

GEO WALL



DESIGNS

"BUILT FROM THE GROUND UP"

VILLAGE DR TOWNHOMES STEAMBOAT SPRINGS, CO

RETAINING WALL (RW) CONSTRUCTION ADDRESSED BY THESE DRAWINGS ARE PART OF A SIGNIFICANTLY LARGER PROJECT BEING BUILT BY THE GENERAL CONTRACTOR, WHO HAS SEPARATELY RETAINED AN EARTHWORK GRADING CONTRACTOR TO ASSIST IN DEVELOPING THE SITE FOR THE OWNER. THE OWNER HAS RETAINED A PROJECT GEOTECHNICAL ENGINEER TO ADVISE IT ON MATTERS RELATIVE TO CONSTRUCTION AND WHO WILL BE PROVIDING QUALITY ASSURANCE TESTING AND OBSERVATION OF THE RW CONSTRUCTION WORK FOR THE OWNER. OUTLINED BELOW IS A BRIEF SUMMARY OF THE RESPONSIBILITIES OF EACH OF THE PARTIES REQUIRED BY THE RW CONSTRUCTION, AS OUTLINED IN THESE DRAWINGS, TO ENSURE A QUALITY CONSTRUCTION PROJECT:

- A. GENERAL/EARTHWORK CONTRACTOR SHALL BE RESPONSIBLE FOR OVERALL SITE GRADING AND STORM WATER CONTROL, BEFORE, DURING, AND AFTER RW CONSTRUCTION, UNTIL THE PERMANENT PAVING AND STORM WATER DRAINAGE CONTROLS ARE ALL IN PLACE AND OPERATIONAL. DAMAGE TO EXISTING RW CONSTRUCTION BY POORLY CONTROLLED STORM WATER DRAINAGE SHALL NOT BE THE RESPONSIBILITIES THE RW CONTRACTOR OR RW DESIGNER.
- B. GENERAL/EARTHWORK CONTRACTOR SHALL BE RESPONSIBLE FOR EROSION AND SEDIMENTATION CONTROL, BEFORE, DURING, AND AFTER RW CONSTRUCTION.
- C. OWNER AND/OR GENERAL CONTRACTOR SHALL PROVIDE SURVEYING SERVICES SUFFICIENT TO LOCATE THE WALL, HORIZONTALLY AND VERTICALLY ON THE SITE FOR CONSTRUCTION PURPOSES.
- D. GENERAL/EARTHWORK CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A BEARING SURFACE AT THE BOTTOM RETAINING WALL ELEVATION THAT MEETS THE BEARING REQUIREMENTS SHOWN ON THESE DRAWINGS. THE BEARING SURFACE AND ALL AREAS INTO WHICH THE RW CONTRACTOR WILL PLACE AND COMPACT FILL MUST BE CLEARED, GRUBBED AND ALL DELETERIOUS SOILS AND/OR ORGANIC MATTER REMOVED TO PROJECT GEOTECHNICAL ENGINEER'S SATISFACTION, AS PROVIDED IN THEIR DAILY PROJECT REPORTING.
- E. THE OWNER'S PROJECT GEOTECHNICAL ENGINEER SHALL OBSERVE AND PROVIDE WRITTEN APPROVAL THAT THE "ALLOWABLE" BEARING CAPACITY AT THE BOTTOM RETAINING WALL ELEVATION AND WITHIN THE ENTIRE REINFORCED (GEOGRID) ZONE IN EACH LOCATION MEETS OR EXCEEDS THE MINIMUM REQUIREMENTS SHOWN ON THESE DRAWINGS. THE RW CONTRACTOR WILL NOT BEGIN CONSTRUCTION WITHOUT THE APPROVAL.
- F. THE OWNER AND/OR GENERAL CONTRACTOR SHALL PROVIDE THE FILL SOILS TO THE RW CONTRACTOR TO UTILIZE FOR RW CONSTRUCTION. THOSE FILL SOILS SHOULD BE TESTED PRIOR TO STARTING RW CONSTRUCTION, AND PERIODICALLY THROUGHOUT THE PROJECT, TO ENSURE THEY MEET THE SPECIFICATION OUTLINED HEREIN. RW CONTRACTOR WILL NOTIFY THE OWNER'S GEOTECHNICAL ENGINEER AND/OR THE GENERAL/EARTHWORK CONTRACTOR WHEN A CHANGE IN FILL SOIL APPEARANCE, CONSISTENCY, OR GRADATION LOOKS TO BE DETRIMENTAL, OR HAS REASON TO BELIEVE THE SOIL BEING PROVIDED DOES NOT MEET THE PROJECT SPECIFICATIONS. HOWEVER, THE OWNER'S GEOTECHNICAL ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING WHETHER THE FILL MATERIALS MEET AND ARE PLACED ACCORDING TO THE SPECIFICATIONS IN THESE DRAWINGS.
- G. THE OWNER AND/OR OWNERS REPRESENTATIVE SHALL BE RESPONSIBLE FOR CONTRACTING THE SPECIAL INSPECTOR AND OBTAINING SUFFICIENT DATA THROUGHOUT THE RW CONSTRUCTION TO SATISFY THE REQUIREMENTS OF THE LOCAL GOVERNING AUTHORITY TO SECURE APPROVAL OF THE RETAINING WALL CONSTRUCTION AND BY PERFORMING THE DUTIES OUTLINED IN SPECIFICATION 8.0.

SHEET INDEX

SHEET	DESCRIPTION
RW-1.0	TITLE SHEET
RW-2.0	CONSTRUCTION NOTES
RW-2.1	CONSTRUCTION NOTES
RW-3.0	WALL LOCATION PLAN VIEW
RW-4.0	WALL 1 ELEVATION
RW-4.1	WALL 1 ELEVATION
RW-4.2	WALL 2 ELEVATION
RW-4.3	WALL 2 ELEVATION
RW-5.0	WALL SECTION A-A
RW-6.0	CONSTRUCTION DETAILS

THIS DRAWING IS BEING FURNISHED FOR THIS SPECIFIC PROJECT ONLY. ANY PARTY ACCEPTING THIS DOCUMENT DOES SO IN CONFIDENCE AND AGREES THAT IT SHALL NOT BE DUPLICATED IN WHOLE OR IN PART, NOR DISCLOSED TO OTHERS WITHOUT THE CONSENT OF GEOWALL DESIGNS

7						
6						
5						
4						
3						
2						
1						
0	31 AUG 2023	RELEASED FOR CONSTRUCTION		MR	MR	BD
No.	Date	Revision		Drawn	Design	Check



Signature Stone
211 30th St., Greeley, CO 80631
(970) 351-0270
www.signaturestone.com

Sales:
Seth Clark
(970) 539-2201
sclark@signaturestone.com



"BUILT FROM THE GROUND UP"

MN: 1548 CLIFF ROAD E, BURNSVILLE, MN 55337
CO: 1850 WOODMOOR DRIVE SUITE 201, MONUMENT, CO 80132

952.303.4190

WWW.GEOWALLDESIGNS.COM

Title: TITLE SHEET			
Project: VILLAGE DR TOWNHOMES STEAMBOAT SPRINGS, CO SEGMENTAL RETAINING WALL PLANS			
Project No: 23SSL018	Date: 31 AUG 2023	Scale: N.T.S.	Sheet No: RW-1.0



1.0 MATERIALS

1.1 BACKFILL SOILS

1.1.1 RETAINED FILL 1 AND DRAINAGE FILL SHALL BE APPROVED IN WRITING BY GEOWALL DESIGNS AND THE OWNER'S REPRESENTATIVE AND SHALL MEET THE STRENGTH REQUIREMENTS AS DEFINED IN SECTION 6.0. MATERIAL SHALL CONSIST OF CLEAN CRUSHED STONE OR CRUSHED GRAVEL MEETING THE FOLLOWING GRADATION TESTED IN ACCORDANCE WITH ASTM C-136:

SIEVE SIZE	PERCENT PASSING
2"	100%
3/4"	75-100%
No. 4	20-100%
No. 200	0-60%

PLASTICITY INDEX (PI) LESS THAN 20
LIQUID LIMIT (LL) LESS THAN 40

1.1.2 RETAINED SOIL/FILL MATERIALS SHALL BE FREE OF EXCESS MOISTURE, ROOTS, MUCK, SOD, SNOW, FROZEN LUMPS, ORGANIC MATTER OR OTHER DELETERIOUS MATERIALS. ALL ROCK PARTICLES AND HARD EARTH CLODS SHALL BE LESS THAN FOUR INCHES IN THE LONGEST DIMENSION. RETAINED BACKFILL MATERIALS WHICH DO NOT MEET THIS CRITERIA SHALL BE CONSIDERED UNSUITABLE AND REMOVED.

1.1.3 DRAINAGE FILL SHALL CONSIST OF CLEAN CRUSHED STONE, CRUSHED GRAVEL, OR CRUSHED RECYCLED CONCRETE MEETING THE FOLLOWING GRADATION TESTED IN ACCORDANCE WITH ASTM C-136:

SIEVE SIZE	PERCENT PASSING
1.5"	100%
1.0"	95-100%
1/2"	25-60%
No. 4	0-10%
No. 8	0-5%

LOSS BY WASHING 2.0% MAX

1.1.4 LEVELING PAD SHALL CONSIST OF DENSE-GRADED, OPEN-GRADED CRUSHED STONE OR CRUSHED GRAVEL. IF OPEN GRADED AGGREGATE IS USED IN WATER APPLICATION, LEVELING PAD SHALL BE WRAPPED WITH NON-WOVEN GEOTEXTILE.

