

DESIGN NOTES

- 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.
- Assumed Soil Characteristics:
 Wall Backfill:
 Unit Weight: 120 pcf
 Internal Friction Angle: 34°
 Retained Backfill:
 Unit Weight: 120 pcf
 Internal Friction Angle: 32°
 Foundation Soils:
 Unit Weight: 120 pcf
 Friction Angle for Sliding: 32°

Maximum Applied Bearing Pressure @ 23.5'H Section = 2500 psf

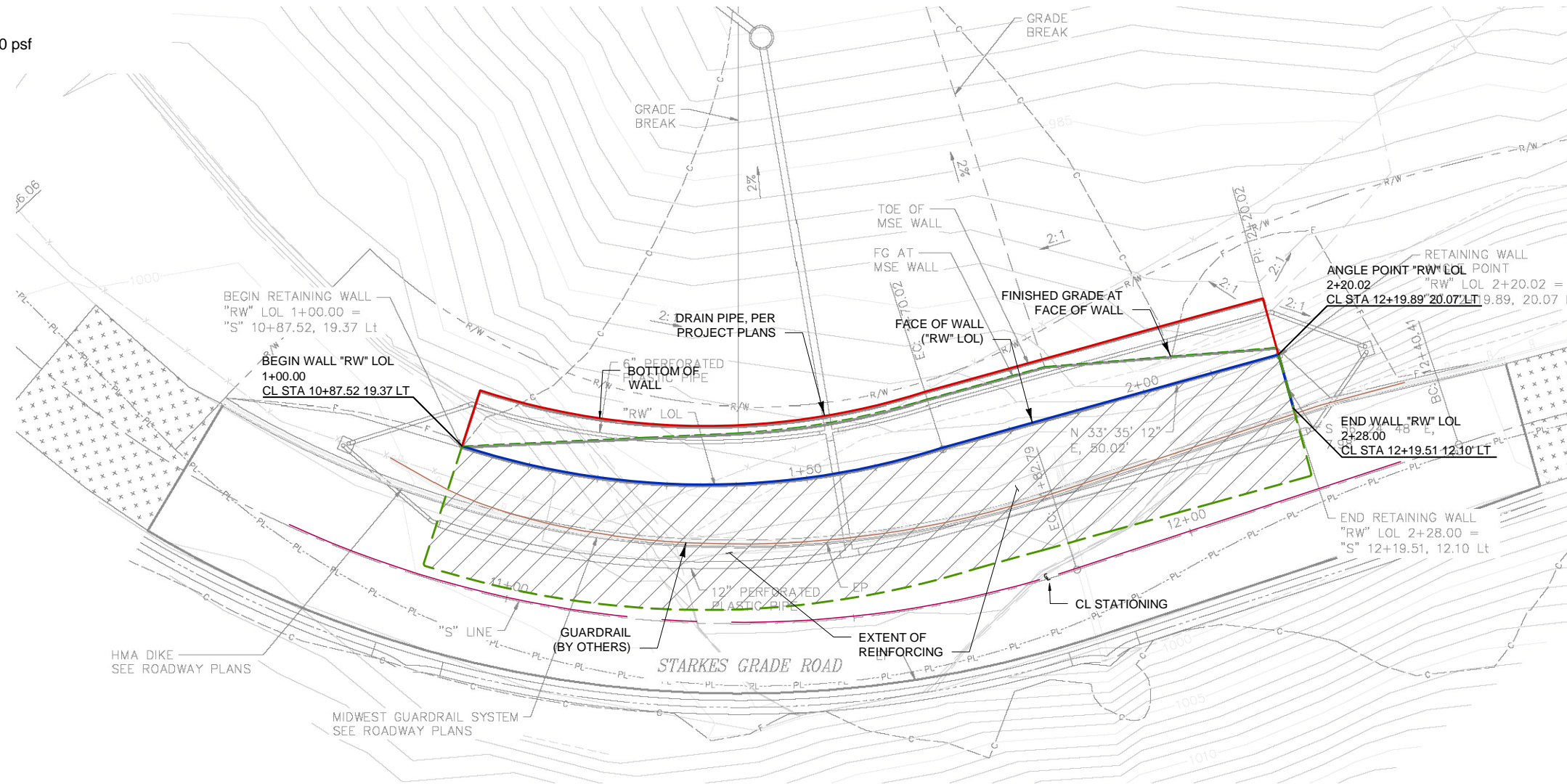
- If actual characteristics, grades or dimensions of soil materials differ from those listed above or shown on the plans, Hilfiker Retaining walls shall be notified to evaluate the need to redesign.
- If during construction, the wall location, structure location or loads are different than that proposed in this plan set and calculation package, HRW shall be notified to evaluate the need for a redesign.
- 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.

