Climax Molybdenum
A Freeport-McMoRan Company

Climax Mine
Highway 91 - Fremont Pass
Climax, CO 80429
Phone (719) 486-7718
Fax (719) 486-2251

July 20, 2023

Mr. Dustin Czapla
Environmental Protection Specialist
Division of Reclamation, Mining and Safety
Department of Natural Resources
1001 E 62nd Ave., Room 215
Denver, Colorado 80216

RE: Climax Mine, Permit No. M-1977-493, Technical Revision 36 – 5-Dam Seepwater Collection Area, Secondary Containment System

Dear Mr. Czapla,

Enclosed please find Technical Revision (TR) 36 that describes plans to construct a secondary containment system to capture and pump back potential overflow or release from Climax's Mayflower Seepage Collection and Clear Ponds. This system will collect, contain and route Mayflower Tailings Storage Facility (TSF) seepage water back into the seepage water management system.

This secondary containment system will be an Environmental Protection Facility (EPF). Climax commits to updating the site's Environmental Protection Plan (EPP) with this system's information in the next EPP update (expected by end of 2023). This submittal is intended to provide information regarding design of the system to satisfy the requirements of Rule 7.3 and to obtain Division approval to initiate construction of the facility. This submittal includes:

- Issued for Bid (IFB) drawings

The TR materials (electronic files) are attached to this letter. The $1,006.00 fee applicable to a 112d operation has been paid via credit card on the online portal as part of this submittal. We appreciate your review of the attached materials. Please contact me at (719) 486-7633 if you need additional information.

Sincerely,

Eric Detmer, PE
Manager, Environmental

Attachment

5-Dam Seepwater Collection Area, Secondary Containment System
Submitted with TR-36

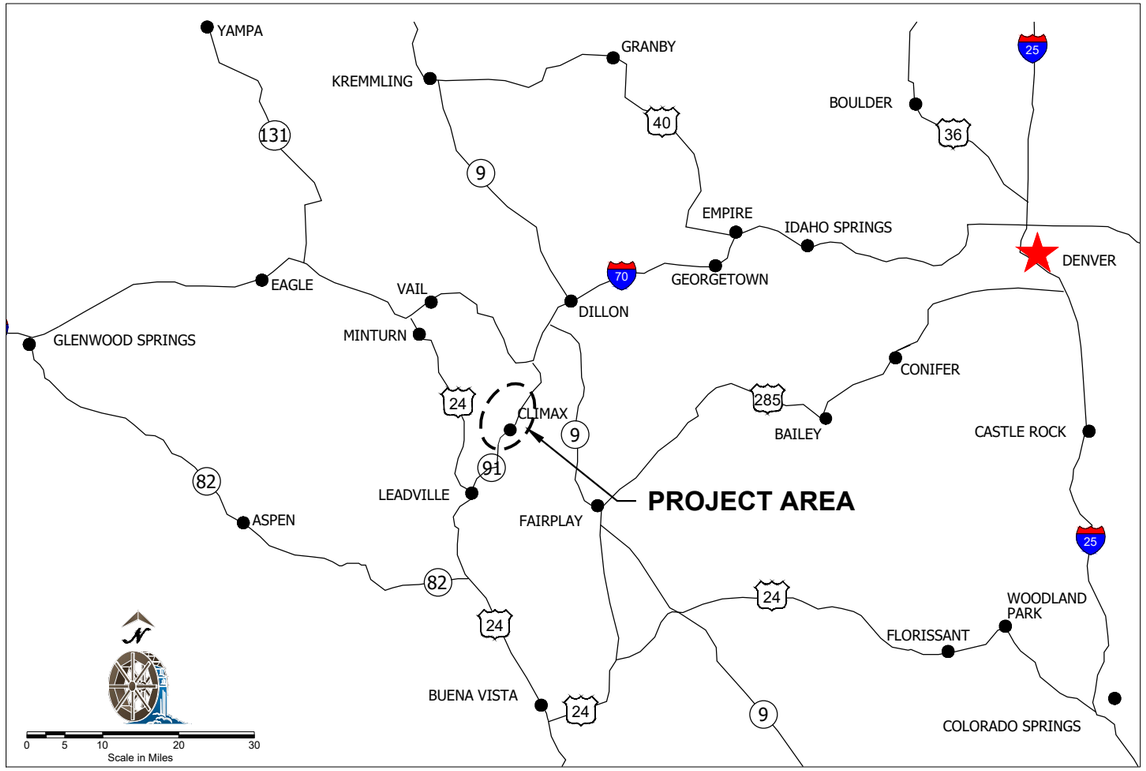
Below are descriptions of key project elements associated with the Secondary Containment System Project. Project drawings are also attached.

- The project involves an Environmental Protection Facility (EPF) and is entirely within the currently permitted affected lands boundary.
- The project is intended to prevent events similar to that which occurred on August 5, 2022 at Climax, when a fitting on a primary seepage conveyance pipe failed and a small amount of process water ultimately flowed into Tenmile Creek.
- The project involves relocating a small ~2,500 cy topsoil stockpile from the future pipeline route to another location adjacent to 5-Dam.
- The project involves constructing a cutoff wall, collection sump, and pumping infrastructure downstream of the Mayflower Clear Pond. Any water collected in the sump would be conveyed back to the Mayflower Clear Pond. Pumping infrastructure would consist of an 18-inch diameter HDPE intake pipe from the sump to a wet well, a wet well, submersible pump (with redundant spare in the wet well), and an 8-inch diameter HDPE pipeline from the pumps to the Clear Pond. The wet well and pumps would be enclosed in a small 12' x 12' building. This system is similar to another seepwater secondary containment below Robinson Lake.
- PE-stamped as-built drawings certifying construction is/was completed in accordance with the plans will be submitted to DRMS upon completion.
- The facility will be included in the next update of the Climax EPP (estimated in December 2023).

CLIMAX MINE

5 DAM SEEPWATER COLLECTION AREA
SECONDARY CONTAINMENT SYSTEM

DRAWING INDEX	
DRAWING NO.	DRAWING TITLE
Drawings: General	
6-807-00101	COVER SHEET - DRAWING INDEX AND LOCATION MAP
6-807-00102	GENERAL ARRANGEMENT - SITE PLAN
Drawings: Instrumentation and Control	
6-807-00103	PIPING AND INSTRUMENTATION DIAGRAM
Drawings: Civil	
6-807-00104	SEEPAGE CUTOFF AND PUMP STATION - PLAN AND PROFILE
6-807-00105	GENERAL ARRANGEMENT - CULVERT INLET CUTOFF
6-807-00106	DISCHARGE PIPELINE - PLAN AND PROFILE
6-807-00107	24" DIA. CULVERT - PLAN AND PROFILE
6-807-00108	MISCELLANEOUS CIVIL DETAILS - SECTIONS
Drawings: Mechanical	
6-807-00109	PUMP BUILDING - PLAN, SECTIONS AND DETAILS
6-807-00110	MISCELLANEOUS DETAILS
6-807-00111	MATERIAL LIST
Drawings: Structural	
6-807-00112	STRUCTURAL NOTES
6-807-00113	ISOMETRICS AT CULVERT
6-807-00114	PLANS AT CULVERT
6-807-00115	SECTIONS AT CULVERT
6-807-00116	FOUNDATION DETAILS
6-807-00117	FOUNDATION DETAILS



PROJECT LOCATION MAP

PROJECT VICINITY MAP

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REVISIONS

NO.	DATE	MADE BY	CKD. BY	REMARKS
0	06/23	SAA	SMM	ISSUE FOR BIDDING

REFERENCE DWGS

DRAWING NO.	REFERENCE

Climax Molybdenum
A Freeport-McMoRan Company

W. W. WHEELER & ASSOCIATES, INC
Water Resources Engineers
3700 S. Inca Street
Englewood, CO 80110-3405
303-761-4130

5 DAM SEEPWATER COLLECTION AREA	Climax Molybdenum Climax Mine, Climax, CO		
SECONDARY CONTAINMENT SYSTEM	MADE BY SAA	01/23	PROJECT NUMBER 1051.19.17
COVER SHEET	CHECKED BY SMM	01/23	DRAWING NO. 6-807-00101
DRAWING INDEX AND LOCATION MAP	ACCEPTED BY ...		0

NOTES:
1. PROJECT LAYOUT IS BASED ON THE CLIMAX SITE SPECIFIC COORDINATE SYSTEM.
2. BASE TOPOGRAPHIC MAPPING FROM 2016 AERIAL SURVEY.
3. THE LOCATION OF THE EXISTING UTILITIES SHOWN ON THESE DRAWINGS IS APPROXIMATE. FOLLOW CLIMAX BLUESTAKE PROCEDURES PRIOR TO EXCAVATION.

MAYFLOWER TUNNEL PORTAL
POWER POLE (TYP.)
5 DAM CLEAR WATER POND
MAYFLOWER SEEPWATER PUMP STATION
EXISTING SUBSTATION
SPOIL PILE (REMOVED)
SPOIL PILE (REMOVED)
SPOIL PILE (REMOVED)
TOPSOIL STOCKPILE TO BE REMOVED BY OTHERS PRIOR TO CONSTRUCTIONS
EXISTING UTILITIES
ACCESS ROAD
EXISTING 24" CMP DRAIN POSSIBLE SEEPAGE SOURCE
EXISTING 18" CMP DRAIN PRIMARY SEEPAGE SOURCE
NEW 8" DIA. HDPE DISCHARGE PIPELINE (REF. DWG. 106)
MAYFLOWER SECONDARY SEEPAGE PUMP STATION (REF. DWG. 109)
WATER LINE @ NORMAL LEVEL EL. 10359.0
10' WEIR
EXISTING COLLECTION CHANNEL
COLLECTION POND
SEEPAGE CUTOFF WALL (REF. DWG. 112)
CULVERT INLET (REF. DWG. 107)
NEW 24" CHDPE CULVERT (REF. DWG. 107)
WATER LINE @ HIGH LEVEL EL. 10363.5
EXISTING 120" DIA. CMP CULVERT
APPROX. DRAINAGE BASIN
OLD HIGHWAY

0 10 30 60 90
Scale in Feet

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REVISIONS NO.	DATE	MADE BY	CKD. BY	REMARKS
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REFERENCE DWGS DRAWING NO.	REFERENCE

Climax Molybdenum
A Freeport-McMoRan Company
W. W. WHEELER & ASSOCIATES, INC
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Englewood, CO 80110-3405
303-761-4130

5 DAM SEEPWATER COLLECTION AREA

SECONDARY CONTAINMENT SYSTEM

GENERAL ARRANGEMENT

SITE PLAN

Climax Molybdenum Climax Mine
Climax, CO

MADE BY		PROJECT NUMBER
SAA	01/23	1051.19.17
CHECKED BY		DRAWING NO.
SMM	01/23	6-807-00102
ACCEPTED BY		0
...		

807-PU-1001

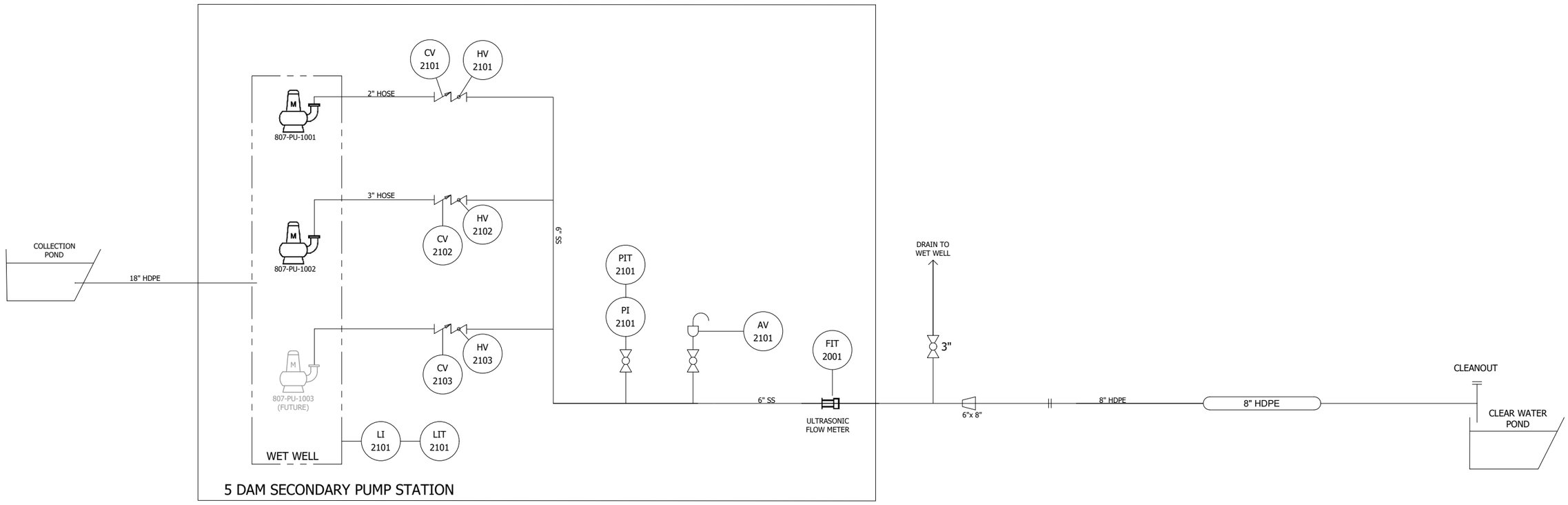
SERVICE:	SEEPAGE PUMP
MAKE:	TSURUMI
MODEL:	50SFQ2.75
CAPACITY:	75 GPM
DISCHARGE:	21 FT HEAD
RPM:	3600
HP:	1

807-PU-1002

SERVICE:	SEEPAGE PUMP
MAKE:	TSURUMI
MODEL:	80SFQ23.7
CAPACITY:	250 GPM
DISCHARGE:	31 FT HEAD
RPM:	3600
HP:	5

807-PU-1003

SERVICE:	FUTURE
MAKE:	TBD
MODEL:	TBD
CAPACITY:	TBD
DISCHARGE:	TBD
RPM:	TBD
HP:	TBD



NOTES:
1. ADD 807 PREFIX TO ALL VALVE AND INSTRUMENT IDENTIFICATION NUMBERS.

