


# 12225 PARDEE STREET - WALL REPLACEMENT PARKER, CO

## RETAINING WALL SHOP DRAWINGS



**PROJECT VICINITY MAP**  
(NOT TO SCALE) 

### SHEET INDEX

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	CONSTRUCTION DETAILS

#### GENERAL NOTES:

- MULTIPLE CONTRACTORS (FENCE, WALL, GRADING, ETC.) MAY BE USED TO COMPLETE THE OVERALL PROJECT AS SHOWN ON THESE SHOP DRAWINGS. PLANS DO NOT DEFINE SCOPE OF WORK FOR INDIVIDUAL ENTITIES. SEE CONTRACT DOCUMENTS FOR SPECIFIC DETAILS ON THE SCOPE OF WORK THAT WILL BE PROVIDED BY ALL PARTIES.
- WALL CONSTRUCTION SHALL BE SUPERVISED BY A QUALIFIED ENGINEER OR TECHNICIAN TO VERIFY FIELD AND SITE SOIL CONDITIONS. IF THIS WORK IS NOT PERFORMED BY THE SITE GEOTECHNICAL ENGINEER, A QUALIFIED GEOTECHNICAL ENGINEER/TECHNICIAN SHALL BE CONSULTED IN THOSE MATTERS PERTAINING TO THE SOIL CONDITIONS AND WALL PERFORMANCE.
- THE FOUNDATION SOILS AT THE BASE OF THE WALLS SHALL BE INSPECTED BY THE GEOTECHNICAL ENGINEER. ANY UNSUITABLE SOILS OR IMPROPERLY COMPACTED EMBANKMENT MATERIAL SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE ENGINEER PRIOR TO WALL CONSTRUCTION TO PROVIDE ADEQUATE BEARING CAPACITY AND MINIMIZE SETTLEMENT.
- ALL WALL EXCAVATION AND RETAINED SOILS SHALL BE INSPECTED FOR GROUNDWATER CONDITIONS. ANY ADDITIONAL DRAINAGE PROVISIONS REQUIRED IN THE FIELD SHALL BE INCORPORATED INTO THE WALL CONSTRUCTION AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
- WALL BACKFILL MATERIAL SHALL BE TESTED AND APPROVED BY THE ENGINEER, MEETING THE MINIMUM REQUIREMENTS OF THE APPROVED DESIGN PLANS OR SPECIFICATIONS.
- ALL SOIL BACKFILL SHALL BE TESTED BY THE GEOTECHNICAL ENGINEER FOR MOISTURE, DENSITY, AND COMPACTION PERIODICALLY (EVERY 2' VERTICALLY, 100'-200' C/C) MEETING THE MINIMUM REQUIREMENTS OF THE APPROVED DESIGN PLANS OR SPECIFICATIONS.
- THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN QUALITY CONTROL FOR THE CONSTRUCTION OF THE WALL TO ASSURE COMPLIANCE WITH CONTRACT REQUIREMENTS AND MAINTAIN RECORDS OF ITS QUALITY CONTROL.
- ALL WALL ELEVATIONS, GRADES, AND BACK SLOPE CONDITIONS SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD FOR CONFORMANCE WITH APPROVED DESIGN PLANS. ANY REVISIONS TO THE STRUCTURE GEOMETRY OR DESIGN CRITERIA SHALL REQUIRE DESIGN MODIFICATIONS PRIOR TO PROCEEDING WITH CONSTRUCTION.
- THE RETAINING WALL(S) SHOULD BE INSPECTED EVERY SIX MONTHS FOR MOVEMENT, SOIL TENSION CRACKS, EROSION ADJACENT TO THE RETAINING WALL STRUCTURES, AND FOR SURFICIAL SLOPE STABILITY WHEN A SLOPE EXISTS ABOVE OR BELOW THE RETAINING WALL(S).
- SURFICIAL SLOPE INSTABILITY TYPICALLY IMPACTS THE UPPER 3 TO 5 FEET OF THE SUBSURFACE PROFILE. REGULAR MAINTENANCE SHOULD BE ANTICIPATED TO IDENTIFY AND ADDRESS POTENTIAL SOIL CREEP OR EROSION. THIS INCLUDES REPLACING OR REPLANTING TREES AND GRASSES, AS NECESSARY, AND GRADING THE SLOPE TO REDUCE SOIL CREEP AND EROSION. IF FUTURE SURFICIAL SLOPE EROSION OCCURS, THE SLOPE FACE BE RESTORED AS SOON AS PRACTICAL.
- FILL SLOPES SHOULD BE RE-VEGETATED AS SOON AS POSSIBLE AFTER GRADING AND PROTECTED FROM EROSION UNTIL VEGETATION IS ESTABLISHED. SLOPE PLANTING SHOULD CONSIST OF GROUND COVER, SHRUBS, AND TREES POSSESSING DEEP, DENSE ROOT STRUCTURES THAT REQUIRE MINIMAL IRRIGATION.
- THE OWNER OR OWNER'S REPRESENTATIVE IS RESPONSIBLE FOR ENSURING THAT CONSTRUCTION ADJACENT TO THE WALL DURING AND AFTER CONSTRUCTION DOES NOT DISTURB THE WALL OR PLACE TEMPORARY OR PERMANENT LOADS ON THE WALL THAT EXCEED THE DESIGN LOADS, INCLUDING BUT NOT LIMITED TO WATER PRESSURE, TEMPORARY GRADES, EQUIPMENT LOADING, AND FUTURE STRUCTURES.
- AS-BUILT CONSTRUCTION TOLERANCES:
  - HORIZONTAL ALIGNMENT:  $\pm 0.75$ -INCHES OVER ANY 10-FOOT DISTANCE; 3-INCHES MAX
  - WALL BATTER: WITHIN 1° OF DESIGN BATTER
  - CORNERS, BENDS, AND CURVES:  $\pm 2$ -FEET FROM THEORETICAL POSITION
  - MAXIMUM DIFFERENTIAL SETTLEMENT: L/200 (0.5% OF REFERENCED LENGTH)
  - TOTAL SETTLEMENT: 2-INCHES MAX



