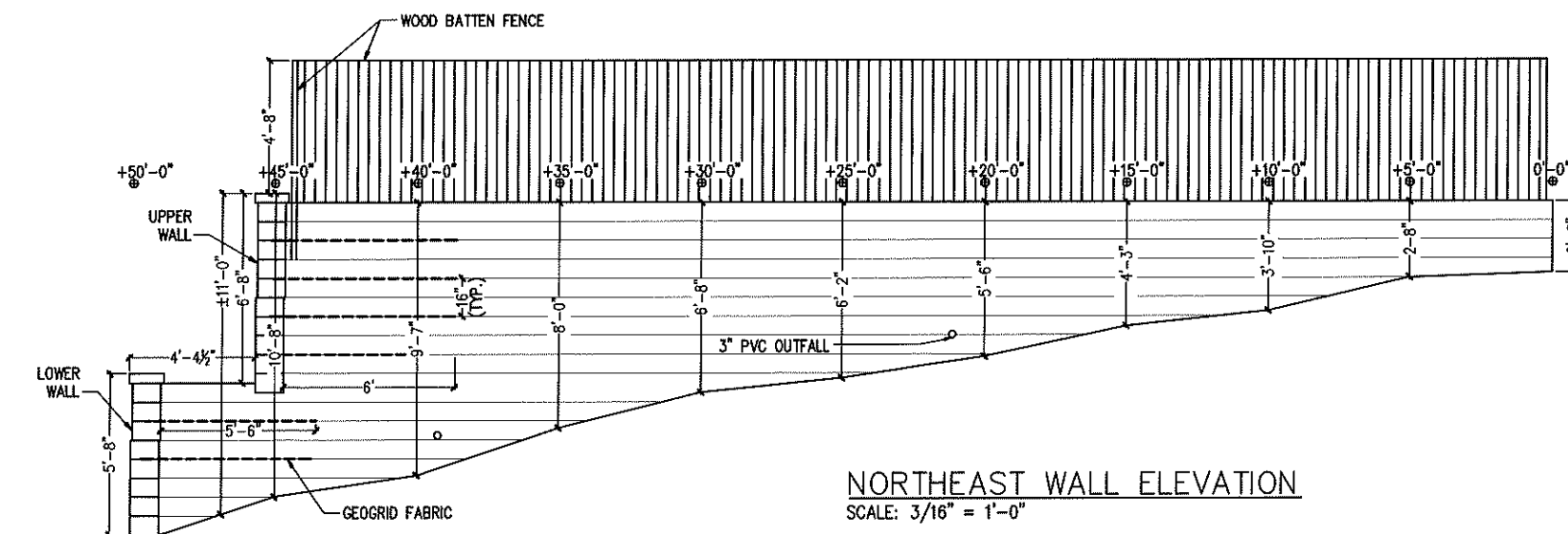
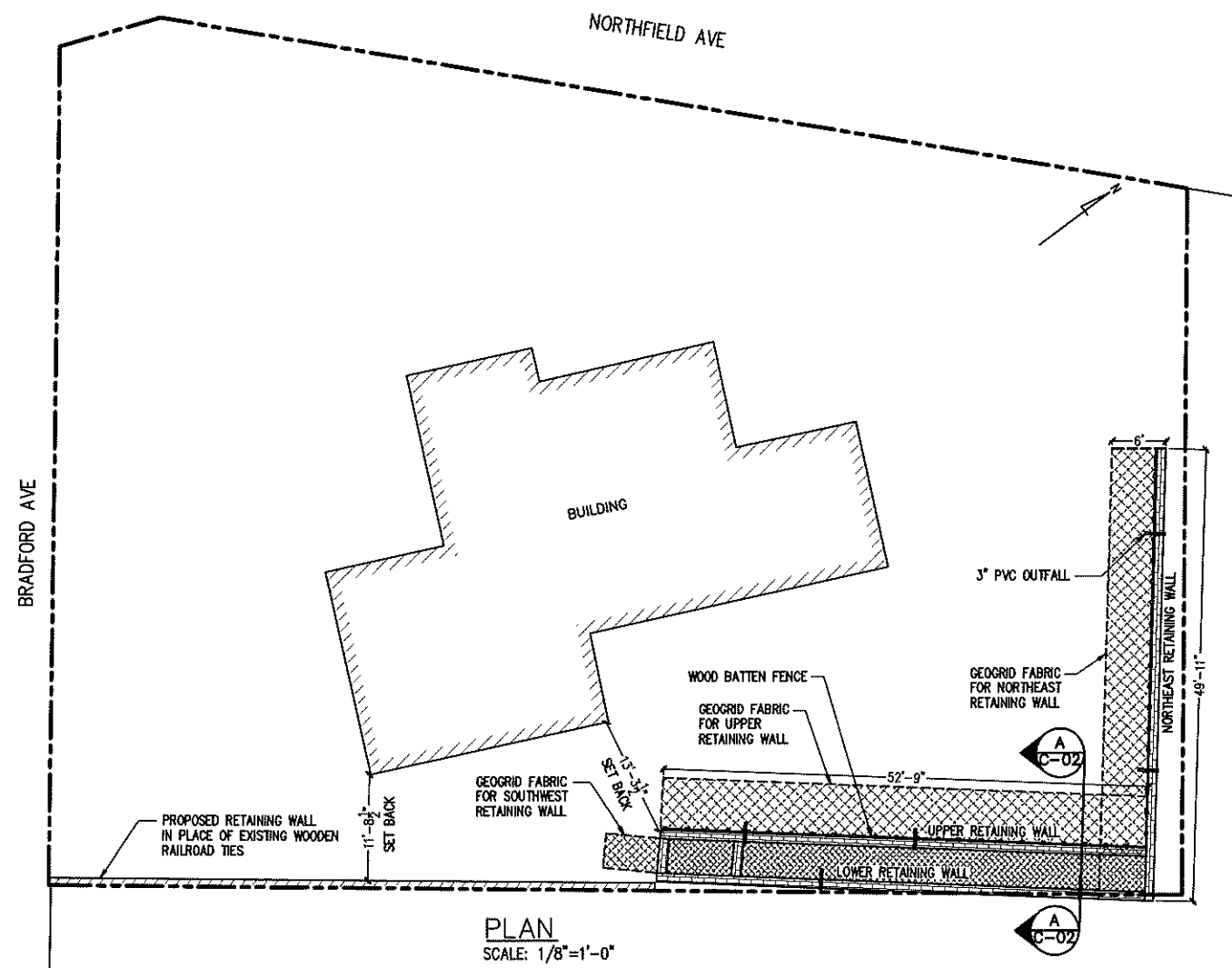
