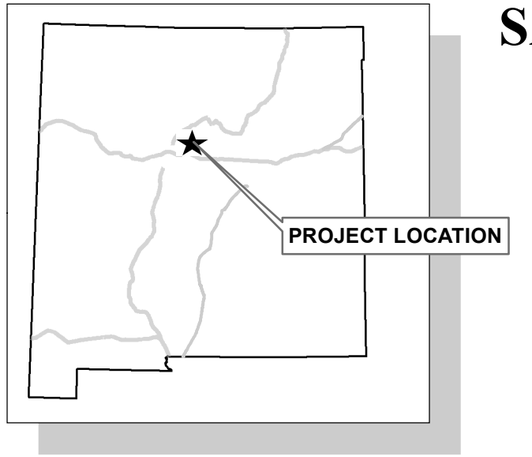
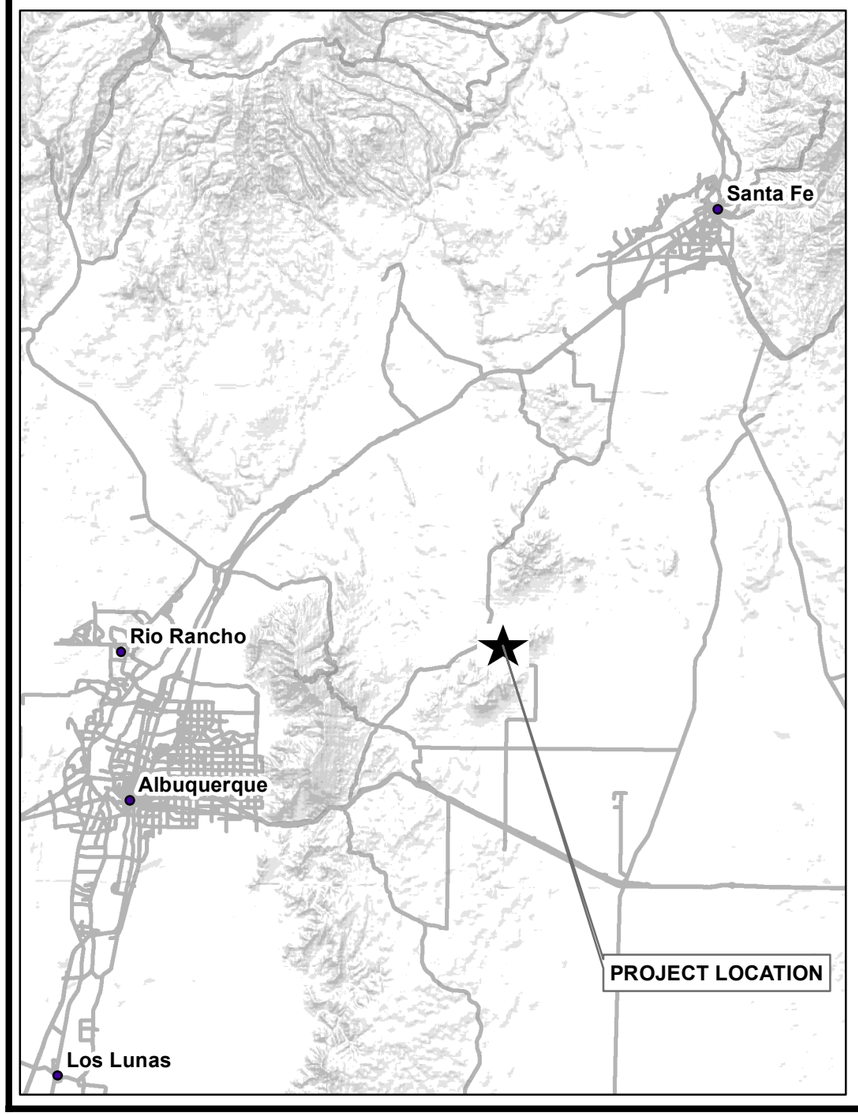
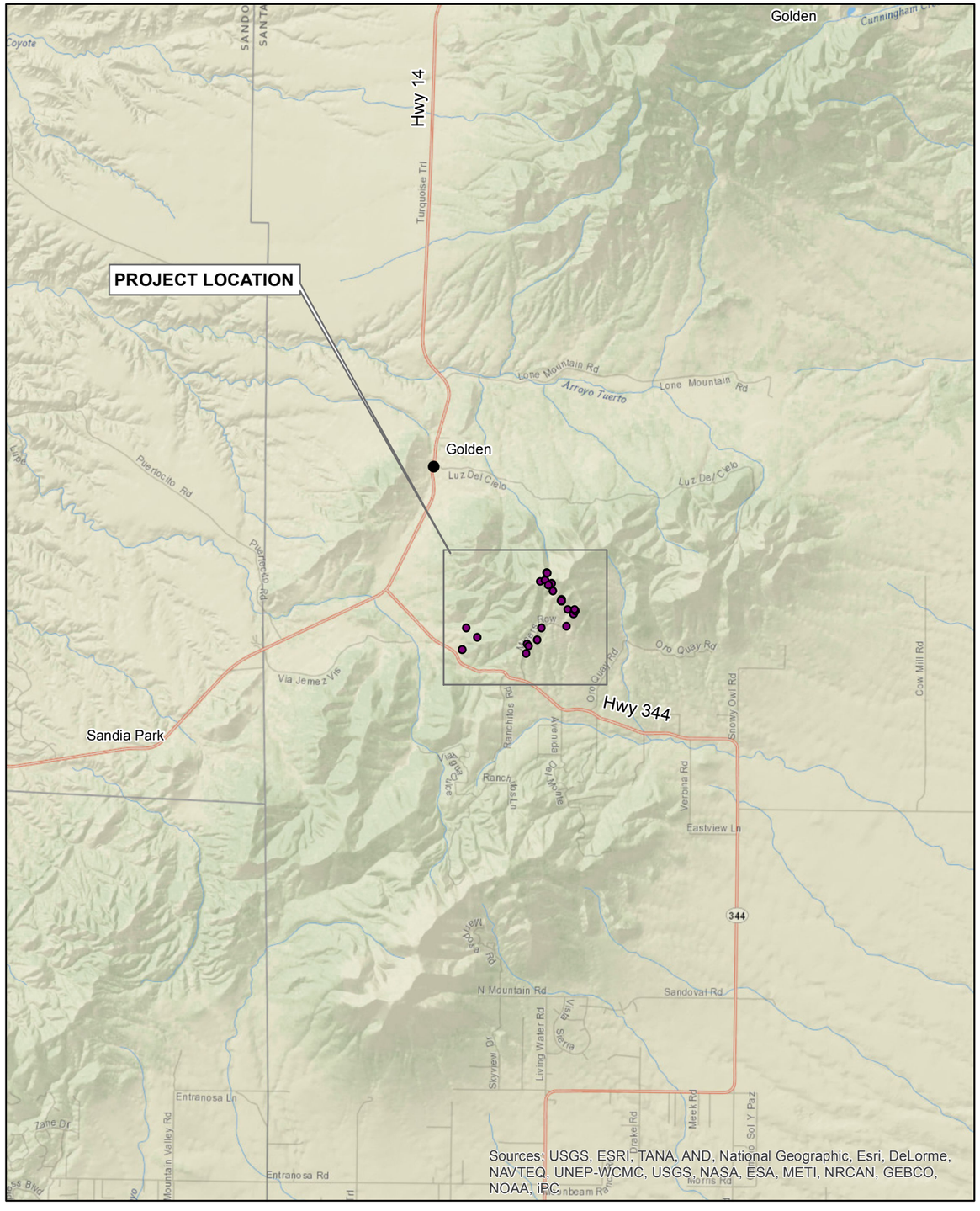
SAN PEDRO MINE SAFEGUARD PROJECT - PHASE I

SAN PEDRO, NEW MEXICO

PROJECT LOCATION





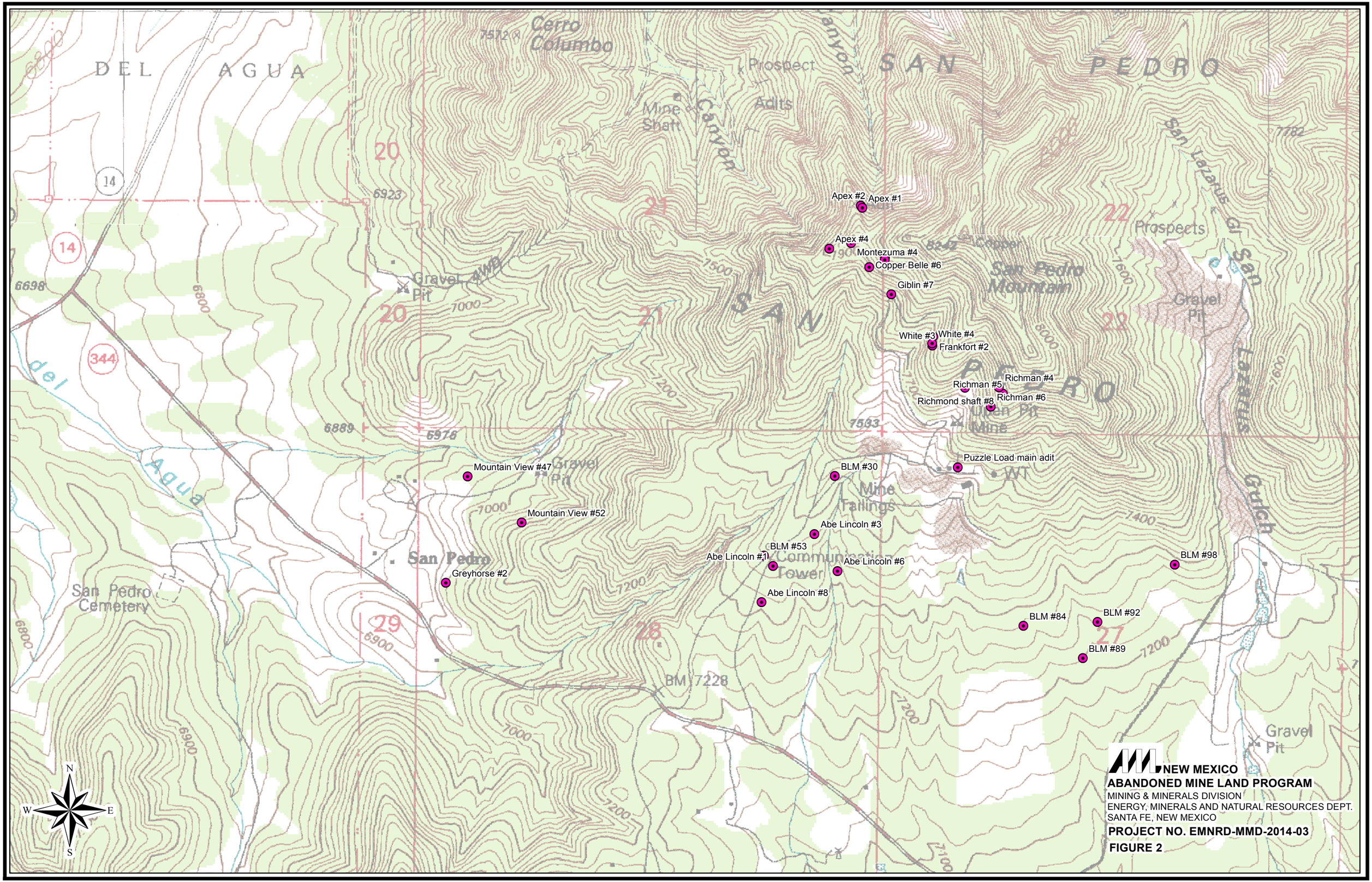


INDEX OF FIGURES:

N
W E
S

NEW MEXICO
ABANDONED MINE LAND PROGRAM
MINING & MINERALS DIVISION
ENERGY, MINERALS AND NATURAL RESOURCES DEPT.
SANTA FE, NEW MEXICO

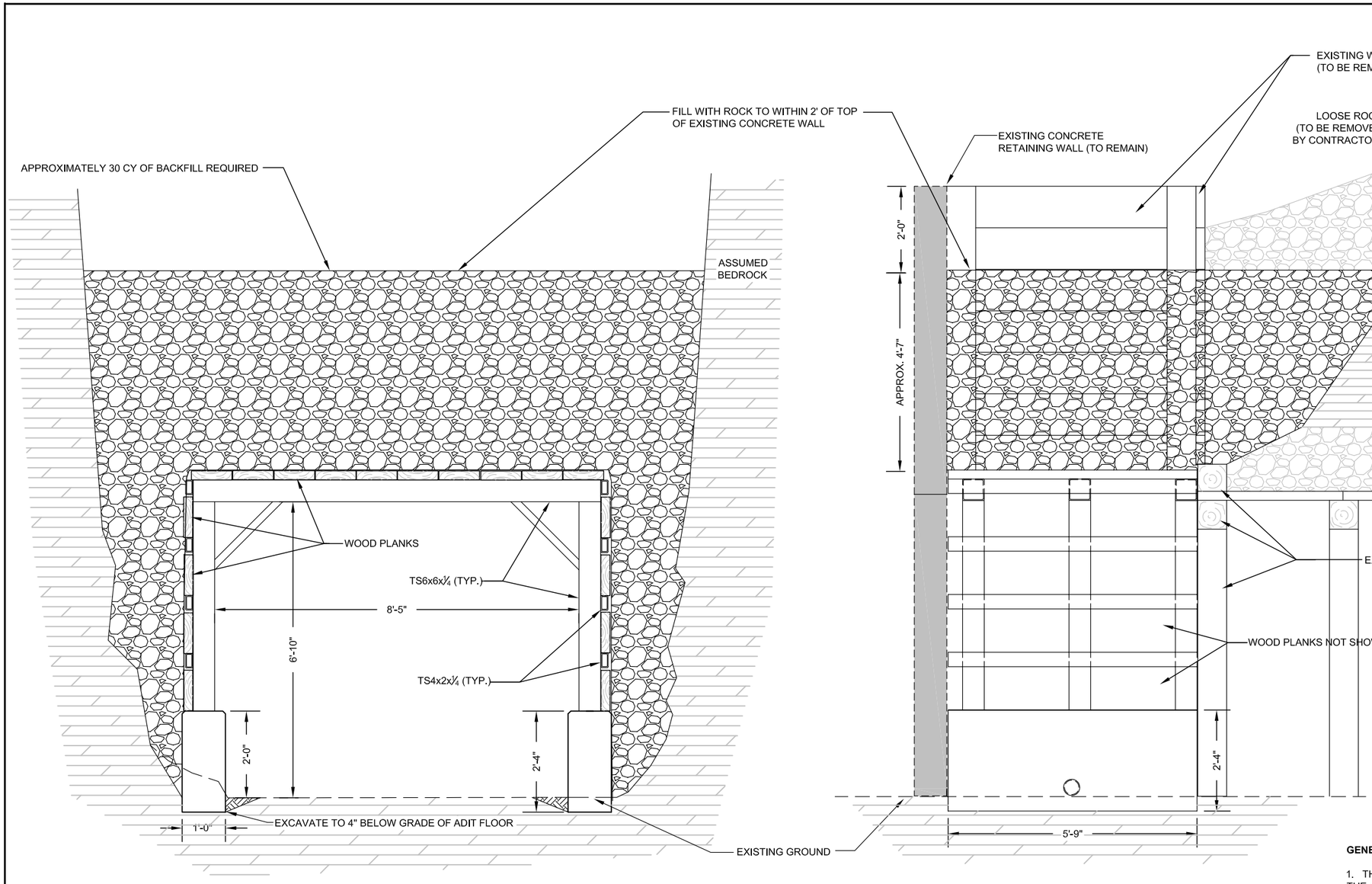
PROJECT NO. EMNRD-MMD-2014-03



NEW MEXICO
ABANDONED MINE LAND PROGRAM
MINING & MINERALS DIVISION
ENERGY, MINERALS AND NATURAL RESOURCES DEPT.
SANTA FE, NEW MEXICO

PROJECT NO. EMNRD-MMD-2014-03

FIGURE 2



FRONT SECTION

SCALE: ⅜" = 1'-0"

SIDE SECTION

SCALE: ⅜" = 1'-0"

CAUTION – THIS PROJECT REQUIRES CONSTRUCTION WORK IN, AROUND, AND OVER HAZARDOUS AND UNPROTECTED MINE SHAFTS, STOPES, ADITS, AND OTHER OPENINGS WHICH MAY BE OPEN TO THE SURFACE OR HIDDEN FROM VIEW BY TRASH, DEBRIS, OR THIN AND UNSTABLE LAYERS OF SURFACE MATERIALS OR ROCK. THE CONSTRUCTOR SHALL BE RESPONSIBLE FOR THOROUGHLY INVESTIGATING THE CONDITIONS AT THE SITE, SCHEDULING EQUIPMENT, EQUIPMENT OPERATIONS, PERSONNEL AND SAFETY PROCEDURES TO PREVENT ACCIDENTS AND INJURIES.