- Design Procedure:
 Mechanically Stabilized Earth walls and Reinforced Soil Slopes, FHWA report No. FHWA-NHI-00-043 with Safety Factors base upon Par. 4.2.
- Hilfiker Retaining Walls shall be responsible only for the internal stability of the retaining wall. Native Soils not of sufficient strength to support imposed bearing or sliding loads shall be removed and re-compacted/replaced with granular backfill as directed by the Project Engineer.

SUPPLIED QUANTITIES:

WALL AREA: 3096 FT²

As measured perpendicular to the face of the wall



PLAN VIEW

SCALE: 1" = 20'



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REV. NO.	DATE	BY	DESCRIPTION
	2-21-18	KLC	Initial .pdf Release

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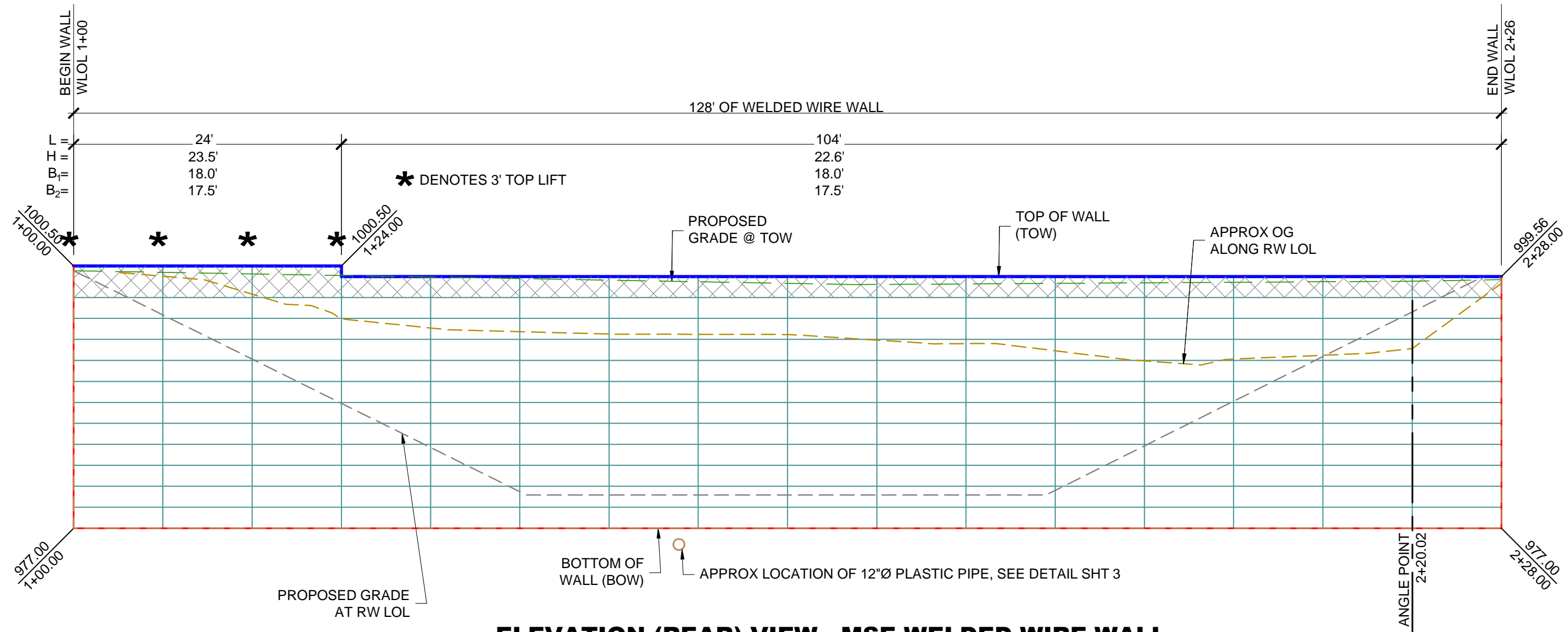
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Starkes Grade Road Slipout Project
MSE WELDED WIRE WALL
PLAN VIEW
& GENERAL NOTES

