

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 FP'14 and the amending Special Contract Requirements.
- Assumed Soil Characteristics:
 Wall Backfill:
 Unit Weight: 125 pcf
 Internal Friction Angle: 32°
 Cohesion = 0 psf
 Retained Backfill:
 Unit Weight: 125 pcf
 Internal Friction Angle: 32°
 Cohesion = 0 psf
 Foundation Soils:
 Unit Weight: 120 pcf
 Friction Angle for Sliding: 34°
 Cohesion = 0 psf

Worst Case Applied Bearing Pressure by MSE Wall- @ 26' Height - 4825 psf.

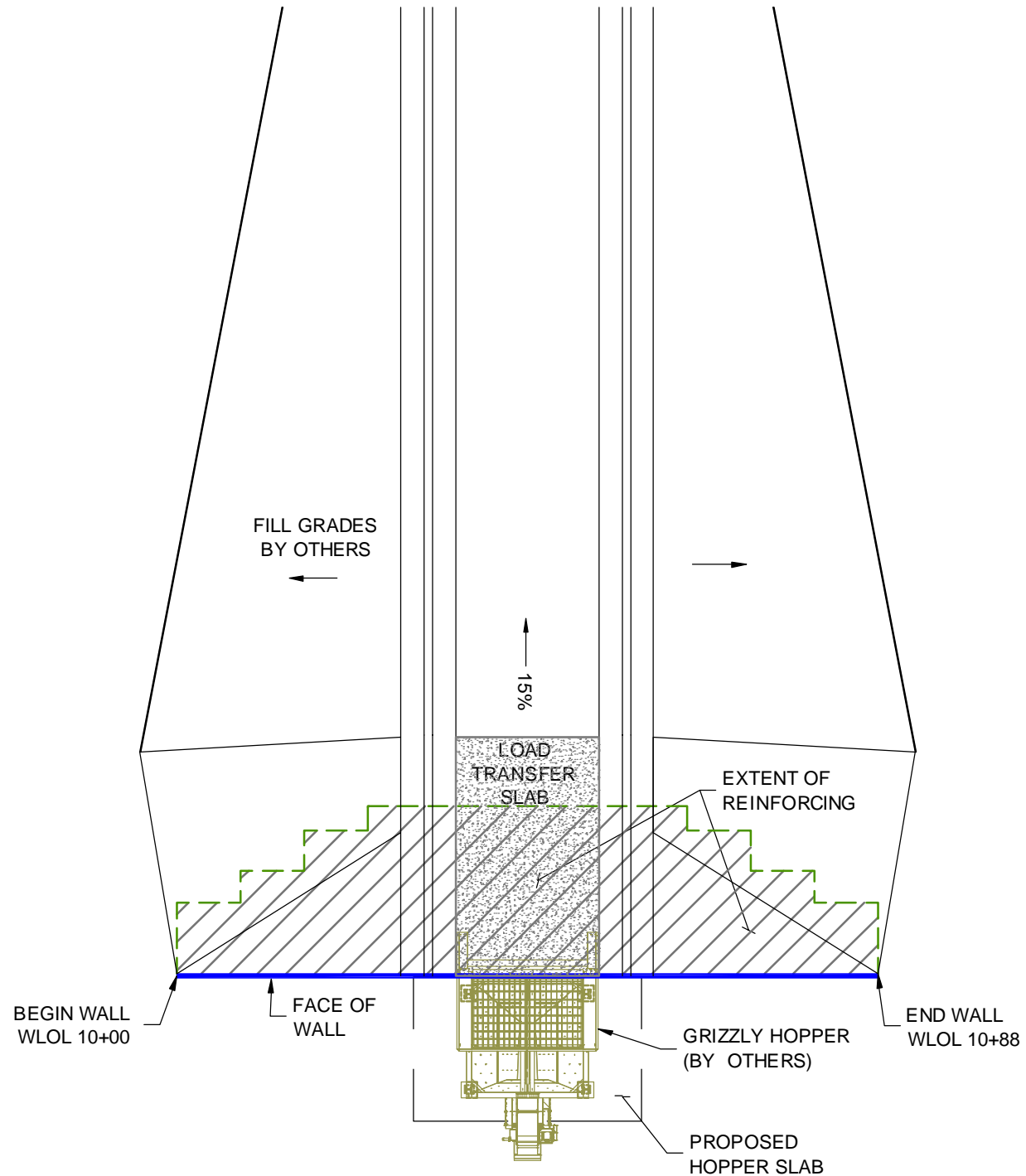
**Traffic Surcharge Live Loading - Volvo A40F Articulated Truck -
 Total Transfer Slab (30'x18'x1.5') Loading - DL = 300 psf
 LL = 300 psf**

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 Design and Construction Guide Lines, Federal Publication No. FHWA-NHI-10-24 & 10-25 and AASHTO.
- Hilfiker Retaining Walls shall be responsible only for the internal stability of the retaining wall.

