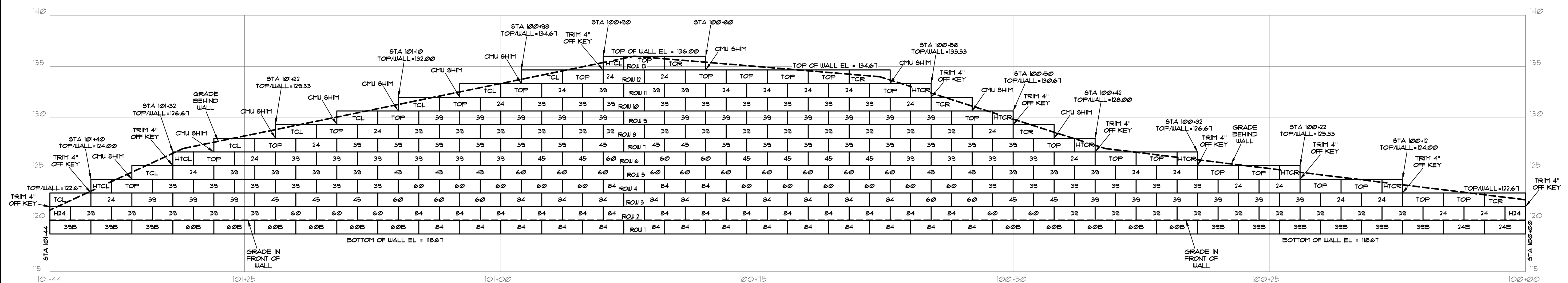
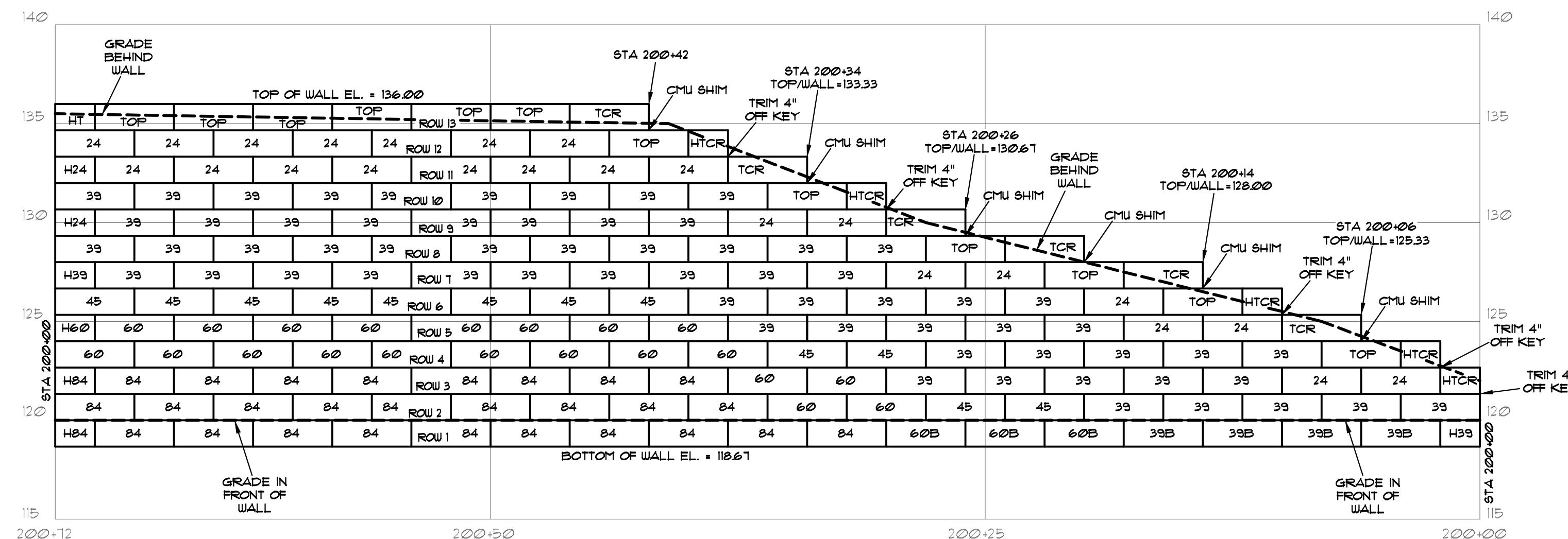


PLAN VIEW - WALLS 1 & 2
SCALE: 1" = 10'



PROFILE - WALL #1
SCALE: 1" = 5'

WALL 1 - BLOCK COUNT		
SYMBOL	BLOCK TYPE	QUANTITY
TOP	TOP	24
TCL	TOP LEFT	8
TCR	TOP RIGHT	5
HTCL	HALF TOP LEFT	3
HTCR	HALF TOP RIGHT	6
24	24" FULL BLOCK	24
H24	24" HALF BLOCK	2
39	39" FULL BLOCK	105
45	45" FULL BLOCK	19
60	60" FULL BLOCK	34
84	84" FULL BLOCK	41
24B	24" BASE BLOCK	2
39B	39" BASE BLOCK	9
60B	60" BASE BLOCK	11
TOTAL = 1,533 sq. ft.		



PROFILE - WALL #2
SCALE: 1" = 5'

WALL 2 - BLOCK COUNT		
SYMBOL	BLOCK TYPE	QUANTITY
TOP	TOP	12
HT	HALF TOP	1
TCR	TOP RIGHT	6
HTCR	HALF TOP RIGHT	5
24	24" FULL BLOCK	24
H24	24" HALF BLOCK	2
39	39" FULL BLOCK	63
H39	39" HALF BLOCK	2
45	45" FULL BLOCK	12
60	60" FULL BLOCK	21
H60	60" HALF BLOCK	1
84	84" FULL BLOCK	21
H84	84" HALF BLOCK	2
39B	39" BASE BLOCK	4
60B	60" BASE BLOCK	3
TOTAL = 952 sq. ft.		