HW 171214AW

PROJECT	18-003
DATE	2-21-18
DESIGN	KLC
DRAWN	KLC
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ELEVATION (REAR) VIEW - MSE WELDED WIRE WALL
SCALE: 1" = 10'

WELDED WIRE WALL PARAMETERS		
Height of Wall (H) ft	Length of Cap & Prongless Mats (B ₁) ft	Base Length of Mats (B ₂) ft
22.6'-23.5'	18.0'	17.5'
Cap & Top Mats (B ₁) are 8x12 W4.5x3.5 WWR (Type 1) Standard Mats (B ₂) are: 8x21 W4.5x4.0 WWR (Type 2) Finish: Hot Dip Galvanized - 75 Year Service Life		

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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REV. NO.	DATE	BY	DESCRIPTION
	2-21-18	KLC	Initial .pdf Release
	2-27-18	KLC	Revised Pipe location per Plan Check Review
	3-01-18	KLC	Pipe Callout Revised

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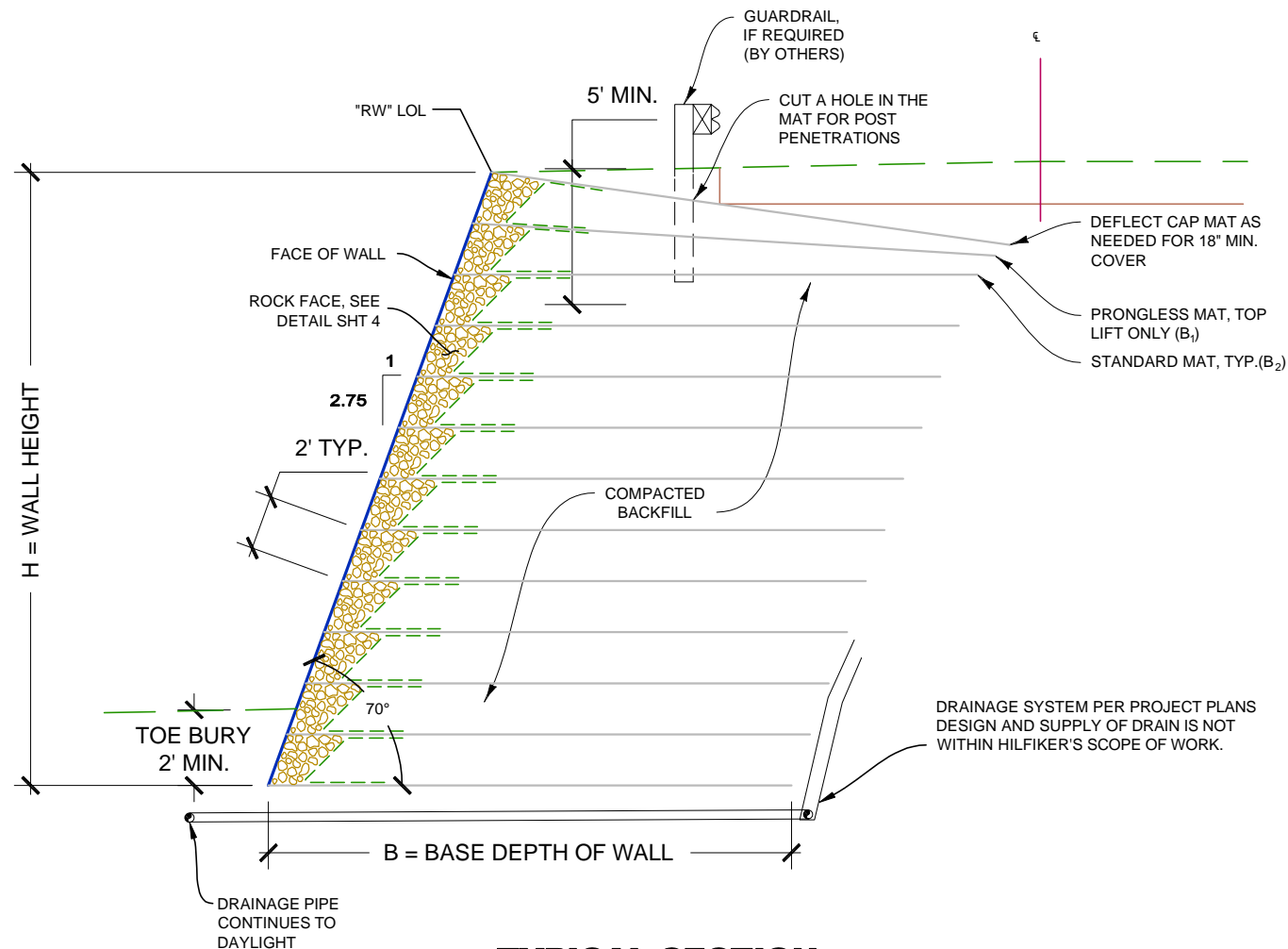
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Starkes Grade Road Slipout Project

