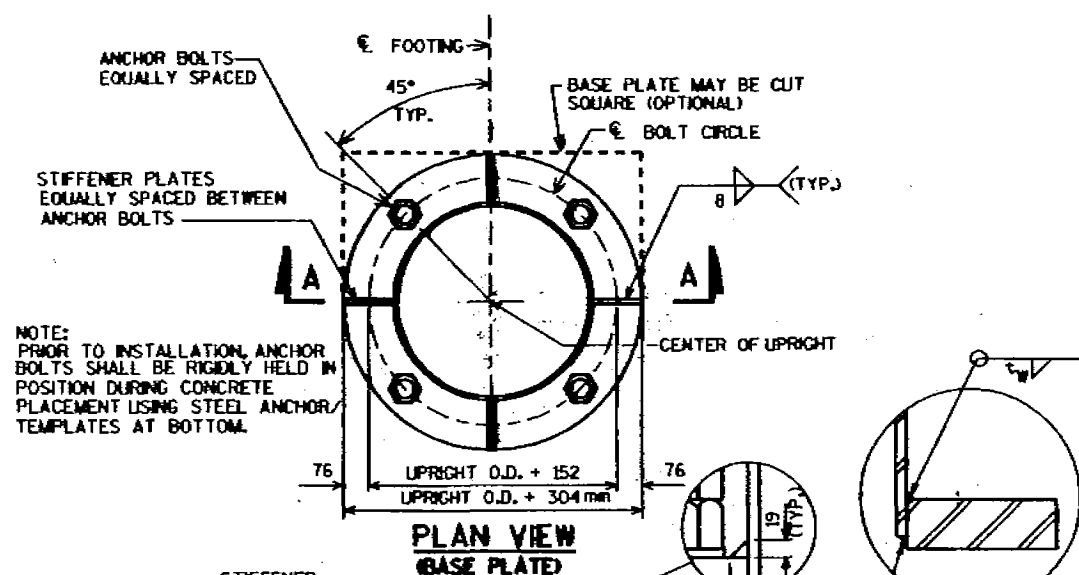
DRILL AND TAP
2 HOLES 180° APART FOR
12mm SET SCREWS.

TOWER CAP DETAIL

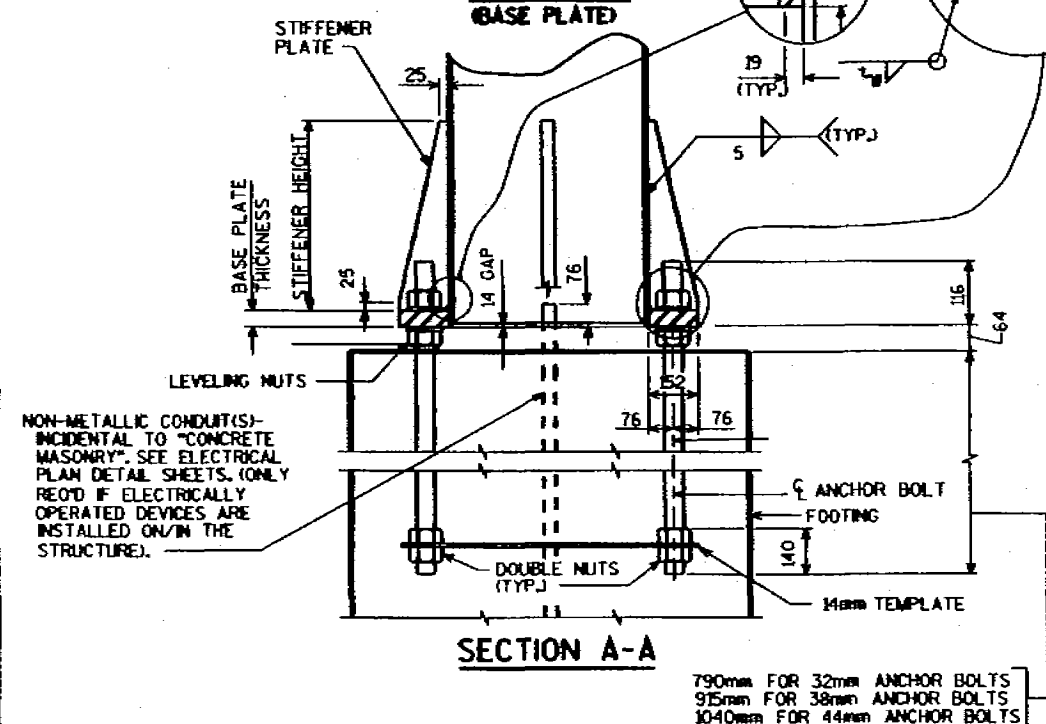
HOLE FOR M20 BOLT
(A325M STEEL) TYP.



