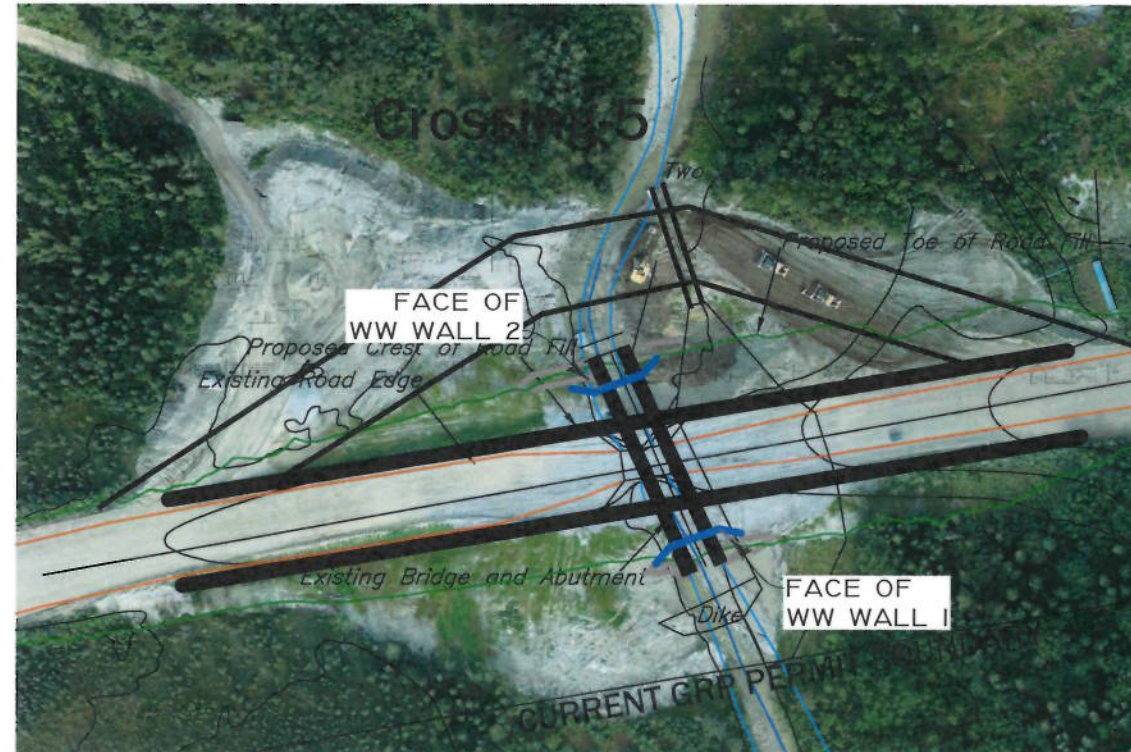


**GENERAL NOTES**

- DESIGN IS BASED ON THE ASSUMPTION THAT BACKFILL WITHIN THE REINFORCED SOIL MASS, METHODS OF CONSTRUCTION AND THE QUALITY OF MATERIALS CONFORM TO THE REQUIREMENTS OF HILFIKER RETAINING WALLS.
- ASSUMED MATERIAL CHARACTERISTICS:  
 WALL BACKFILL (CONTRACTOR TO VERIFY BY TEST):  
 TOTAL UNIT WEIGHT: 135 PCF  
 INTERNAL FRICTION ANGLE: 34° (ASTM D3080)  
 COHESION: 0 PSF  
 RETAINED BACKFILL:  
 TOTAL UNIT WEIGHT: 120 PCF  
 INTERNAL FRICTION ANGLE: 32°  
 COHESION: 0 PSF  
 FOUNDATION SOILS:  
 TOTAL UNIT WEIGHT: 120 PCF  
 INTERNAL FRICTION ANGLE: 32°  
 COHESION: 0 PSF
- IF ACTUAL MATERIAL 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.
- 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.
- SURFACE AND INTERNAL 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.
- SOIL REINFORCEMENTS SHALL BE FABRICATED OF WELDED WIRE FABRIC CONFORMING TO AASHTO M-32 AND M-55.
- THIS DESIGN SUBMITTAL IS BASED ON ASTM A1115 - STANDARD PRACTICE FOR CONSTRUCTION OF MECHANICALLY STABILIZED EARTH WALLS WITH INEXTENSIBLE SOIL REINFORCEMENT (LATEST APPROVAL).
- THIS IS A PERMANENT MSE WALL DESIGNED FOR 50 YEARS OF SERVICE. THE OWNER IS USIBELLI COAL MINE, INC..
- SHANNON & WILSON IS NOT THE OWNER'S "ENGINEER OF RECORD" OR THE OWNER'S "GEOTECHNICAL ENGINEER" OR THE OWNER'S "HYDRAULIC ENGINEER," AS DESCRIBED IN ASTM A1115. THE OWNER IS RESPONSIBLE FOR THE FOLLOWING:  
 A. EVALUATING GLOBAL STABILITY  
 B. ESTABLISHING FOUNDATION BEARING RESISTANCE DESIGN CRITERIA  
 C. IMPLEMENTING AN ADEQUATE QUALITY CONTROL PROGRAM
- HILFIKER RETAINING WALLS, INC (800-762-8962) IS THE "WALL SUPPLIER" WHOSE SYSTEM AND COMPONENTS ARE THE SOLE BASIS OF THIS SUBMITTAL.
- SHANNON & WILSON (208-658-8700) IS THE "WALL DESIGN ENGINEER," AS DESCRIBED IN ASTM A1115. SHANNON & WILSON HAS SPECIFIED THE TYPE(S), SIZES, AND LOCATIONS OF BURIED REINFORCEMENTS FOR THIS SUBMITTAL.
- THE ENGINEER OF RECORD ADMINISTERS THE OWNER'S REQUIREMENTS FOR THE LONG-TERM STABILITY OF THE MSE WALL (MSEW), INCLUDING:  
 A. FOUNDATION PREPARATION REQUIREMENTS OF THE GEOTECHNICAL ENGINEER  
 B. INTERNAL DRAINAGE SYSTEMS AND COMPONENTS TO ENSURE NON-SATURATED BACKFILL.  
 C. SCOUR COUNTERMEASURES ALONG THE TOE  
 D. EROSION COUNTERMEASURES AT THE ENDS  
 E. SURFACE WATER DRAINAGE CONTROLS ABOVE THE WALL  
 F. CONSTRUCTION OF THE SUPPLIED MSEW SYSTEM WITH ALL OF ITS APPURTENANT COMPONENTS  
 G. PROTECTION OF REINFORCEMENT, SUCH THAT UNAUTHORIZED CUTTING OF WIRES DOES NOT OCCUR
- HEAVY CRANES OR SIMILAR HEAVY LOADS SHALL BE SET BACK A MINIMUM DISTANCE EQUAL TO THE WALL HEIGHT FROM THE WALL FACE (EXAMPLE: 14-FOOT SET BACK FROM A 14-FOOT-HIGH WALL). DO NOT STOCKPILE SOIL ON THE MSE WALLS.
- IF THERE ARE BOTTOM OF WALL ELEVATION DISCREPANCIES, NOTIFY OUR OFFICE SO THAT REDESIGN CAN BE CONSIDERED.