1.2 BLOCK FACING SHALL BE REDI-ROCK STANDARD, 28", 60" & 72" XL UNITS. UNITS SHALL MEET ASTM C1372 FOR DRY CAST BLOCK OR C1776 FOR WET CAST CONCRETE, EXCEPT MANUFACTURED CONCRETE VERTICAL DIMENSIONAL TOLERANCE SHALL BE +/- 1/16". CONCRETE SHALL BE OF ORIGINAL PRODUCTION MIX WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,500 PSI. AIR CONTENT, MIX DESIGN, ABSORPTION, AND FREEZE THAW EXPOSURE CLASS SHALL MEET THE SPECIFICATIONS AS REQUIRED BY THE CONTRACT DOCUMENTS AND INDUSTRY BEST PRACTICES.

1.3 FILTER FABRIC SHALL BE 4 oz/sy (MIN.) NON-WOVEN, NEEDLE PUNCHED, POLYPROPYLENE GEOTEXTILE - ERS 400N OR EQUAL.

1.4 DRAIN PIPE SHALL BE 4" DIAMETER SINGLE WALL HDPE PIPE WITHOUT FILTER SOCK, OR APPROVED EQUAL. PIPE AND PIPE FITTINGS SHALL MEET ASTM F405 AND F667. 4" FLEX DRAIN IS A PRE APPROVED ALTERNATE.

2.0 TECHNICAL REQUIREMENTS

2.1 THE OWNER'S REPRESENTATIVE OR GRADING CONTRACTOR SHALL SUBMIT TO GEOWALL DESIGNS THE GRADATION AND STRENGTH PARAMETERS OF THE RETAINED SOIL/FILL AND FOUNDATION SOIL, FOR APPROVAL, PRIOR TO PROCEEDING WITH CONSTRUCTION. WORK SHALL NOT PROCEED UNTIL THIS SUBMITTAL IS APPROVED BY GEOWALL DESIGNS.

2.2 PRIOR TO CONSTRUCTION OF THE WALLS, THE GRADING CONTRACTOR SHALL CLEAR AND GRUB THE RETAINED BACKFILL ZONE AREA, REMOVING TOP SOILS, BRUSH, SOD OR OTHER ORGANIC OR DELETERIOUS MATERIALS. ANY UNSUITABLE SOILS SHALL BE OVER-EXCAVATED, REPLACED AND COMPACTED WITH RETAINED BACKFILL MATERIAL TO PROJECT SPECIFICATIONS OR OTHERWISE DIRECTED BY THE OWNER'S GEOTECHNICAL ENGINEER.

2.3 FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT EXCEEDING 10" (INCHES) IN UNCOMPACTED THICKNESS FOR HEAVY COMPACTION EQUIPMENT. FOR ZONES WHERE COMPACTION IS ACCOMPLISHED WITH HAND OPERATED EQUIPMENT, FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT EXCEEDING 6" (INCHES) IN UNCOMPACTED THICKNESS. ONLY HAND-OPERATED EQUIPMENT SHALL BE ALLOWED WITHIN THREE FEET OF THE BACK FACE OF WALL FACING.

2.4 TESTING METHODS AND VERIFICATION OF FILL SHALL BE COMPACTED AS SPECIFIED BY PROJECT SPECIFICATIONS OR TO A MINIMUM 95% (98% MINIMUM FOR WALLS EXCEEDING 10 FT) OF THE MAXIMUM DRY DENSITY AND WITHIN +/-2% OF THE OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH STANDARD PROCTOR (ASTM D698). MATERIAL SPECIFICATIONS AND COMPACTION TESTING IS THE RESPONSIBILITY OF THE OWNER'S REPRESENTATIVE.

2.4.1 WHERE COMPACTION OF STONE BACKFILL CANNOT BE VERIFIED USING IN-SITU FIELD DENSITY TEST METHODS, THE FILL SHALL BE COMPACTED USING APPROPRIATE VIBRATORY EQUIPMENT AS APPROVED BY THE SITE GEOTECHNICAL ENGINEER. THE CONTRACTOR SHALL MAKE A SUFFICIENT NUMBER OF PASSES WITH APPROVED ROLLING EQUIPMENT UNTIL THE SURFACE SHOWS NO VISIBLE SIGN OF FURTHER CONSOLIDATION. THE SITE GEOTECHNICAL ENGINEER SHALL APPROVE MEANS AND METHODS AND VERIFY COMPACTION.

2.5 WHERE REQUIRED, CAP UNITS SHALL BE PERMANENTLY SECURED TO THE BLOCK UNITS USING AN OUTDOOR CONSTRUCTION ADHESIVE FOR CONCRETE MASONRY OR HARDSCAPES SUCH AS LIQUID NAILS (OR EQUIVALENT).

2.6 AN APPROVED SET OF CONSTRUCTION DRAWINGS AND CONTRACT SPECIFICATIONS SHALL BE ON-SITE AT ALL TIMES, DURING CONSTRUCTION OF THE RETAINING WALLS.

3.0 BLOCK PLACEMENT

3.1 WALL BLOCK UNITS SHALL BE PLACED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION GUIDELINES AND TOLERANCES.

4.0 CHANGES

4.1 NO CHANGES TO THE WALL FACING TYPE SHALL BE MADE WITHOUT THE EXPRESSED PRIOR WRITTEN CONSENT OF GEOWALL DESIGNS.

5.0 DRAINAGE

5.1 AT THE END OF EACH WORK DAY, BACKFILL SURFACE SHALL BE COMPACTED WITH A SMOOTH PLATE COMPACTOR TO MINIMIZE PONDING OF WATER AND SATURATION OF THE BACKFILL.

5.2 PERMANENT AND TEMPORARY SURFACE WATER DIVERSION SHALL BE AS REQUIRED AND PROVIDED BY THE OWNER OR OWNER'S REPRESENTATIVE. SURFACE WATER SHALL BE DIVERTED AWAY FROM THE RETAINED FILL ZONE AND WALL FACE DURING WALL CONSTRUCTION OR AT THE END OF EACH WORK DAY.

THIS DRAWING IS BEING FURNISHED FOR THIS SPECIFIC PROJECT ONLY. ANY PARTY ACCEPTING THIS DOCUMENT DOES SO IN CONFIDENCE AND AGREES THAT IT SHALL NOT BE DUPLICATED IN WHOLE OR IN PART, NOR DISCLOSED TO OTHERS WITHOUT THE CONSENT OF GEOWALL DESIGNS

7						
6						
5						
4						
3						
2						
1						
0	31 AUG 2023	RELEASED FOR CONSTRUCTION		MR	MR	BD
No.	Date	Revision		Drawn	Design	Check



Signature Stone
211 30th St., Greeley, CO 80631
(970) 351-0270
www.signaturestone.com

Sales:
Seth Clark
(970) 539-2201
sclark@signaturestone.com



"BUILT FROM THE GROUND UP"

MN: 1548 CLIFF ROAD E, BURNSVILLE, MN 55337
CO: 1850 WOODMOOR DRIVE SUITE 201, MONUMENT, CO 80132

952.303.4190

WWW.GEOWALLDESIGNS.COM

Title: CONSTRUCTION NOTES			
Project: VILLAGE DR TOWNHOMES STEAMBOAT SPRINGS, CO			
SEGMENTAL RETAINING WALL PLANS			
Project No: 23SSL018	Date: 31 AUG 2023	Scale: N.T.S.	Sheet No: RW-2.0



6.0 DESIGN PARAMETERS

6.1 DESIGN OF THE GRAVITY SOIL STRUCTURE IS BASED ON THE FOLLOWING EFFECTIVE PARAMETERS (COHESION ONLY APPLICABLE FOR GLOBAL STABILITY):

ZONE	DESCRIPTION	φ	C'	γ
RETAINED SOIL 1	CLAYEY SAND - SC/CL	26°	0 PSF	125 PCF
FOUNDATION SOIL 1	CLAYEY SAND - SC/CL	26°	0 PSF	125 PCF

6.1.1 DESIGN METHODOLOGY: NCMA THIRD EDITION, IBC-2018, AND ASCE 7-16

6.2 FACTORS OF SAFETY

6.2.1 EXTERNAL STABILITY:

MIN. FACTOR OF SAFETY FOR OVERTURNING (GRAVITY) =	1.5
MIN. FACTOR OF SAFETY FOR SLIDING =	1.5
MIN. FACTOR OF SAFETY FOR BEARING (THEORETICAL) =	2.0

6.2.3 OVERALL / GLOBAL STABILITY:

MIN. FACTOR OF SAFETY FOR GLOBAL STABILITY (NON CRITICAL) =	1.3
---	-----

6.2.4 SEISMIC

MIN. FACTORS OF SAFETY ARE 75% OF STATIC CONDITIONS 1-SECOND DESIGN PEAK GROUND ACCELERATION =	0.164g
---	--------

6.3 SURCHARGE LOADING

LIVE LOAD (LANDSCAPE AREAS) =	100 PSF
-------------------------------	---------

6.4 BEARING

6.4.1 APPLIED BEARING

MAXIMUM APPLIED BEARING PRESSURE = (SEE ELEVATION VIEWS)

6.4.2 ULTIMATE BEARING CAPACITY CALCULATED USING SOIL PARAMETERS NOTED IN SECTION 6.0 AND GEOMETRIC PROPERTIES OF THE RETAINING WALL. GEOTECHNICAL ENGINEER SHALL DETERMINE ACTUAL BEARING CAPACITY BASED ON FIELD CONDITIONS AND LABORATORY RESULTS.