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No.	Date	Revision	By
0	29 MAR 2024	RELEASED FOR CONSTRUCTION	BTD
1	30 APR 2024	REVISED END OF WALL LAYOUT	BTD
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Project: 12225 PARDEE STREET - WALL REPLACEMENT PARKER, CO			
Title: TITLE SHEET			
Project No:	Date:	Scale:	Sheet No:
24GGL002	29 MAR 2024	N.T.S.	RW-1.00



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**1.0 MATERIALS**

**1.1 BACKFILL SOILS**

1.1.1 DRAINAGE AGGREGATE AND RETAINED SOIL 1 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

1.1.2 ROUNDED AGGREGATE (e.g. RIVER ROCK AND PEA GRAVEL) SHALL NOT BE USED IN ANY CAPACITY BEHIND OR BELOW THE PROPOSED RETAINING WALL.

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

1.2 BLOCK FACING SHALL BE RECON, 24", 45", AND 60" 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 - MIRAFI 140N 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 SOIL STRUCTURES ENGINEERING, LLC THE GRADATION AND STRENGTH PARAMETERS OF RETAINED SOIL/FILL AND FOUNDATION SOIL, FOR APPROVAL PRIOR TO PROCEEDING WITH CONSTRUCTION. WORK SHALL NOT PROCEED UNTIL THIS SUBMITTAL IS APPROVED BY SOIL STRUCTURES ENGINEERING, LLC.

2.2 PRIOR TO CONSTRUCTION OF THE WALLS, THE GRADING CONTRACTOR SHALL CLEAR AND GRUB THE REINFORCED 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 STRUCTURAL FILL MATERIAL TO PROJECT SPECIFICATIONS OR OTHERWISE DIRECTED BY THE OWNER'S GEOTECHNICAL ENGINEER.

2.3 THE GEOTECHNICAL ENGINEER SHALL CONFIRM THAT THE SITE HAS BEEN PROPERLY PREPARED AND THE DESIGN PARAMETERS IN SECTION 6.0 ARE APPROPRIATE PRIOR TO FILL PLACEMENT. A WRITTEN CONFIRMATION SHALL BE PROVIDED TO SOIL STRUCTURES ENGINEERING, LLC PRIOR TO FILL PLACEMENT.

2.4 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.

2.5 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.

2.5.1 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.

2.6 WHERE NECESSARY, 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). ADHESIVE SHALL BE PLACED PER MANUFACTURERS RECOMMENDATIONS.

2.7 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 PRECAST MODULAR BLOCK UNITS SHALL BE PLACED USING THE SIZE AND TYPES SPECIFIED WITHIN THE SHOP DRAWINGS.

**4.0 CHANGES**

4.1 NO CHANGES TO THE WALL FACING TYPE SHALL BE MADE WITHOUT THE EXPRESSED PRIOR WRITTEN CONSENT OF SOIL STRUCTURES ENGINEERING, LLC.

**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 AND EROSION CONTROL SHALL BE AS REQUIRED AND PROVIDED BY THE OWNER OR OWNER'S REPRESENTATIVE. SURFACE WATER SHALL BE DIVERTED AWAY FROM THE FILL ZONES AND WALL FACE DURING WALL CONSTRUCTION AND AT THE END OF EACH WORK DAY.



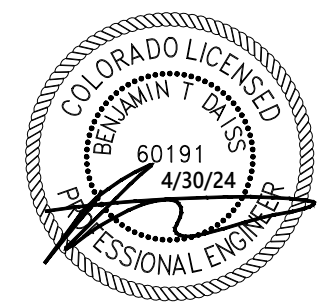
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Title: SPECIFICATIONS			
Project No: 24GGL002	Date: 29 MAR 2024	Scale: N.T.S.	Sheet No: RW-2.00



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**6.0 DESIGN PARAMETERS**

6.1 DESIGN OF THE REINFORCED SOIL STRUCTURE IS BASED ON THE FOLLOWING EFFECTIVE PARAMETERS (COHESION APPLICABLE FOR GLOBAL STABILITY AND BEARING CALCULATIONS ONLY AND SHALL NOT BE USED FOR OVERTURNING OR DIRECT SLIDING):

ZONE	DESCRIPTION	φ	c'	γ
RETAINED SOIL 1	GRAVEL - GP	38°	0 PSF	110 PCF
FOUNDATION SOIL 1	CLAY - CL/CH	22°	125 PSF	125 PCF

6.1.1 DESIGN METHODOLOGY: NCMA THIRD EDITION, IBC-2021, 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

6.2.2 OVERALL / GLOBAL STABILITY:

MIN. FACTOR OF SAFETY FOR GLOBAL STABILITY =	1.3
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6.2.3 SEISMIC

MIN. FACTORS OF SAFETY ARE 75% OF STATIC CONDITIONS 1-SECOND DESIGN PEAK GROUND ACCELERATION =	0.09g
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**6.3 SURCHARGE LOADING**