SUPPLIED REINFORCEMENT QUANTITIES			
BASE LENGTH	CAP MAT W7XW3.5 (8"X12")	PRONGLESS MAT W7XW3.5 (8"X12")	STANDARD MAT W7XW4 (8"X21)
18'	18	18	
17.5'			94
11'	4	4	
10.5'			14
9'	4	4	
8.75'			2

WALL FACE SUPPLIED	2,176 SF
BACKING MATS (2'-0" HIGH)	158 EA
FILTER FABRIC (7'-6" WIDE)	1,264 LF
HOG RINGS	3,300 EA
PLIERS	3 EA



**KEY PLAN**

NOT TO SCALE

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RGV

REV.	DATE	BY	DESCRIPTION	CADD:
0	2/22/2023	RGV	ISSUED FOR HILFIKER REVIEW	RGV
1	2/27/2023	RGV	ISSUED FOR OWNER REVIEW	DESIGNED: RGV
				CHECKED: SGC

**HILFIKER RETAINING WALLS**

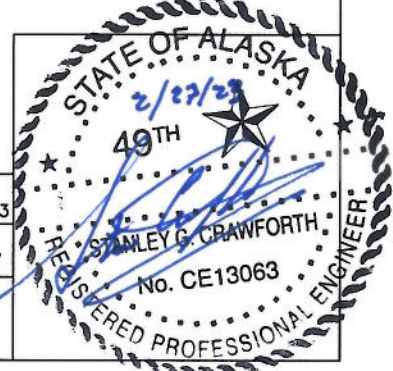
1902 Hilfiaker Lane  
Eureka, CA 95603-5711  
TOLL-FREE 800.762.8962  
PH 707.443.5093 FAX 707.443.2891  
WEB SITE www.hilfiaker.com E-MAIL info@hilfiaker.com

**1902**

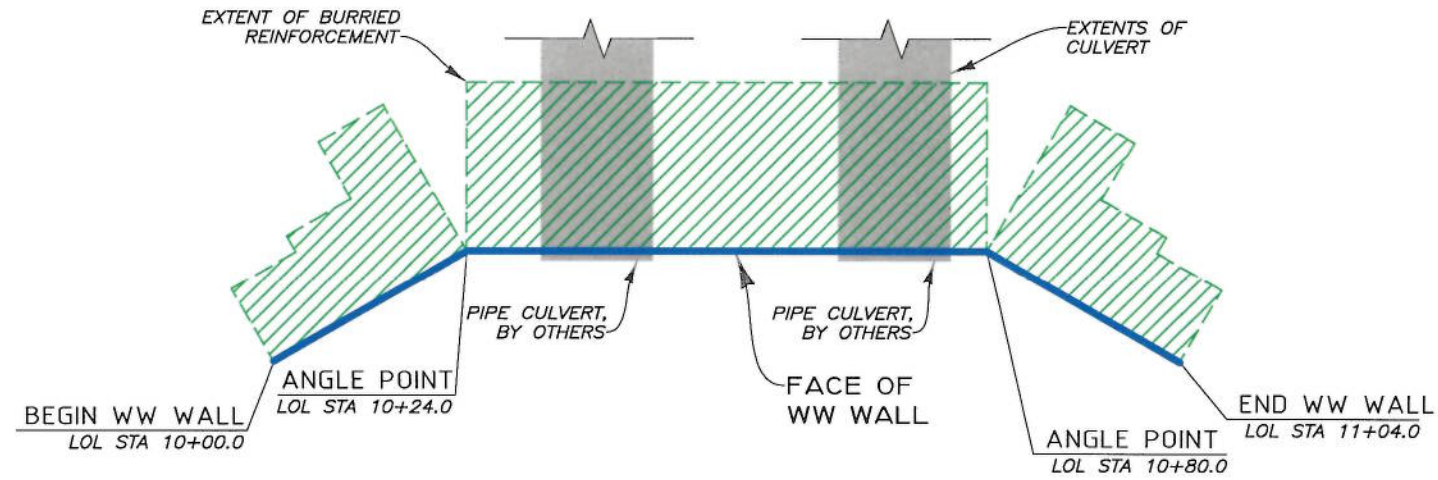
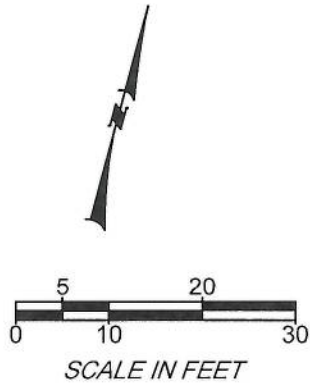
**SHANNON & WILSON, INC.**  
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

