

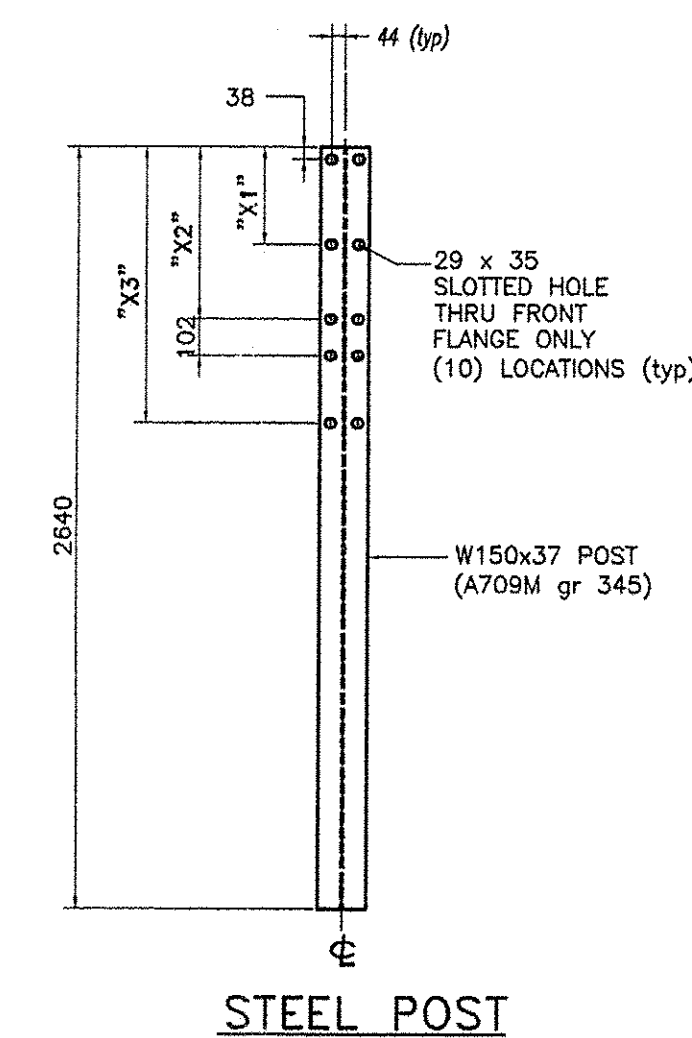
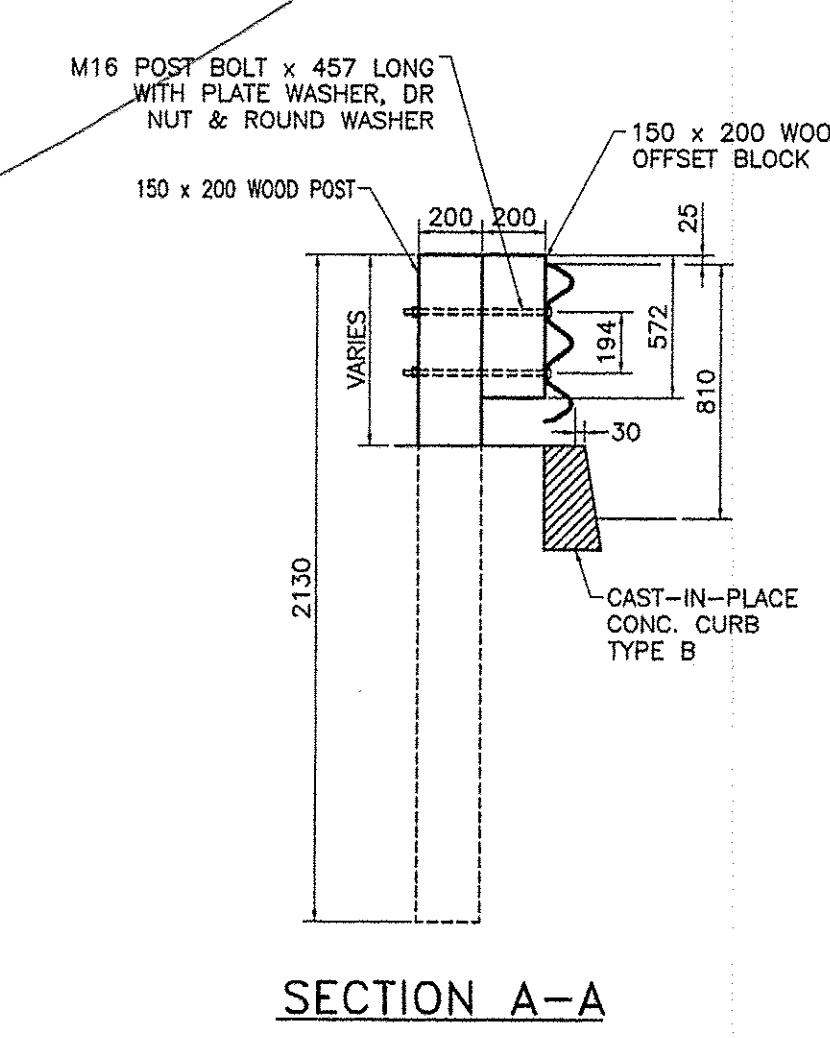
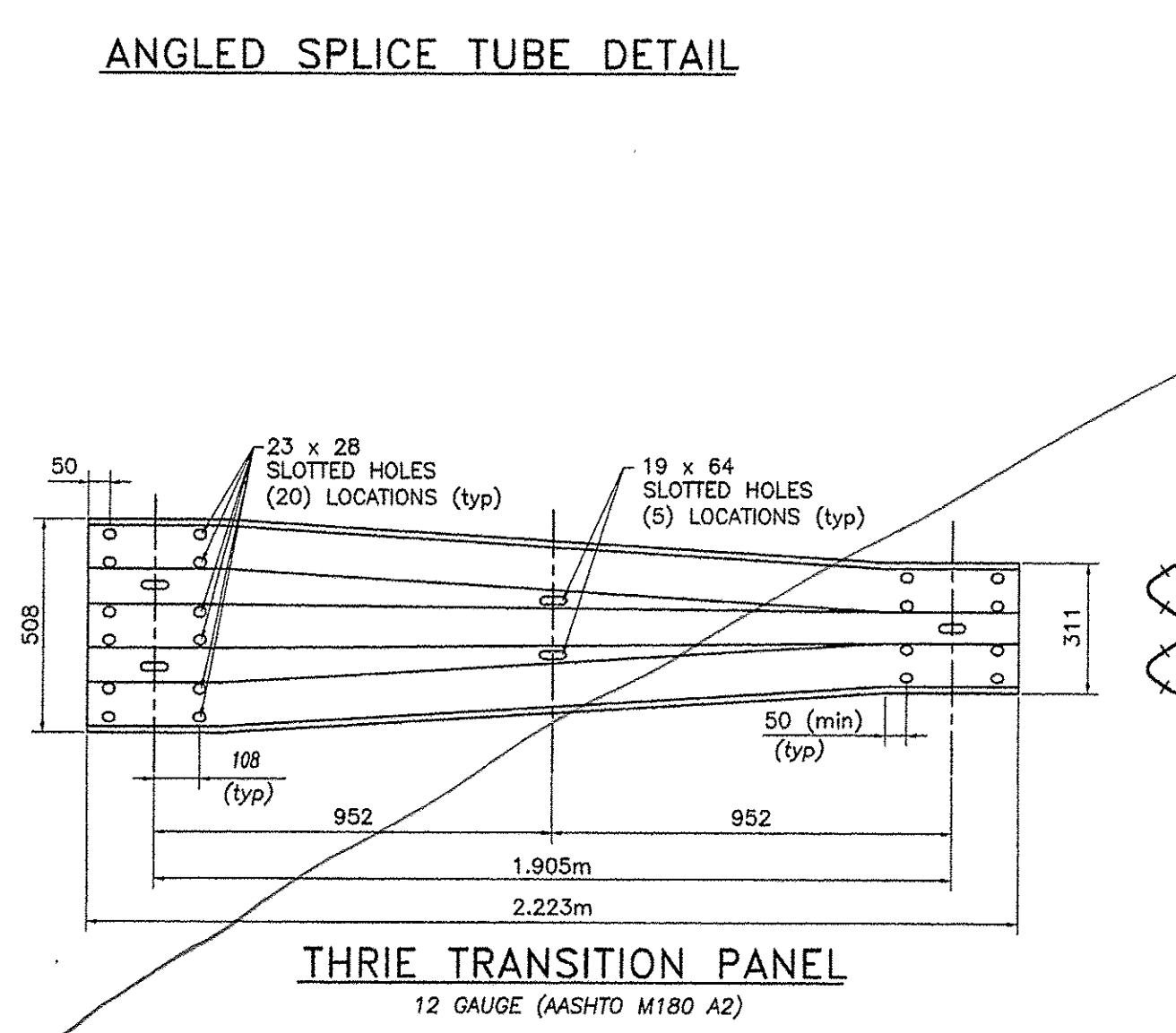