GENERAL NOTES:

1. THIS DRAWING SHOWS THE GENERAL SHAPE AND APPROXIMATE DIMENSIONS OF THE MINE ADIT. USE THE DRAWING AS A GUIDE FOR FIELD LAYOUT OF THE CLOSURE. FIELD VERIFY DIMENSIONS PRIOR TO FABRICATION.

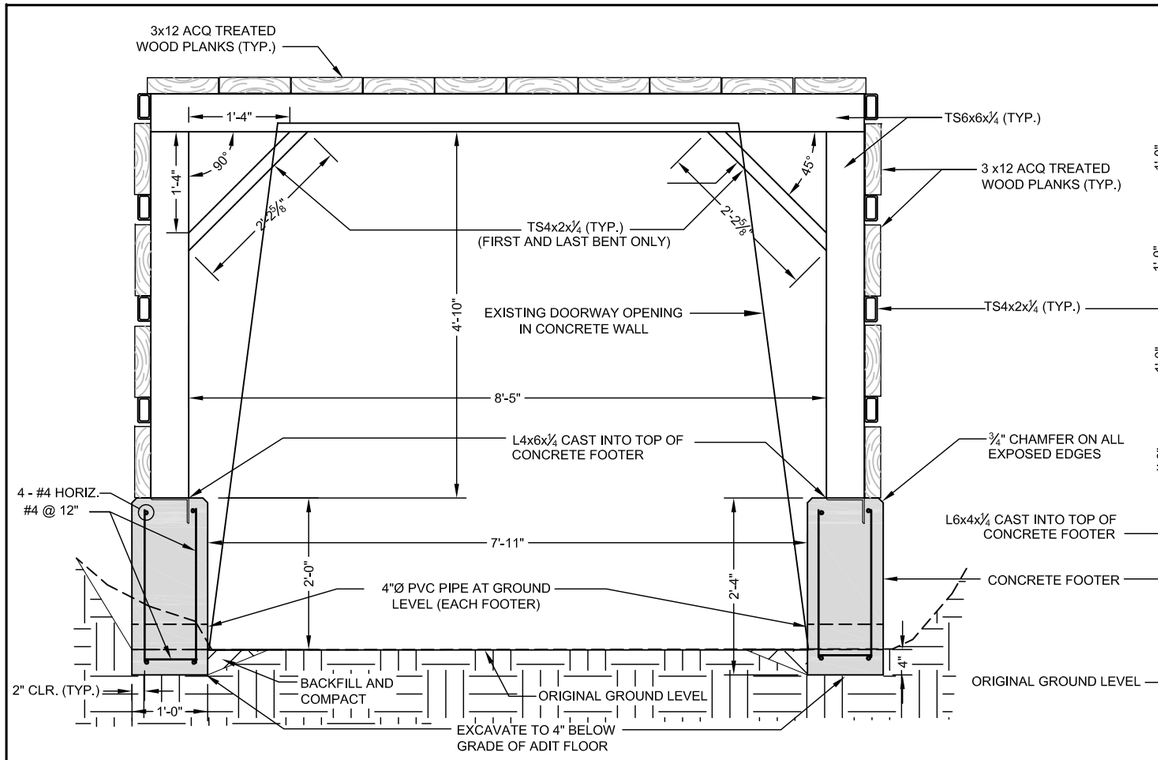
2. HAND BACKFILL THE VOID SPACE BETWEEN THE NEW SUPPORT STRUCTURE AND THE BEDROCK WALL WITH ROCK. INSTALL WOOD PLANKS ON THE SIDES OF THE SUPPORT STRUCTURE AS SPACE IS FILLED. CAREFULLY PLACE BACKFILL SO AS TO NOT DENT THE WOOD PLANKS. ONCE HAND BACKFILLING OCCURS TO AT LEAST 2' ABOVE THE ROOF OF THE SUPPORT STRUCTURE, MECHANICAL MEANS CAN BE USED TO FILL THE REMAINDER OF THE VOID SPACE. MECHANICAL BACKFILLING CAN BE DONE FROM THE ROOF UP IF THE CONTRACTOR PLACES ½" PLYWOOD OVER THE ROOF PLANKS PRIOR TO BACKFILLING.

3. TUBULAR STEEL, STEEL PLATES, AND SHAPES SHALL BE WEATHERING STEEL AS SPECIFIED. WELD ALL JOINTS. JOINTS SHALL BE TIGHT SO THAT MOISTURE CANNOT ENTER BETWEEN PLIES OF MATERIAL. ROUND OR CHAMFER ALL SHARP EDGES.

4. TOLERANCES ON THE CENTER--TO-CENTER DIMENSIONS BETWEEN POSTS SHALL BE ± ⅛".

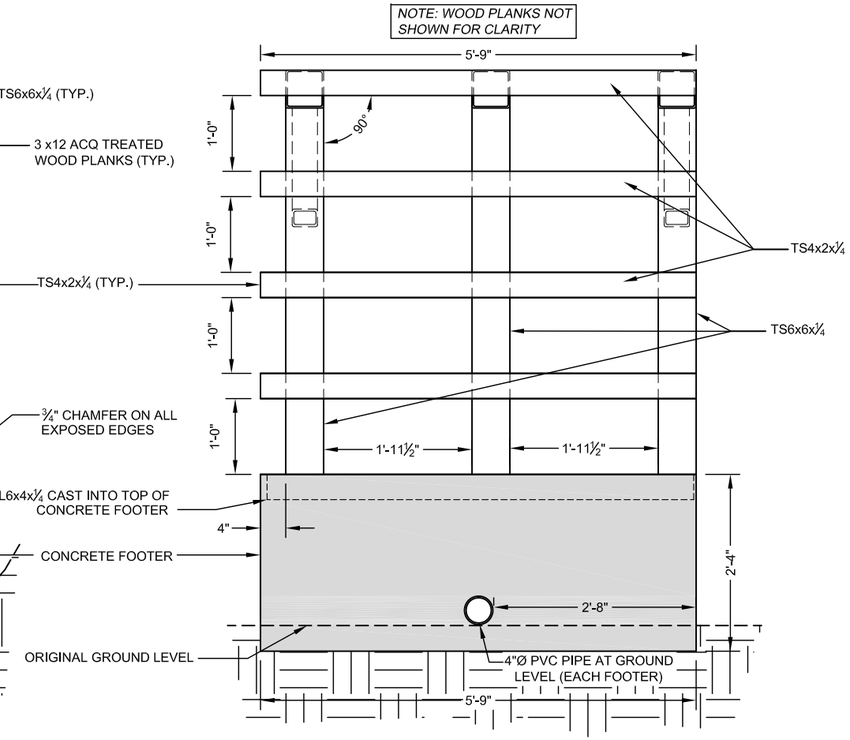
ABANDONED MINE LAND PROGRAM
MINING AND MINERALS DIVISION
NEW MEXICO ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT

SCALE: AS SHOWN	PUZZLE LODE #19	DRAWN BY: JTG
DATE:		REVISED BY: MWT
BACKFILL DETAILS		
FILE:	SAN PEDRO MINE SAFEGUARD PROJECT – PHASE I	FIGURE: 3



FRONT ELEVATION

SCALE: ½" = 1'-0"



SIDE ELEVATION - WEST FACING

SCALE: ½" = 1'-0"

GENERAL NOTES:

1. THIS DRAWING SHOWS THE GENERAL SHAPE AND APPROXIMATE DIMENSIONS OF THE MINE ADIT. USE THE DRAWING AS A GUIDE FOR FIELD LAYOUT OF THE CLOSURE. FIELD VERIFY DIMENSIONS PRIOR TO FABRICATION

2. REMOVE ALL WOOD, STEEL, ROCK AND OTHER DEBRIS AS NECESSARY TO INSTALL NEW SUPPORT STRUCTURE AT ADIT ENTRANCE. DISPOSE OF DEBRIS ON SITE AS DIRECTED BY THE PROJECT MANAGER. TEMPORARILY STORE ROCK NEAR ADIT ENTRANCE TO BE USED AS BACKFILL.

3. TUBULAR STEEL, STEEL PLATES, AND SHAPES SHALL BE WEATHERING STEEL AS SPECIFIED. WELD ALL JOINTS. JOINTS SHALL BE TIGHT SO THAT MOISTURE CANNOT ENTER BETWEEN PLIES OF MATERIAL. ROUND OR CHAMFER ALL SHARP EDGES.

4. WOOD PLANKS SHALL BE MADE OF 3"X12" DOUG-FIR (ACTUAL DIMENSION 2.5" X 11.25") TREATED WITH ALKALINE COPPER QUATERNARY (ACQ) WITH A 0.6 POUND PER CUBIC FOOT RETENTION. WOOD PLANKS SHALL BE CUT TO THE PROPER LENGTH (5'-8") PRIOR TO TREATMENT. ANY CUTS REQUIRED TO BE MADE IN THE FIELD SHALL BE GIVEN A HEAVY COAT OF THOMPSON'S WATER SEAL - ADVANCED NATURAL WOOD PROTECTOR OR APPROVED EQUIVALENT.

5. HAND BACKFILL THE VOID SPACE BETWEEN THE NEW SUPPORT STRUCTURE AND THE BEDROCK WALL WITH ROCK. INSTALL WOOD PLANKS ON THE SIDES OF THE SUPPORT STRUCTURE AS SPACE IS FILLED. BACKFILL SHALL BE CAREFULLY PLACED SO AS NOT TO DENT THE WOOD PLANKING. ONCE HAND BACKFILLING OCCURS TO AT LEAST 2' ABOVE THE ROOF OF THE NEW SUPPORT STRUCTURE, MECHANICAL MEANS CAN BE USED TO BACKFILL THE REMAINDER TO WITHIN 2' OF THE TOP OF THE EXISTING RETAINING WALL. MECHANICAL BACKFILLING CAN BE DONE FROM THE ROOF PLANKS UP IF THE ROOF PLANKS ARE COVERED WITH 1/2" PLYWOOD.

6. REMOVE EXISTING DOOR BY CUTTING OFF EXISTING CONTINUOUS HINGE. DISPOSE OF ORIGINAL DOOR ON-SITE AS DIRECTED BY THE AML PROJECT MANAGER.

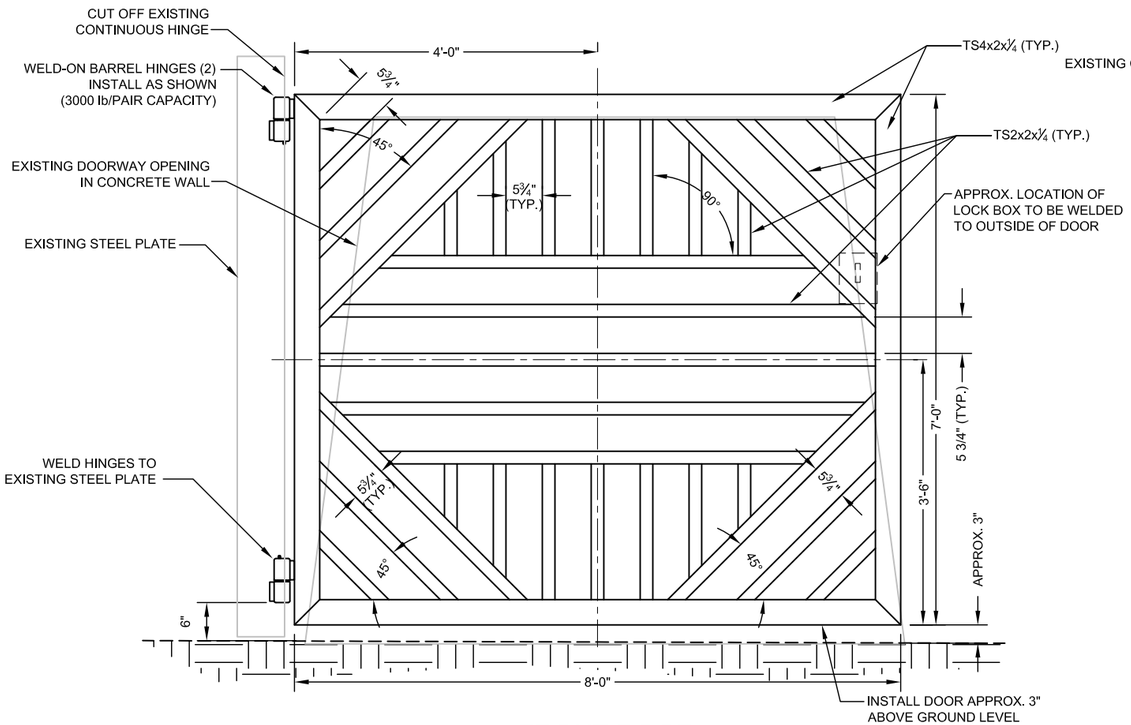
7. INSTALL HEAVY DUTY BARREL WELD ON HINGES AS SHOWN AND AS SPECIFIED. BOTH HINGES SHALL BE INSTALLED TO SUPPORT THE DOOR AND SHALL BE IN-LINE AND OPERATE SMOOTHLY WHEN THE DOOR IS HUNG.

8. CONSTRUCT AND INSTALL DOOR TRUE, SQUARE AND PLUMB. SHIM AS NECESSARY.

9. DRILL TWO 1.5" DEEP, 1/2" DIAMETER HOLES THRU THE LOCK PLATE AND INTO THE EXISTING RETAINING WALL TO INSTALL THE PINS FOR THE NEW LOCK PLATE.

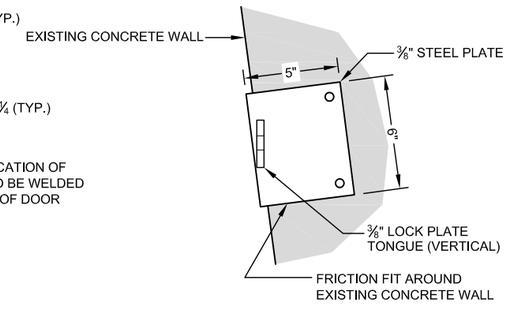
10. TOLERANCES ON THE CENTER--TO-CENTER DIMENSIONS BETWEEN POSTS SHALL BE ±1/8".

11. DRILL A 3/4" DIA. x 3" DEEP HOLE INTO THE EXISTING CONCRETE SUPPORT WALL AND USE GROUT TO INSTALL A SURVEY MARKER AS PROVIDED AND DIRECTED BY THE PROJECT MANAGER

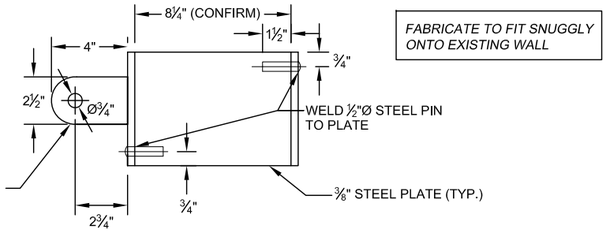


FRONT DOOR

SCALE: ½" = 1'-0"

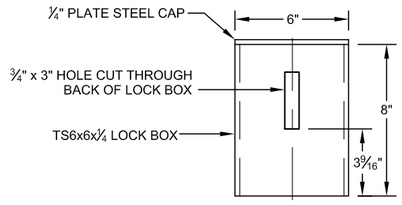


FRONT VIEW - LOCK PLATE

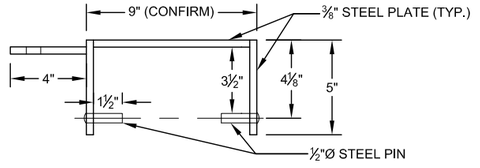


FABRICATE TO FIT SNUGGLY ONTO EXISTING WALL

SIDE VIEW - LOCK PLATE



ELEVATION - LOCK BOX



PLAN VIEW - LOCK PLATE

LOCK BOX AND LOCK PLATE DETAILS

SCALE: 1½" = 1'-0"

CAUTION – THIS PROJECT REQUIRES CONSTRUCTION WORK IN, AROUND, AND OVER HAZARDOUS AND UNPROTECTED MINE SHAFTS, STOPES, ADITS, AND OTHER OPENINGS WHICH MAY BE OPEN TO THE SURFACE OR HIDDEN FROM VIEW BY TRASH, DEBRIS, OR THIN AND UNSTABLE LAYERS OF SURFACE MATERIALS OR ROCK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THOROUGHLY INVESTIGATING THE CONDITIONS AT THE SITE AND SCHEDULING EQUIPMENT, EQUIPMENT OPERATIONS, PERSONNEL AND SAFETY PROCEDURES TO PREVENT ACCIDENTS AND INJURIES.