5260 Chinden Blvd.  
Boise, ID 83714  
(208) 658-8700  
Fax: (208) 658-8703

GENERAL NOTES, QUANTITIES	DWG DATE:
WELDED WIRE WALL GOLD RUN PASS MINE CROSSING #5	27 FEB 2023
HEALEY, AK	HRW NO.: 230118CW
	SHEET 1 OF 6



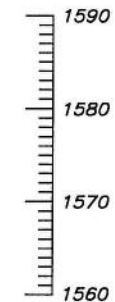
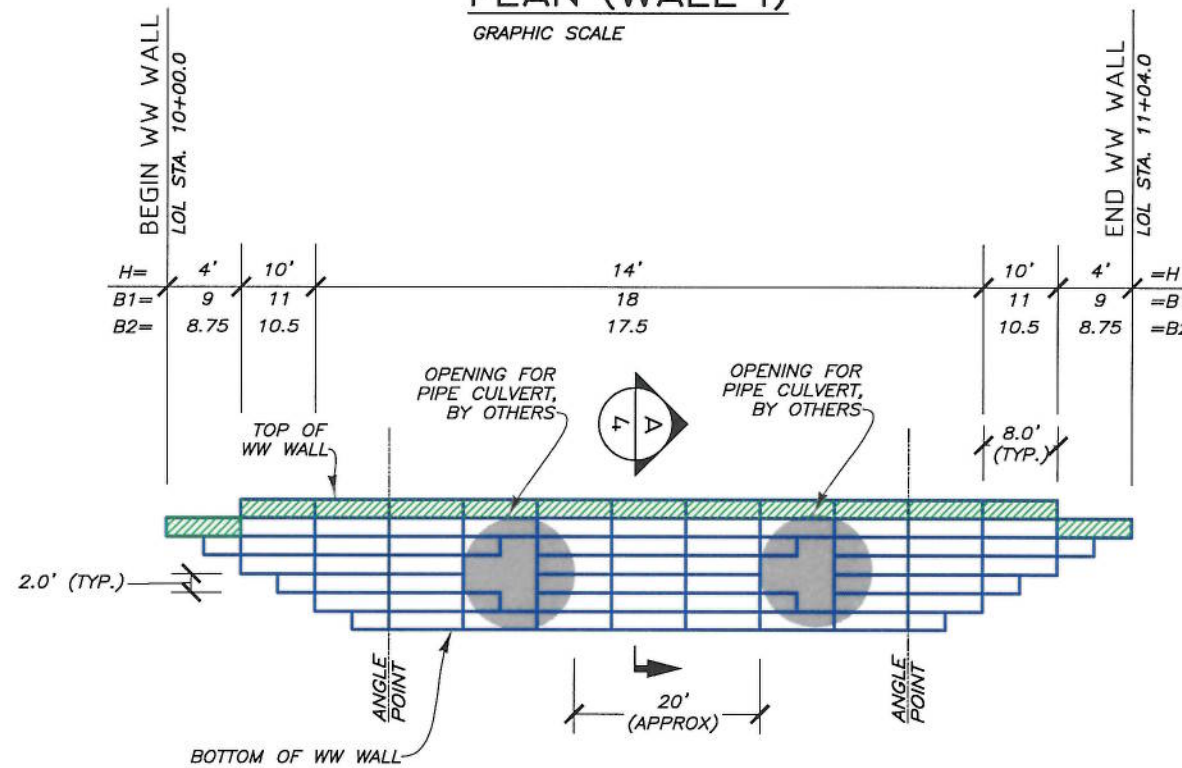




**PLAN (WALL I)**

GRAPHIC SCALE

NOTE: CONTRACTOR RESPONSIBLE FOR ESTABLISHING THE CENTERLINE, OFFSETS, AND ELEVATIONS FOR THE BEGIN AND END OF WALL. ELEVATIONS SHOWN ARE APPROXIMATE.



10+00 (WALL LOL STATIONING)

11+00

**LEGEND**

- B1 8"x12", W7xW3.5-CG
- B2 8"x21", W7xW4-CG

- LOL LAYOUT LINE
- H WALL HEIGHT (BOTTOM MAT TO CAP MAT)
- B MAT LENGTH (FT)
- WW WELDED WIRE

**DEVELOPED ELEVATION - WALL I (FRONT FACE)**

GRAPHIC SCALE

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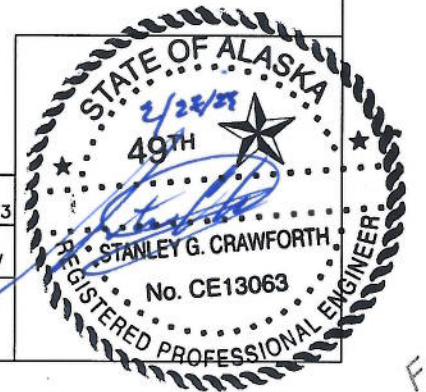
REV.	DATE	BY	DESCRIPTION
0	2/22/2023	RGV	ISSUED FOR HILFIKER REVIEW
1	2/27/2023	RGV	ISSUED FOR OWNER REVIEW

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PLAN & ELEVATION  
 WELDED WIRE WALL  
 GOLD RUN PASS MINE  
 CROSSING #5  
 HEALEY, AK