6.5 FENCE LOADING

WALLS ARE NOT DESIGNED FOR ANY CONCENTRATED FENCE LOADS. SLEEVE-ITS SHALL BE USED WHERE POSTS CANNOT BE PLACED A MINIMUM OF 3.00' FROM WALL FACE. CONTRACTOR TO VERIFY POST SPACING UTILIZED DOES NOT EXCEED LOAD LIMITS BASED ON IBC LOADING FOR PEDESTRIAN HANDRAILS OR THE DESIGN LOAD, WHICHEVER IS GREATER.

6.6 HYDRAULIC CONDITIONS

6.6.1 WATER APPLICATION

THE DESIGN DOES NOT CONSIDER HYDROSTATIC WATER PRESSURE AND ASSUMES WATER IS SUFFICIENTLY BELOW BOTTOM OF STRUCTURE SO AS NOT TO INFLUENCE STRUCTURE STABILITY.

6.6.2 EROSION CONTROL/PREVENTION

THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE IS MAINTAINED BOTH DURING AND AFTER CONSTRUCTION. EROSION PREVENTION AND PROTECTION SHALL BE MAINTAINED ABOVE AND BELOW THE RETAININGW ALL AS DESIGNED BY OTHERS. ALL DOWNSPOUTS, SWALES, AND DRAINAGE FEATURES SHALL BE DIVERTED AWAY FROM THE WALL LOCATIONS.

6.7 WIND LOADING (ASD)
WIND LOAD HAS NOT BEEN EVALUATED IN THE DESIGN OF THE BELOW GRADE STRUCTURE. ALL ABOVE FREE STANDING STRUCTURES PLACED WITHIN A 1H:1V OF THE WALL FACING SHALL BE RELOCATED OR REDESIGNED AS TO NOT APPLY ANY ADDITIONAL LATERAL LOADING.

7.0 SPECIAL PROVISIONS

7.1 THE DESIGN PRESENTED HEREIN IS BASED ON SOIL PARAMETERS, FOUNDATION CONDITIONS, GROUNDWATER CONDITIONS, AND LOADINGS STATED IN SECTION 6.0., AND INTERPOLATED FROM INFORMATION PROVIDED BY OTHERS. GEOTECHNICAL DATA IS INTERPOLATED FROM REPORT PREPARED BY NORTHWEST COLORADO CONSULTANTS, INC, DATED 10 JANUARY 2019.

7.2 WALL ELEVATION VIEWS AND LOCATIONS AND GEOMETRY OF EXISTING STRUCTURES AND GRADE ABOVE AND BELOW THE WALLS MUST BE VERIFIED BY THE CONTRACTOR, TO MATCH ELEVATIONS SHOWN IN THE CONTRACT DOCUMENTS, PRIOR TO CONSTRUCTION.

7.3 GEOWALL DESIGNS ASSUMES NO LIABILITY FOR INFORMATION SUPPLIED BY OTHERS SUCH AS GEOTECHNICAL REPORT, SITE PLAN, AND WATER ELEVATIONS.

7.4 THE SOIL DESIGN PARAMETERS STATED IN SECTION 6.0 SHALL BE VERIFIED BY THE PROJECT GEOTECHNICAL ENGINEER. WRITTEN VERIFICATION OF DESIGN PARAMETERS SHALL BE SUBMITTED TO GEOWALL DESIGNS AND THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCING WITH CONSTRUCTION.

7.5 IF ANY ROCK FORMATIONS AND/OR GROUNDWATER (NOT ADDRESSED WITHIN THESE PLANS) ARE ENCOUNTERED DURING THE CONSTRUCTION OF THIS WALL, IMMEDIATELY CONTACT GEOWALL DESIGNS AT 952-303-4190 AND THE OWNER'S REPRESENTATIVE.

7.6 ANY REVISIONS TO DESIGN PARAMETERS STATED IN SECTION 6.0 OR STRUCTURE GEOMETRY SHALL REQUIRE DESIGN MODIFICATIONS PRIOR TO PROCEEDING WITH CONSTRUCTION.

7.7 ALL PIPES AND UTILITIES WITHIN 100 FEET OF THE RETAINING WALL MUST BE CONSTRUCTED WITH WATER TIGHT JOINTS.

7.8 THE SITE GEOTECHNICAL ENGINEER OR OWNER'S REPRESENTATIVE SHALL BE RESPONSIBLE FOR EVALUATING TOTAL AND DIFFERENTIAL SETTLEMENTS.

7.9 THE OWNER OR OWNER'S REPRESENTATIVE SHALL BE RESPONSIBLE FOR THE SELECTION OF PERMANENT EROSION PROTECTION AND PERMANENT VEGETATION FOR SLOPES LOCATED ABOVE OR BELOW THE PROPOSED RETAINING WALL(S).

8.0 QUALITY ASSURANCE

8.1 DUTIES OF THE SPECIAL INSPECTOR:

8.1.1 THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK REQUIRING SPECIAL INSPECTION FOR CONFORMANCE WITH THE APPROVED DESIGN DRAWINGS AND SPECIFICATIONS.

8.1.2 THE SPECIAL INSPECTOR SHALL FURNISH REPORTS TO BE KEPT AT THE SITE FOR USE BY THE BUILDING OFFICIAL, THE CONTRACTOR, AND THE ENGINEER OF RECORD. IF SPECIAL INSPECTION IS PROVIDED BY ANYONE OTHER THAN THE ENGINEER OF RECORD, REPORTS SHALL BE SUBMITTED TO THE OFFICE OF THE ENGINEER OF RECORD ON A WEEKLY BASIS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION, THEN IF UNCORRECTED, TO THE DESIGN AUTHORITY AND THE BUILDING OFFICIAL.

8.1.3 UPON COMPLETION OF THE ASSIGNED WORK, THE SPECIAL INSPECTOR SHALL COMPLETE AND SIGN A FINAL REPORT CERTIFYING THAT TO THE BEST OF HIS/HER KNOWLEDGE, THE WORK IS IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS, AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE CODE.

8.2 SEE THE "SPECIAL INSPECTION SCHEDULE" FOR THE TYPES, EXTENTS, AND FREQUENCY OF SPECIFIC ITEMS REQUIRING SPECIAL INSPECTIONS AS PART OF THIS PROJECT.

SPECIAL INSPECTION SCHEDULE			
REQUIRED SPECIAL INSPECTION AREAS:	FREQUENCY OF TESTING		COMMENTS:
	CONTINUOUS	PERIODIC	
RETAINING WALLS			
DRAIN TILE INSTALLATION		X	INSPECTION SHALL BE MADE OF THE PLACEMENT, LOCATION, AND VENTING TO DAYLIGHT
SOILS			
EXCAVATIONS		X	VERIFY EXCAVATION ARE EXTENDED TO PROPER DEPTHS AND HAVE REACHED REQUIRED MATERIAL SUFFICIENT TO SUPPORT THE DESIGN
FIELD DENSITY		X	IN ACCORDANCE WITH ASTM D-6938 OR ASTM D-1556
MOISTURE-DENSITY RELATIONSHIPS		X	IN ACCORDANCE WITH AASHTO OR ASTM CRITERIA AS SPECIFIED FOR SUBGRADE, LEVELING PAD, AND BACKFILL
GRADATION ANALYSIS		X	IN ACCORDANCE WITH ASTM D-422
WALL BACKFILL		X	VERIFY USE OF PROPER MATERIALS, DENSITIES, LIFT THICKNESS DURING PLACEMENT AND COMPACTION OF BACKFILL

TESTING MAY BE PERIODIC IN NATURE BUT CONTINUOUS THROUGHOUT CONSTRUCTION AS REQUIRED BY IBC.

THIS DRAWING IS BEING FURNISHED FOR THIS SPECIFIC PROJECT ONLY. ANY PARTY ACCEPTING THIS DOCUMENT DOES SO IN CONFIDENCE AND AGREES THAT IT SHALL NOT BE DUPLICATED IN WHOLE OR IN PART, NOR DISCLOSED TO OTHERS WITHOUT THE CONSENT OF GEOWALL DESIGNS

7						
6						
5						
4						
3						
2						
1						
0	31 AUG 2023	RELEASED FOR CONSTRUCTION		MR	MR	BD
No.	Date	Revision		Drawn	Design	Check



Signature Stone
211 30th St., Greeley, CO 80631
(970) 351-0270
www.signaturestone.com

