Wright-Ryan

10 Danforth Street
Portland, ME 04101
Ph : (207) 773-3625

# Submittal

**Job:** 1402
Munjoy Heights
Sheridan St. Extension
Portland, ME 04101

**Spec Section No:** 323223
**Submittal No:** 01
**Revision No:** 0
**Sent Date:** 3/6/2014

**Spec Section Title:**

**Submittal Title:** Retaining Wall Product Data and Shop Drawings

**Contractor:**
Wright-Ryan Construction, Inc.
Craig Hill

SUBMITTAL REVIEW:
Reviewed for general conformance with the design concept and contract documents. Markings or comments shall not be construed as relieving the Subcontractor from compliance with the project plans and specifications, nor departure therefrom. The Subcontractor remains responsible for details and accuracy, for conforming and correlating all quantities and dimensions, for selecting fabrication processes, for techniques of assembly and for performing the work in a safe manner.
WRIGHT-RYAN CONSTRUCTION, INC
BY: _____ DATE: 3/6/14

Architect's Stamp

Engineer's Stamp

NOTES:

1. GLOBAL STABILITY ANALYSIS TO FOLLOW

2. PICTURES ATTACHED ARE FOR REFERENCE. PROJECT LOCATIONS CAN BE GIVEN IF NEEDED.

Inspections Division
Date: 03/17/14

**Submittal Review**

ACORN ENGINEERING, INC

Munjoy Heights
JN 1047
79 Walnut Street, Portland, Maine, 04101

Submittal # 7 (Spec. 323223, Sub. 1)
Revision #
Date Submitted: 3/6/2014
Date Returned: 3/13/2014

| **Client/Owner** | | **Engineers/Architects** | |
|---|---|---|---|
| *Company* | *Contact* | *Company* | *Contact* |
| Redfern Munjoy LLC | Jonathan Culley | Acorn Engineering, Inc.<br>PO Box 3372<br>Portland, Maine, 04104 | Will Savage, PE<br>Project Manager<br>207.775.2655<br>wsavage@acorn-engineering.com |

Description of Item Submitted: **Retaining Wall Product Data and Design Drawings**
Sheet/Specification Page: Summit Geoengineering Services Plans 1, 2, and 3 dated 2/28/14

| | | | |
|---|---|---|---|
| ☐ | Approved | ☐ | Revise as Noted |
| ☒ | Approved as Noted | ☐ | Rejected |
| ☐ | Revise and Resubmit | | |

The Consultant's (Acorn Engineering) review was performed only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Modifications or comments made on the submittal/shop drawings during this review do not relieve the contractor from compliance with the requirements of the plans and specifications. This review shall not include review of the accuracy or completeness of details, such as quantities, dimensions, weights or gauges, fabrication processes, construction means or methods, coordination of the work with other trades or construction safety precautions, all of which are the sole responsibility of the Contractor. Review of a specific item shall not indicate that the Consultant has reviewed the entire assembly of which the item is a component. The Consultant shall not be responsible for any deviations from the Contract Documents not brought to the attention of the Consultant in writing by the Contractor. The Consultant shall not be required to review partial submissions or those for which submissions of correlated items have not been received.

Signature: _____ Date: 3/13/14

Notes:

1) Acorn Engineering's submittal review does not include a review of the design, calculations and construction drawings provided by Summit Geoengineering Services.
2) Soren Deniord Design Studio has reviewed the Stone Strong product with the Chiseled Granite finish and finds the wall aesthetics acceptable.
3) The Contractor shall coordinate the top of wall fence with Summit Geoengineering Services and Soren Deniord Design Studio.
4) Based upon a phone conversation today with Bill Peterlein, Summit Geoengineering Services the geogrid associated with wall 3 does not need to be "pinned" to the foundation wall. This is the design intent of Sheet 3 Note 17.



Inspections Division
Date: 03/17/14

5) The Contractor shall coordinate the location and elevation of the secondary underdrain within the Wall Cross-Section with Acorn Engineering.
6) For proposed site grading the Contractor shall refer to Acorn Engineering's Grading, Drainage & Erosion Control Plan, Issued for Construction, dated 2/21/14.
7) Wall Cross-Section Detail – Note: Retaining Wall Backfill (See Note 13) would appear to be mis-numbered and apply to Note 24.
8) Inspection of the retaining walls during construction is not provided by Acorn Engineering. The Contractor shall coordinate with Summit Geoengineering Services for their inspections services.