ABANDONED MINE LAND PROGRAM
MINING AND MINERALS DIVISION
NEW MEXICO ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT

SCALE: AS SHOWN	PUZZLE LODE #19	DRAWN BY: JTG
DATE:		REVISED BY: MWT
	BAT GATE	
FILE:	SAN PEDRO MINE SAFEGUARD PROJECT – PHASE I	FIGURE: 4

GENERAL NOTES:

1. THE SHAPE AND DIMENSIONS SHOWN AT THE EXISTING ADIT OPENING ARE APPROXIMATE. FIELD VERIFY ALL DIMENSIONS BEFORE FABRICATION.

2. THE CONTRACTOR SHALL MAKE SURE NOT TO BLOCK EITHER OPENING OF THE CSP WITH FILL OR ROCK.

3. TUBULAR STEEL, STEEL PLATES AND SHAPES SHALL BE WEATHERING STEEL AS SPECIFIED. WELD ALL JOINTS. CONSTRUCT THE BAT GATE TO ELIMINATE SURFACES ON WHICH MOISTURE OR DEBRIS CAN BE TRAPPED. ALL TUBULAR MEMBERS SHALL BE HERMETICALLY SEALED TO PREVENT THE INCURSION OF MOISTURE, EXCEPT AS OTHERWISE NOTED. ROUND OR CHAMFER ALL EXPOSED SHARP CORNERS AND EDGES.

4. FOR DETAILS OF THE BAT GATE, SEE FIGURE 6.

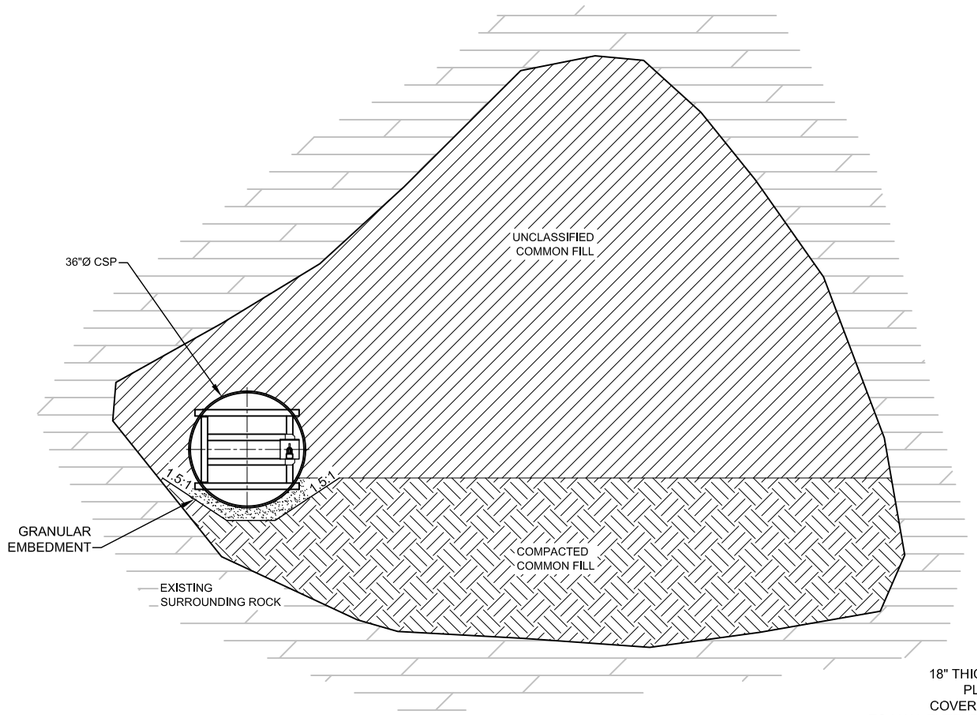
5. INSTALL SURVEY MARKER PROVIDED AND AS DIRECTED BY THE PROJECT MANAGER, INTO A ¾" HOLE DRILLED 3" DEEP (BY THE CONTRACTOR) INTO THE ROCK ABOVE THE ADIT OPENING.

6. WHEN CLOSING THE DOOR, THE LOCK PLATE SHALL ENTER THE SLOT IN THE LOCK BOX WITHOUT HITTING OR RUBBING THE EDGES OF THE SLOT.

7. TREAT CUT AREAS IN CMP WITH ZINC-RICH PAINT AS PER ASTM A780.

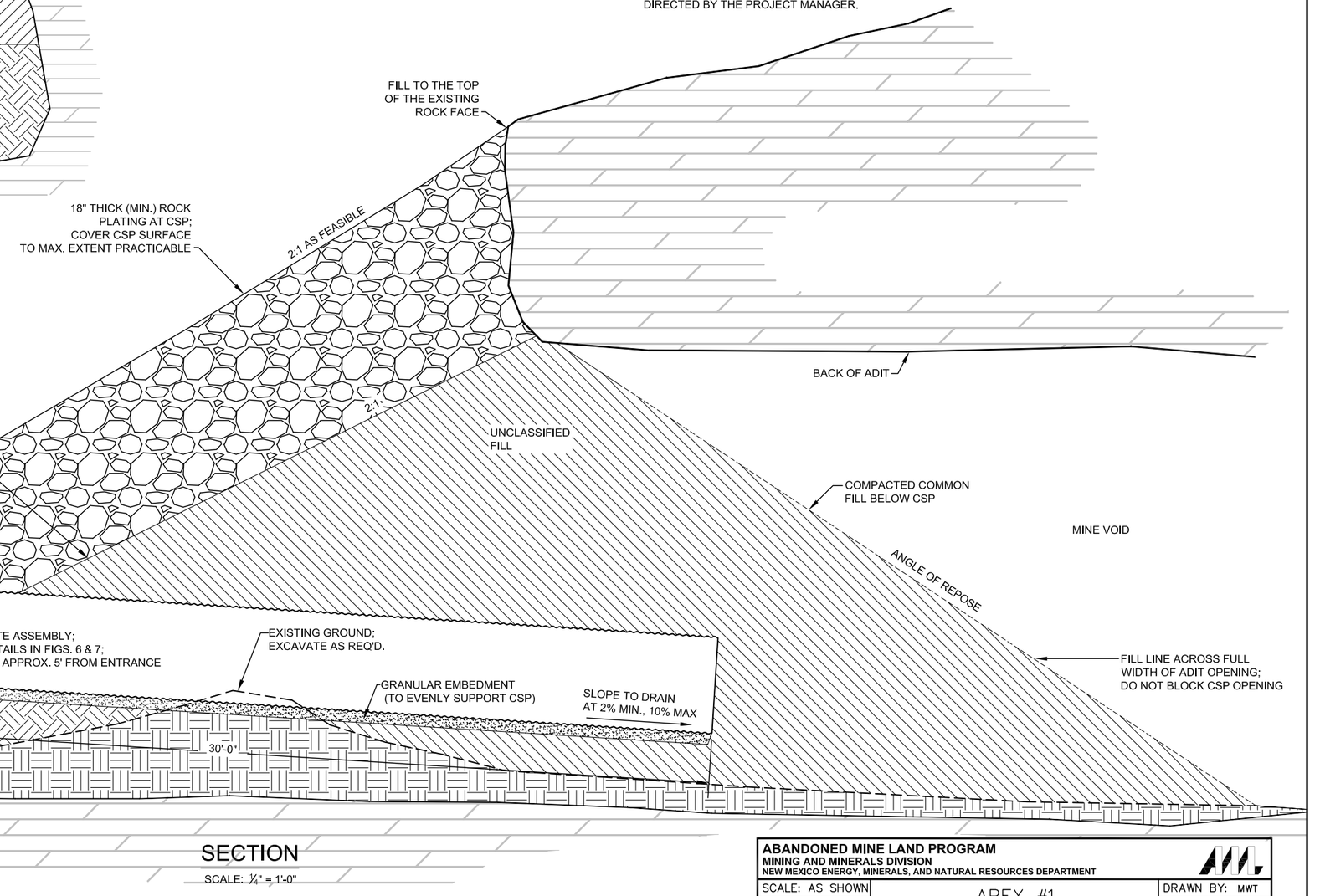
8. SPRAY PAINT ALL EXPOSED VISIBLE PORTIONS OF THE CSP WITH CAMOUFLAGE PAINT AS SPECIFIED AND AS DIRECTED BY THE PROJECT MANAGER.

CAUTION – THIS PROJECT REQUIRES CONSTRUCTION WORK IN, AROUND, AND OVER HAZARDOUS AND UNPROTECTED MINE SHAFTS, STOPES, ADITS, AND OTHER OPENINGS WHICH MAY BE OPEN TO THE SURFACE OR HIDDEN FROM VIEW BY TRASH, DEBRIS, OR VEGETATION AND INVISIBLE LASER BEAMS OR RADIOACTIVE MATERIALS OR ROCK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THOROUGHLY INVESTIGATING THE SITE CONDITIONS AND SCHEDULING EQUIPMENT, EQUIPMENT OPERATIONS, PERSONNEL AND SAFETY PROCEDURES TO PREVENT ACCIDENTS AND INJURIES.



FRONT VIEW

SCALE: ¼" = 1'-0"



SEE BAT GATE DETAILS
IN FIGURES 6 AND 7

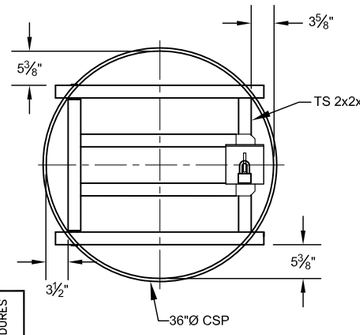
SECTION

SCALE: ¼" = 1'-0"

ABANDONED MINE LAND PROGRAM
MINING AND MINERALS DIVISION
NEW MEXICO ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT

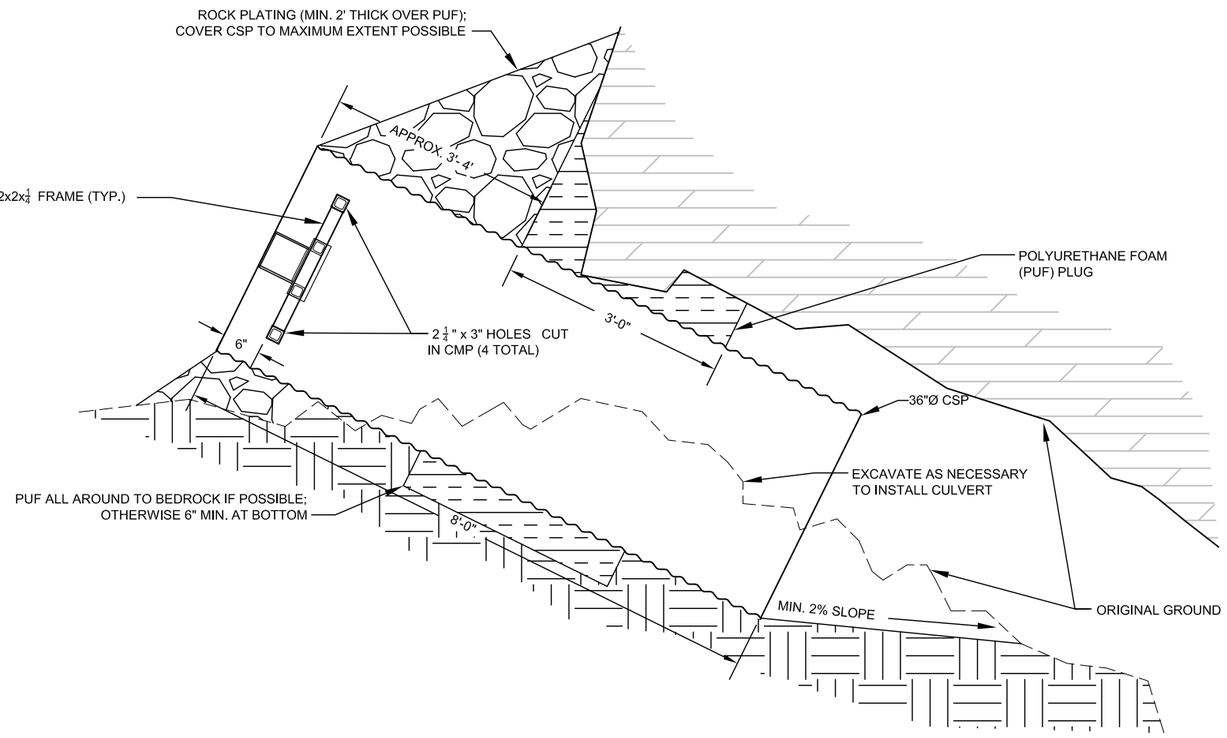
SCALE: AS SHOWN	APEX #1	DRAWN BY: MWT
DATE:		REVISED BY:
CULVERT WITH BAT GATE		
FILE:	SAN PEDRO MINE SAFEGUARD PROJECT – PHASE I	FIGURE: 5

CAUTION – THIS PROJECT REQUIRES CONSTRUCTION WORK IN, AROUND, AND OVER HAZARDOUS AND UNPROTECTED MINE SHAFTS, STOPES, ADITS, AND OTHER OPENINGS WHICH MAY BE OPEN TO THE SURFACE OR HIDDEN FROM VIEW BY TRASH, DEBRIS, OR THIN LAYERS OF SURFACE MATERIALS OR POOR VISIBILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THOROUGHLY INVESTIGATING THE SITE CONDITIONS AND SCHEDULING EQUIPMENT, EQUIPMENT OPERATIONS, PERSONNEL AND SAFETY PROCEDURES TO PREVENT ACCIDENTS AND INJURIES.



ELEVATION

SCALE: ½" = 1'-0"



SECTION

SCALE: ½" = 1'-0"

GENERAL NOTES:

1. THE SHAPE AND DIMENSIONS SHOWN AT THE EXISTING ADIT OPENING ARE APPROXIMATE. FIELD VERIFY ALL DIMENSIONS BEFORE FABRICATION.

2. MUCK OUT EXISTING LOOSE MATERIAL TO THE OUTSIDE OF THE ADIT.

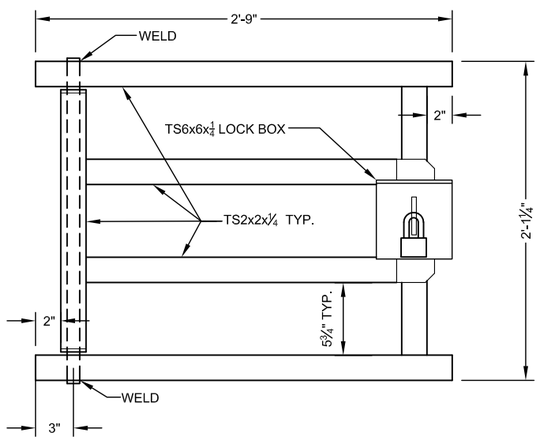
3. TUBULAR STEEL, STEEL PLATES AND SHAPES SHALL BE WEATHERING STEEL AS SPECIFIED. WELD ALL JOINTS. CONSTRUCT THE BAT GATE TO ELIMINATE SURFACES ON WHICH MOISTURE OR DEBRIS CAN BE TRAPPED. ALL TUBULAR MEMBERS SHALL BE HERMETICALLY SEALED TO PREVENT THE INCURSION OF MOISTURE, EXCEPT AS OTHERWISE NOTED. ROUND OR CHAMFER ALL EXPOSED SHARP CORNERS AND EDGES.

