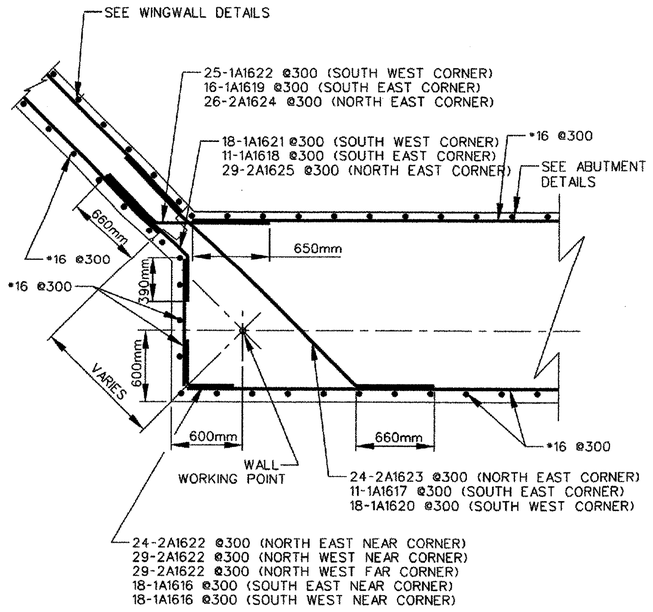
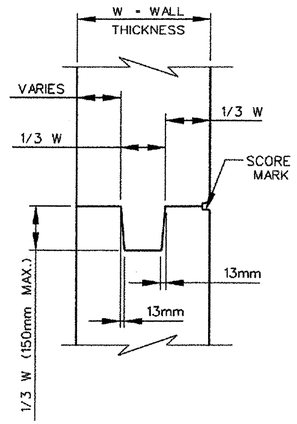


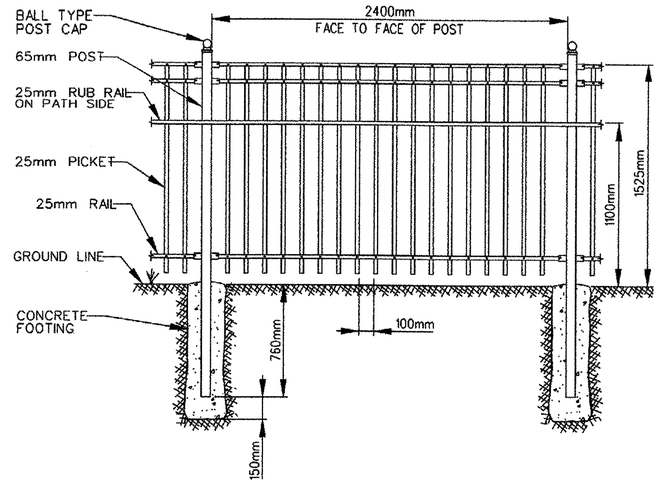
WINGWALL CORNER REINFORCEMENT DETAIL

SCALE 1:25



TYPICAL CONCRETE CONSTRUCTION JOINT

SCALE 1:10



RAIL FENCE DETAIL

SCALE 1:60

FENCE SPECIFICATIONS

1. MATERIALS

A. PICKETS SHALL BE MADE OF HOT-ROLLED STRUCTURAL STEEL. THE WALL THICKNESS SHALL BE 1.6 mm. TUBE SHALL BE HOT-DIPPED GALVANIZED PER AASHTO M111. SPACE BETWEEN PICKETS SHALL BE 100 FACE TO FACE.

SIZE	WALL THICKNESS	WGT. PER m	TENSILE STRENGTH
25 mm^2	1.6 mm	0.94 kg	3 140 kg/cm^2

B. RAILS SHALL BE MADE OF HOT ROLLED STRUCTURAL STEEL, ROLLED INTO "U" CHANNEL MEASURING 35 WIDE X 38 DEEP X 3 WALL THICKNESS. RAILS SHALL BE MANUFACTURED PER AASHTO M183 AND HOT-DIPPED GALVANIZED PER AASHTO M111.

C. POSTS SHALL BE MADE OF HOT ROLLED STRUCTURAL STEEL. THE WALL THICKNESS SHALL BE 2 mm. TUBE SHALL BE MANUFACTORED PER AASHTO M183. TUBE SHALL BE HOT-DIPPED GALVANIZED PER AASHTO M111.