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REVISIONS

NO.	DATE	MADE BY	CKD. BY	REMARKS
0	06/23	SAA	SMM	ISSUE FOR BIDDING

REFERENCE DWGS

DRAWING NO.	REFERENCE

Climax Molybdenum
A Freeport-McMoRan Company

W. W. WHEELER & ASSOCIATES, INC
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3700 S. Inca Street
Englewood, CO 80110-3405
303-761-4130

5 DAM SEEPWATER COLLECTION AREA

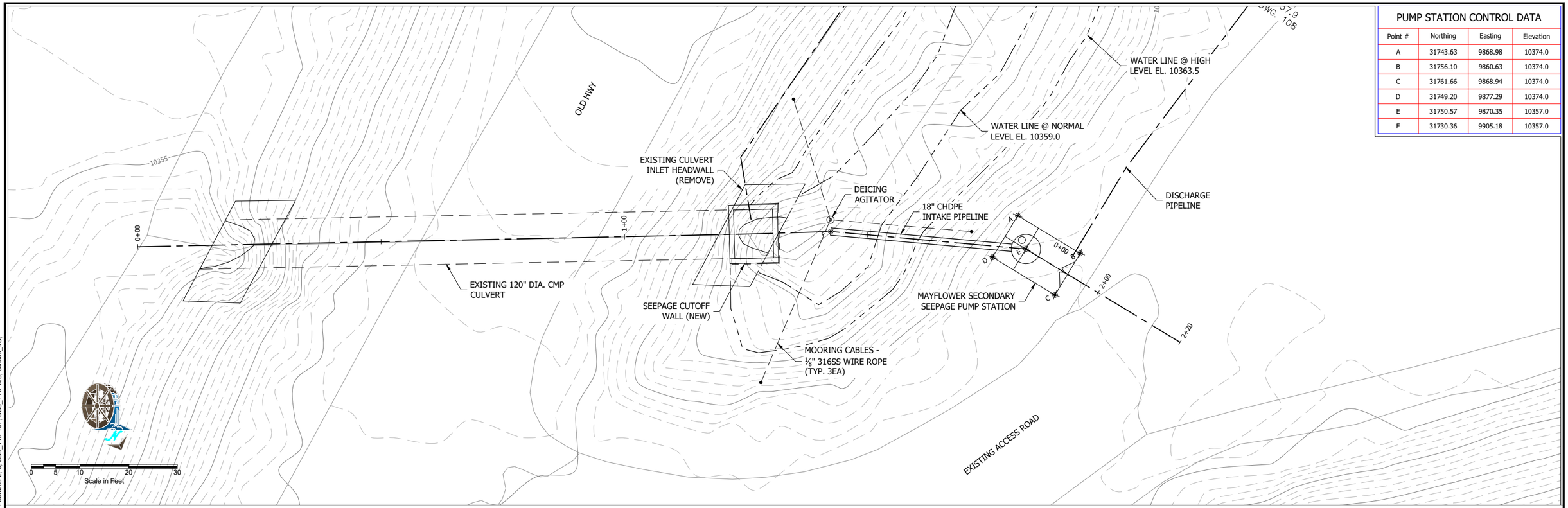
SECONDARY CONTAINMENT SYSTEM

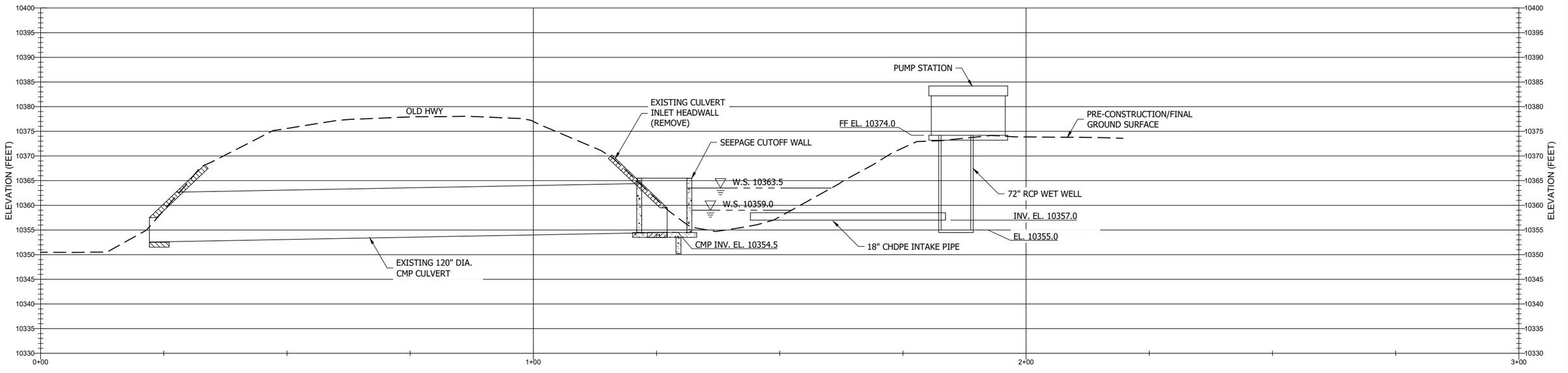
PIPING AND INSTRUMENTATION DIAGRAM

Climax Molybdenum Climax Mine
Climax, CO

MADE BY: SAA	01/23	PROJECT NUMBER: 1051.19.17
CHECKED BY: SMM	01/23	DRAWING NO.: 6-807-00103 0
ACCEPTED BY: ...		

PUMP STATION CONTROL DATA			
Point #	Northing	Easting	Elevation
A	31743.63	9868.98	10374.0
B	31756.10	9860.63	10374.0
C	31761.66	9868.94	10374.0
D	31749.20	9877.29	10374.0
E	31750.57	9870.35	10357.0
F	31730.36	9905.18	10357.0





Profile View of PUMPING SYSTEM

REVISIONS NO.	DATE	MADE BY	CKD. BY	REMARKS
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REFERENCE DWGS DRAWING NO.	REFERENCE

Climax Molybdenum
A Freeport-McMoRan Company
W. W. WHEELER & ASSOCIATES, INC
Water Resources Engineers
3700 S. Inca Street
Englewood, CO 80110-3405
303-761-4130

5 DAM SEEPWATER COLLECTION AREA	Climax Molybdenum Climax Mine, Climax, CO		
SECONDARY CONTAINMENT SYSTEM	MADE BY SAA	01/23	PROJECT NUMBER 1051.19.17
SEEPAGE CUTOFF AND PUMP STATION	CHECKED BY SMM	01/23	DRAWING NO. 6-807-00104
PLAN AND PLOT	ACCEPTED BY ...		1

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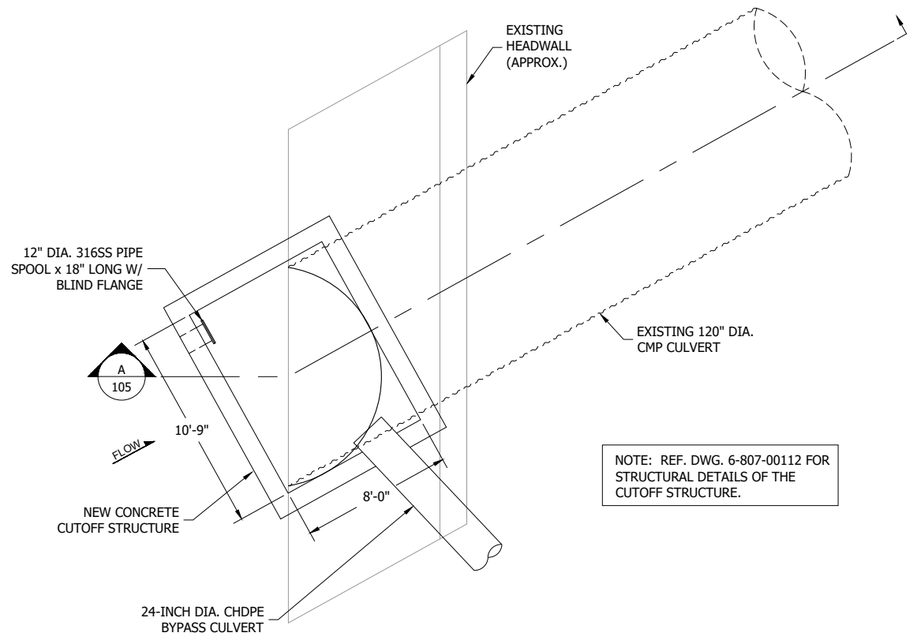
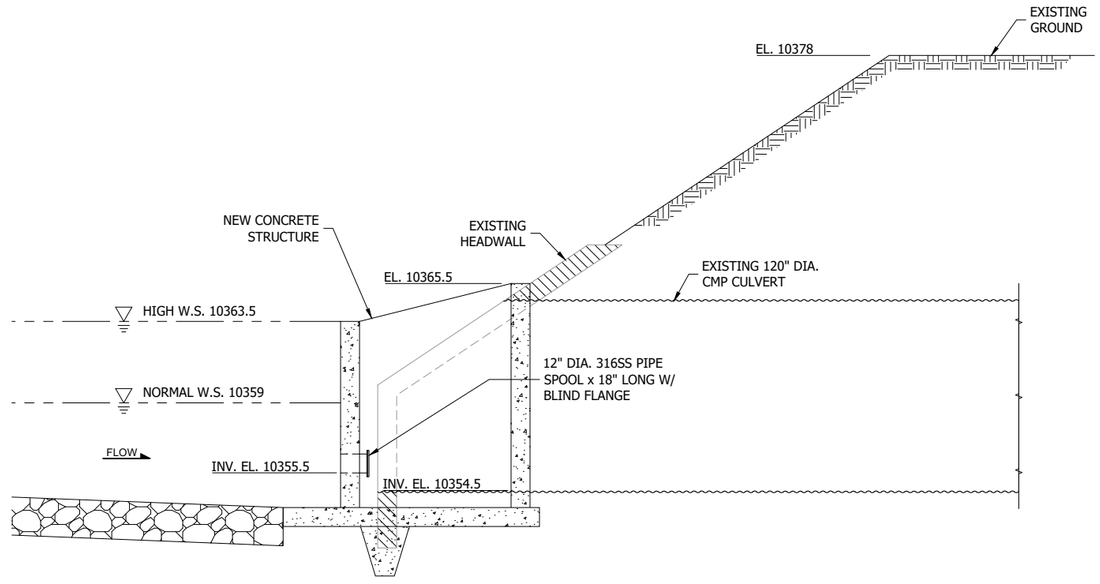
EXISTING CULVERT INLET - 1

EXISTING CULVERT INLET - 2



NOTE: REF. DWG. 6-807-00112 FOR STRUCTURAL DETAILS OF THE CUTOFF STRUCTURE.

1 CULVERT INLET CUTOFF
PLAN VIEW
0 2 4 8 12
Scale in Feet



CULVERT INLET CUTOFF (A 105)
SECTION
0 2 4 8 12
Scale in Feet

REVISIONS	NO.	DATE	MADE BY	CKD. BY	REMARKS
	0	06/23	SAA	SMM	ISSUE FOR BIDDING

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A Freeport-McMoRan Company

W. W. WHEELER & ASSOCIATES, INC
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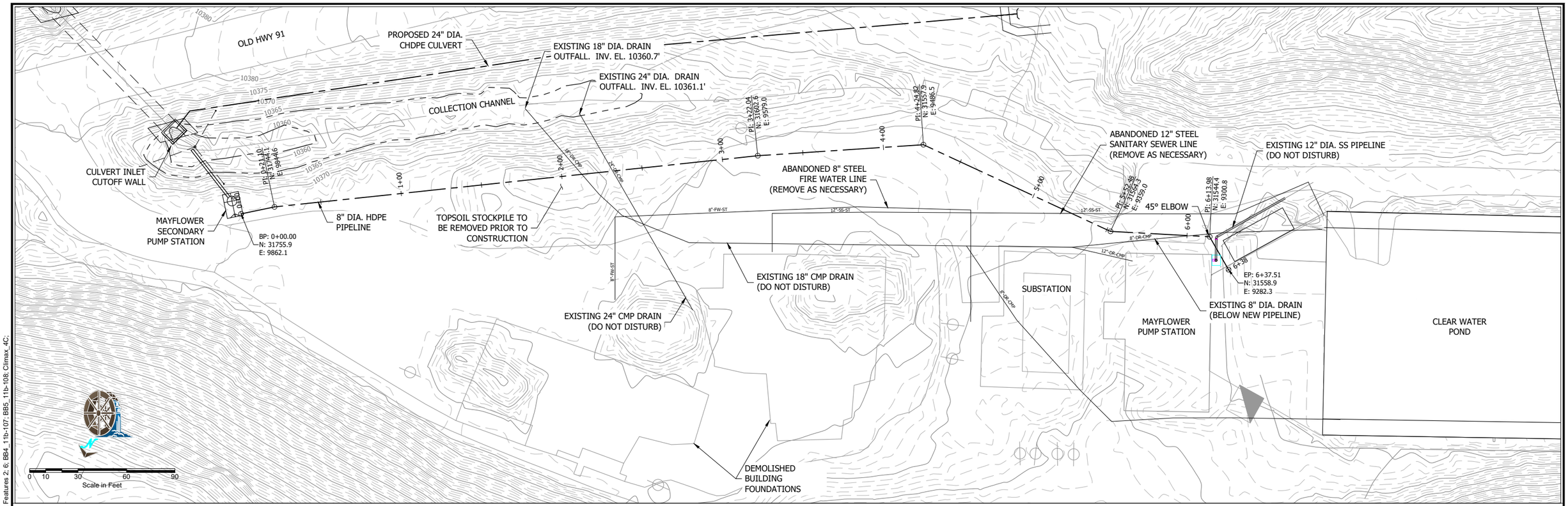
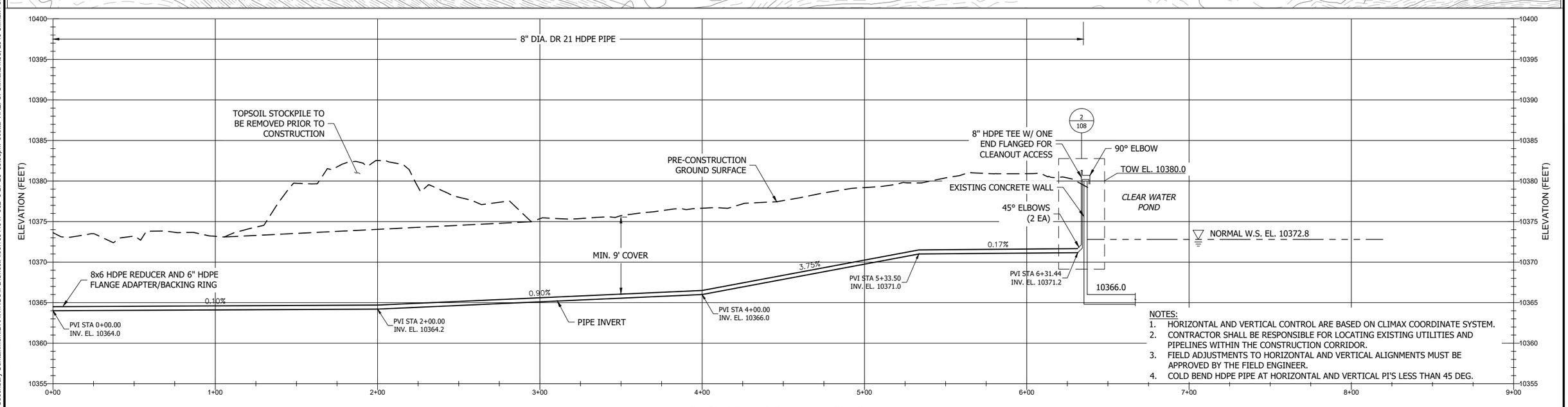
3700 S. Inca Street
Englewood, CO 80110-3405
303-761-4130

5 DAM SEEPWATER COLLECTION AREA	Climax Molybdenum Climax Mine, Climax, CO		
SECONDARY CONTAINMENT SYSTEM	MADE BY SAA	01/23	PROJECT NUMBER 1051.19.17
GENERAL ARRAGEMENT	CHECKED BY SMM	01/23	DRAWING NO. 6-807-00105
CULVERT INLET CUTOFF	ACCEPTED BY ...		0





NOTES:
1. HORIZONTAL AND VERTICAL CONTROL ARE BASED ON CLIMAX COORDINATE SYSTEM.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING EXISTING UTILITIES AND PIPELINES WITHIN THE CONSTRUCTION CORRIDOR.
3. FIELD ADJUSTMENTS TO HORIZONTAL AND VERTICAL ALIGNMENTS MUST BE APPROVED BY THE FIELD ENGINEER.
4. COLD BEND HDPE PIPE AT HORIZONTAL AND VERTICAL PI'S LESS THAN 45 DEG.

