NOTES:

1. Template with minimum 1'-6" toe cover is based on wall at it's layout line, and may be used for taking sections perpendicular to roadway center line with offsets.

2. Quantity of structure excavation (EM_2) may be calculated either by formulae with average H and θ at wall layout line or by actual area from graphic model.

3. Earth removal, outside the boundaries as defined shall be managed under roadway quantities and paid as unclassified excavation.

4. Use of reinforced soil foundation (RFS) is an option for bridging over weak foundation material.

5. The width (WRSF) and depth (DRSF) if applicable shall be addressed in both the project plans and geotechnical report.

Wall Layout Line
Widening Width =(DH-H)/tanθ
Existing Roadway
PLG = RL + 0.3DH
Temporary Barrier
Roadway Fill (If Applicable)
Existing Ground Slope Varies
10:1 (min.)
20:1 (max.)
Daylight drain pipe (non-perforated) @ 100'-0" intervals
0.15DH - 0.75
3'-6"(Typ.)
Shoring Line (Steel Piles or Soldier Piles W. Laggings)
DH
1'-6" 1'-6"
RSF
1'-0" (Typ.)
DRSF
3'-0"
WRSF
RL
1'-6" 0.3DH-1.5

θ = Average Angle of Existing Ground Line
Note: Widening width may vary

SECTION VIEW

EM_2

BM_2

MRS
(Reinforcement Only)
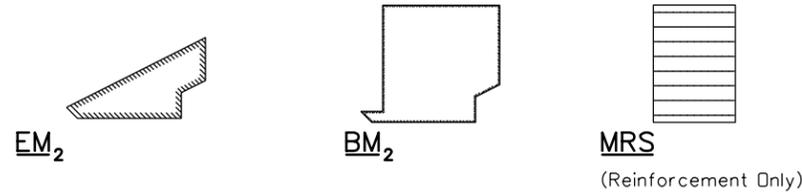
CONDITION: $H \geq 1.5 + 3\,\tan(\theta)$

$EM2 = [(3.375 + 4.5\tan\theta) + (RL+0.3DH)(DH)-((0.3DH-1.5)(3.5)+0.5(0.3DH-1.5)(0.15DH-0.75))-(0.5(DH-H)^2/\tan\theta-(0.5(DH-H)/\tan\theta-(RL+0.3DH))^2\tan\theta)]/27$

$BM2 = [(DH)(RL + 0.3DH) + 3.375 - (6.25 + 0.15DH)(0.15DH - 0.75)] / 27$

$MRS = [(DH)(RL)] / 27$

$PLG = RL + 0.3DH$

$H = 1.5 + 3\tan\theta$

$RSF = [(WRSF)(DRSF)]/27$

Example:
Inputs- DH=16'; RL=0.7xDH=11.2'; θ=26.56°
Outputs- H=3'; EM2=3.8(c.y./ft.); BM2= 9.1(c.y./ft.); MRS= 6.64(c.y./ft.); PLG=16(ft./ft.)

Design | Detail | Quantities
INITIAL | DATE | INITIAL | DATE | INITIAL | DATE
Designed By
Checked By
Detailed By
Checked By
Quantities By
Checked By
Revision Dates
09-16
(Preliminary Stage Only)