## 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 Hilfiker Retaining Walls.

2. Assumed Soil Characteristics:
   - Wall Backfill:
     - Unit Weight: 135 pcf
     - Internal Friction Angle: 38°
     - Cohesion = 0 psf
   - Retained Backfill:
     - Unit Weight: 125 pcf
     - Internal Friction Angle: 32°
     - Cohesion = 0 psf
   - Foundation Soils:
     - Unit Weight: 125 pcf
     - Internal Friction Angle: 32°
     - Cohesion = 0 psf

   **Worst Case Applied (Unfactored) Bearing Pressure by MSE Wall- @ 21' Height - 3465 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.

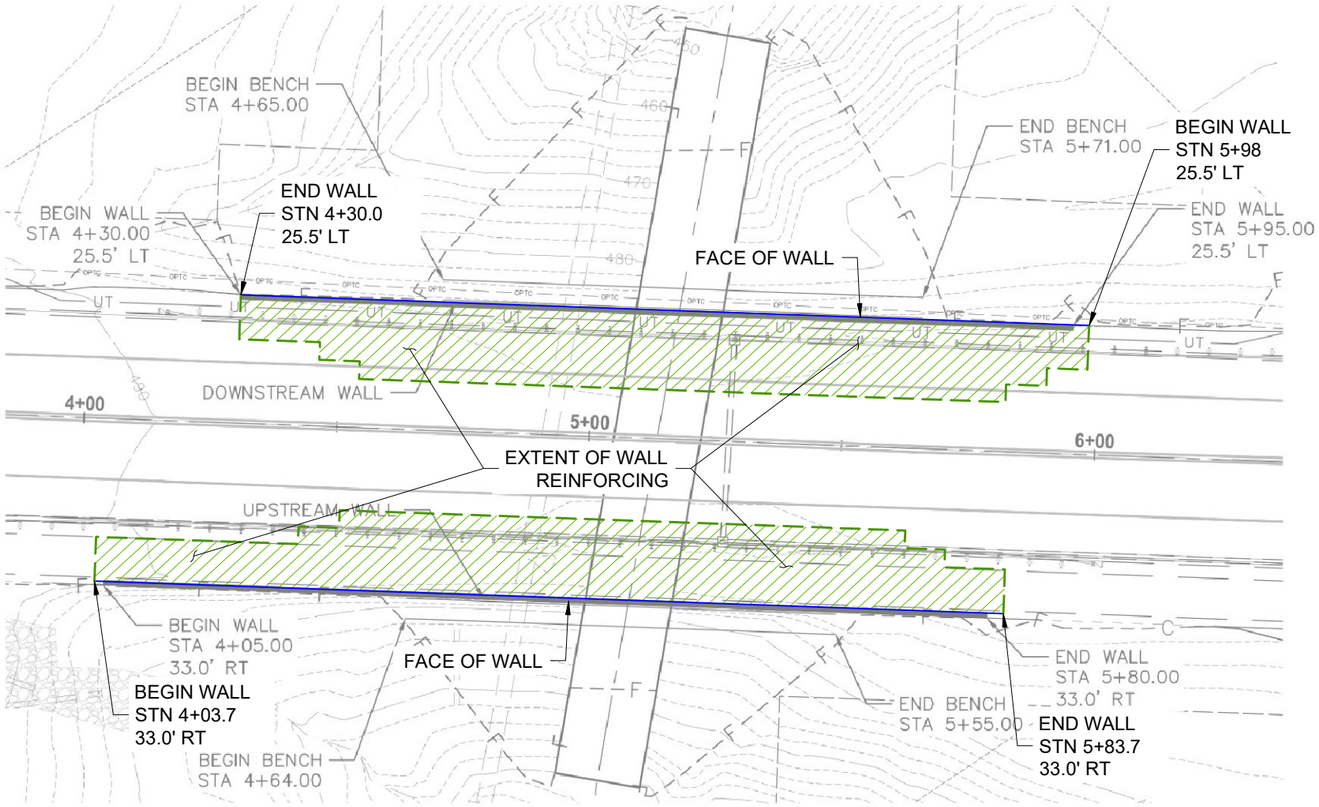
3. If during construction, the wall location, structure location or loads are different than that proposed in this plan set and calculation package, HRW shall be notified to evaluate the need for a redesign.

