DESIGN NOTES

1. Design is based on the assumption that backfill within the reinforced soil mass, methods of construction and quality of materials conform to the requirements of FP'14 and the amending Special Contract Requirements.

2. Assumed Soil Characteristics:
   - Wall Backfill:
     - Unit Weight: 125 pcf
     - Internal Friction Angle: 34°
     - Cohesion = 0 psf
   - Retained Backfill:
     - Unit Weight: 125 pcf
     - Internal Friction Angle: 34°
     - Cohesion = 0 psf
   - Foundation Soils:
     - Unit Weight: 125 pcf
     - Friction Angle for Sliding: 34°
     - Cohesion = 0 psf

   Traffic Surcharge Live Load (LL) - 250 psf
   Worst Case Applied Bearing Pressure by MSE Wall- @ 22 Height - 7990 psf.

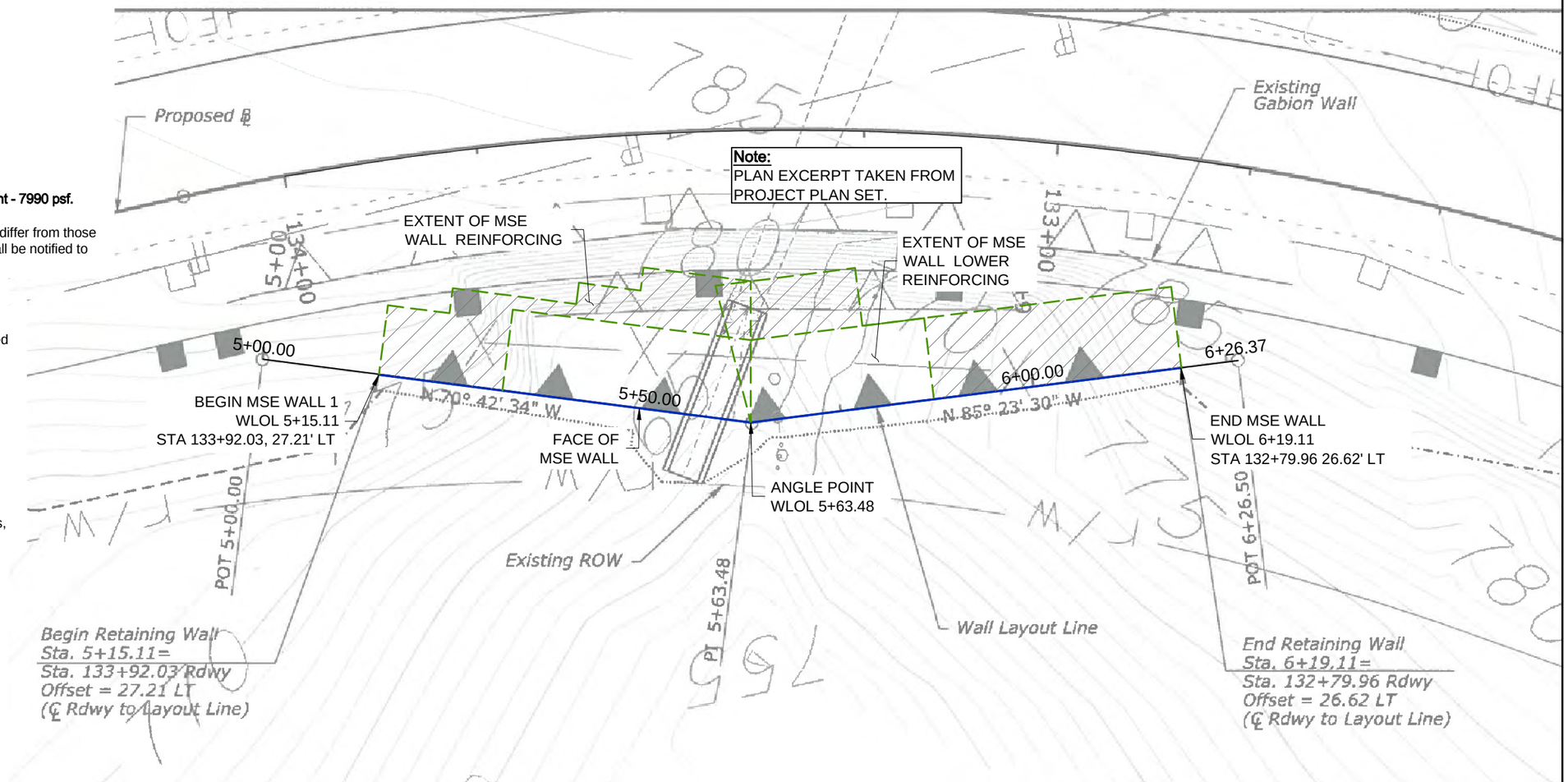
   If actual characteristics, grades or dimensions of soil materials differ from those listed above or shown on the plans, Hilfiker Retaining walls shall be notified to evaluate the need to redesign.

