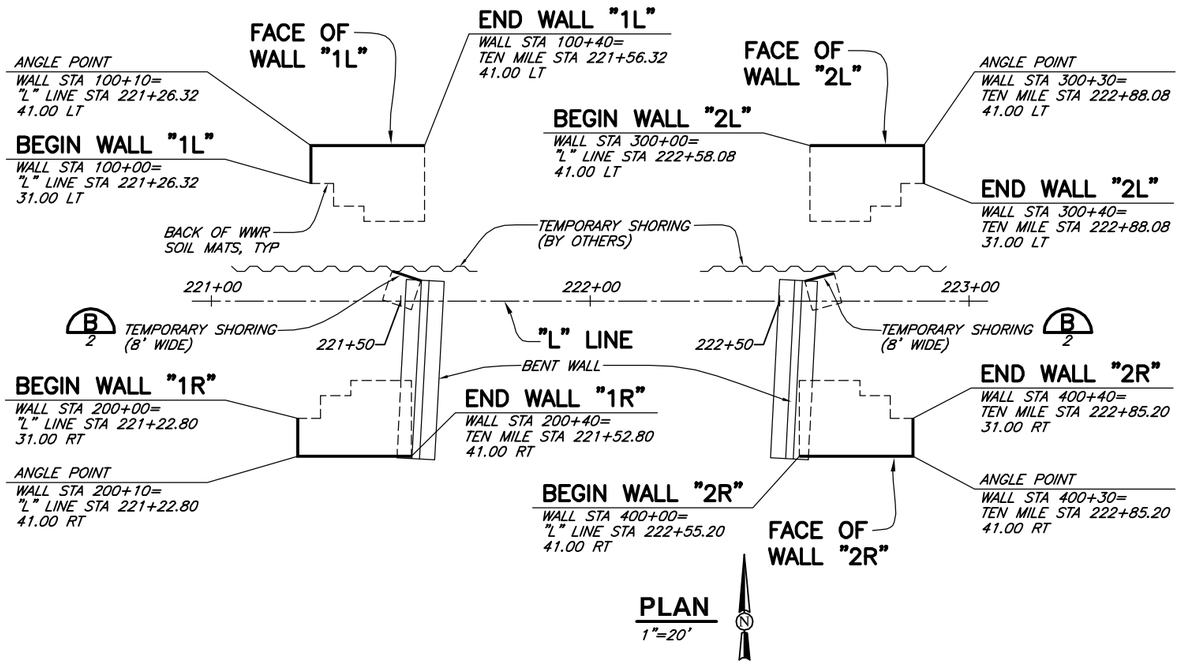
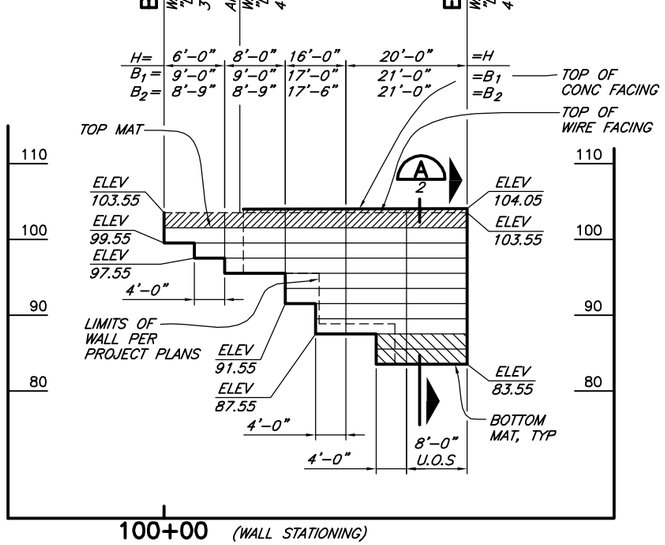
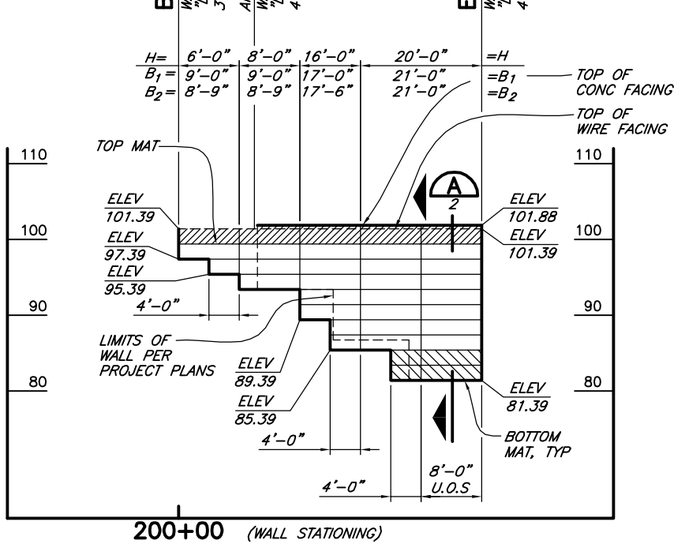




