

- GENERAL NOTES:**
- SITE PREPARATION:**
    - STRIP ALL VEGETATION, ORGANIC SOILS AND UNSUITABLE FILL SOILS FROM THE WALL ALIGNMENT AREA.
    - BENCH CUT ALL EXCAVATED SLOPES.
    - DO NOT OVER EXCAVATE UNLESS DIRECTED TO DO SO BY THE OWNER'S SITE REPRESENTATIVE IN ORDER TO REMOVE UNSUITABLE SOIL.
    - THE OWNER'S SITE REPRESENTATIVE SHALL VERIFY THE COMPETENCY OF THE FOUNDATION SOILS.
  - LEVELING PAD & BOTTOM BLOCK:**
    - LEVELING PAD SHALL CONSIST OF 3/4" CRUSHED STONE (DRAINAGE FILL) MEETING THE GRADATION REQUIREMENTS OF ASTM #57 STONE. IT SHALL BE AT LEAST 12" THICK, EXTEND AT LEAST 12" TO EITHER SIDE OF THE BASE BLOCK, AND BE WRAPPED IN FILTER FABRIC (MIRAFI 140N OR EQUIV.).
    - MINIMUM EMBEDMENT OF WALL BELOW FINISH GRADE SHALL BE AS INDICATED ON THE WALL FACE DRAWING.
    - FOLLOW APPLICABLE PROVISIONS OF THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND WRITTEN SPECIFICATIONS, ESPECIALLY WITH REGARDS TO LEVELING OF BLOCKS AND BASE.
  - WALL DRAIN:**
    - DRAINAGE FILL SHALL CONSIST OF ASTM #57 SIZE CRUSHED STONE PLACED FOR A DEPTH OF AT LEAST 12" BEHIND THE WALL. A FILTER FABRIC SHALL BE PLACED OVER THE CUT OR FILL FACE BEHIND THE WALL TO PREVENT THE MIGRATION OF SOIL INTO THE DRAINAGE MATERIAL.
    - THE 6" DIA. PERFORATED HDPE WALL DRAIN SHALL BE TIED TO THE SITE UNDERDRAIN FOR OUTLET.
    - PLACE A FILTER FABRIC (MIRAFI 140N, OR EQUAL) OVER THE DRAINAGE MATERIAL TO MINIMIZE SOIL MIGRATION FROM THE SURFACE MATERIAL (TOPSOIL OR IMPERVIOUS) INTO THE DRAINAGE MATERIAL.
  - BACKFILLING & COMPACTION:**
    - BACKFILL AND COMPACT THE FILL MATERIAL BEHIND THE WALL AS THE WALL IS INSTALLED.
    - COMPACTION TESTS SHALL BE TAKEN AS THE WALL IS INSTALLED. THE MINIMUM NUMBER OF TESTS SHALL BE DETERMINED BY THE OWNER'S SITE REPRESENTATIVE.
    - COMPACTION SHALL BE TO A MINIMUM OF 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY.
    - RECOMMENDED COMPACTION EQUIPMENT WITHIN 15 FEET OF THE BACK OF THE WALL IS AS FOLLOWS:  
 0 - 4 FEET HAND TAMP OR VIBRATORY PLATE COMPACTOR  
 4 - 15 FEET NOTING LARGER THAN TWO-DRUM WALK-BEHIND VIBRATORY ROLLER (LARGER ROLLERS CAN BE USED STATICALLY, PROVIDED LIFT SIZE DOES NOT COMPROMISE ACHIEVEMENT OF NECESSARY COMPACTION RATES.)
  - GENERAL WALL LAYOUT & CONSTRUCTION:**
    - FINAL WALL ALIGNMENT SHALL BE LOCATED IN THE FIELD BY THE CONTRACTOR.
    - PROVIDE LATERAL DRAINAGE SWALES TO DIRECT FLOWS AROUND THE ENDS OF THE WALL AND AWAY FROM THE WALL DURING CONSTRUCTION. THIS MEASURE WILL REDUCE THE POTENTIAL FOR EXTREME PRECIPITATION EVENTS FROM DAMAGING THE WALL DURING THE CONSTRUCTION PHASE.
    - TURF, OR SOME ACCEPTABLE FORM OF SOIL EROSION PROTECTION, SHOULD BE ESTABLISHED AT THE TOP OF THE WALL (WHERE REQUIRED) BY THE LANDSCAPE CONTRACTOR AS SOON AS THE WALL IS COMPLETED.
    - ADHERE CAPS WITH A MINIMUM OF TWO 3/8" DIAMETER BEADS OF CONSTRUCTION ADHESIVE SUCH AS TITECOND HEAVY DUTY CONSTRUCTION ADHESIVE BY FRANKLIN INTERNATIONAL. MORTAR CEMENT CAN ALSO BE USED.
    - IF CONDITIONS ARE DIFFERENT THAN THOSE STATED IN THESE DRAWINGS AND SPECIFICATIONS, THE CONTRACTOR MUST CONTACT THE DESIGN ENGINEER PRIOR TO PROCEEDING WITH THE CONSTRUCTION OF THE WALL.
    - THESE WALLS HAVE BEEN DESIGNED WITH CONSIDERATION OF SEISMIC LOADINGS.