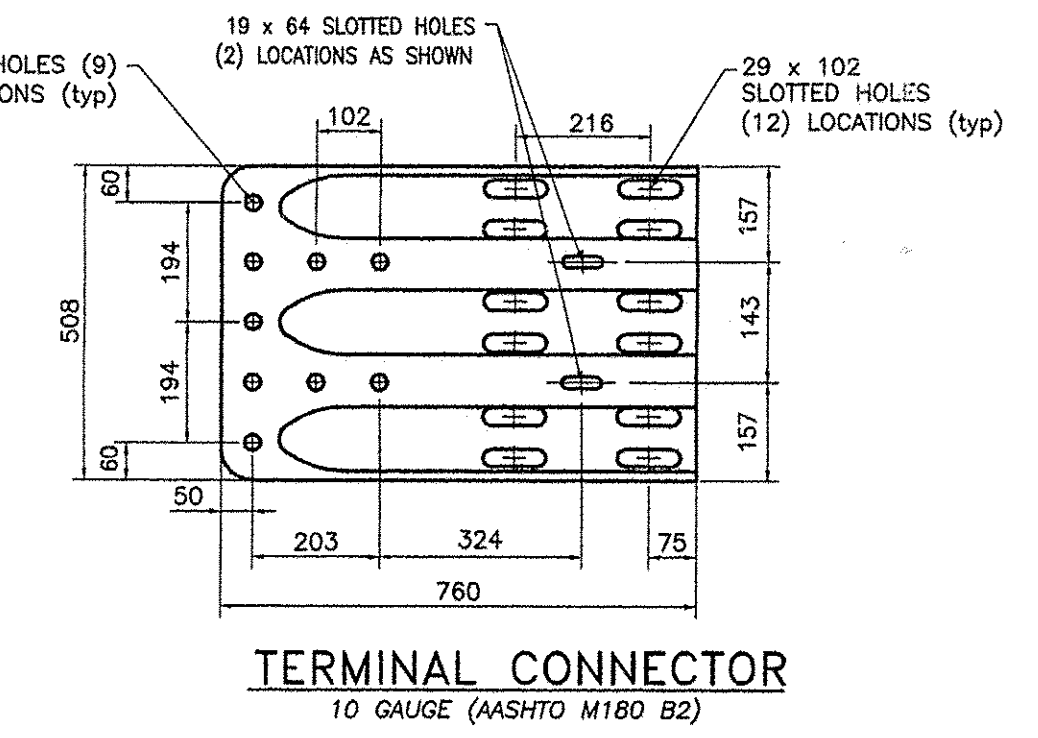
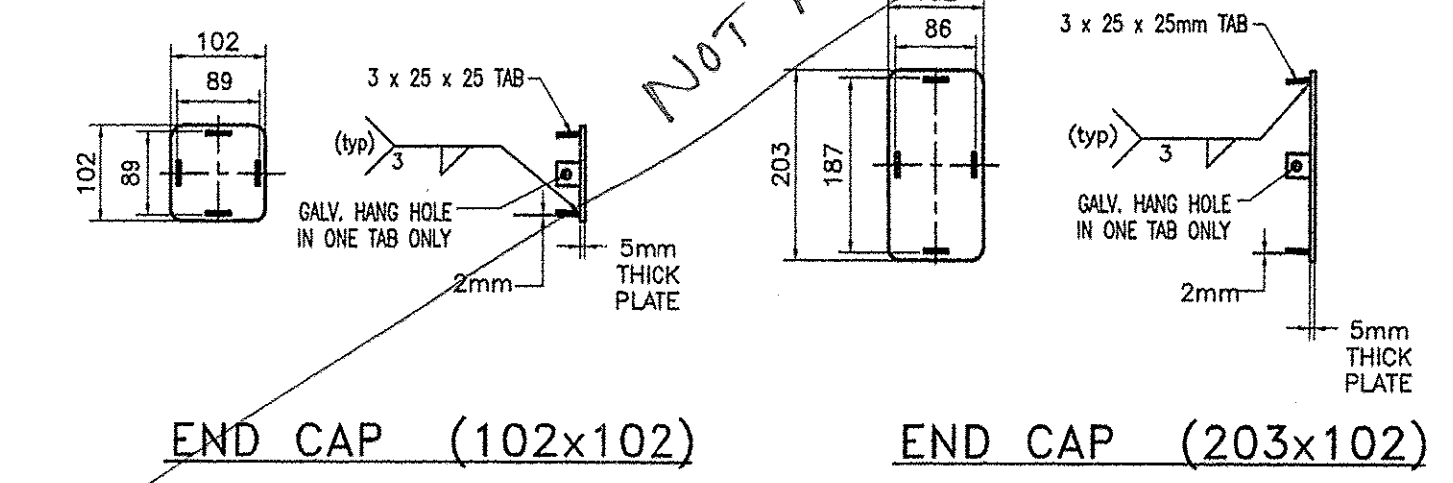