3. If during construction, the wall location, structure location or loads are different than that proposed in this plan set and calculation package, HRW shall be notified to evaluate the need for a redesign.

4. The design requires a non-saturated backfill. Surface and sub-surface drainage control may be required to prevent saturation of the backfill or relieve hydrostatic pressures.

   Drainage control shall be as specified in the project plans, see Sheets G.5 & G.6.

5. Design Procedure:
   Mechanically Stabilized Earth walls and Reinforced Soil Slopes, FHWA report No. FHWA-NHI-00-043.



INSTALLED QUANTITIES:

WALL AREA:	1752 SQ. FT.

PLAN VIEW

SCALE: 1" = 16'

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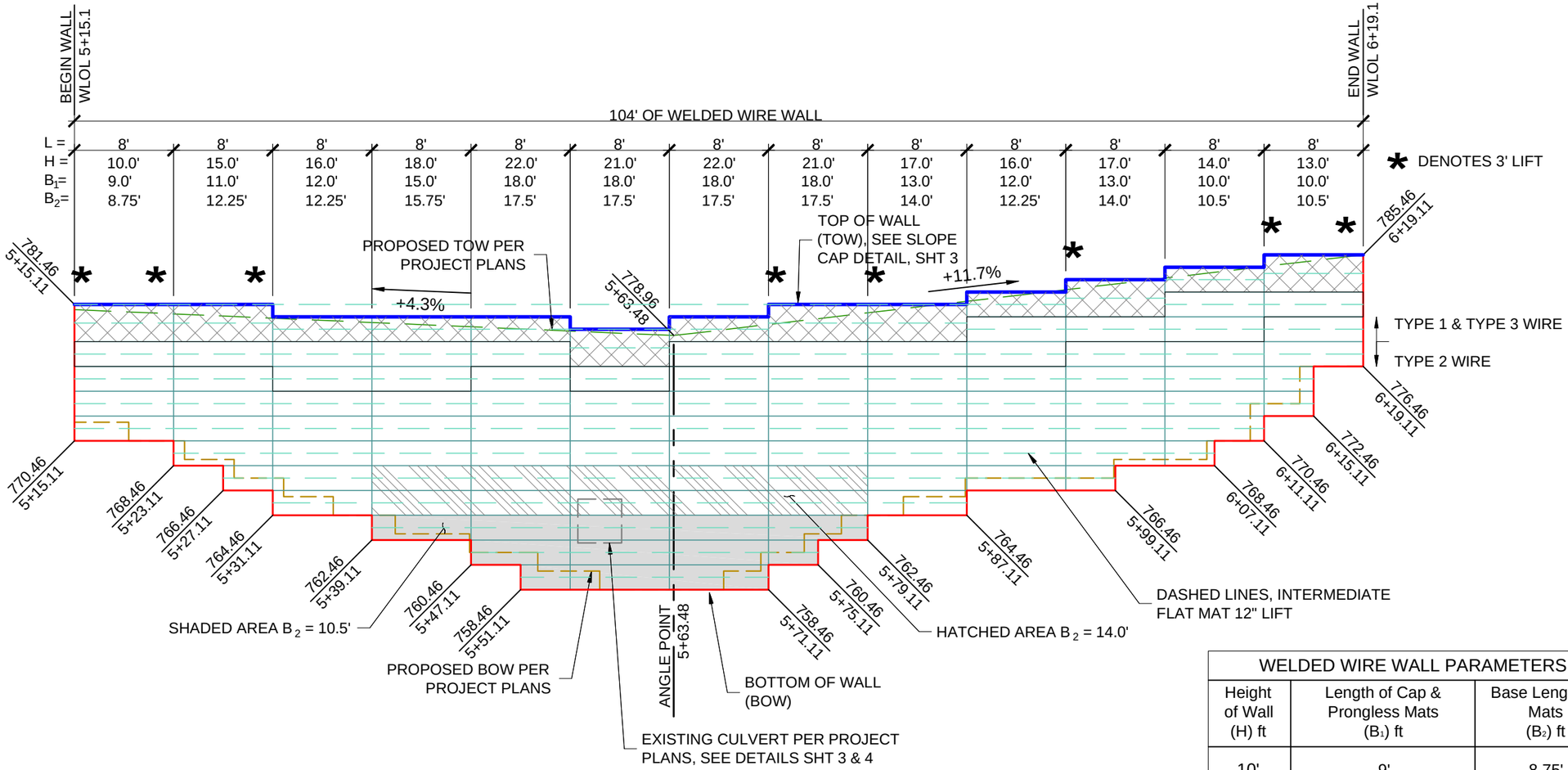
Hammonton-Smartsville Road CA FLAT CR36(1)