TYPICAL SECTION - GRAVITY WALL  
 (TYPICAL DETAIL ONLY - SEE WALL FACE DRAWING FOR SPECIFIC BLOCK CONFIGURATIONS)  
 "RED-ROCK" SEGMENTAL RETAINING WALL

COMPACTION NOTE: WHERE THE RETAINING WALL PASSES OVER ANY UTILITY LINES, COMPACTION OF THE SOIL WITHIN THE UTILITY TRENCH IS CRITICAL IN ORDER TO PREVENT SETTLEMENT OF THE WALL. COMPACTION OF ALL FILL MATERIAL IN UTILITY TRENCHES WHICH PASS UNDER THIS RETAINING WALL MUST BE AT LEAST 95% OF THE MINIMUM DENSITY OF THE FILL MATERIAL (PER SPECIAL PROVISION).

COMPACTED FILL/BACKFILL GENERAL REQUIREMENTS	
SOIL SIZE	% PASSING
3"	100%
3/4"	45-75%
#100	0-12%
#200	0-5%

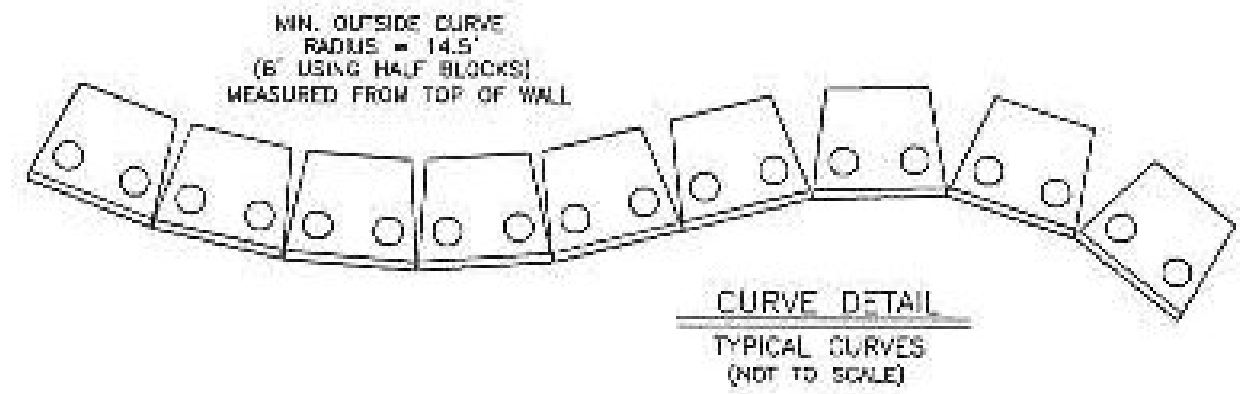
VT DOT 704.00A  
 GRANULAR BACKFILL FOR STRUCTURES

DRAINAGE FILL - ASTM #57 STONE GRADATION REQUIREMENTS	
SOIL SIZE	% PASSING
1-1/2"	100
1"	85 - 100
1/2"	25 - 50
3/4"	0 - 10
#10	0 - 5
#200	0 - 2