DWG DATE:	27 FEB 2023
HRW NO.:	230118CW
SHEET	2
OF	6

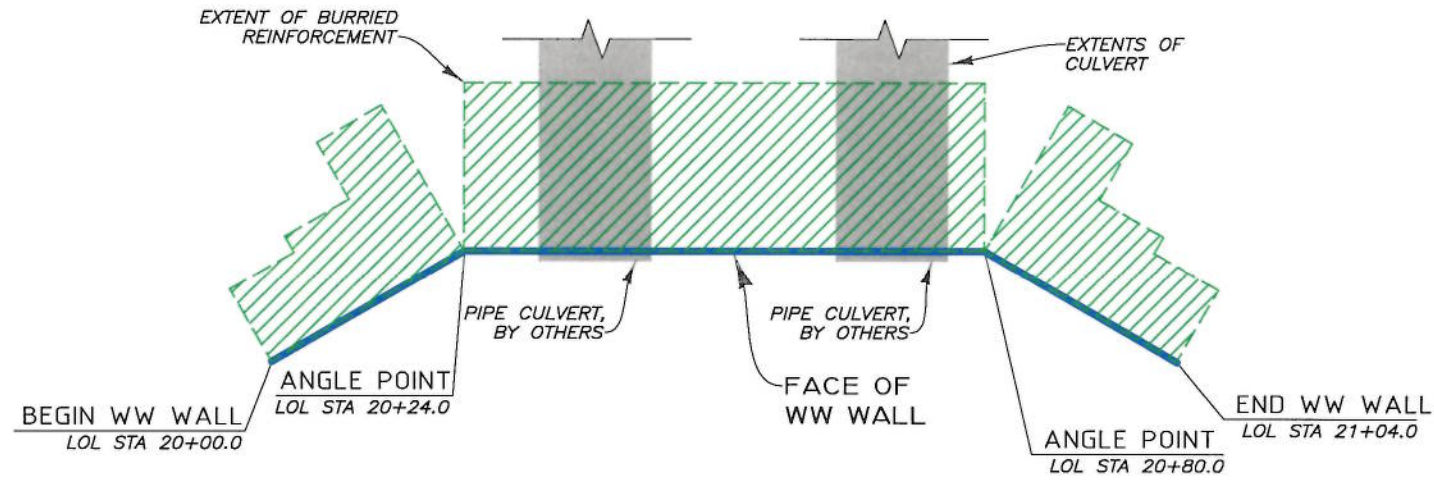
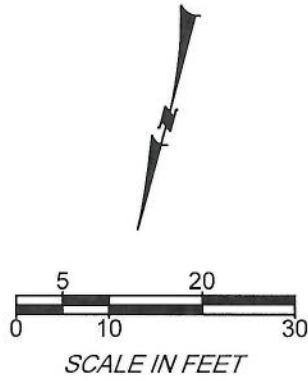


11099a Gold Run Pass Mine, I1 PREPARED 2-22-2023.dwg

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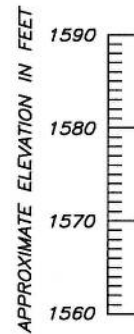
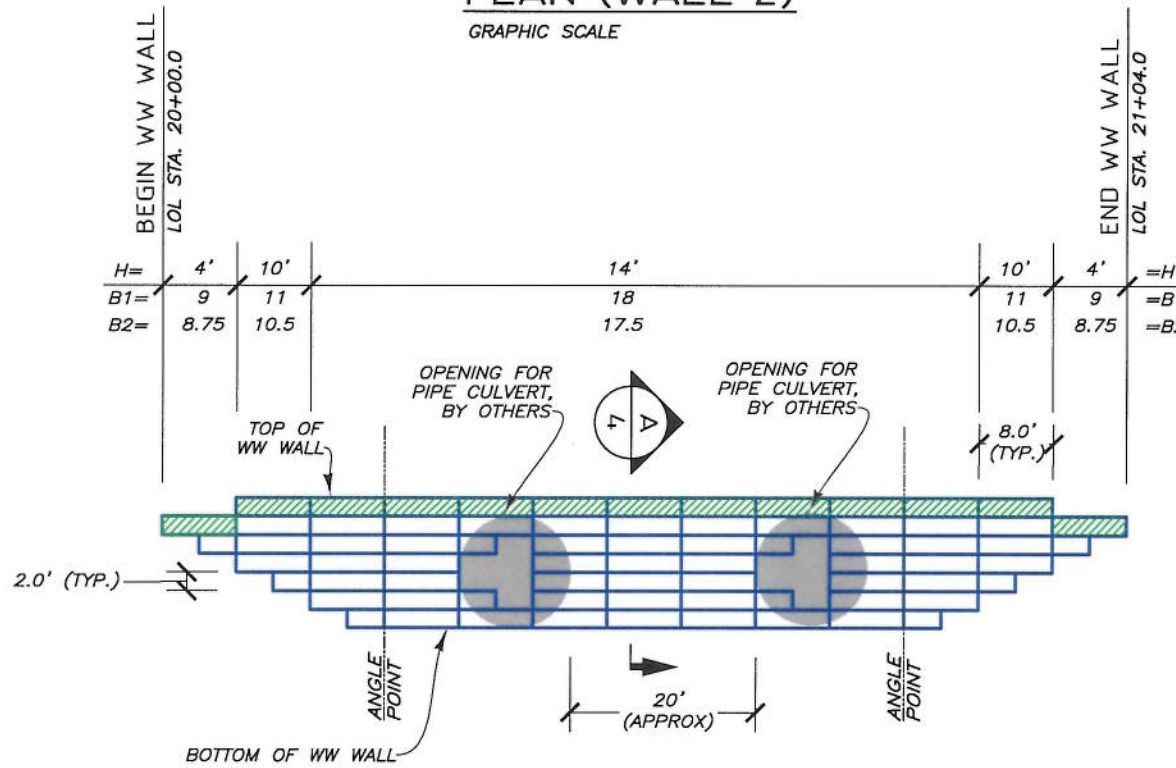




**PLAN (WALL 2)**

GRAPHIC SCALE

NOTE: CONTRACTOR RESPONSIBLE FOR ESTABLISHING THE CENTERLINE, OFFSETS, AND ELEVATIONS FOR THE BEGIN AND END OF WALL. ELEVATIONS SHOWN ARE APPROXIMATE.