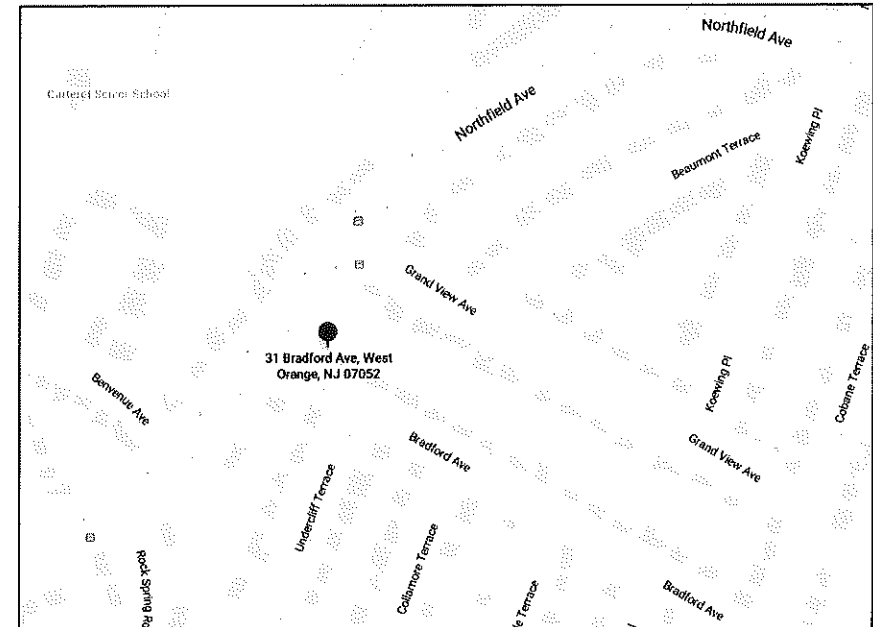