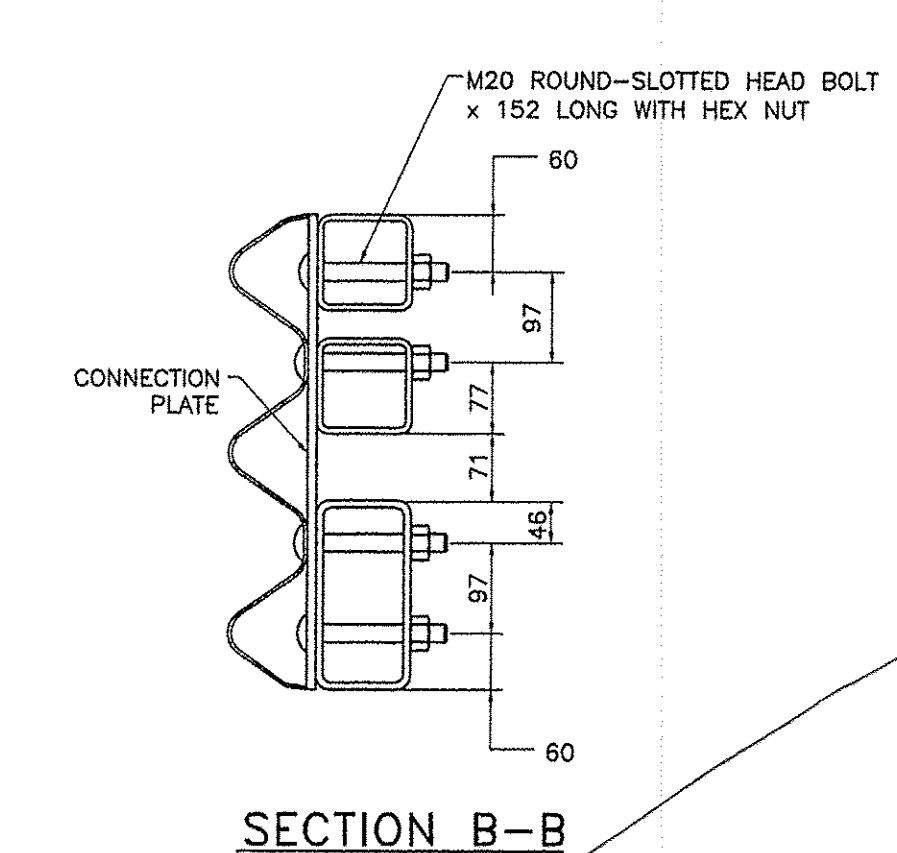
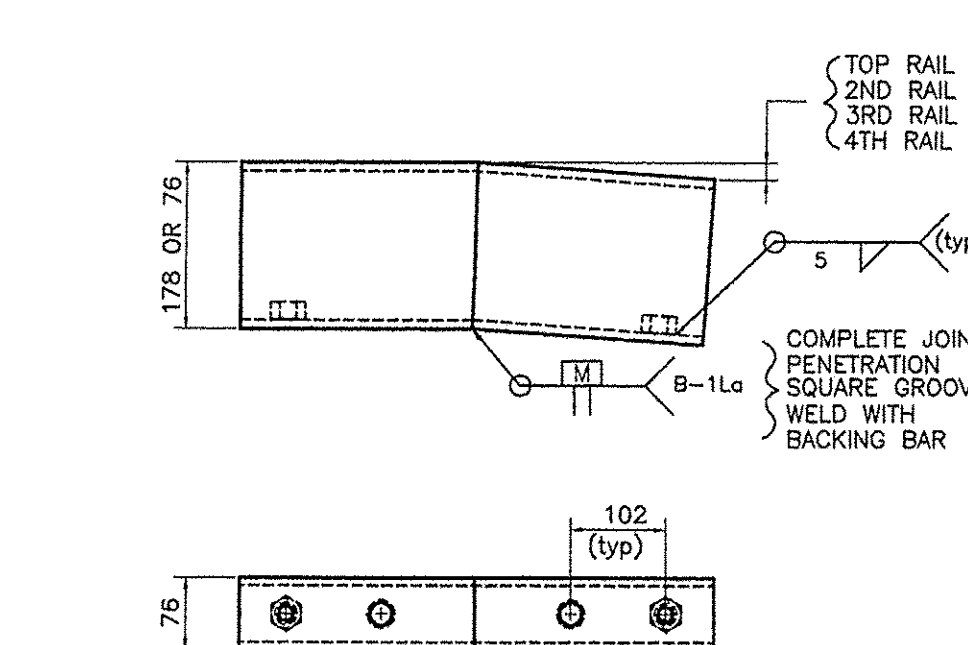
BILL OF MATERIAL (3-APPROACHES)