WALL "1L"
DEVELOPED WALL ELEVATION (BACKFACE)

1"=10' HORIZ AND VERT
U.O.S.= UNLESS OTHERWISE STATED



WALL "1R"
DEVELOPED WALL ELEVATION

1"=10' HORIZ AND VERT
U.O.S.= UNLESS OTHERWISE STATED

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: 130 PCF
     - INTERNAL FRICTION ANGLE: 35°
     - COHESION: 0 PSF
   - RANDOM BACKFILL:
     - UNIT WEIGHT: 125 PCF
     - INTERNAL FRICTION ANGLE: 35°
     - COHESION: 0 PSF
     - COEFFICIENT OF ACTIVE SOIL PRESSURE: 0.260
   - FOUNDATION SOILS:
     - FRICTION ANGLE FOR SLIDING: 32°
     - COHESION: 0 PSF
     - MAXIMUM APPLIED BEARING PRESSURE: 3.42 KSF (D.L+L.L.)

   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. THE DESIGN REQUIRES A NON-SATURATED BACKFILL TO PREVENT HYDROSTATIC PRESSURES AND ACCELERATED CORROSION OF THE SOIL REINFORCEMENT.

   DRAINAGE CONTROL SHALL BE AS SPECIFIED IN THE PROJECT PLANS AND SPECIFICATIONS OR AS DIRECTED BY THE OWNER'S ENGINEER. PAYMENT FOR DRAINAGE SHALL BE AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
4. REFERENCE DOCUMENTS:
   PLANS AND SPECIFICATIONS PROVIDED IN PDF PREPARED BY THE OREGON DEPARTMENT OF TRANSPORTATION, DATED OCTOBER 2009.

SHORING MATERIAL LIST

BASE DEPTH	CAP MAT W4.5xW3.5	PRONGLESS MAT W4.5xW3.5	STANDARD MAT W4.5xW4	STANDARD MAT W7xW4
16'-0"	2	2	–	–
15'-9"	–	–	12	8
WALL FACE SUPPLIED	352 SQ. FT.			
MSE BACKFILL (BY OTHERS)	*206 C.Y.			
BACKING MATS (2'-0" HIGH)	46 EA			
FILTER FABRIC (2'-6" WIDE)	368 LIN FT			
HOG RINGS	600 EA			
PLIERS	1 EA			

* TOP MAT TO BOTTOM MAT, NEAT

ERS MATERIAL LIST

BASE DEPTH	PRONGLESS MAT W4.5xW3.5	STANDARD MAT W7xW4	STANDARD MAT W9.5xW4
21'-0"	8	56	12
17'-6"	–	24	–
17'-0"	4	–	–
9'-0"	8	–	–
8'-9"	–	18	–
WALL FACE SUPPLIED	2,080 SQ. FT.		
MSE BACKFILL (BY OTHERS)	*1,371 C.Y.		
BACKING MATS (2'-0" HIGH)	170 EA		
FILTER FABRIC (2'-6" WIDE)	1,360 LIN FT		
HOG RINGS	3,200 EA		
PLIERS	3 EA		
FORM ANCHORS	130 EA		