Sales:
Seth Clark
(970) 539-2201
sclark@signaturestone.com

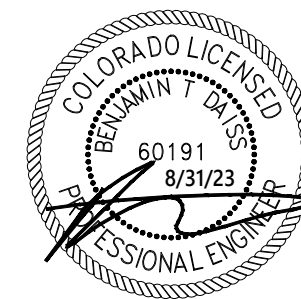


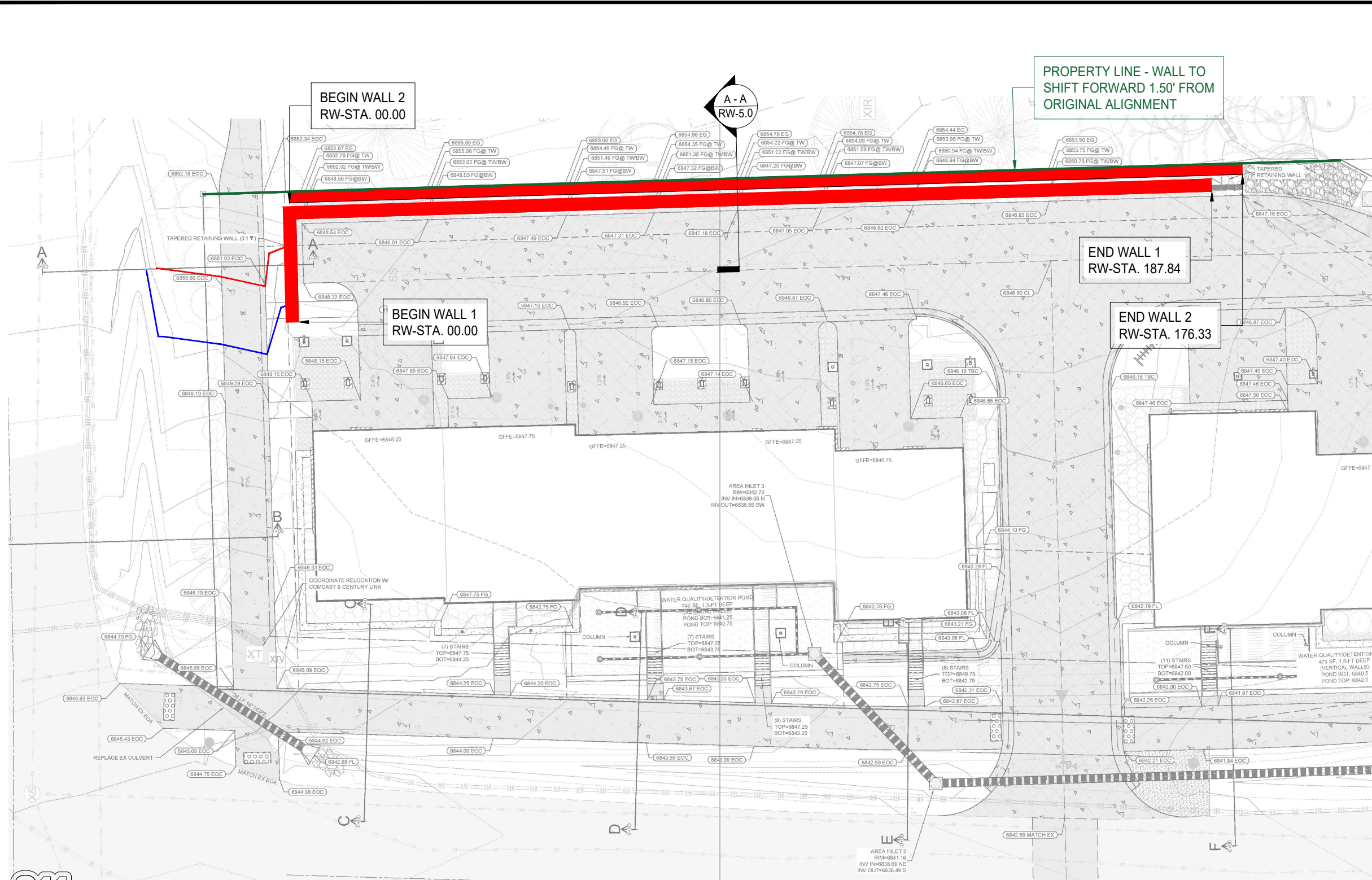
"BUILT FROM THE GROUND UP"

MN: 1548 CLIFF ROAD E, BURNSVILLE, MN 55337
CO: 1850 WOODMOOR DRIVE SUITE 201, MONUMENT, CO 80132

952.303.4190
WWW.GEOWALLDESIGNS.COM

Title: CONSTRUCTION NOTES			
Project: VILLAGE DR TOWNHOMES STEAMBOAT SPRINGS, CO			
SEGMENTAL RETAINING WALL PLANS			
Project No:	Date:	Scale:	Sheet No:
23SSL018	31 AUG 2023	N.T.S.	RW-2.1





- NOTE:**
1. SITE PLAN IS FOR ILLUSTRATIVE PURPOSES ONLY AND IS TAKEN FROM THE CONTRACT PLANS PREPARED BY LANDMARK CONSULTANTS, INC LAST DATED 07 SEPTEMBER 2022.
 2. NORTH ARROW DIRECTION IS APPROXIMATE, REFER TO CONTRACT PLANS FOR ACTUAL HEADING.
 3. REFER TO CONTRACT PLANS FOR ALL HORIZONTAL ALIGNMENT AND ACTUAL SITE GEOMETRY.

LEGEND:

TOP OF WALL



Know what's **BELOW**.
CALL before you dig.

THIS DRAWING IS BEING FURNISHED FOR THIS SPECIFIC PROJECT ONLY. ANY PARTY ACCEPTING THIS DOCUMENT DOES SO IN CONFIDENCE AND AGREES THAT IT SHALL NOT BE DUPLICATED IN WHOLE OR IN PART, NOR DISCLOSED TO OTHERS WITHOUT THE CONSENT OF GEOWALL DESIGNS

7						
6						
5						
4						
3						
2						
1						
0	31 AUG 2023	RELEASED FOR CONSTRUCTION		MR	MR	BD
No.	Date	Revision		Drawn	Design	Check



Signature Stone
211 30th St., Greeley, CO 80631
(970) 351-0270
www.signaturestone.com

Sales:
Seth Clark
(970) 539-2201
sclark@signaturestone.com

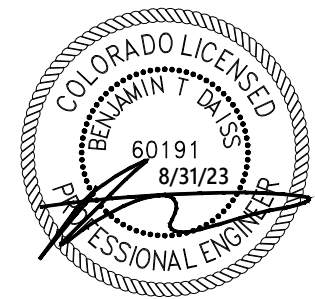


"BUILT FROM THE GROUND UP"

MN: 1548 CLIFF ROAD E, BURNSVILLE, MN 55337
CO: 1850 WOODMOOR DRIVE SUITE 201, MONUMENT, CO 80132

952.303.4190
WWW.GEOWALLDESIGNS.COM

Title: WALL LOCATION PLAN VIEW			
Project: VILLAGE DR TOWNHOMES STEAMBOAT SPRINGS, CO			
SEGMENTAL RETAINING WALL PLANS			
Project No: 23SSL018	Date: 31 AUG 2023	Scale: 1" = 20'	Sheet No: RW-3.0

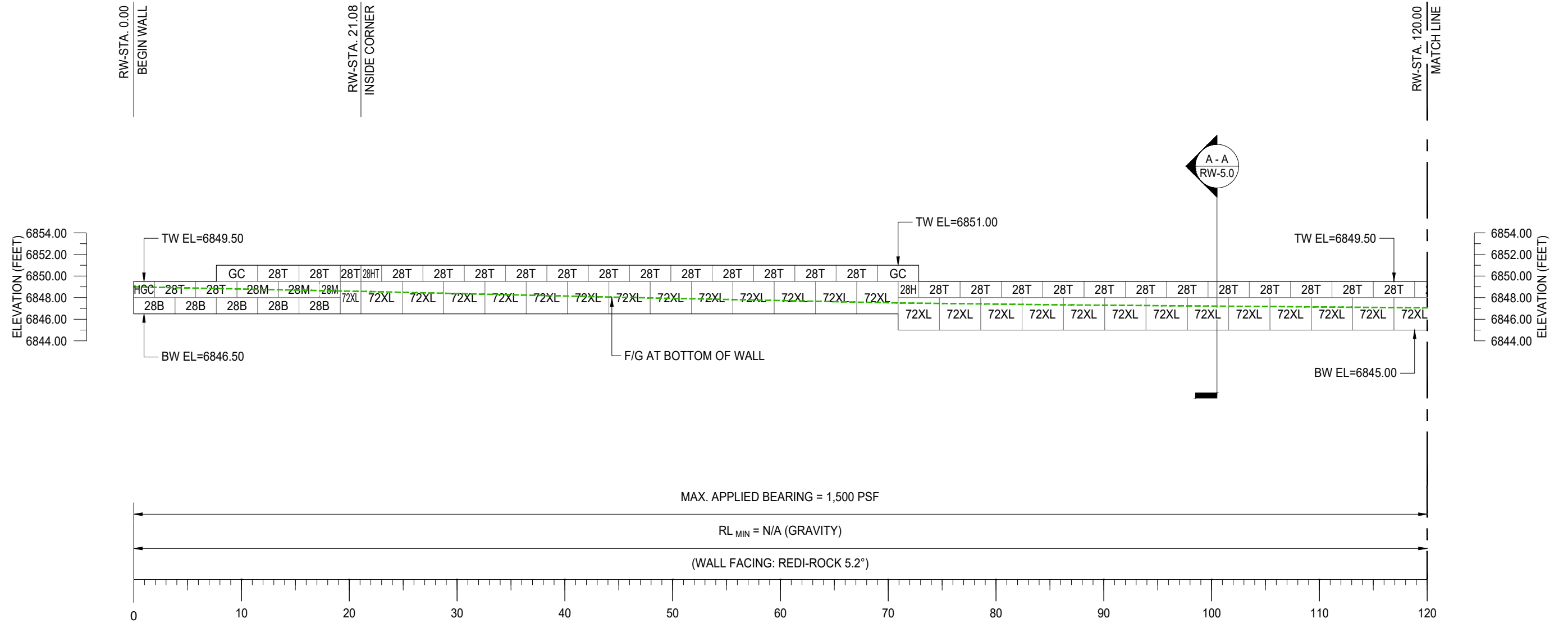


GENERAL NOTES:

1. ALL ELEVATIONS AND DISTANCES ARE SHOWN IN FEET ALONG FACE OF WALL.
2. THE WALLS SHALL BE CONSTRUCTED USING REDI-ROCK 28", 60" & 72" XL UNITS. SEE SHEET RW-2.0 FOR MATERIAL SPECIFICATIONS.
3. SEE MANUFACTURER'S INFORMATION FOR ADDITIONAL DETAILS ON THE BLOCK SYSTEM SHOWN.