PROJECT: RECON BLOCK-WALLS 1 & 2
SHEET TITLE: PLAN & PROFILE
MUNJOY HEIGHTS
REDFERN MUNJOY, LLC
P.O. BOX 8816 - FORTLAND, ME 04104

CLIENT: REDFERN MUNJOY, LLC
SCALE: AS NOTED
DATE: DECEMBER 5, 2013
CHECKED BY: UMP

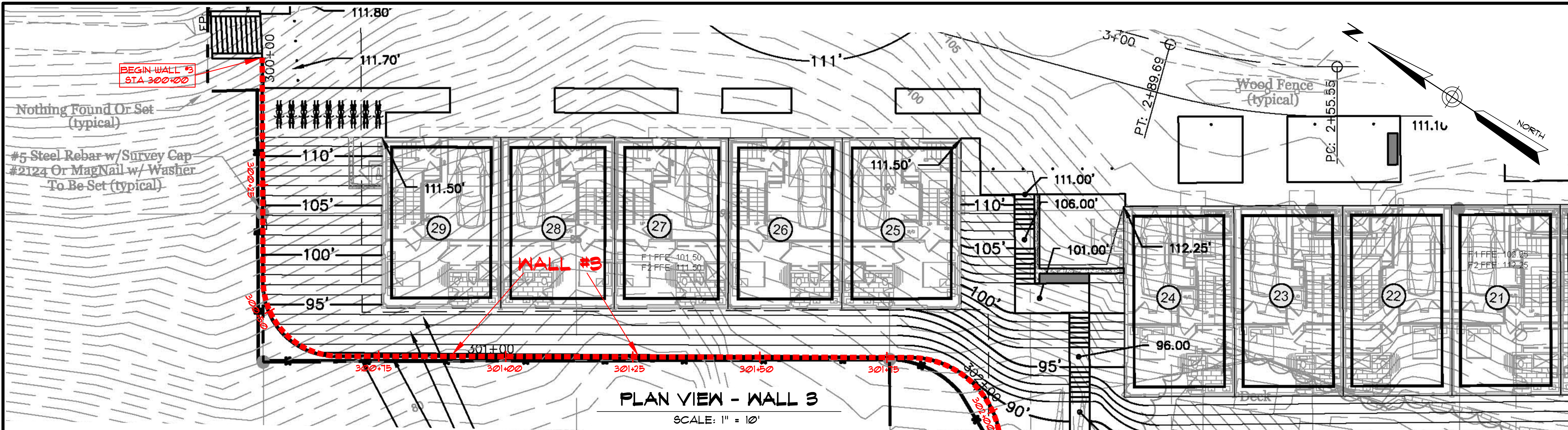
NO. 1
CHANGES PER SUPPLIER REVIEW
REVISION
DATE 12-16-13

145 LISBON ST. - SUITE 601
LEWISTON, ME 04240
Tel: (207) 576-3313
www.summitgeogroup.com

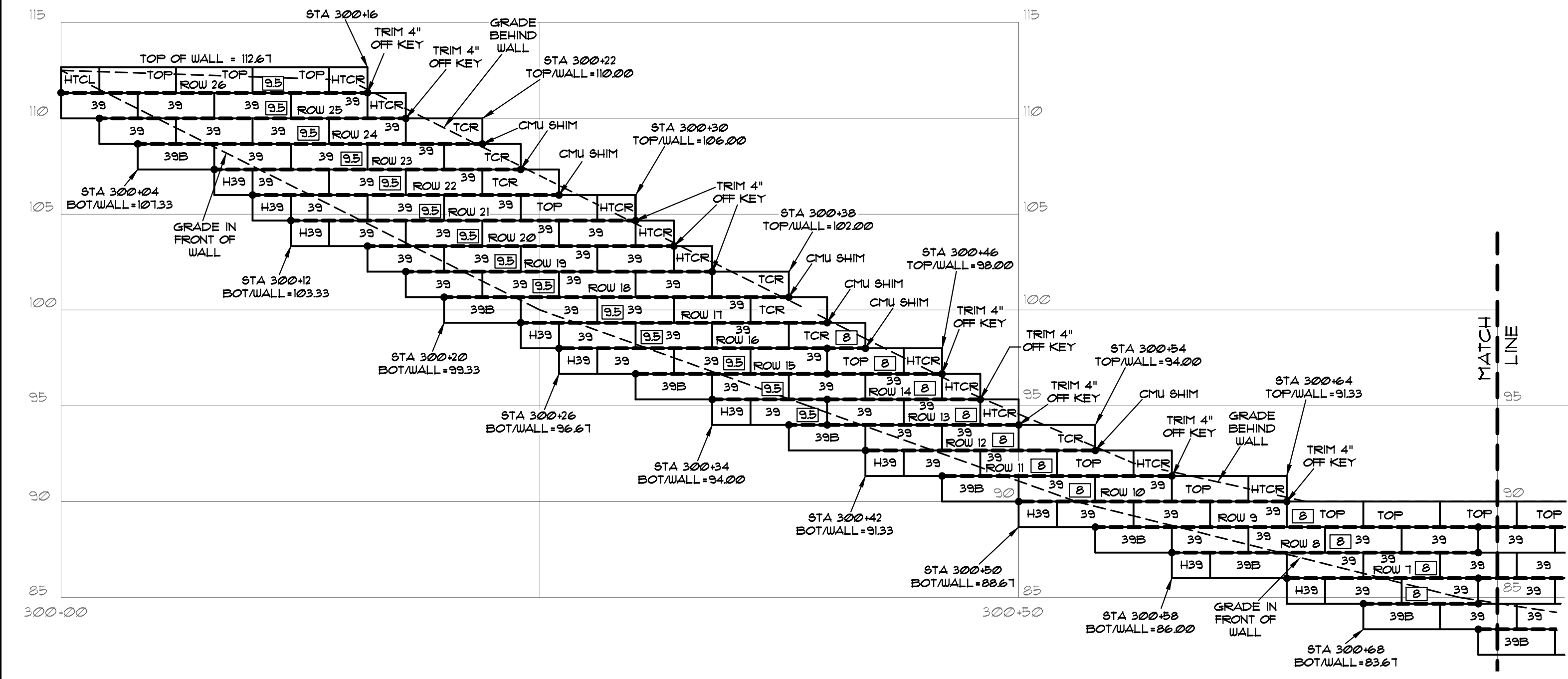
SUMMIT
ENGINEERING SERVICES

WILLIAM M. PETERLIN
REGISTERED PROFESSIONAL ENGINEER
NO. 38813

JOB NO. - 130672
SHEET



PLAN VIEW - WALL 3
SCALE: 1" = 10'

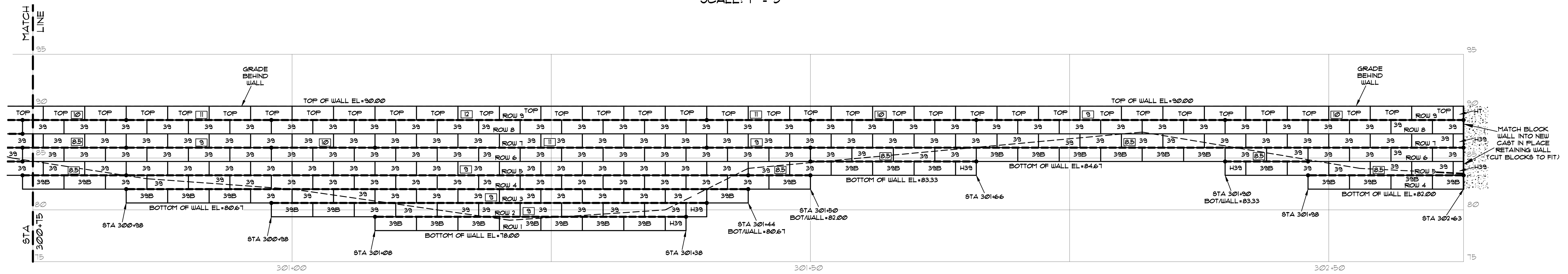


PROFILE - WALL 3
SCALE: 1" = 5'

SYMBOL	BLOCK TYPE	QUANTITY
TOP	TOP	44
TCR	TOP RIGHT	7
HT	HALF TOP	1
HTCL	HALF TOP LEFT	1
HTCR	HALF TOP RIGHT	10
39	39" FULL BLOCK	219
H39	39" HALF BLOCK	16
39B	39" BASE BLOCK	38
TOTAL		1,111 sq. ft.

LENGTH (ft.)	WIDTH (ft.)	AREA (sq. ft.)
8	116	928
8.5	130	1,105
9	230	2,070
9.5	198	1,881
10	60	600
11	56	616
12	42	504
TOTAL		1,104 sq. ft.

ALL GEOGRID SHALL BE MIRAFI 5xT



SHEET TITLE: **RECON BLOCK-WALL #3**
PLAN & PROFILE

PROJECT: **MUNJOY HEIGHTS**
 CLIENT: **REDFERN MUNJOY, LLC**
 P.O. BOX 806 - FORTLAND, ME 04104

DATE: DECEMBER 5, 2013
 CHECKED BY: UMP
 DRAWN BY: KRF

NO. 1
 REVISION
 CHANGES PER SUPPLIER REVIEW
 DATE 12-16-13

145 LISBON ST. - SUITE 601
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 Tel: (207) 576-3313
 www.summitgeoseng.com

SUMMIT
 GEOTECHNICAL SERVICES

WILLIAM A. PETERLEIN
 38213