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.

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

6. All information hereon is derived from the reference drawings, and is subject to geometric and geotechnical confirmation. The applicable Hilfiker construction guide and specifications are an integral part of this submittal.

7. Hilfiker Retaining Walls shall be responsible only for the internal stability of the retaining wall, and not for global stability or foundation bearing capacity. The Contractor shall be responsible for global stability and foundation competence. The Contractor is responsible for all job site drainage, safety and fall protection provisions for workers in compliance with OSHA and any other applicable requirements.




## WIRE WALLS - PLAN VIEW

SCALE: 1" = 30'

### SUPPLIED QUANTITY:

| | |
|---|---|
| DOWNSTREAM WALL AREA : | 3024 FT$^2$ |
| **UPSTREAM WALL AREA :** | **3104 FT$^2$** |
| TOTAL WALL AREA : | 6128 FT$^2$ |



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44942
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Newberry Hill - Culvert
Welded Wire Wall
WELDED WIRE WALL
PLAN VIEW & GENERAL NOTES

| | |
|---|---|
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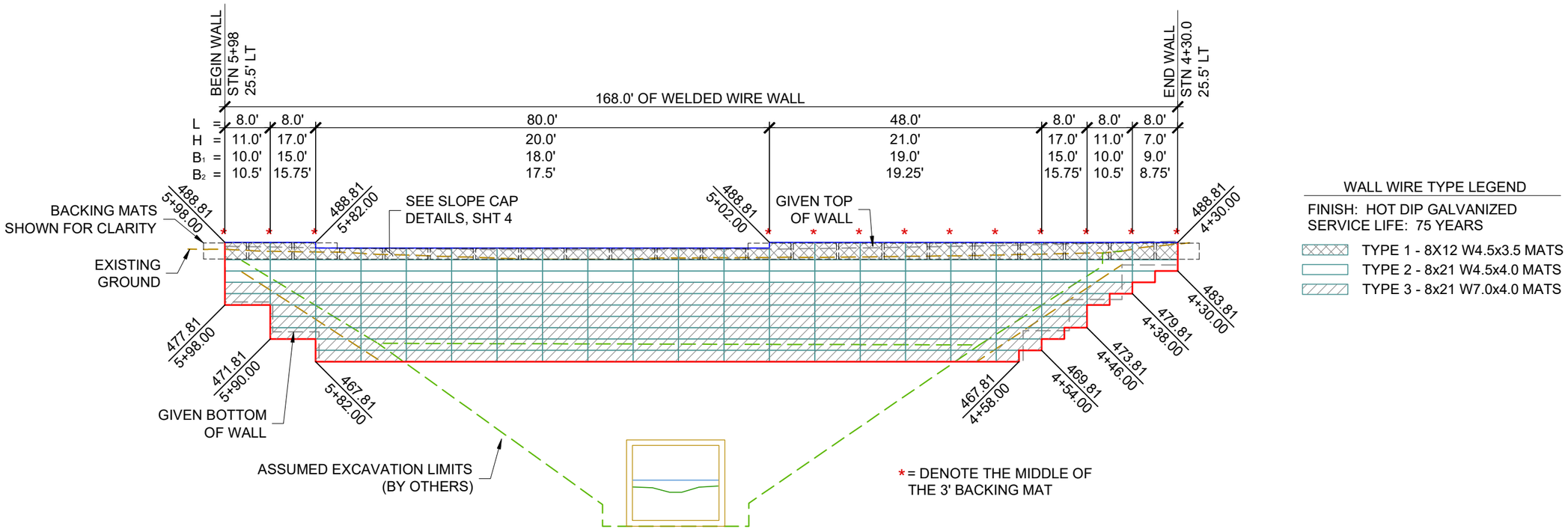
| DRAWN | KLC |

SHT 1 OF 5




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
- TYPE 3 - 8x21 W7.0x4.0 MATS

**NOTE:**
IF MATS ARE TRIMMED, DO NOT SCRAP THE TRIMMED PORTION UNTIL THE WALL IS COMPLETE. THE REMNANTS RAPS MAY BE USED IN OTHER AREAS OF THE WALL.