* TOP MAT TO BOTTOM MAT, NEAT

WWR MAT LEGEND

- 8x12, W4.5xW3.5 WWR SOIL REINFORCING MATS
- 8x21, W7xW4 WWR SOIL REINFORCING MATS
- 8x21, W9.5xW4 WWR SOIL REINFORCING MATS

ERS WALLS
HILFIKER RETAINING WALLS

1902 Hilfiker Lane
Eureka, CA 95503-5711
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PH 707.443.5093 FAX 707.443.2891
WEB SITE www.hilfiker.com E-MAIL info@hilfiker.com

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CAD: \\ZINC\PROJECTS\2011\011002\010-I-84-HOOD-RIVER\DWGS\011002-010-HOOD-RWR-R1.DWG
(HRW 091002 BE)

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CONSULTING ENGINEERS & GEOLOGISTS, INC.
812 W. Wabash Eureka, CA 95501
(707)441-8855 FAX (707)441-8877

KJN BY

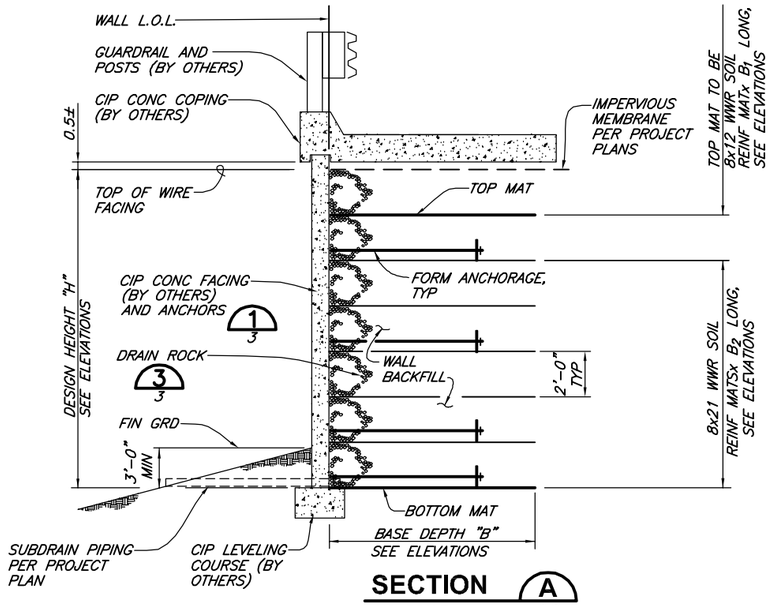
NO.	DATE	REVISION
1	02/07/11	Review comments