 PROFESSIONAL ENGINEER

JOB NO. - 13061
 SHEET **2**

GENERAL NOTES

- 1) WALL LAYOUT IS BASED UPON A SET OF PLANS ENTITLED "MUNJOY HEIGHTS", DATED SEPTEMBER 23, 2013, PREPARED BY ACORN ENGINEERING.
- 2) THE CONTRACTOR IS RESPONSIBLE TO LAYOUT THE LOCATION OF THE FACE OF THE BOTTOM BLOCK COURSE AND THE WALL ALIGNMENT.
- 3) THE DESIGN OF THE WALLS ARE SPECIFIC TO THIS SITE AND SHOULD NOT BE USED ON OTHER SITES. DESIGNS ARE BASED ON INTIMATE KNOWLEDGE OF THE PROJECT BY S.G.S. AS A MEMBER OF THE DESIGN TEAM AND A GEOTECHNICAL INVESTIGATION BY S.G.S.
- 4) SOIL INFORMATION WAS OBTAINED FROM A GEOTECHNICAL INVESTIGATION PERFORMED BY S.G.S.
- 5) THE FOLLOWING ASSUMPTIONS WERE USED IN THE DESIGN -
 - A) SLOPE OF GROUND AT BASE AND TOP OF WALL = 2:1 HORIZONTAL TO 1 VERTICAL MAXIMUM
 - B) LIVE LOAD SURCHARGE = 100 psf (MSE) & 150 psf (GRAVITY)
 - C) DEAD LOAD SURCHARGE = 500 psf (MSE, TO ACCOUNT FOR FOUNDATIONS)
 - D) SOIL PROPERTIES - GRAVITY WALL
 FOUNDATION - EXISTING FILL OR GLACIAL TILL, $u_w = 135$ pcf, $\phi = 33^\circ$
 RETAINED - RETAINING WALL BACKFILL (NOTE 22), $u_w = 125$ pcf, $\phi = 32^\circ$
 - E) SOIL PROPERTIES - MSE WALL
 FOUNDATION - GRANULAR FILL OVER GLACIAL TILL, $u_w = 130$ pcf, $\phi = 30^\circ$
 REINFORCED & RETAINED - RETAINING WALL BACKFILL (NOTE 22), $u_w = 128$ pcf, $\phi = 32^\circ$
 - F) SEISMIC DESIGN COEFFICIENT = 0.08
 - G) MAXIMUM CONTACT PRESSURE BENEATH WALL IS LESS THAN 4,000 psf
 - H) GROUNDWATER BELOW BASE OF WALL
 - I) GEOGRID COVERAGE RATIO = 100%

