

The Reinforced Earth Company

133 PARK STREET, NORTH READING, MA 01864 (978) 664-2830

GENERAL NOTES

DESIGN CRITERIA

- DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE REINFORCED EARTH VOLUME, METHODS OF CONSTRUCTION AND QUALITY OF PREFABRICATED MATERIALS SHALL CONFORM TO THE CONTRACTING AGENCY'S TECHNICAL SPECIFICATIONS FOR REINFORCED EARTH WALLS.
- SOILS CHARACTERISTICS USED FOR DESIGN (PER SPECIAL PROVISION SECTION 526.04A.)

SELECT FILL MATERIAL FOR MSE WALLS

$\phi = 34$ degrees, $c = 0$ kPa, $\gamma = 22$ KN/m³

EMBANKMENT BACKFILL (RETAINED SOIL)

$\phi = 30$ degrees, $c = 0$ kPa, $\gamma = 22$ KN/m³

FOUNDATION MATERIAL (ALLOWABLE BEARING PRESSURE 950 kPa)

$\phi = 30$ degrees, $c = 0$ kPa

- THE MAXIMUM APPLIED BEARING PRESSURE AT THE FOUNDATION LEVEL IS AS SHOWN ON THE WALL ELEVATIONS FOR EACH DESIGN CASE. IT IS THE RESPONSIBILITY OF THE OWNER TO DETERMINE THAT THIS APPLIED BEARING PRESSURE IS ALLOWABLE FOR THAT LOCATION.
- ANY UNSUITABLE FOUNDATION MATERIAL BELOW THE REINFORCED EARTH VOLUME, AS DETERMINED BY THE VTRANS RESIDENT ENGINEER, SHALL BE EXCAVATED AND REPLACED WITH GRANULAR BORROW OR OTHERWISE STABILIZED AS DIRECTED BY THE VTRANS RESIDENT ENGINEER.
- REINFORCING STRIPS SHALL BE 50mm WIDE AND 4mm THICK, AND SHALL CONFORM TO THE PHYSICAL AND MECHANICAL PROPERTIES OF ASTM A-572 GRADE 450. GALVANIZATION SHALL BE APPLIED IN ACCORDANCE WITH ASTM A-123 OR AASHTO M111 (610 g/m²).

WALL CONSTRUCTION

- STATIONS SHOWN ARE ALONG TH 4/3 BASELINE.
- FOR LOCATION AND ALIGNMENT OF REINFORCED EARTH WALL. SEE SHEET NO. 2 OF THESE PLANS AND CONTRACT DRAWINGS.
- IF MANHOLES OR DROP INLETS ARE PRESENT WITHIN THE REINFORCED EARTH VOLUME AND SPECIFIC DETAILS HAVE NOT BEEN INCLUDED IN THESE PLANS, CONTACT THE REINFORCED EARTH COMPANY FOR APPROPRIATE DETAILS.
- FOR PILES LOCATED WITHIN THE REINFORCED EARTH VOLUME, THEY SHALL BE DRIVEN PRIOR TO CONSTRUCTION OF THE REINFORCED EARTH WALL UNLESS A METHOD TO PROTECT THE STRUCTURE, WHICH IS ACCEPTABLE TO VTRANS AND THE REINFORCED EARTH COMPANY, AND IS PROPOSED AND APPROVED IN WRITING.
- BACKFILL MATERIAL SHALL BE COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS FOR REINFORCED EARTH WALLS TO A LEVEL OF 5 cm ± ABOVE THE TIE STRIPS EMBEDDED IN THE PANELS. INSTALLATION OF REINFORCING STRIPS SHALL BE PERMITTED ONLY AFTER PLACEMENT AND COMPACTION OF THE BACKFILL MATERIAL HAS REACHED THE REQUIRED LEVEL.

WALL CONSTRUCTION (CONT.)