DSGN KJN
DR MMD
CHK KJN
APVD

I-84 EXIT 64 (HOOD RIVER)
OREGON DEPARTMENT OF TRANSPORTATION
HOOD RIVER COUNTY, OREGON

WALL PLANS & ELEVATIONS

SHEET 1 OF 4
DATE 1/17/11
PROJ. NO. 011002.010



SECTION A

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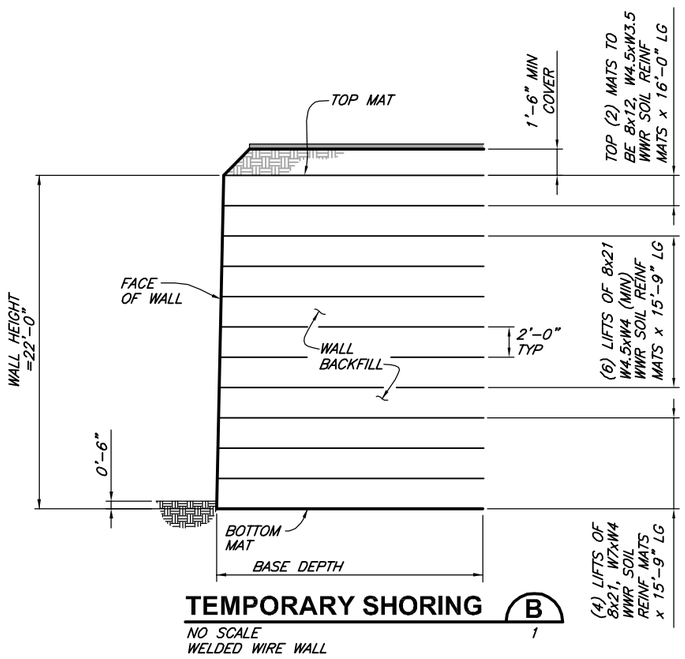
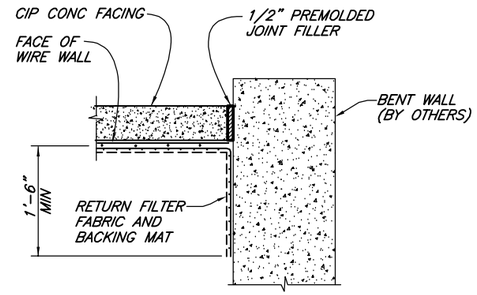


TEMPORARY SHORING

NO SCALE
WELDED WIRE WALL

B 1



SECTION 1

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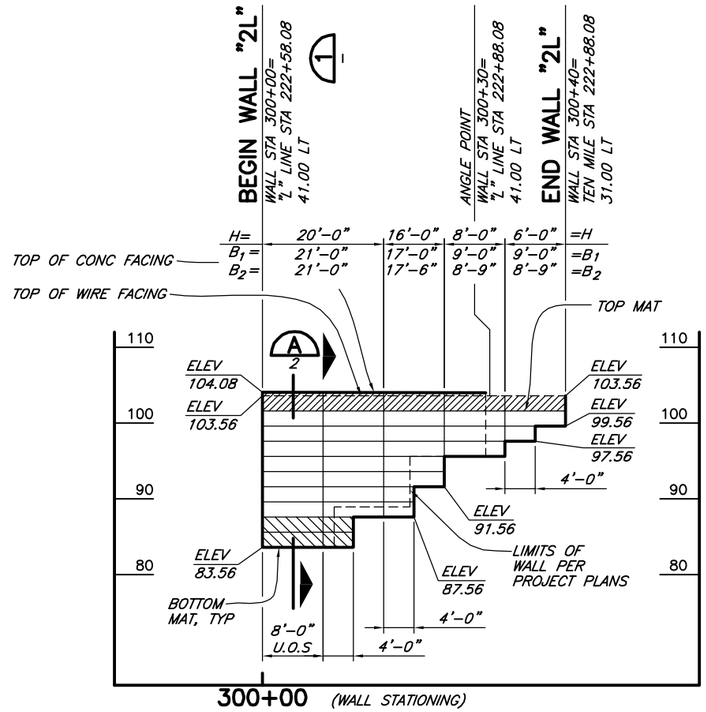
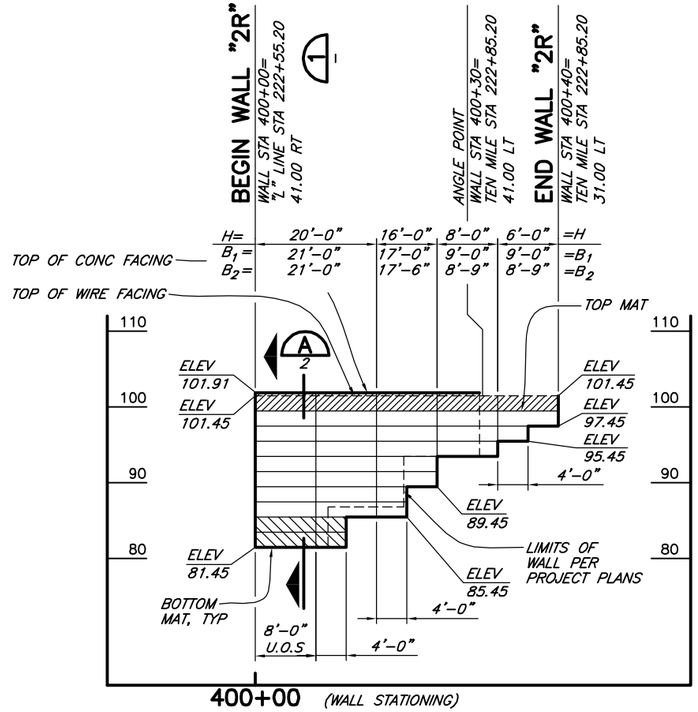