**SUPPLIED QUANTITIES
 (FOR ONE WALL):**

WALL AREA: 1568 FT²



WELDED WIRE WALL - PLAN VIEW

SCALE: 1" = 20'



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HW 220127BW/CW

REV. NO.	DATE	BY	DESCRIPTION
	3-11-22	KLC	Initial .pdf Release

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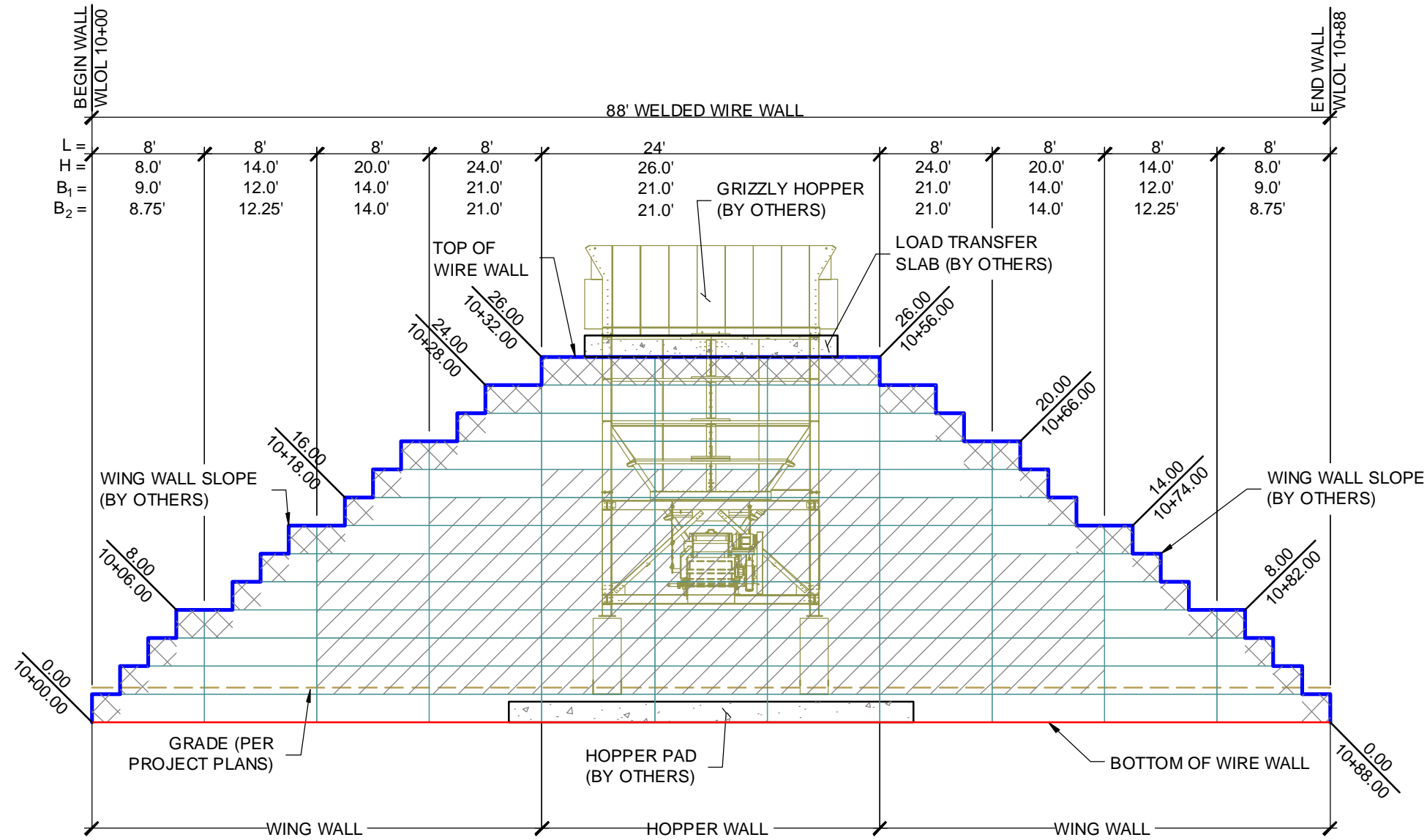
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DUMP HOPPER & FEEDER STONY CREEK &
 CHARLES CITY
 Welded Wire Walls
**MSE WALL PLAN VIEW
 & GENERAL NOTES**