- COMPACTION AND OPERATION EQUIPMENT SHALL BE KEPT A MINIMUM DISTANCE OF 1M FROM THE BACK FACE OF THE REINFORCED EARTH PANELS. COMPACTION WITHIN 1M OF THE REINFORCED EARTH PANELS SHALL BE ACHIEVED WITH AT LEAST THREE (3) PASSES OF A LIGHTWEIGHT MECHANICAL TAMPER, ROLLER OR VIBRATORY SYSTEM. NO COMPACTION DENSITY TESTS SHALL BE TAKEN WITHIN THE 1M ZONE.
- IF STRUCTURES IN EXCESS OF 6M IN HEIGHT OCCUR, THE FINISHED GRADE IN FRONT OF THE WALL SHALL BE PLACED AND COMPACTED BEFORE WALL CONSTRUCTION EXCEEDS A HEIGHT OF 6M. FINISHED GRADE BACKFILL SHALL BE COMPACTED TO 95% OF ASTM D-698, METHODS 'C' OR 'D', UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE LOCATION OF ANY GUIDERAIL AND FENCE POSTS BEHIND THE REINFORCED EARTH PANELS. PRIOR TO PLACEMENT OF THE TOP LAYER OF REINFORCING STRIPS, INDIVIDUAL STRIPS MAY BE SKEWED TO AVOID THE POST LOCATIONS IF AUTHORIZED BY THE REINFORCED EARTH COMPANY. ANY DAMAGE DONE TO THE REINFORCING STRIPS DUE TO THE INSTALLATION OF THE GUARDRAIL SHALL BE REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
- IF EXISTING OR FUTURE STRUCTURES, PIPES, FOUNDATIONS OR GUARDRAIL POSTS WHICH ARE WITHIN THE REINFORCED EARTH VOLUME INTERFERE WITH THE NORMAL PLACEMENT OF REINFORCING STRIPS AND SPECIFIC DIRECTION HAS NOT BEEN PROVIDED ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE REINFORCED EARTH COMPANY TO DETERMINE WHAT COURSE OF ACTION SHOULD BE TAKEN.
- ALL DETAILING AND CHECKING OF REINFORCING STEEL FOR ANY C.I.P. CONCRETE WORK IS THE RESPONSIBILITY OF THE CONTRACTOR.
- TOP PANELS BELOW COPING SHALL EACH HAVE (3) THREE #13 (#4 US) DOWELS.
- FOR OTHER INFORMATION PERTAINING TO WALL CONSTRUCTION PLEASE REFER TO THE REINFORCED EARTH CONSTRUCTION MANUAL.
- THE CONTRACTOR IS RESPONSIBLE FOR GRADUALLY DEFLECTING UPPER REINFORCING STRIPS DOWNWARD TO AVOID CONFLICTS WITH PAVING, FOUNDATIONS AND SUBGRADE PREPARATION. THE CONTRACTOR'S ATTENTION IS DIRECTED ESPECIALLY TO SITUATIONS WHERE ROADWAY SUPERELEVATION, IMPERVIOUS MEMBRANES AND/OR SOIL MIXING ARE ANTICIPATED.
- THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING STORM WATER DRAINAGE IN THE VICINITY OF THE WALL DURING CONSTRUCTION. STORM WATER RUNOFF IS TO BE COLLECTED AND DISCHARGED AWAY FROM THE WALL AND REINFORCED BACKFILL.

MATERIALS NOTES

- NOMINAL STRIP LENGTHS**
THE REINFORCING STRIP LENGTHS SHOWN ON THE PLANS, MEASURED FROM BACK FACE OF PANEL, ARE THE NOMINAL LENGTHS REQUIRED BY CALCULATION. THE ACTUAL FABRICATED STRIP LENGTHS ARE OFTEN LONGER (UP TO 15cm) DUE TO MANUFACTURING TOLERANCES. THE REQUIRED HORIZONTAL LIMIT OF GRANULAR BACKFILL IS EQUAL TO THE NOMINAL STRIP LENGTH. ADDITIONAL GRANULAR BACKFILL BEYOND THE NOMINAL STRIP LENGTH IS NOT REQUIRED BY CALCULATION.