## DOWNSTREAM WALL - ELEVATION VIEW

SCALE: 1" = 20'

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Newberry Hill - Culvert
Welded Wire Wall
WELDED WIRE WALL
DOWNSTREAM WALL - ELEVATION VIEW

| | |
|---|---|
| PROJECT | 24-011 |
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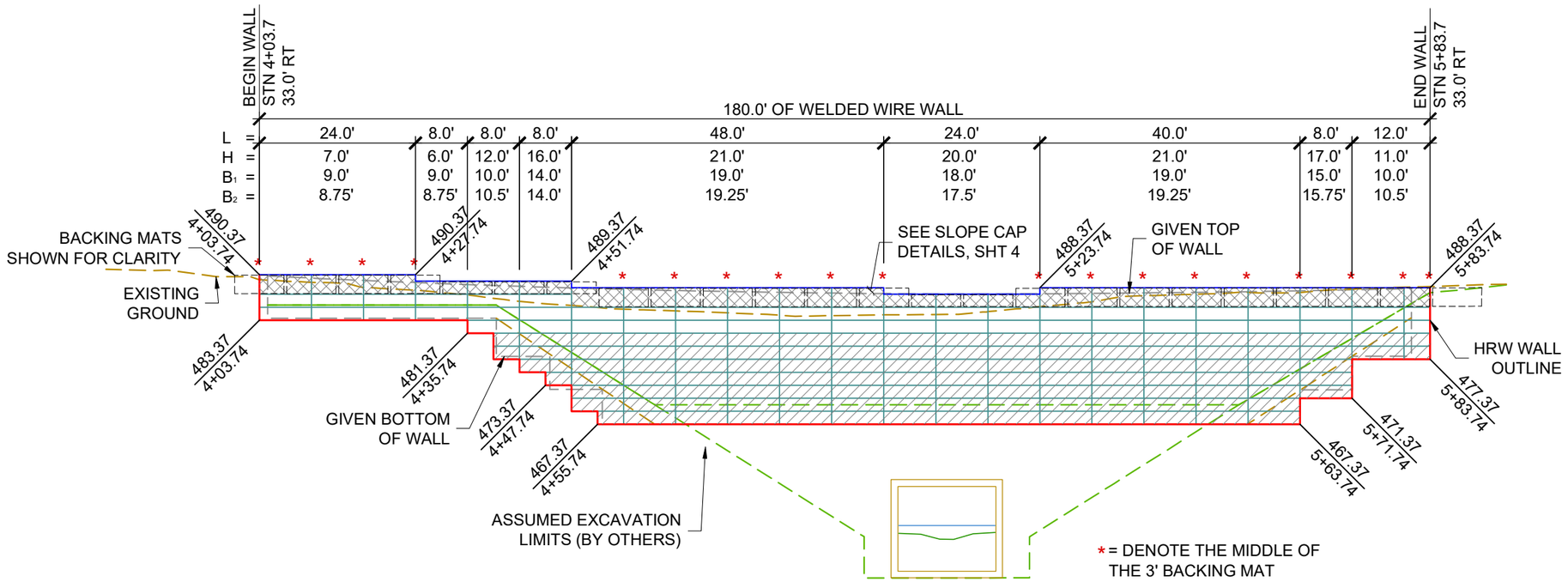
| DRAWN | KLC |
| SHT | 2 OF 5 |




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
- TYPE 3 - 8x21 W7.0x4.0 MATS

**NOTE:**
IF MATS ARE TRIMMED, DO NOT SCRAP THE TRIMMED PORTION UNTIL THE WALL IS COMPLETE. THE REMNANTS MAY BE USED IN OTHER AREAS OF THE WALL.