Mk.	Qty.	Description	Material
24		STEEL POST W150x37 x 2.640m OAL	A709M gr 345
9		WOOD POST 150x200 x 2.130m OAL	TIMBER
NE1	6	TS 102x102x6 x 77.569m	A500 gr B
NE2	3	RAIL TS 203x102x8mm x 7.569m	A500 gr B
NE3	3	TS 102x102x6 x 6.937m	A500 gr B
3		THRIE TRANSITION PANEL - 12 GA	M180 A2
3		TERMINAL CONNECTOR (10 GA)	M180 B2
3		END CAP FOR 203 x 102 TUBE RAIL	A709M gr 250
9		END CAP FOR 102 x 102 TUBE RAIL	A709M gr 250
3		CONNECTION PLATE 10 x 508 x 686	A709M gr 250
3		WOOD OFFSET BLOCK 150x200 x 572 LONG	TIMBER
3		WOOD OFFSET BLOCK 150x200 x 457 LONG	TIMBER
3		WOOD OFFSET BLOCK 150x200 x 355 LONG	TIMBER
15		M16 x 457 LONG POST BOLT w/ PLATE WASHER, DBL RECESSED NUT & ROUND WASHER	M164M
216		M20 x 152 LONG ROUND-SLOTTED HEAD BOLT WITH ROUND WASHER & LOCK NUT	A325M
60		M16 x 32 SPLICE BOLT w/ DOUBLE RECESSED NUT	M164M
3		SPLICE TUBE (ANGLED) - TS 178x76x10 600 OAL	A500 gr B
9		SPLICE TUBE (ANGLED) - TS 76x76x8 600 OAL	A500 gr B
48		M20 x 45 HEX HEAD BOLT w/ ROUND WASHER	A325M
48		SPACER PIPE DN 20 SCH 40 x 13 LONG	A709M gr 250