4. INSTALL SURVEY MARKER PROVIDED AND AS DIRECTED BY THE PROJECT MANAGER, INTO A ¾" HOLE DRILLED 3" DEEP (BY THE CONTRACTOR) INTO THE ROCK ABOVE THE ADIT OPENING.

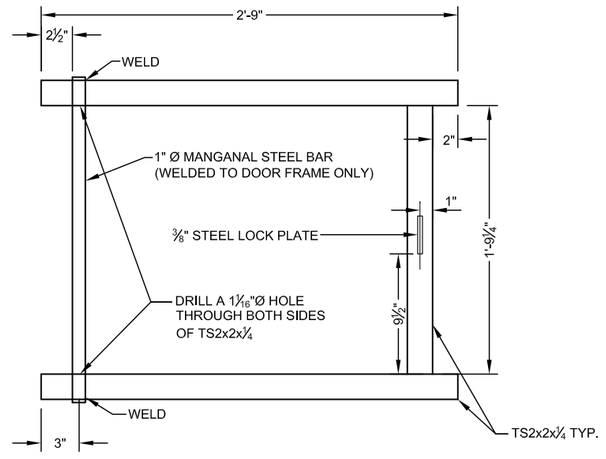
5. WHEN CLOSING THE DOOR, THE LOCK PLATE SHALL ENTER THE SLOT IN THE LOCK BOX WITHOUT HITTING OR RUBBING THE EDGES OF THE SLOT.

6. TREAT CUT AREAS IN CMP WITH ZINC-RICH PAINT AS PER ASTM A780.

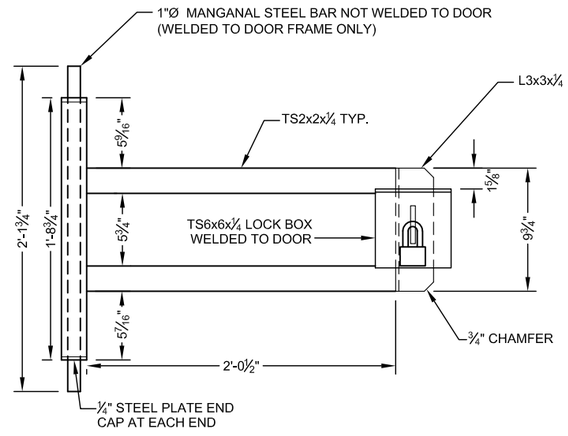
7. SPRAY PAINT ALL EXPOSED VISIBLE PORTIONS OF THE CSP WITH CAMOUFLAGE PAINT AS SPECIFIED AND AS DIRECTED BY THE PROJECT MANAGER.



DOOR AND FRAME



FRAME ONLY - DOOR NOT SHOWN



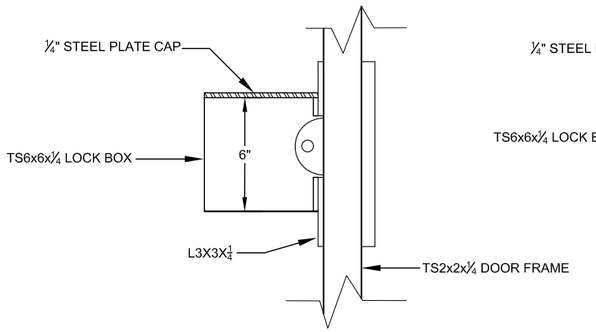
DOOR ONLY - FRAME NOT SHOWN

BAT GATE ASSEMBLY

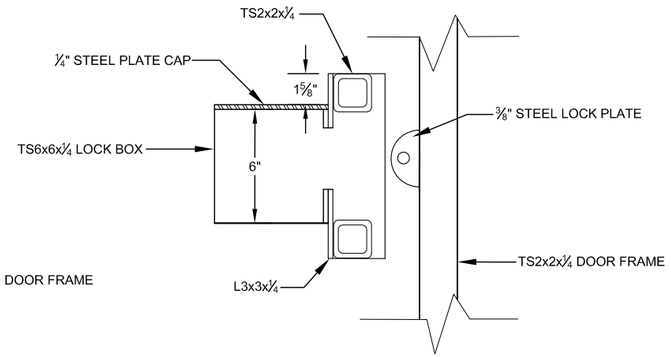
SCALE: 1" = 1'-0"

ABANDONED MINE LAND PROGRAM
MINING AND MINERALS DIVISION
NEW MEXICO ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT

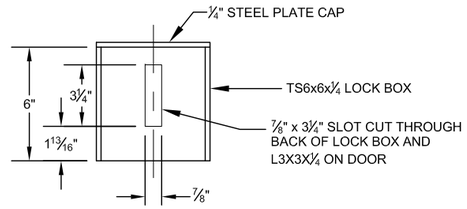
SCALE: AS SHOWN	COPPER BELLE #6	DRAWN BY: JTG
DATE:		REVISED BY: MWT
CULVERT WITH BAT GATE		
FILE:	SAN PEDRO MINE SAFEGUARD PROJECT – PHASE I	FIGURE: 6



LOCK BOX SECTION - DOOR CLOSED



LOCK BOX SECTION - DOOR OPENED



LOCK BOX DETAILS

GENERAL NOTES:

1. THE SHAPE AND DIMENSIONS SHOWN AT THE EXISTING ADIT OPENING ARE APPROXIMATE. FIELD VERIFY ALL DIMENSIONS BEFORE FABRICATION.

2. LOCATE GROUTED ROCK BULKHEAD AT ADIT ENTRANCE AS DIRECTED BY THE PROJECT MANAGER.

3. MUCK OUT EXISTING LOOSE MATERIAL TO THE OUTSIDE OF THE ADIT.

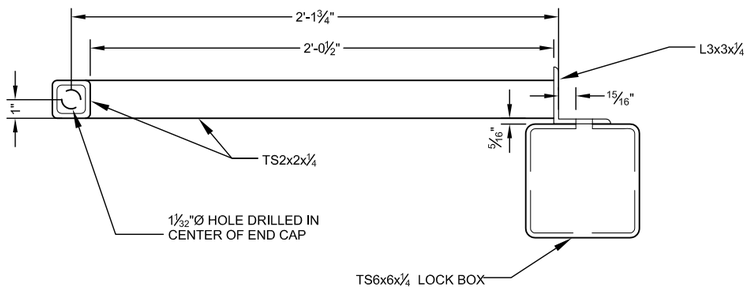
4. ROCK FOR THE BULKHEAD SHALL BE SOUND, DURABLE NATIVE ROCK THAT GIVES A RINGING SOUND WHEN STRUCK WITH A HAMMER.

5. PROPORTION AND MIX CONCRETE FOR THE BULKHEAD TO PRODUCE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS. CEMENT SHALL CONFORM TO ASTM C150 TYPE II, AND AGGREGATE TO ASTM C33, WITH A MAXIMUM SIZE OF AGGREGATE OF ¾ INCH. PACKAGED CONCRETE MIX MEETING ASTM C378 MAY BE USED.

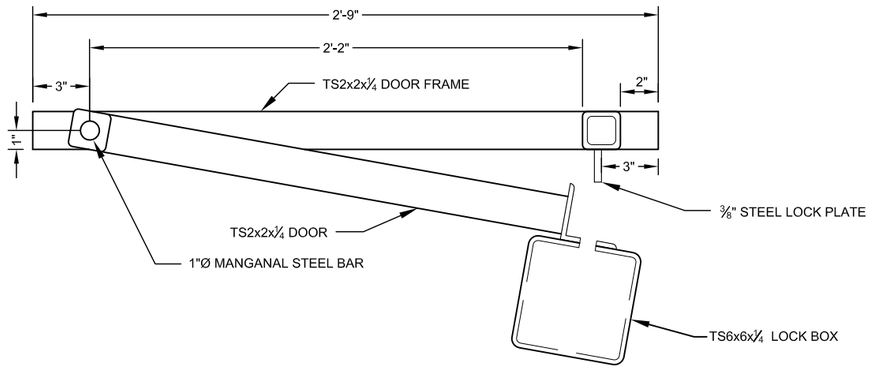
6. STEEL PLATES AND SHAPES SHALL BE WEATHERING STEEL. WELD ALL JOINTS. CONSTRUCT THE BAT GATE TO ELIMINATE SURFACES ON WHICH MOISTURE OR DEBRIS CAN BE TRAPPED. ALL TUBULAR MEMBERS SHALL BE HERMETICALLY SEALED TO PREVENT THE INCURSION OF MOISTURE, EXCEPT AS OTHERWISE NOTED. ROUND OR CHAMFER ALL EXPOSED SHARP CORNERS AND EDGES.

7. DOUBLE-NUT ALL BOLTS.

8. INSTALL SURVEY MARKER AS DIRECTED BY THE PROJECT MANAGER.



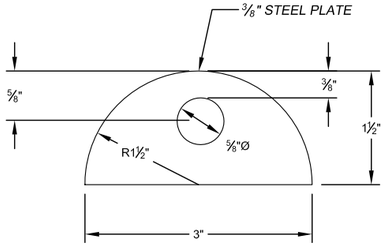
DOOR PLAN VIEW - FRAME NOT SHOWN



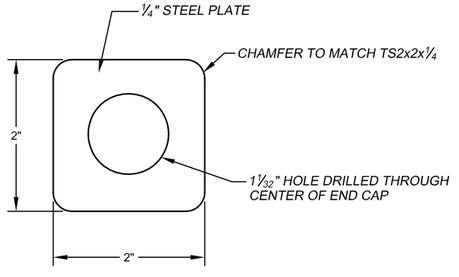
DOOR & FRAME DETAILS - DOOR SLIGHTLY OPENED

DOOR DETAILS

SCALE: 1½" = 1'-0"



LOCK PLATE - SIDE VIEW



END CAP (TWO REQUIRED) - PLAN VIEW

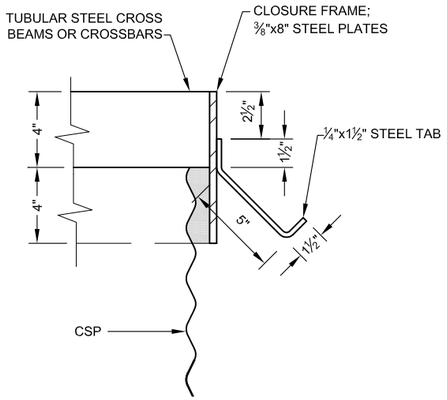
LOCK PLATE AND END CAP DETAILS

SCALE: 6" = 1'-0"

CAUTION – THIS PROJECT REQUIRES CONSTRUCTION WORK IN, AROUND, AND OVER HAZARDOUS AND UNPROTECTED MINE SHAFTS, STOPES, ADITS, AND OTHER OPENINGS WHICH MAY BE OPEN TO THE SURFACE OR HIDDEN FROM VIEW BY TRASH, DEBRIS, OR THIN AND UNSTABLE LAYERS OF SURFACE MATERIALS OR ROCK. THE CONSTRUCTOR SHALL BE RESPONSIBLE FOR THOROUGHLY INVESTIGATING THE SITE CONDITIONS AND SCHEDULING EQUIPMENT, EQUIPMENT OPERATIONS, PERSONNEL AND SAFETY PROCEDURES TO PREVENT ACCIDENTS AND INJURIES.

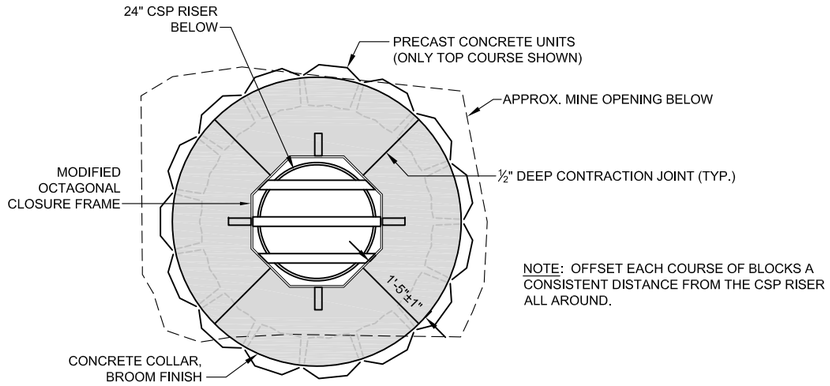
ABANDONED MINE LAND PROGRAM
MINING AND MINERALS DIVISION
NEW MEXICO ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT

SCALE: AS SHOWN	COPPER BELLE #6	DRAWN BY: JTG
DATE:		REVISED BY: MWT
LOCKING DOOR DETAILS		
FILE:	SAN PEDRO MINE SAFEGUARD PROJECT – PHASE I	FIGURE: 7



STEEL TAB DETAIL

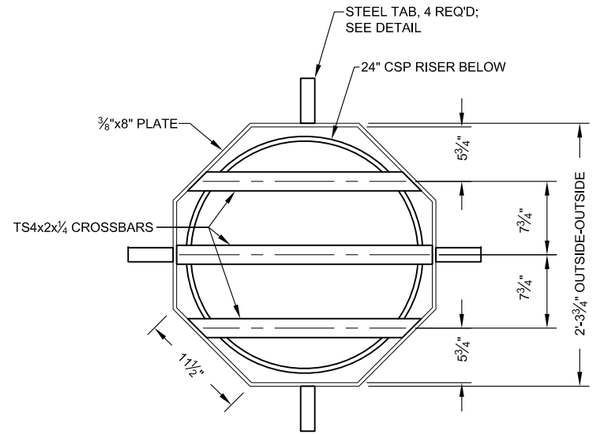
SCALE: 1½" = 1'-0"



NOTE: OFFSET EACH COURSE OF BLOCKS A CONSISTENT DISTANCE FROM THE CSP RISER ALL AROUND.