PROJECT	22-011
DATE	3-11-22
DESIGN	KLC
DRAWN	KLC

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WALL - ELEVATION VIEW

SCALE: 1" = 10'

WALL WIRE TYPE LEGEND

- FINISH: BLACK (UNFINISHED)
 SERVICE LIFE: 15 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 SCRAPS MAY BE USED IN OTHER AREAS OF THE WALL.

WELDED WIRE WALL PARAMETERS		
Height of Wall (H)	Length of Cap & Prongless Mats (B ₁)	Length of Standard Mats (B ₂)
≤ 8'	9.0'	8.75'
14'	12.0'	12.25'
20'	14.0'	14.0'
24'	21.0'	21.0'
26'	21.0'	21.0'

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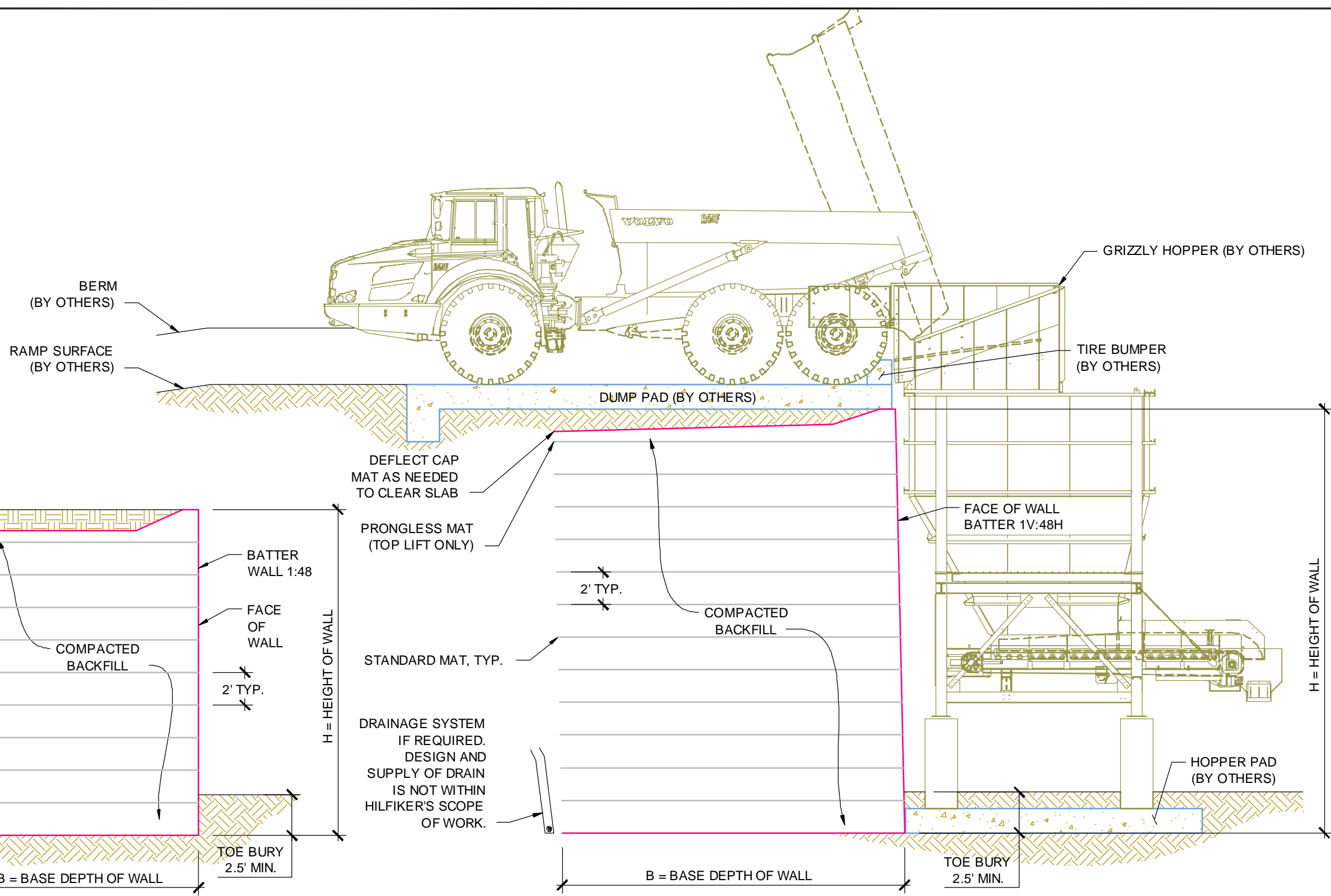
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DUMP HOPPER & FEEDER STONY CREEK &
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 MSE WALL ELEVATION VIEW