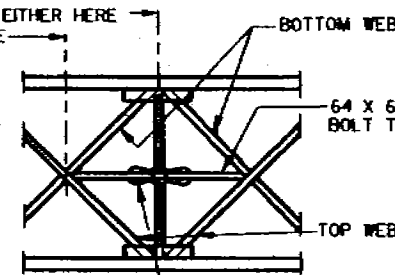
TYPICAL TRUSS CONNECTION DETAILS



# ANGLE	WELD LENGTH	NO. OF BOLTS
64x64x6.4	280mm	3
76x76x4.8	255mm	3
76x76x6.4	330mm	4
76x76x7.9	420mm	5
76x76x9.5	495mm	6
102x102x6.4	460mm	5
102x102x7.9	560mm	6
102x102x9.5	660mm	8
102x102x11.1	765mm	9
102x102x12.7	865mm	10

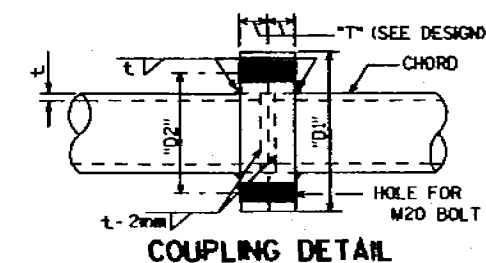
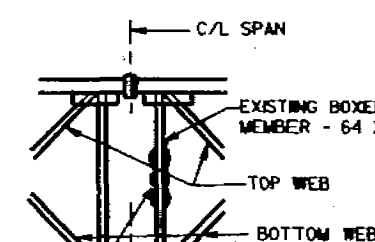


C/L SPAN EITHER HERE
OR HERE



VIBRATION DAMPER, ALCOA 14.1kg
SIZE OR EQUAL, ATTACH
64 X 64 X 6.4 ANGLE AT TOP WEB AT
OR NEAR C/L SPAN USING METHOD
'A' OR 'B', WHICHEVER IS APPROPRIATE.

VIBRATION DAMPENERS

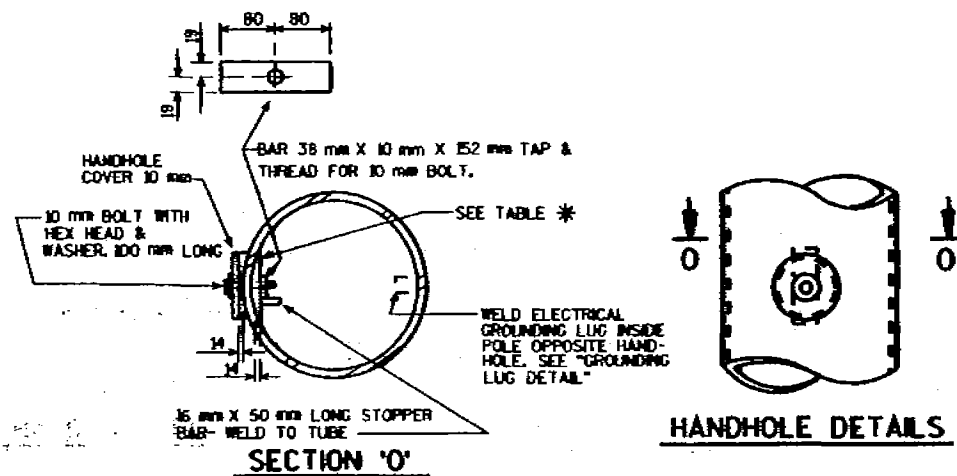


BASE PLATE & UPRIGHT COLUMN DETAILS

STRUCTURE	COLUMN O.D. X THK.	ANCHOR BOLTS	BASE PLATE THICKNESS (mm)	STIFFENER PLATE THICKNESS (mm)	STIFFENER PLATE HEIGHT (mm)	T _W (mm)
S-20-6	273.1 X 9.3	4 - 38	38	12.7	255	8