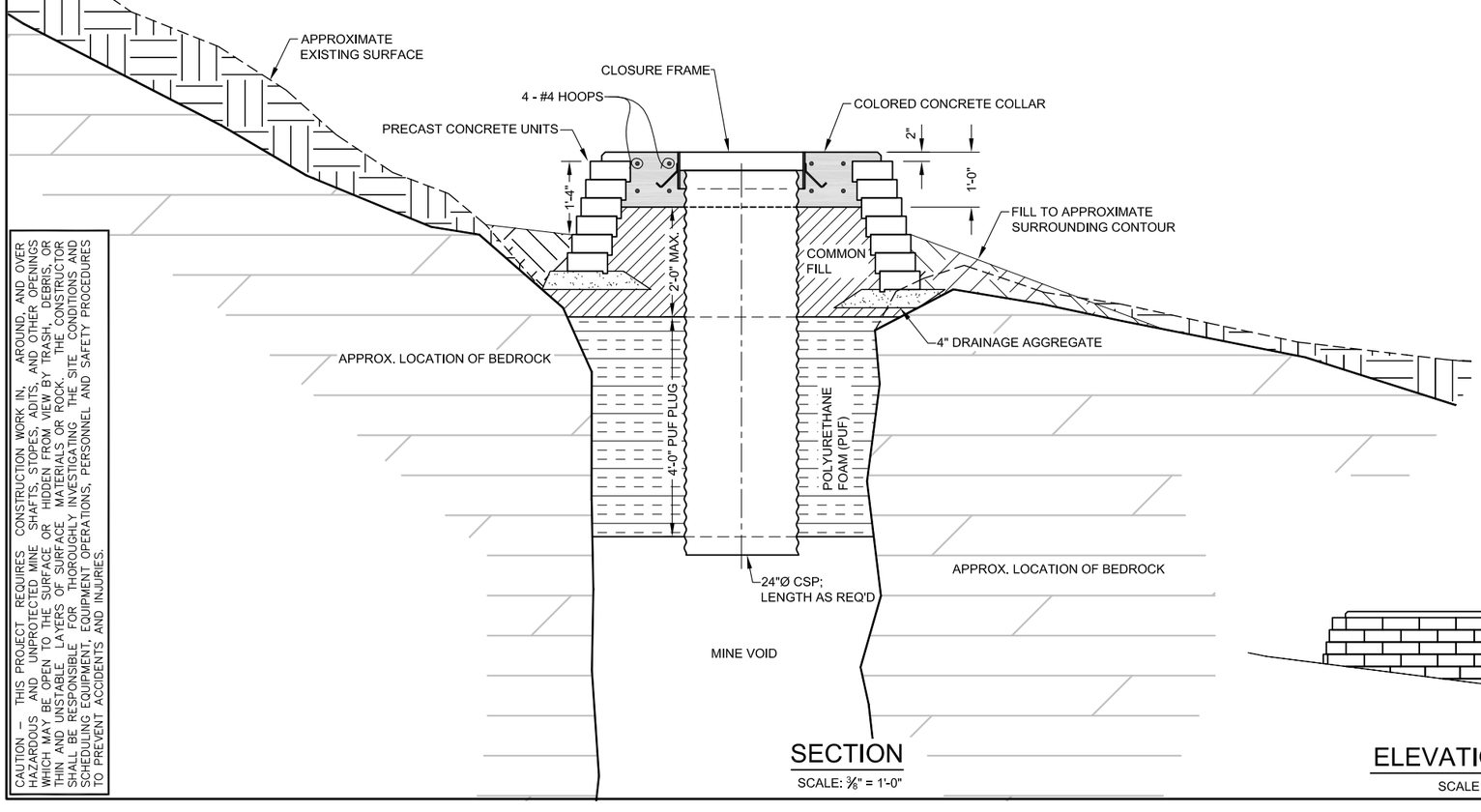
PLAN

SCALE: ⅜" = 1'-0"



CLOSURE FRAME ASSEMBLY

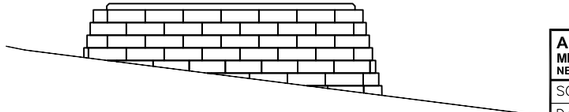
SCALE: ¾" = 1'-0"



SECTION

SCALE: ⅜" = 1'-0"

CAUTION – THIS PROJECT REQUIRES CONSTRUCTION WORK IN, AROUND, AND OVER HAZARDOUS AND UNPROTECTED MINE SHAFTS, STOPES, ADITS, AND OTHER OPENINGS WHICH MAY BE OPEN TO THE SURFACE OR HIDDEN FROM VIEW BY TRASH, DEBRIS, OR THIN AND UNSTABLE LAYERS OF SURFACE MATERIALS OR ROCK. THE CONSTRUCTOR SHALL BE RESPONSIBLE FOR THOROUGHLY INVESTIGATING THE SITE CONDITIONS AND SCHEDULING EQUIPMENT, EQUIPMENT OPERATIONS, PERSONNEL AND SAFETY PROCEDURES TO PREVENT ACCIDENTS AND INJURIES.



ELEVATION VIEW

SCALE: ¼" = 1'-0"

GENERAL NOTES:

1. THIS DRAWING SHOWS THE GENERAL SHAPES AND APPROXIMATE SIZES OF THE MINE OPENINGS AND THE CORRESPONDING LAYOUTS OF THE FRAME AND ARCH RISER PIPE. THE DRAWING SHALL BE USED AS A GUIDE FOR FIELD LAYOUT. DETERMINE THE ACTUAL LAYOUTS AND DIMENSIONS OF THE CLOSURES IN THE FIELD PRIOR TO FABRICATION.

2. USING A COMPRESSED AIR LANCE OR EQUIVALENT, REMOVE DIRT AND LOOSE ROCK FROM ALL SURFACES AGAINST WHICH POLYURETHANE FOAM (PUF) WILL BE PLACED. PLACE PUF AGAINST CLEAN, DRY SURFACES.

3. COVER ALL POLYURETHANE FOAM SURFACES COMPLETELY WITHIN ONE HOUR OF INSTALLATION TO PREVENT UV DEGRADATION.

4. MINIMIZE THE AMOUNT OF ROCK AND OTHER DEBRIS THAT FALL INTO THE MINE OPENINGS DURING CONSTRUCTION. PULL LOOSE MATERIAL UP AND AWAY FROM THE MINE AREA.

5. THOROUGHLY COMPACT ALL FILL UNDERNEATH THE PRECAST CONCRETE MASONRY UNITS AND CONCRETE COLLAR.

6. INSTALL PRECAST CONCRETE UNITS AS SPECIFIED, INCLUDING APPLICATION OF SPECIFIED CONSTRUCTION ADHESIVE AT THE TOP TWO COURSES.

7. FILL THE ANNULAR SPACE BETWEEN THE CLOSURE FRAME AND CSP RISER WITH NON-SHRINK GROUT. SLOPE GROUT TO DRAIN INTO CSP.

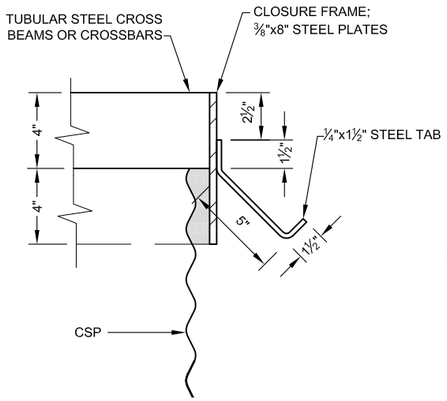
8. SLOPE THE FINISH GRADE TO DRAIN STORM WATER DOWNHILL AND AWAY FROM THE COLLAR.

9. PUT ¾" CHAMFER ON CONCRETE EDGE.

10. FOR DRAINAGE, DRILL TWO ½"Ø HOLES IN CSP JUST ABOVE PUF PLUG. TREAT CUT/DRILLED AREAS IN CMP WITH ZINC-RICH PAINT AS PER ASTM A780.

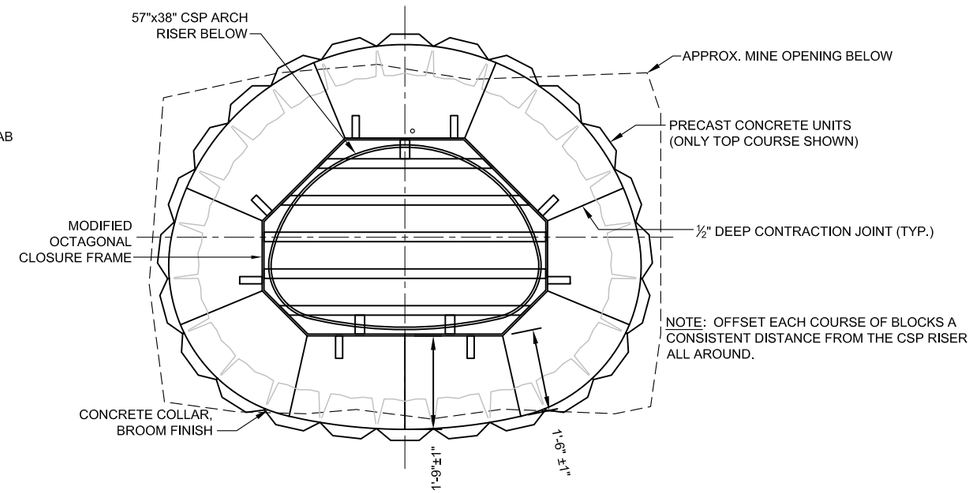
ABANDONED MINE LAND PROGRAM
MINING AND MINERALS DIVISION
NEW MEXICO ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT

SCALE: AS SHOWN	FRANKFORT #2	DRAWN BY: MWT
DATE:		REVISED BY:
HORIZONTAL BAT GATE CLOSURE		
FILE:	SAN PEDRO MINE SAFEGUARD PROJECT–PH.I	FIGURE: 8



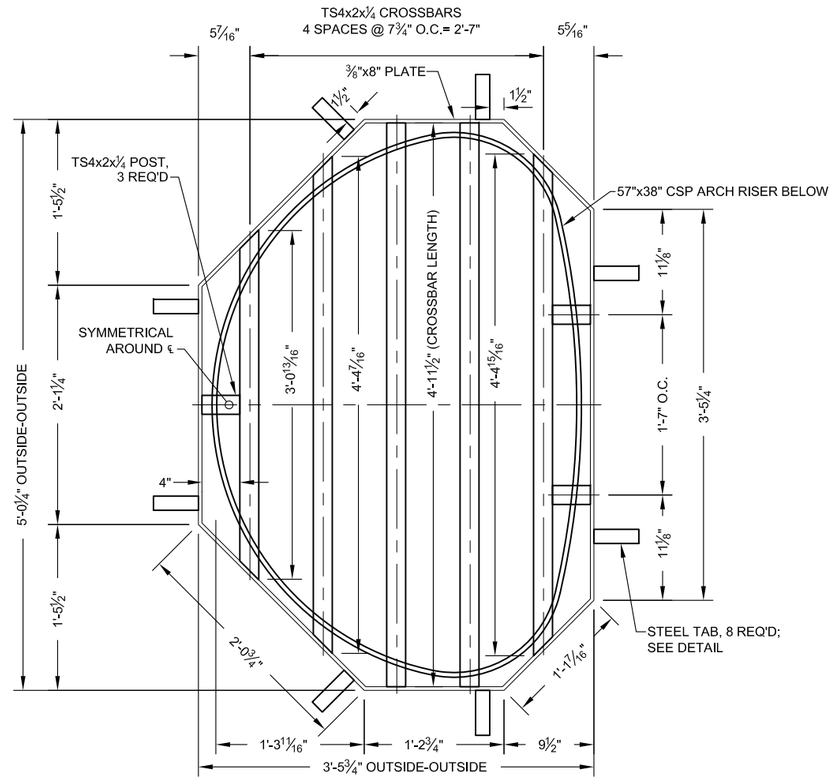
STEEL TAB DETAIL

SCALE: 1½" = 1'-0"



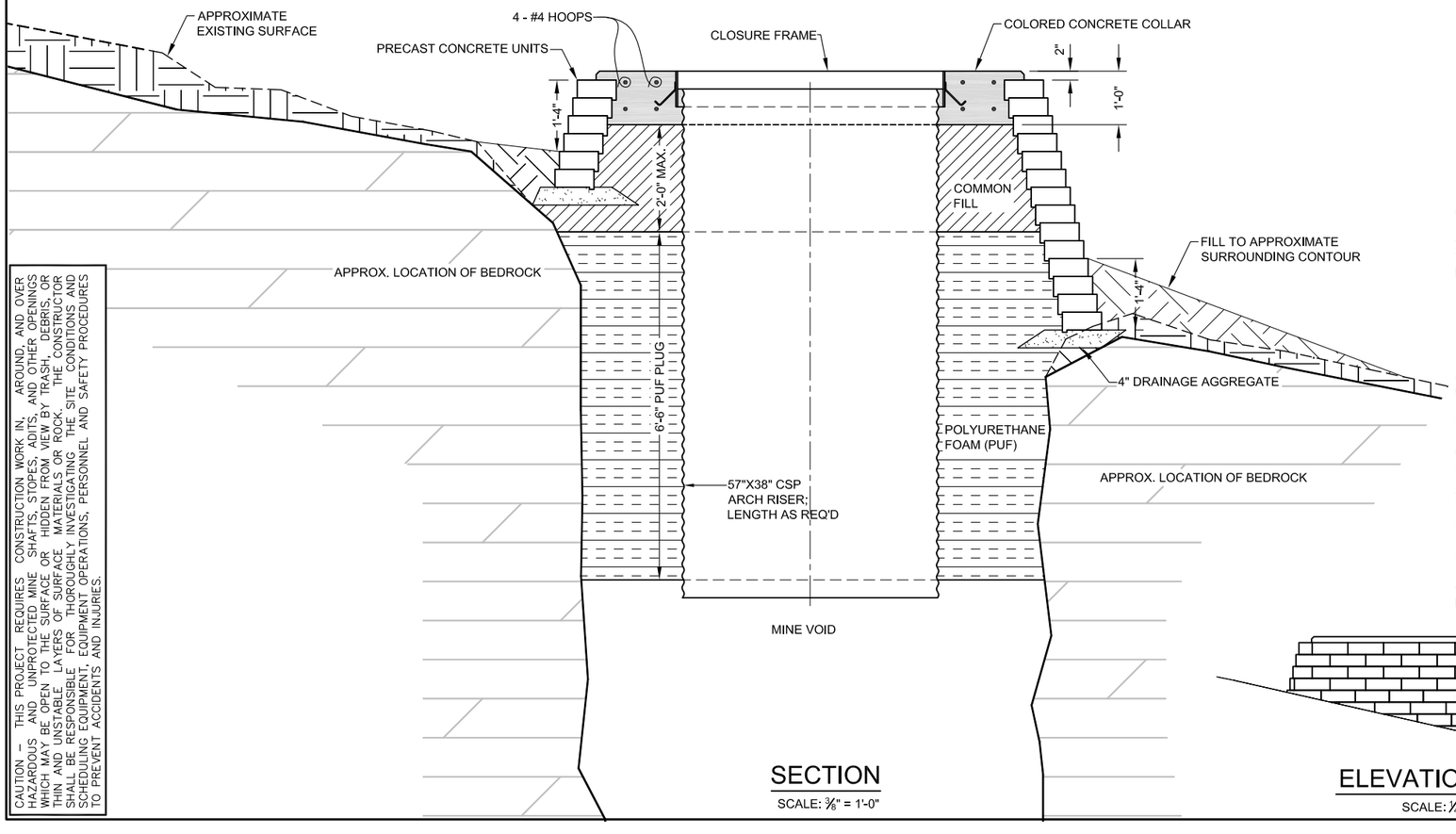
PLAN

SCALE: ⅜" = 1'-0"



CLOSURE FRAME ASSEMBLY

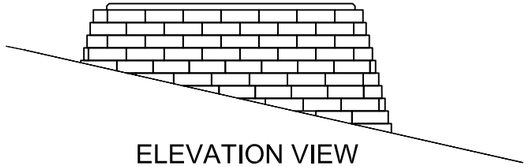
SCALE: ¾" = 1'-0"



SECTION

SCALE: ⅜" = 1'-0"

CAUTION – THIS PROJECT REQUIRES CONSTRUCTION WORK IN, AROUND, AND OVER HAZARDOUS AND UNPROTECTED MINE SHAFTS, STOPES, ADITS, AND OTHER OPENINGS WHICH MAY BE OPEN TO THE SURFACE OR HIDDEN FROM VIEW BY TRASH, DEBRIS OR THIN AND UNSTABLE LAYERS OF SURFACE MATERIALS OR ROCK. THE CONSTRUCTOR SHALL BE RESPONSIBLE FOR THOROUGHLY INVESTIGATING THE SITE CONDITIONS AND SCHEDULING EQUIPMENT, EQUIPMENT OPERATIONS, PERSONNEL AND SAFETY PROCEDURES TO PREVENT ACCIDENTS AND INJURIES.



ELEVATION VIEW

SCALE: ¼" = 1'-0"

GENERAL NOTES:

1. THIS DRAWING SHOWS THE GENERAL SHAPES AND APPROXIMATE SIZES OF THE MINE OPENINGS AND THE CORRESPONDING LAYOUTS OF THE FRAME AND ARCH RISER PIPE. THE DRAWING SHALL BE USED AS A GUIDE FOR FIELD LAYOUT. DETERMINE THE ACTUAL LAYOUTS AND DIMENSIONS OF THE CLOSURES IN THE FIELD PRIOR TO FABRICATION.

2. USING A COMPRESSED AIR LANCE OR EQUIVALENT, REMOVE DIRT AND LOOSE ROCK FROM ALL SURFACES AGAINST WHICH POLYURETHANE FOAM (PUF) WILL BE PLACED. PLACE PUF AGAINST CLEAN, DRY SURFACES.

3. COVER ALL POLYURETHANE FOAM SURFACES COMPLETELY WITHIN ONE HOUR OF INSTALLATION TO PREVENT UV DEGRADATION.

4. MINIMIZE THE AMOUNT OF ROCK AND OTHER DEBRIS THAT FALL INTO THE MINE OPENINGS DURING CONSTRUCTION. PULL LOOSE MATERIAL UP AND AWAY FROM THE MINE AREA.

