



ACUTE ENGINEERING INC.

744 S. 400 E.
Orem, Utah 84097

Phone 801.229.9020
Fax 801.224.0050

info@acuteengineering.com

Contact:
Company:
Phone:
Fax:

Doyle Timmons
Doyle Timmons
(805) 260-3357

Prepared by: JRB
BO Letter Number: 5850821

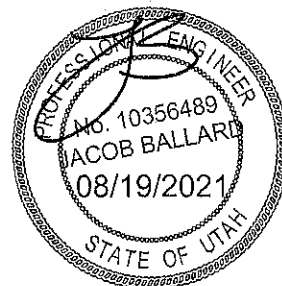
Engineering Addendum

Project Name: Timmons Retaining Wall
(Rockville) 5840821
Project Location: 449 W Main
Rockville, Utah 0
Project Number: 5840821
Date: 8/19/2021

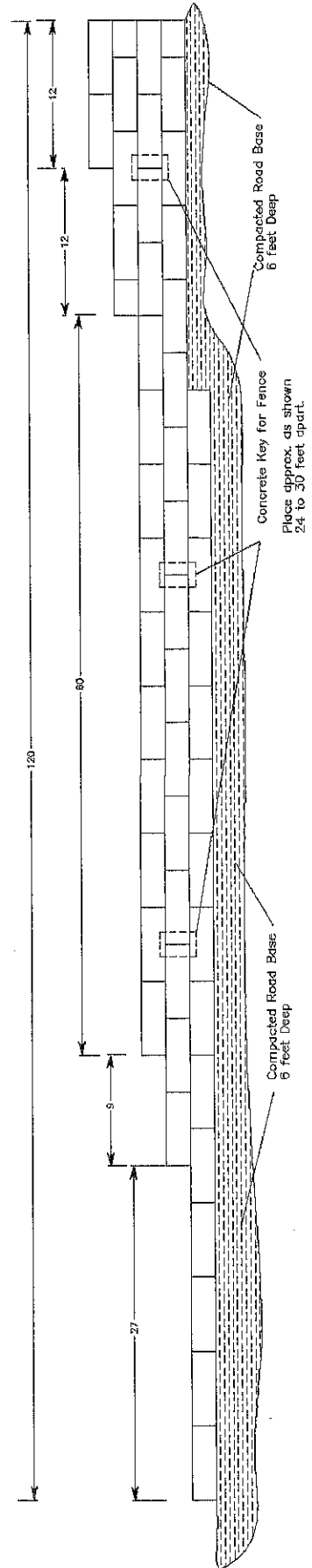
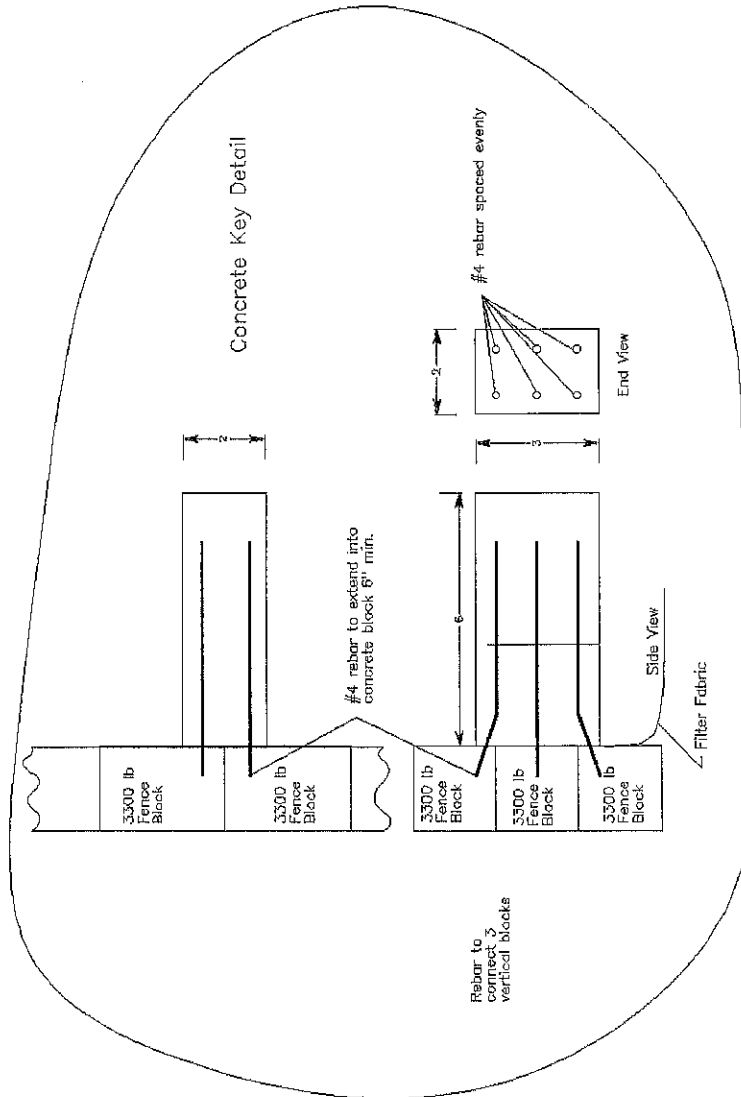
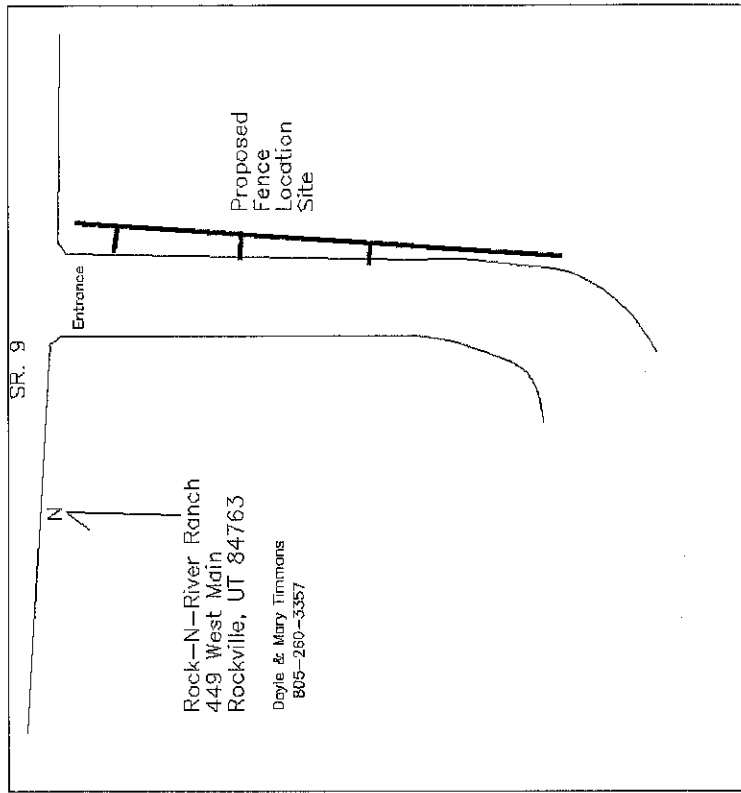
The following is in response to an email request from Doyle Timmons on 8/19/2021.

The segmental block retaining walls have been analyzed as currently installed and laid out per plan and are approved.

This addendum is for the project and location listed. It may not be reused, copied or reproduced without written consent from Acute Engineering Inc.



Valid Wet Stamp In Red



Concrete Fence Drawing

Use menu item Settings > Printing & Title Block
to set these five lines of information
for your program.

Project Name/Number : block retaini

Title ...New...
Dsgnr: Project Designer...
Description....