## LOCATION MAP



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| No. | Date     | Revision                                    |
|-----|----------|---------------------------------------------|
| 1   | 04/24/24 | Per Reviewer's revised comments dt. 3/13/24 |

DRAWING TITLE  
PLAN, LOCATION MAP &  
NORTHEAST WALL ELEVATION

PROJECT  
BLOCK RETAINING WALL  
WITH GEOGRID

CLIENT/OWNER  
JOSE MARCOS DeOLIVEIRA

LOCATION:  
31 BRADFORD AVE, WEST ORANGE, NJ

ARCHITECT OF RECORD  
**KSI**  
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|      |                   |                        |
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| SEAL | DRAWN BY<br>SK    | SCALE<br>AS SHOWN      |
|      | CHECKED BY<br>MB  | DATE<br>8/14/23        |
|      | FILE<br>MISC/31BR | DRAWING NUMBER<br>C-01 |
|      | 1 OF 3            |                        |

# RETAINING WALL GENERAL NOTES (PRE-CONSTRUCTION)

## CONSTRUCTION NOTES

1. SOIL LOADINGS CONSIDERED IN THIS DESIGN AND CALCULATIONS ARE BASED ON THE FOLLOWING PARAMETERS:

|                 | FRICTION ANGLE | COHESION | UNIT WEIGHT | SOIL TYPE                        |
|-----------------|----------------|----------|-------------|----------------------------------|
| INFILL SOIL     | 30°            | 0 PSF    | 120 PCF     | WELL COMPACTED SILTY, SANDY CLAY |
| RETAINED SOIL   | 30°            | 0 PSF    | 120 PCF     | WELL COMPACTED SILTY, SANDY CLAY |
| FOUNDATION SOIL | 30°            | 0 PSF    | 120 PCF     | WELL COMPACTED SILTY, SANDY CLAY |

2. ACTUAL SOIL PARAMETERS MUST MEET OR EXCEED THESE LISTED CONDITIONS TO BE USED IN WALL CONSTRUCTION. IN GENERAL, GRANULAR SOILS (FRICTION ANGLE GREATER THAN OR EQUAL TO 32 DEGREES) ARE RECOMMENDED AS INFILL SOIL. FINE-GRAINED COHESIVE SOILS (FRICTION ANGLE LESS THAN 32 DEGREES) WITH LOW PLASTICITY (PI LESS THAN 20) MAY BE USED IN WALL CONSTRUCTION, BUT ADDITIONAL BACKFILLING AND COMPACTION EFFORTS ARE REQUIRED. KSI ENGINEERING PC HAS NOT VERIFIED THESE DESIGN CONDITIONS, AND IF REQUIRED THE SOIL PARAMETERS SHALL BE CONFIRMED BY THE SITE GEOTECHNICAL ENGINEER OR OTHERS PRIOR TO WALL CONSTRUCTION.

3. SEISMIC LOADING IS NOT CONSIDERED IN THIS DESIGN.

4. GLOBAL STABILITY IS NOT CONSIDERED IN THIS DESIGN.

5. HYDROSTATIC LOADING IS NOT CONSIDERED IN THIS ANALYSIS. SUFFICIENT DRAINAGE MUST BE PROVIDED SUCH THAT HYDROSTATIC LOADING (PORE PRESSURE) DOES NOT DEVELOP IN THE REINFORCED SOIL. WEAP HOLES HAVE BEEN PROVIDED FOR DRAINAGE.

6. ANALYSIS ASSUMES FILL PLACEMENT IN 8 INCH (200 MM) LIFTS COMPACTED TO 95% STANDARD PROCTOR. COMPACTION TEST FREQUENCY SHALL BE DETERMINED BY THE ENGINEER OR AS OTHERWISE SPECIFIED.