THE CONTRACTOR SHALL COORDINATE INSTALLATION OF THE GRAVITY WALL AND MSE WALLS WITH THE INSTALLATION SOLDIER PILE AND LAGGING WALL AND C.I.P. CONCRETE WALLS WHERE THESE WALL SYSTEMS INTERSECT.

FOUNDATION NOTES

- 6) FOUNDATION EXCAVATION SHALL EXTEND TO UNDISTURBED NATURAL DEPOSITS. ALL EXISTING TOPSOIL, LOOSE MATERIAL FILL, ORGANIC SOIL AND OTHER SOFT OR UNSTABLE FOUNDATION SOILS SHALL BE REMOVED FROM THE AREA TO BE OCCUPIED BY THE WALL AND REPLACED WITH CRUSHED STONE OR COMPACTED RETAINING WALL BACKFILL. REMOVE UNSUITABLE FOUNDATION SOILS TO THE LATERAL LIMITS EXTENDING BEYOND THE WALL A DISTANCE EQUAL TO THE DEPTH OF FILL REQUIRED BELOW THE WALL PLUS (1) ONE FOOT. SOFT, WET AND OTHERWISE UNSUITABLE SOIL SHOULD BE BROUGHT TO THE ATTENTION OF SUMMIT GEOENGINEERING SERVICES.
- 7) UPON COMPLETION OF THE EXCAVATION, THE NATURAL SUBGRADE SHALL BE COMPACTED BY A MINIMUM OF 4 PASSES USING A VIBRATORY COMPACTOR.
- 8) INSTALL AND COMPACT 3/4" CRUSHED STONE FOR BLOCK WALL LEVELING PAD AS SHOWN ON THE WALL CROSS SECTION. EXTEND LEVELING PAD ONE FOOT HORIZONTALLY IN ALL DIRECTIONS BEYOND LIMITS OF PRECAST BLOCK WALL.

WALL INSTALLATION

- 9) A COMPLETE SET OF APPROVED CONSTRUCTION DRAWINGS AND CONTRACT SPECIFICATIONS SHALL BE ON SITE AT ALL TIMES DURING CONSTRUCTION OF THE MSE AND GRAVITY RETAINING WALL SYSTEMS. THE CONTRACTOR IS RESPONSIBLE TO FOLLOW THE SPECIFICATIONS AND THESE DRAWINGS.
- 10) INSTALL BASE COURSE OF BLOCKS ON PREPARED FOUNDATION LEVELING PAD. ENSURE THAT BASE COURSE IS LEVEL SIDE TO SIDE AND PLUMB. ADJUST BLOCKS AS REQUIRED TO PROVIDE A STRAIGHT AND LEVEL BASE COURSE.
- 11) INSTALL 3/4" CRUSHED STONE AND RETAINING WALL BACKFILL SOIL BEHIND THE WALL AS INDICATED ON THESE DRAWINGS.
- 12) SWEEP AND CLEAN OFF BLOCK WALL AND INSTALL NEXT COURSE OF BLOCKS. SHIMS MAY BE REQUIRED TO PLUMB BLOCK. SHIMS SHALL BE APPROVED BY THE WALL SUPPLIERS AND SUMMIT GEOENGINEERING SERVICES (S.G.S.). SHIMS SHALL CONSIST OF A HIGH COMPRESSIVE STRENGTH, SLIP RESISTANT MATERIAL, 1/4" MAXIMUM THICKNESS BY 4" DEEP BY 8" WIDE MINIMUM.
- 13) THE FOLLOWING TOLERANCES ARE RECOMMENDED:
 - VERTICAL CONTROL - 1/2" OVER 10ft (+3" max.)
 - HORIZONTAL CONTROL - SAME AS VERTICAL
 - ROTATION FROM THE PLAN BATTER - +2 DEGREES, -0 DEGREES
 - BULGING - 1" OVER 10ft DISTANCE
- 14) GEOGRIDS SHALL BE INSTALLED AT THE LENGTHS, ELEVATIONS AND LOCATIONS SHOWN ON THE DRAWINGS HEREIN. CHANGES TO GEOGRID LAYOUT ARE NOT PERMISSIBLE WITHOUT THE EXPRESS WRITTEN CONSENT OF S.G.S.
- 15) GEOGRID SHALL BE ROLLED OUT PERPENDICULAR TO THE FACING UNITS. INSTALL GEOGRID IN FULL LENGTH PIECES. FULL GEOGRID TIGHT AND SECURE TO HOLD TENSION ON GEOGRID. INSTALL DRAINAGE AND BACKFILL MATERIAL ON GRID TAKING PRECAUTIONS TO KEEP GEOGRID TIGHT.
- 16) TRACKED CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED DIRECTLY ON THE GEOGRID REINFORCEMENT. A MINIMUM BACKFILL COVER OF 6" IS REQUIRED FOR OPERATION OF TRACKED VEHICLES OVER THE GEOGRID REINFORCEMENT. TURNING OF TRACKED VEHICLES SHOULD BE KEPT TO A MINIMUM TO PREVENT TRACKS FROM DISPLACING THE FILL AND/OR GEOGRID REINFORCEMENT. RUBBER-TIRED VEHICLES MAY PASS OVER THE GEOGRID REINFORCEMENT AT SPEEDS LESS THAN 10 MPH. SUDDEN BRAKING AND SHARP TURNING SHALL BE AVOIDED.
- 17) A MINIMUM OF 3" OF REINFORCED BACKFILL SHALL BE PLACED BETWEEN OVERLAPPING LAYERS OF GEOGRID REINFORCEMENT.
- 18) RETAINING WALL BACKFILL SHALL BE PLACED FROM THE BACK OF THE WALL FACE TOWARD THE ENDS OF THE GEOGRID TO PROMOTE PROPER TENSIONING.
- 19) RETAINING WALL BACKFILL SHALL BE PLACED AND COMPACTED TO A MINIMUM OF 92% OF ITS MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D1557. THE OWNER SHALL HIRE A TESTING AGENCY TO PERFORM FIELD DENSITY TESTS AT A MINIMUM FREQUENCY OF 1 TEST PER EVERY OTHER LIFT (32') PER 50'. THE MAXIMUM LIFT THICKNESS SHALL BE LIMITED TO 16". ONLY LIGHTWEIGHT EQUIPMENT SHALL BE ALLOWED WITHIN 5' OF THE BACK FACE OF THE GRAVITY & MSE STRUCTURES.
- 20) AT THE END OF EACH WORKDAY, BACKFILL SURFACE SHALL BE GRADED AWAY FROM THE WALL FACE A MINIMUM OF 2% SLOPE. THE BACKFILL SURFACE SHALL BE COMPACTED WITH A SMOOTH DRUM ROLLER TO MINIMIZE FONDING OF WATER AND SATURATION OF THE BACKFILL. A TEMPORARY SOIL BERM SHALL BE CONSTRUCTED NEAR THE CREST OF THE MSE STRUCTURE TO PREVENT SURFACE WATER RUNOFF FROM OVERTOPPING THE MSE STRUCTURE.