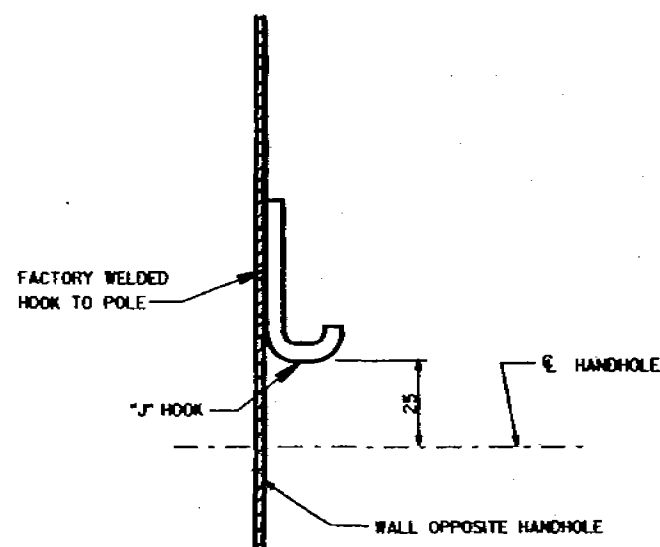
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE S-20-6			
CONST. SPEC.	1996	DRAWN BY	VT
SIGN BRIDGE DETAILS		PLANS C.D.	KAB
		SHEET 3	

* UPRIGHT DIAM. SIZE	HANDHOLE PIPE O.D. X MIN. THK.
UP TO AND INCLD. 406.4mm X 9.5mm	141.3mm X 12.7mm
GREATER THAN 406.4mm X 9.5mm TO AND INCLD. 610.0mm X 14.3mm	168.3mm X 14.3mm

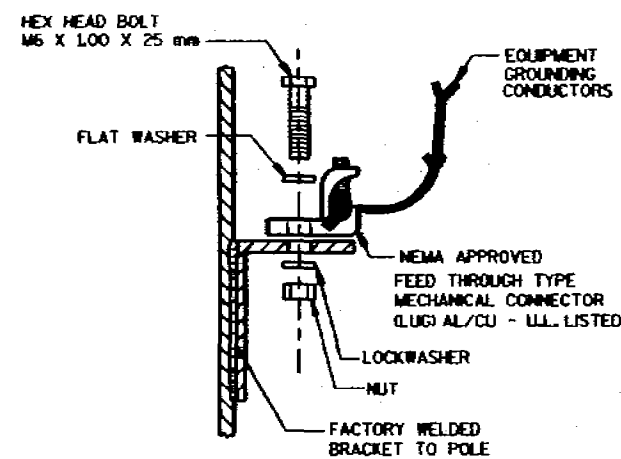


HANDHOLE NOTES

HANDHOLES SHALL BE LOCATED IN ONE COLUMN OF THE SIGN BRIDGE STRUCTURE IF ELECTRICALLY OPERATED DEVICES ARE INSTALLED ON/IN THE STRUCTURE. COLUMNS WITH HANDHOLES SHALL BE NEAR THE ELECTRICAL SERVICE. THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE ELECTRICAL SERVICE ENTRANCE WITH THE DISTRICT TRAFFIC SECTION PRIOR TO FABRICATION OF THE SIGN BRIDGE COLUMNS AND MEMBERS. CONDUIT (AS REQ'D) SHALL BE LOCATED, PLACED AND SIZED AS SHOWN ON THE ELECTRICAL DETAIL PLAN SHEETS.