Profile View of Discharge Pipeline

REVISIONS NO.	DATE	MADE BY	CKD. BY	REMARKS
1	06/23	SAA	SMM	ISSUE FOR BIDDING

REFERENCE DWGS DRAWING NO.	REFERENCE

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A Freeport-McMoRan Company
W. W. WHEELER & ASSOCIATES, INC
Water Resources Engineers
3700 S. Inca Street
Englewood, CO 80110-3405
303-761-4130

5 DAM SEEPWATER COLLECTION AREA	Climax Molybdenum Climax Mine, Climax, CO		
SECONDARY CONTAINMENT SYSTEM	MADE BY SAA	01/23	PROJECT NUMBER 1051.19.17
DISCHARGE PIPELINE	CHECKED BY SMM	01/23	DRAWING NO. 6-807-00106
PLAN AND PROFILE	ACCEPTED BY ...		0

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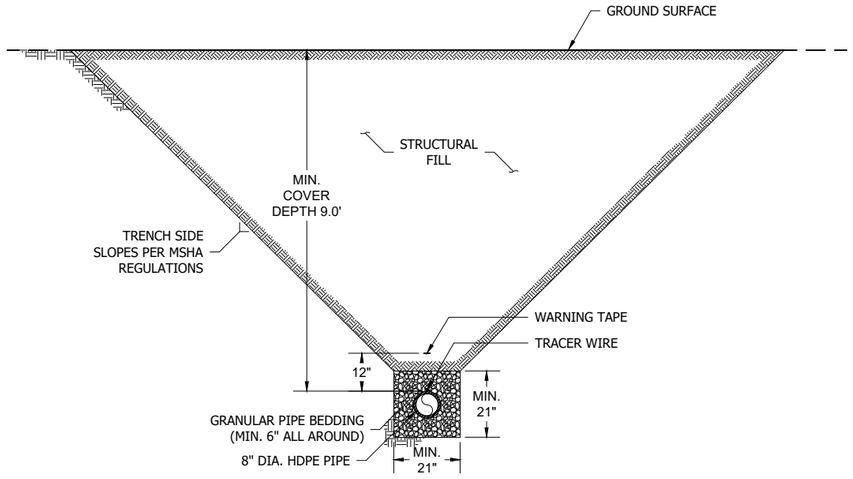
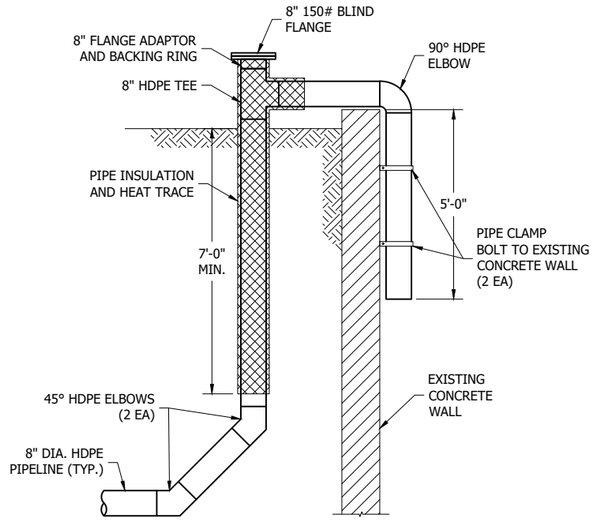
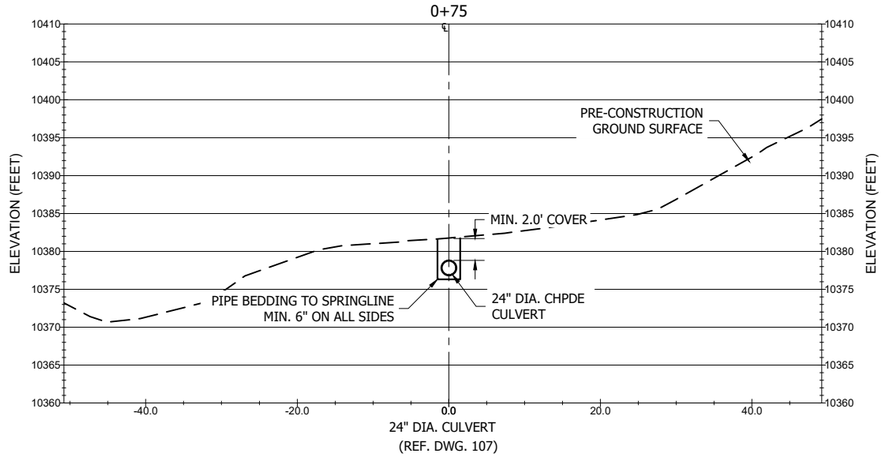


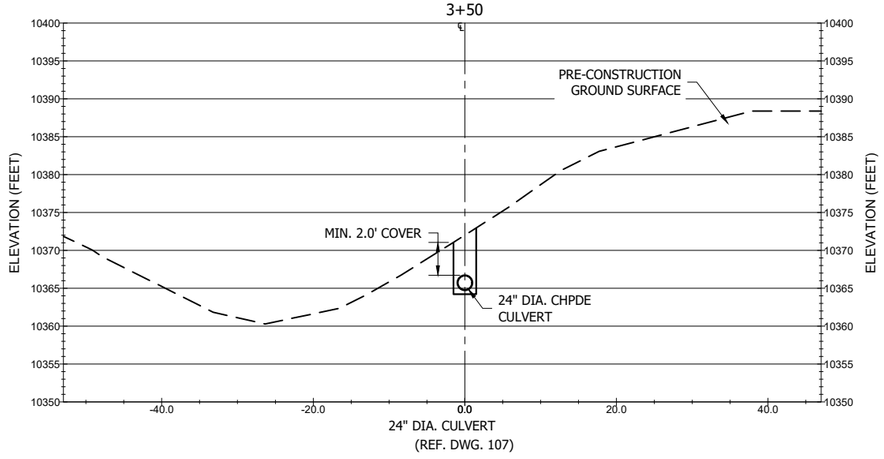
BURIED PIPELINE TRENCH (1)
TYPICAL SECTION

Scale in Feet: 0 1 2 4 6



PIPELINE DISCHARGE (2)
DETAIL (N.T.S.)
106





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DRAWING NO.	REFERENCE

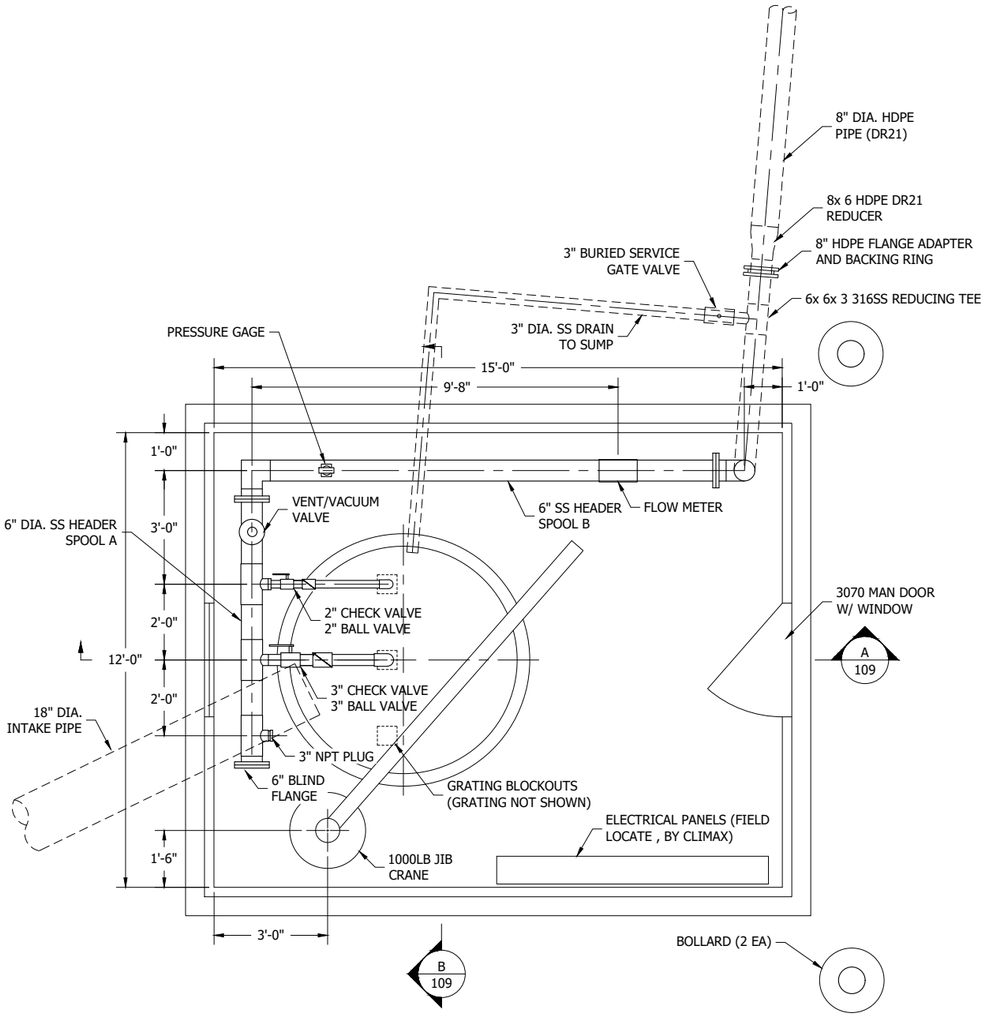
Climax Molybdenum
A Freeport-McMoRan Company

W. W. WHEELER & ASSOCIATES, INC
Water Resources Engineers
3700 S. Inca Street
Englewood, CO 80110-3405
303-761-4130

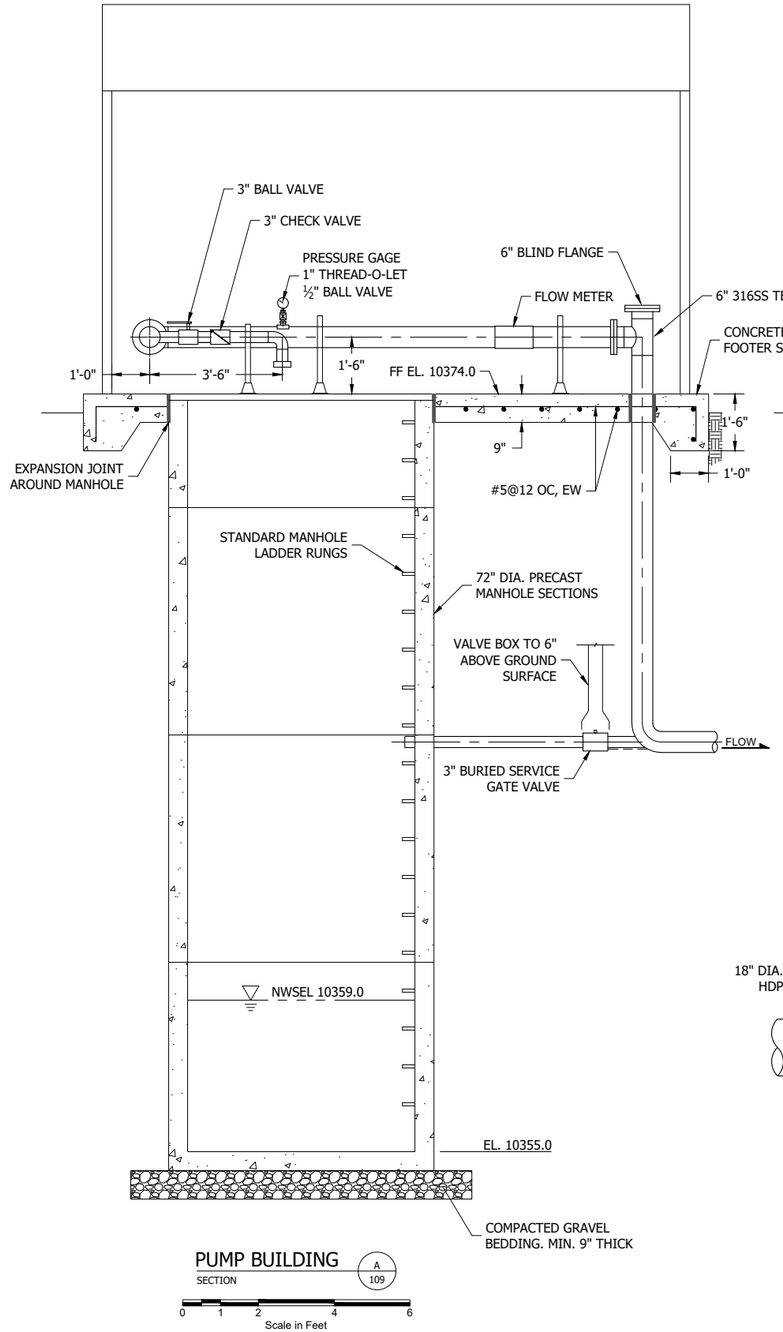
5 DAM SEEPWATER COLLECTION AREA
SECONDARY CONTAINMENT SYSTEM
MISCELLANEOUS CIVIL DETAILS
SECTIONS

Climax Molybdenum Climax Mine
Climax, CO

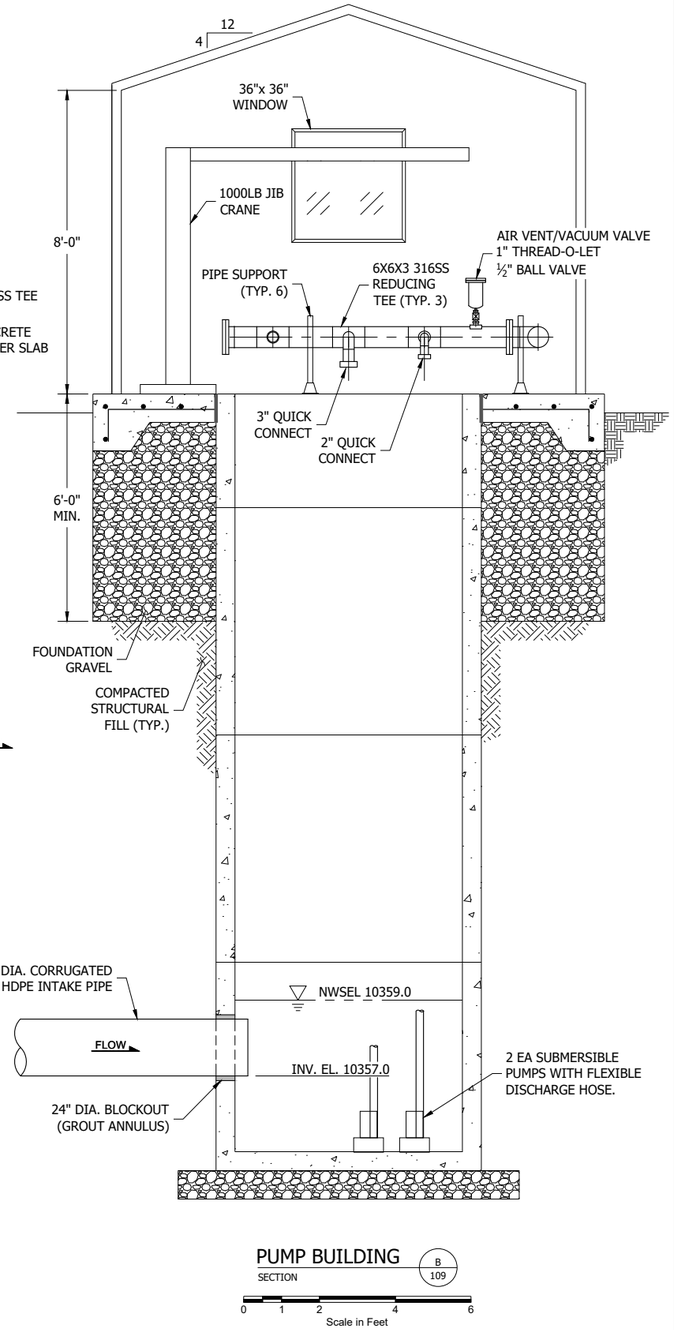
MADE BY		PROJECT NUMBER
SAA	01/23	1051.19.17
CHECKED BY		DRAWING NO.
SMM	01/23	6-807-00108 0
ACCEPTED BY		
...		