Inspections Division
Date: 03/17/14

STONE STRONG systems
www.stonestrong.com

# BLOCKS AND SYSTEM COMPONENTS

## 24 SF BLOCK

**Metric Dimensions (m)**
2.44x0.92x1.1

**Metric Weight (kg)**
2722

**24SF Block**
Block Wt. = 6,000 lbs
Form Wt. = 4,600 lbs
Concrete Volume = 1.5 cu. yds.

**Rock In-fill** for installation ~ 1.7 cu. yds. equivalent to 2.3 tons




Inspections Division
Date: 03/17/14

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# BLOCKS AND SYSTEM COMPONENTS

## 24 SF TOP BLOCK

**24SF Top Block**
Block Wt. = 5,400 lbs
Form Wt. = 4,930 lbs
Concrete Volume = 1.349 cu. yds.

**Rock In-fill** for installation ~ 1.5 cu. yds.

**Metric Dimensions (m)**
2.44x0.92x1.1

**Metric Weight (kg)**
2449




Inspections Division
Date: 03/17/14

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# BLOCKS AND SYSTEM COMPONENTS

## 62 HD BLOCK

**62HD Block**
Block Wt. = 6,855 lbs
Form Wt. = 6,580 lbs
Concrete Volume = 1.70 cu. yds.

**Metric Dimensions (m)**
2.44x1.57x.91

**Metric Weight (kg)**
3109




Inspections Division
Date: 03/17/14

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# BLOCKS AND SYSTEM COMPONENTS

## 86 HD BLOCK

**86HD Block**
Block Wt. = 7,693 lbs
Form Wt. = 7,531 lbs
Concrete Volume = 1.90 cu. yds.

**Metric Dimensions (m)**
2.44x2.18x.91

**Metric Weight (kg)**
3489




Inspections Division
Date: 03/17/14

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# BLOCKS AND SYSTEM COMPONENTS

## 24 SF MASS EXTENDER BLOCK

**24SF Mass Extender Block**
Block Wt. = 10,000 lbs
Form Wt. = 5,119 lbs
Concrete Volume = 2.5 cu. yds.

**Rock In-fill** for installation ~ 1.7 cu. yds. equivalent to 2.3 tons

**Metric Dimensions (m)**
2.44x0.92x1.42

**Metric Weight (kg)**
4536




Inspections Division
Date: 03/17/14

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# BLOCKS AND SYSTEM COMPONENTS

## 6 SF BLOCK

**6SF Block**

Block Wt. = 1,600 lbs

Form Wt. = 1,800 lbs

Concrete Volume = 0.4 cu. yds.

**Rock In-fill** for installation ~ 0.33 cu. yds.

**Metric Dimensions (m)**

1.22x0.46x1.1

**Metric Weight (kg)**

680




Inspections Division
Date: 03/17/14

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# BLOCKS AND SYSTEM COMPONENTS

## 6 SF TOP BLOCK

**6SF Top Block**

Block Wt. = 1,400 lbs

Form Wt. = 1,955 lbs

Concrete Volume = 0.35 cu. yds.

**Rock In-fill** for installation ~ 0.31 cu. yds.




Inspections Division
Date: 03/17/14

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# BLOCKS AND SYSTEM COMPONENTS

## END BLOCK / END TOP BLOCK

**End Block**

Block Wt. = 1,500 lbs

Form Wt. = 1491lbs

Concrete Volume = 0.375 cu. yds.

**Rock In-fill** for installation ~ 0 cu. yds.

**End Top Block**

Block Wt. = 1,412 lbs

Concrete Volume = 0.353 cu. yds.

*Produced with Insert in End form*

**Rock In-fill** for installation ~ 0 cu. yds.

Inspections Division
Date: 03/17/14

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# BLOCKS AND SYSTEM COMPONENTS

## CAP/STEP BLOCK

**Cap/Step Block**

Block Wt. = 1,600 lbs

Form Wt. = 1,425 lbs

Concrete Volume = 0.4 cu. yds.

**Rock In-fill** for installation ~ 0 cu. yds.

Inspections Division
Date: 03/17/14

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# BLOCKS AND SYSTEM COMPONENTS

## DUAL FACE BLOCK

**Dual Face Block**

Block Wt. = 3,520 lbs

Form Wt. = 2,431 lbs

Concrete Volume = 0.88 cu. yds.

