

# NOTES

1. BASE PLATE WELD SIZE SHALL BE EQUAL TO THE BEAM FLANGE AND WEB THICKNESS RESPECTIVELY, BUT NO LESS THAN 6.4 mm IN EITHER INSTANCE.
2. BEVELED WASHERS SHALL BE USED WITH THE S4X7.7 BEAM AND SHALL BE MALLEABLE IRON CONFORMING WITH ASTM A47 GRADE 35018.
3. FUSE AND HINGE PLATE CONNECTIONS SHALL BE TIGHTENED IN THE SHOP FOLLOWING A METHOD APPROVED BY THE ENGINEER TO PRODUCE THE MINIMUM BOLT PRELOAD SPECIFIED.
4. THE FOLLOWING PROCEDURE SHALL BE USED IN ASSEMBLING THE BREAKAWAY BASE PLATE:
  - AFTER ALL BOLTS, WASHERS, STANDARD NUTS AND BOLT RETAINER PLATE ARE IN PLACE, TIGHTEN ALL STANDARD NUTS SNUGLY WITH A 305 mm WRENCH. LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC MANNER TO THE SPECIFIED MAXIMUM TORQUE. WRENCHES SHALL BE CALIBRATED AT LEAST ONCE EACH WORKING DAY FOR EACH BOLT DIAMETER BEING TORQUED. BURR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH.

5. IN LIEU OF THE STANDARD NUTS AND PROCEDURES OUTLINED IN 3 AND 4 ABOVE, THE SUPPORTS MAY BE ASSEMBLED USING TORQUE LIMITING NUTS. EACH NUT SHALL BE TIGHTENED WITH SUFFICIENT TORQUE APPLIED UNTIL THE UPPER WRENCHING SURFACE HAS SHEARED AWAY FROM THE STRUCTURAL BODY OF THE NUT. FUSE AND HINGE PLATES SHALL BE SHOP ASSEMBLED FOLLOWING THIS PROCEDURE. THE NUTS USED SHALL BE AS MANUFACTURED BY HI-SHEAR CORP. TORRANCE, CALIFORNIA; VOI SHAN INDUSTRIES - CULVERT CITY, CALIFORNIA; STANDARD PRESSED STEEL - JENKINTOWN, PENNSYLVANIA OR APPROVED EQUAL.

THE TORQUE LIMITING NUT PART NUMBER CHL - 14 SHALL BE USED FOR THE BASE PLATE, CHL - 11 FOR THE FUSE AND HINGE PLATES.

6. FOR BEAMS SUBJECT TO IMPACT FROM OPPOSITE DIRECTIONS (SUCH AS IN FREEWAY MEDIANS) PROVIDE FUSE PLATES ON BOTH SIDES.
7. NOTCHES SHOWN FOR INSTALLATION TO THE RIGHT OF TRAFFIC. FOR INSTALLATIONS TO THE LEFT OF TRAFFIC, FABRICATE WITH SKEWED EDGE OF NOTCHES REVERSED FROM THAT SHOWN.
8. DIMENSIONS SHOWN FOR ALTERNATE DESIGNS ARE APPROXIMATE. SPECIFIED DIMENSIONS FOR ALTERNATE DESIGNS REQUIRE PREQUALIFICATION. AN APPROVED LIST OF SUPPLIERS IS MAINTAINED BY O.D.O.T. PAYMENT FOR ALTERNATE DESIGNS WILL BE BASED ON THE PLAN QUANTITIES FOR EMBEDDED BEAMS.

# METRIC

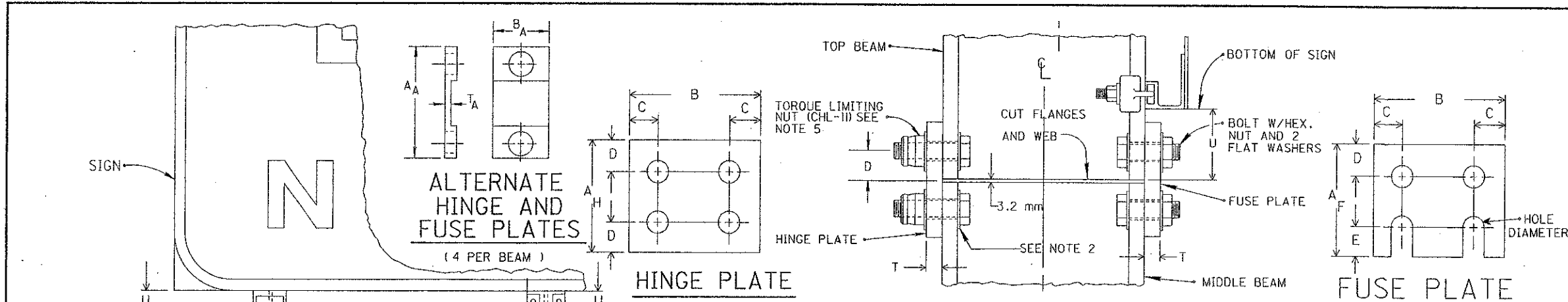
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OHIO DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL DATE 03/31/94