MSE WALLS PLAN VIEW & GENERAL NOTES

PROJECT	CES16-028
DATE	4- 20-16
DESIGN	KLC
DRAWN	KLC

SHT 1 OF 5



MSE WALL - ELEVATION VIEW

SCALE: 1" = 10'

WALL WIRE TYPE LEGEND

FINISH: HOT DIP GALVANIZED
SERVICE LIFE: 75 YEARS

TYPE 1 - 8X12 W4.5x3.5 MATS
TYPE 2 - 8x21 W4.5x4.0 MATS

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WELDED WIRE WALL PARAMETERS

Height of Wall (H) ft	Length of Cap & Prongless Mats (B_1) ft	Base Length of Mats (B_2) ft
10'	9'	8.75'
14.0'	10.0'	10.5'
15.0'	11.0'	12.25'
16.0'	12.0'	12.25"
17.0'	13.0'	14.0'
18.0'	15.0'	15.75', 14.0' & 10.5'*
22.0'	18.0'	17.5', 14.0' & 10.5'*

Cap & Top Mats (B1) are: 8x12 W4.5x3.5 WWR (Type 1)
Standard Mats (B2) are: 8x21 W4.5x4.0 WWR (Type 2)

Finish: Hot Dip - 75 Year Service Life

* **Note:** Due to Bedrock found at the Foundation, variable base lengthes are used in the lower lifts. A 10.5' & 14.0' Base Length are used in the Lower Lifts as Shown in the Elevation View & Cross Section (Sht 3). This allows optimized Excavation and avoids interference with the Existing Gabion Wall.