SIZE	WALL THICKNESS	WGT. PER m	TENSILE STRENGTH
64 mm^2	2.0 mm	4.0 kg	3 140 kg/cm^2

D. RAIL ATTACHMENT BRACKETS SHALL BE CAST OF MALLEABLE IRON PER AASHTO M105 AND HOT-DIPPED GALVANIZED PER AASHTO M232.

2. ASSEMBLY

A. SECTIONS SHALL BE ASSEMBLED USING 2,3 OR 4 RAILS THAT ARE PUNCHED OUT TO INSERT PICKETS THROUGH THEM. PICKETS SHALL BE RIVETED TO RAILS USING A 6 mm INDUSTRIAL DRIVE RIVET.

B. RAILS ARE ATTACHED TO POSTS BY MEANS OF RAIL BRACKETS. RAIL BRACKETS SHALL BE ATTACHED TO POSTS USING A 6 mm BOLT AND LOCK NUT. BRACKETS SHALL BE ATTACHED TO RAILS USING A 6 mm INDUSTRIAL DRIVE RIVETS.

3. COATING

EVERY FENCE SHALL HAVE A GALVANIZED UNDERCOAT INSIDE AND OUTSIDE ALL MEMBERS TO ASSURE MAXIMUM CORROSION RESISTANCE. ALL FENCE COMPONENTS SHALL THEN BE GIVEN A 4 STAGE "POWER WASH" PRETREATMENT PROCESS THAT CLEANS AND PREPARES THE GALVANIZED SURFACE TO ASSURE COMPLETE ADHESION OF THE FINISH COAT.

STAGE 1 - ALL METAL SHALL BE CLEANED AND PHOSPHATE TREATED SIMULTANEOUSLY TO FORM A AMPORPHOUS STRUCTURE ON THE GALVANIZED SURFACE FOR SUPERIOR POWDER COATING ADHESION.

STAGE 2 - ALL METAL SHALL THEN BE GIVEN A THOROUGH WATER RINSE TO PREPARE THE PHOSPHATE COATED SURFACE FOR STAGE 3.

STAGE 3 - ALL METAL SHALL THEN BE GIVEN A NON-CHROMATED SEAL RINSE, WHICH WILL FURTHER IMPROVE THE CORROSION RESISTANCE.

STAGE 4 - ALL METAL SHALL THEN BE BAKED DRY, PRIOR TO THE POWDER COATING BEING APPLIED.

ALL METAL SHALL THEN BE GIVEN A BLACK POLYESTER RESIN BASED POWDER COATING APPLIED BY A ELECTROSTATIC SPRAY PROCESS, TO A THICKNESS OF 0.06 mm. THE FINISH SHALL THEN BE BAKED IN A 232$^{3}/_{4}$C OVEN FOR 20 MINUT

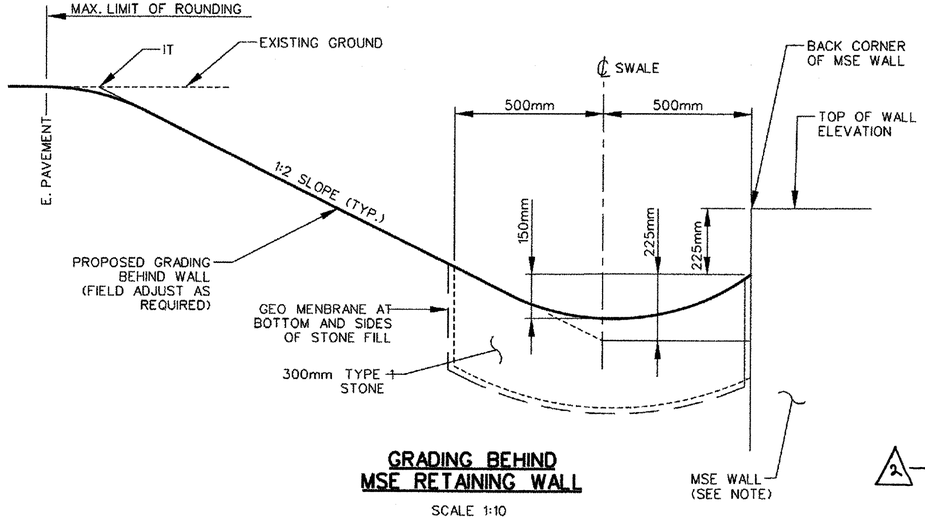
4. INSTALLATION

A. FENCE AND ACCESSORIES SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE PLANS AND SPECIFICATIONS IN A WORKMANLIKE MANNER.