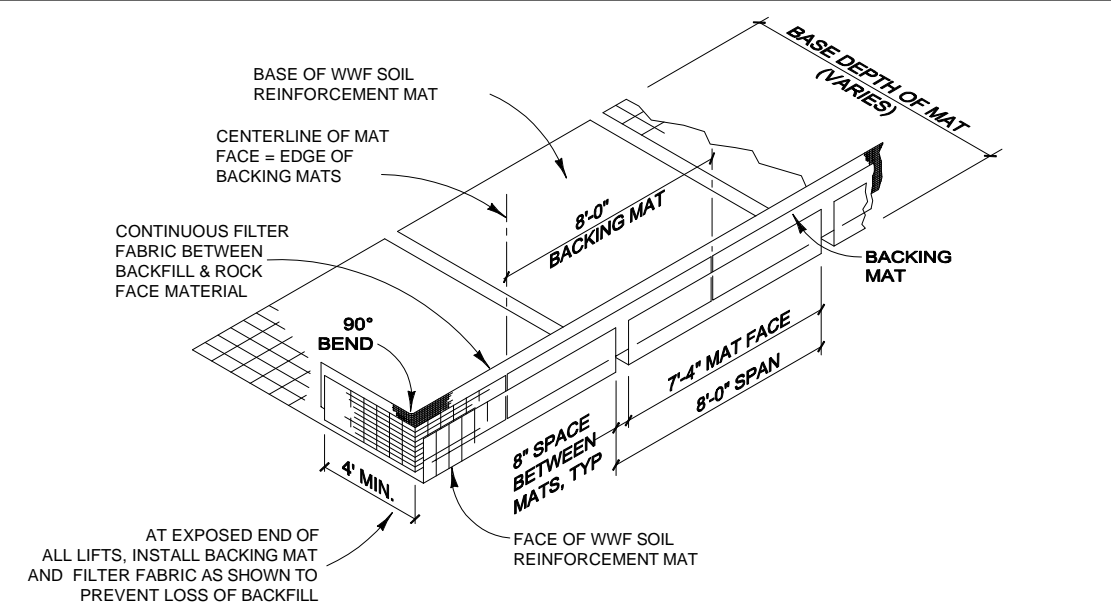
**MSE WELDED WIRE WALL
ELEVATION VIEW**

HW 171214AW

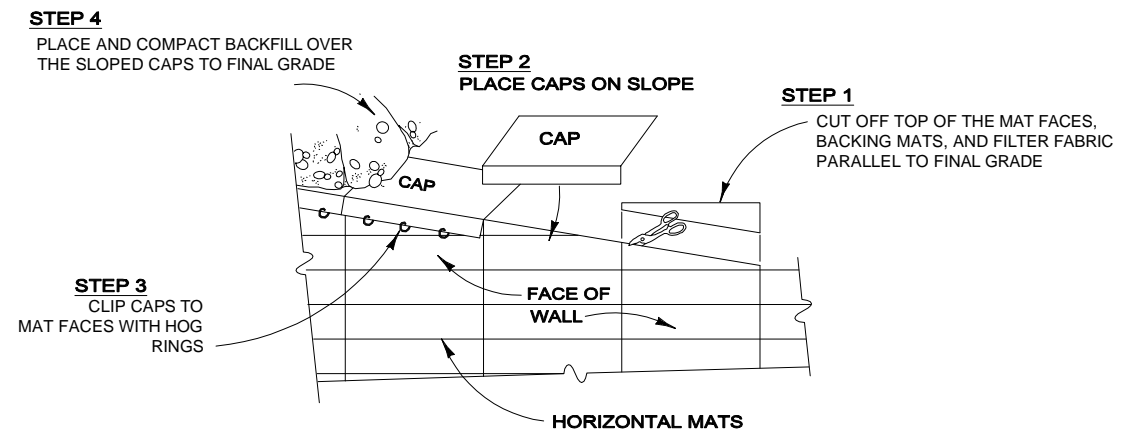
PROJECT	18-003
DATE	2-21-18
DESIGN	KLC
DRAWN	KLC
SHT	2 OF 4



TYPICAL SECTION



ISOMETRIC VIEW
WELDED WIRE WALL COMPONENTS WITH RETURN MAT
 NOT TO SCALE



PICTORIAL ELEVATION
SLOPED CAP MAT DETAIL
 NOT TO SCALE

AT THE UPPER SURFACE OF THE CULVERT, CUT THE TRANSVERSE WIRES ONLY. BEND AND LIFT THE LONGITUDINAL WIRES IN THE BASE OF THE MAT TO FIT AGAINST THE SIDE OF THE CULVERT

AT THE LOWER SURFACE OF THE CULVERT, CUT THE TRANSVERSE WIRES ONLY IN THE MAT FACE. BEND THE LONGITUDINAL WIRES BACK TO FIT AGAINST THE CURVE OF THE CULVERT

ANY LARGE GAP AT THE TOP OF THE CULVERT MAY BE CLOSED WITH BACKING MAT AND FILTER FABRIC, CUT TO FIT, OR USE LARGER ROCKS OR SACKED CONCRETE

LONGITUDINAL WIRE DO NOT CUT LONGITUDINAL WIRES AT ANY POINT OF THEIR LENGTH

TRANSVERSE WIRE

FACE OF WELDED WIRE WALL

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

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REV. NO.	DATE	BY	DESCRIPTION
	2-21-18	KLC	Initial .pdf Release
	3-01-18	KLC	Revised Drainage Pipe Callout

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Starkes Grade Road Slipout Project
 MSE WELDED WIRE WALL
 CROSS SECTION & DETAILS

HW 171214AW

PROJECT	18-003
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DRAWN	KLC
SHT	3 OF 4