HW 151120AW

REV.NO.	DATE	BY	DESCRIPTION
	4-20-16	KLC	Initial .pdf Release
	5-12-16	KLC	Revised per 5/11/16 Plan Check Review
	5-23-16	KLC	Revised per 5/16/16 Plan Check Review
	6-6-16	KLC	Revised 10.5" spacing to 21"

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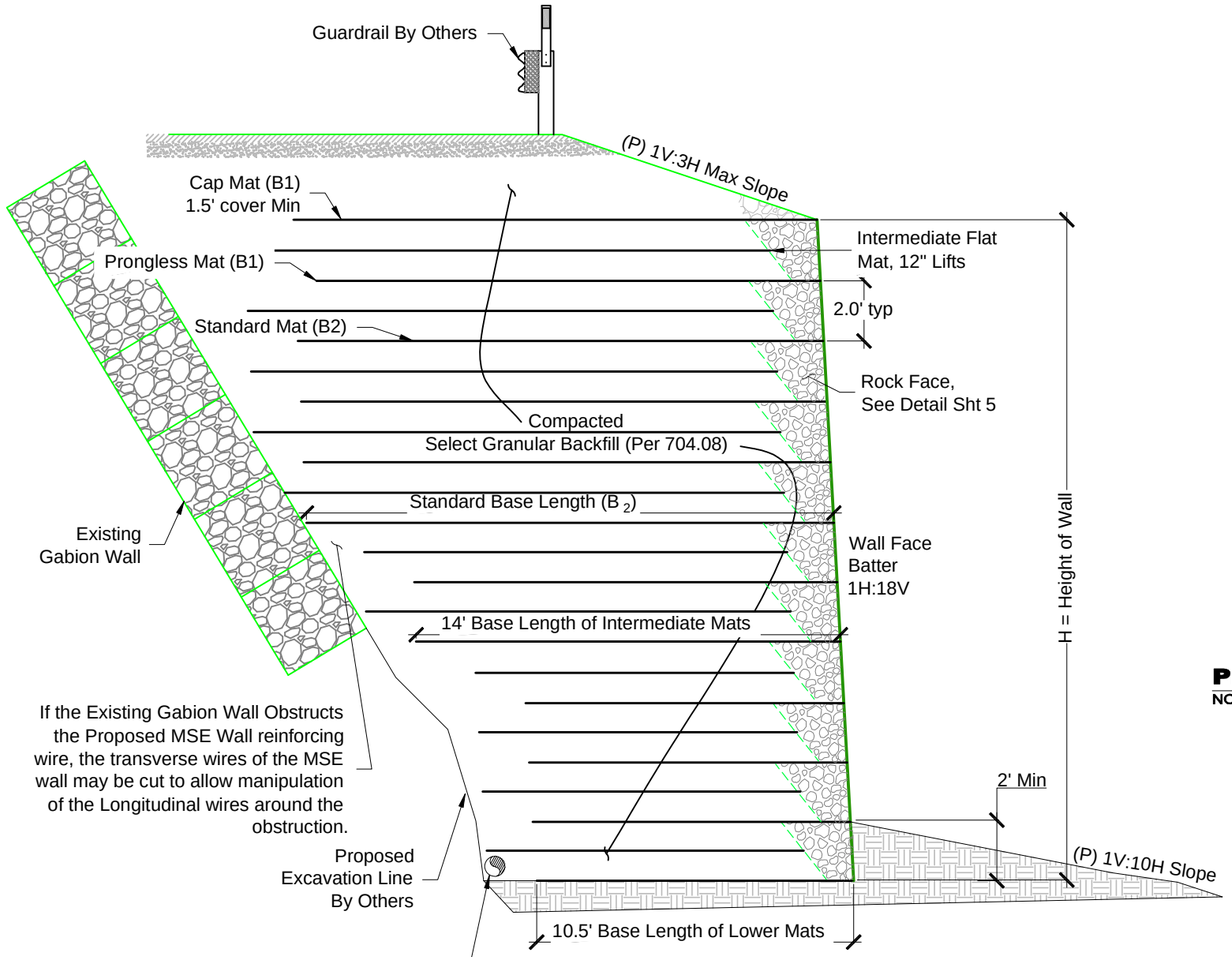
Hammonton-Smartsville Road CA FLAT CR36(1)