MATERIAL SPECIFICATIONS

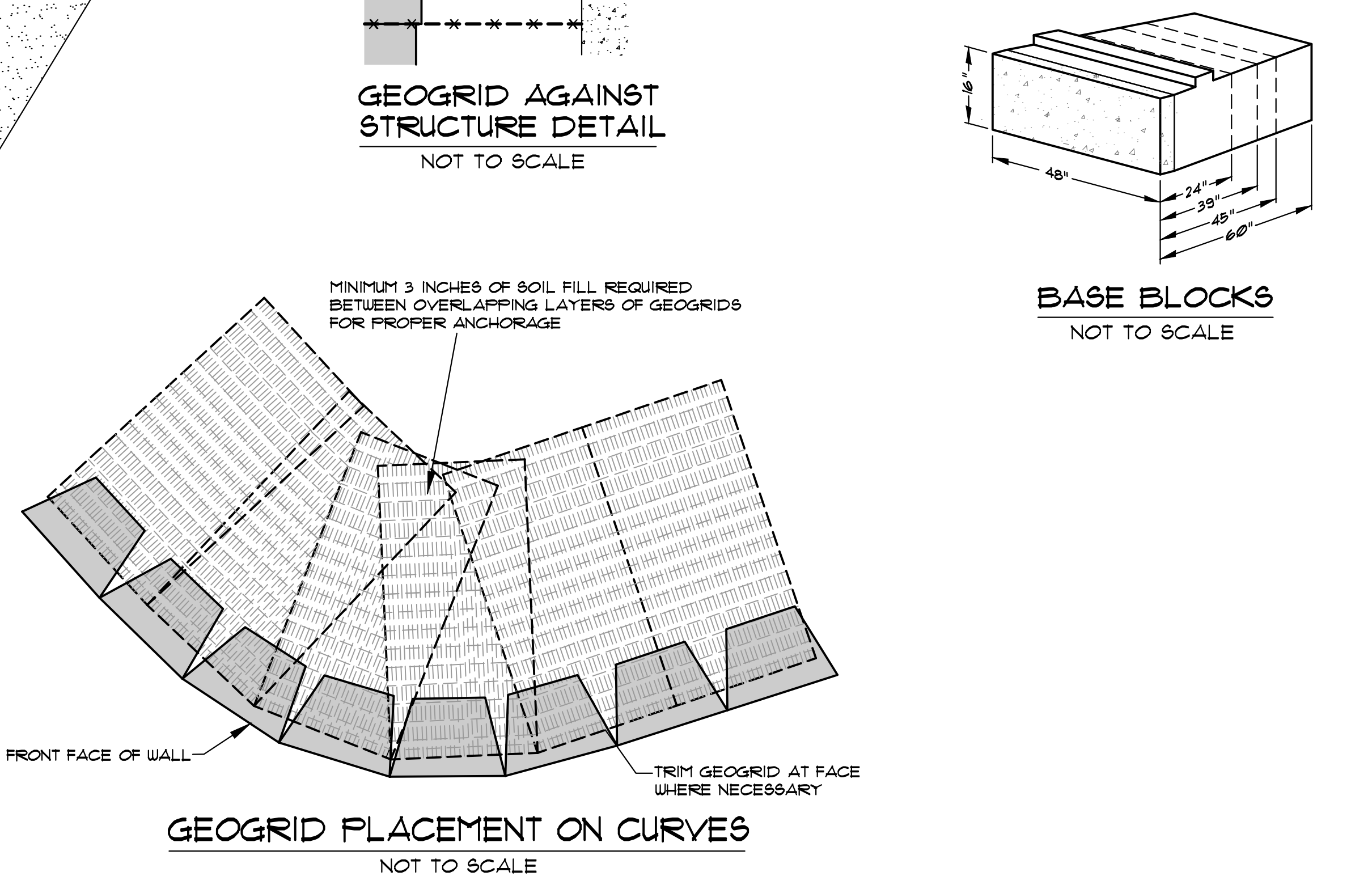
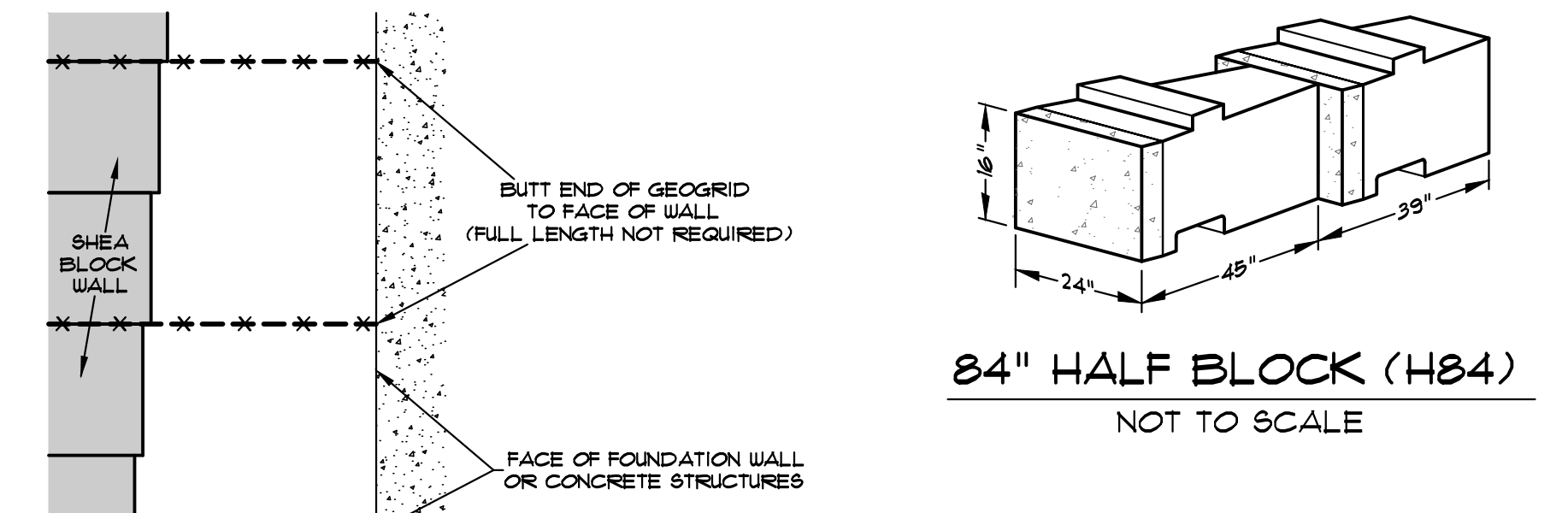