HW 220127BW

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WELDED WIRE WALL SECTION AT WING WALLS
SCALE: 3" = 20'

WELDED WIRE WALL SECTION AT HOPPER
SCALE: 3" = 20'

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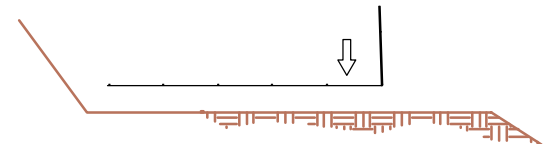
DUMP HOPPER & FEEDER STONY CREEK &
CHARLES CITY
Welded Wire Walls
MSE WALL CROSS SECTIONS

HW 220127BW

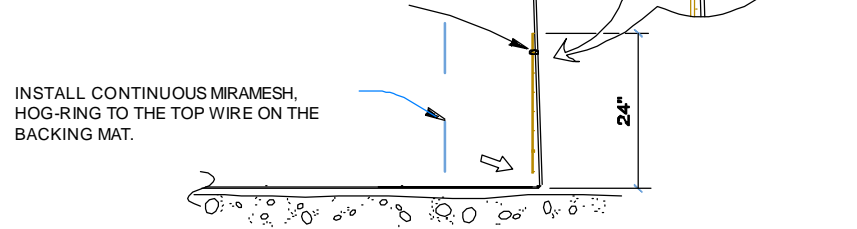
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STEP 1
PLACE THE FIRST COURSE OF SOIL REINFORCEMENT MATS ON PREPARED FOUNDATION

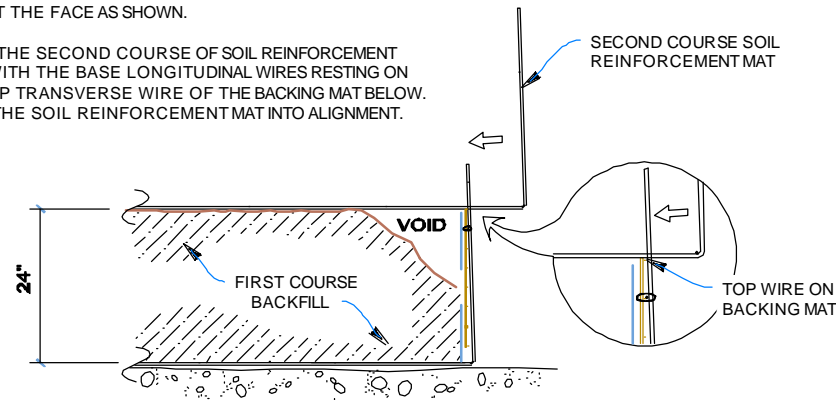


STEP 2
PLACE THE BACKING MAT AGAINST THE INSIDE FACE OF THE SOIL REINFORCEMENT MAT. CLIP THE SECOND-TO-TOP TRANSVERSE WIRE ON THE BACKING MAT TO THE TOP TRANSVERSE WIRE ON THE SOIL REINFORCEMENT MAT.



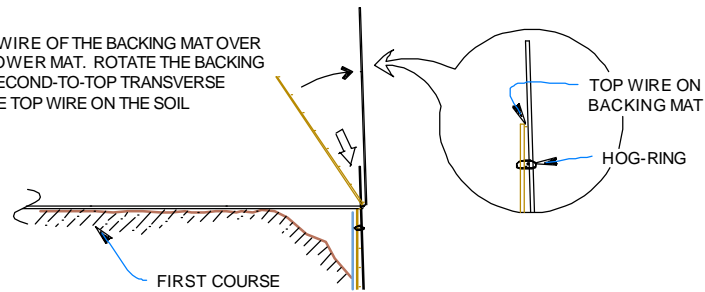
STEP 3
PLACE AND COMPACT THE BACKFILL IN LAYERS AND DENSITIES AS SPECIFIED IN THE PROJECT PLANS. LEAVE A VOID AT THE FACE AS SHOWN.