MSE WALL ELEVATION VIEW & CROSS SECTION

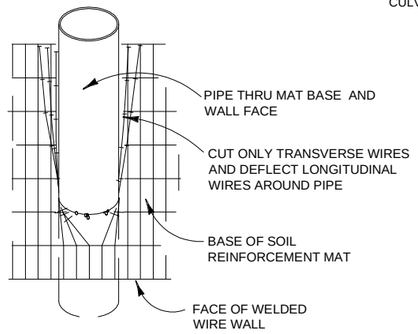
PROJECT CES16-028
DATE 4- 20-16
DESIGN KLC
DRAWN KLC

SHT 2 OF 5



CROSS SECTION, TYP

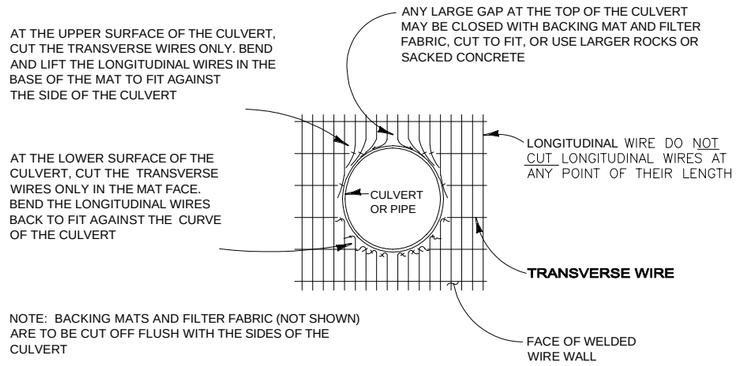
SCALE: 1" = 5'



PLAN VIEW

PIPE OR SLEVE PENETRATION

NOT TO SCALE

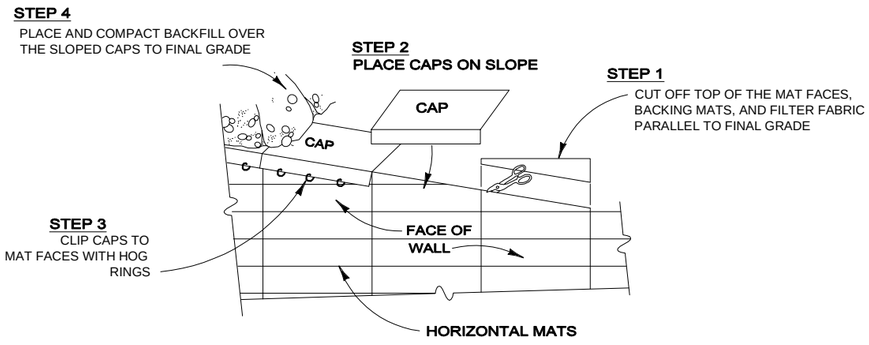


NOTE: BACKING MATS AND FILTER FABRIC (NOT SHOWN) ARE TO BE CUT OFF FLUSH WITH THE SIDES OF THE CULVERT

ELEVATION

CULVERT THRU WALL FACE

NOT TO SCALE



PICTORIAL ELEVATION

SLOPED CAP MAT DETAIL

NOT TO SCALE

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Hammonton-Smartsville Road CA FLAT CR36(1)