7. RETAINING WALL UNITS AND INSTALLATION SHALL CONFORM TO THE ALLAN BLOCK MODULAR RETAINING WALL SYSTEMS SPECIFICATION GUIDELINES, GEOGRID REINFORCEMENT SYSTEMS SPECIFICATION GUIDELINES, AND WATER MANAGEMENT SPECIFICATION GUIDELINES AS PUBLISHED IN THE MANUFACTURER'S MANUAL.

8. RETAINING WALLS MUST BE INSTALLED AND CONSTRUCTED ACCORDING TO THE CONTRACT DRAWINGS. THE RETAINING WALL PLAN VIEW IS FOR WALL IDENTIFICATION ONLY.

9. GEOGRID SPACING IS DETERMINED BY STRUCTURAL CROSS-SECTION DESIGN REQUIREMENTS. TO INSURE PROPER GEOGRID PLACEMENT, CONTRACTOR MUST REVIEW BOTH ELEVATION VIEW AND CROSS SECTIONS PRIOR TO WALL CONSTRUCTION.

10. SUGGESTED QUALITY ASSURANCE REQUIREMENTS:

A QUALIFIED ENGINEER OR TECHNICIAN SHALL SUPERVISE THE WALL CONSTRUCTION TO VERIFY FIELD AND SITE SOIL CONDITIONS. IN THE EVENT THAT THE SITE GEOTECHNICAL ENGINEER DOES NOT PERFORM THIS WORK, A QUALIFIED GEOTECHNICAL ENGINEER/TECHNICIAN SHALL BE CONSULTED TO ASSURE THE 'KEYSTONE' (OR) 'FORTUS' WALL IS CONSTRUCTED WITH PROPER SOIL PARAMETERS.

## SURFACE DRAINAGE NOTES

11. RAINFALL CAN BE DEFINED AS SURFACE WATER. THE RETAINING WALL DESIGN HAS TAKEN INTO CONSIDERATION THE MANAGEMENT OF THIS WATER.

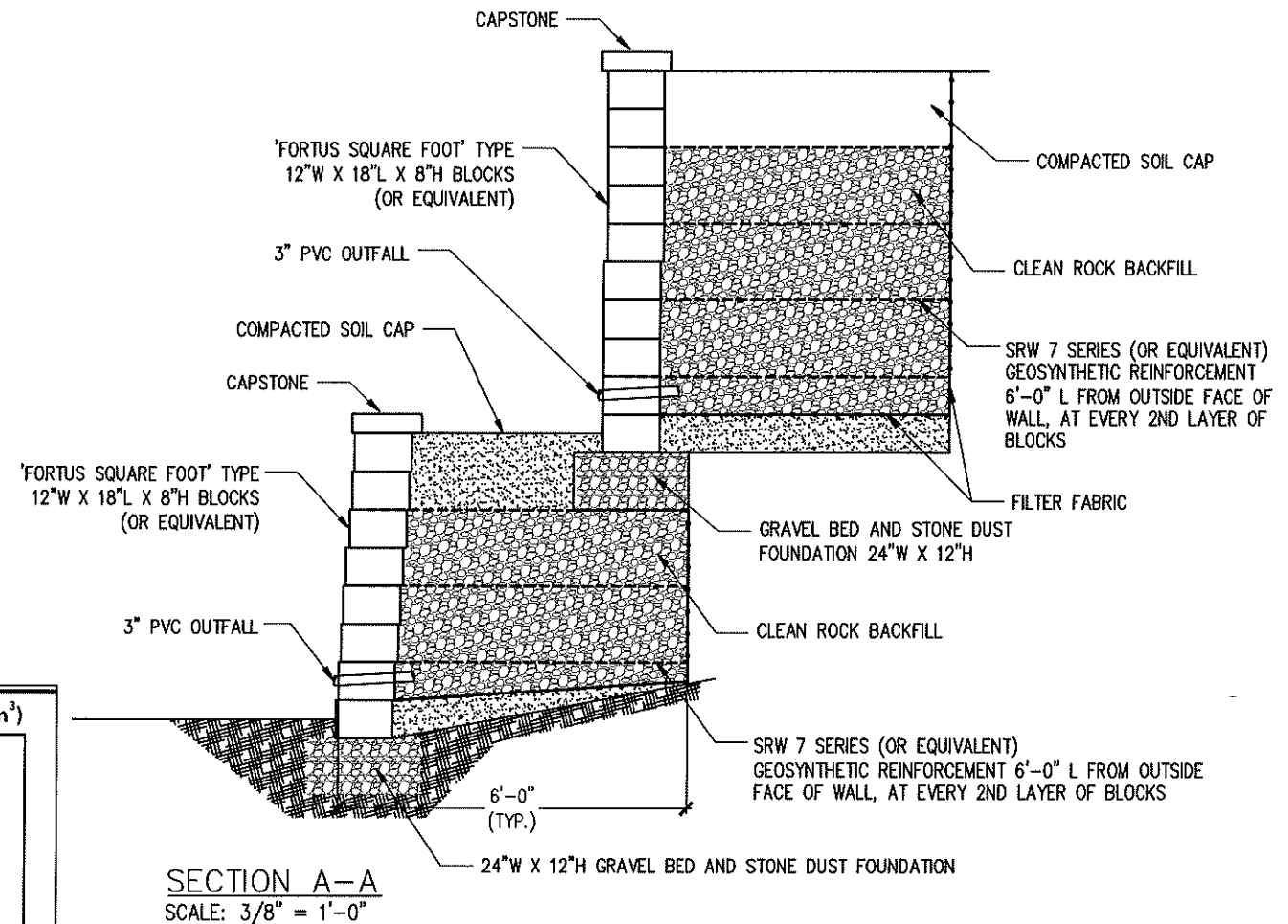
12. SITE GRADING RE-ROUTES SURFACE WATER AROUND AND AWAY FROM THE WALL.