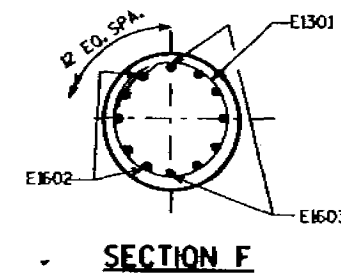
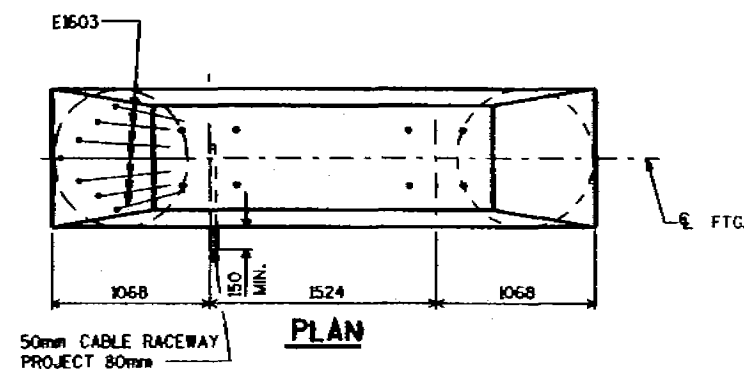
THE "J" HOOK SHALL BE FACTORY WELDED TO THE INSIDE OF ALL COLUMNS CONTAINING ELECTRICAL WIRING. THE "J" HOOK SHALL BE ATTACHED ABOVE THE CENTERLINE OF THE UPPER HANDHOLE AND MOUNTED DIRECTLY OPPOSITE THE HANDHOLE AS SHOWN IN THE DRAWING.



GROUNDING LUG DETAIL
NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

STATE PROJECT NUMBER	SHEET NO.
1420-07-70	8.4

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE S-20-6			
CONST. SPEC.	2996	DRAWN BY VT	PLANS CTD. KAA
HANDHOLE DETAILS		SHEET 4	