**Rock In-fill** for installation ~ 0 cu. yds.




Inspections Division
Date: 03/17/14

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# BLOCKS AND SYSTEM COMPONENTS

## 90 DEGREE BLOCK

**90° Block**

Block Wt. = 2,600 lbs

Form Wt. = 2,456 lbs

Concrete Volume = 0.65 cu. yds.

**Rock In-fill** for installation ~ 0.2 cu. yds.

Inspections Division
Date: 03/17/14

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# BLOCKS AND SYSTEM COMPONENTS

## 45 DEGREE BLOCK

**45° Block**

Block Wt. = 2,000 lbs

Concrete Volume = .50 cu. yds.

*Produced with Insert in Column form*

Insert Wt. = 870 lbs

**Rock In-fill** for installation ~ 0 cu. yds.

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Date: 03/17/14

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VOLVO

Date: 03/17/14

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Date: 03/17/14

## PLAN VIEW - WALLS 1 & 2

SCALE: 1" = 10'

## PROFILE - WALL #1

SCALE: 1" = 5'

| WALL 1 - BLOCK COUNT | | |
|---|---|---|
| SYMBOL | BLOCK TYPE | QUANTITY |
| RC | TOP RIGHT COR. (9sf) | 10 |
| LC | TOP LEFT COR. (9sf) | 10 |
| 3T | 3sf TOP UNIT | 12 |
| 6T | 6sf TOP UNIT | 20 |
| 3 | 3sf MIDDLE UNIT | 12 |
| 6 | 6sf MIDDLE UNIT | 21 |
| 24 | 24sf FULL BLOCK | 5 |
| 24-M12 | 24sf FULL BLOCK W/12" MASS EXTENDER | 10 |
| 24-M18 | 24sf FULL BLOCK W/18" MASS EXTENDER | 18 |
| 24-86 | 24sf FULL BLOCK W/86" EXTENDER | 13 |
| TOTAL = 1,602 sq. ft. | | |

## PROFILE - WALL #2

SCALE: 1" = 5'

| WALL 2 - BLOCK COUNT | | |
|---|---|---|
| SYMBOL | BLOCK TYPE | QUANTITY |
| LC | TOP LEFT COR. (9sf) | 9 |
| 3T | 3sf TOP UNIT | 5 |
| 6T | 6sf TOP UNIT | 11 |
| 3 | 3sf MIDDLE UNIT | 7 |
| 3-M12 | 3sf MIDDLE UNIT W/12" MASS EXTENDER | 1 |
| 6 | 6sf MIDDLE UNIT | 4 |
| 6-M12 | 6sf MIDDLE UNIT W/12" MASS EXTENDER | 3 |
| 24 | 24sf MIDDLE UNIT | 13 |
| 24-M12 | 24sf FULL BLOCK W/12" MASS EXTENDER | 8 |
| 24-M18 | 24sf FULL BLOCK W/18" MASS EXTENDER | 2 |
| 24-86 | 24sf FULL BLOCK W/86" EXTENDER | 7 |
| TOTAL = 948 sq. ft. | | |

| NO. | REVISION | DATE |
|---|---|---|
| 1 | CORRECTED WALL SQUARE FOOTAGE | 2-28-14 |

SHEET TITLE: **STONE STRONG WALLS 1 & 2 PLAN & PROFILE**

SCALE: AS NOTED
DATE: FEBRUARY 25, 2014
DRAWN BY: KRF
CHECKED BY: WMP

PROJECT: **MUNJOY HEIGHTS**

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

SUMMIT GEOENGINEERING SERVICES
145 LISBON ST. - SUITE 601
LEWISTON, ME 04240
Tel.: (207) 516-3313
www.summitgeoeng.com