20+00 (WALL LOL STATIONING) 21+00

**LEGEND**

	B1	8"x12", W7xW3.5-CG	LOL	LAYOUT LINE
	B2	8"x21", W7xW4-CG	H	WALL HEIGHT (BOTTOM MAT TO CAP MAT)
	B	MAT LENGTH (FT)	B	MAT LENGTH (FT)
	WW	WELDED WIRE	WW	WELDED WIRE

**DEVELOPED ELEVATION - WALL 2 (FRONT FACE)**

GRAPHIC SCALE

<small>THE DESIGN CONTAINED ON THESE DRAWINGS IS BASED ON INFORMATION PROVIDED BY THE OWNER. ON THE BASIS OF THIS INFORMATION, THE HILFIKER COMPANY HAS DESIGNED, AND IS RESPONSIBLE FOR THE INTERNAL STABILITY OF THE STRUCTURE ONLY. EXTERNAL STABILITY, INCLUDING FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER.</small>	REV.	DATE	BY	DESCRIPTION	CADD:
	0	2/22/2023	RGV	ISSUED FOR HILFIKER REVIEW	RGV
	1	2/27/2023	RGV	ISSUED FOR OWNER REVIEW	DESIGNED:
					RGV
					CHECKED:
					SGC

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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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PLAN & ELEVATION	DWG DATE:
WELDED WIRE WALL	27 FEB 2023
GOLD RUN PASS MINE	HRW NO.:
CROSSING #5	230118CW
	SHEET
	3
	OF
	6

HEALEY, AK



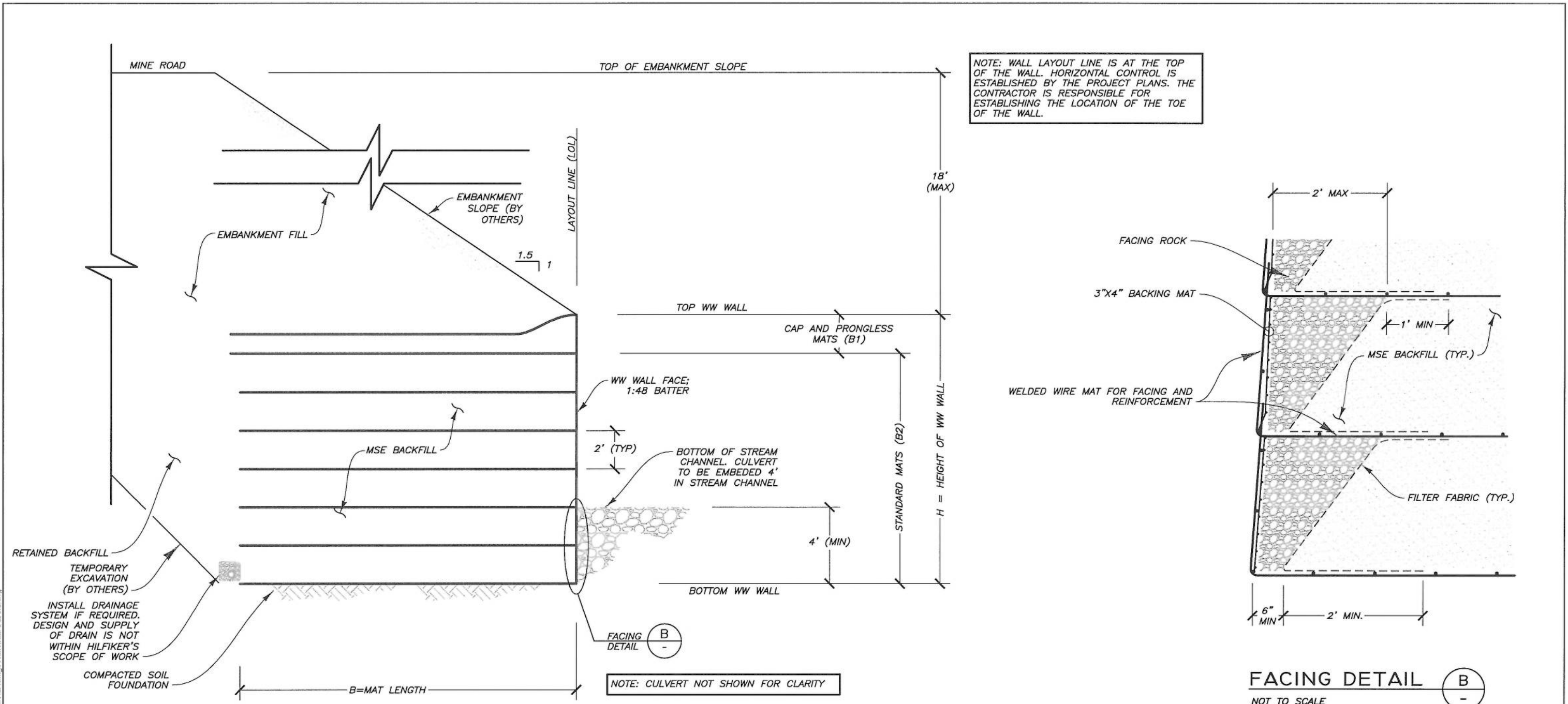
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2/27/2023 1:48 PM



110906 Gold Run Pass Mine LI PREPARED 2-22-2023.dwg

RGV 2/27/2023 1:48 PM



NOTE: WALL LAYOUT LINE IS AT THE TOP OF THE WALL. HORIZONTAL CONTROL IS ESTABLISHED BY THE PROJECT PLANS. THE CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING THE LOCATION OF THE TOE OF THE WALL.