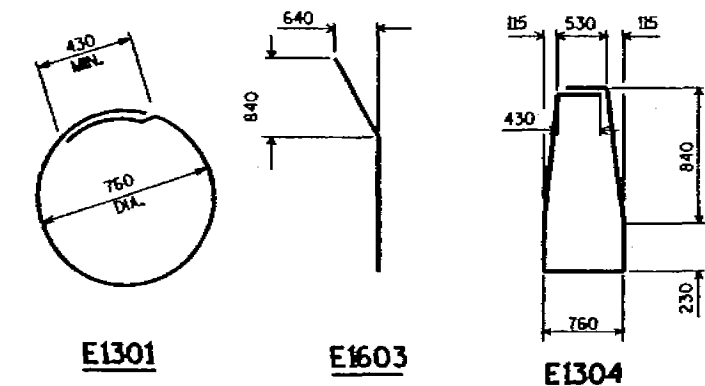
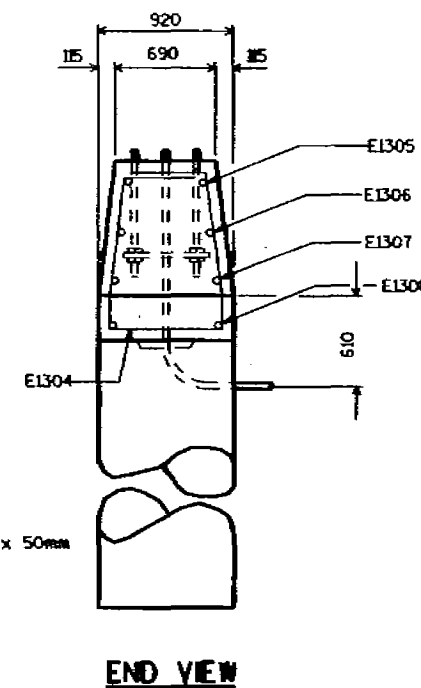
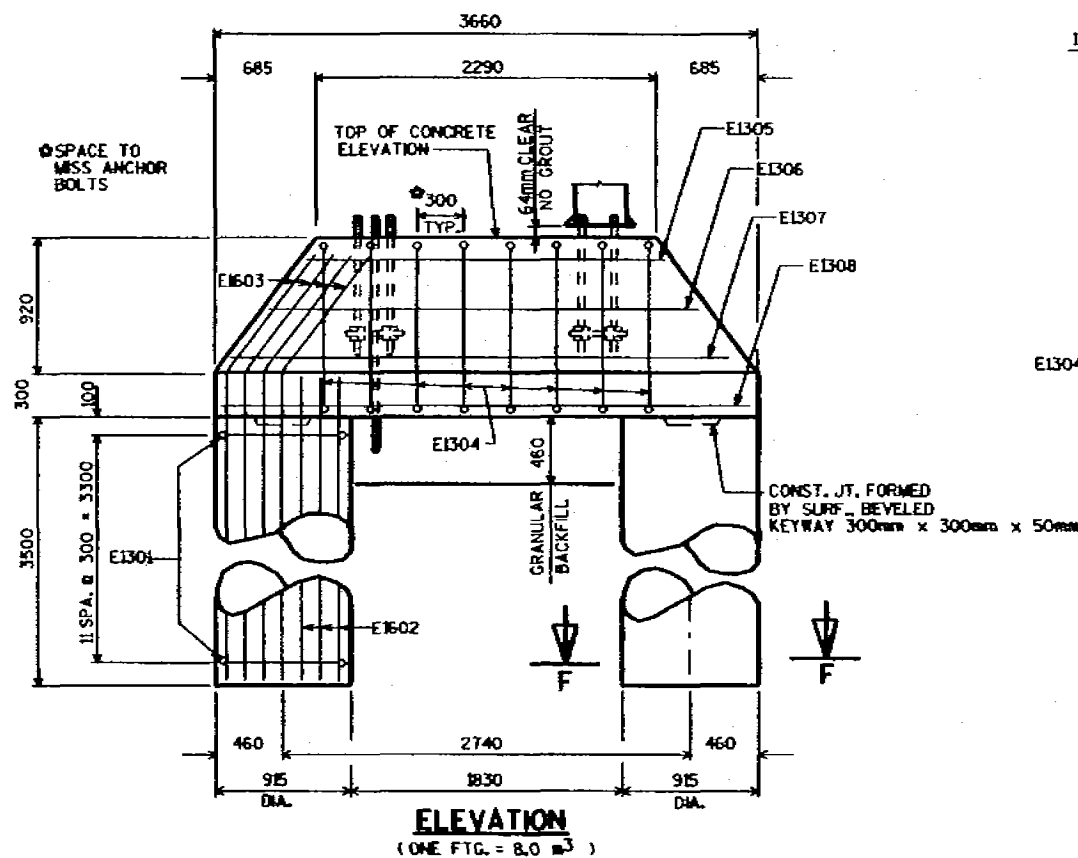


BILL OF BARS

ONE FTG. = 285 kg

NOTE: THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	QTY	NO. REQ'D	LENGTH	BENT	CUT, DIAG.	BUN- DLE	LOCATION
E1301		24	2848	X			FOOTING-HOOPS
E1602		10	3888				FOOTING-VERT.
E1603		14	4778	X			FOOTING-VERT.
E1304		8	3668	X			FOOTING-STIRRUPS
E1305		2	2348				FOOTING-HORIZ.
E1306		2	2798				FOOTING-HORIZ.
E1307		2	3258				FOOTING-HORIZ.
E1308		2	3518				FOOTING-HORIZ.



SUMMARY OF QUANTITIES (1FTG.)

ITEM	UNIT	FTG. TYPE 'F1-MOD.'
CONCRETE MASONRY, SIGN SUPPORTS	m ³	8.0
HIGH STRENGTH BAR STEEL REINFORCEMENT, SIGN SUPPORTS	kg	285

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE S-20-6			
CONST. SPEC.	1996	DRAWN BY	VT
FOOTING TYPE 'F1-MOD.'		PLAUS. CTD.	KAB
		SHEET	5