## UPSTREAM WALL - ELEVATION VIEW

SCALE: 1" = 20'



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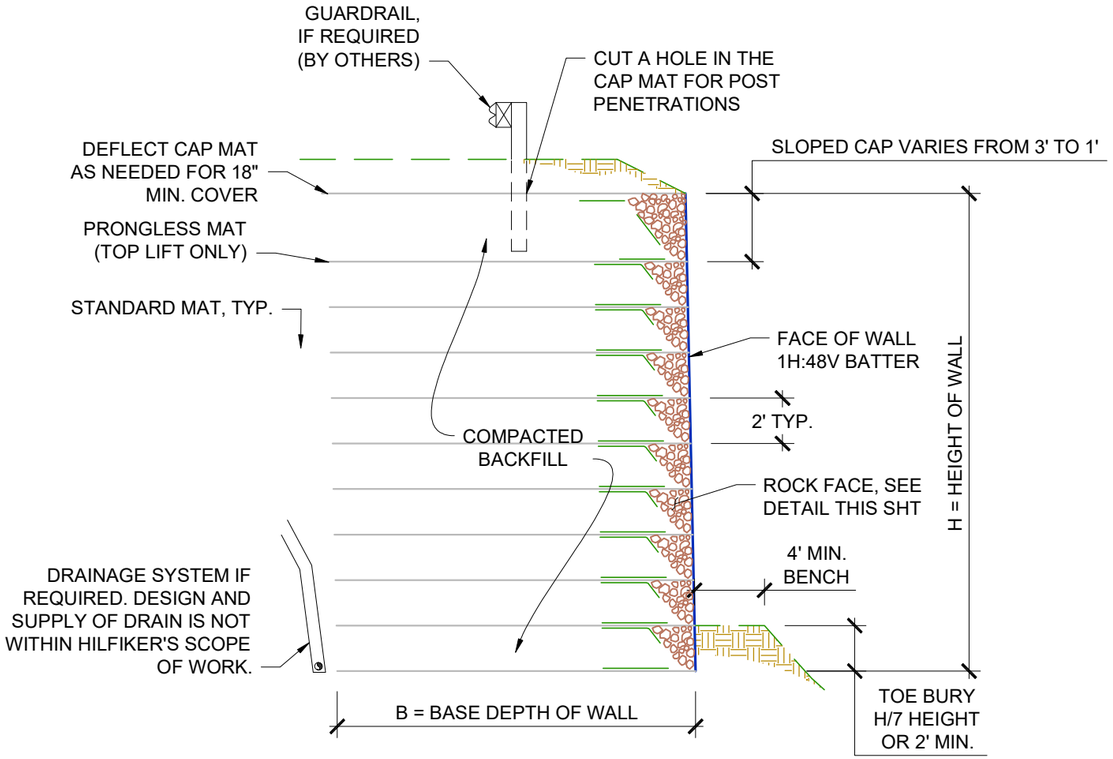
Newberry Hill - Culvert
Welded Wire Wall
WELDED WIRE WALL
UPSTREAM WALL - ELEVATION VIEW