LIVE LOAD (LANDSCAPE AREAS) =	100 PSF
LIVE LOAD (ROAD/PARKING AREAS) =	250 PSF
DEAD LOAD =	N/A

**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 PROPOSED WALLS ARE LOCATED WITHIN A WATER APPLICATION WITH A MAXIMUM WATER ELEVATION OF 5353.98. THE RETAINING WALL DESIGN HAS CONSIDERED THE LOCATION OF THE WALL AND APPLICABLE DESIGN REQUIREMENTS BASED ON THE ASSUMED WATER ELEVATION.

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 RETAINING WALL AS DESIGNED BY OTHERS. ALL DOWNSPOUTS, SWALES, AND DRAINAGE FEATURES SHALL BE DIVERTED AWAY FROM THE WALL LOCATIONS.

**6.7 WIND LOADING**

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 KUMAR & ASSOCIATES, INC., REPORT #: 19-8-212, DATED 08/26/2019.

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 SOIL STRUCTURES ENGINEERING, LLC 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 SOIL STRUCTURES ENGINEERING, LLC 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 SOIL STRUCTURES ENGINEERING, LLC AT 303-956-8967 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	
<b>RETAINING WALLS</b>			
DRAIN TILE INSTALLATION		X	INSPECTION SHALL BE MADE OF THE PLACEMENT, LOCATION, AND VENTING TO DAYLIGHT
<b>SOILS</b>			
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

PARKER  
COLORADO  
RFCC  
APPROVED DATE: 05/22/2024  
Planning Approval By: S. Heiser



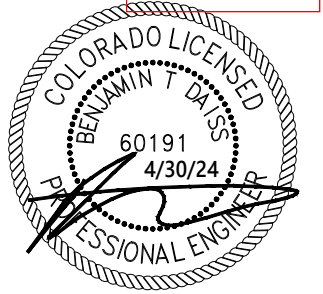
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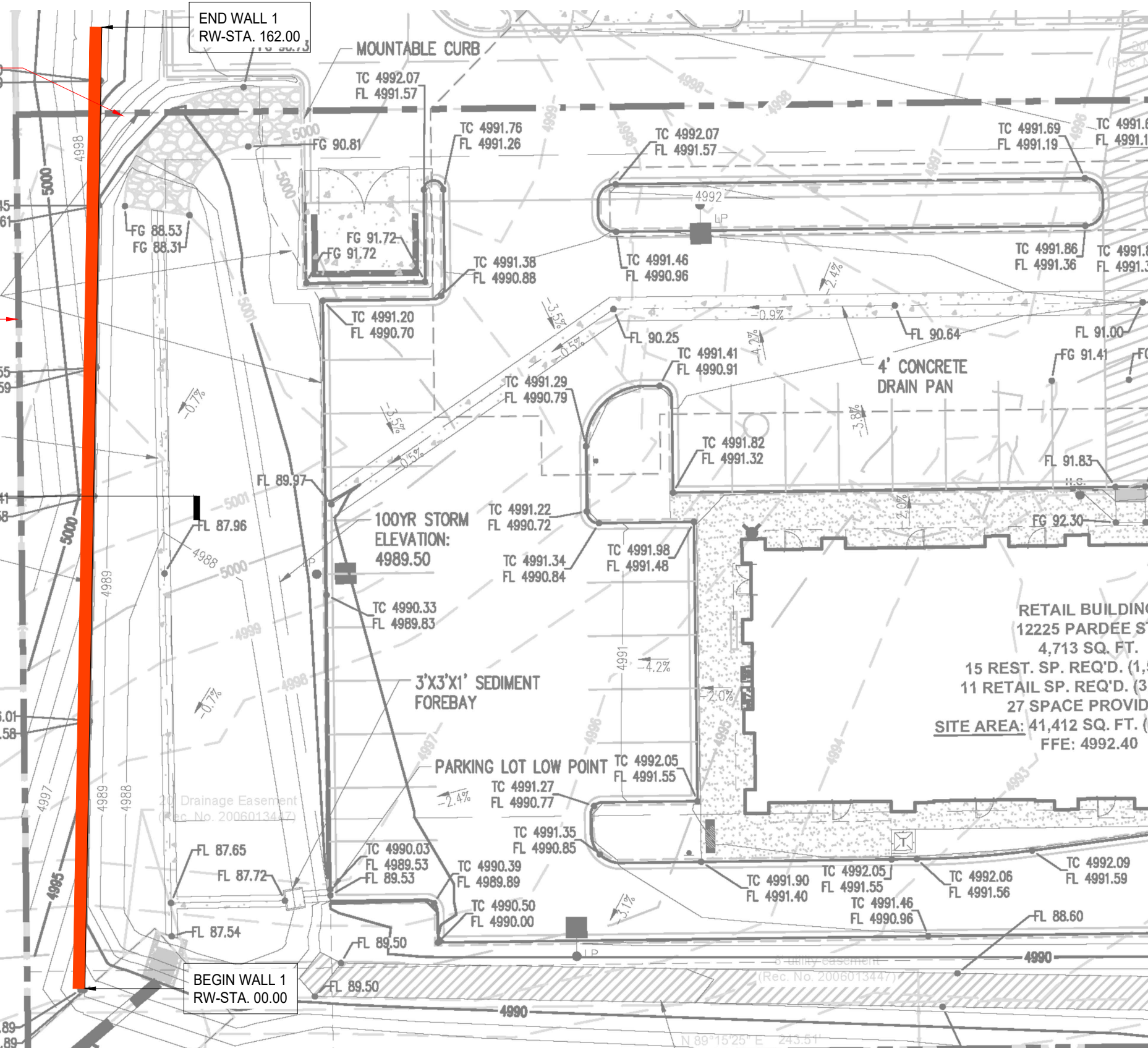
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RE-GRADE BOTTOM OF WALL TO ENSURE A MAXIMUM SLOPE OF 3H:1V