LEGEND:

- TOP OF WALL ELEVATION (TOP OF BLOCK) TW EL= XX.XX
- BOTTOM OF WALL ELEVATION (BOTTOM OF BLOCK) BW EL= XX.XX
- FINISHED GRADE LINE



WALL 1 ELEVATION
DISTANCE SHOWN IN FEET ALONG FRONT FACE

THIS DRAWING IS BEING FURNISHED FOR THIS SPECIFIC PROJECT ONLY. ANY PARTY ACCEPTING THIS DOCUMENT DOES SO IN CONFIDENCE AND AGREES THAT IT SHALL NOT BE DUPLICATED IN WHOLE OR IN PART, NOR DISCLOSED TO OTHERS WITHOUT THE CONSENT OF GEOWALL DESIGNS

7						
6						
5						
4						
3						
2						
1						
0	31 AUG 2023	RELEASED FOR CONSTRUCTION	MR	MR	BD	
No.	Date	Revision	Drawn	Design	Check	



Signature Stone
211 30th St., Greeley, CO 80631
(970) 351-0270
www.signaturestone.com

Sales:
Seth Clark
(970) 539-2201
sclark@signaturestone.com



"BUILT FROM THE GROUND UP"
MN: 1548 CLIFF ROAD E, BURNSVILLE, MN 55337
CO: 1850 WOODMOOR DRIVE SUITE 201, MONUMENT, CO 80132
952.303.4190
WWW.GEOWALLDESIGNS.COM

Title: WALL 1 ELEVATION			
Project: VILLAGE DR TOWNHOMES STEAMBOAT SPRINGS, CO			
SEGMENTAL RETAINING WALL PLANS			
Project No: 23SSL018	Date: 31 AUG 2023	Scale: 1" = 10'	Sheet No: RW-4.0

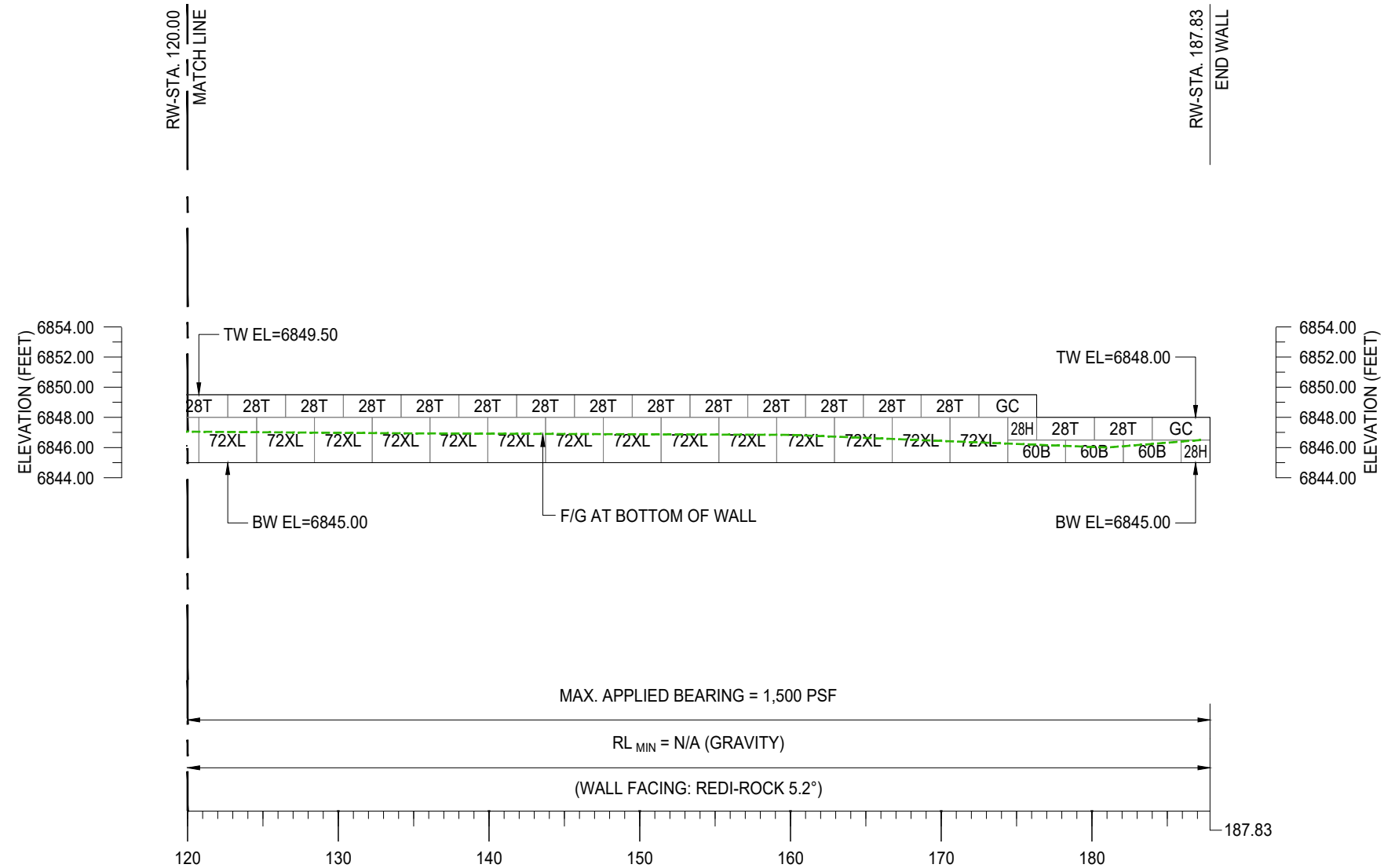


GENERAL NOTES:

1. ALL ELEVATIONS AND DISTANCES ARE SHOWN IN FEET ALONG FACE OF WALL.
2. THE WALLS SHALL BE CONSTRUCTED USING REDI-ROCK 28", 60" & 72" XL UNITS. SEE SHEET RW-2.0 FOR MATERIAL SPECIFICATIONS.
3. SEE MANUFACTURER'S INFORMATION FOR ADDITIONAL DETAILS ON THE BLOCK SYSTEM SHOWN.

LEGEND:

- TOP OF WALL ELEVATION (TOP OF BLOCK) TW EL= XX.XX
- BOTTOM OF WALL ELEVATION (BOTTOM OF BLOCK) BW EL= XX.XX
- FINISHED GRADE LINE



WALL 1 ELEVATION
DISTANCE SHOWN IN FEET ALONG FRONT FACE

THIS DRAWING IS BEING FURNISHED FOR THIS SPECIFIC PROJECT ONLY. ANY PARTY ACCEPTING THIS DOCUMENT DOES SO IN CONFIDENCE AND AGREES THAT IT SHALL NOT BE DUPLICATED IN WHOLE OR IN PART, NOR DISCLOSED TO OTHERS WITHOUT THE CONSENT OF GEOWALL DESIGNS

7						
6						
5						
4						
3						
2						
1						
0	31 AUG 2023	RELEASED FOR CONSTRUCTION	MR	MR	BD	
No.	Date	Revision	Drawn	Design	Check	



Signature Stone
211 30th St., Greeley, CO 80631
(970) 351-0270
www.signaturestone.com

Sales:
Seth Clark
(970) 539-2201
sclark@signaturestone.com



"BUILT FROM THE GROUND UP"
MN: 1548 CLIFF ROAD E, BURNSVILLE, MN 55337
CO: 1850 WOODMOOR DRIVE SUITE 201, MONUMENT, CO 80132
952.303.4190
WWW.GEOWALLDESIGNS.COM

Title: WALL 1 ELEVATION			
Project: VILLAGE DR TOWNHOMES STEAMBOAT SPRINGS, CO			
SEGMENTAL RETAINING WALL PLANS			
Project No: 23SSL018	Date: 31 AUG 2023	Scale: 1" = 10'	Sheet No: RW-4.1