**TYPICAL SECTION A**  
NOT TO SCALE

**FACING DETAIL B**  
NOT TO SCALE

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1	2/27/2023	RGV	ISSUED FOR OWNER REVIEW

CADD: RGV  
DESIGNED: RGV  
CHECKED: SGC

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**HW**

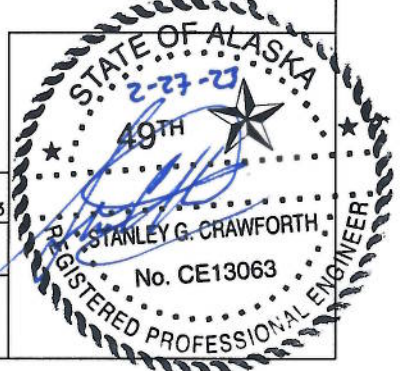
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SECTION & DETAIL  
WELDED WIRE WALL  
GOLD RUN PASS MINE  
CROSSING #5  
HEALEY, AK

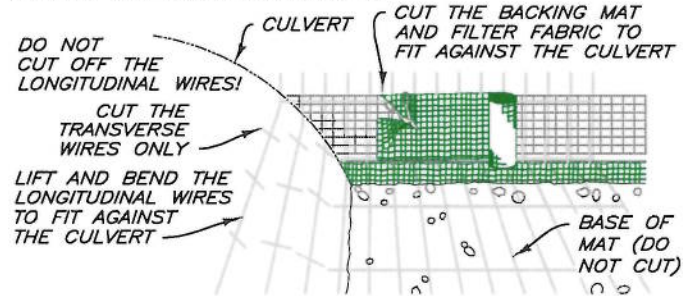
DWG DATE:  
27 FEB 2023  
HRW NO.:  
230118CW  
SHEET  
4  
OF 6





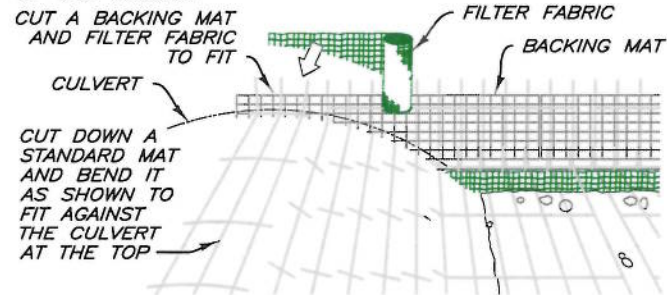
**STEP 1**

AT THE UPPER SURFACE OF THE CULVERT, THE TRANSVERSE WIRES IN THE BASE OF THE MATS ARE CUT AND BENT AGAINST THE CULVERT AS SHOWN.

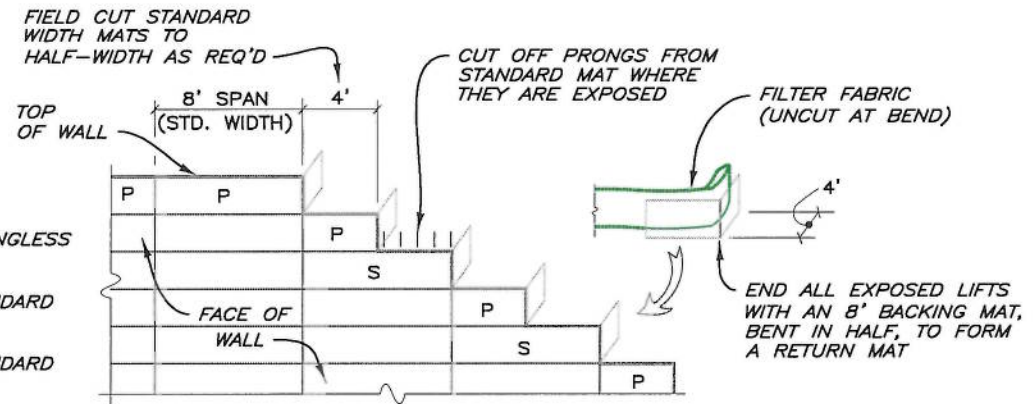


**STEP 2**

TO CLOSE A GAP IN THE FACE OF THE WALL AT THE TOP OF THE CULVERT



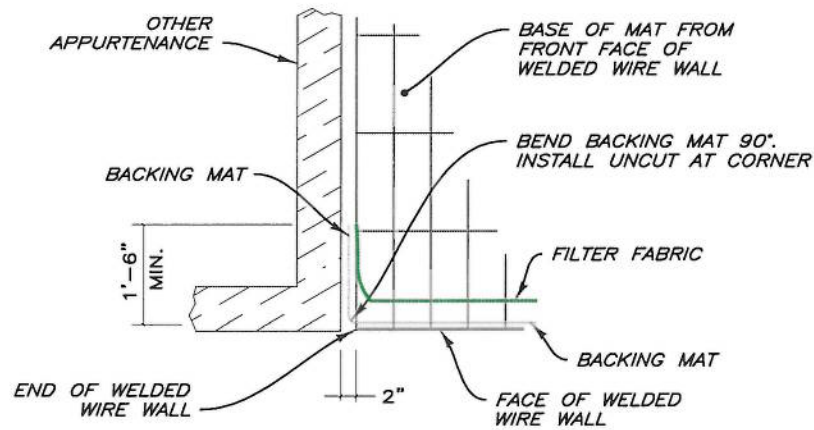
**CULVERT THROUGH WALL DETAILS**  
NOT TO SCALE