DO NOT DISTURB EXISTING FENCE ON NEIGHBORING PROPERTY

NO WORK SHALL OCCUR WITHIN CONCRETE THESE AREAS

0' - 10' RETAINING WALL SEE DETAIL ON C-4.1



**GENERAL NOTES:**

1. THE SITE PLAN SHOWN IS FOR ILLUSTRATIVE PURPOSES ONLY. IT WAS REPRODUCED FROM RIDGETOP ENGINEERING & SURVEYING PLAN (PROJECT #18-075-001) DATED 05/19/2021. ANY CHANGES OR REVISIONS TO THE REFERENCED PLANS MAY IMPACT THE RETAINING WALL DESIGN.
2. REFER TO THE CIVIL PLANS FOR HORIZONTAL CONTROL OF THE PROPOSED RETAINING WALLS.
3. THE WALLS ARE NOT DESIGNED FOR CONCENTRATED FLOW DIRECTED TOWARDS THE WALL, INCLUDING BUT NOT LIMITED TO: SWALES, DOWNSPOUTS, ETC. GRADING SHALL DIRECT WATER AROUND THE ENDS OF THE WALLS WHEN POSSIBLE OR INTO COLLECTOR DRAINS. POSITIVE DRAINAGE SHALL BE PROVIDED AWAY FROM THE TOE OF WALL.
4. THE APPROXIMATE LOCATION OF UTILITIES KNOWN TO EXIST AS SHOWN ON THE PLANS ARE BASED ON THE BEST INFORMATION AVAILABLE AT THE TIME OF PLAN PREPARATION.
5. THE GENERAL CONTRACTOR SHALL VERIFY INVERTS OF PROPOSED AND EXISTING UTILITIES TO ENSURE THERE ARE NO CONFLICTS. THE ENGINEER SHALL BE CONTACTED IF CONFLICTS ARISE AND AN ALTERNATIVE DESIGN MAY BE REQUIRED.

**LEGEND:**

WALL LOCATION



GRAPHIC SCALE IN FEET



Know what's BELOW. CALL before you dig.

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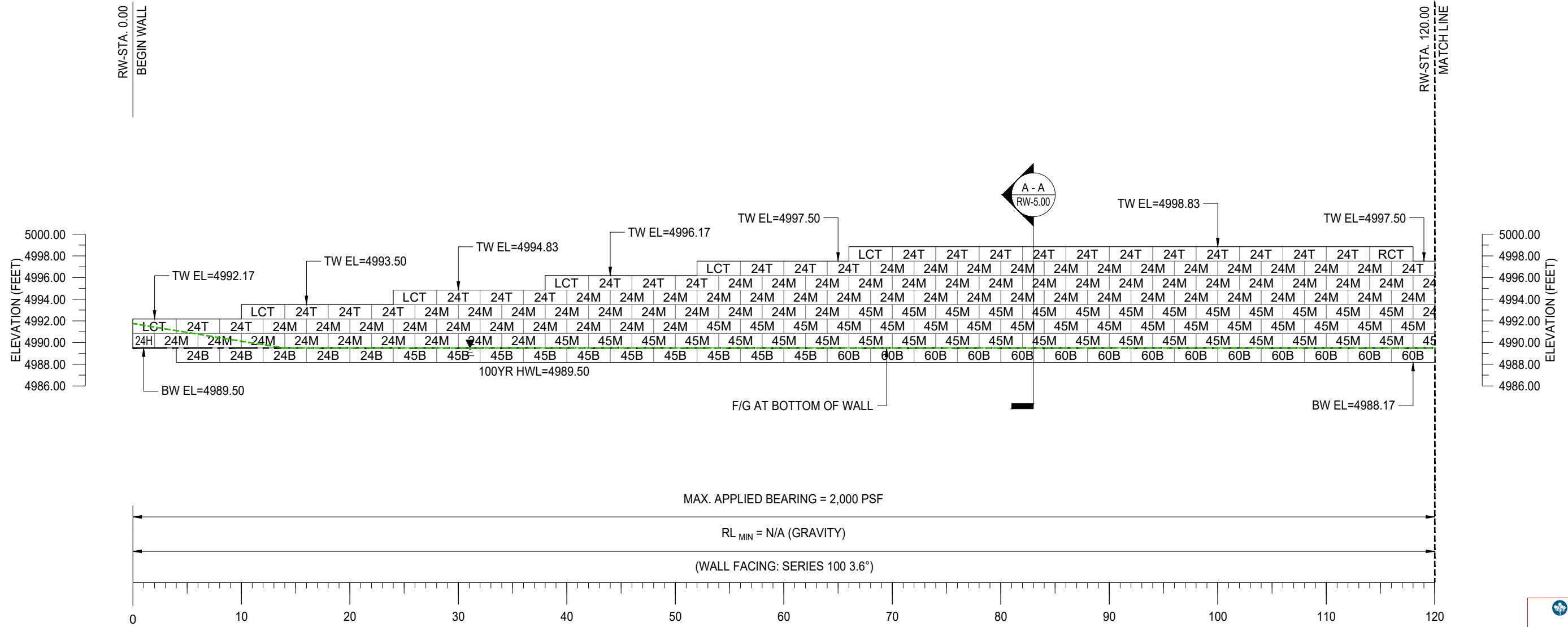
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**GENERAL NOTES:**