MATERIALS NOTES (CONT.)

21. SELECT BACKFILL QUANTITY

THE SELECT BACKFILL QUANTITY IS CALCULATED BY MULTIPLYING THE NOMINAL STRIP LENGTHS SHOWN ON THE PLANS (PLUS 300mm) BY THEIR TRIBUTARY WALL SURFACE AREA AND CONVERTING THE RESULT TO A NEATLINE CUBIC METER QUANTITY. THE CONTRACTOR MUST CALCULATE HIS OWN EXCAVATION AND BACKFILL QUANTITIES BASED UPON THE SPECIFIC CONDITIONS OF THE PROJECT.

22. PANEL FINISH

PRECAST FACING PANELS SHALL HAVE AN ASHLAR STONE FORM LINER FINISH. CORNER ELEMENTS AND COPING UNITS SHALL HAVE A PLAIN STEEL FORM FINISH. CAST-IN-PLACE COPING SHALL MATCH COLOR OF PRECAST COPING.

23. NOTE TO CONTRACTORS

ONLY THE FOLLOWING MATERIALS ARE SUPPLIED BY THE REINFORCED EARTH COMPANY:

- PRECAST CONCRETE FACING PANELS
- REINFORCING STRIPS
- BOLT SETS (FOR ATTACHING REINFORCING STRIPS TO PANELS)
- BEARING BLOKS
- RUBBER SHIMS
- FILTER CLOTH AND ADHESIVE (FOR PANEL JOINTS ONLY)
- PRECAST COPING UNITS

ANY OTHER MATERIALS CALLED FOR IN THE CONTRACT PLANS OR SPECIFICATIONS ARE TO BE SUPPLIED BY THE CONTRACTOR. ANY JOINT MATERIALS SHOWN AT THE INTERFACE OF PRECAST PANELS AND CAST-IN-PLACE CONCRETE STRUCTURES ARE TO BE SUPPLIED BY THE ERECTION CONTRACTOR. ALL SANDBLASTING, PAINTING, SEALERS OR OTHER SPECIAL APPLIED COATINGS ARE ALSO SUPPLIED/INSTALLED BY THE CONTRACTOR IN THE FIELD FOLLOWING PANEL ERECTION.

ALL GEOTEXTILES, GEOGRIDS, IMPERVIOUS MEMBRANES ARE SUPPLIED BY THE CONTRACTOR.

- THE REINFORCED EARTH COMPANY SUPPLIES PRECAST CONCRETE FACING PANELS AND ACCESSORIES TO BE USED IN CONJUNCTION WITH OTHER MATERIALS IN THE CONSTRUCTION OF THE REINFORCED EARTH® RETAINING WALLS DETAILED HEREIN. THE CONSTRUCTION AND QUALITY CONTROL PROCEDURES MANUAL FURNISHED BY THE REINFORCED EARTH COMPANY IS INTENDED TO PROVIDE A GENERAL EXPLANATION OF THE SYSTEM. IT IS THE CONTRACTOR'S OBLIGATION TO DEVISE AND EXECUTE A PROJECT SPECIFIC ERECTION SEQUENCE, PANEL UNLOADING, HANDLING AND BRACING SYSTEM, AND FALL PROTECTION SYSTEM. THE BRACING SYSTEM SHOWN IN THE CONSTRUCTION AND QUALITY CONTROL PROCEDURES MANUAL IS GENERAL IN NATURE AND DOES NOT ACCOUNT FOR PROJECT SPECIFIC CRITERIA. COMPLIANCE WITH THE GUIDELINES IN THIS MANUAL DOES NOT RELIEVE THE CONTRACTOR OF ITS RESPONSIBILITY TO ADHERE TO THE PROJECT PLANS, SPECIFICATIONS AND CONTRACT DOCUMENTS OR COMPLIANCE WITH ALL FALL PROTECTION, SAFETY, LAWS, STANDARDS AND PROCEDURES AT THE JOBSITE. CONTRACTORS SHOULD TAKE SPECIAL PRECAUTIONS TO PREVENT THE PANELS FROM SHIFTING OR FALLING DURING THE ERECTION PROCESS.

