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| GEOTECHNICAL ENGINEER  SEAL 040231 ENGINEER MATTHEW J. ALEXANDER | ENGINEER |
| Designed by: <i>Matthew Alexander</i> SIGNATURE | 8/10/2017 DATE |
| DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED | |

NOTES:

FOR MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALLS, SEE MECHANICALLY STABILIZED EARTH RETAINING WALLS PROVISION.

FOR SINGLE FACED PRECAST CONCRETE BARRIER, SEE ROADWAY PLANS AND SECTION 857 OF THE STANDARD SPECIFICATIONS.

A CONCRETE BARRIER RAIL WITH MOMENT SLAB IS REQUIRED ABOVE RETAINING WALL NO. 7. SEE PLANS FOR CONCRETE BARRIER RAIL WITH MOMENT SLAB DETAILS.

AT THE CONTRACTOR'S OPTION, USE FINE AGGREGATE IN THE REINFORCED ZONE OF RETAINING WALL NO. .

THE WALL CONTRACTOR SHALL VERIFY IF AN ARCHITECTURAL FINISH IS REQUIRED FOR PRECAST CONCRETE PANELS FOR RETAINING WALL NO. 7.

A SEPARATION GEOTEXTILE IS REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR RETAINING WALL NO. 7.

A DRAIN IS NOT REQUIRED FOR RETAINING WALL NO. 7.

BEFORE BEGINNING MSE WALL DESIGN FOR RETAINING WALL NO. , SURVEY WALL LOCATION AND SUBMIT A REVISED WALL PROFILE VIEW (WALL ENVELOPE) FOR REVIEW. DO NOT START WALL DESIGN OR CONSTRUCTION UNTIL THE REVISED WALL ENVELOPE IS ACCEPTED.

DESIGN RETAINING WALL NO. 7 FOR THE FOLLOWING:

- 1) H = DESIGN HEIGHT + EMBEDMENT
- 2) DESIGN LIFE = 100 YEARS
- 3) MAXIMUM FACTORED VERTICAL PRESSURE ON FOUNDATION MATERIAL = 5,350 LB/SF
- 4) MINIMUM REINFORCEMENT LENGTH (L) = 0.7H OR 6 FT, WHICHEVER IS LONGER
- 5) MINIMUM EMBEDMENT DEPTH BELOW FINISHED GRADE AT FRONT FACE OF WALL = 2 FT
- 6) REINFORCED ZONE AGGREGATE PARAMETERS:

| AGGREGATE TYPE* | UNIT WEIGHT (γ) LB/CF | FRICTION ANGLE (ϕ) DEGREES | COHESION (c) LB/SF |
|-----------------|--------------------------------------|---|--------------------------|
| COARSE | 110 | 38 | 0 |
| FINE | 115 | 34 | 0 |