- ALL ELEVATIONS AND DISTANCES ARE SHOWN IN FEET ALONG FACE OF WALL.
- THE WALL SHALL BE CONSTRUCTED USING RECON: SERIES 100 24", 45", AND 60" UNITS. SEE SHEET RW-2.00 FOR MATERIAL SPECIFICATIONS.
- 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

PARKER  
ENGINEERING  
RFCC  
APPROVED DATE: 05/22/2024  
Planning Approval By: S. Nergar



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**BASALITE**  
Concrete Products

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No.	Date	Revision	By
0	29 MAR 2024	RELEASED FOR CONSTRUCTION	BTD
1	30 APR 2024	REVISED END OF WALL LAYOUT	BTD
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Project: 12225 PARDEE STREET - WALL REPLACEMENT PARKER, CO			
Title: WALL 1 ELEVATION			
Project No:	Date:	Scale:	Sheet No:
24GGL002	29 MAR 2024	1"=10'	RW-4.00

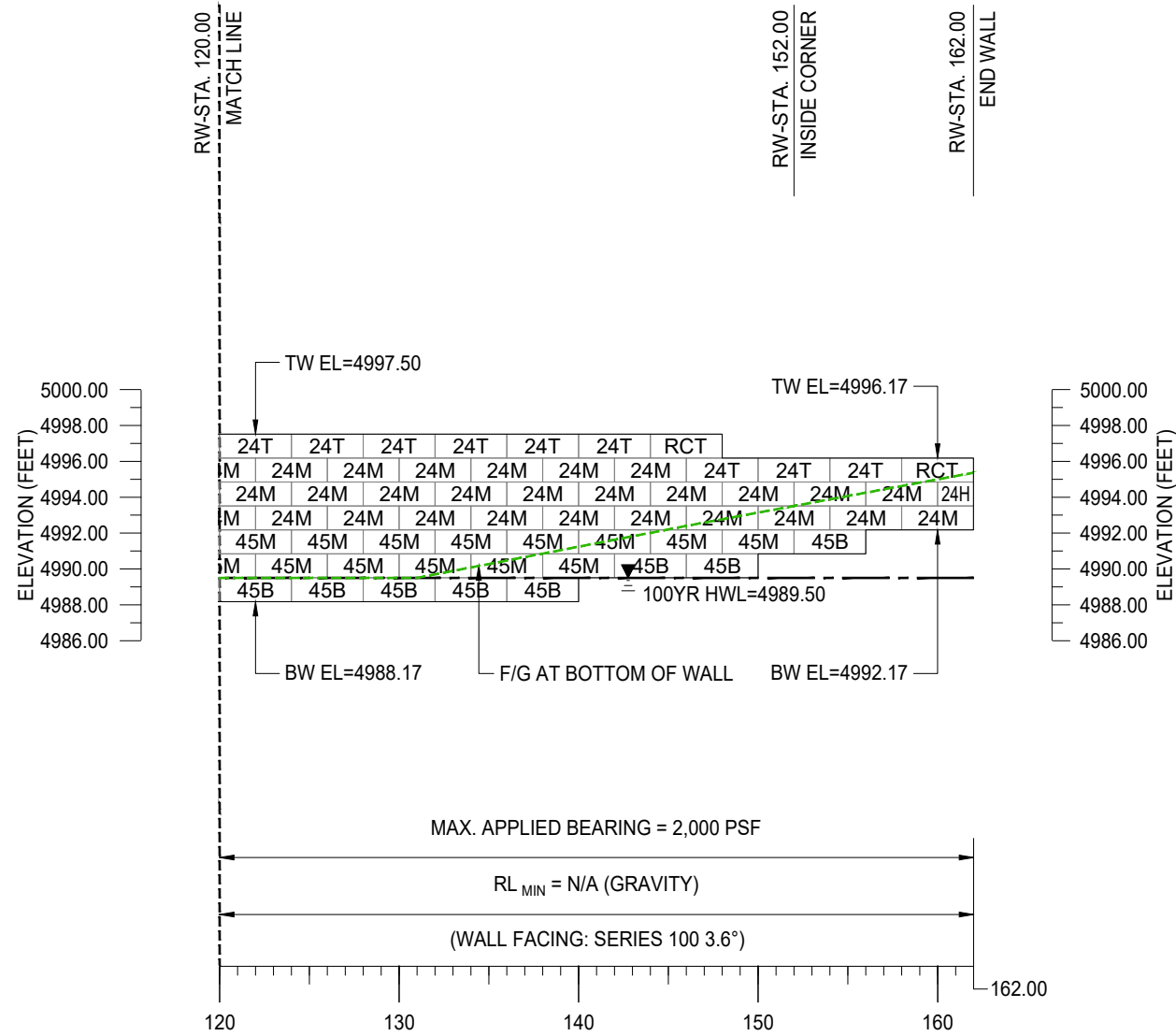
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**GENERAL NOTES:**