BILL OF MATERIAL (NORTHWEST APPROACH ONLY)

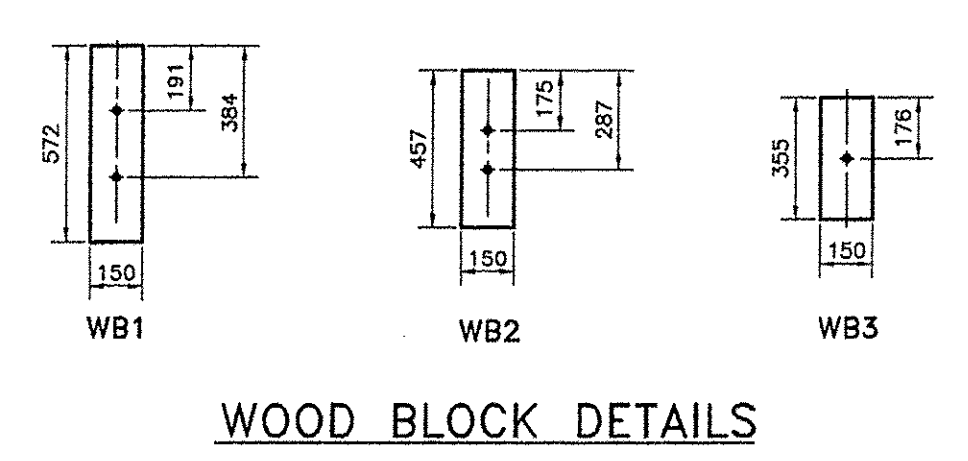
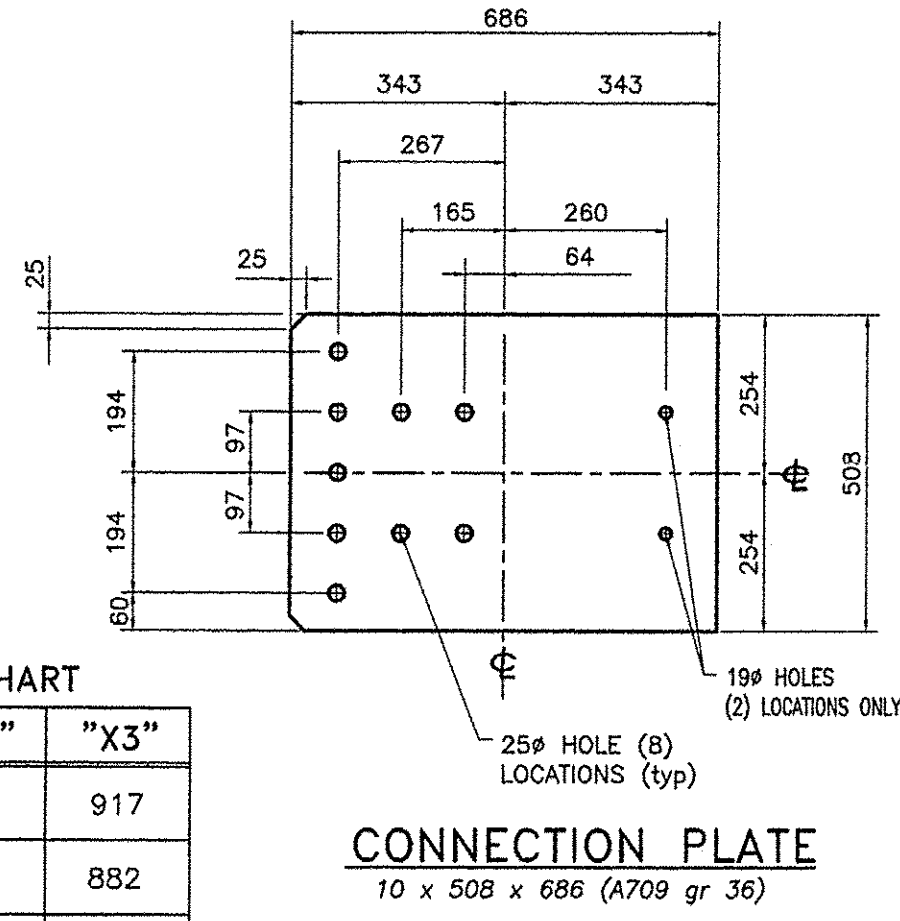
Mk.	Qty.	Description	Material
8		STEEL POST W150x37 x 2.640m OAL	A709M gr 345
3		WOOD POST 150x200 x 2.130m OAL	TIMBER
NW1	2	TS 102x102x6 x 77.569m	A500 gr B
NW2	1	RAIL TS 203x102x8mm x 7.569m	A500 gr B
NW3	1	TS 102x102x6 x 6.937m	A500 gr B
1		THRIE TRANSITION PANEL - 12 GA	M180 A2
1		TERMINAL CONNECTOR (10 GA)	M180 B2
1		END CAP FOR 203 x 102 TUBE RAIL	A709M gr 250
3		END CAP FOR 102 x 102 TUBE RAIL	A709M gr 250
1		CONNECTION PLATE 10 x 508 x 686	A709M gr 250
1		WOOD OFFSET BLOCK 150x200 x 572 LONG	TIMBER
1		WOOD OFFSET BLOCK 150x200 x 457 LONG	TIMBER
1		WOOD OFFSET BLOCK 150x200 x 355 LONG	TIMBER
5		M16 x 457 LONG POST BOLT w/ PLATE WASHER, DBL RECESSED NUT & ROUND WASHER	M164M
72		M20 x 152 LONG ROUND-SLOTTED HEAD BOLT WITH ROUND WASHER & LOCK NUT	A325M
20		M16 x 32 SPLICE BOLT w/ DOUBLE RECESSED NUT	M164M
1		SPLICE TUBE (ANGLED) - TS 178x76x10 600 OAL	A500 gr B
3		SPLICE TUBE (ANGLED) - TS 76x76x8 600 OAL	A500 gr B
16		M20 x 45 HEX HEAD BOLT w/ ROUND WASHER	A325M
16		SPACER PIPE DN 20 SCH 40 x 13 LONG	A709M gr 250