PROJECT 24-011
DATE 3-13-24
DESIGN KLC
DRAWN KLC
SHT 3 OF 5




## CROSS SECTION, TYP

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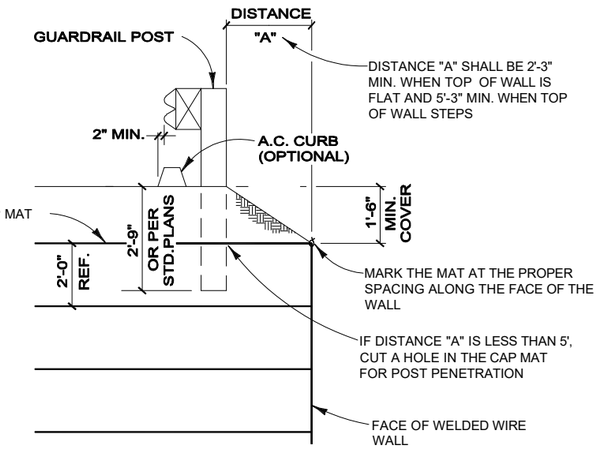
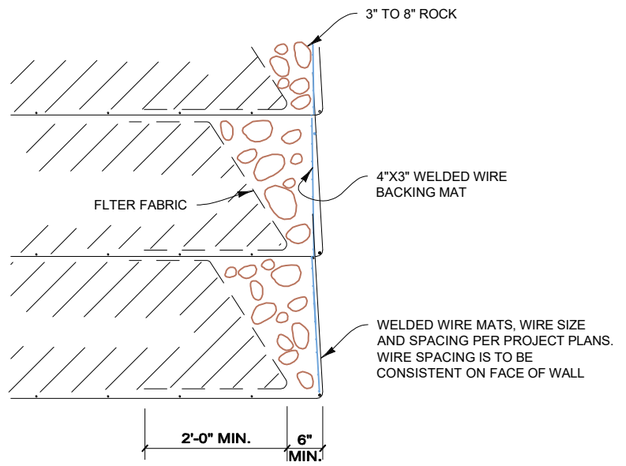



*SECTION*

## GUARDRAIL DETAIL

NOT TO SCALE
(FENCE DETAIL SIMILAR)




*SECTION*

## ROCK FACING DETAIL

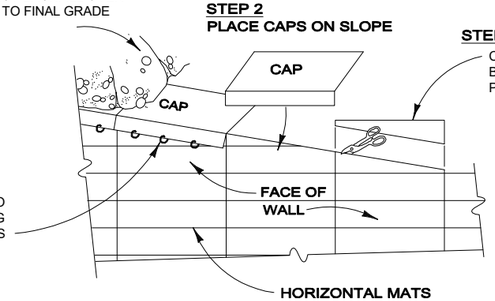
NOT TO SCALE

**STEP 4**
PLACE AND COMPACT BACKFILL OVER THE SLOPED CAPS TO FINAL GRADE

**STEP 2**
**PLACE CAPS ON SLOPE**

**STEP 1**
CUT OFF TOP OF THE MAT FACES, BACKING MATS, AND FILTER FABRIC PARALLEL TO FINAL GRADE

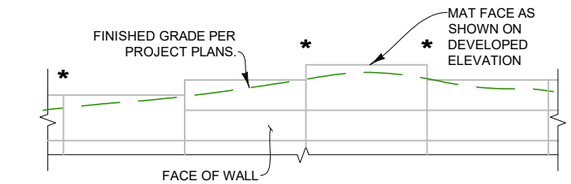
**STEP 3**
CLIP CAPS TO MAT FACES WITH HOG RINGS

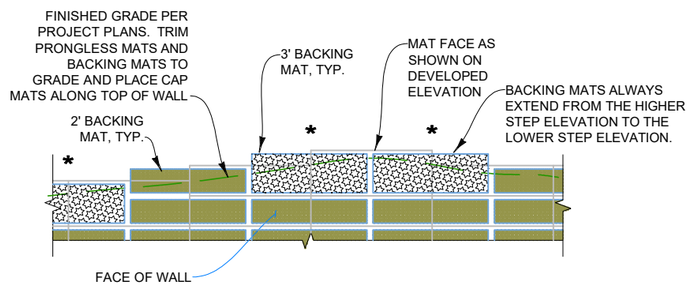



*PICTORIAL ELEVATION*

## SLOPED CAP MAT DETAIL

NOT TO SCALE




## TRIMMING BACKING MATS ALONG TOP OF WALL

NOT TO SCALE

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Newberry Hill - Culvert
Welded Wire Wall
WELDED WIRE WALL
CROSS SECTION & DETAILS