STATE OF MAINE
WILLIAM M. PETERLEIN
5787
LICENSED PROFESSIONAL ENGINEER
Date: 03/17/14

JOB NO. - 13217

SHEET 1

## PLAN VIEW - WALL 3

SCALE: 1" = 10'

| WALL 3 - BLOCK COUNT | | |
|---|---|---|
| SYMBOL | BLOCK TYPE | QUANTITY |
| LC | TOP LEFT COR. (9sf) | 16 |
| 3T | 3sf TOP UNIT | 8 |
| 6T | 6sf TOP UNIT | 13 |
| 24T | 24sf TOP UNIT | 14 |
| 3 | 3sf MIDDLE UNIT | 32 |
| 6 | 6sf MIDDLE UNIT | 103 |
| 24 | 24sf FULL BLOCK | 19 |
| TOTAL = 1,752 sq. ft. | | |

| GEOGRID QUANTITIES | | |
|---|---|---|
| LENGTH (ft.) | WIDTH (ft.) | AREA (ft.) |
| 6 | 16 | 96 |
| 7 | 50 | 350 |
| 8 | 50 | 400 |
| 9 | 97 | 873 |
| 10 | 102 | 1020 |
| 11 | 28 | 308 |
| 12 | 32 | 384 |
| TOTAL = 3,431 sq. ft. / 381 s. y. | | |

ALL GEOGRID IS SF55 BY SYNTEEN

## PROFILE - WALL #3

SCALE: 1" = 5'

| NO. | REVISION | DATE |
|---|---|---|
| 1 | CORRECTED BLOCK COUNT CHART | 2-28-14 |

SHEET TITLE: STONE STRONG WALL 3 PLAN & PROFILE

SCALE: AS NOTED
DATE: FEBRUARY 25, 2014
DRAWN BY: KRF
CHECKED BY: WMP

PROJECT: MUNJOY HEIGHTS

CLIENT: REDFERN MUNJOY, LLC
P.O. BOX 8316 - PORTLAND, ME 04104

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JOB NO. - 13217

SHEET 2

## WALL CROSS SECTION

NOT TO SCALE

## GEOGRID PLACEMENT BEHIND BLOCKS

NOT TO SCALE

## GRAVITY WALL CROSS SECTION

NOT TO SCALE

## TYPICAL WALL BASE STEP

NOT TO SCALE

## GEOGRID PLACEMENT ON CURVES

NOT TO SCALE

## GEOGRID ORIENTATION

NOT TO SCALE

## STONE STRONG 24 SF UNIT WITH 18" MASS EXTENDER

NOT TO SCALE

## STONE STRONG 24 SF UNIT WITH 12" MASS EXTENDER

NOT TO SCALE

## STONE STRONG 24-86 SF UNIT

NOT TO SCALE

## STONE STRONG 9 S.F. END UNIT

NOT TO SCALE

## STONE STRONG 6 S.F. TOP UNIT

NOT TO SCALE

## STONE STRONG 6 S.F. UNIT

NOT TO SCALE

## STONE STRONG 3 S.F. TOP UNIT

NOT TO SCALE

## STONE STRONG 3 S.F. UNIT

NOT TO SCALE

## STONE STRONG 24 SF UNIT CHISELLED GRANITE FACE

NOT TO SCALE

## STONE STRONG 24 SF TOP UNIT CHISELLED GRANITE FACE

NOT TO SCALE

## GENERAL NOTES

1) WALL LAYOUT IS BASED UPON A SET OF PLANS ENTITLED "MUNJOY HEIGHTS", DATED DECEMBER 16, 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 = 2H : 1V 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, $\gamma_{wet}$ = 135 pcf, $\phi_{tri}$ = 33°
      RETAINED - RETAINING WALL BACKFILL (NOTE 22), $\gamma_{wet}$ = 125 pcf, $\phi_{tri}$ = 32°
   E) SOIL PROPERTIES - MSE WALL
      FOUNDATION - GRANULAR FILL OVER GLACIAL TILL, $\gamma_{wet}$ = 130 pcf, $\phi_{tri}$ = 30°
      REINFORCED & RETAINED - RETAINING WALL BACKFILL (NOTE 22), $\gamma_{wet}$ = 128 pcf, $\phi_{tri}$ = 32°
   F) SEISMIC DESIGN COEFFICIENT = 0.06
   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 ¾" 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 GLOBAL STABILITY ANALYSIS FOR WALLS 2 & 3 WAS PERFORMED BY S.G.S. THE STABILITY ANALYSIS IS SPECIFIC TO THE STONE STRONG MSE AND GRAVITY WALL SYSTEM. IF AN ALTERNATIVE WALL SYSTEM IS USED, A NEW GLOBAL STABILITY ANALYSIS SHOULD BE PERFORMED USING THE SPECIFIC PROPERTIES OF THE SELECTED WALL SYSTEM.

10) 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.

11) 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.

12) INSTALL ¾" CRUSHED STONE AND RETAINING WALL BACKFILL SOIL BEHIND THE WALL AS INDICATED ON THESE DRAWINGS.