- NOTES:**
- PAYMENT FOR GUARD RAIL APPROACH SECTION, NETC 4 RAIL SHALL INCLUDE THE TERMINAL CONNECTOR, THE CONNECTION PLATE, RAIL, POSTS, BLOCKS AND ATTACHMENT HARDWARE.
 - ALL APPROACH RAIL SPLICES SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW.
 - ALL APPROACH RAIL MATERIALS, DIMENSION SIZE AND NOTES SHALL BE THE SAME AS OF THOSE OF THE BRIDGE RAIL, UNLESS OTHERWISE NOTED.
 - ALL PARTS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M111, EXCEPT THAT HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M232.
 - ALL EXPOSED CUT OR SHEARED EDGES SHALL BE GROUND TO A 2mm RADIUS AND BE FREE OF BURRS.
 - CARRIAGE BOLTS SHALL BE AASHTO M 164M AND NUTS SHALL BE AASHTO M29 IM (ASTM A 563M) OR BETTER (GALVANIZED).
 - HOLES IN RAILS FOR ATTACHMENT TO POSTS WILL BE FIELD DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO ERECTION.
 - WELD SPLICE BARS TO FIT BEND. USE COMPLETE PENETRATION WELD (B-U2).
 - THE REFLECTORIZED ALUMINIUM DELINEATION IS TO BE ERECTED EVERY 9100 (OR CLOSEST POST) WITH A 16 DIAMETER BOLT. DELINEATORS SHALL MEET SPECIFICATION REQUIREMENTS FOR ASTM B209 ALLOY 5052-H32.
 - REFLECTIVE MATERIAL SHALL MEET REQUIREMENTS OF SUBSECTION 750.08 AND SHALL BE OF ENCAPSULATED LENS SILVER. SILVER IS TO BE INSTALLED ON THE DRIVER'S RIGHT.