25. PROJECT NOTES

SEE CONTRACT DRAWINGS 77 AND 78 OF 124 FOR ADDITIONAL MSE WALL NOTES. SEE PROJECT SPECIAL PROVISIONS SECTION 526 FOR ADDITIONAL REQUIREMENTS.

INDEX	
SHEET NO.	CONTENTS
1	GENERAL NOTES
2	WALL ELEV. AND PLAN VIEWS
3	TYPICAL SECTIONS
4	MISC. DETAILS
5	STANDARD PANEL DETAILS

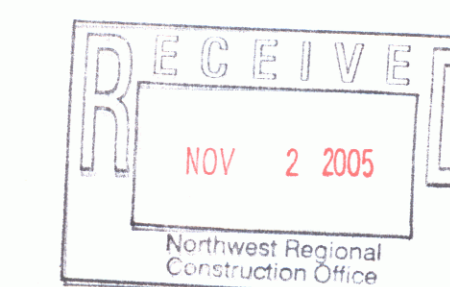
SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

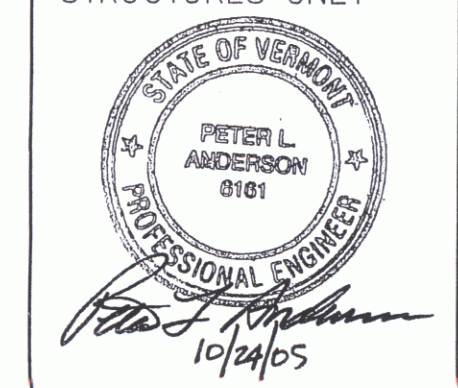
REJECTED REVISE AND RESUBMIT FURNISH AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB Vanasse Hangen Brustlin, Inc.
Engineers, Planners, and Scientists
300 Bedford Street, Boston, MA 02110-3000
Job Number: 5073
Reviewed By: LSB/jmc
Date: 10/31/05



CERTIFIED WITH RESPECT TO THE INTERNAL STABILITY OF REINFORCED EARTH STRUCTURES ONLY



VT AOT PROJ. NO. BRM 5600(6)S C/2

<p>This drawing contains information proprietary to The Reinforced Earth Company, and is being furnished for the use of _____ VT AOT _____ only in connection with this project, and the information contained herein is not to be transmitted to any other organization unless specifically authorized in writing by The Reinforced Earth Company. The Reinforced Earth Company is exclusive licensee in the United States under patents issued to Henri Vidal, and the furnishing of this drawing does not constitute an expressed or implied license under the Vidal patents.</p>	<p>The design contained on these drawings is based on information provided by the owner. On the basis of this information, The Reinforced Earth Company has designed, and is responsible for the internal stability of the structure only. External stability, including foundation and slope stability, is the responsibility of the owner.</p>	<p>The Reinforced Earth Company 6614 Westwood Center Drive Suite 1100, Vienna, Virginia 22182 (703) 821-1175</p>	DESIGNED BY:				PROJECT NAME	TH 4/3 LIME KILN BRIDGE	DATE	9/7/2005
			PROJECT ENGR:	JMKC				LOCATION	TOWN OF COLCHESTER CHITTENDEN COUNTY, VERMONT	CONTRACT NO.
	CHECKED BY:	KPB	1	10-24-05	REVISED AS PER VHB REVIEW COMMENTS 10-7-05	OWNER	VT AOT	DRAWING NO.	1 OF 5	
	ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	GENERAL NOTES - R.E. WALLS	SCALE	AS SHOWN		