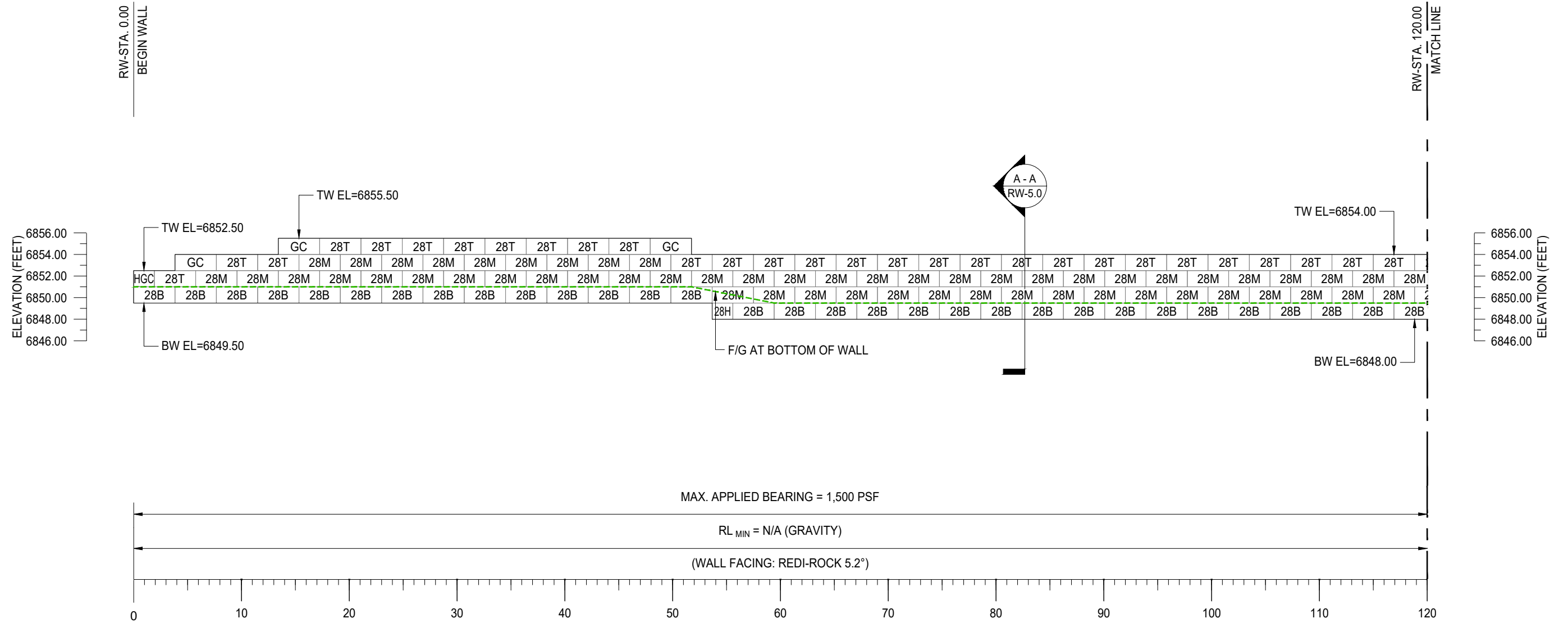


GENERAL NOTES:

1. ALL ELEVATIONS AND DISTANCES ARE SHOWN IN FEET ALONG FACE OF WALL.
2. THE WALLS SHALL BE CONSTRUCTED USING REDI-ROCK 28", 60" & 72" XL UNITS. SEE SHEET RW-2.0 FOR MATERIAL SPECIFICATIONS.
3. SEE MANUFACTURER'S INFORMATION FOR ADDITIONAL DETAILS ON THE BLOCK SYSTEM SHOWN.

LEGEND:

- TOP OF WALL ELEVATION (TOP OF BLOCK) TW EL= XX.XX
- BOTTOM OF WALL ELEVATION (BOTTOM OF BLOCK) BW EL= XX.XX
- FINISHED GRADE LINE



WALL 2 ELEVATION
DISTANCE SHOWN IN FEET ALONG FRONT FACE

THIS DRAWING IS BEING FURNISHED FOR THIS SPECIFIC PROJECT ONLY. ANY PARTY ACCEPTING THIS DOCUMENT DOES SO IN CONFIDENCE AND AGREES THAT IT SHALL NOT BE DUPLICATED IN WHOLE OR IN PART, NOR DISCLOSED TO OTHERS WITHOUT THE CONSENT OF GEOWALL DESIGNS

7						
6						
5						
4						
3						
2						
1						
0	31 AUG 2023	RELEASED FOR CONSTRUCTION		MR	MR	BD
No.	Date	Revision		Drawn	Design	Check



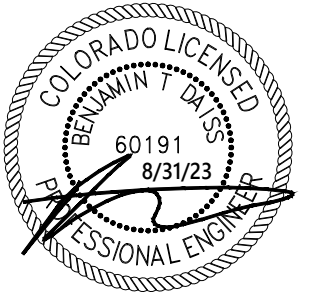
Signature Stone
211 30th St., Greeley, CO 80631
(970) 351-0270
www.signaturestone.com

Sales:
Seth Clark
(970) 539-2201
sclark@signaturestone.com



"BUILT FROM THE GROUND UP"
MN: 1548 CLIFF ROAD E, BURNSVILLE, MN 55337
CO: 1850 WOODMOOR DRIVE SUITE 201, MONUMENT, CO 80132
952.303.4190
WWW.GEOWALLDESIGNS.COM

Title: WALL 2 ELEVATION			
Project: VILLAGE DR TOWNHOMES STEAMBOAT SPRINGS, CO			
SEGMENTAL RETAINING WALL PLANS			
Project No: 23SSL018	Date: 31 AUG 2023	Scale: 1" = 10'	Sheet No: RW-4.2

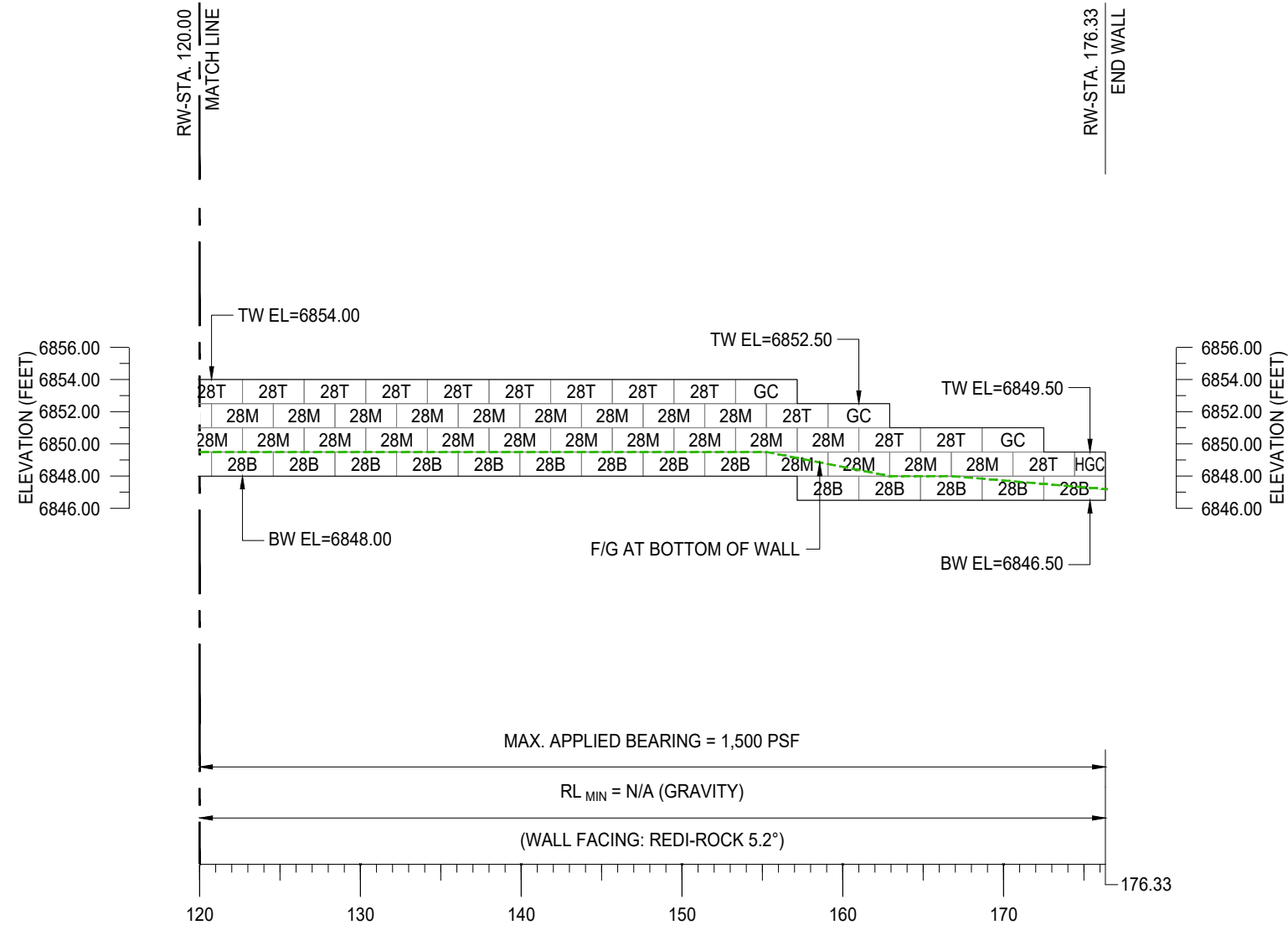


GENERAL NOTES:

1. ALL ELEVATIONS AND DISTANCES ARE SHOWN IN FEET ALONG FACE OF WALL.
2. THE WALLS SHALL BE CONSTRUCTED USING REDI-ROCK 28", 60" & 72" XL UNITS. SEE SHEET RW-2.0 FOR MATERIAL SPECIFICATIONS.
3. SEE MANUFACTURER'S INFORMATION FOR ADDITIONAL DETAILS ON THE BLOCK SYSTEM SHOWN.