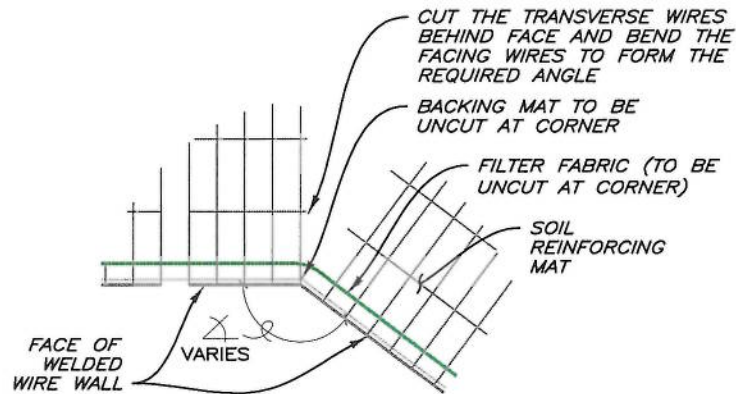
**LEGEND**  
(THIS DETAIL ONLY)

- P PRONGLESS MAT
- S STANDARD MAT
- STANDARD MAT

**RETURN MATS AND TOP OF WALL DETAIL**  
NOT TO SCALE



**PLAN VIEW**  
**WELDED WIRE WALL END**  
**AT OTHER APPURTENANCE**  
NOT TO SCALE



**PLAN VIEW**  
**CONCAVE ANGLE DETAIL**  
NOT TO SCALE

1/10/2023 Gold Run Pass Mine - I PREPARED 2-22-2023.RGV

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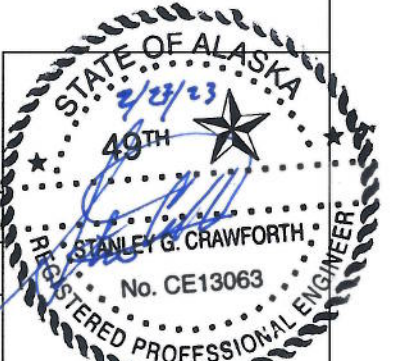
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DETAILS	
WELDED WIRE WALL GOLD RUN PASS MINE CROSSING #5	HEALEY, AK

DWG DATE: 27 FEB 2023
HRW NO.: 230118CW
SHEET 5
OF 6





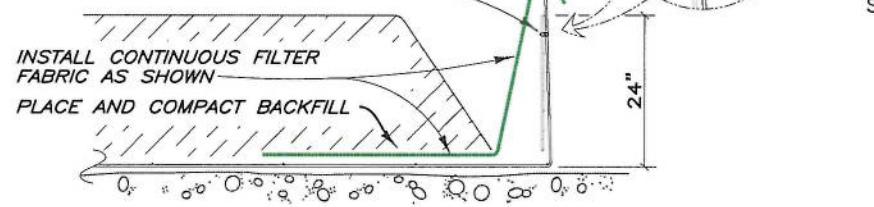
**STEP 1**

PLACE THE FIRST COURSE OF SOIL REINFORCEMENT MATS ON PREPARED FOUNDATION



**STEP 2**

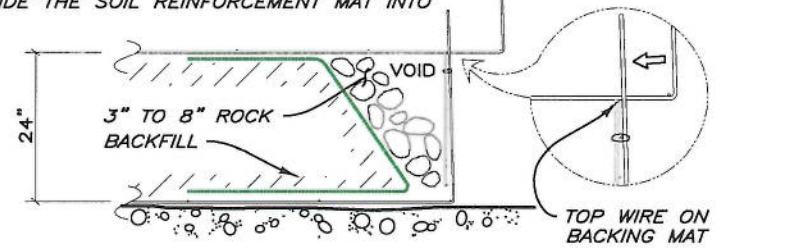
PLACE THE BACKING MAT AGAINST THE INSIDE FACE OF THE SOIL REINFORCEMENT MAT. CLIP THE SECOND-TO-TOP TRANSVERSE WIRE ON THE BACKING MAT TO THE TOP TRANSVERSE WIRE ON THE SOIL REINFORCEMENT MAT.



**STEP 3**

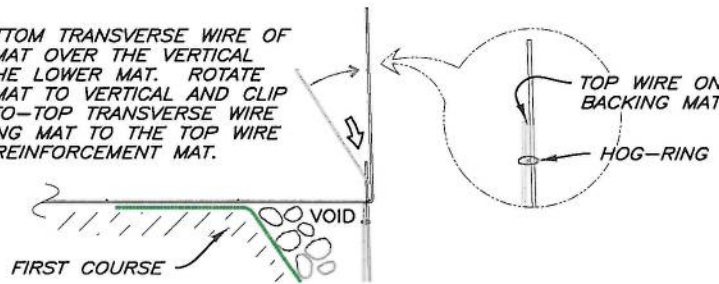
BRING THE FILTER FABRIC OVER THE FRONT AND TOP OF THE BACKFILL AS SHOWN. PLACE THE ROCK IN THE FACE OF THE WALL. LEAVE A VOID AS SHOWN.

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.