1. ALL ELEVATIONS AND DISTANCES ARE SHOWN IN FEET ALONG FACE OF WALL.
2. THE WALL SHALL BE CONSTRUCTED USING RECON: SERIES 100 24", 45", AND 60" UNITS. SEE SHEET RW-2.00 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



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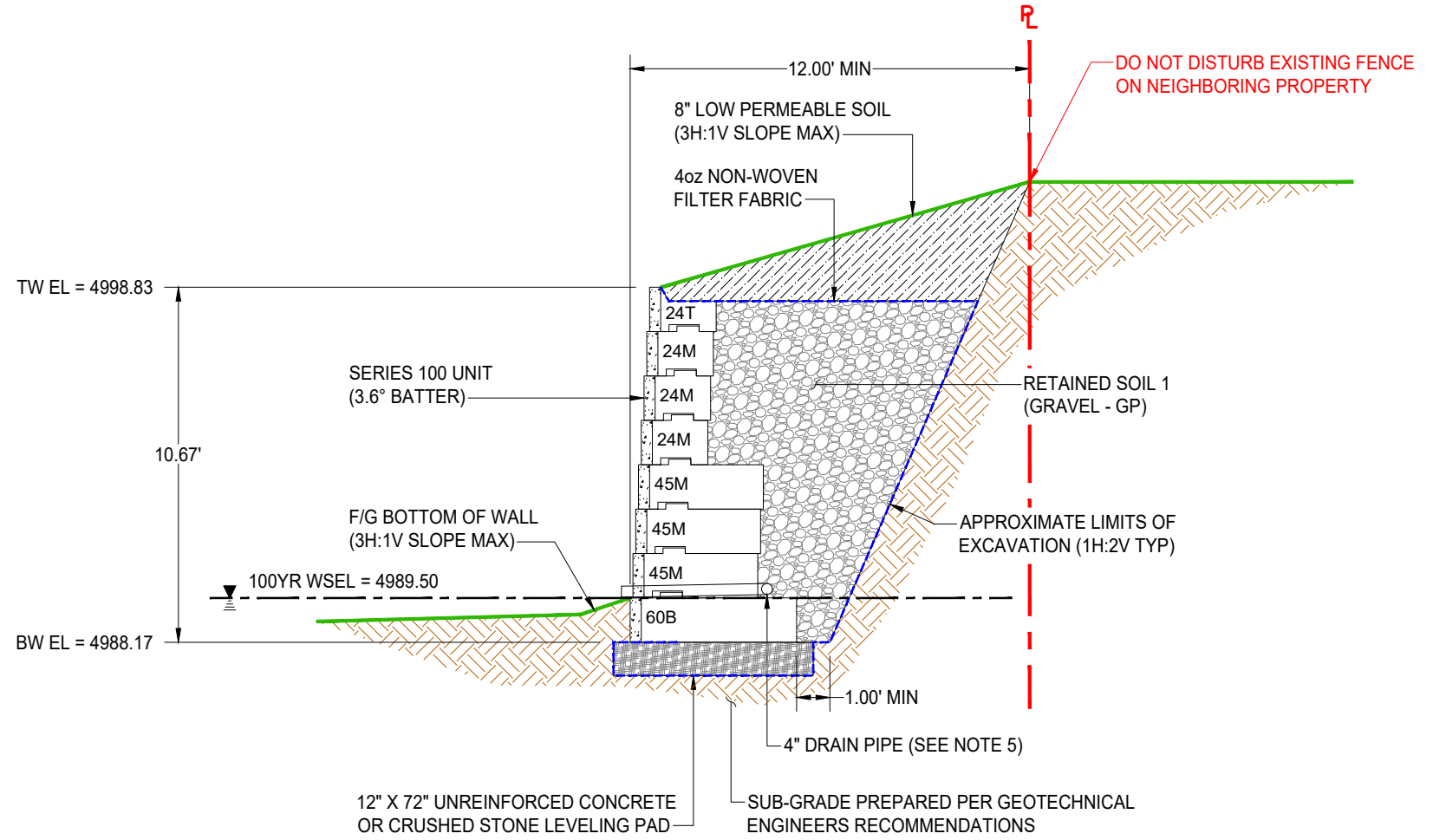
Project: 12225 PARDEE STREET - WALL REPLACEMENT PARKER, CO			
Title: WALL 1 ELEVATION			
Project No: 24GGL002	Date: 29 MAR 2024	Scale: 1"=10'	Sheet No: RW-4.01



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**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.
4. THE WALL IS DESIGNED AS A GRAVITY WALL AND SHALL BE CONSTRUCTED WITH RECON: SERIES 100 24", 45", AND 60" UNITS USING THE 3.6° 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-6.00.
6. INSPECT EXCAVATION SLOPES FOR ACTIVE SEEPAGE AND PLACE ADDITIONAL DRAINS WHERE SEEPAGE OCCURS.
7. DO NOT BRING HEAVY COMPACTION OR PAVING EQUIPMENT WITHIN 3' OF THE BACK OF THE RECON RETAINING WALL.
8. SEE MANUFACTURER'S INFORMATION FOR ADDITIONAL DETAILS ON THE RECON RETAINING WALL SYSTEM.