13) 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 (SGS).

14) THE FOLLOWING TOLERANCES ARE RECOMMENDED:
   VERTICAL CONTROL - 1.25"± OVER 10ft. (±3" max.)
   HORIZONTAL CONTROL - SAME AS VERTICAL
   ROTATION FROM THE PLAN BATTER - +2 DEGREES, -0 DEGREES
   BULGING - 1" OVER 10ft DISTANCE

15) GEOGRID 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 SGS.

16) GEOGRID SHALL BE ROLLED OUT PERPENDICULAR TO THE FACING UNITS. INSTALL GEOGRID IN FULL LENGTH PIECES. PULL GEOGRID TIGHT AND SECURE TO HOLD TENSION ON GEOGRID. INSTALL DRAINAGE AND BACKFILL MATERIAL ON GRID TAKING PRECAUTIONS TO KEEP GEOGRID TIGHT.

17) GEOGRID SHOULD BE CUT FLUSH WITH THE FACE OF THE FOUNDATION WALLS EVEN IF THE FULL LENGTH CANNOT BE REALIZED.

18) 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.

19) A MINIMUM OF 3" OF REINFORCED BACKFILL SHALL BE PLACED BETWEEN OVERLAPPING LAYERS OF GEOGRID REINFORCEMENT.

20) RETAINING WALL BACKFILL SHALL BE PLACED FROM THE BACK OF THE WALL FACE TOWARD THE ENDS OF THE GEOGRID TO PROMOTE PROPER TENSIONING.

21) 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 36" PER 50'. THE MAXIMUM LIFT THICKNESS SHALL BE LIMITED TO 18". ONLY LIGHTWEIGHT EQUIPMENT SHALL BE ALLOWED WITHIN 5' OF THE BACK FACE OF THE GRAVITY & MSE STRUCTURES.

22) 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 PONDING 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

23) ¾" 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 |
| ¾" | 90 - 100 |
| ⅜" | 20 - 55 |
| No. 4 | 0 - 10 |
| No. 8 | 0 - 5 |

24) RETAINING WALL BACKFILL SHALL BE A FREE DRAINING, WELL GRADED GRANULAR MATERIAL MEETING THE GRADATION REQUIREMENTS OF MDOT 703.20 GRAVEL BORROW.

| SIEVE SIZE | PERCENT PASSING |
|---|---|
| 3" | 10 |
| ¼" | 0 - 70 |
| No. 200 | 0 - 10 |

25) RETAINING WALL BACKFILL SHALL BE PLACED IN A MAXIMUM OF 18" LIFTS AND COMPACTED TO 95% IN ACCORDANCE WITH ASTM D1557. THE MAXIMUM PARTICLE SIZE SHALL BE LIMITED TO 4".

26) BLOCKS SHALL BE STONE STRONG PRECAST CONCRETE BLOCKS, MANUFACTURED BY PRECAST OF MAINE, TOPSHAM, MAINE.

27) GEOGRID SHALL BE SF55 MANUFACTURED BY SYNTEEN.

28) GEOTEXTILE SHALL BE MIRAFI 140N OR EQUIVALENT.

## CONSTRUCTION CONTROL

29) 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.

30) PRECAST OF MAINE AND ITS ENGINEER ACCEPTS NO RESPONSIBILITY NOR LIABILITY IN THE DETERMINATION ADEQUACY OF SITE MATERIALS AND/OR PROCEDURES.

31) PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL VERIFY THAT ALL ELEVATIONS AND ASSUMPTIONS 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.

Inspection Division
Date: 03/17/14

| NO. | REVISION | DATE |
|---|---|---|
| 1 | UPDATE NOTE, REMOVE DETAIL | 2-28-14 |

SHEET TITLE: CONSTRUCTION NOTES & DETAILS

DRAWN BY: KRF
CHECKED BY: WMP
SCALE: AS NOTED
DATE: FEBRUARY 25, 2014

PROJECT: MUNJOY HEIGHTS

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

SUMMIT GEOENGINEERING SERVICES
145 LISBON ST. - SUITE 601
LEWISTON, ME 04240
Tel.: (207) 516-3313
www.summitgeoengr.com

STATE OF MAINE
WILLIAM M. PETERLEIN
5787
LICENSED PROFESSIONAL ENGINEER

JOB NO. - 13217

SHEET 3