## POST CONSTRUCTION NOTES

13. THE RETAINING WALL(S) HAVE BEEN INSTALLED SINCE MORE THAN 2 YEARS. NO DRAINAGE ISSUES HAVE BEEN NOTED BY THE OWNER OR THE NEIGHBORS TILL DATE.

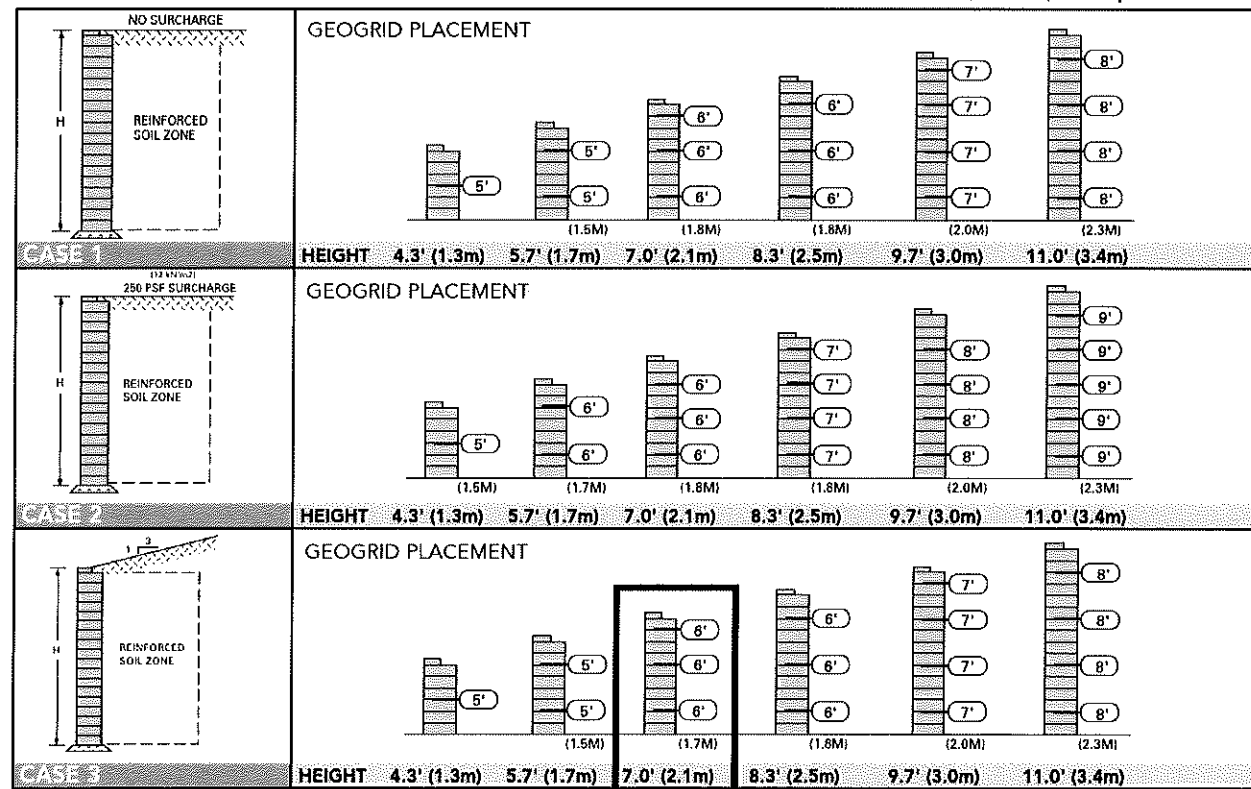
14. DUE TO THIS, SOME OF THE PRECEDING NOTES ARE SUPERSEDED.