LEGEND:

- TOP OF WALL ELEVATION (TOP OF BLOCK) TW EL= XX.XX
- BOTTOM OF WALL ELEVATION (BOTTOM OF BLOCK) BW EL= XX.XX
- FINISHED GRADE LINE



WALL 2 ELEVATION

DISTANCE SHOWN IN FEET ALONG FRONT FACE

THIS DRAWING IS BEING FURNISHED FOR THIS SPECIFIC PROJECT ONLY. ANY PARTY ACCEPTING THIS DOCUMENT DOES SO IN CONFIDENCE AND AGREES THAT IT SHALL NOT BE DUPLICATED IN WHOLE OR IN PART, NOR DISCLOSED TO OTHERS WITHOUT THE CONSENT OF GEOWALL DESIGNS

7					
6					
5					
4					
3					
2					
1					
0	31 AUG 2023	RELEASED FOR CONSTRUCTION	MR	MR	BD
No.	Date	Revision	Drawn	Design	Check



Signature Stone
211 30th St., Greeley, CO 80631
(970) 351-0270
www.signaturestone.com

Sales:
Seth Clark
(970) 539-2201
sclark@signaturestone.com



"BUILT FROM THE GROUND UP"

MN: 1548 CLIFF ROAD E, BURNSVILLE, MN 55337
CO: 1850 WOODMOOR DRIVE SUITE 201, MONUMENT, CO 80132







952.303.4190
WWW.GEOWALLDESIGNS.COM

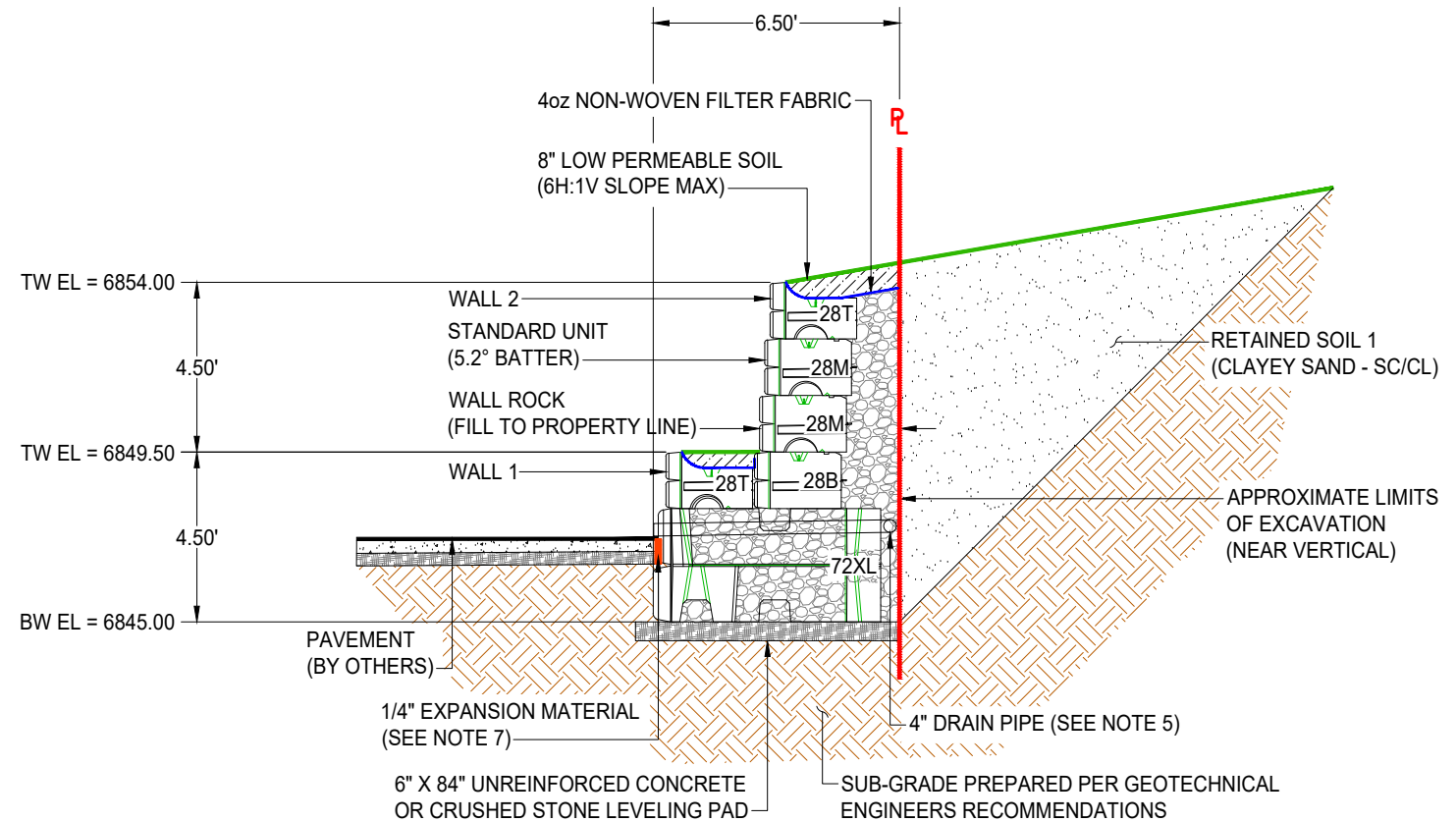
Title: WALL 2 ELEVATION			
Project: VILLAGE DR TOWNHOMES STEAMBOAT SPRINGS, CO			
SEGMENTAL RETAINING WALL PLANS			
Project No: 23SSL018	Date: 31 AUG 2023	Scale: 1" = 10'	Sheet No: RW-4.3



GENERAL NOTES:

1. THE SECTION SHOWN IS A REPRESENTATIVE WALL SECTION. THE WALL HEIGHTS, ELEVATIONS, TOE SLOPES, AND BACK SLOPES VARY ACCORDING TO THE ELEVATION PLAN AND SITE PLAN RESPECTIVELY.
2. UPON EXCAVATION, WHERE UNSUITABLE SOILS ARE FOUND, SUBCUT AS REQUIRED BY THE ONSITE GEOTECHNICAL ENGINEER AND REPLACE WITH SUITABLE COMPACTED STRUCTURAL FILL TO ACHIEVE THE REQUIRED BEARING CAPACITY. THE STRUCTURAL FILL SHALL BE COMPACTED TO A MINIMUM 95% STANDARD PROCTOR DENSITY.
3. APPROXIMATE LIMITS OF EXCAVATION VARIES WHERE SUBCUT IS REQUIRED. ACTUAL LIMITS AND SIDE SLOPES SHALL BE DETERMINED BY OSHA REGULATIONS AND MATCH FIELD CONDITIONS AS DETERMINED BY THE CONTRACTOR. TEMPORARY SHORING OR A CONSTRUCTION EASEMENT MAY BE REQUIRED FOR WALL PLACEMENT. ALL SHORING AND EASEMENTS ARE BY OTHERS.
4. THE WALL IS DESIGNED AS A GRAVITY WALL AND SHALL BE CONSTRUCTED WITH REDI-ROCK 28", 60" & 72" XL UNITS USING THE 5.2° BATTER.
5. 4" CORRUGATED PERFORATED DRAINPIPE INSTALLED AS LOW AS POSSIBLE WITH POSITIVE DRAINAGE. OUTLET INTO ONSITE DRAINAGE OR THROUGH WALL FACE AT 50.0' O.C. AND LOW ENDS OF WALL. SEE DETAIL 2/RW-6.0.
6. INSPECT EXCAVATION SLOPES FOR ACTIVE SEEPAGE AND PLACE ADDITIONAL DRAINS WHERE SEEPAGE OCCURS.
7. 1/4" EXPANSION MATERIAL SHALL BE PLACED BETWEEN THE MODULAR BLOCK RETAINING WALL UNITS AND ANY CONCRETE PLACED AFTER CONSTRUCTION OF THE MODULAR BLOCK RETAINING WALL.
8. DO NOT BRING HEAVY COMPACTION OR PAVING EQUIPMENT WITHIN 3' OF THE BACK OF THE REDI-ROCK RETAINING WALL.
9. SEE MANUFACTURER'S INFORMATION FOR ADDITIONAL DETAILS ON THE REDI-ROCK RETAINING WALL SYSTEM.