1 PUMP BUILDING
PLAN VIEW
0 1 2 4 6
Scale in Feet



PUMP BUILDING
SECTION
A 109
0 1 2 4 6
Scale in Feet



PUMP BUILDING
SECTION
B 109
0 1 2 4 6
Scale in Feet

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REVISIONS	NO.	DATE	MADE BY	CKD. BY	REMARKS
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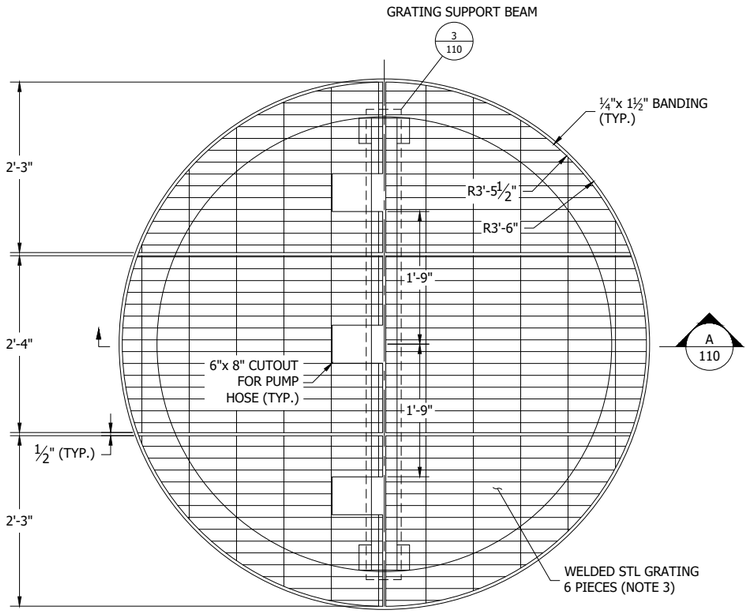
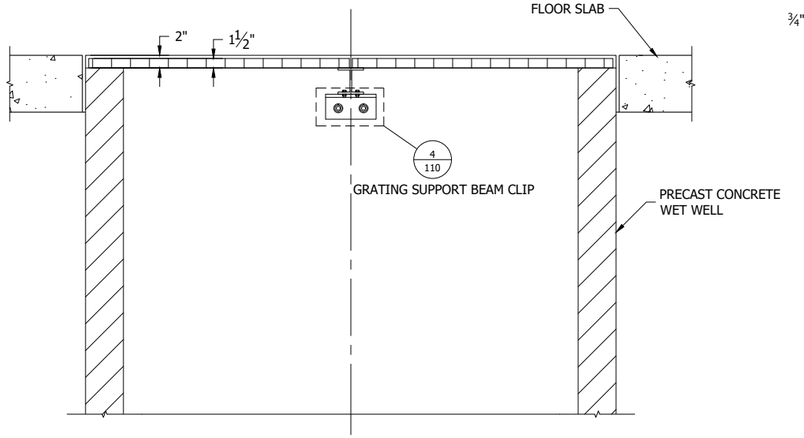
303-761-4130

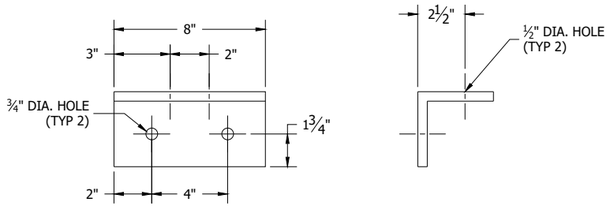
5 DAM SEEPWATER COLLECTION AREA	Climax Molybdenum Climax Mine, Climax, CO		
SECONDARY CONTAINMENT SYSTEM	MADE BY SAA	01/23	SCALE 1051.19.17
PUMP BUILDING	CHECKED BY SMM	01/23	DRAWING NO. 6-807-00109
PLAN, SECTIONS AND DETAILS	ACCEPTED BY ...		0



1 WET WELL GRATING
PLAN VIEW
0 ½ 1 2 3
Scale in Feet

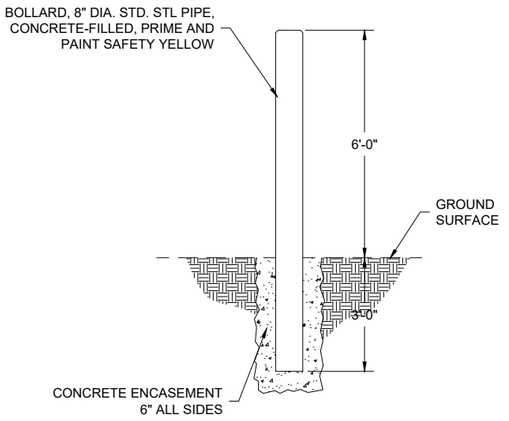


WET WELL GRATING
SECTION
A
110
0 ½ 1 2 3
Scale in Feet

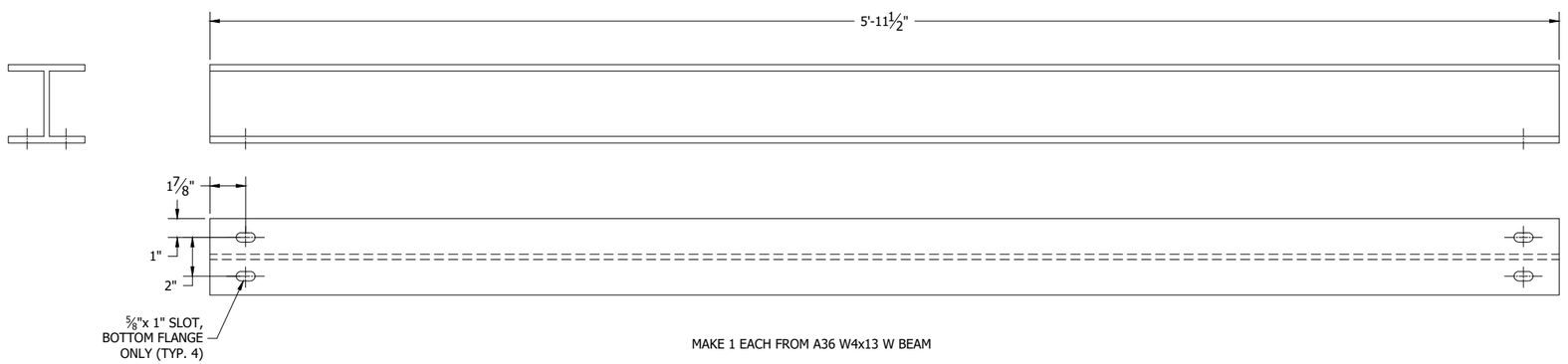


MAKE 2 EACH FROM A36 4"x 4"x ½" ANGLE

GRATING SUPPORT BEAM CLIP
TYPICAL DETAIL
4
110
0 2 4 8 12
Scale in Inches



SAFETY BOLLARD
TYPICAL DETAIL
5
110
0 1 2 4 6
Scale in Feet



MAKE 1 EACH FROM A36 W4x13 W BEAM

GRATING SUPPORT BEAM
DETAIL
3
110
0 2 4 8 12
Scale in Inches

METALWORK NOTES:
1. PRIME AND PAINT GRATING SUPPORT BEAM AND CLIPS AFTER FABRICATION.
2. USE SHERWIN-WILLIAMS MACROPOXY 649, 6 MILS DFT MIN., COLOR: WHITE.
3. ASTM A1011 19-4-W (1 ½"x 3/16" BARS), NOTE BEARING BAR DIRECTION.
4. HOT-DIP GALVANIZE GRATING SECTIONS AFTER FABRICATION.
5. SUBMIT SHOP DRAWINGS TO ENGINEER FOR APPROVAL BEFORE PURCHASING.

REVISIONS

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Water Resources Engineers
3700 S. Inca Street
Englewood, CO 80110-3405
303-761-4130

5 DAM SEEPWATER COLLECTION AREA
SECONDARY CONTAINMENT SYSTEM
MISCELLANEOUS DETAILS

Climax Molybdenum Climax Mine
Climax, CO

MADE BY		PROJECT NUMBER
SAA	01/23	1051.19.17
CHECKED BY		DRAWING NO.
SMM	01/23	6-807-00110
ACCEPTED BY		1
...		

MATERIAL LIST

ITEM NO.	UNIT	QTY	DESCRIPTION	PURCHASER	NOTES / LOCATION
HDPE PIPE AND FITTINGS					
100	LF	650	8" IPS DR 21 HDPE PIPE, PE4710, 50' LENGTHS, IN ACCORDANCE WITH SPECIFICATION 02530: HDPE PIPE.	OWNER	STATION 0+00 TO 6+32. APPROX. 10 EXTRA.
101	EA	1	8" X 6" IPS DR 21 HDPE MOLDED REDUCER, PE4710, IN ACCORDANCE WITH SPECIFICATION 02530: HDPE PIPE.	OWNER	STATION 0+05
102	EA	1	6" IPS DR 21 HDPE FLANGE ADAPTER, PE 4710, IN ACCORDANCE WITH SPECIFICATION 02530: HDPE PIPE.	OWNER	STATION 0+05
103	EA	1	6" IPS BACKING RING, EPOXY COATED DUCTILE IRON, PRESSURE RATED MIN. 100 PSI, IPP DELTAFLEX BUP-SDR21, IN ACCORDANCE WITH SPECIFICATION 02530: HDPE PIPE.	OWNER	STATION 0+05
104	EA	1	8" IPS DR 21 HDPE 90 DEG. MOLDED ELBOW, PE4710, IN ACCORDANCE WITH SPECIFICATION 02530: HDPE PIPE.	OWNER	STATION 6+32
105	EA	2	8" IPS DR 21 HDPE 45 DEG. MOLDED ELBOW, PE4710, IN ACCORDANCE WITH SPECIFICATION 02530: HDPE PIPE.	OWNER	STATION 6+32
106	EA	1	8" IPS DR 21 HDPE MOLDED TEE, PE4710, IN ACCORDANCE WITH SPECIFICATION 02530: HDPE PIPE.	OWNER	STATION 6+32
107	EA	1	8" IPS DR 21 HDPE FLANGE ADAPTER, PE 4710, IN ACCORDANCE WITH SPECIFICATION 02530: HDPE PIPE.	OWNER	STATION 6+32
108	EA	1	8" IPS BACKING RING, EPOXY COATED DUCTILE IRON, PRESSURE RATED MIN. 100 PSI, IPP DELTAFLEX BUP-SDR21, IN ACCORDANCE WITH SPECIFICATION 02530: HDPE PIPE.	OWNER	STATION 6+32
109	LF	540	24" DUAL-WALL CORRUGATED HDPE PIPE, GASKETED WATERTIGHT JOINTS	CONTRACTOR	BYPASS CULVERT. APPROX. 20' EXTRA.
110	EA	1	24" DUAL-WALL CORRUGATED HDPE 45 DEG. ELBOW, GASKETED WATERTIGHT JOINTS	CONTRACTOR	BYPASS CULVERT
111	EA	1	HDPE FLARED END SECTION FOR 24" CHDPE PIPE	CONTRACTOR	BYPASS CULVERT
112	LF	40	18" DUAL-WALL CORRUGATED HDPE PIPE, GASKETED WATERTIGHT JOINTS	CONTRACTOR	PUMP STATION INTAKE LINE
STEEL/PVC/RUBBER PIPE AND FITTINGS					
200	EA	1	8" PVC BLIND FLANGE, MIN. 25 PSI, 150# DRILLING	CONTRACTOR	STATION 6+32
201	LF	16	6" DIA. SCH 10 316SS PIPE, ASTM A312	CONTRACTOR	PUMP STATION AREA
202	LF	16	3" DIA. SCH 10 316SS PIPE, ASTM A312	CONTRACTOR	PIPELINE DRAIN
203	EA	1	6" SCH 10 316SS HEADER SPOOL A, ASTM A312. REF. DWG. 6-807-00109. SUBMIT SHOP DWG. FOR APPROVAL.	CONTRACTOR	PUMP STATION
204	EA	1	6" SCH 10 316SS HEADER SPOOL B, ASTM A312. REF. DWG. 6-807-00109. SUBMIT SHOP DWG. FOR APPROVAL.	CONTRACTOR	PUMP STATION
205	EA	2	6" DIA. SCH 10 316SS TEE, WELD FITTING, ASTM A182	CONTRACTOR	PUMP STATION
206	EA	2	6" DIA. SCH 10 316SS 90-DEG. ELBOW, WELD FITTING, ASTM A182	CONTRACTOR	PUMP STATION
207	EA	1	3" DIA. SCH 10 316SS 90-DEG. ELBOW, WELD FITTING, ASTM A182	CONTRACTOR	PUMP STATION
208	EA	2	6" 150 LB. BLIND FLANGE, 316 STAINLESS STEEL, RAISED FACE, ANSI B16.5	CONTRACTOR	PUMP STATION
209	EA	2	6" 150 LB. SLIP-ON FLANGE, 316 STAINLESS STEEL, RAISED FACE, ANSI B16.5	CONTRACTOR	PUMP STATION
210	EA	1	6" 150 LB. WELDNECK FLANGE, 316 STAINLESS STEEL, RAISED FACE, ANSI B16.5	CONTRACTOR	PUMP STATION
211	EA	2	3" 150 LB. SLIP-ON FLANGE, 316 STAINLESS STEEL, RAISED FACE, ANSI B16.5	CONTRACTOR	PIPELINE DRAIN
212	EA	1	6" X 6" X 3" SCH 10 316SS REDUCING TEE, WELD FITTING, ASTM A182	CONTRACTOR	PIPELINE DRAIN
213	EA	1	12" DIA. SCH 10 316SS PIPE SPOOL, ASTM A312, 1'6" LONG, 150 LB. FLANGE ON ONE END.	CONTRACTOR	CULVERT CUTOFF WALL DRAIN
214	EA	1	12" 150 LB. BLIND FLANGE, 316 STAINLESS STEEL, RAISED FACE, ANSI B16.5	CONTRACTOR	CULVERT CUTOFF WALL DRAIN
215	LF	20	2" DIA. PUMP DISCHARGE HOSE. QUICK CONNECT ENDS. 50 PSI MIN. RATING. VERIFY LENGTH.	OWNER	PUMP STATION
216	LF	20	3" DIA. PUMP DISCHARGE HOSE. QUICK CONNECT ENDS. 50 PSI MIN. RATING. VERIFY LENGTH.	OWNER	PUMP STATION
217	EA	1	2" NPT X QUICK CONNECT TRANSITION FITTING.	CONTRACTOR	PUMP STATION
218	EA	1	3" NPT X QUICK CONNECT TRANSITION FITTING.	CONTRACTOR	PUMP STATION
219	EA	4	6" PIPE BOLLARD, 9 FEET LONG, SCH 40.	CONTRACTOR	PUMP STATION, PIPELINE DISCHARGE
VALVES					
300	EA	1	1/2" NPT COMBINATION AIR VALVE, 1" DEZURIK/APCO ASU COMBINATION AIR VALVE W/ 1" TO 1/2" NPT BUSHING, ALL 316 SS CONSTRUCTION.	CONTRACTOR	PUMP STATION
301	EA	1	3" BURIED SERVICE GATE VALVE, MUELLER MODEL A-2362, FLANGED ENDS, 2" NUT, RIGHT OPEN	CONTRACTOR	PIPELINE DRAIN
302	EA	2	1/2" NPT BALL VALVE, 316 SS, LEVER HANDLE, APOLLO MODEL 76F OR EQUAL.	CONTRACTOR	PUMP STATION
303	EA	1	3" NPT BALL VALVE, 316 SS, LEVER HANDLE, APOLLO MODEL 76F OR EQUAL.	CONTRACTOR	PUMP STATION
304	EA	1	2" NPT BALL VALVE, 316 SS, LEVER HANDLE, APOLLO MODEL 76F OR EQUAL.	CONTRACTOR	PUMP STATION
305	EA	1	3" NPT Check Valve, In-line Spring Assisted, Durachoice Model VCSL1-200, 316 SS	CONTRACTOR	PUMP STATION
306	EA	1	2" NPT Check Valve, In-line Spring Assisted, Durachoice Model VCSL1-300, 316 SS	CONTRACTOR	PUMP STATION