STRUCTURAL BEAM SIGN SUPPORTS

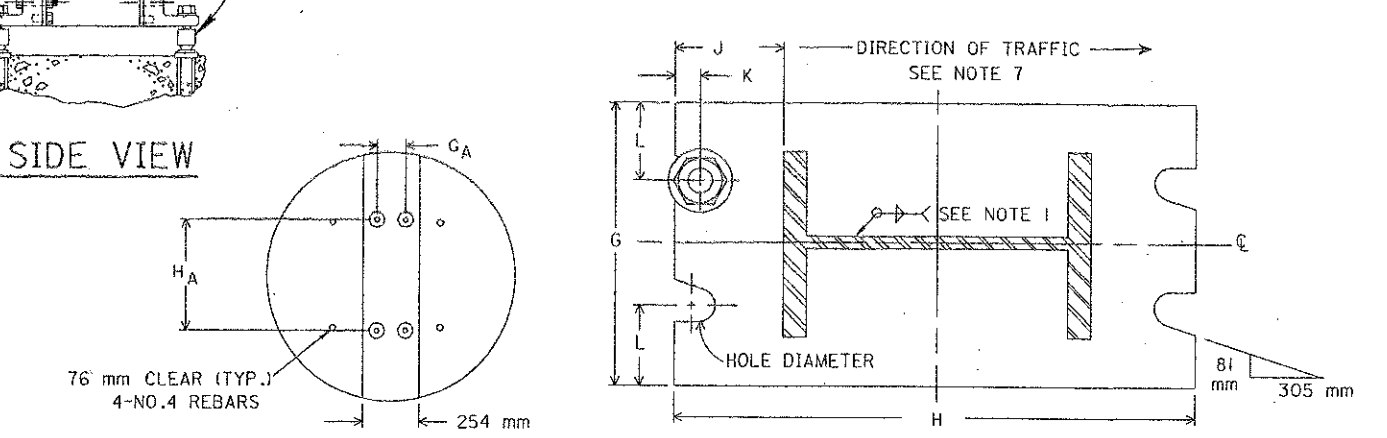
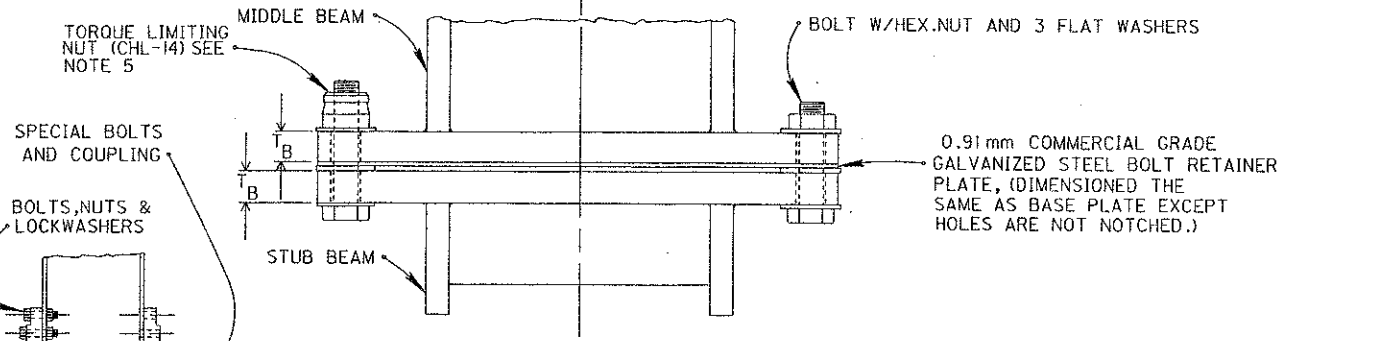
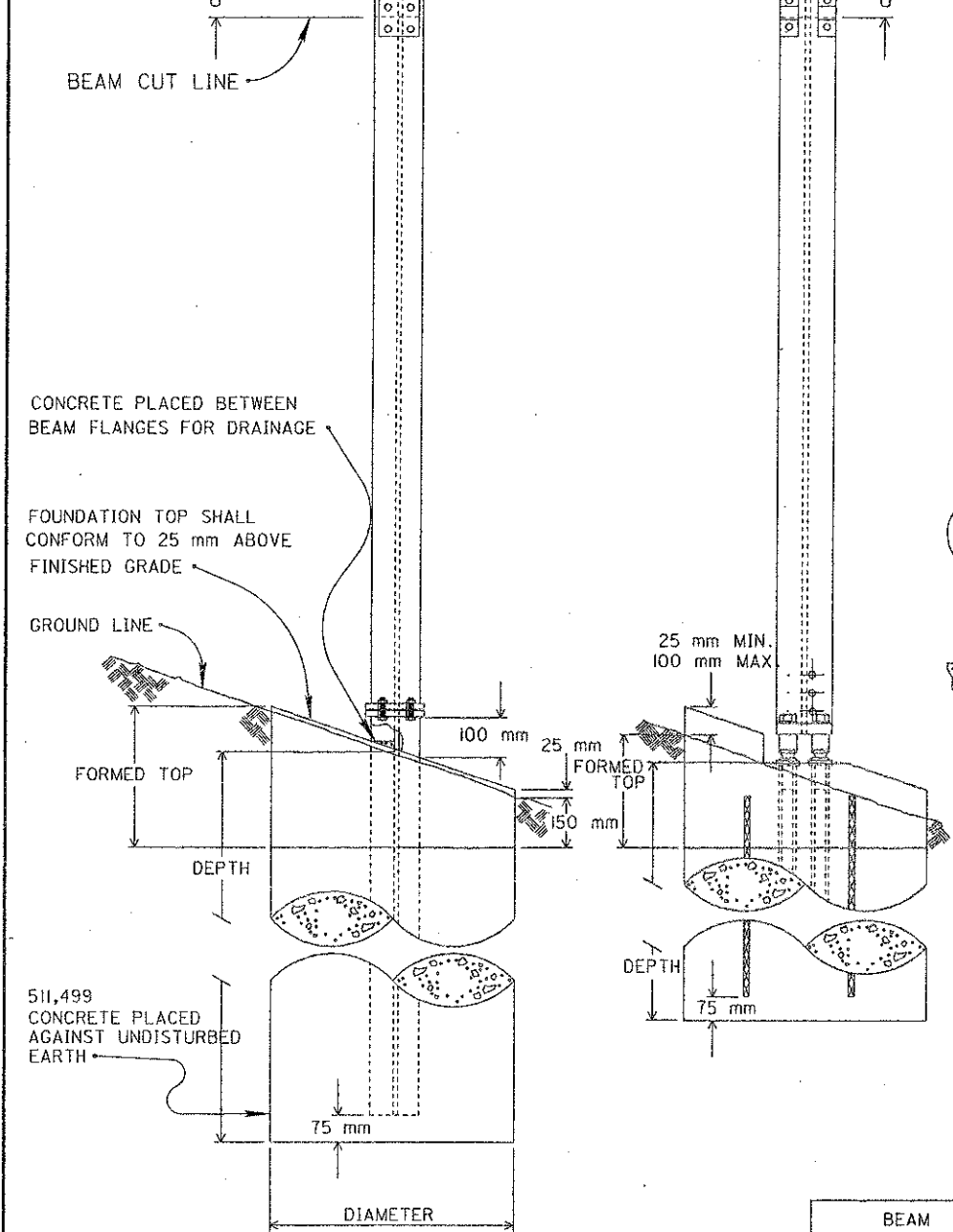
STANDARD CONSTRUCTION DRAWING TC-41.10M