MSE WALL CROSS SECTION AND DETAILS

PROJECT	CES16-028
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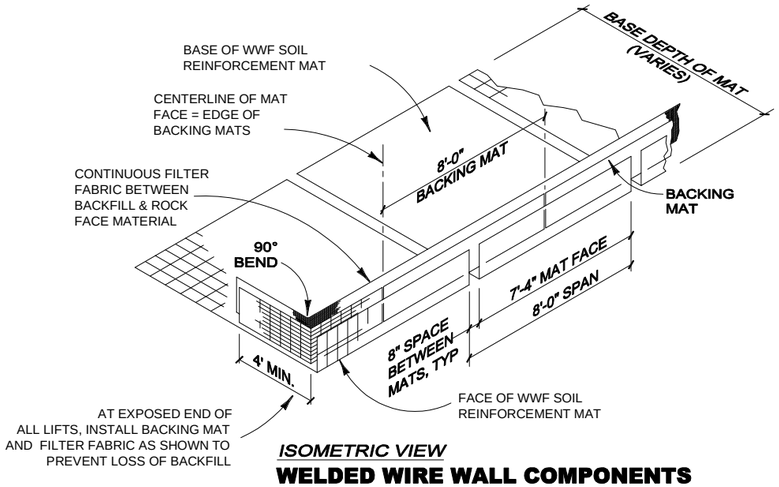
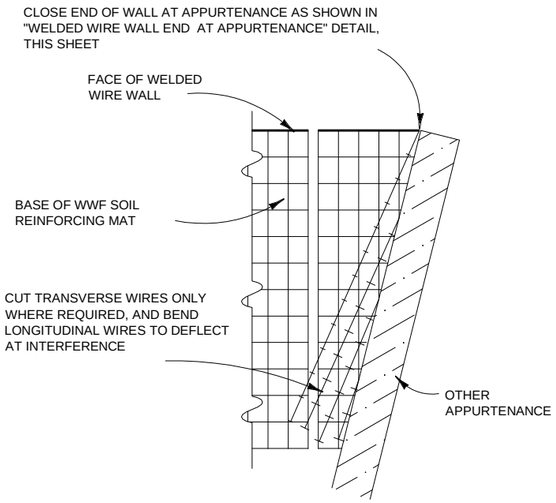
SHT 3 OF 5