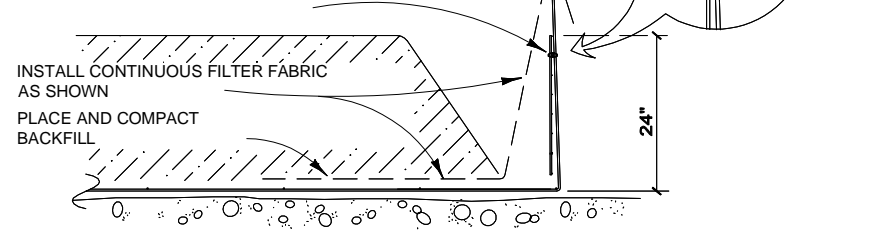
STEP 1

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



STEP 2

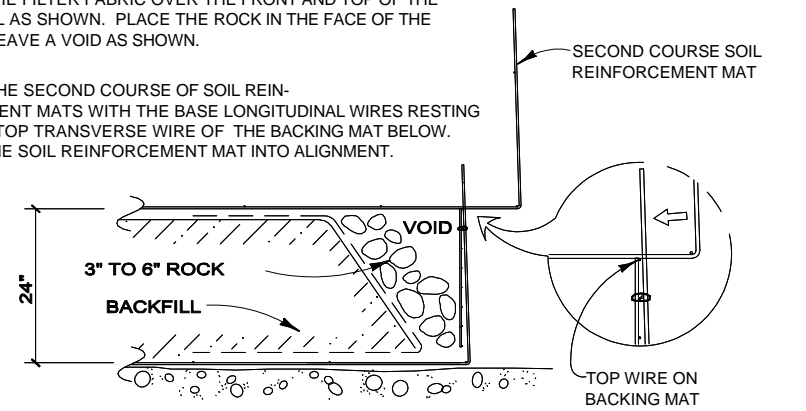
PLACE THE BACKING MAT AGAINST THE INSIDE FACE OF THE SOIL REINFORCEMENT MAT. CLIP THE SECOND-TO-TOP TRANSVERSE WIRE ON THE BACKING MAT TO THE TOP TRANSVERSE WIRE ON THE SOIL REINFORCEMENT MAT.



STEP 3

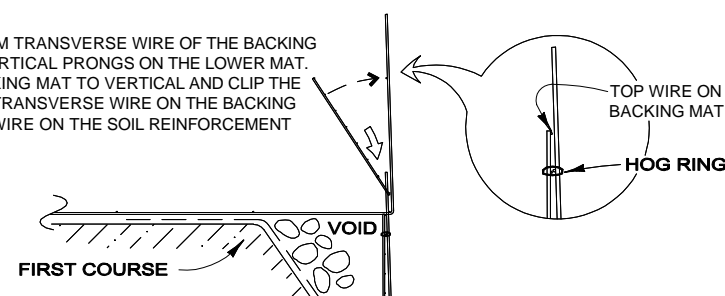
BRING THE FILTER FABRIC OVER THE FRONT AND TOP OF THE BACKFILL AS SHOWN. PLACE THE ROCK IN THE FACE OF THE WALL. LEAVE A VOID AS SHOWN.

PLACE THE SECOND COURSE OF SOIL 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.