DESIGN ASSUMPTIONS		
SOIL	SOIL UNIT WEIGHT	φ
GRANULAR BACKFILL	143	34
1/4"-3/8" SAND	115	32
3/4" CRUSHED STONE #57	119	40

APPLIED SURCHARGE LOADING: NONE  
 SEISMIC ACCELERATION = 0.09  
 MAX. SLOPE ABOVE WALL: 2H:1V

MSHTO LRFD LOAD/RESISTANCE FACTORS	
<b>INTERNAL STABILITY:</b>	
VERTICAL EARTH PRESSURE - EV	1.35
EARTHQUAKE LOADS - EQ	1.00
LIVE LOAD SURCHARGE - LS	1.75
DEAD LOAD SURCHARGE - ES	1.50
<b>EXTERNAL STABILITY:</b>	
VERTICAL EARTH PRESSURE - EV	1.00 (STATIC)
SLIDING & ECCENTRICITY:	1.00 (COMBINED STATIC/SEISMIC)
BEARING CAPACITY:	1.35 (STATIC)
	1.35 (COMBINED STATIC/SEISMIC)
ACTIVE EARTH PRESSURE - EA	1.50
ACTIVE EARTH PRESSURE (EARTHQUAKE)	1.00
EARTHQUAKE LOADS - EQ	1.00
BEARING CAPACITY	0.45 (STATIC)
	0.40 (COMBINED STATIC/SEISMIC)



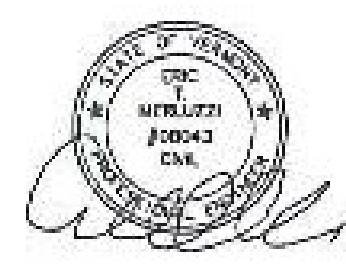
IT IS THE RESPONSIBILITY OF THE INSTALLER TO REVIEW THE NOTES AND DETAILS ON ALL SHEETS OF THIS PLAN SET

NO EXCEPTIONS TAKEN  DISAPPROVED   
 REVISE AND RESUBMIT  APPROVED AS NOTED

CHECKING IS ONLY FOR GENERAL COMPLIANCE WITH THE DESIGN CONCEPTS OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. ANY ACTION SHOWN IS SUBJECT TO THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS WHICH SHALL BE CONFIRMED AND CORRECTED AT THE JOB SITE; FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATION OF HIS WORK WITH THAT OF ALL OTHER TRADES; AND THE SATISFACTORY PERFORMANCE OF THE WORK.

GREEN INTERNATIONAL AFFILIATES, INC.  
 CONSULTING ENGINEERS

CHECKED BY: RMS DATE: 12/17/13  
 SIGNED BY: RMS DATE: 12/17/13



NOTE: THIS DRAWING WAS PREPARED FOR USE WITH RED-ROCK (TM) RETAINING WALL SYSTEMS. CONTACT RED-ROCK WALLS OF NEW ENGLAND AT (802) 862-1000.

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CLIENT: RED-ROCK WALLS OF NEW ENGLAND & REEDS HILL ROAD, NEWPORT, NH 03773  
 PROJECT: RICHMOND CMO PARK (31) RICHMOND, VT  
 SHEET TITLE: RETAINING WALL DESIGN SHEET 1

DATE: NOVEMBER 21, 2013 AS SHOWN PROJECT No.: 2013-143

REVISION #1: 12/13/13 REUSE PER 12/9/13 COMMENTS BY GREEN INTERNATIONAL AFFILIATES, INC. CONSULTING ENGINEERS. E.M.

SHEET 1 OF 2