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

**WALL SECTION A - A**  
(SECTION CUT: WALL 1 AT RW-STA. 83.00)

**PARKER**  
RFCC  
APPROVED DATE: 05/22/2024  
Planning Approval By: S. Neeger



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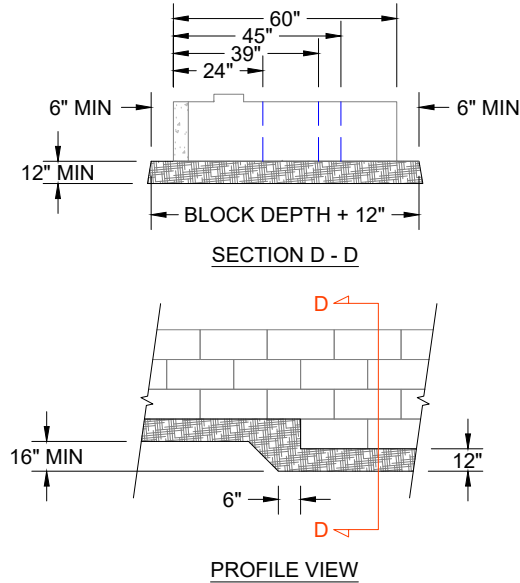
Project: 12225 PARDEE STREET - WALL REPLACEMENT PARKER, CO			
Title: WALL SECTION A-A			
Project No: 24GGL002	Date: 29 MAR 2024	Scale: 1"=5'	Sheet No: RW-5.00



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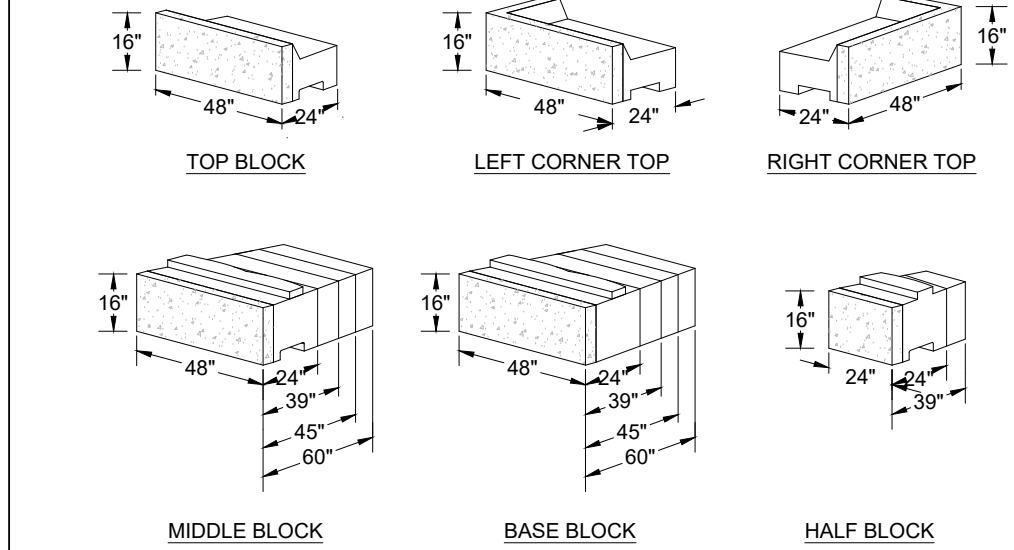
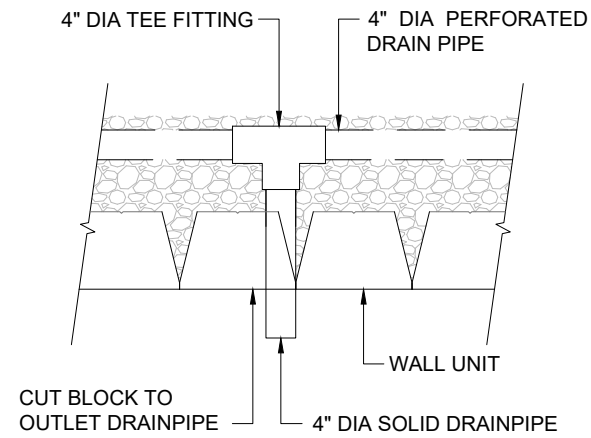
**NOTES:**

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.



**NOTES:**

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



RECON BLOCK LEDGEND	
BLOCK DESCRIPTION	BLOCK ABBREVIATION
24" BASE	24B
39" BASE	39B
45" BASE	45B
60" BASE	60B
24" MIDDLE	24M
39" MIDDLE	39M
45" MIDDLE	45M
60" MIDDLE	60M
24" TOP	24T
39" HALF	39H
LEFT CORNER TOP	LCT
RIGHT CORNER TOP	RCT