WALL "2L" DEVELOPED WALL ELEVATION (BACKFACE)

1"=10' HORIZ AND VERT
U.O.S.= UNLESS OTHERWISE STATED



WALL "2R" DEVELOPED WALL ELEVATION

1"=10' HORIZ AND VERT
U.O.S.= UNLESS OTHERWISE STATED

WWR MAT LEGEND

- 8x12, W4.5xW3.5 WWR SOIL REINFORCING MATS
- 8x21, W7xW4 WWR SOIL REINFORCING MATS
- 8x21, W9.5xW4 WWR SOIL REINFORCING MATS

REGISTERED PROFESSIONAL ENGINEER
No. 18108PE
OREGON
SEPT. 19, 1995
K. JEFFREY NELSON

EXPIRES: 12/31/2012

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1	02/07/11	Review comments

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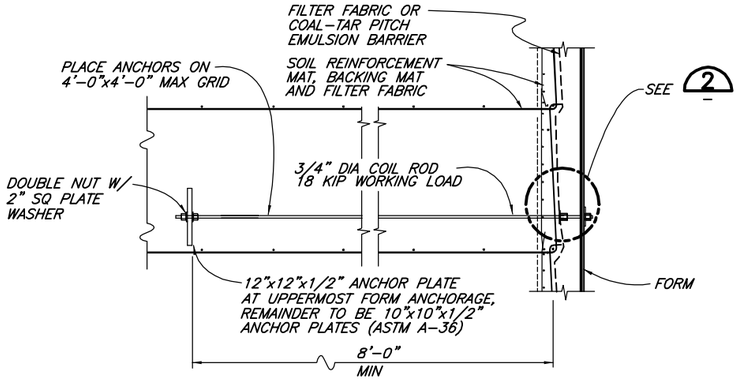
DR NMD
CHK KJN
APVD

I-84 EXIT 64 (HOOD RIVER)
OREGON DEPARTMENT OF TRANSPORTATION
HOOD RIVER COUNTY, OREGON
ELEVATIONS (CONT), SECTIONS AND DETAILS

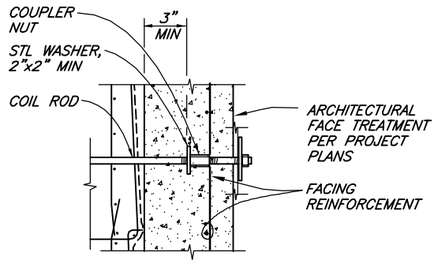
SHEET 2 OF 4
DATE 1/17/11
PROJ. NO. 011002.010



NOTES:

1. UPPERMOST ANCHORS TO BE INSTALLED IMMEDIATELY ABOVE THE SECOND MAT DOWN.
2. 4'-0"x4'-0" INSTALLATION GRID PROVIDES FOR A 3' PER HOUR CONCRETE POUR RATE AT 60° F; EXCEPT POUR RATE ABOVE UPPERMOST ANCHORS IS TO BE SLOWED TO 1' PER HOUR.
3. BACK FORM AND FORM TIES TO BE INSTALLED ABOVE TOP MATS.
4. 10x10"x6" (12"x12"x6" FOR UPPERMOST ANCHORS) CONCRETE BLOCKS MAY BE SUBSTITUTED FOR THE ANCHOR PLATES.
5. METHOD OF ATTACHING FORMS MAY VARY FROM THIS DETAIL. SEE PROJECT PLANS FOR OTHER DETAILS.