LEGEND	
	LOW PERMEABLE SOIL
	WALL ROCK (GRAVEL - GP)
	RETAINED SOIL 1 (CLAYEY SAND - SC/CL)
	LEVELING PAD (GRAVEL - GW)
	IN-SITU/STRUCTURAL FILL
	4 oz NON-WOVEN FILTER FABRIC



WALL SECTION A - A
(SECTION CUT: SEE PROFILES FOR CUT LOCATIONS)

THIS DRAWING IS BEING FURNISHED FOR THIS SPECIFIC PROJECT ONLY. ANY PARTY ACCEPTING THIS DOCUMENT DOES SO IN CONFIDENCE AND AGREES THAT IT SHALL NOT BE DUPLICATED IN WHOLE OR IN PART, NOR DISCLOSED TO OTHERS WITHOUT THE CONSENT OF GEOWALL DESIGNS

7						
6						
5						
4						
3						
2						
1						
0	31 AUG 2023	RELEASED FOR CONSTRUCTION		MR	MR	BD
No.	Date	Revision		Drawn	Design	Check



Signature Stone
211 30th St., Greeley, CO 80631
(970) 351-0270
www.signaturestone.com

Sales:
Seth Clark
(970) 539-2201
sclark@signaturestone.com



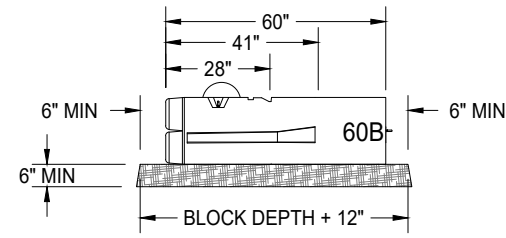
"BUILT FROM THE GROUND UP"
MN: 1548 CLIFF ROAD E, BURNSVILLE, MN 55337
CO: 1850 WOODMOOR DRIVE SUITE 201, MONUMENT, CO 80132
952.303.4190
WWW.GEOWALLDESIGNS.COM

Title: WALL SECTION A-A			
Project: VILLAGE DR TOWNHOMES STEAMBOAT SPRINGS, CO			
SEGMENTAL RETAINING WALL PLANS			
Project No: 23SSL018	Date: 31 AUG 2023	Scale: 1" = 5'	Sheet No: RW-5.0

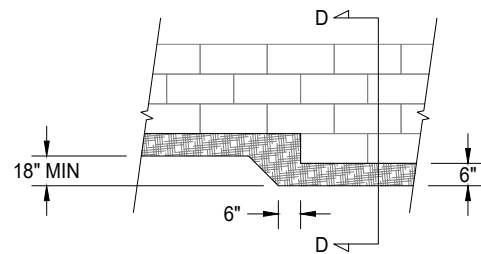


NOTES:

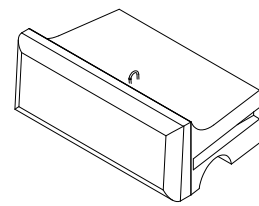
1. FOUNDATION SOILS SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF THE LEVELING PAD.
2. LEVELING PAD SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN USING CRUSHED STONE OR 2,000 PSI UNREINFORCED CONCRETE.



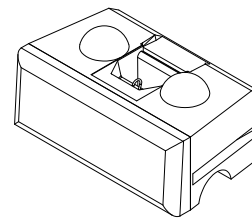
SECTION D - D



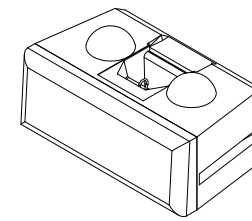
PROFILE VIEW



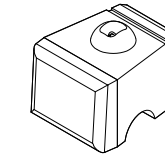
28T - 28" TOP
 HEIGHT = 18"
 WIDTH = 46 1/8"
 DEPTH = 28"
 WEIGHT = 1,230 LBS



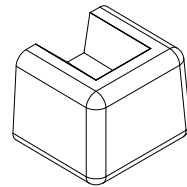
28M - 28" MIDDLE
 HEIGHT = 18"
 WIDTH = 46 1/8"
 DEPTH = 28"
 WEIGHT = 1,520 LBS



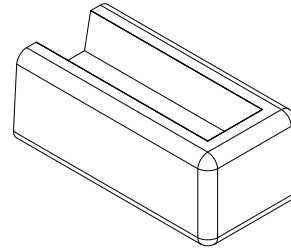
28B - 28" BOTTOM
 HEIGHT = 18"
 WIDTH = 46 1/8"
 DEPTH = 28"
 WEIGHT = 1,620 LBS



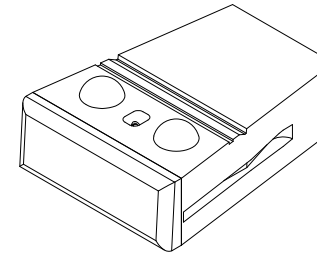
28H - 28" HALF MIDDLE BLOCK
 HEIGHT = 18"
 WIDTH = 22 13/16"
 DEPTH = 28"
 WEIGHT = 750 LBS



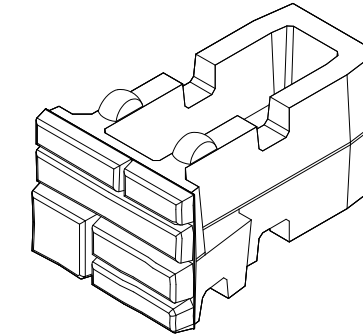
HGC - HALF GARDEN CORNER
 HEIGHT = 18"
 WIDTH = 23 1/16"
 DEPTH = 24"
 WEIGHT = 530 LBS



CG - GARDEN CORNER
 HEIGHT = 18"
 WIDTH = 46 1/8"
 DEPTH = 24"
 WEIGHT = 1,070 LBS



60B - 60" BOTTOM
 HEIGHT = 18"
 WIDTH = 46 1/8"
 DEPTH = 60"
 WEIGHT = 3,350 LBS



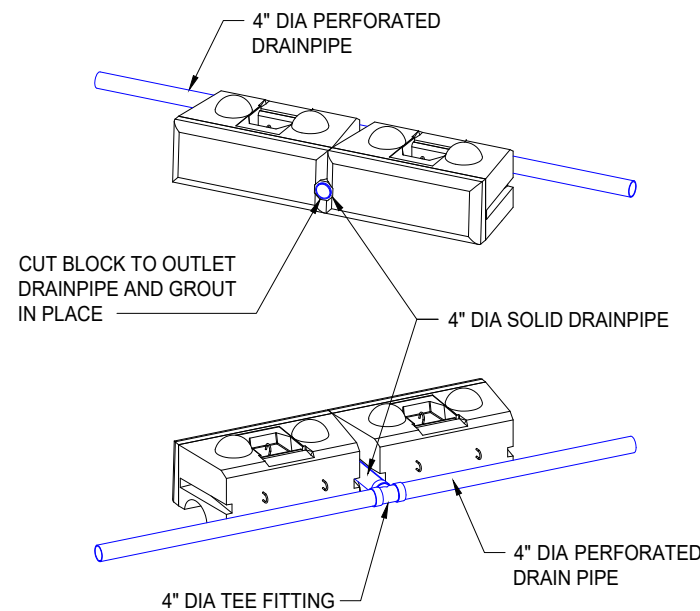
72XL - 72" XL BLOCK
 HEIGHT = 36"
 WIDTH = 46 1/8"
 DEPTH = 72"
 WEIGHT = 4,160 LBS

1 LEVELING PAD DETAIL - N.T.S

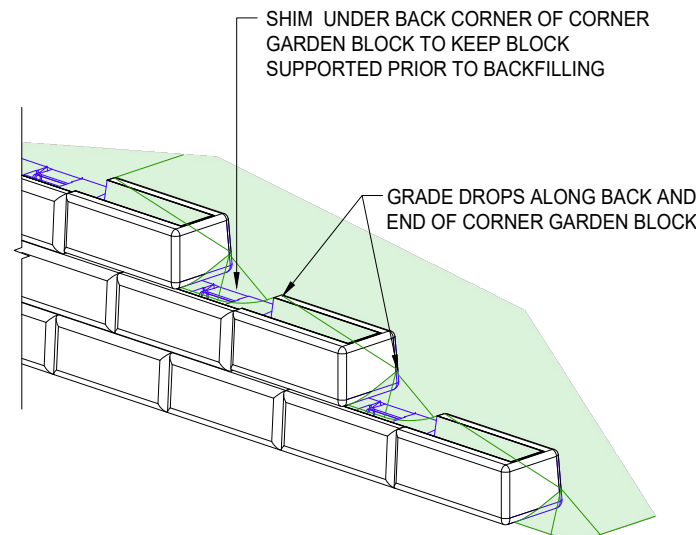
2 REDI-ROCK UNIT DETAIL - N.T.S

NOTES:

1. THE DRAINAGE SYSTEM SHALL CONSIST OF A 4" MINIMUM DIAMETER CORRUGATED PERFORATED PLASTIC DRAINPIPE.



3 DRAIN PIPE OUTLET DETAIL - N.T.S



4 TOP OF WALL STEP DETAIL - N.T.S

THIS DRAWING IS BEING FURNISHED FOR THIS SPECIFIC PROJECT ONLY. ANY PARTY ACCEPTING THIS DOCUMENT DOES SO IN CONFIDENCE AND AGREES THAT IT SHALL NOT BE DUPLICATED IN WHOLE OR IN PART, NOR DISCLOSED TO OTHERS WITHOUT THE CONSENT OF GEOWALL DESIGNS

7						
6						
5						
4						
3						
2						
1						
0	31 AUG 2023	RELEASED FOR CONSTRUCTION		MR	MR	BD
No.	Date	Revision		Drawn	Design	Check



Signature Stone
 211 30th St., Greeley, CO 80631
 (970) 351-0270
 www.signaturestone.com

Sales:
 Seth Clark
 (970) 539-2201
 sclark@signaturestone.com



"BUILT FROM THE GROUND UP"

MN: 1548 CLIFF ROAD E, BURNSVILLE, MN 55337
 CO: 1850 WOODMOOR DRIVE SUITE 201, MONUMENT, CO 80132

952.303.4190

WWW.GEOWALLDESIGNS.COM

Title: CONSTRUCTION DETAILS			
Project: VILLAGE DR TOWNHOMES STEAMBOAT SPRINGS, CO			
SEGMENTAL RETAINING WALL PLANS			
Project No: 23SSL018	Date: 31 AUG 2023	Scale: AS NOTED	Sheet No: RW-6.0