MATERIAL LIST

ITEM NO.	UNIT	QTY	DESCRIPTION	PURCHASER	NOTES / LOCATION
PUMP STATION EQUIPMENT AND INSTRUMENTS					
400	EA	1	SUBMERSIBLE PUMP, TSURUMI MODEL 50SFQ2.75, 1 HP, 316SS, 75 GPM AT 21-FT TDH.	OWNER	PUMP STATION
401	EA	1	SUBMERSIBLE PUMP, TSURUMI MODEL 80SFQ23.7, 5 HP, 316SS, 250 GPM AT 31-FT TDH.	OWNER	PUMP STATION
402	EA	1	7.5 KW ELECTRIC UNIT HEATER	OWNER	PUMP STATION
403	EA	1	JIB CRANE BY HARRINGTON WITH 10 FT REACH, 360-DEGREE SWIVEL, CHAIN OPERATED HOIST, 1000 LB. CAPACITY, STANDARD FINISH.	CONTRACTOR	PUMP STATION
404	EA	1	ICE-AWAY BY AIR-O-LATOR CORP., MODEL #IA-5, 1/2 HP, 115-V, 100' CORD. WITH PE FLOAT AND PROPELLER GUARD.	OWNER	PUMP STATION
405	EA	1	FLOW METER FOR 6" DIA. 316SS PIPE. ENDRESS & HAUSER PROSONIC 91W W/ LOCAL DISPLAY. 4-20 MA.	OWNER	PUMP STATION
406	EA	1	SUMP LEVEL INDICATOR - VEGA VEGAPULS 31, ON-SITE DISPLAY, 4-20 MA, MIN. 20 FEET RANGE.	OWNER	PUMP STATION
407	EA	1	HEADER PRESSURE INDICATOR - VEGA VEGABAR 28 PRESSURE SENSOR WITH VEGADIS EXTERNAL DISPLAY, 4-20 MA	OWNER	PUMP STATION
STRUCTURAL					
500	EA	1	PUMP STATION BUILDING, 12' W X 15' L X 8' H, ALL METAL CONSTRUCTION, PER SPECIFICATIONS 13300 AND DRAWING 6-807-00109.	OWNER	PUMP STATION
501	EA	1	72" ID PRECAST CONCRETE MANHOLE: BASE RISER W/ INTEGRAL BASE SLAB (5' TALL), 2 EA. RISER SECTIONS (6' TALL), RISER SECTION (2'-10" TALL) WITH SQUARE TOP, ALL WITH STD. MANHOLE LADDER RUNGS (SIZE AND SPACE PER MANUFACTURERS RECOMMENDATIONS), T&G JOINT, PIPE CUTOUT SIZE AND LOCATION PER DWG. 6-807-00109.	OWNER	PUMP STATION WET WELL
502	Lot	1	PUMP STATION BASE SLAB REINFORCED CONCRETE,IN ACCORDANCE WITH SPECIFICATION 03300: CAST-IN-PLACE CONCRETE	CONTRACTOR	PUMP STATION
503	Lot	1	CULVERT INLET CUTOFF WALL REINFORCED CONCRETE, IN ACCORDANCE WITH SPECIFICATION 03300: CAST-IN-PLACE CONCRETE	CONTRACTOR	CULVERT INLET CUTOFF WALL
504	EA	4	STEEL PIPE SUPPORT FOR 6" CS PIPE W/ STANCHION BASE PLATE. ANVIL 63T OR APPROVED EQUIVALENT. PLAIN FINISH	CONTRACTOR	PUMP STATION PIPE SUPPORTS
505	EA	1	STEEL PIPE SUPPORT FOR 3" CS PIPE W/ STANCHION BASE PLATE. ANVIL 63T OR APPROVED EQUIVALENT. PLAIN FINISH	CONTRACTOR	PUMP STATION PIPE SUPPORTS
506	EA	1	STEEL PIPE SUPPORT FOR 2" CS PIPE W/ STANCHION BASE PLATE. ANVIL 63T OR APPROVED EQUIVALENT. PLAIN FINISH	CONTRACTOR	PUMP STATION PIPE SUPPORTS
507	Lot	1	WET WELL GRATING, IN ACCORDANCE WITH DRAWING 6-807-00110.	CONTRACTOR	PUMP STATION
508	EA	1	GRATING SUPPORT BEAM ASSEMBLY, IN ACCORDANCE WITH DRAWING 6-807-00110.	CONTRACTOR	PUMP STATION
509	EA	1	U CLAMP FOR BOLTING 8.625" OD HDPE PIPE TO CONCRETE WALL, 316 SS	CONTRACTOR	PIPELINE DISCHARGE
MISCELLANEOUS					
600	LF	650	PIPE TRACER WIRE, PER DRAWINGS AND SPECIFICATION 02530: HDPE PIPE	CONTRACTOR	8" PIPELINE
601	LF	650	PIPE WARNING TAPE, PER DRAWINGS AND SPECIFICATION 02530: HDPE PIPE	CONTRACTOR	8" PIPELINE
602	CY	75	GRANULAR PIPE BEDDING, IN ACCORDANCE WITH SPECIFICATION 02330: EARTHWORK	CONTRACTOR	8" PIPELINE BEDDING
603	CY	150	GRANULAR PIPE BEDDING, IN ACCORDANCE WITH SPECIFICATION 02330: EARTHWORK	CONTRACTOR	24" CULVERT BEDDING
604	CY	50	STRUCTURAL SUBGRADE GRAVEL, IN ACCORDANCE WITH SPECIFICATION 02330: EARTHWORK	CONTRACTOR	PUMP STATION, CUTOFF WALL
605	Lot	1	PIPE INSULATION. REF. DWG. 108.	CONTRACTOR	PIPELINE DISCHARGE
606	EA	1	VALVE CURB BOX. CONTRACTOR TO DETERMINE MODEL, PART NUMBER, AND LENGTH	CONTRACTOR	PIPELINE DRAIN

NOTES:
1. NOT ALL MATERIALS FOR CONSTRUCTION ARE LISTED. SMALL ITEMS SUCH AS GROUT, CONCRETE, REBAR, BOLTS, BUSHINGS, SEALANT, ETC. ARE NOT LISTED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL MATERIALS REQUIRED TO COMPLETE THE PROJECT.
2. NO ELECTRICAL MATERIALS ARE LISTED.
3. SUBMIT SHOP DRAWINGS TO ENGINEER FOR APPROVAL BEFORE PURCHASE.
4. SUBMIT PRODUCT DATA TO ENGINEER FOR APPROVAL IN ACCORDANCE WITH THE SPECIFICATIONS.
5. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ITEMS AND QUANTITIES IN MATERIAL LIST ABOVE.

REVISIONS

NO.	DATE	MADE BY	CKD. BY	REMARKS
1	06/23	SAA	SMM	ISSUE FOR BIDDING

REFERENCE DWGS

DRAWING NO.	REFERENCE

Climax Molybdenum
A Freeport-McMoRan Company

W. W. WHEELER & ASSOCIATES, INC
Water Resources Engineers
3700 S. Inca Street
Englewood, CO 80110-3405
303-761-4130

5 DAM SEEPWATER COLLECTION AREA

SECONDARY CONTAINMENT SYSTEM

MATERIAL LIST

Climax Molybdenum Climax Mine
Climax, CO

MADE BY		PROJECT NUMBER
SAA	01/23	1051.19.17
CHECKED BY		DRAWING NO.
SMM	01/23	6-807-00111
ACCEPTED BY		1
...		

GENERAL NOTES

DESIGN CRITERIA

Code:	International Building Code (IBC), 2018 Edition	
Soil Loads:	Density	120 pcf
	EFP, dry	60 pcf
	EFP, wet	90 pcf
Wind:	Velocity (ultimate)	115 mph
	Exposure	C
Seismic:	Seismic Design Category B	

GENERAL CONDITIONS AND REQUIREMENTS

1. The use of these drawings constitutes a contractual agreement between the Contractor and the Owner. Thus, these Contract Documents take precedence over trade practices and third party specifications.
2. The term "Engineer" shall be taken to mean the Structural Engineer of Record. Third party entries are specifically noted as "Professional Engineer," "Contractor's Engineer," "Designer," etc.
3. Contractor is responsible for obtaining access to all codes, standards, specifications, reports, third party literature, etc. referenced in these documents.
4. Contractor shall field measure and verify all existing conditions and dimensions at job site. In the event that existing conditions or dimensions vary from those shown on the drawings, Contractor shall notify the Engineer so proper adjustments can be made.
5. Contractor shall check and verify all dimension and other information shown on structural drawings with those shown and non-structural, including architectural and other disciplines. Contractor shall notify the Engineer of any discrepancies between structural and non-strcural drawings, or with structural drawings. When such discrepancies occur, the most stringent requirements shall govern unless written clarification is obtained from the Engineer.
6. All Contractors, Subcontractors, Fabricators, Suppliers, and other jobsite personnel shall at all times comply with the Occupational Safety and Health Administration (OSHA) Standards - 29 CFR, Parts 1910 ("Occupational Safety and Health Standards") and 1926 ("Safety and Health Regulations for Construction").
7. Drawings represent a finished product, and do not address the means and methods necessary to complete the construction. During the erection of the structure, the Contractor shall be responsible for temporary bracing to withstand all loads to which the structure may be subjected, including lateral loads, stockpiles of material and equipment. Such bracing shall be left in place as long as required for safety, and until all structural framing and diaphragms are in place with connections complete.
8. The term "provide' as used herein shall mean that Contractor shall furnish and install said item, including all construction, equipment, materials, etc., for a complete, finished installation.
9. Installation of proprietary products shall comply with all manufacturer's specifications and recommendations, unless otherwise noted. Product substitutions shall be subject to Engineer's review.
10. Details noted "typical" apply to all comparable conditions. Where no specific details are shown, constructions shall conform to the comparable work defined elsewhere on the project.
11. Deviations from these Contract Documents are not permitted, unless coordinated with the Architect or Engineer.
12. Third Party Quality Control: Contractor shall provide Engineer with copies of all third party structural field observation reports and test results immediately upon receipt.
13. Third Party Engineered Systems: All references to "Professional Engineer" or "P.E." shall be taken to mean a Professional Engineer currently registered in the project's jurisdiction with experience in the specific discipline of the engineered system.
14. Construction documents are copyrighted and shall not be reproduced without written authorization from the Engineer. authorization from the Engineer.
15. Items requiring review by the Engineer, such as shop drawings, product substitutions, requests for field observations, etc., shall be brought to the Engineer's attention with sufficient notice to allow the Engineer a reasonable review period.
16. The Engineer's scope of services does not include design and/or analysis of conditions resulting from Contractor errors or changes, nor does it include review of reissued submittals that were originally rejected. In these cases, the Contractor shall be subject to reimbursing the Owner for additional services incurred by the Engineer.
17. Structural Drawings are not stand-alone documents, and are intended to be used in conjunction with Civil, Architectural, Mechanical and Electrical drawings, plus all drawing from other disciplines. Structural material that are used in a non-structural applications are subject to the Structural General Notes. The Contractor shall coordinate all requirements of the Contract Documents into the Work.
18. Coordinate size and location of all openings, blockouts, floor depressions, curbs, etc. with Civil, Architectural, Mechanical, Electrical drawings, etc. as applicable, and reinforce notches, blockouts, etc. are prohibited in structural members unless specifically shown on the drawings or coordinated with the Engineer.
19. Do not scale drawings.
20. Where discrepancies exist among Drawings and General Notes, the most stringent requirements shall govern.