ISOMETRIC VIEW

WELDED WIRE WALL COMPONENTS WITH RETURN MAT

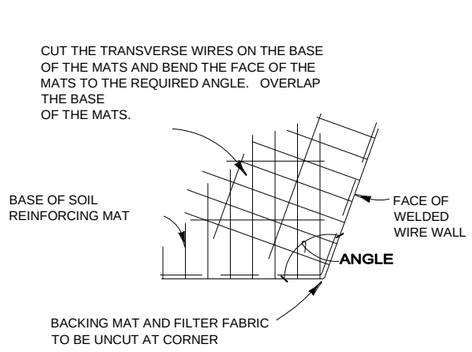
NOT TO SCALE



PLAN VIEW

DEFLECTED LONGITUDINAL WIRES

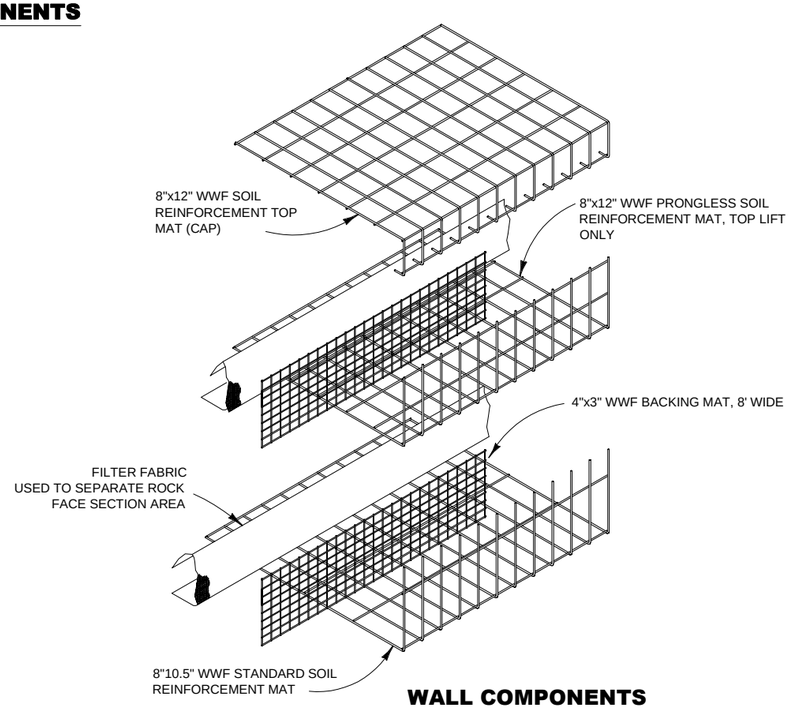
NOT TO SCALE



PLAN VIEW

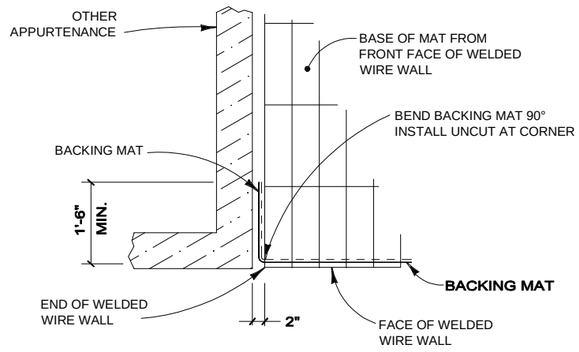
OBTUSE CONVEX ANGLE

NOT TO SCALE



WALL COMPONENTS

NOT TO SCALE



PLAN VIEW

WELDED WIRE WALL END AT OTHER APPURTENANCE

NOT TO SCALE

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MSE WALL DETAILS

PROJECT	CES16-028
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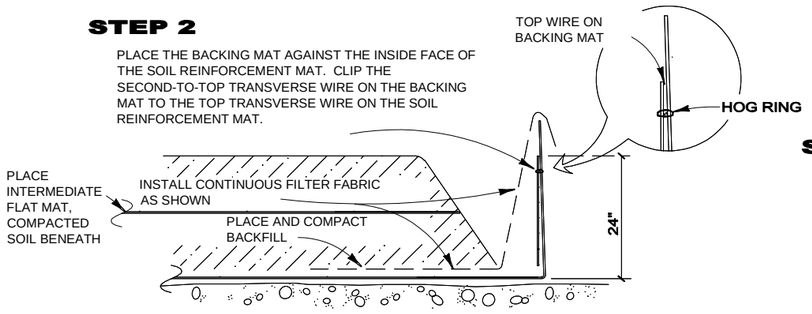
SHT 4 OF 5

STEP 1

PLACE THE FIRST COURSE OF SOIL REINFORCEMENT MATS ON PREPARED FOUNDATION.

STEP 2

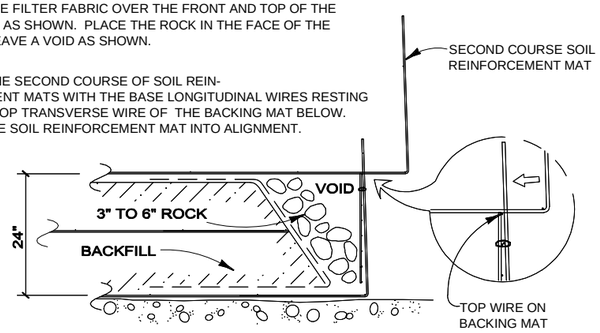
PLACE THE BACKING MAT AGAINST THE INSIDE FACE OF THE SOIL REINFORCEMENT MAT. CLIP THE SECOND-TO-TOP TRANSVERSE WIRE ON THE BACKING MAT TO THE TOP TRANSVERSE WIRE ON THE SOIL REINFORCEMENT MAT.



STEP 3

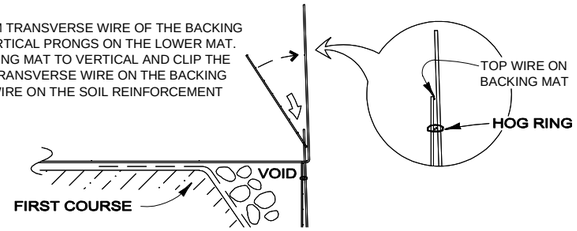
BRING THE FILTER FABRIC OVER THE FRONT AND TOP OF THE BACKFILL AS SHOWN. PLACE THE ROCK IN THE FACE OF THE WALL. LEAVE A VOID AS SHOWN.

