

CIVIL DESIGN PROFESSIONALS

INNOVATIVE ENGINEERING SOLUTIONS

January 25, 2018

Katie DeMarco
Mid-Hudson Concrete Products

RE: River Ridge Retaining Walls (17-0740)
Beacon, New York

Design Assumptions:

Redi-Rock Redi-Rock: 28", 41" and 60" Deep Units

Wall Batter:	5.1°	Design:	NCMA
Live Load:	250 PSF	Dead Load:	2,000 PSF
Toe Slope:	2H:1V	Back Slope:	3H:1V
Seismic:	N/A	Applied Bearing:	4,600 PSF

NCMA SAFETY FACTORS:

SLIDING	1.5
OVERTURNING - REINF.	2.0
OVERTURNING - GRAV.	1.5
BEARING	2.0

Soil Design Properties:	ϕ	γ	c	
Reinforced Soil	34°	120 PCF	0 PSF	(Select Granular)
Retained Soil (Gravity)	34°	120 PCF	0 PSF	(Select Granular)
Retained Soil (Zone 2)	30°	120 PCF	0 PSF	(Silty Clay Loam)
Foundation Soil	30°	120 PCF	0 PSF	(Silty Clay Loam)

Notes:

Limited soils information was obtained from the Test Pit Logs prepared by Hudson Land Design dated 9/11/17. There were no soil borings at the specific wall locations. CDP recommends additional borings be taken at the base of wall after excavation. Once the soil boring logs are available, they shall be submitted to CDP to confirm these shop drawings are valid prior to wall construction. Onsite material is predominately Silty Clay Loam. An internal friction angle of 30° was assumed for the onsite material. Where unsuitable soils are found, a subcut may be required and structural fill shall be placed and compacted to provide an adequate bearing foundation. The proposed walls shall be backfilled with a Select Granular material up to a 1H:1V from 1-foot off the back of the bottom block (gravity sections), and in the reinforced zone (reinforced sections). The Select Granular backfill material shall have a minimum internal friction angle of 34°. The above minimum soil strength parameters shall be verified prior to final design. CDP shall be contacted if the above soil strength parameters cannot be met and a redesign may be required. Quantities may change once additional soils information is provided.

A global stability analysis has been performed using the soil design parameters as listed above. The project geotechnical engineer shall confirm global stability based on the proposed wall design and the actual parameters of the onsite soils.

Wall layouts and elevations obtained from plans prepared by Hudson Land Design dated 12/22/17. No building loading or footing information was provided, a 2,000 PSF dead load on a 2-foot wide footing was assumed for this design. Building loading and footing information shall be provided prior to final design. Quantities may change once building loading information is acquired.

During wall construction, excavation shall remain within the construction limits shown on the plans. All available means and methods used to keep excavation within the construction limits shall be incidental. The contractor shall coordinate relocation of all existing conduits and services with the utility provider.

The design cost may change with any alteration to the soils design properties, wall profile, and/or grading plan than was used to prepare this preliminary design (including assumptions made because of insufficient information provided by the Client for the preliminary design). See project specifications and/or geotechnical report for additional information and requirements.

The following services will be included in the final design:

- CDP will provide construction shop drawings of the retaining wall design for Client's submission to the engineer/architect of record. Electronic copies of the plans and calculations are typically provided unless special arrangements are made.
- CDP may provide design calculations for review by a qualified Professional Engineer. Comments and/or approval of calculations, if submitted, shall be provided to CDP prior to construction.
- Final block and reinforcement quantities.

The following services are not included in the final design and shall be provided under a separate proposal:

- Project meetings including preconstruction meeting (\$150/hour and travel expenses + 10%).
- Site inspections.
- Structural calculations (i.e. fences, barriers, etc.)
- Geotechnical Soil Testing

Thank you for giving us the opportunity to provide this quote. We are able to commence work immediately upon your submittal of a work order for final design. If you have any questions or comments regarding this project, please feel free to contact us.