DETAIL 1
NO SCALE



DETAIL 2
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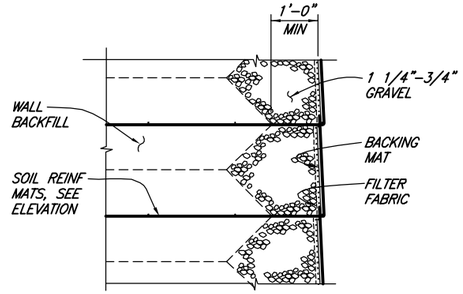

DETAIL 3
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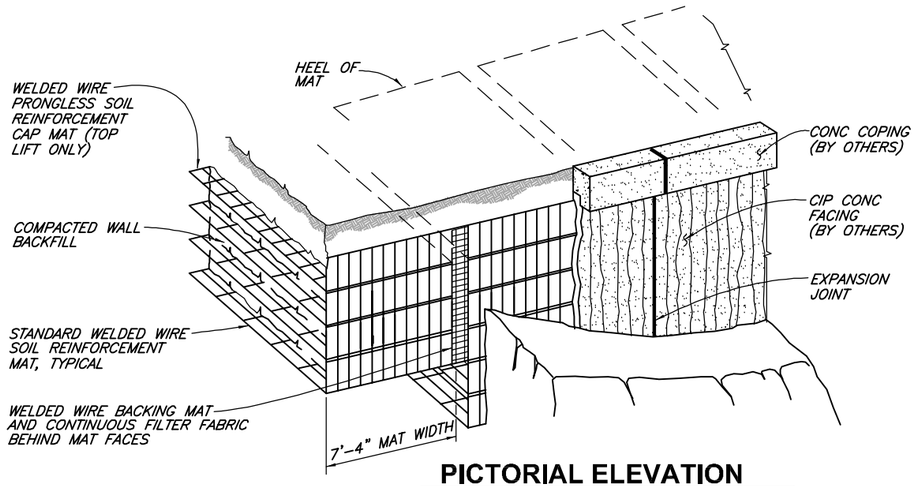

PICTORIAL ELEVATION
NO SCALE

REGISTERED PROFESSIONAL ENGINEER
No. 18108PE
OREGON
SEPT. 19, 1995
K. JEFFREY NELSON
EXPIRES: 12/31/2012

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I-84 EXIT 64 (HOOD RIVER)
OREGON DEPARTMENT OF TRANSPORTATION
HOOD RIVER COUNTY, OREGON

DETAILS

SHEET 3 OF 4
DATE 1/17/11
PROJ. NO. 011002.010

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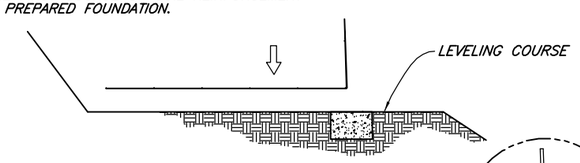
(HRW 091002 BE)

STEP 1

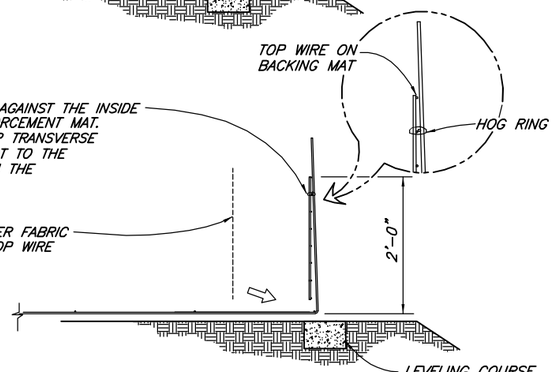
PLACE THE FIRST COURSE OF SOIL REINFORCEMENT MATS ON PREPARED FOUNDATION.