APPROVED: *[Signature]* ENGR. OF DESIGN SERVICES



ALL DIMENSIONS IN MILLIMETERS, UNLESS OTHERWISE NOTED

BEAM		HINGE AND FUSE PLATE DIMENSIONS										ALTERNATE DESIGN SEE NOTE 8				
TYPE	SIZE	A <sub>H</sub>	A <sub>F</sub>	B	C	D	E	T	U	HOLE DIA.	BOLT SIZE	MIN. PRELOAD (kg)	A	B	BOLT SIZE	T <sub>A</sub>
S4 X 7.7	102 x 67	105	92	67	14	25	13	4.8	64	14	13	4535	95	25	13	1.80
W6 X 9	149 x 102	105	92	102	22	25	13	4.8	64	14	13	4535	95	25	13	1.80
W10 X 12	244 x 102	156	137	102	22	38	19	4.8	90	21	19	11339	95	25	13	1.80
W8 X 18	206 x 133	181	159	133	32	45	22	6.4	102	24	22	15875	121	38	19	2.87
W10 X 22	257 x 146	206	181	146	38	51	25	8	114	27	25	20865	121	38	19	2.87
W12 X 30	314 x 165	206	181	165	38	51	25	8	114	27	25	20865	121	38	19	2.87



ALL DIMENSIONS IN MILLIMETERS, UNLESS OTHERWISE NOTED

BEAM		FOUNDATIONS			BASE PLATE DIMENSIONS								ALTERNATE DESIGN SEE NOTE 8			
TYPE	SIZE	DIA. (METER)	DEPTH (METER)	CONCRETE m <sup>3</sup> /EA	DIMENSIONS					HOLE DIA.	BOLT SIZE	MAX. TORQUE N-m	G <sub>A</sub>	H <sub>A</sub>	BOLT SIZE	
					G	H	J	K	L	T <sub>B</sub>						
S4 X 7.7	102 X 67	0.5	1.2	0.24	102	203	51	13	25	19	14	13	22.6	108	195	13
W6 X 9	149 X 102	0.5	1.5	0.30	140	254	52	13	25	19	14	13	22.6	108	243	13
W10 X 12	244 X 102	0.8	1.8	0.91	203	368	59	19	38	19	21	19	85	108	346	13
W8 X 18	206 X 133	0.8	1.8	0.91	203	368	83	19	38	25	21	19	85	76	413	13
W10 X 22	257 X 146	0.8	2.1	1.06	203	368	59	24	51	25	27	25	150	102	465	16
W12 X 30	314 X 165	0.8	2.5	1.26	254	432	62	24	51	32	27	25	150	102	519	16