PLACE THE SECOND COURSE OF SOIL REIN-FORCEMENT MATS WITH THE BASE LONGITUDINAL WIRES RESTING ON THE TOP TRANSVERSE WIRE OF THE BACKING MAT BELOW. SLIDE THE SOIL REINFORCEMENT MAT INTO ALIGNMENT.



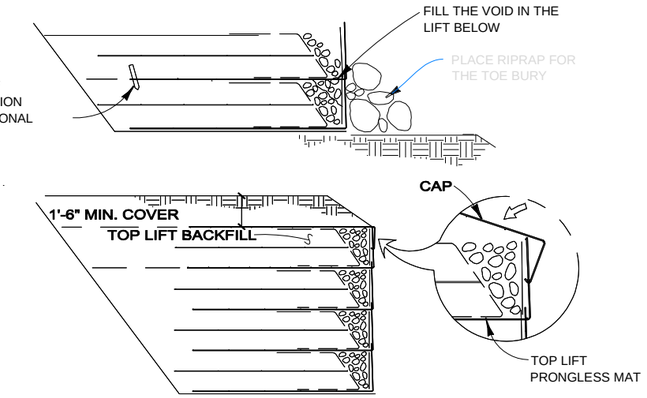
STEP 4

HOOK THE BOTTOM TRANSVERSE WIRE OF THE BACKING MAT OVER THE VERTICAL PRONGS ON THE LOWER MAT. ROTATE THE BACKING MAT TO VERTICAL AND CLIP THE SECOND-TO-TOP TRANSVERSE WIRE ON THE BACKING MAT TO THE TOP WIRE ON THE SOIL REINFORCEMENT MAT.



STEP 5

INSTALL THE FILTER FABRIC AS IN STEPS 2 AND 3. PLACE AND COMPACT THE BACKFILL AND ROCK TO THE BASE ELEVATION OF THE NEXT MAT. REPEAT STEPS 2 THROUGH 5 TO THE TOP LIFT.

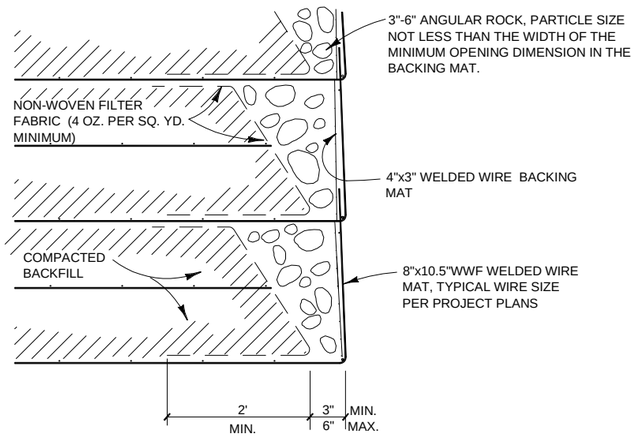


STEP 6: TOP LIFT

PLACE THE TOP LIFT PRONGLESS MAT, BACKING MAT AND FILTER FABRIC. PLACE AND COMPACT BACKFILL AND ROCK IN THE TOP LIFT. HOOK THE CAP OVER THE MIDDLE TRANSVERSE WIRE ON THE PRONGLESS MAT, AND ROTATE INTO PLACE. PLACE AND COMPACT COVER OVER TOP MAT TO 1'-6" MINIMUM DEPTH.

CONSTRUCTION SEQUENCE

NOT TO SCALE



ROCK-FACE DETAIL

NOT TO SCALE

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MSE WALL DETAILS

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