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.

INSTALL CONTINUOUS FILTER FABRIC AND HOG-RING TO THE TOP WIRE ON THE BACKING MAT.

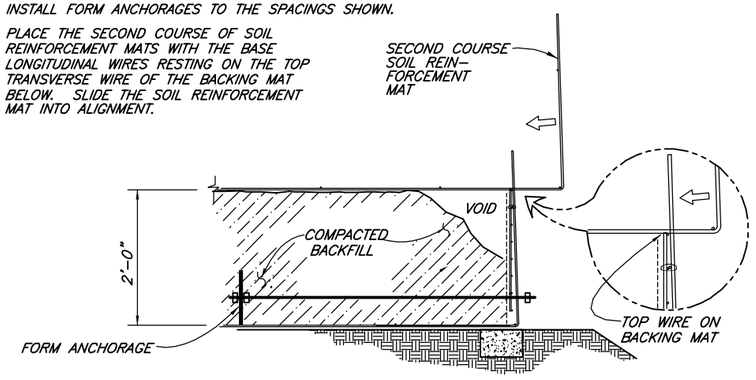


STEP 3

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

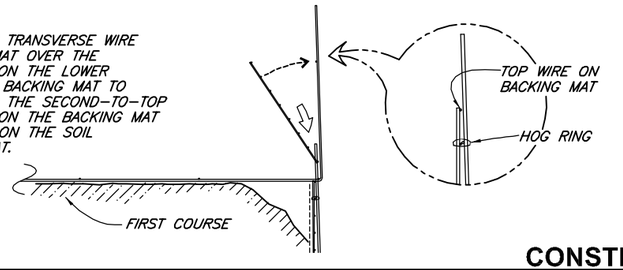
INSTALL FORM ANCHORAGES TO THE SPACINGS SHOWN.

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.



CONSTRUCTION SEQUENCE

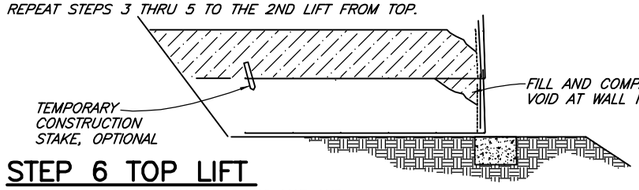
NO SCALE

STEP 5

INSTALL THE FILTER FABRIC.

PLACE AND COMPACT THE BACKFILL TO THE BASE ELEVATION OF THE NEXT MAT.

REPEAT STEPS 3 THRU 5 TO THE 2ND LIFT FROM TOP.



STEP 6 TOP LIFT

PLACE THE 2ND LIFT MAT, BACKING MAT AND FILTER FABRIC.

INSTALL ANCHOR BLOCKS AND COIL RODS.

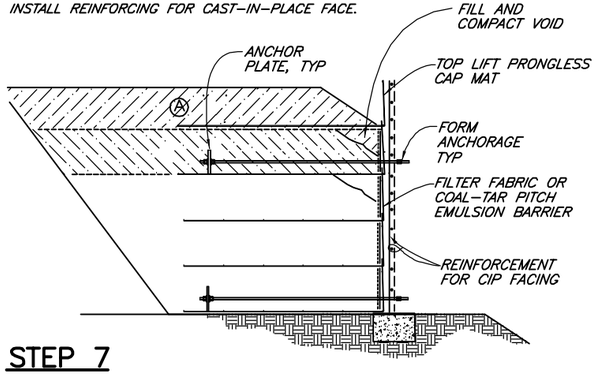
PLACE BACKFILL AND COMPACT.

PLACE THE TOP LIFT PRONGLESS CAP MAT AND FILTER FABRIC.

BACKFILL "A" TO 2'-0" MINIMUM COVER OVER THE CAP.

INSTALL FILTER FABRIC OR COAL-TAR PITCH EMULSION BARRIER AT FACE OF WALL.