SUBMISSIONS

1. General Contractor shall check and stamp all shop drawing before submitting to Engineer. Unchecked submittals and /or submittals that substantially deviate from the Contract Documents will be returned without review.
2. As a minimum, shop drawings shall include comprehensive layouts, member sizes, fabrication requirements and connections as required to demonstrate complete understanding of the structural system to be constructed. Refer to individual material general notes for additional requirements.
3. Product catalog pages and reproductions of Contract Documents do not demonstrate the required understanding of the structural intent, and will be returned without review.
4. General Contractor shall submit shop drawings and proprietary documentation in a timely manner to permit minimum ten working days for review by Engineer. Contractor shall coordinate construction schedule to account for correction of errors and resubmittals, if required.
5. Engineer's review of shop drawings does not receive Contractor of responsibility to follow all requirements of the Contract Documents.
6. General Contractor shall submit in writing any requests to modify the Contract Documents. Such requests shall not be considered accepted until they have been specifically address by the Engineer. Shop drawing alone do not constitute "in writing", unless specific proposed changes are clearly identified. Proposed changes shall be coordinated by the individual initiating the change.
7. Deferred submittals are required for the following items. The Contractor shall submit these items to the Building Department after review by the Architect and /or Engineer.
   a. Non-structural component attachment to structure.

NON-STRUCTURAL BUILDING COMPONENTS

Wind and seismic design of non-structural building components not otherwise defined in the structural drawings, including but not limited to partitions, suspended ceilings, mechanical and electrical equipment, piping, signage, lighting, etc. is outside the scope of the structural work. G.C. shall employ engineering services for the design and detailing of non-structural building components, including attachments to the primary building of the structure. Wind and seismic design of components and their attachment to structure shall be in accordance with Sections 1609.1 and 1613.1 of the IBC, and shall be supervised by a P.E. registered in the jurisdiction of the project. G.C. shall submit stamped designs to the Engineer and, if required by the governing jurisdiction, the Building Official.

DISCLAIMER

All design, documents and data prepared shall remain the property of J.C. Baur & Associates, Inc., and shall not be copied, changed, or disclosed in any form without written consent. J.C. Baur & Associates, Inc. shall not be responsible for any alterations or revisions made by anyone other than employees of J.C. Baur & Associates, Inc. J.C. Baur & Associates, Inc. produced the information presented on this drawing through the use of technical information and practical experience specific to its efforts. Receiving this drawings does not guarantee any rights to such technical information and practical experience. Any alteration or adaptation of the data or contents of this drawing shall be at user's sole risk and without any liability or legal responsibility to J.C. Baur & Associates, Inc.

FOUNDATION

1. Foundations are designed using presumed bearing values noted below. Contractor shall provide written open excavation inspection report by a Geotechnical Professional Engineer prior to forming or placing foundation concrete. Foundation system is subject to change based on report findings. Contractor shall follow all recommendations of report including modifying the foundation system in accordance with revised design.
2. All footings shall rest on solid undisturbed soil or approved compacted fill. Assumed maximum design bearing capacity is 4000 psf.
3. All footings shall be the exact size and shape as shown in the structural drawings; no larger, no smaller.
4. No footings or foundation walls shall be poured before observation by the Engineer.
5. No concrete shall be poured in excavation containing wall or on frozen ground.
6. Backfill shall be placed against both sides of walls and piers simultaneously. Use only hand operated tools for compaction adjacent to foundation walls. Do not backfill until building walls have cured a minimum of 7 days, and cantilevered retaining wall have cured a minimum of 28 days.
7. Refer to Geotechnical Report, architectural drawings and/or civil drawings for complete site grading, drainage, subgrade preparation and engineered fill requirements. Slope exterior grades away from foundation in all directions. All roof downspouts and drains shall discharge well beyond the limits of all backfill, and water shall not be allowed to pond adjacent to the building.
8. Assumed equivalent fluid pressure of saturated soil against retaining walls = 90 pcf.

CONCRETE

CONCRETE MIX DESIGN MATRIX

Intended Use	Min. f'c at 28 days	Unit Weight	Cement Type	Max. w/cm	% Air Content	Durability Exposure Class			
						Frz./Thaw	Sulfate	Water	Corrosion
Footings/Walls	4.5 ksi	145 pcf	II	0.45	4-6	F2	S2	W2	C2
Exterior Slab-on-Grade	4.5 ksi	145 pcf	II	0.45	4-6	F2	S2	W2	C2
Interior Slabs-on-Grade	4.5 ksi	145 pcf	II	0.45	2	F0	S1	W0	C2

1. Concrete mixes shall conform to the above table, unless noted otherwise. Mixes shall comply with all durability requirements specified in Chapter 19 of ACI-318, based on the specified exposure class. If discrepancies exist between Chapter 19 and the above table, the most stringent requirements shall govern.
2. Material and workmanship shall be in accordance with the requirements of the American Concrete Institute "Building Code Requirements for Reinforced Concrete" (ACI 318, latest edition), and "Specifications for Structural Concrete" (ACI 301, latest edition).
3. All Cement shall conform to ASTM C 150. All fly ash and natural pozzolans shall conform to ASTM C 618. All aggregates shall conform to C 33 (NW) and/or C 330 (LW), as applicable. Water shall conform to ASTM C 1602.
4. All concrete shall have a minimum cement content of 540 lbs. per cubic yard, unless noted otherwise. Fly ash shall be used, and shall comprise no less than 15% and not more than 25% of cementitious material. Maximum aggregate size is 3/4", unless noted otherwise.
5. Calcium Chloride shall not be added to concrete.
6. Reinforcing bars shall be deformed bars and shall conform to ASTM A 615, Grade 60, unless noted otherwise. All stirrups and column ties shall conform to ASTM A 615, Grade 40. Weldable reinforcement shall conform to ASTM A 706, Grade 60.
7. Reinforcing bars shall be detailed on the shop drawing in accordance with the American Concrete Institute "ACI Detailing Manual" (ACI SP-66, latest edition), unless noted otherwise.
8. Cast-in-place steel anchor bolts shall conform to ASTM F1554, Grade 36, unless noted otherwise.
9. Bar bending details and placing drawings shall be in accordance with the "Manual of Standard Practice for Detailing Reinforced Concrete Structures" (ACI 315, latest edition).
10. Bar supports, chairs, spacers and rebar positioners shall be used to place all bars in the exact location specified on the drawings. Wire adequately at intersections to hold bars firmly in position while concrete is placed.
11. Bar supports, chairs and spacers which rest on or against an exposed surface shall be hot-dipped galvanized.
12. Continuous bars shall lap and dowels shall project adequately to provide a Class B splice, but not less than 12 inches, unless noted otherwise.
13. Stirrups, ties, footing dowels and cantilevered reinforcement shall terminate in a standard hook at the free end(s) of the bar, unless noted otherwise.
14. Where lap splice locations of horizontal bars are not specifically noted on the drawings, lap splices are to be staggered.
15. Concrete cover for reinforcement shall be as follows, subject to the tolerances of ACI 117, unless noted otherwise:
    A. Concrete poured against earth ..... 3"
    B. Concrete poured in forms but exposed to weather or earth, or concrete cast over controlled fill
       (1.) #5 bars or smaller ..... 1 1/2"
       (2.) Bars larger than #5 ..... 2"
    C. Columns, girders and beams (principle reinforcement, ties and stirrups) .... 1 1/2"
    D. Slabs and Walls ..... 3/4"
16. See mechanical and electrical drawing for additional openings, depressions, curbs, floor finishes, inserts and other embedded items.
17. Where other reinforcing is not required by the drawings, (2) #5 bars shall be located at all sides of, and adjacent to, every opening that exceeds 24" in either direction. Extend bars 24" beyond each side of opening

SPECIAL INSPECTION AND TESTS

STATEMENT OF SPECIAL INSPECTION

1. All inspection shall conform to the requirements of Section 109 of the International Building Code. All Special Inspection shall conform to the requirements of Chapter 17 of the International Building Code.
2. The owner is required to employ inspectors and special inspectors, who shall submit copies of all reports to the owner, architect, structural engineer, and the Building Department. Upon completion of their work, the inspectors and special inspectors shall submit a final signed report stating whether the work was, to the best of their knowledge, in conformance with the approved set of Contract Documents and the applicable workmanship provisions of the Building Code.
3. Inspectors and special inspector shall be qualified person(s) who demonstrate competence in their respective type of construction to the satisfaction of the Building Official.
4. The General Contractor shall coordinate with inspectors and special inspectors to incorporate the inspection schedule into the overall project construction schedule.
5. Special Inspection is required for all activities defined herein that occur for this project.
6. The Engineer of Record shall not be considered a Special Inspector.
7. The Engineer of Record shall be provided jobsite access to conduct quality assurance.

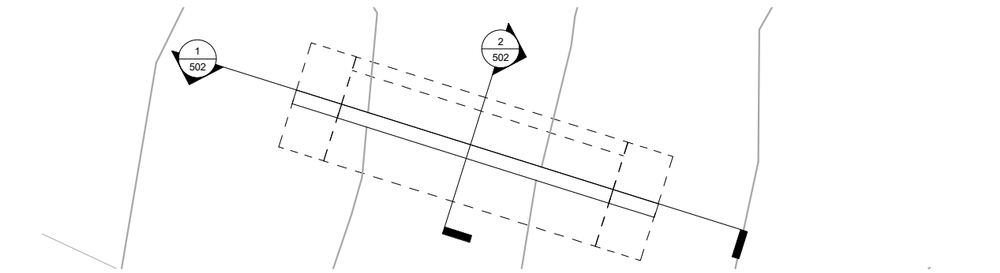
REQUIRED VERIFICATION AND INSPECTION OF SOILS

	VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
1.	Verify materials below shallow foundations are adequate to achieve the design bearing capacity	-	X
2.	Verify excavations are extended to proper depth and have reached proper material	-	X
3.	Perform classification and testing of compacted fill materials	-	X
4.	Verify use of proper materials, densities, and lift thicknesses during placement and compaction of compacted fill	X	-
5.	Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly	-	X

REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION

Verification of slump, density, temperature and air content as delivered to the project site in accordance with Chapter 3 of ACI 318 and its referenced ASTM standards
Verification of *f'c* in accordance with ACI 363.2R and its referenced ASTM standards

	VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCE STANDARD	IBC REFERENCE
1.	Inspection of reinforcing steel and placement	-	X	ACI 318: 3.5, 7.1-7.7	1910.4
2.	Inspection of reinforcing steel welding in accordance with IBC 2012 Table 1705.2.2, Item 2b	-	-	AWS D1.4 ACI318: 3.5.2	
3.	Inspection of anchors cast in concrete where allowable loads have been increased or where strength design is used	-	X	ACI 318: 8.1.3, 21.2.8	1908.5, 1909.1
4.	Inspection of anchors post-installed in hardened concrete members	-	X	ACI 318: 3.8.6, 8.1.3, 21.2.8	1909.1
5.	Verifying use of required design mix	-	X	ACI 318: Ch. 4, 5.2-5.4	1904.2, 1910.2,
6.	At the time fresh concrete in sampled to fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete	X	-	ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8	1910.3 1910.10
7.	Inspection of concrete and shotcrete placement for proper application techniques	X	-	ACI 318: 5.9, 5.10	
8.	Inspection of maintenance of specified curing temperature and techniques	-	X	ACI 318: 5.11-5.13	1910.6, 1910.7,
9.	Verification of in-situ concrete strength prior to removal of shores and forms from beams and structural slabs	-	X	ACI 318: 6.2	1910.8 1910.9
10.	Inspect formwork for shape, location, and dimensions of the concrete member being formed	-	X	ACI 318: 6.1.1	



2 / 112 SPECIAL INSPECTION
12" = 1'-0"

1 / 115;112 OVERALL PLAN
1/8" = 1'-0"

Sheet List

Sheet Number	Sheet Name
112	COVER SHEET
113	ISOMETRICS AT CULVERT
114	PLANS AT CULVERT
115	SECTIONS AT CULVERT
116	FOUNDATION DETAILS
117	FOUNDATION DETAILS