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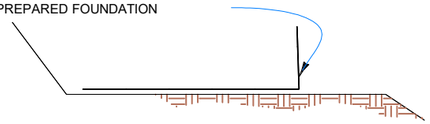
SHT 4 OF 5

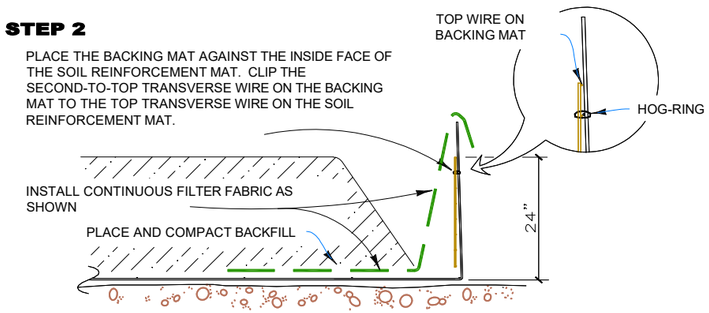
## STEP 1

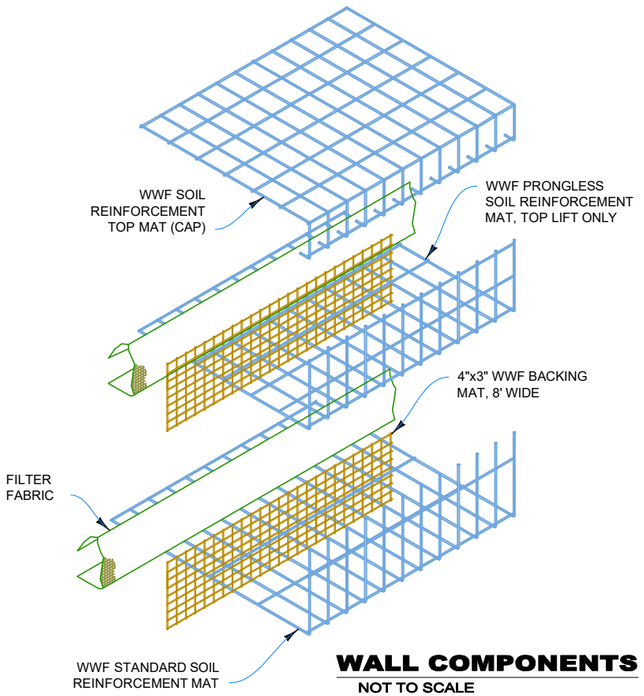
PLACE THE FIRST COURSE OF SOIL REINFORCEMENT MATS ON PREPARED FOUNDATION



## 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.



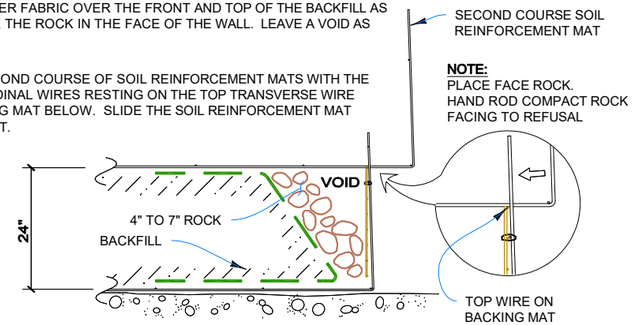




**WALL COMPONENTS**
NOT TO SCALE

## STEP 3

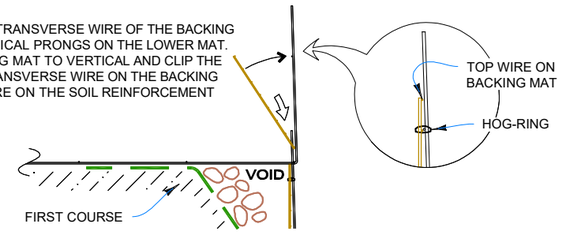
BRING THE FILTER FABRIC OVER THE FRONT AND TOP OF THE BACKFILL AS SHOWN. PLACE THE ROCK IN THE FACE OF THE WALL. LEAVE A VOID AS SHOWN.