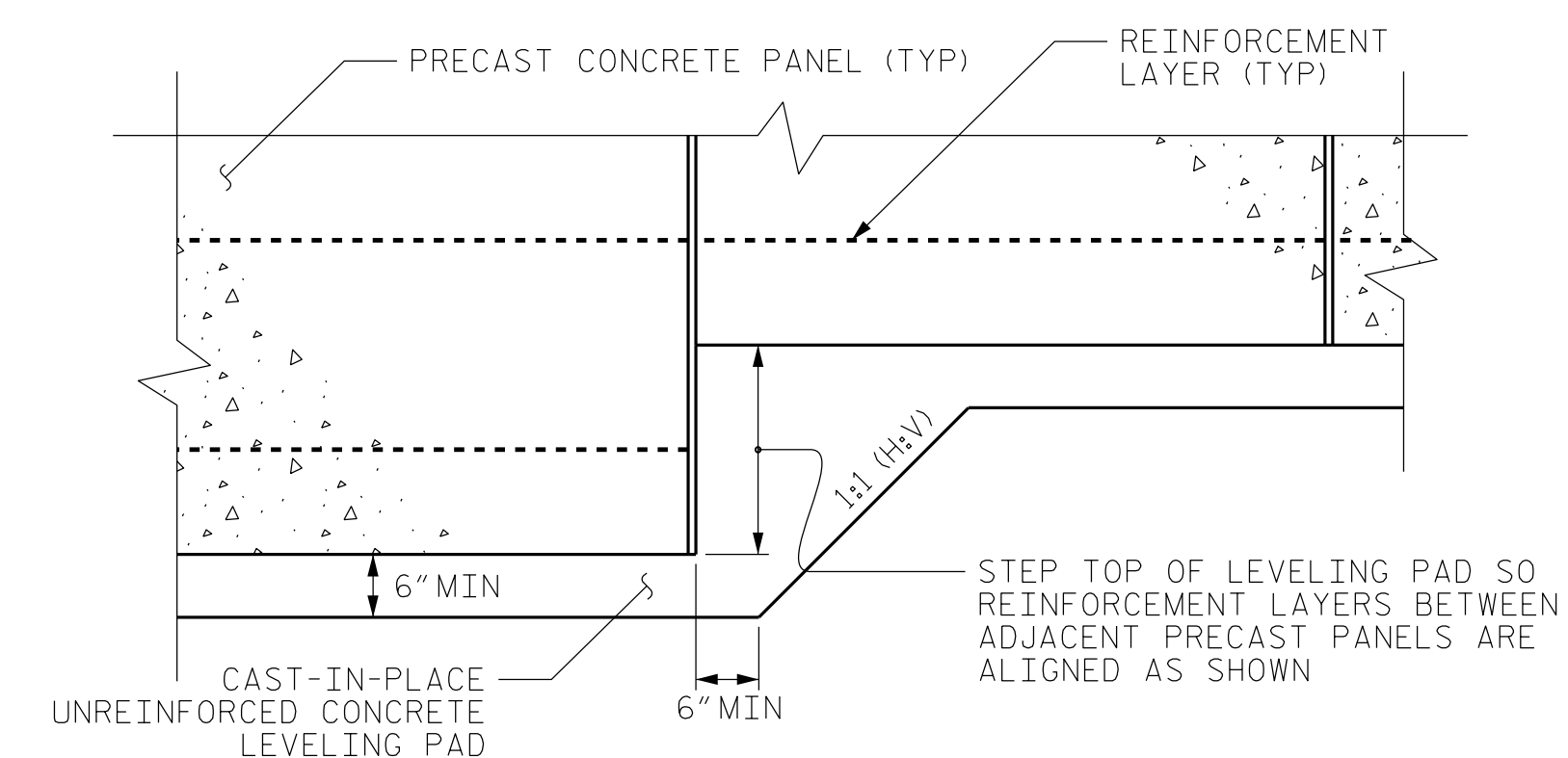
*SEE MSE RETAINING WALLS PROVISION FOR COARSE AND FINE AGGREGATE MATERIAL REQUIREMENTS.

7) IN-SITU ASSUMED MATERIAL PARAMETERS:

| MATERIAL TYPE | UNIT WEIGHT (γ) LB/CF | FRICTION ANGLE (ϕ) DEGREES | COHESION (c) LB/SF |
|---------------|--------------------------------------|---|--------------------------|
| BACKFILL | 120 | 30 | 0 |
| FOUNDATION | 115 | 30 | 0 |

DESIGN RETAINING WALL NO. 7 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALL NO. 7 UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.



PRECAST PANELS
LEVELING PAD STEP DETAIL

PROJECT NO.: 34243.1.4 (I-4729A)
 POLK COUNTY
 STATION: 11+52.84 -RWALL_7- /
 SHEET 2 OF 4 13+50.03 -RP_F-

Terracon
 Consulting Engineers & Scientists
 2401 BRENTWOOD ROAD, SUITE 107
 RALEIGH, NORTH CAROLINA 27604
 PHONE: (919) 873-2211 FAX: (919) 873-9555
 NC REGISTERED FIRM: F-0869

**MSE RETAINING WALL NO. 7
NOTES**

| <i>REVISIONS</i> | | | | | | SHEET NO. W-18 |
|------------------|----|------|-----|----|------|----------------------|
| NO. | BY | DATE | NO. | BY | DATE | |
| 1 | | | 3 | | | |
| 2 | | | 4 | | | |

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|------------------------------|----------------|
| PREPARED BY: M. J. ALEXANDER | DATE: 8/4/2017 |
| REVIEWED BY: A. F. RIGGS | DATE: 8/4/2017 |