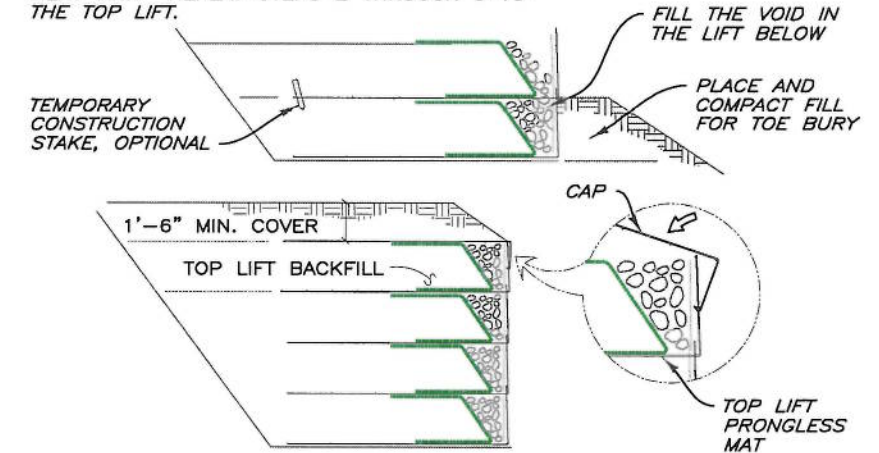
**STEP 4**

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**

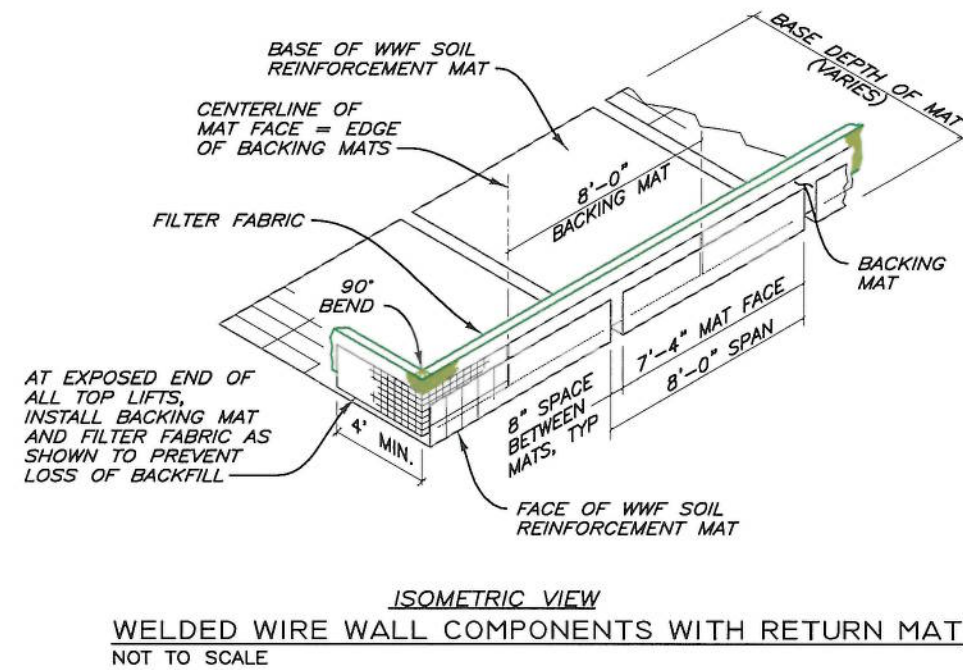
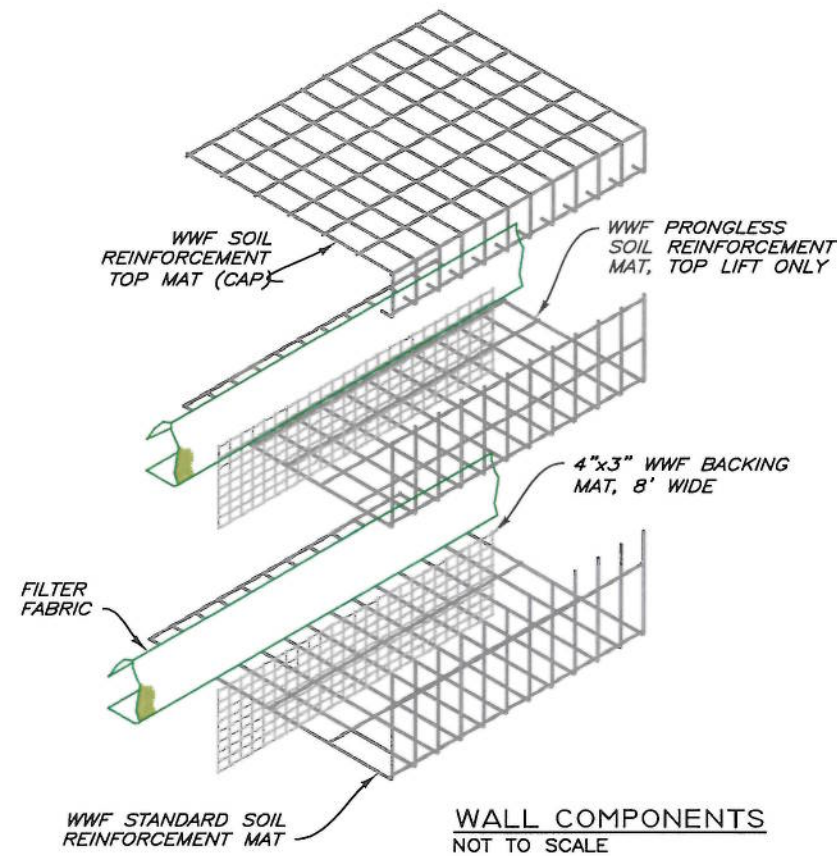
INSTALL THE FILTER FABRIC AS IN STEPS 2 AND 3. PLACE AND COMPACT THE BACKFILL AND ROCK TO THE BASE ELEVATION OF THE NEXT MAT. REPEAT STEPS 2 THROUGH 5 TO THE TOP LIFT.



**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



REV.	DATE	BY	DESCRIPTION
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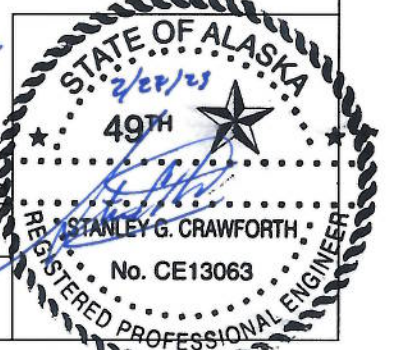
**1902**

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SEQUENCE & DETAILS
WELDED WIRE WALL GOLD RUN PASS MINE CROSSING #5
HEALEY, AK

DWG DATE:	27 FEB 2023
HRW NO.:	230118CW
SHEET	6
OF	6



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