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



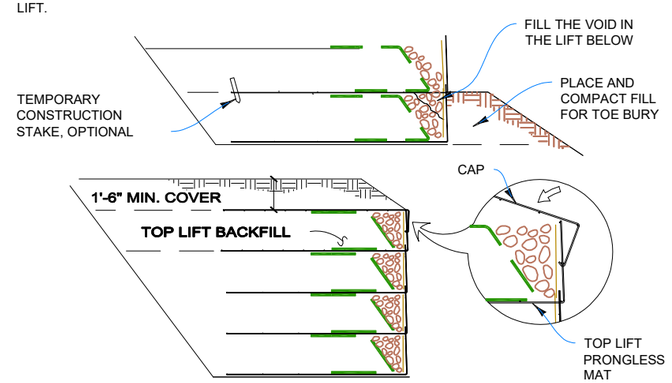

## STEP 4

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.

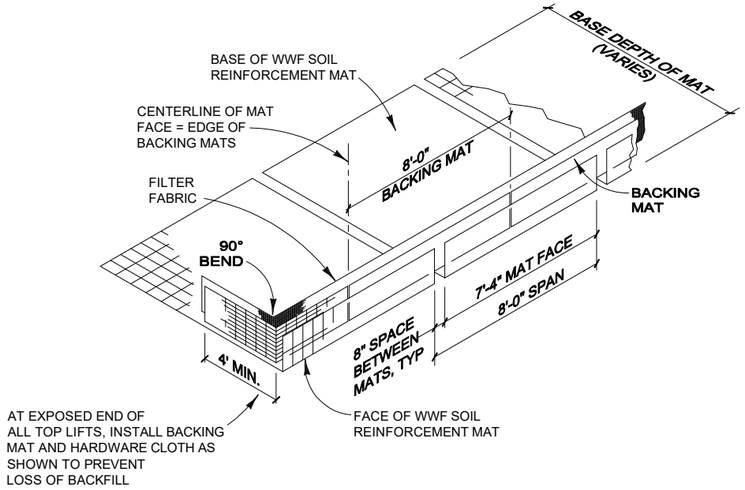



## STEP 6: TOP LIFT

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.

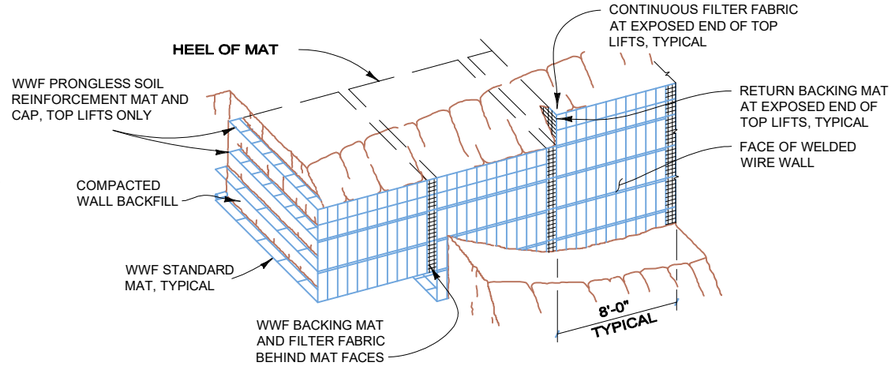
# CONSTRUCTION SEQUENCE

NOT TO SCALE




*ISOMETRIC VIEW*

**WELDED WIRE WALL COMPONENTS WITH RETURN MAT**
NOT TO SCALE




**PICTORIAL ELEVATION**
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Newberry Hill - Culvert
Welded Wire Wall
WELDED WIRE WALL CONSTRUCTION SEQUENCE & DETAILS

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