INSTALL REINFORCING FOR CAST-IN-PLACE FACE.

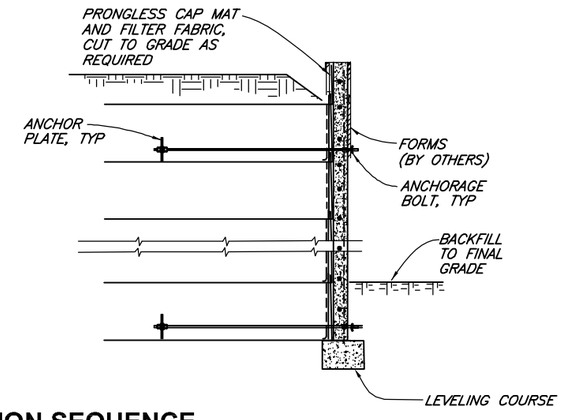


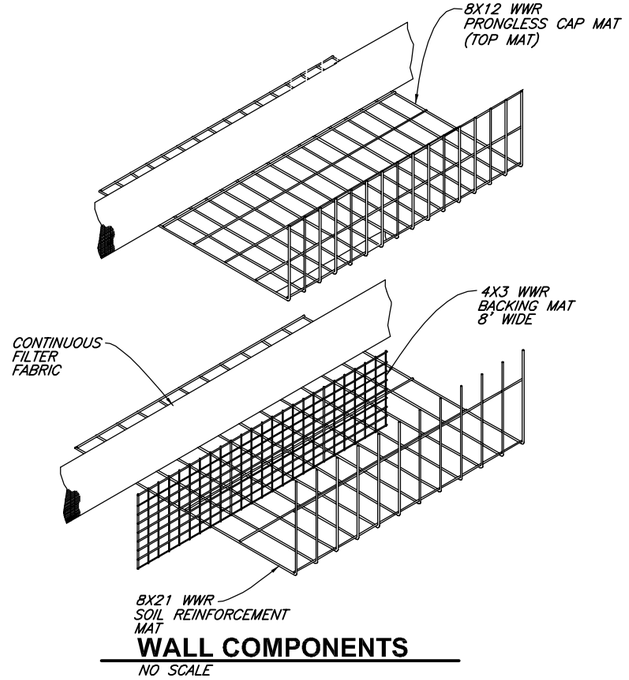
STEP 7

ATTACH THE FORMS TO THE FORM ANCHORAGE BOLTS. CAST CONCRETE FACING.

STRIP FORMS AND BACKFILL AT TOE TO FINAL GRADE.

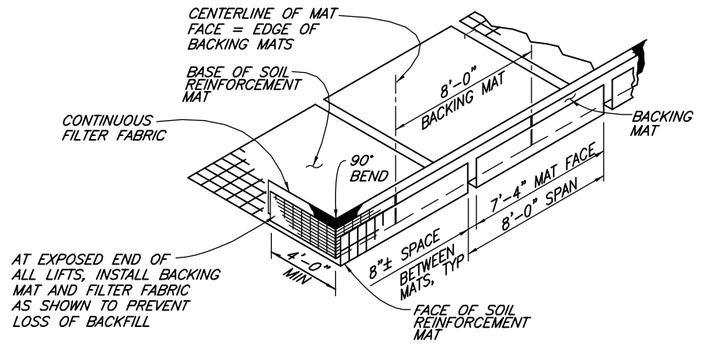
FINISH TOP OF WALL PER PROJECT PLANS.





WALL COMPONENTS

NO SCALE



ASSEMBLED WALL COMPONENTS DETAIL

NO SCALE

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DSGN K/N
DR NMD
CHK K/N
APVD

I-84 EXIT 64 (HOOD RIVER)
OREGON DEPARTMENT OF TRANSPORTATION
HOOD RIVER COUNTY, OREGON

WALL COMPONENTS AND CONSTRUCTION SEQUENCE

SHEET 4 OF 4
DATE 1/17/11
PROJ. NO. 011002.010

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