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.

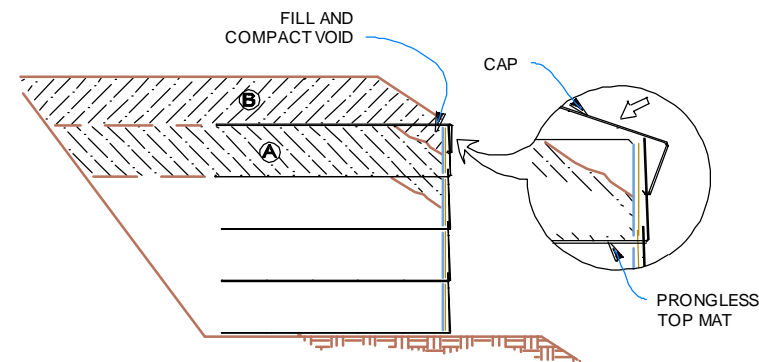
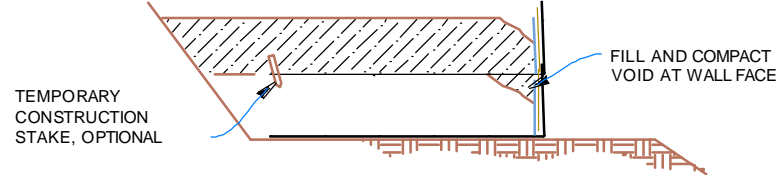


CONSTRUCTION SEQUENCE
NOT TO SCALE

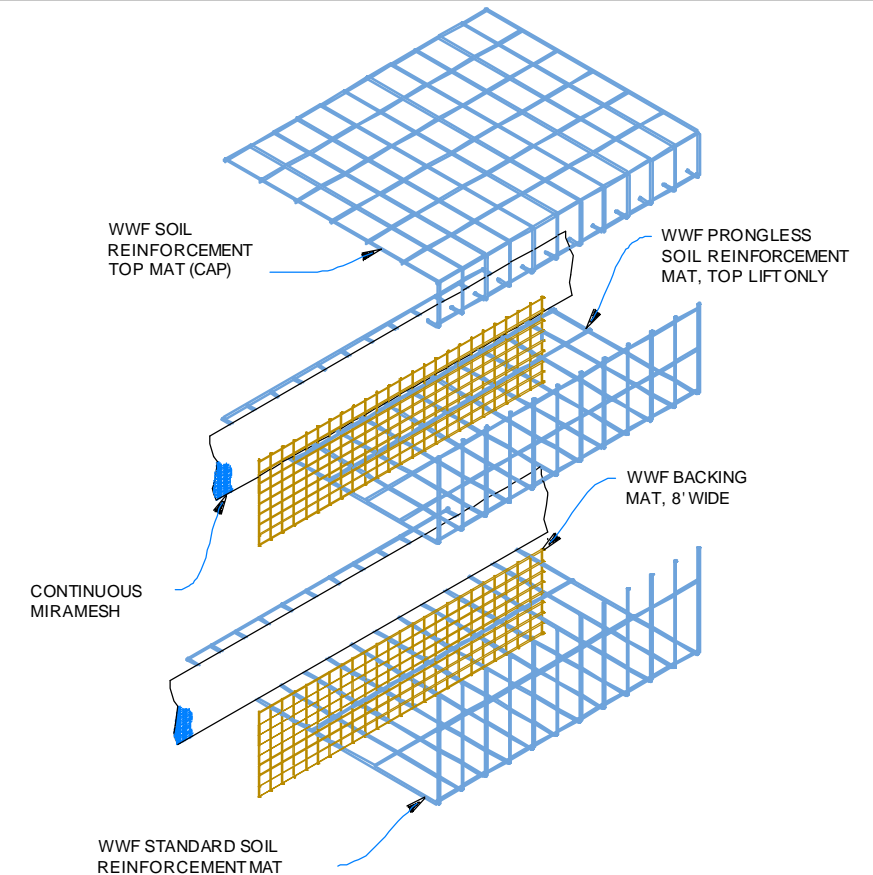
STEP 4
HOOK THE BOTTOM TRANSVERSE WIRE OF THE BACKING MAT OVER THE VERTICAL PRONGS ON THE LOWER MAT. ROTATE THE BACKING MAT TO VERTICAL AND CLIP THE SECOND-TO-TOP TRANSVERSE WIRE ON THE BACKING MAT TO THE TOP WIRE ON THE SOIL REINFORCEMENT MAT.