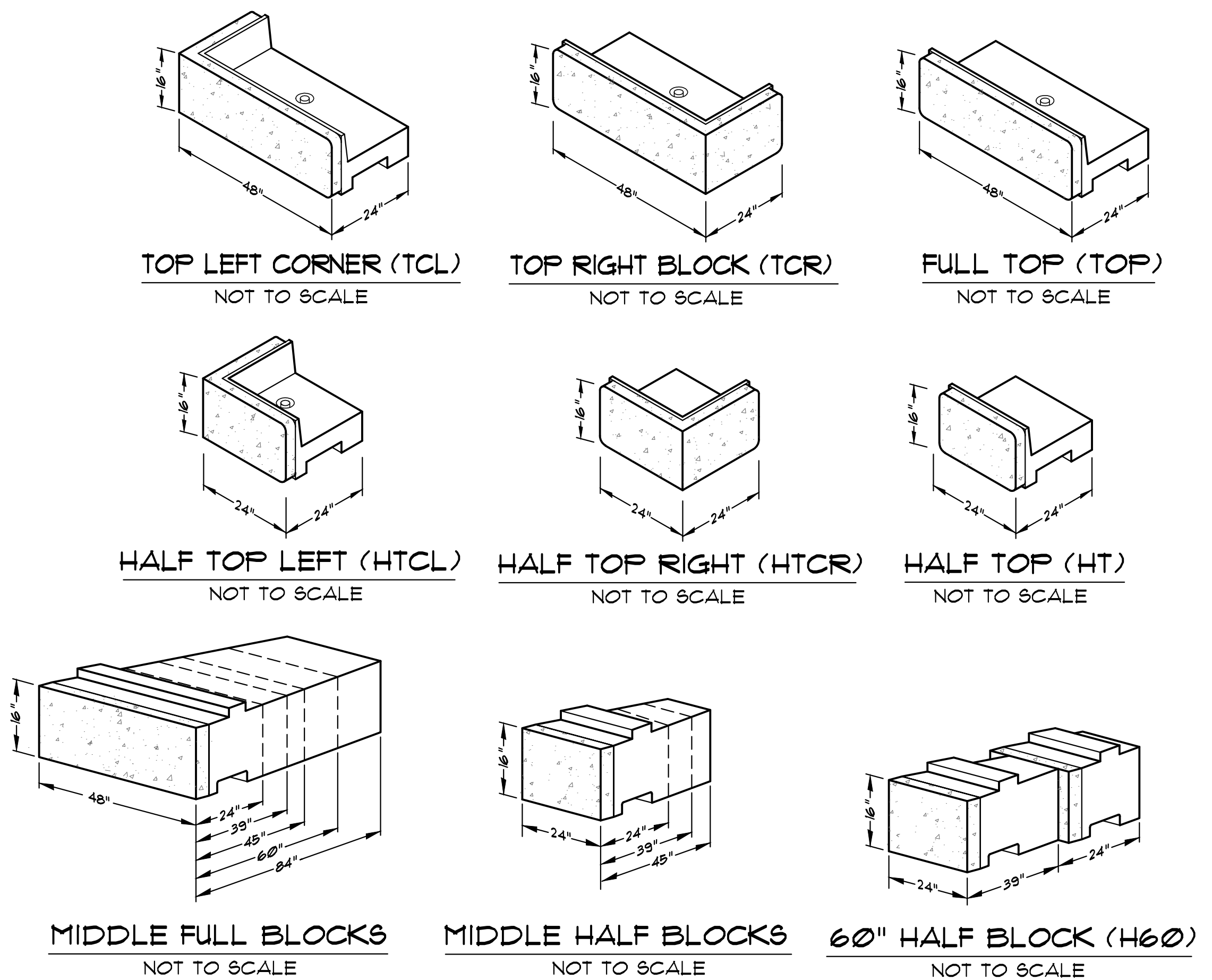
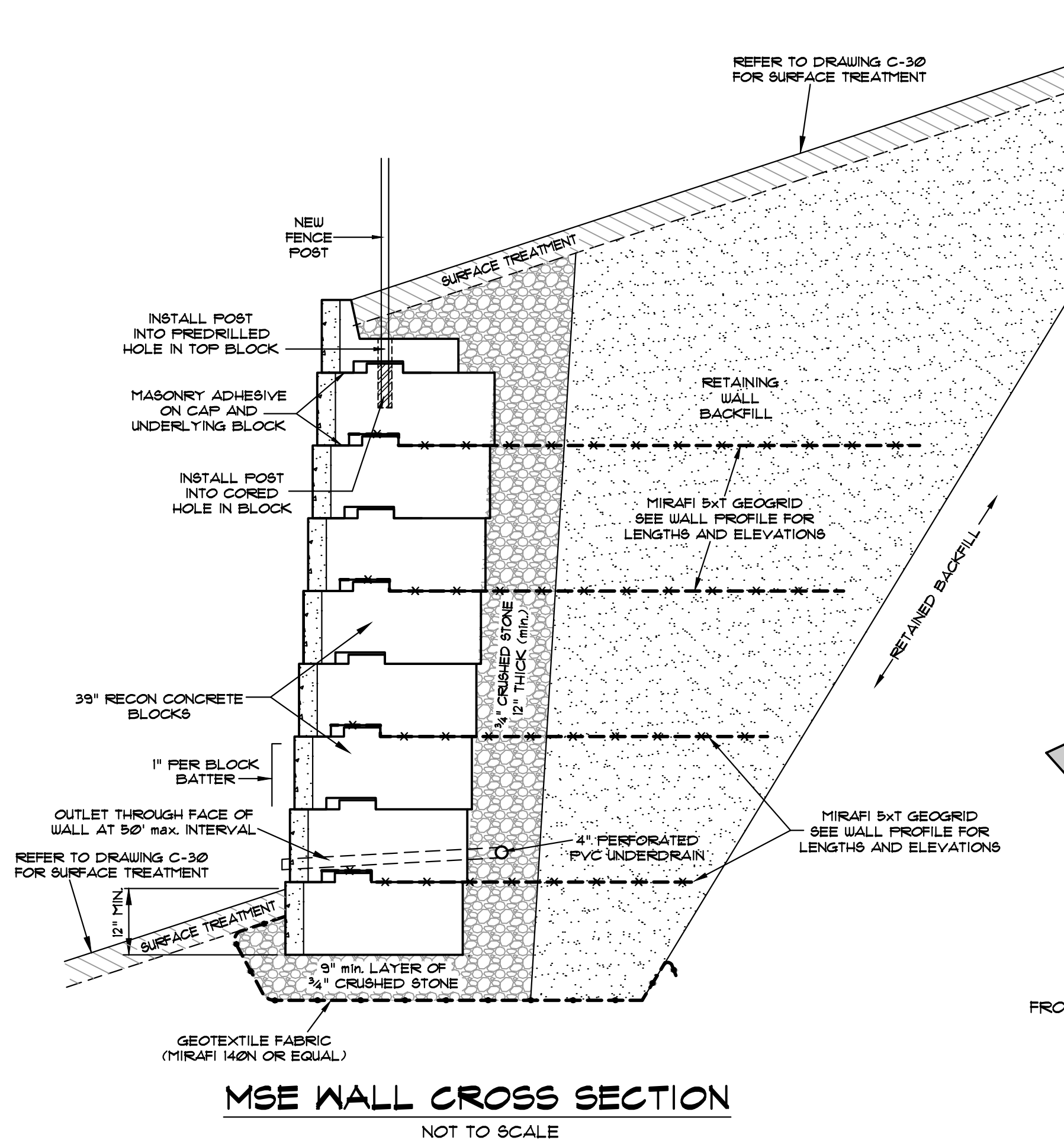
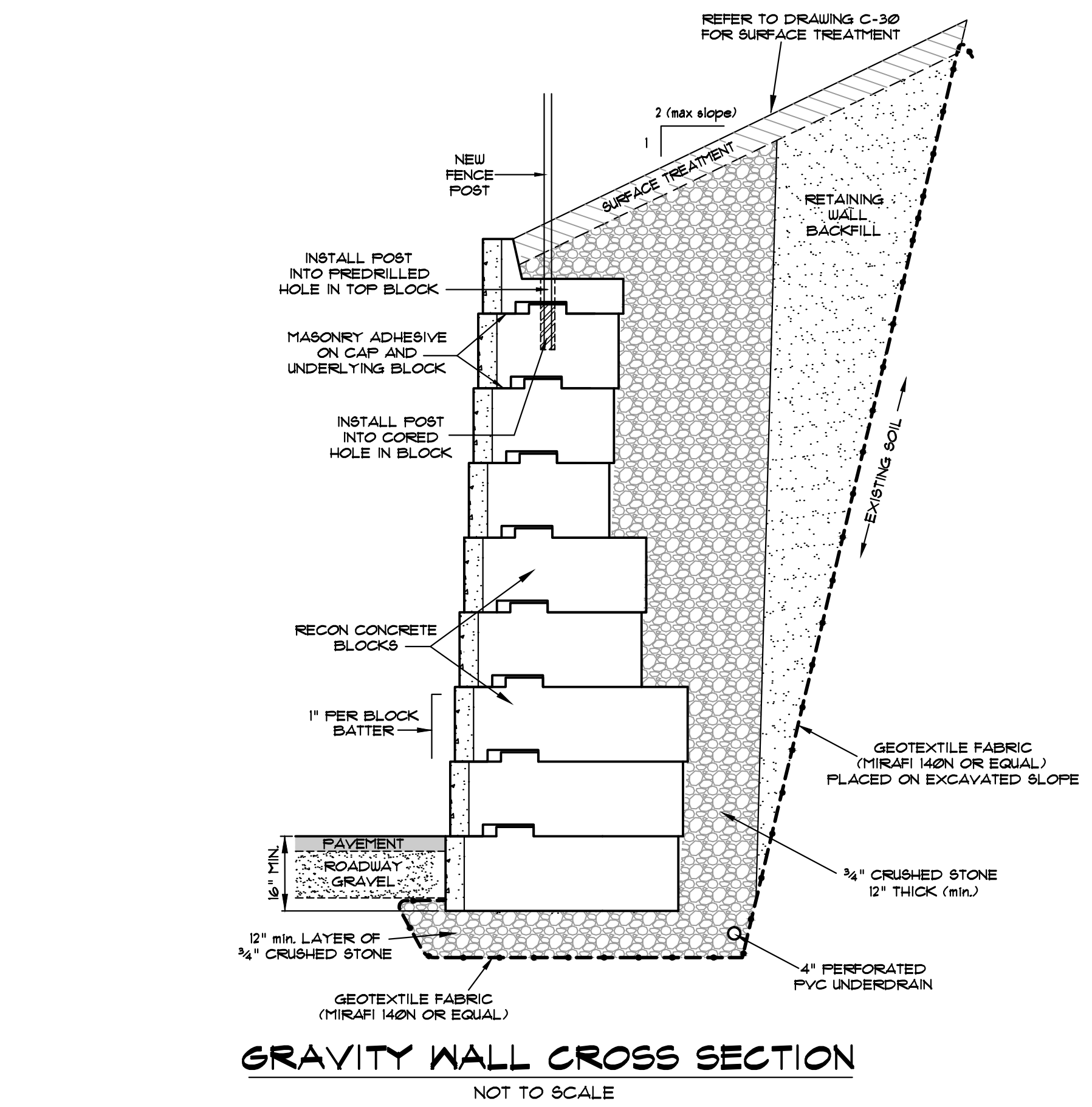
- 21) 3/4" CRUSHED STONE SHALL BE CLEAN ANGULAR CRUSHED STONE MEETING THE FOLLOWING GRADATION AS DETERMINED IN ACCORDANCE WITH ASTM D422.