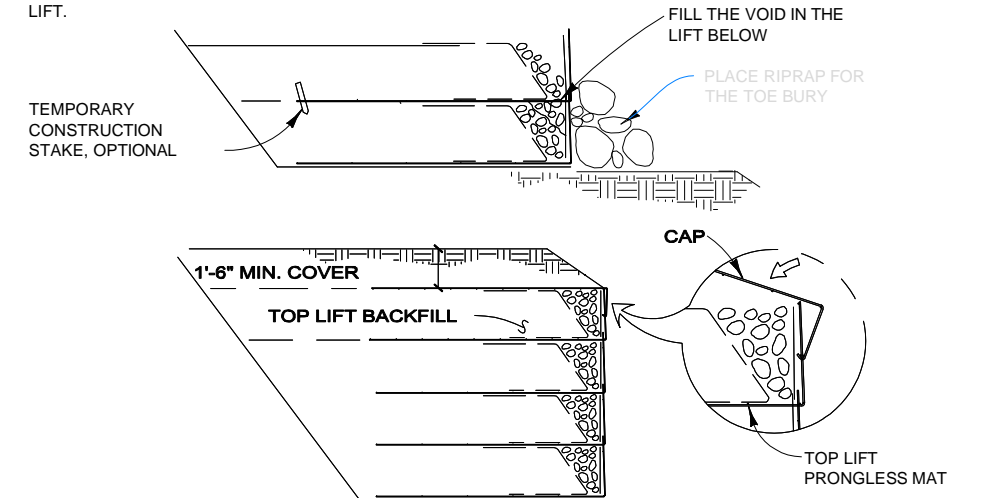
STEP 4

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.

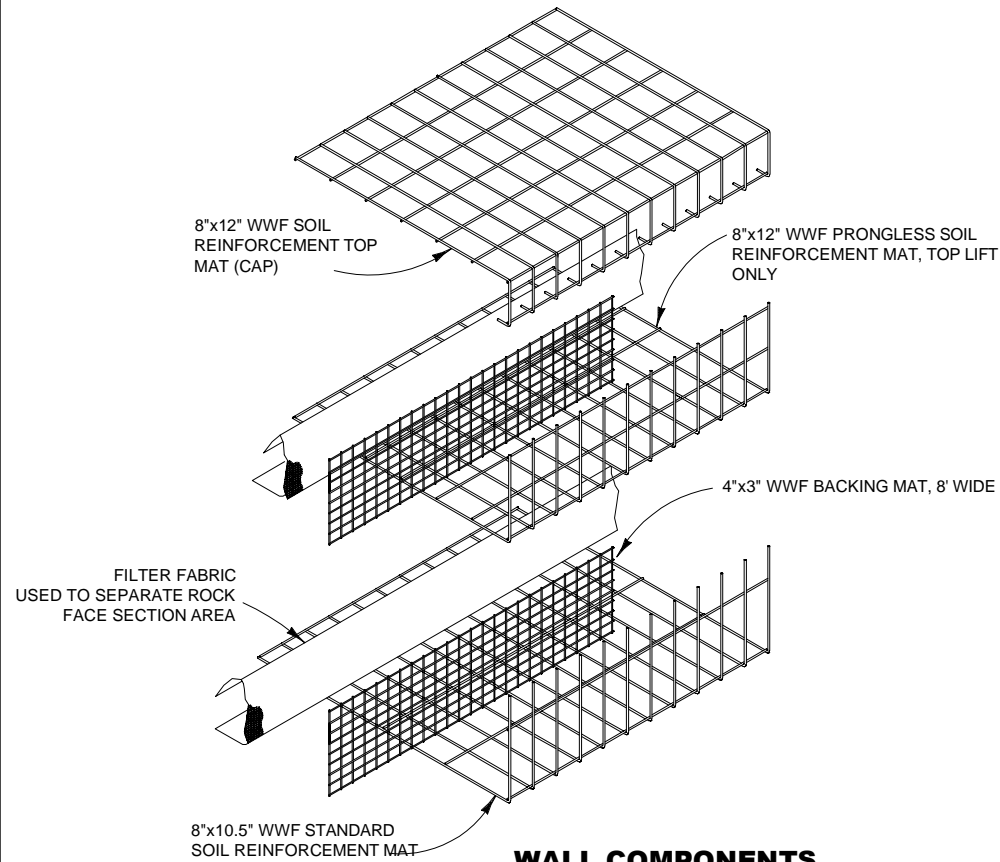


STEP 6: TOP LIFT

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.