STEEL POST CHART

No.	"X1"	"X2"	"X3"
#1	308	578	917
#2	292	556	882
#3	279	533	844
#4	266	508	810
#5	247	476	759
#6	228	441	708
#7	206	410	654
#8	178	358	886



TVGA CONSULTANTS

NO EXCEPTIONS TAKEN OR REJECTED
 FURNISH AS CORRECTED
 REVISE AND RESUBMIT

ENGINEER has reviewed Shop Drawings and Samples and other data which Contractor is required to submit, only for conformance with the information given in the Contract Documents and compatibility with the design concept of the completed Project as a functioning whole as indicated in the Contract Documents. Such reviews do not extend to means, methods, techniques, sequences or procedures of construction or to safety precautions and programs incident thereto. Contractor is responsible for dimensions to be confirmed and controlled at the job site; for information that pertains solely to the fabrication processes or to techniques of construction; and for coordination of the work of all trades.

BY: *Jwl*
DATE: *7/13/08*

HIGHWAY SAFETY CORP.
GLASTONBURY, CT

ITEM 621.73 BRIDGE APPROACH RAILING - NETC 4 RAIL
TOWN OF BENNINGTON
COUNTY OF BENNINGTON
PROJECT AC NH 019-1(53) BRIDGE B12
VT ROUTE 279 OVER FURNACE BROOK

GENERAL CONTRACTOR
SUB CONTRACTOR

DRAWN: *MHM*
CHECKED: *P Radice*
DATE: *12/30/07*
SCALE: *NONE*
HSC REFERENCE NO.: *1615*
SIZE: *D* REVISION: *0*
SHEET NO.: *11 of 11*

REVISIONS

No.	Remarks	Date
0	Initial submittal	