SIEVE SIZE	PERCENT PASSING
1"	100
3/4"	90 - 100
No. 4	20 - 55
No. 8	0 - 10
	0 - 5
- 22) RETAINING WALL BACKFILL SHALL BE A FREE DRAINING, WELL GRADED GRANULAR MATERIAL MEETING THE GRADATION REQUIREMENTS OF MDOT 103.20 GRAVEL BORROW.

SIEVE SIZE	PERCENT PASSING
3"	100
1 1/2"	0 - 10
No. 40	0 - 20
No. 200	0 - 10
- 23) RETAINING WALL BACKFILL SHALL BE PLACED IN A MAXIMUM OF 16" LIFTS AND COMPACTED TO 95% IN ACCORDANCE WITH AASHTO T100. THE MAXIMUM PARTICLE SIZE SHALL BE LIMITED TO 4".
- 24) BLOCKS SHALL BE RECON PRECAST CONCRETE BLOCKS AS INDICATED ON THE PROFILE, MANUFACTURED BY SHEA CONCRETE PRODUCTS, AMESBURY, MA.
- 25) GEOGRID SHALL BE 5xT MANUFACTURED BY TENCATE.
- 26) GEOTEXTILE SHALL BE MIRAFI 140N OR EQUIVALENT.

CONSTRUCTION CONTROL

- 27) IT IS THE RESPONSIBILITY OF THE CONTRACTOR OR THEIR REPRESENTATIVE TO ENSURE THAT CONSTRUCTION OF THE WALL AND MATERIALS USED IN THE CONSTRUCTION OF THE WALL ARE IN ACCORDANCE WITH THESE SPECIFICATIONS AND/OR THE CONTRACT SPECIFICATIONS WHICH EVER ARE MORE STRINGENT.
- 28) SHEA CONCRETE AND ITS ENGINEER ACCEPTS NO RESPONSIBILITY NOR LIABILITY IN THE DETERMINATION OF THE ADEQUACY OF SITE MATERIALS AND/OR PROCEDURES.
- 29) PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL VERIFY THAT ALL ELEVATIONS AND ASSUMED SITE CONDITIONS SHOWN ON THESE DRAWINGS ARE ACCURATE TO THE GIVEN SITE CONDITIONS. ANY DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF S.G.S. PRIOR TO START OF CONSTRUCTION.



DATE

REVISION

NO.

CONSTRUCTION NOTES & DETAILS

DRAWN BY: KRF
CHECKED BY: WJMP

SCALE: AS NOTED
DATE: DECEMBER 9, 2013

MUNJOY HEIGHTS

REDFERN MUNJOY, LLC
P.O. BOX 8816 - PORTLAND, ME 04104

CLIENT:

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SUMMIT
GEOENGINEERING SERVICES

WILLIAM PETERLIN
REGISTERED PROFESSIONAL ENGINEER

JOB NO. - 130612

SHEET 3