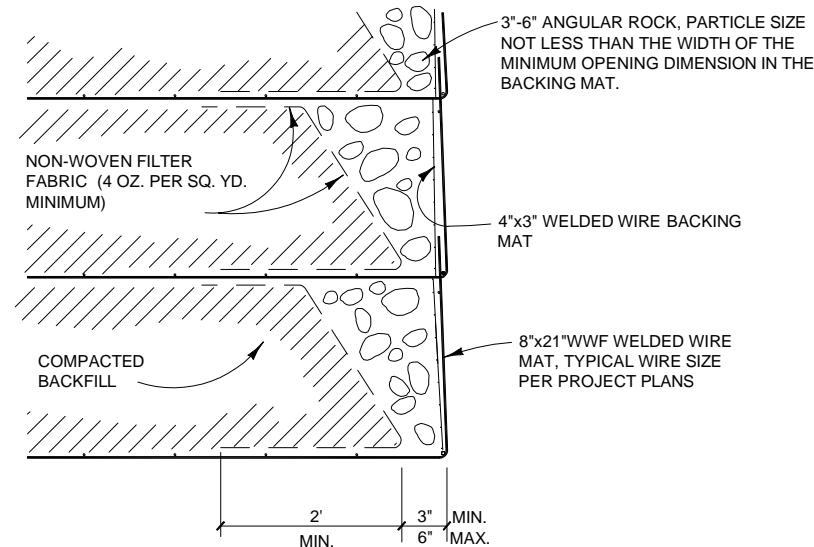
CONSTRUCTION SEQUENCE

NOT TO SCALE



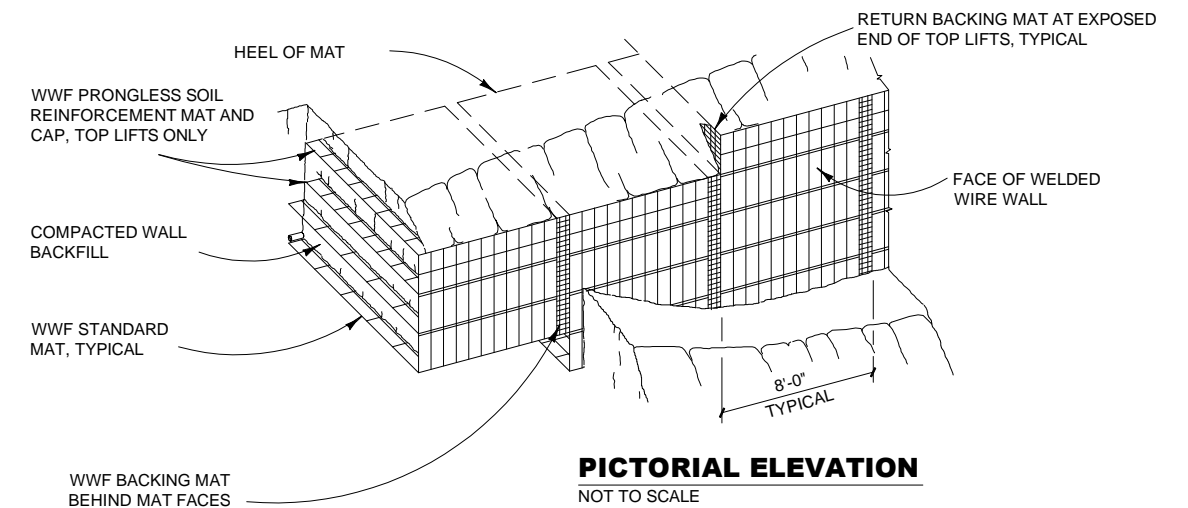
WALL COMPONENTS

NOT TO SCALE



ROCK-FACE DETAIL

NOT TO SCALE



PICTORIAL ELEVATION

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**MSE WELDED WIRE WALL
CONSTRUCTION SEQUENCE &
DETAILS**

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SHT **4** OF 4