5. THOROUGHLY COMPACT ALL FILL UNDERNEATH THE PRECAST CONCRETE MASONRY UNITS AND CONCRETE COLLAR.

6. INSTALL PRECAST CONCRETE UNITS AS SPECIFIED, INCLUDING APPLICATION OF SPECIFIED CONSTRUCTION ADHESIVE AT THE TOP TWO COURSES.

7. FILL THE ANNULAR SPACE BETWEEN THE CLOSURE FRAME AND CSP RISER WITH NON-SHRINK GROUT. SLOPE GROUT TO DRAIN INTO CSP.

8. SLOPE THE FINISH GRADE TO DRAIN STORM WATER DOWNHILL AND AWAY FROM THE COLLAR.

9. PUT ¾" CHAMFER ON CONCRETE EDGE.

10. FOR DRAINAGE, DRILL TWO ¼"Ø HOLES IN CSP JUST ABOVE PUF PLUG. TREAT CUT OR DRILLED AREAS IN CSP WITH ZINC-RICH PAINT AS PER ASTM A780

ABANDONED MINE LAND PROGRAM
MINING AND MINERALS DIVISION
NEW MEXICO ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT

SCALE: AS SHOWN	MONTEZUMA #4	DRAWN BY: MWT
DATE:		REVISED BY:
HORIZONTAL BAT GATE CLOSURE		
FILE:	SAN PEDRO MINE SAFEGUARD PROJECT–PH.I	FIGURE: 9

GENERAL NOTES:

1. THE SHAPE AND DIMENSIONS SHOWN FOR THE EXISTING ADIT OPENING ARE APPROXIMATE. FIELD VERIFY ALL DIMENSIONS BEFORE FABRICATION.

2. STEEL PLATES AND SHAPES SHALL BE WEATHERING STEEL. WELD ALL JOINTS. CONSTRUCT THE BAT GATE TO ELIMINATE SURFACES ON WHICH MOISTURE OR DEBRIS CAN BE TRAPPED. ALL TUBULAR MEMBERS SHALL BE HERMETICALLY SEALED TO PREVENT THE INCURSION OF MOISTURE, EXCEPT AS OTHERWISE NOTED. ROUND OR CHAMFER ALL EXPOSED SHARP CORNERS AND EDGES.

3. DOUBLE-NUT ALL BOLTS. NUTS AND BOLTS SHALL BE STAINLESS STEEL.

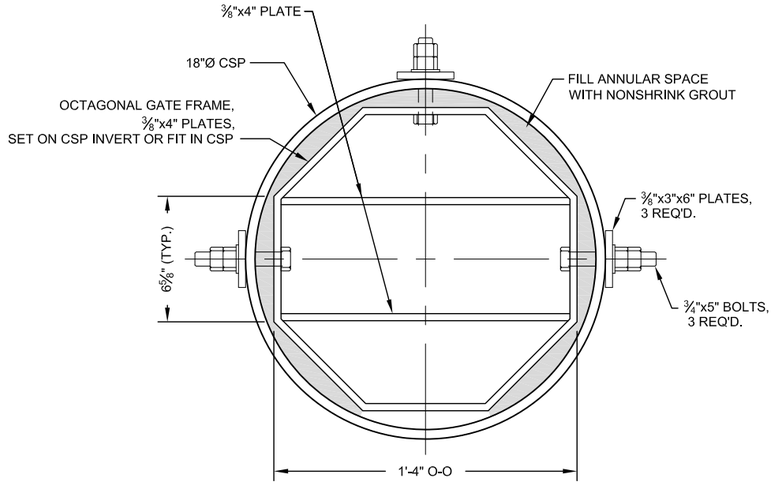
4. LOCATE GROUTED ROCK BULKHEAD AT ADIT ENTRANCE AS DIRECTED BY THE PROJECT MANAGER.

5. ROCK FOR THE BULKHEAD SHALL BE SOUND, DURABLE NATIVE ROCK THAT GIVES A RINGING SOUND WHEN STRUCK WITH A HAMMER.

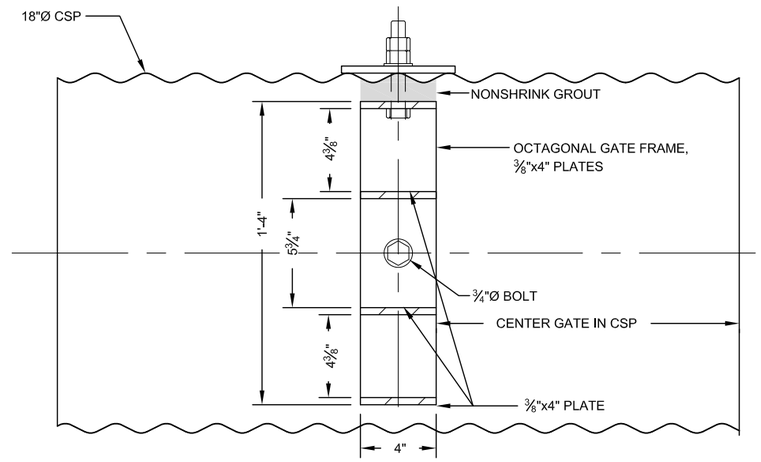
6. PROPORTION AND MIX CONCRETE FOR THE BULKHEAD TO PRODUCE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS. CEMENT SHALL CONFORM TO ASTM C150 TYPE II, AND AGGREGATE TO ASTM C33, WITH A MAXIMUM SIZE OF AGGREGATE OF ¾ -INCH. PACKAGED CONCRETE MIX MEETING ASTM C378 MAY BE USED.

7. THE FINISH GRADE ON THE OUTSIDE OF THE CULVERT SHALL HAVE POSITIVE DRAINAGE AWAY FROM THE STRUCTURE.

8. SPRAY PAINT VISIBLE PORTIONS OF CSP (INSIDE AND OUTSIDE) WITH COLOR THAT BLENDS IN WITH THE ROCK BULKHEAD AS DIRECTED BY THE PROJECT MANAGER.



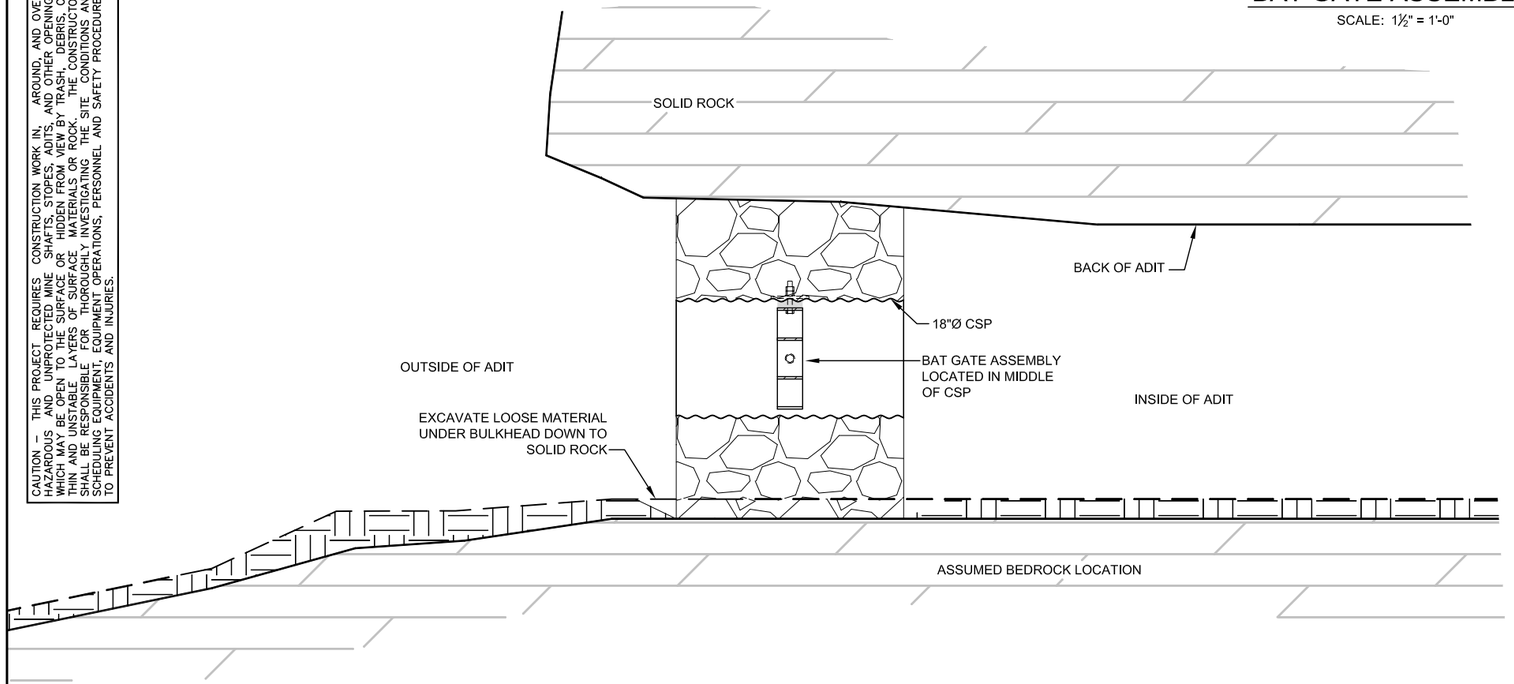
ELEVATION



SECTION

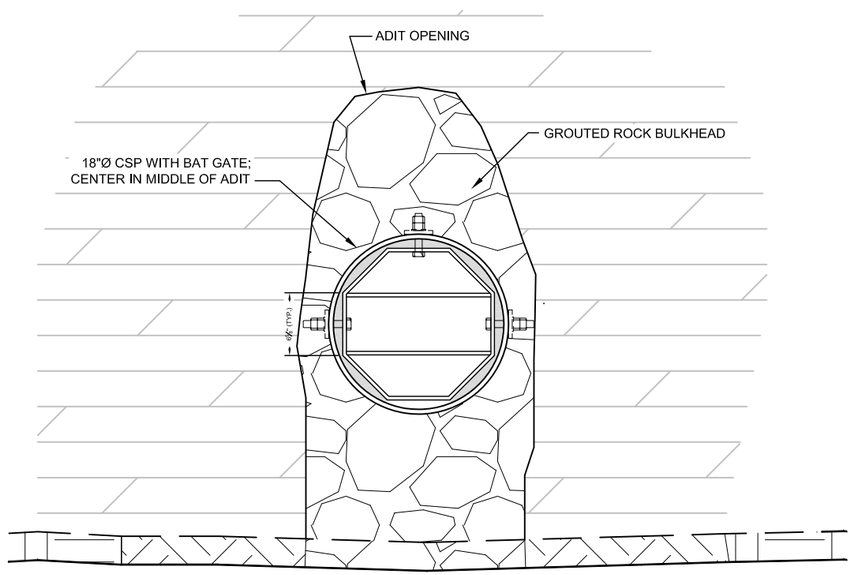
BAT GATE ASSEMBLY

SCALE: 1½" = 1'-0"



SECTION

SCALE: ½" = 1'-0"



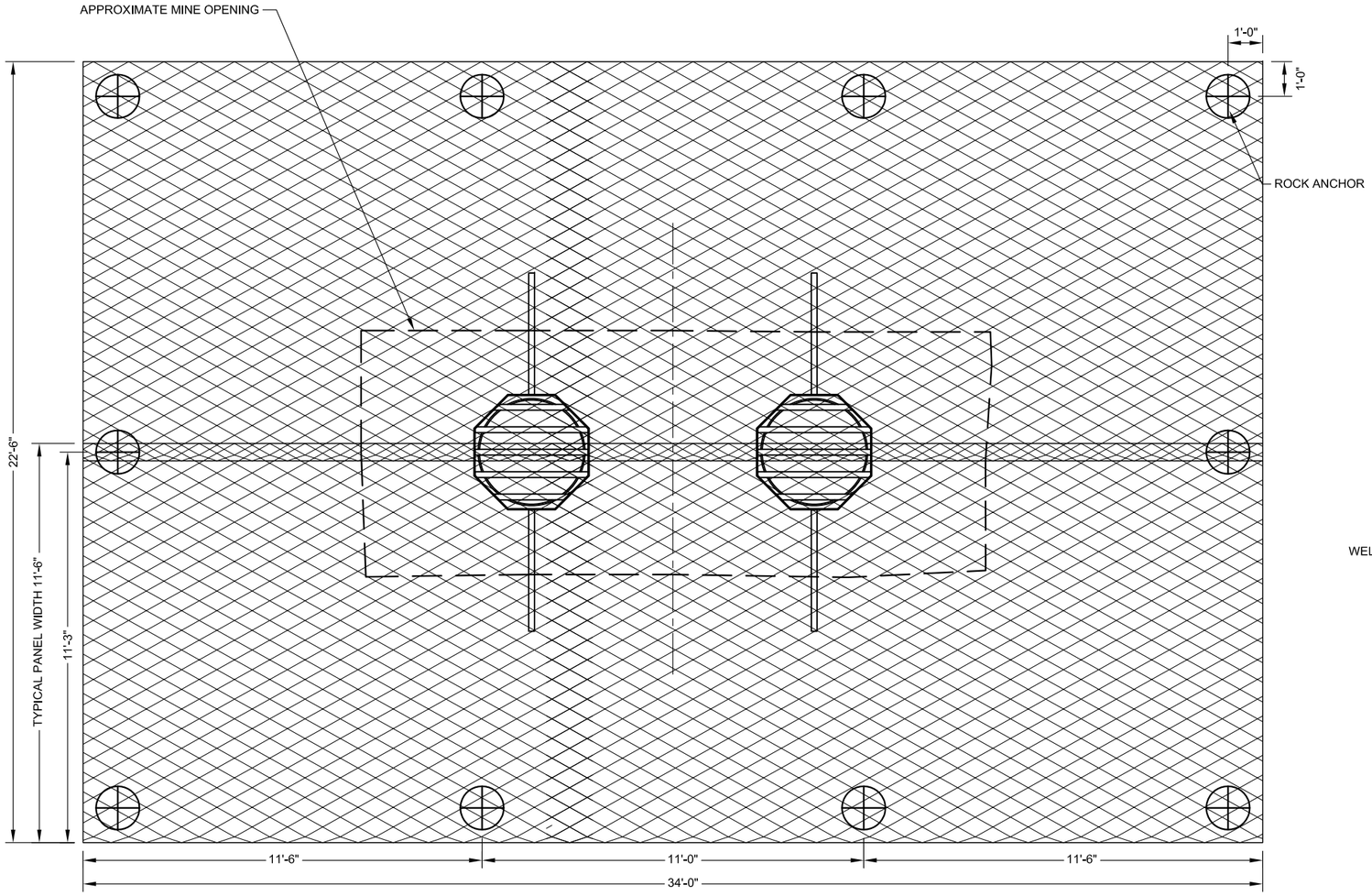
FRONT VIEW

SCALE: ¾" = 1'-0"

CAUTION – THIS PROJECT REQUIRES CONSTRUCTION WORK IN, AROUND, AND OVER HAZARDOUS AND UNPROTECTED MINE SHAFTS, STOPES, ADITS, AND OTHER OPENINGS WHICH MAY BE OPEN TO THE SURFACE OR HIDDEN FROM VIEW BY TRASH, DEBRIS, OR THIN AND UNSTABLE LAYERS OF SURFACE MATERIALS OR ROCK. THE CONSTRUCTOR SHALL BE RESPONSIBLE FOR THOROUGHLY INVESTIGATING THE SITE CONDITIONS AND SCHEDULING EQUIPMENT, EQUIPMENT OPERATIONS, PERSONNEL AND SAFETY PROCEDURES TO PREVENT ACCIDENTS AND INJURIES.