15. THE RETAINING WALL(S) ARE IN GOOD CONDITION. NO STABILITY ISSUES HAVE BEEN NOTED TILL DATE.



## KEYSTONE STANDARD UNITS - NEAR VERTICAL

SAND/GRAVEL:  $\phi=34^\circ$ ,  $\gamma=120 \text{ pcf}$  ( $19\text{kN/m}^3$ )



The information contained herein has been compiled by Keystone Retaining Wall Systems LLC and to the best of our knowledge, accurately represents the Keystone product use in the applications which are illustrated. Final determination of the suitability for the use contemplated and its manner of use are the sole responsibility of the user. Structural design and analysis shall be performed by a qualified engineer.

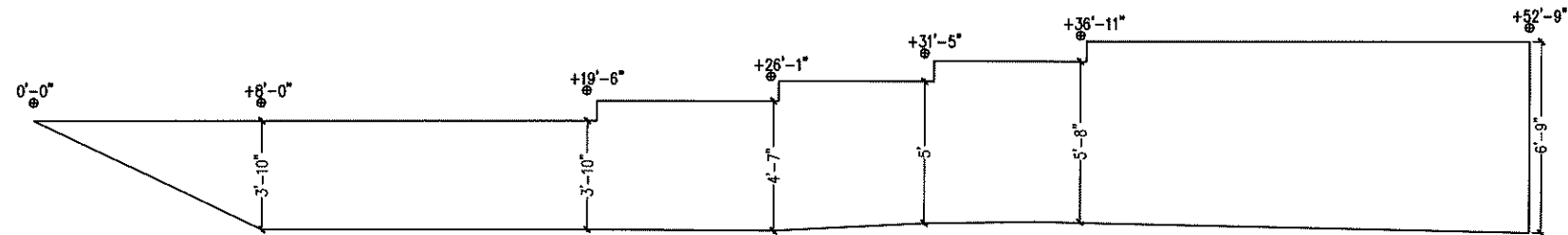
Keystone Construction Manual

## GEOGRID DESIGN CHART

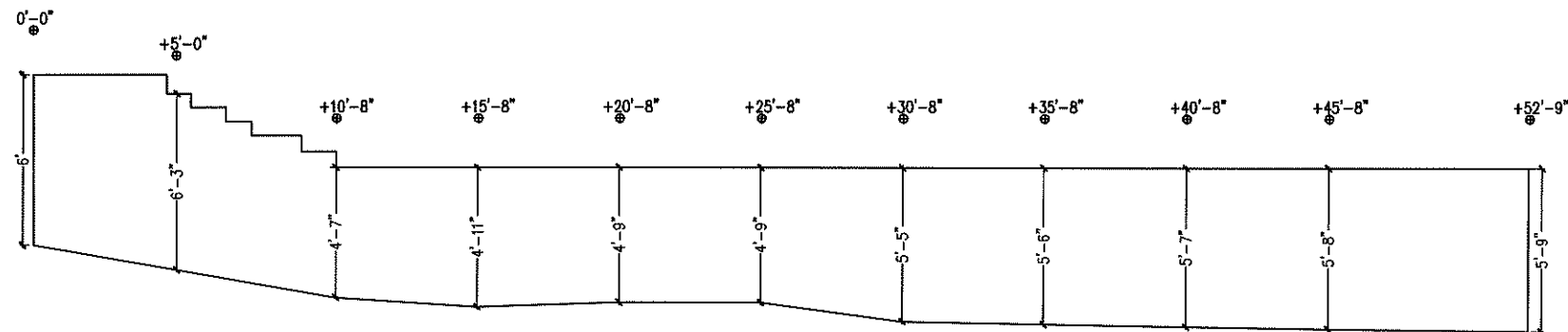
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|                                                                                                                                     |            |                                             |
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| 1                                                                                                                                   | 04/24/24   | Per Reviewer's revised comments dt. 3/15/24 |
| No.                                                                                                                                 | Date       | Revision                                    |
| DRAWING TITLE                                                                                                                       |            |                                             |
| GENERAL NOTES, DESIGN CHART AND SECTION A-A                                                                                         |            |                                             |
| PROJECT                                                                                                                             |            |                                             |
| BLOCK RETAINING WALL WITH GEOGRID                                                                                                   |            |                                             |
| CLIENT/OWNER                                                                                                                        |            |                                             |
| JOSE MARCOS DeOLIVEIRA                                                                                                              |            |                                             |
| LOCATION                                                                                                                            |            |                                             |
| 31 BRADFORD AVE, WEST ORANGE, NJ                                                                                                    |            |                                             |
| ARCHITECT OF RECORD                                                                                                                 |            |                                             |
| <b>KSI</b><br>ENGINEERING, P.C.<br>80 BROADMAN PKWY, JERSEY CITY, NJ 07305<br>TEL: (201)736-7546<br>Email: ksiengineering@gmail.com |            |                                             |
| SEAL                                                                                                                                | DRAWN BY   | SCALE                                       |
|                                                                                                                                     | SK         | AS SHOWN                                    |