B. LINE POSTS SHALL BE SPACED NO MORE THAN 2.4 m ON CENTER IN LINE OF THE FENCE. POSTS SHALL BE PLUMB WITH THE TOPS PROPERLY ALIGNED.

C. CONCRETE FOOTINGS

1. DRILL HOLES IN FIRM, UNDISTURBED COMPACTED SOIL. FOOTINGS SHALL NOT BE LESS THAN 250 mm IN DIAMATER AND SHALL BE 150 mm DEEPER THAN THE POST BOTTOM.
2. PLACE CONCRETE AROUND THE POST IN A CONTINUOUS POUR. TROWEL FINISH TOPS OF FOOTINGS AND SLOPE OR DOME TO DIRECT WATER AWAY FROM THE POSTS.
3. CONCRETE SHALL BE CLASS C.

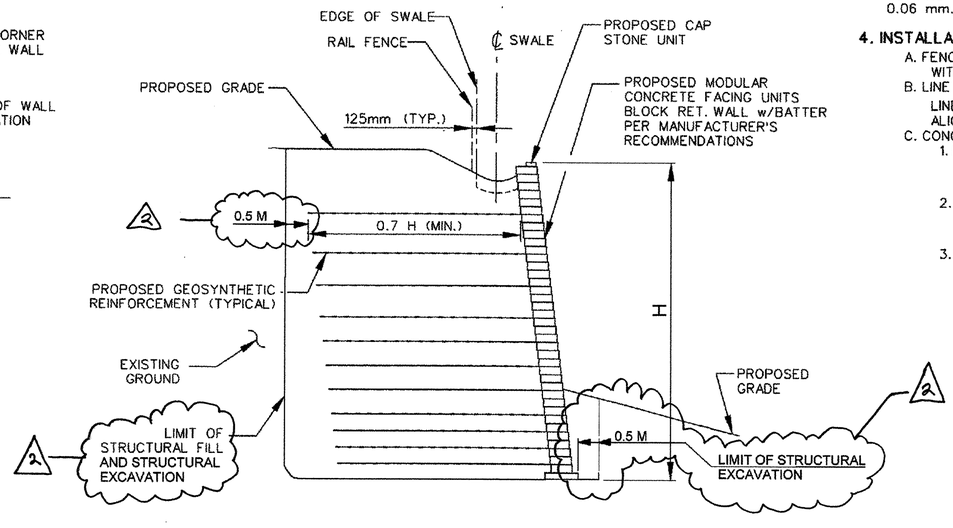


GRADING BEHIND MSE RETAINING WALL

SCALE 1:10

NOTE:

WALL AS SHOWN ON THIS DETAIL AND ON CROSS SECTIONS IS A GRAPHICAL REPRESENTATION ONLY, NUMEROUS MSE WALL TYPES ARE AVAILABLE. ACTUAL WALL DIMENSIONS AND BATTER OF WALL FACE WILL VARY DEPENDING ON THE OPTION SELECTED. SLOPE LIMITS BEHIND THE WALL WILL ALSO VARY DEPENDING ON WALL THICKNESS AND THE LOCATION OF BACK OF WALL. IN ANY EVENT, THE SLOPE LIMIT WITH ROUNDING MUST NOT EXTEND BEYOND THE CURRENT EDGE OF BITUMINOUS PAVEMENT.



MSE RETAINING WALL SECTION

SCALE 1:75

SEE SHEETS 138 TO 144 FOR THE MSE WALL DESIGN PERFORMED BY TENSAR FOR THIS LOCATION.

2 Addendum Two, Fill/Excavation Limits Dec 6, 2002

Plot Date: 10-03-2002
File: rt9br159

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BRATTLEBORO	Bridge No. 62.56
Highway No. VT. ROUTE 9	Log Sta. / Surv. Sta.
ROUTE 9 BRIDGE	
SUBSTRUCTURE DETAILS	
Designed By	Drawn By DHL
Checked By Date	Bridge Design Supervisor Date
PROJECT BRATTLEBORO	PROJECT NO. NH 010-2(2)
I.G.C. Info.	
Bridge Sheet No. 12	Sheet 80 of 145