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REVISIONS

NO.	DATE	MADE BY	CKD. BY	REMARKS
1	06/27/23	DAN	JLK	ISSUED FOR BID
2	-	-	-	-
3	-	-	-	-
4				
5				
6				
7				

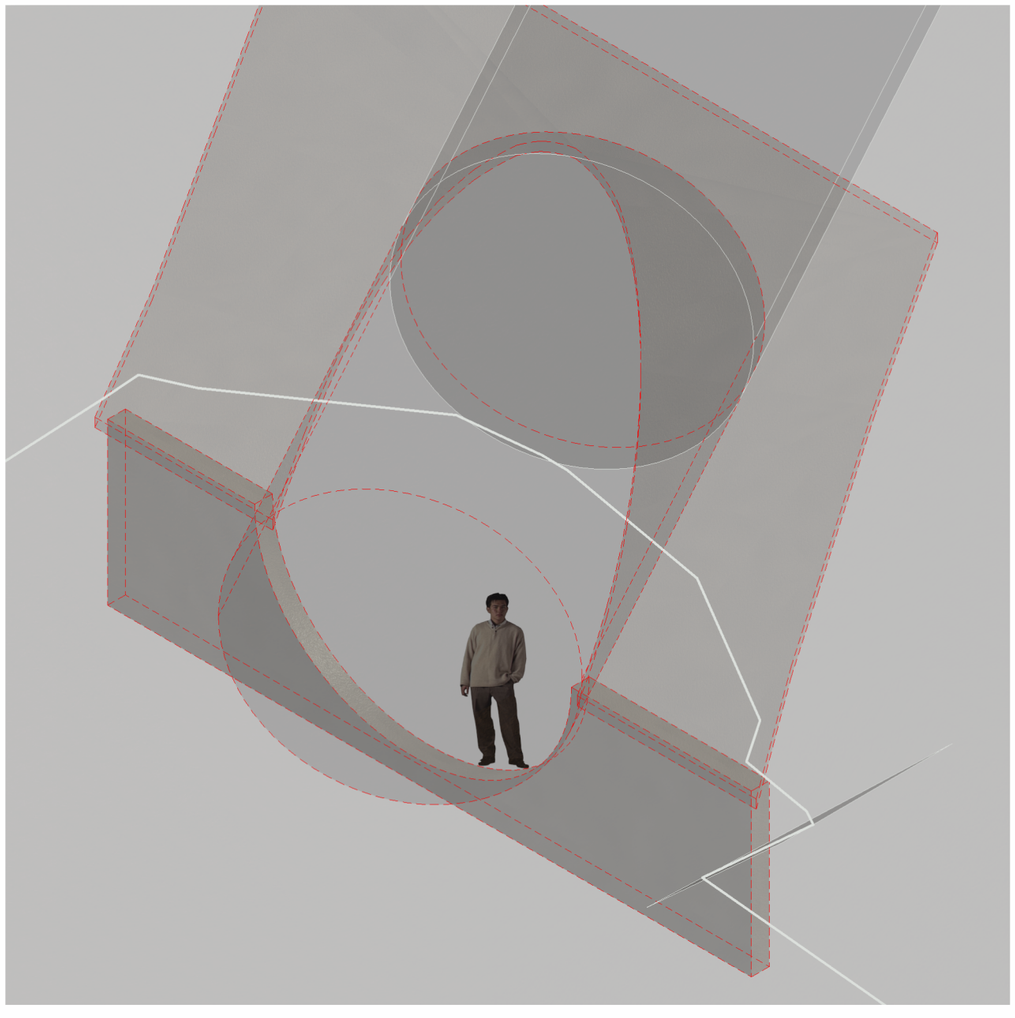
REFERENCE DWGS

DRAWING NO.	REFERENCE

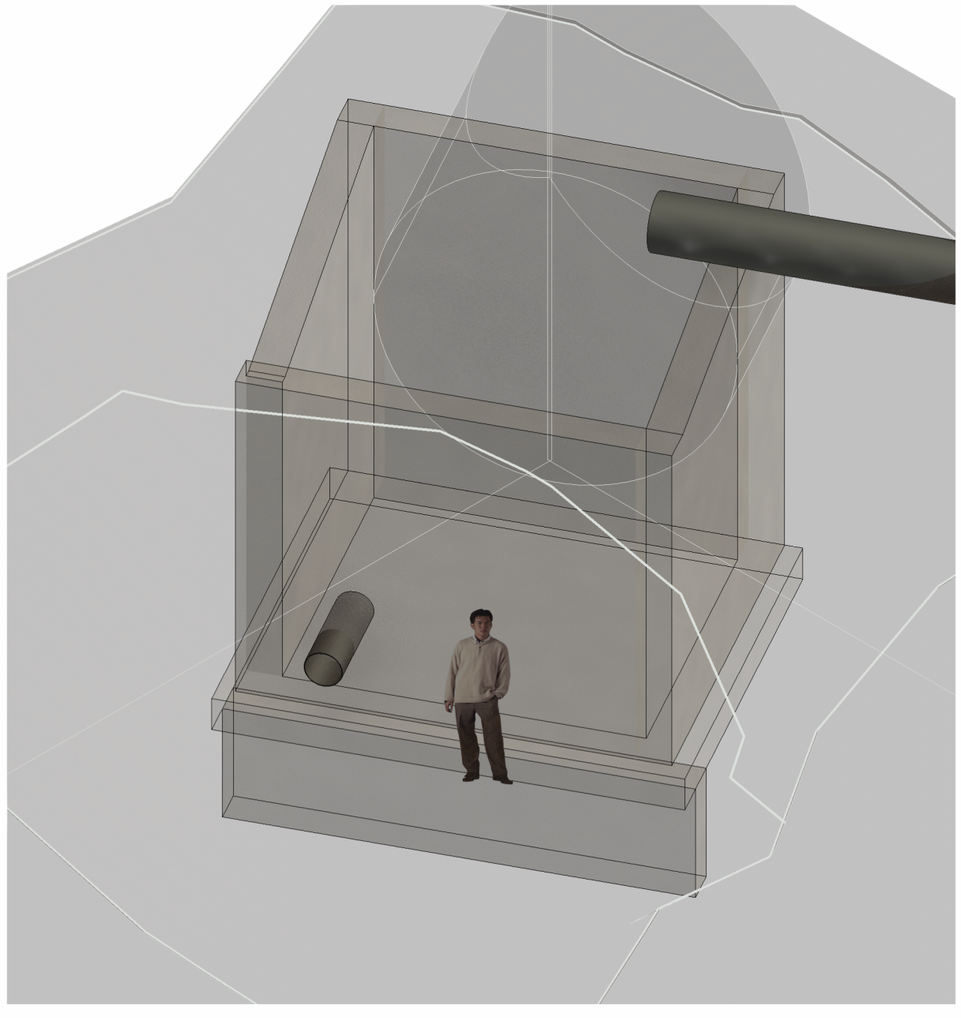
Climax Molybdenum
A Freeport-McMoRan Company

W. W. WHEELER & ASSOCIATES, INC
Water Resources Engineers
3700 S. Inca Street
Englewood, CO 80110-3405
303-761-4130
FAX 303-761-2802

5 DAM SEEPWATER COLLECTION AREA	CLIMAX MOLYBDENUM CLIMAX MINE CLIMAX, CO		
SECONDARY CONTAINMENT SYSTEM	MADE BY DAN	05/30/23	PROJECT NUMBER 1051.191.17
COVER SHEET	CHECKED BY JLK	06/27/23	DRAWING NO. 6-807-00112 △
CULVERT INLET CUTOFF	ACCEPTED BY ...		



1 113 EXISTING CULVERT ISOMETRIC



2 113 CULVERT CUTOFF ISOMETRIC

REVISIONS

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5 DAM SEEPWATER COLLECTION AREA

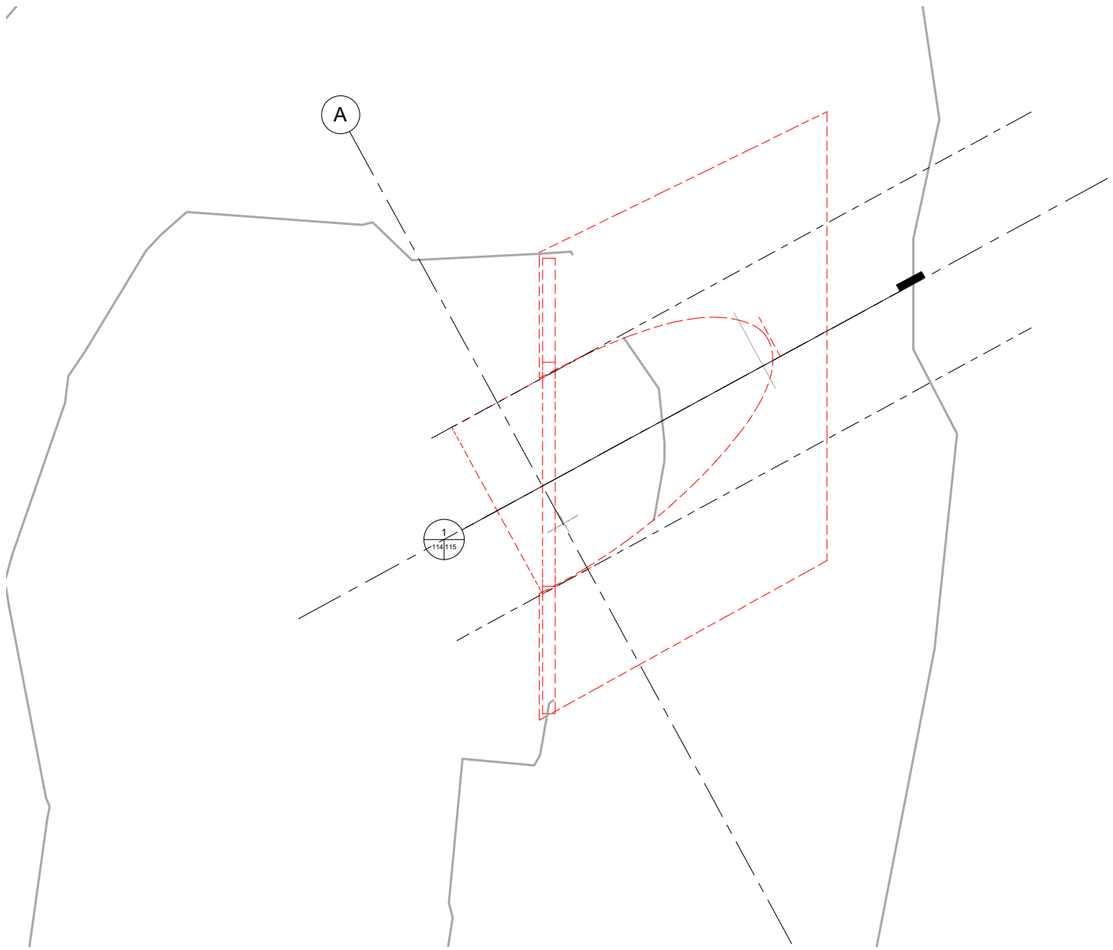
SECONDARY CONTAINMENT SYSTEM

ISOMETRICS AT CULVERT

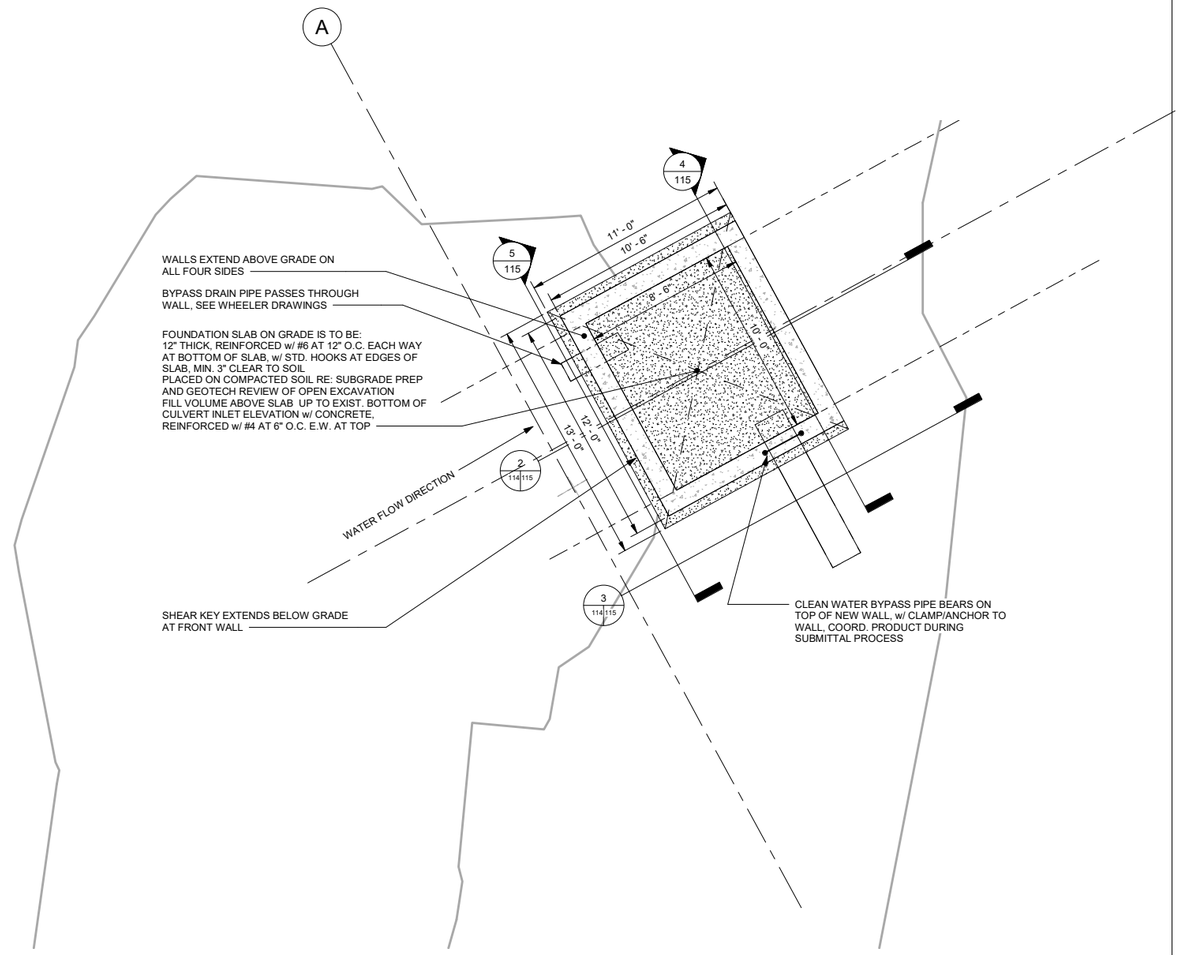
CULVERT INLET CUTOFF

CLIMAX MOLYBDENUM CLIMAX MINE
CLIMAX, CO

MADE BY		PROJECT NUMBER
DAN	05/30/23	1051.191.17
CHECKED BY		DRAWING NO.
JLK	06/27/23	6-807-00113 △
ACCEPTED BY		
...		



1 EXISTING CULVERT PLAN
115|114 1/4" = 1'-0"



2 RETAINING BOX PLAN
115|114 1/4" = 1'-0"

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REFERENCE DWGS

DRAWING NO.	REFERENCE

Climax Molybdenum
A Freeport-McMoRan Company

W. W. WHEELER & ASSOCIATES, INC
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5 DAM SEEPWATER COLLECTION AREA

SECONDARY CONTAINMENT SYSTEM

PLANS AT CULVERT

CULVERT INLET CUTOFF

CLIMAX MOLYBDENUM CLIMAX MINE
CLIMAX, CO

MADE BY		PROJECT NUMBER
DAN	05/30/23	1051.191.17
CHECKED BY		DRAWING NO.
JLK	06/27/23	6-807-00114 △
ACCEPTED BY		
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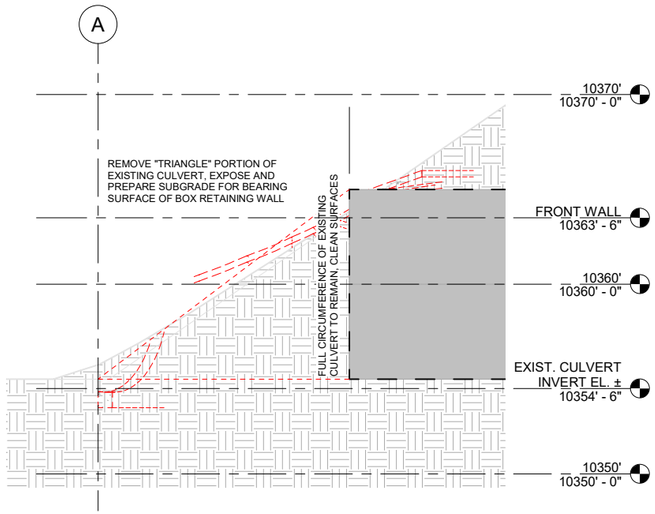
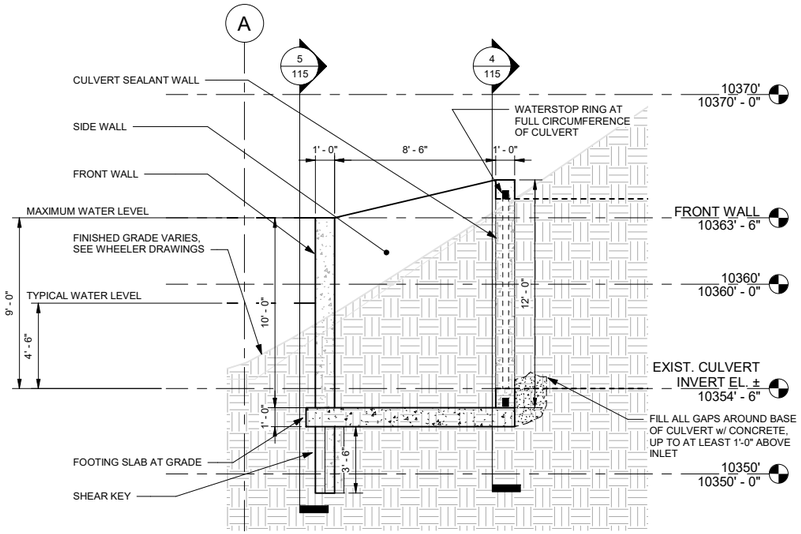
PROJ. TRUE