Sincerely,
Steve Kennedy

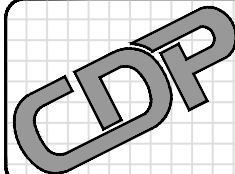
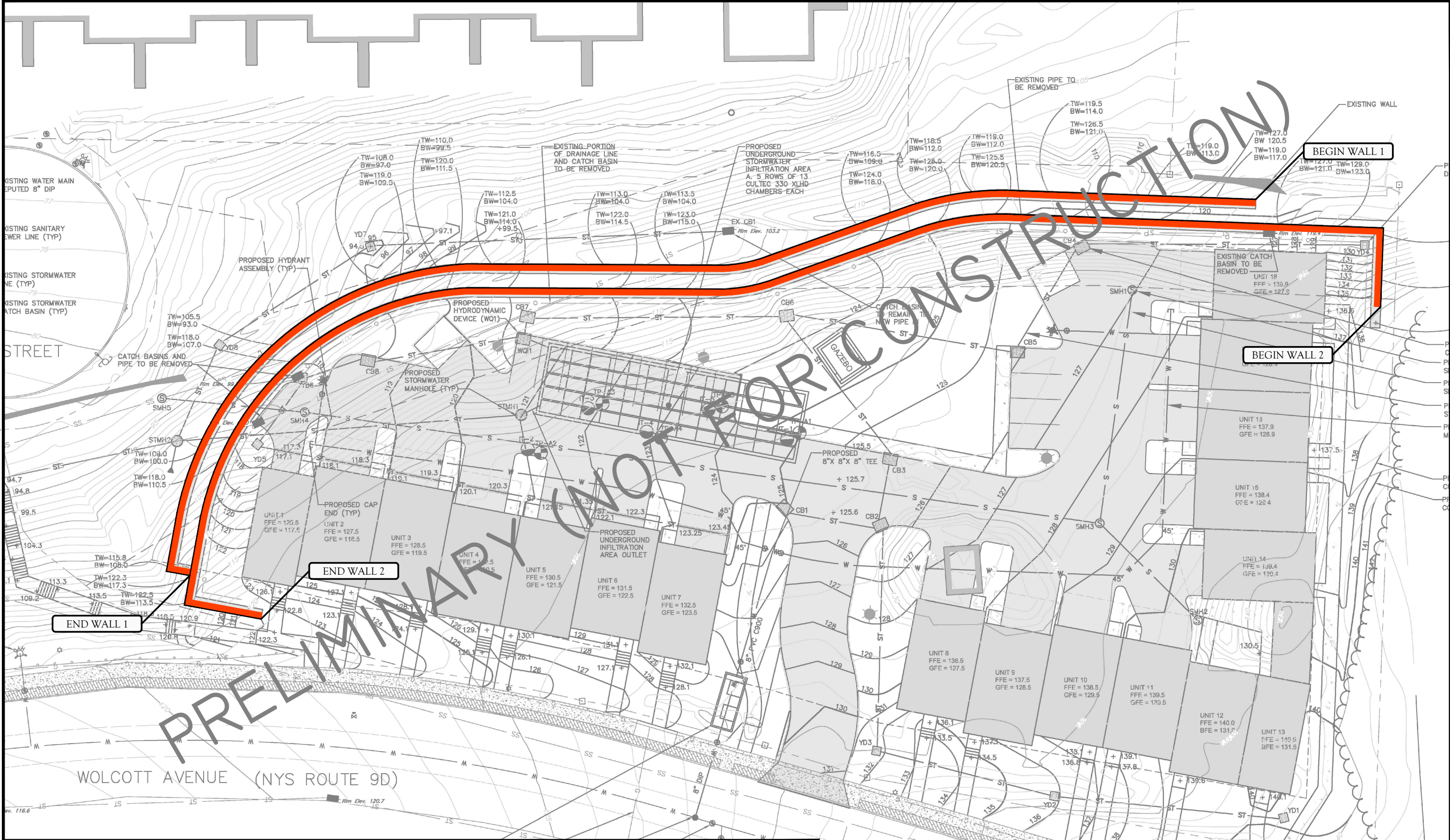
The project quantities are as follows:

	Wall 1	Wall 2	TOTAL:
Wall Length (FT)	463.83	555.83	1019.66
Block Area (SF)	5060.00	5022.63	10082.63
5XT (SY)	7130	630	7760
Grid Length (FT)	12 - 36	13 - 14	N/A
Reinforced (CY)	3757	305	4062
Retained Zone 2 (CY)	979	143	1122
Retained Gravity (CY)	2	732	734
Leveling Pad (CY)	29	47	76
Drainage Stone (CY)	230	227	457

Unit	SF/Unit	Wall 1	Area	Wall 2	Area	Total Units	Total SF
T	5.75	108	621.00	133	764.75	241	1385.75
TC	8.63	22	189.75	18	155.25	40	345.00
MC	8.63	7	60.38	13	112.13	20	172.50
28M	5.75	623	3582.25	425	2443.75	1048	6026.00
2H	2.88	3	8.63	2	5.75	5	14.38
28B	5.75	104	598.00	32	184.00	136	782.00
41M	5.75	0	0.00	120	690.00	120	690.00
41B	5.75	0	0.00	58	333.50	58	333.50
60M	5.75	0	0.00	26	149.50	26	149.50
60B	5.75	0	0.00	32	184.00	32	184.00
	TOTAL:	Wall 1	5060.00	Wall 2	5022.63	TOTAL SF	10082.63

- The unit area and volume quantities are neat quantities. Contractor shall confirm the quantities and add in any additional necessary factors (i.e., waste, compaction, etc.)
- Drainage aggregate includes 12" zone behind blocks, core fill and/or voids between blocks.
- The geogrid quantity includes a 5% waste factor.
- Reinforced wall sections will require 733 1AT connector bars.

170740 1/25/2018 COPYRIGHT (C) 2011 - 2017 BY CIVIL DESIGN PROFESSIONALS. THIS DRAWING IS BEING FURNISHED FOR THIS SPECIFIC PROJECT ONLY. COPY AND/OR REUSE WITHOUT THE CONSENT OF CIVIL DESIGN PROFESSIONALS IS PROHIBITED.



CIVIL DESIGN
PROFESSIONALS

8609 LYNDALE AVENUE SOUTH, SUITE 200 BLOOMINGTON, MN 55420
PHONE: (952) 303-5312 | FAX: (763) 392-1989 | WEBSITE: WWW.CDP.US.COM
SITE SOLUTION PROFESSIONALS, INC. D.B.A. CIVIL DESIGN PROFESSIONALS