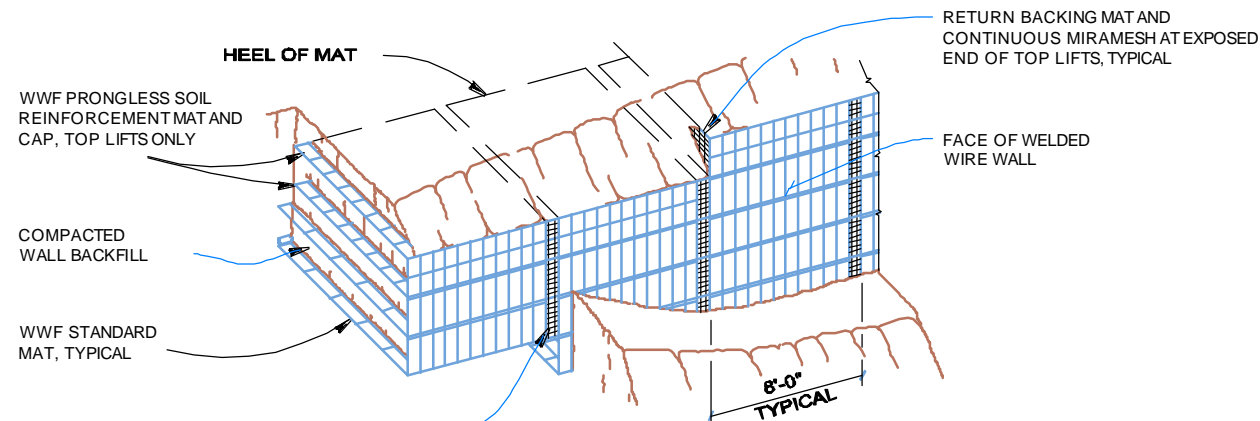
STEP 5
INSTALL THE CONTINUOUS MIRAMESH. PLACE AND COMPACT THE BACKFILL TO THE BASE ELEVATION OF THE NEXT MAT. REPEAT STEPS 3 THROUGH 5 TO THE TOP LIFT.



STEP 6: TOP LIFT
PLACE THE TOP LIFT PRONGLESS MAT, BACKING MAT AND CONTINUOUS MIRAMESH. PLACE AND COMPACT BACKFILL IN AREA "A". HOOK THE CAP OVER THE MIDDLE TRANSVERSE WIRE ON THE PRONGLESS MAT, AND ROTATE INTO PLACE. BACKFILL "B" TO 1'-6" MIN. COVER OVER THE CAP.



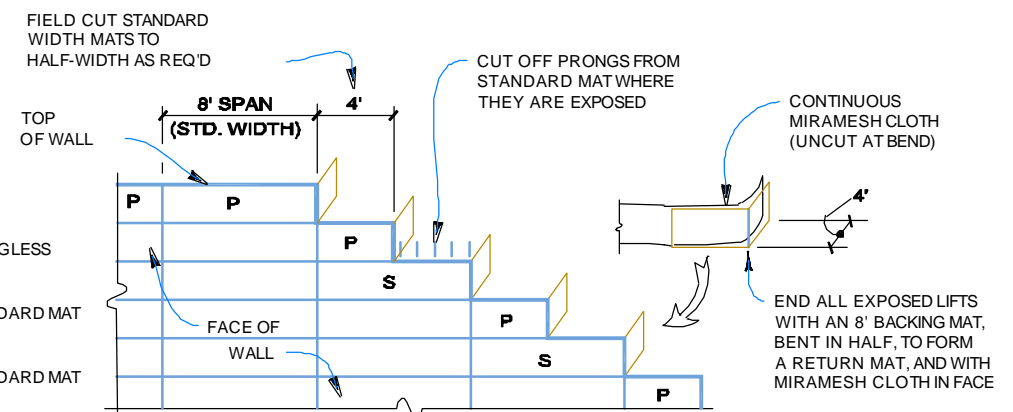
WALL COMPONENTS
NOT TO SCALE



PICTORIAL ELEVATION
NOT TO SCALE

LEGEND (THIS DETAIL ONLY)

- P PRONGLESS MAT
- S STANDARD MAT
- STANDARD MAT



RETURN MATS AND TOP OF WALL DETAIL
NOT TO SCALE

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WWF BACKING MAT AND CONTINUOUS MIRAMESH BEHIND MAT FACES

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MSE WALL CONSTRUCTION SEQUENCE & DETAILS

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