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| FILE                                                                                                                                | MISC/31BR  | DRAWING NUMBER                              |
|                                                                                                                                     | 2 OF 3     | C-02                                        |



**SOUTHEAST UPPER WALL ELEVATION**  
SCALE: 3/16" = 1'-0"



**SOUTHEAST LOWER WALL ELEVATION**  
SCALE: 3/16" = 1'-0"

*Handwritten signature*

|                                                                                                                                                                 |            |                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------------------------------------------|
| 1                                                                                                                                                               | 04/24/24   | Per Reviewer's revised comments dt. 3/13/24 |
| No.                                                                                                                                                             | Date       | Revision                                    |
| DRAWING TITLE                                                                                                                                                   |            |                                             |
| SOUTHEAST WALL ELEVATIONS                                                                                                                                       |            |                                             |
| PROJECT                                                                                                                                                         |            |                                             |
| BLOCK RETAINING WALL WITH GEOGRID                                                                                                                               |            |                                             |
| CLIENT/OWNER                                                                                                                                                    |            |                                             |
| JOSE MARCOS DeOLIVEIRA                                                                                                                                          |            |                                             |
| LOCATION:                                                                                                                                                       |            |                                             |
| 31 BRADFORD AVE, WEST ORANGE, NJ                                                                                                                                |            |                                             |
| ARCHITECT OF RECORD                                                                                                                                             |            |                                             |
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| SEAL                                                                                                                                                            | DRAWN BY   | SCALE                                       |
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