Designed By:
SRK

Date:
JAN 25, 2018

Project No:
17-0740

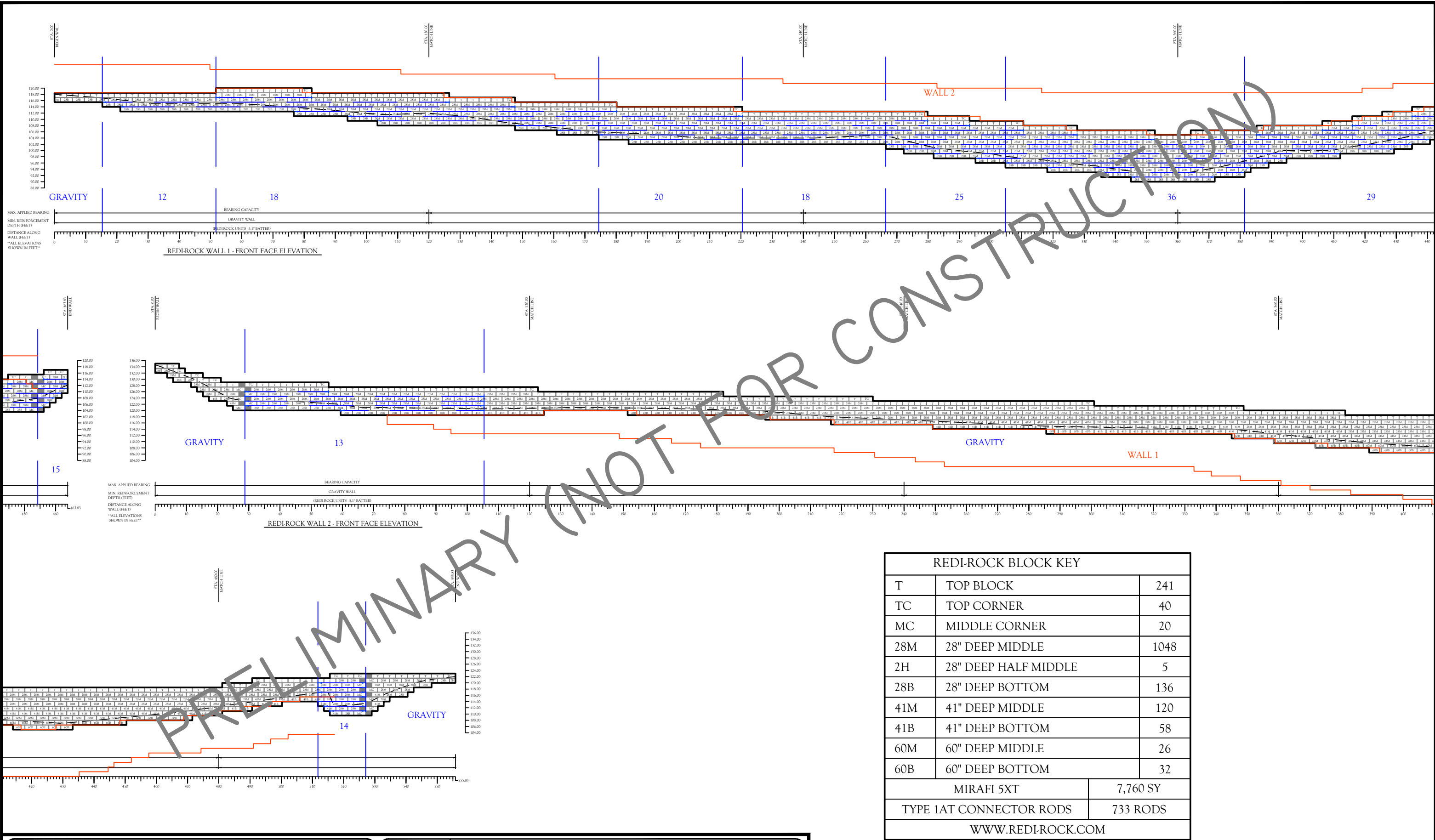
Project:

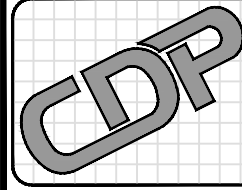
RIVER RIDGE
BEACON, NEW YORK

Title:

PRELIMINARY SITE PLAN

17-0740 1/25/2018 COPYRIGHT (c) 2011 - 2017 BY CIVIL DESIGN PROFESSIONALS. THIS DRAWING IS BEING FURNISHED FOR THIS SPECIFIC PROJECT ONLY. COPY AND/OR REUSE WITHOUT THE CONSENT OF CIVIL DESIGN PROFESSIONALS IS PROHIBITED.





CIVIL DESIGN
PROFESSIONALS
8609 LYNDALE AVENUE SOUTH, SUITE 200 BLOOMINGTON, MN 55420
PHONE: (952) 303-5312 | FAX: (763) 392-1989 | WEBSITE: WWW.CDP.US.COM
SITE SOLUTION PROFESSIONALS, INC. D.B.A. CIVIL DESIGN PROFESSIONALS

Designed By:
SRK
Date:
JAN 25, 2018
Project No:
17-0740

Project:
RIVER RIDGE
BEACON, NEW YORK
Title:
PRELIMINARY WALL ELEVATIONS