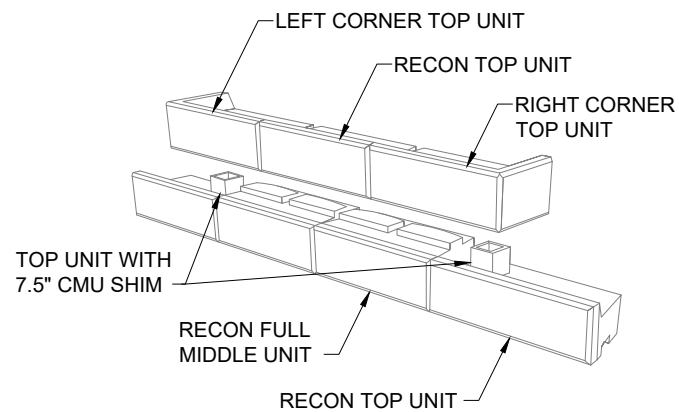
1 LEVELING PAD DETAIL - N.T.S

2 DRAIN PIPE OUTLET DETAIL - N.T.S

3 RECON UNIT DETAIL - N.T.S

**NOTES:**

1. IT WILL BE NECESSARY FOR BLOCK STABILITY TO ADD A CONCRETE SHIM BENEATH THE PORTION OF THE TOP CORNER UNIT THAT BEARS ON PART OF ANOTHER UNIT LOCATED BELOW.
2. THE SHIM IS TYPICALLY A STANDARD CONCRETE MASONRY UNIT (CMU). USING ADHESIVE ON THE SHIM WILL RESIST MOVEMENT DURING CONSTRUCTION.



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



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Project: 12225 PARDEE STREET - WALL REPLACEMENT  
 PARKER, CO

Title: CONSTRUCTION DETAILS

Project No:	Date:	Scale:	Sheet No:
24GGL002	29 MAR 2024	N.T.S.	RW-6.00







**GREY ROCK  
(WEATHERED EDGE)**



**SANDSTONE  
(WEATHERED EDGE)**



**NORTH SHORE GRANITE  
(SPECIAL ORDER TEXTURE)**

Additional color options can be provided with post applied staining. Stains are readily available and easily applied in the field to achieve a natural look that will last for years.



**REQUEST SAMPLES**

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**TECHNICAL DOCUMENTS**

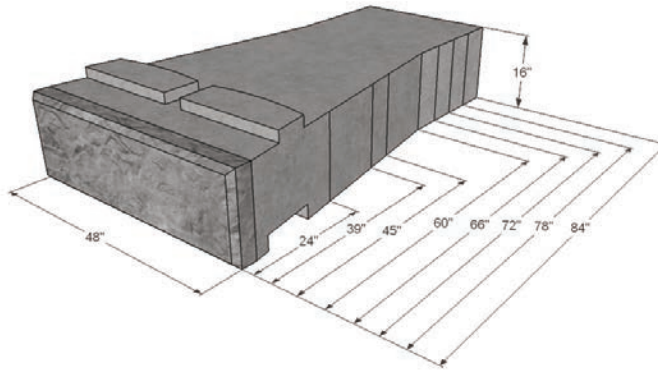
To see specifications, construction details and installation guides. [Click Here](#)

**HAVE QUESTIONS?**

Call 1-800-289-2562 or  
[contact us at basalite.com](http://basalite.com)

# RECON BLOCK

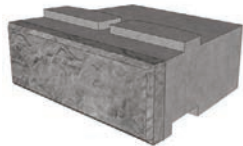
WALL SYSTEMS / *NATURAL*



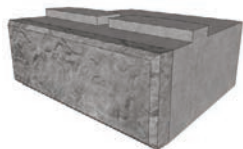
Top Block



Full High Cap



Middle Block



Base Block



Reversible Corner Block

NAME	METRIC UNITS	U.S. CUSTOMARY UNITS	WEIGHT/PALLET	SQ.FT./EACH
24T	61cmW x 40.6cm H x 121.9cm L	24" W x 48" L x 16" H	983 lbs	5.33
FHC	61cmW x 40.6cm H x 121.9cm L	24" W x 48" L x 16" H	1450 lbs	5.33

NAME	METRIC UNITS	U.S. CUSTOMARY UNITS	WEIGHT/PALLET	SQ.FT./EACH
24M/24B	61cmW x 40.6cm H x 121.9cm L	24" W x 16" H x 48" L	1456 lbs	5.33
39M/39B	99.1cmW x 40.6cm H x 121.9cm L	39" W x 16" H x 48" L	2277 lbs	5.33
45M/45B	114.3cmW x 40.6cm H x 121.9cm L	45" W x 16" H x 48" L	2549 lbs	5.33
60M/60B	152.4cmW x 40.6cm H x 121.9cm L	60" W x 16" H x 48" L	3173 lbs	5.33
66M/66B	167.6cmW x 40.6cm H x 121.9cm L	66" W x 16" H x 48" L	3416 lbs	5.33
72M/72B	182.9cmW x 40.6cm H x 121.9cm L	72" W x 16" H x 48" L	3660 lbs	5.33
78M/78B	198.1cmW x 40.6cm H x 121.9cm L	78" W x 16" H x 48" L	3902 lbs	5.33
84M/84B	213.4cmW x 40.6cm H x 121.9cm L	84" W x 16" H x 48" L	4146 lbs	5.33

NAME	METRIC UNITS	U.S. CUSTOMARY UNITS	WEIGHT/PALLET	SQ.FT./EACH
C	61cmW x 40.6cm H x 121.9cm L	24" W x 16" H x 48" L	1401 lbs	8



RFCC

APPROVED DATE: 05/22/2024  
 Planning Approval By: S. Nergel



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