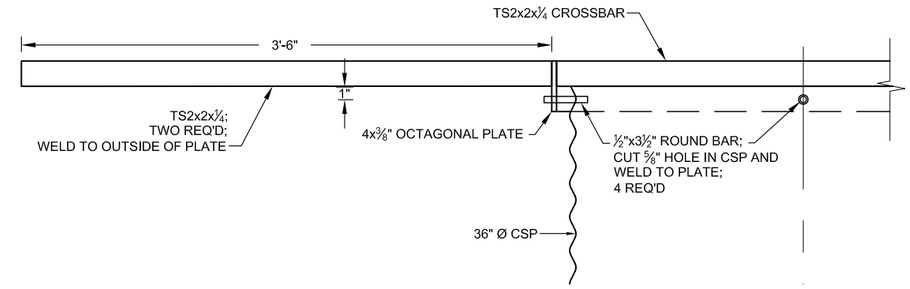
ABANDONED MINE LAND PROGRAM
MINING AND MINERALS DIVISION
NEW MEXICO ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT

SCALE: AS SHOWN	RICHMAN #4	DRAWN BY: MWT
DATE: 6/10/2014		REVISED BY:
BAT GATE IN ROCK BULKHEAD		
FILE:	SAN PEDRO MINE SAFEGUARD PROJECT – PH. I	FIGURE: 10



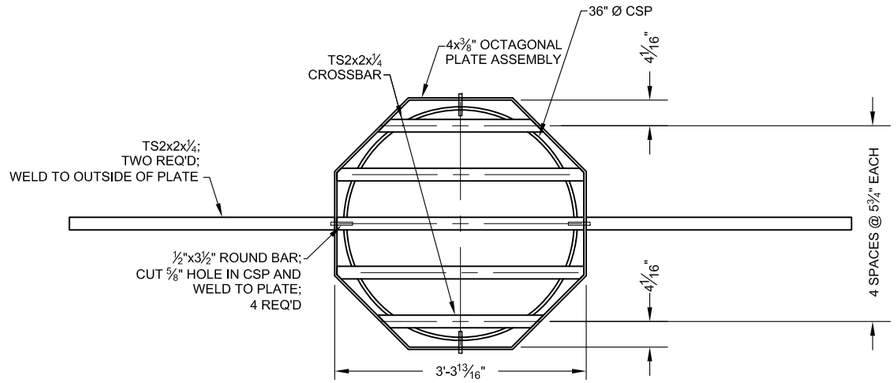
PLAN VIEW

SCALE: ¼" = 1'-0"



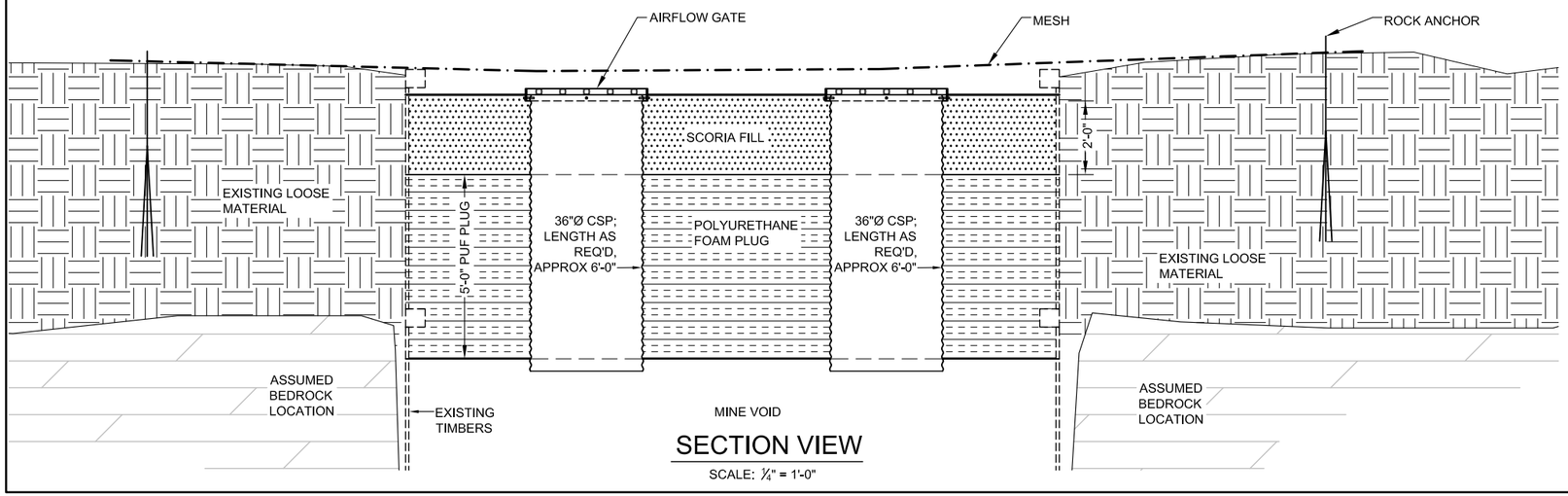
SECTION VIEW OF CSP CAP

SCALE: 1" = 1'-0"



PLAN VIEW OF CSP CAP

SCALE: ½" = 1'-0"



SECTION VIEW

SCALE: ¼" = 1'-0"

GENERAL NOTES:

1. THIS DRAWING SHOWS THE GENERAL SHAPE AND APPROXIMATE PROFILE OF THE MINE SHAFT. USE THE DRAWING AS A GUIDE FOR FIELD LAYOUT OF THE CLOSURE. DETERMINE THE ACTUAL LAYOUT AND DIMENSIONS IN THE FIELD PRIOR TO FABRICATION.

2. PRESERVE EXISTING TIMBERS IN PLACE. REMOVE LOOSE TIMBERS AND OTHER MATERIAL IN ORDER TO CARRY OUT THE DESIGN BY COLLECTING AND STORING IT ADJACENT TO THE WORK AREA. MINIMIZE MATERIAL FALLING DOWN THE SHAFT TO THE MAXIMUM EXTENT POSSIBLE.

3. TUBULAR STEEL, STEEL SHAPES, PLATES, AND BARS SHALL BE WEATHERING STEEL AS SPECIFIED. WELD ALL JOINTS. TOLERANCES ON THE CENTER-TO-CENTER DIMENSIONS BETWEEN CROSSBARS IS ± 1/16 INCH.

4. CONSTRUCT AND WELD THE CLOSURE TO ELIMINATE SURFACES ON WHICH MOISTURE ACCUMULATION CAN OCCUR. JOINTS SHALL BE TIGHT SO THAT MOISTURE CANNOT ENTER BETWEEN THE PLIES OF MATERIAL. WELD END CAP ON EXPOSED TUBULAR STEEL MEMBERS.

5. DRILL FOUR SMALL HOLES IN CSP (AT 90° INTERVALS) JUST ABOVE PUF LEVEL TO ALLOW FOR DRAINAGE.

6. LOCATE CSP ELEVATION AS DIRECTED BY PROJECT MANAGER OR PROJECT ENGINEER.

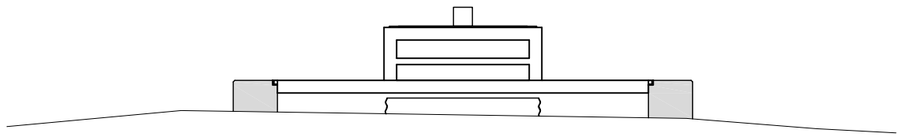
7. PLACE A SURVEY MARKER, PROVIDED BY THE PROJECT MANAGER, INTO COMPETENT ROCK OR CONCRETE AS NEAR AS POSSIBLE TO THE MINE SHAFT.

CAUTION - THIS PROJECT REQUIRES CONSTRUCTION WORK IN, AROUND, AND OVER HAZARDOUS AND UNPROTECTED MINE SHAFTS, STOPES, ADITS, AND OTHER OPENINGS WHICH MAY BE OPEN TO THE SURFACE OR HIDDEN FROM VIEW BY TRASH, DEBRIS, OR THIN AND UNSTABLE LAYERS OF SURFACE MATERIALS OR ROCK. THE CONSTRUCTOR SHALL BE RESPONSIBLE FOR THOROUGHLY INVESTIGATING THE SITE CONDITIONS AND SCHEDULING EQUIPMENT, EQUIPMENT OPERATIONS, PERSONNEL AND SAFETY PROCEDURES TO PREVENT ACCIDENTS AND INJURIES.

ABANDONED MINE LAND PROGRAM
MINING AND MINERALS DIVISION
NEW MEXICO ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT

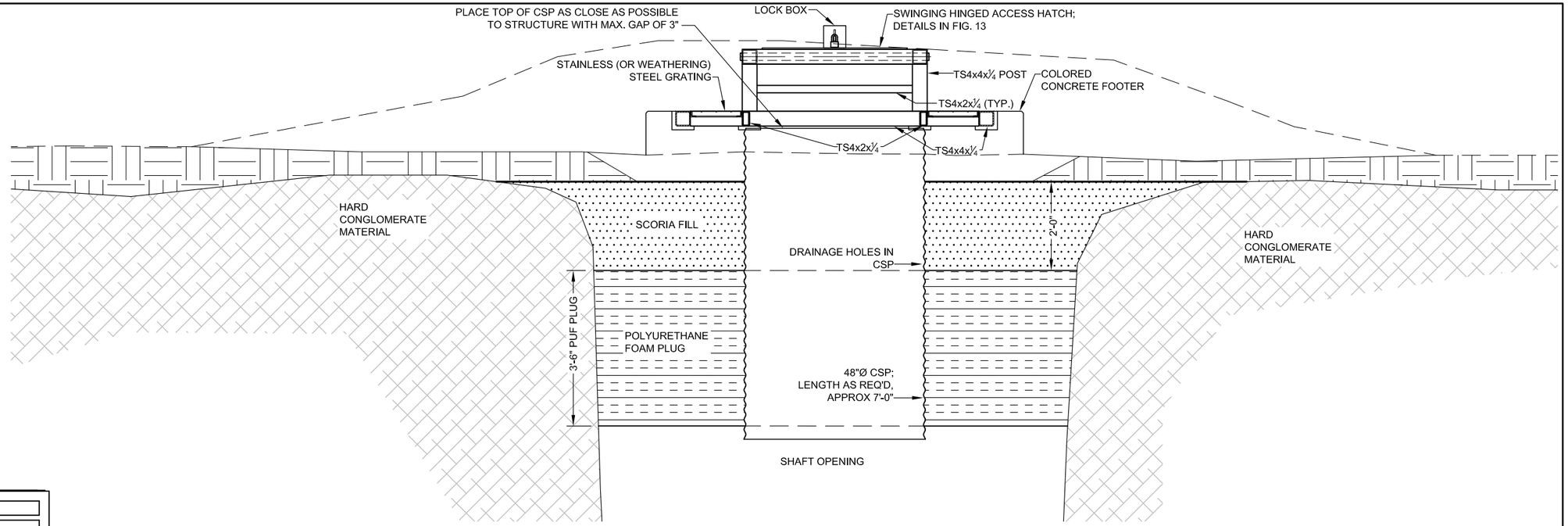
SCALE: AS SHOWN	RICHMOND #8	DRAWN BY: MWT
DATE:		REVISED BY:
AIRFLOW CLOSURE		
FILE:	SAN PEDRO MINE SAFEGUARD PROJECT - PH. I	FIGURE: 11

CAUTION - THIS PROJECT REQUIRES CONSTRUCTION WORK IN, AROUND, AND OVER HAZARDOUS AND UNPROTECTED MINE SHAFTS, STOPES, ADITS, AND OTHER OPENINGS WHICH MAY BE OPEN TO THE SURFACE OR HIDDEN FROM VIEW BY BRUSH, DEBRIS, OR TIMBER COVERED WITH A THIN LAYER OF SURFACE MATERIALS OR ROCK. THE CONSTRUCTOR SHALL BE RESPONSIBLE FOR THOROUGHLY INVESTIGATING THE SITE CONDITIONS AND SCHEDULING EQUIPMENT, EQUIPMENT OPERATIONS, PERSONNEL AND SAFETY PROCEDURES TO PREVENT ACCIDENTS AND INJURIES.



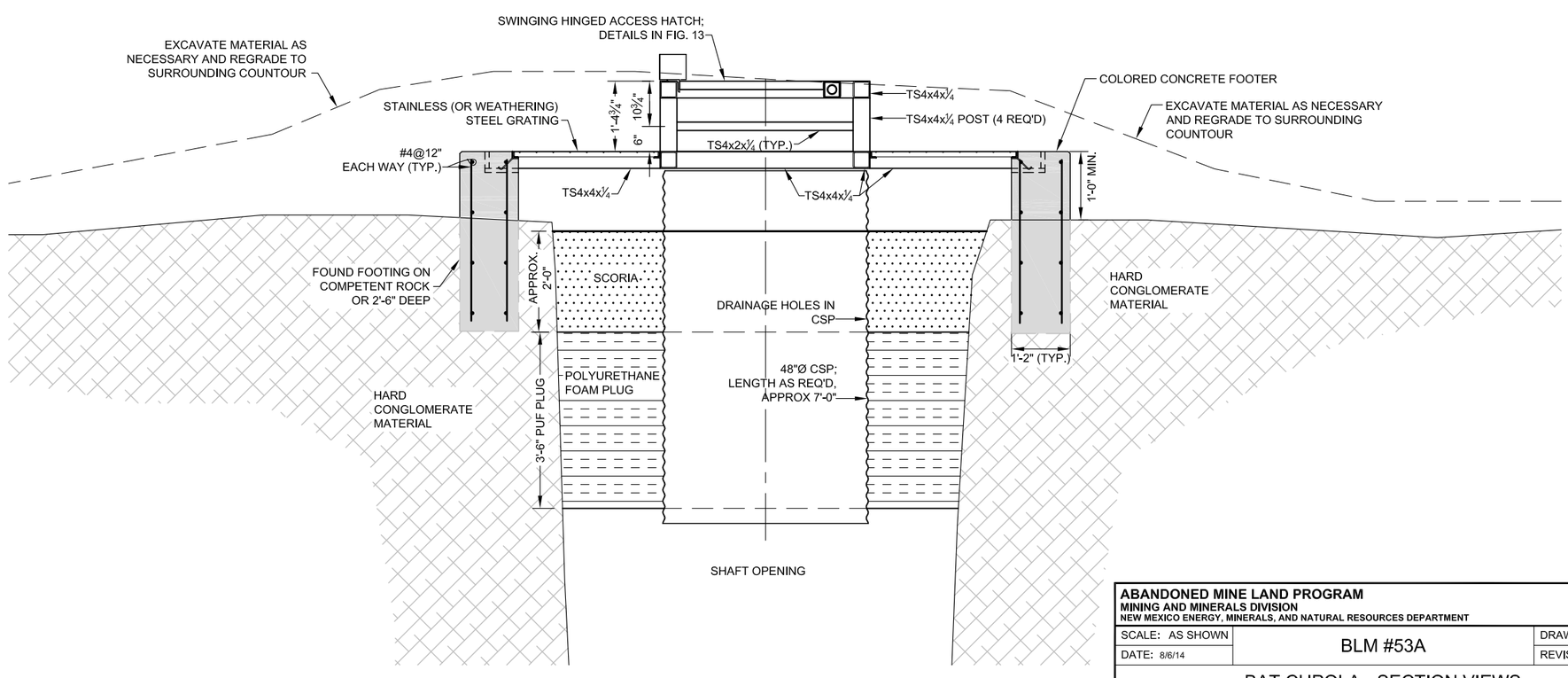
ELEVATION VIEW

SCALE: ¼" = 1'-0"



SECTION VIEW - EAST/WEST

SCALE: ⅜" = 1'-0"



SECTION VIEW - NORTH/SOUTH

SCALE: ⅜" = 1'-0"

GENERAL NOTES:

1. THIS DRAWING SHOWS THE GENERAL SHAPE AND APPROXIMATE PROFILE OF THE SHAFT AT THE CUPOLA LOCATION. USE THE DRAWING AS A GUIDE FOR FIELD LAYOUT OF THE CLOSURE. DETERMINE THE ACTUAL LAYOUT AND DIMENSIONS IN THE FIELD PRIOR TO FABRICATION.

2. REMOVE EXISTING TIMBERS AND OTHER MATERIAL AS NECESSARY FOR INSTALLATION BY PULLING UP AND OUT OF THE SHAFT. MINIMIZE MATERIAL FALLING INTO THE SHAFT.