Page : 1
Date: 20 AUG 2021

This Wall in File: \\filesrvr\engineering\timmons retaining wall (rockville) 5840821\block retaini

RetainPro (c) 1987-2018, Build 11.18.12.04
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Segmental Gravity Retaining Wall

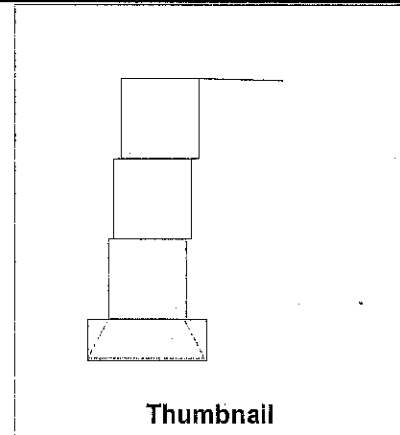
Code: NCMA

Criteria

Wall height (retained height), ft 6.00
Backfill slope Level
Backfill angle 0.0
Embedment 1.0

Soil data

External Soil, Phi_e 30
External soil density (In situ), pcf 110
Internal Soil, Phi_i 30
Internal soil density, pcf 115
Wall Soil Friction Angle 20
K_a(Horiz) 0.26



Thumbnail

Stability

Overturning ratio 2.13
Sliding ratio 1.97
Overturning moment, ft-lbs 1,057
Resisting moment, ft-lbs 2,250
Total lateral/sliding force, lbs 529
Sliding Resistance, ft 1,039.23
Total vertical force, lbs 1,800
Base length, ft 2.00
Eccentricity on base, ft 0.34
Effective base length, ft 1.83
Soil bearing pressure, psf 986.25
Allowable soil bearing, psf 1,500.00
Soil Bearing Ratio 1.52

Segmental block data

Vendor selection 'EZ Block / United Concrete'
Vendor ESR 'www.unitedconcrete.com; www.worldblock.com'
Block selection type 'Standard Block'
Block height, in 24.00
Block depth, in 24.00
Offset per block, in 2.00
Batter angle 4.76
Wall weight, psf 300.00
Hinge height, ft 24.00

Loading

Dead load, psf 0
Live load, psf 0
Seismic Design Kh 0.00

Wall Analysis Table:

Block	Height above base			Vert	Lateral		Shear	S. F.
	Ft	In	Dec	N	Static	Seismic	Interface	
3	6'	0"	6.00				1,687.00	
2	4'	0"	4.00	600	59		2,353.00	40.05
1	2'	0"	2.00	1,200	235		3,019.00	12.85
Base	0'	0"	0.00	1,800	529		3,685.00	6.97

Use menu item Settings > Printing & Title Block
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Project Name/Number : block retain1

Title ...New...
Dsgnr: Project Designer...
Description....

Page : 2
Date: 20 AUG 2021

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Segmental Gravity Retaining Wall

Code: NCMA

ASSUMPTIONS AND CRITERIA USED

1. References used include *Design Manual for Segmental Retaining Walls, 2nd Edition*, and *Segmental Retaining Walls – Seismic Design Manual, 1st Edition*, both by NCMA.
2. Blocks are all same size and uniform offsets (batter) for full wall height.
3. Coulomb earth pressure theory used for earth pressures and failure plane angle.
4. Refer to geotechnical report for backfill material, compaction, and other design data and recommendations.
5. Cap blocks if used are above the retained height and neglected in this design.
6. Block sizes obtained from vendors' literature and may vary with locality.
7. Average weight of block and cell infill assumed to be 120 pcf.
8. See vendor web sites (on input screen) for more information and specifications.
9. Design height is limited to 12 feet or 18 blocks, whichever is less. Contact vendor for higher designs or special conditions.
10. Seismic design is per *Seismic Design Manual* cited above. Also see *Methodology/Seismic Design* in *User's Manual*.
11. Vendor specifications or project specifications, whichever is more restrictive, to be followed for construction procedures.
12. Add notes and details for proper drainage.
13. See *User's Manual* Design Example #11 for methodology and sample verification calculations.
14. Final design responsibility is with the project Engineer-of-Record.