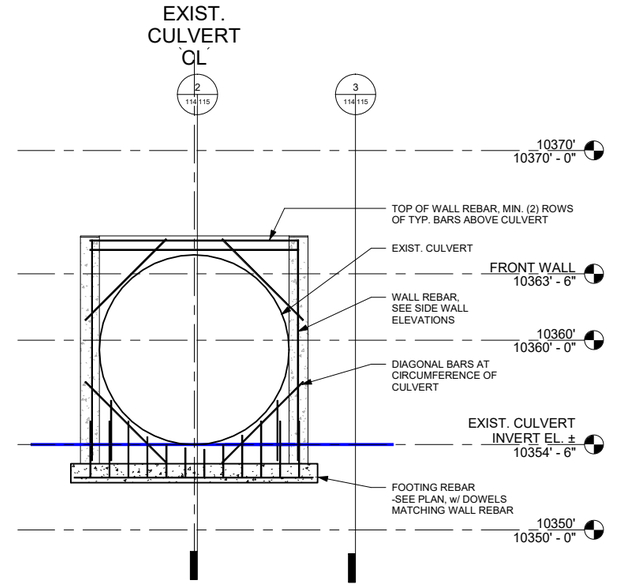
PROJ. TRUE



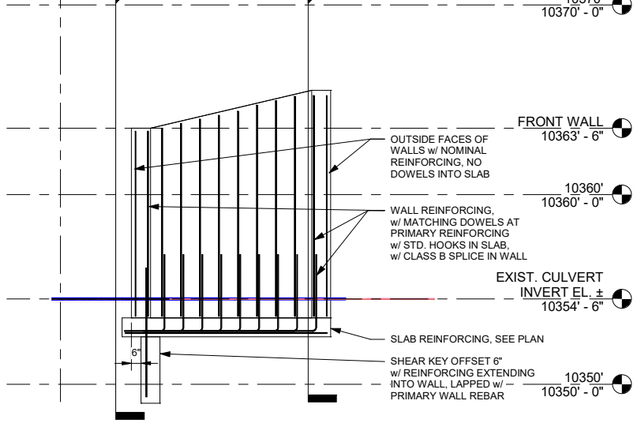
1 114|115 SECTION AT EXISTING
1/4" = 1'-0"



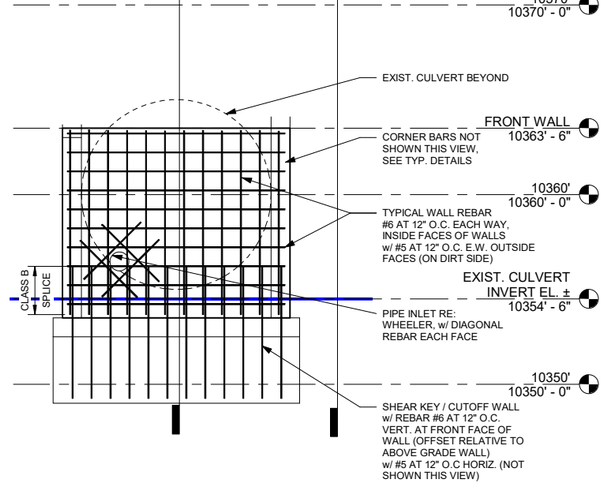
2 114|115 SECTION AT CENTER OF RETAINING BOX
1/4" = 1'-0"



4 114|115 SECTION AT CULVERT
1/4" = 1'-0"



3 114|115 SECTION AT SOUTH WALL OF RETAINING BOX
1/4" = 1'-0"



5 114|115 SECTION AT FRONT WALL
1/4" = 1'-0"

REVISIONS

NO.	DATE	MADE BY	CKD. BY	REMARKS
1	06/27/23	DAN	JLK	ISSUED FOR BID
2	.	.	.	.
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DRAWING NO.	REFERENCE

Climax Molybdenum
A Freeport-McMoRan Company

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5 DAM SEEPWATER COLLECTION AREA

SECONDARY CONTAINMENT SYSTEM

SECTIONS AT CULVERT

CULVERT INLET CUTOFF

CLIMAX MOLYBDENUM CLIMAX MINE
CLIMAX, CO

MADE BY		PROJECT NUMBER
DAN	05/30/23	1051.191.17
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JLK	06/27/23	6-807-00115 △
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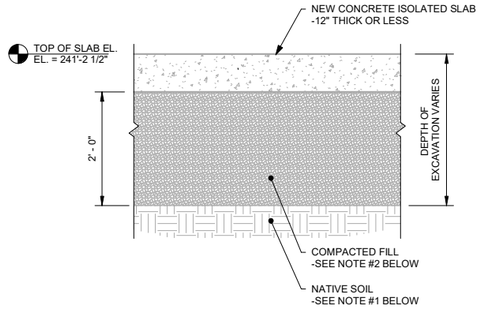
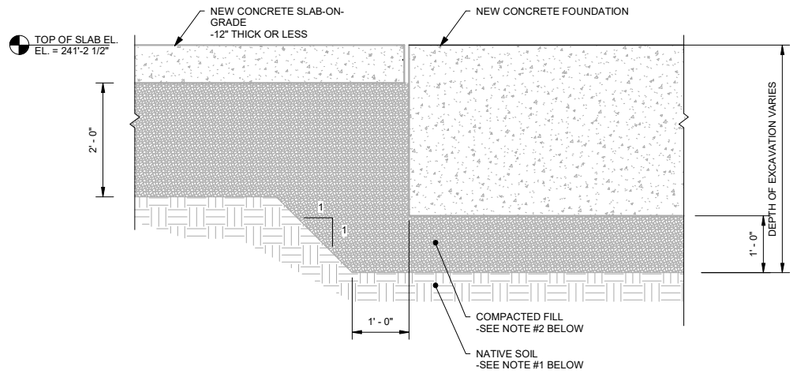


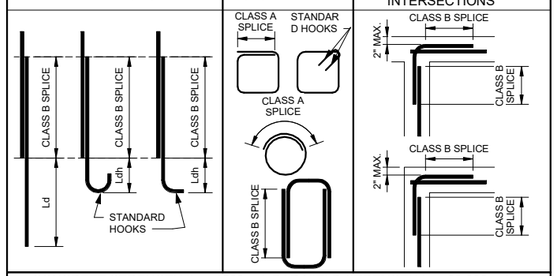


NOTES:
1. NATIVE SOIL SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY PRIOR TO PLACING ANY FILL. ANY WEAK, YIELDING OR UNSTABLE AREAS OF EXPOSED SOIL SHALL BE REMOVED AND REPLACED W/ STRUCTURAL FILL MATERIAL.
2. COMPACTED FILL MATERIAL SHALL CONSIST OF ONE OF THE FOLLOWING CATEGORIES
   a. NATIVE MATERIAL MEETING CRITERIA FOR COMPACTED AGGREGATE FILL, RE: GEOTECH.
      - FILL SHALL BE PLACED IN LOOSE LIFTS NOT TO EXCEED 8", AND COMPACTED TO w/ ± 2% OF OPTIMUM MOISTURE CONTENT, TO 95% OF MODIFIED PROCTOR ASTM D 1557.
   b. CEMENTITIOUS FLOWABLE FILL.
3. G.C. SHALL COORDINATE QUALITY ASSURANCE FOR SUBGRADE PREPARATION w/ A GEOTECHNICAL ENGINEER IN ACCORDANCE W/ THE GEOTECHNICAL REPORT.
4. REFER TO GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

1 (116) SUBGRADE PREPARATION
3/4" = 1'-0"

CONCRETE DEVELOPMENT LENGTH AND LAP SPLICE SCHEDULE [3,4,5]

PRIMARY REINFORCEMENT | CLOSED TIES | CORNERS AND INTERSECTIONS

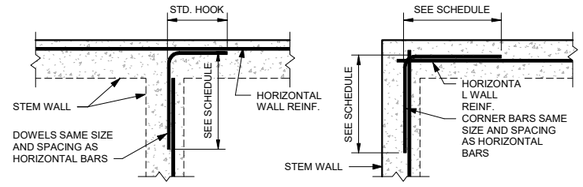


CONCRETE STRENGTH f'c = 4500 psi, BAR YIELD STRENGTH fy = 60,000 psi

BAR SIZE	Ld AND CLASS A SPLICE (in.) TOP REINF. [2]	Ld AND CLASS A SPLICE (in.) OTHER REINF.	CLASS B SPLICE (in.) TOP REINF. [2]	CLASS B SPLICE (in.) OTHER REINF.	Ldh (in.)
3	12	12	14	11	7
4	14	12	19	14	9
5	18	14	23	18	12
6	21	17	28	21	14

NOTES:
1. TABULATED DEVELOPMENT LENGTHS AND BAR SPLICES SHALL BE CONSIDERED THE MINIMUM REQUIREMENT UNLESS NOTED OTHERWISE.
2. TOP BARS ARE ANY HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE CAST BELOW THE REINFORCEMENT.
3. TABULATED LENGTHS/SPLICES ASSUME THE FOLLOWING: CLEAR COVER OF BARS NOT LESS THAN 1 1/2"; CLEAR SPACING BETWEEN BARS NOT LESS THAN ONE DIAMETER OR 1", WHICHEVER IS GREATER; 1 OR 2-BAR BUNDLES ONLY; NORMAL WEIGHT CONCRETE; GRADE 60 REBAR (fy = 60,000 PSI), AND UNCOATED REINFORCEMENT. IF THESE CONDITIONS VARY, THEN THE TABULATED LENGTHS/SPLICES SHALL BE MULTIPLIED BY THE FOLLOWING FACTORS, AS APPLICABLE. IF MORE THAN ONE CONDITION APPLIES, THEN MULTIPLIERS SHALL BE CUMMULATIVE.
   CLEAR COVER LESS THAN 1 1/2"....1.60
   LIGHTWEIGHT CONCRETE.....1.33
   GRADE 40 REBAR.....0.67 (CONTRACTOR OPTION)
   EPOXY-COATED REBAR.....1.30 FOR "TOP REINF."
   1.50 FOR "OTHER REINF."
   1.20 FOR Ldh
   THE FINAL LENGTH/SPLICE SHALL NOT BE LESS THAN 6" FOR Ldh AND 12" FOR ALL OTHER CASES. FOR CONDITIONS NOT DEFINED IN THIS TABLE OR NOTES, COORDINATE LENGTHS/SPLICES WITH THE ENGINEER.
4. MECHANICAL AND WELDED SPLICES SHALL DEVELOP 125% OF THE BAR YIELD STRENGTH fy.
5. IF BARS OF VARYING SIZE AND/OR STRENGTH ARE SPLICED, THEN THE LONGER SPLICE LENGTH SHALL BE USED.

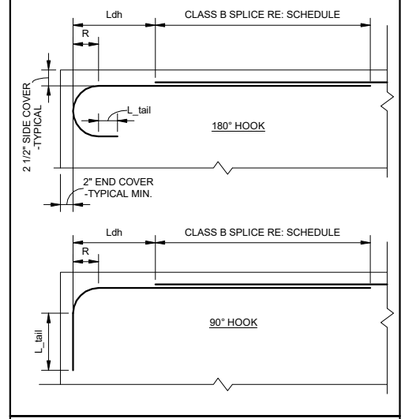
2 (116) CONCRETE DEVELOPMENT LENGTH AND LAP SPLICE SCHEDULE
1" = 1'-0"



THIS DETAIL TO BE USED IN CONJUNCTION W/ ACI REBAR LAP SCHEDULE

4 (116) WALL INTERSECTION REINFORCING
3/4" = 1'-0"

STANDARD HOOK GEOMETRY
FOR PRIMARY REINFORCING IN TENSION



TOP BAR SIZE	BEND RADIUS "R" (in.)	L_tail (in.) 180° HOOK	L_tail (in.) 90° HOOK
3	1.3125	2.50	4.50
4	1.75	2.50	6.00
5	2.1875	2.50	7.50
6	2.625	3.00	9.00
7	3.0625	3.50	10.5
8	3.50	4.00	12.0
9	4.50	4.50	13.5

3 (116) STANDARD HOOK GEOMETRY
1" = 1'-0"

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REFERENCE DWGS

DRAWING NO.	REFERENCE

Climax Molybdenum
A Freeport-McMoRan Company

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5 DAM SEEPWATER COLLECTION AREA
SECONDARY CONTAINMENT SYSTEM
FOUNDATION DETAILS
CULVERT INLET CUTOFF

CLIMAX MOLYBDENUM CLIMAX MINE
CLIMAX, CO

MADE BY		PROJECT NUMBER
DAN	05/30/23	1051.191.17
CHECKED BY		DRAWING NO.
JLK	06/27/23	6-807-00116 △
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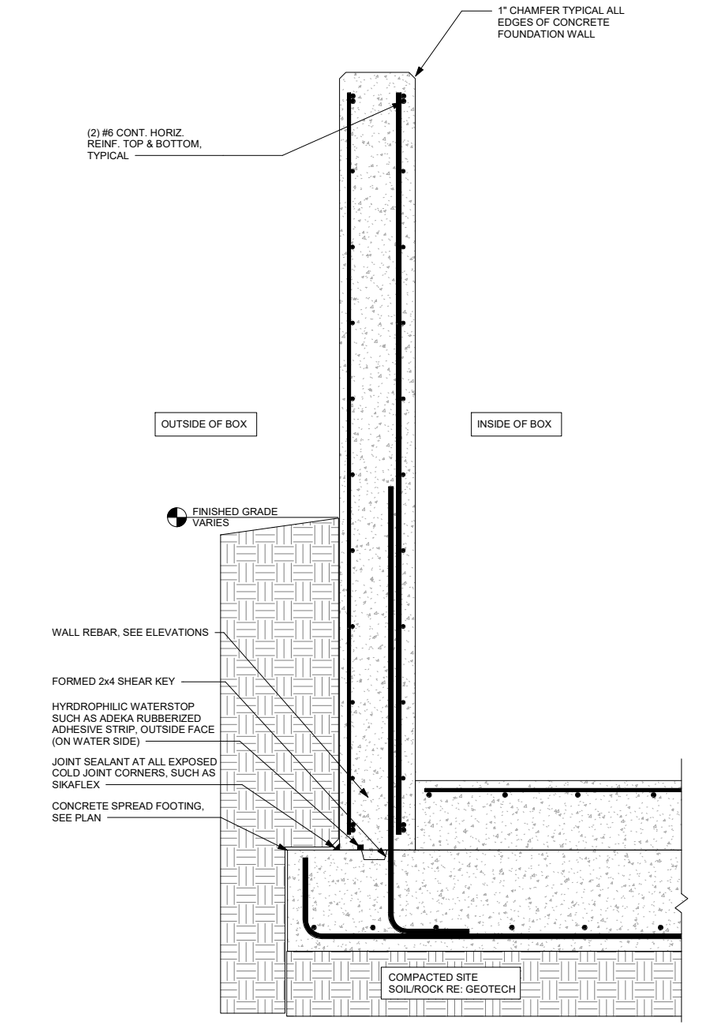

1 / 117 TYP. WALL SECTION
1" = 1'-0"

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5 DAM SEEPWATER COLLECTION AREA

SECONDARY CONTAINMENT SYSTEM

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