3. TUBULAR STEEL, STEEL SHAPES, PLATES, AND BARS SHALL BE WEATHERING STEEL AS SPECIFIED. WELD ALL JOINTS. TOLERANCES ON THE CENTER-TO-CENTER DIMENSIONS BETWEEN CROSSBARS IS ±1/16 INCH.

4. CONSTRUCT AND WELD THE CLOSURE TO ELIMINATE SURFACES ON WHICH MOISTURE ACCUMULATION CAN OCCUR. JOINTS SHALL BE TIGHT SO THAT MOISTURE CANNOT ENTER BETWEEN THE PLIES OF MATERIAL.

5. DRILL FOUR EQUALLY SPACED INTO CSP DIRECTLY ABOVE PUF LEVEL TO ALLOW FOR DRAINAGE. TREAT ALL CUT AREAS OF CSP WITH ZINC-RICH PAINT AS PER ASTM A780.

6. SEE SPECIFICATION 05530 FOR STEEL GRATING DETAILS. ORIENT GRATING BEARING BARS TO SHORTEST DISTANCE BETWEEN SUPPORTS.

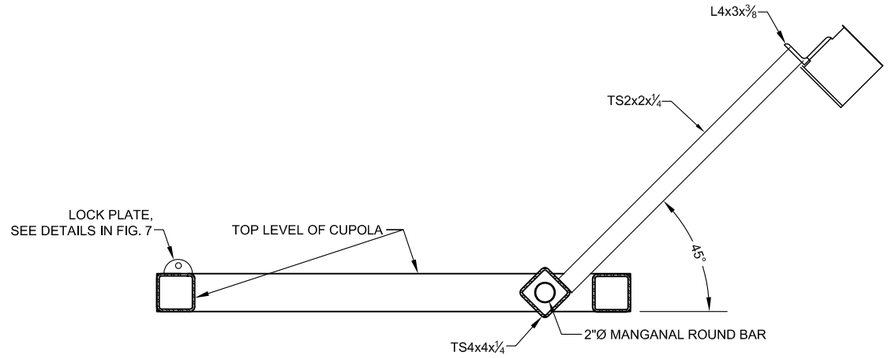
7. SPRAY PAINT ALL EXPOSED PORTIONS OF THE CSP WITH CAMOUFLAGE PAINT AS SPECIFIED AND AS DIRECTED BY THE PROJECT MANAGER.

8. PLACE ¾" CHAMFER ON ALL EXPOSED EDGES OF CONCRETE COLLAR.

9. PLACE A SURVEY MARKER, PROVIDED BY THE PROJECT MANAGER, INTO THE CONCRETE COLLAR.

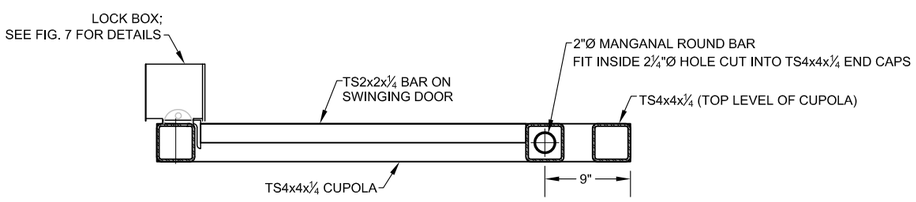
ABANDONED MINE LAND PROGRAM
MINING AND MINERALS DIVISION
NEW MEXICO ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT

SCALE: AS SHOWN	BLM #53A	DRAWN BY: MWT
DATE: 8/6/14		REVISED BY:
BAT CUPOLA - SECTION VIEWS		
FILE:	SAN PEDRO MINE SAFEGUARD PROJECT - PH.I	FIGURE: 12



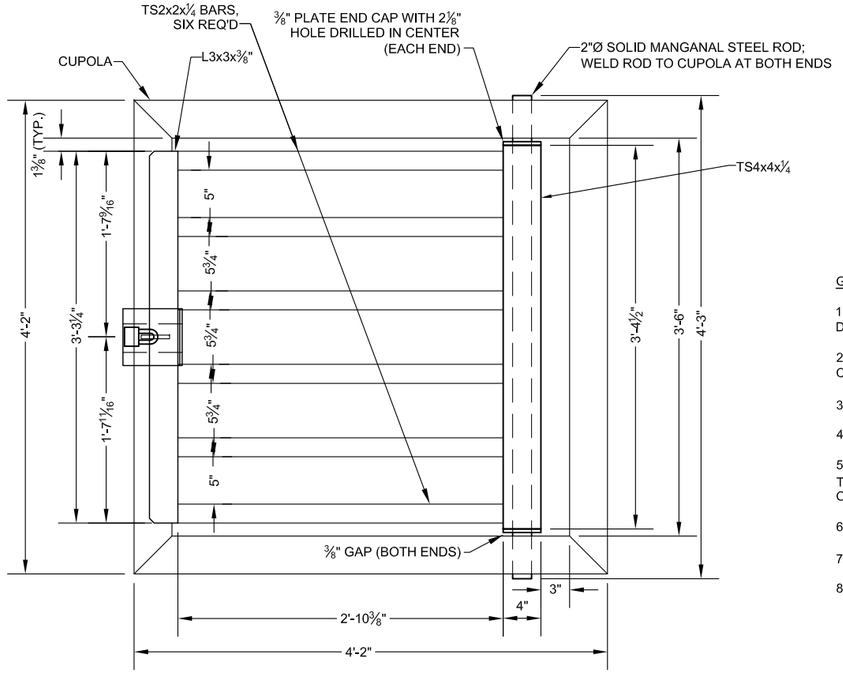
SECTION OF SWINGING HATCH IN OPEN POSITION

SCALE: ¾" = 1'-0"



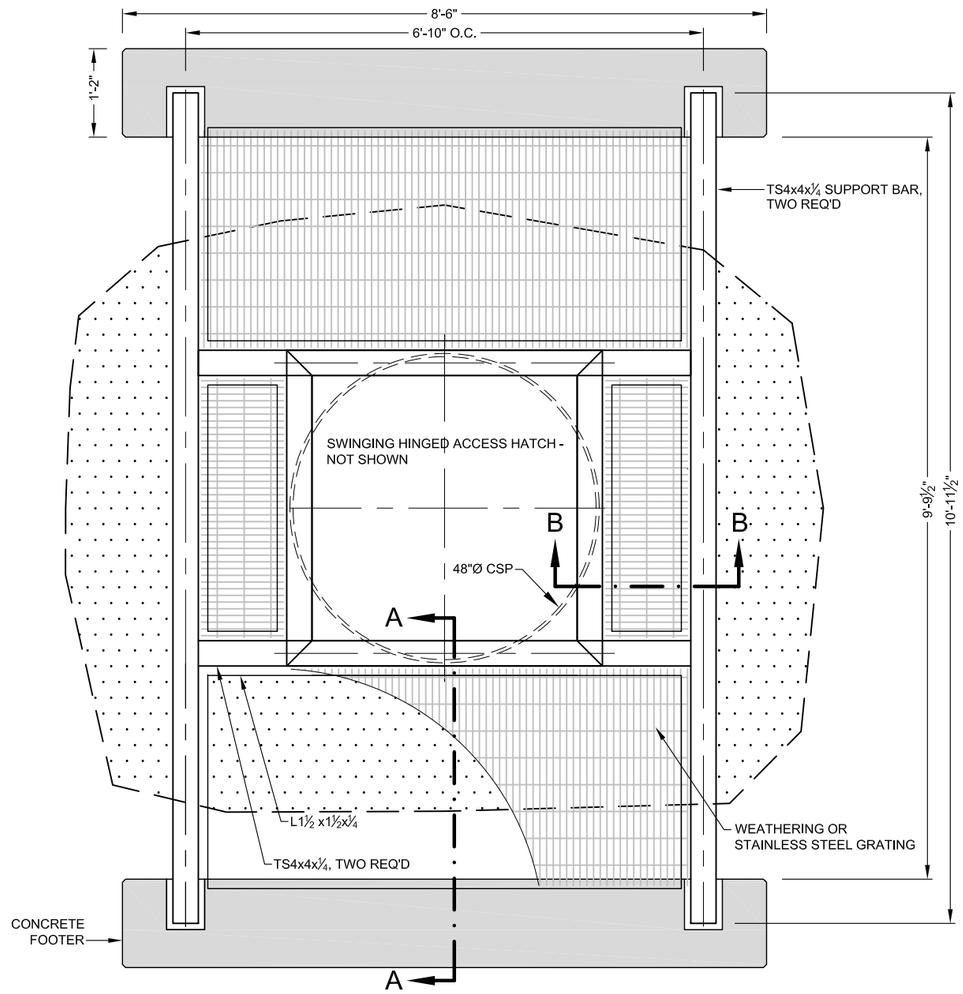
SECTION OF SWINGING HATCH IN CLOSED POSITION

SCALE: ¾" = 1'-0"



PLAN VIEW OF SWINGING HATCH

SCALE: ¾" = 1'-0"



PLAN VIEW

SCALE: ½" = 1'-0"

GENERAL NOTES:

1. THIS DRAWING SHOWS THE GENERAL SHAPE AND APPROXIMATE PROFILE OF THE SHAFT AT THE CUPOLA LOCATION. USE THE DRAWING AS A GUIDE FOR FIELD LAYOUT OF THE CLOSURE. DETERMINE THE ACTUAL LAYOUT AND DIMENSIONS IN THE FIELD PRIOR TO FABRICATION.

2. PRESERVE EXISTING TIMBERS IN PLACE. REMOVE EXISTING CONCRETE WALLS AROUND TIMBERS BUT DO NOT REMOVE EXISTING FOUNDATIONS. REMOVE LOOSE DIRT AND ROCK AT THE CLOSURE LOCATION PRIOR TO CONSTRUCTION.

3. TUBULAR STEEL, STEEL SHAPES, PLATES, AND BARS SHALL BE WEATHERING STEEL AS SPECIFIED. WELD ALL JOINTS. TOLERANCES ON THE CENTER-TO-CENTER DIMENSIONS BETWEEN CROSSBARS IS ± 1/16 INCH.

4. CONSTRUCT AND WELD THE CLOSURE TO ELIMINATE SURFACES ON WHICH MOISTURE ACCUMULATION CAN OCCUR. JOINTS SHALL BE TIGHT SO THAT MOISTURE CANNOT ENTER BETWEEN THE PLIES OF MATERIAL.

5. THE CONTRACTOR SHALL CONSTRUCT A RAPTOR PERCH (NOT SHOWN IN ALL VIEWS). PERCH SHALL BE MADE FROM 1" Ø ROUND BAR WELDED TO ONE CORNER OF THE CUPOLA (FOR A MIN. 1' LENGTH) AND SHALL EXTEND 6' ABOVE THE TOP OF THE CUPOLA. WELD A 12" CROSSBAR (¾"Ø) AT THE TOP TO FORM A "T". BARS SHALL BE WEATHERING STEEL. IN ADDITION, WELD A ¾"Ø BAR INSIDE THE CUPOLA TO ACT AS A PERCH ON ONE QUARTER OF THE MINE OPENING AS DIRECTED BY THE PROJECT MANAGER.

6. SEE SPECIFICATION 05530 FOR STEEL GRATING DETAILS. ORIENT GRATING BEARING BARS TO SHORTEST DISTANCE BETWEEN SUPPORTS.

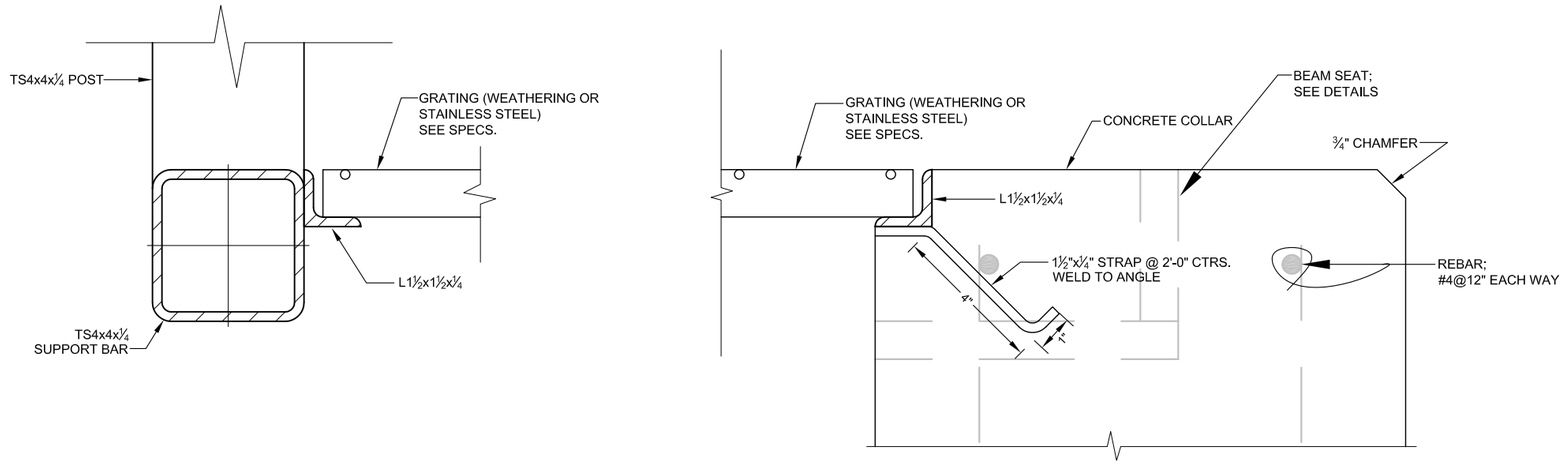
7. PLACE ¾" CHAMFER ON ALL EXPOSED EDGES OF CONCRETE COLLAR.

8. PLACE A SURVEY MARKER, PROVIDED BY THE PROJECT MANAGER, INTO THE CONCRETE COLLAR.

CAUTION - THIS PROJECT REQUIRES CONSTRUCTION WORK IN, AROUND, AND OVER HAZARDOUS AND UNPROTECTED MINE SHAFTS, STOPES, ADITS, AND OTHER OPENINGS WHICH MAY BE OPEN TO THE SURFACE OR HIDDEN FROM VIEW BY TRASH, DEBRIS, OR THIN AND UNSTABLE LAYERS OF SURFACE MATERIALS OR ROCK. THE CONSTRUCTOR SHALL BE RESPONSIBLE FOR THOROUGHLY INVESTIGATING THE SITE CONDITIONS AND SCHEDULING EQUIPMENT, EQUIPMENT OPERATIONS, PERSONNEL AND SAFETY PROCEDURES TO PREVENT ACCIDENTS AND INJURIES.

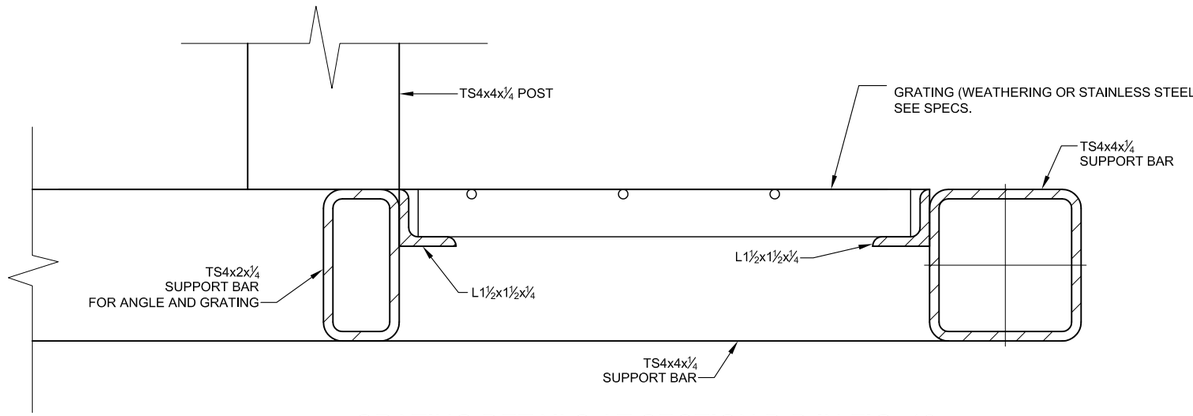
ABANDONED MINE LAND PROGRAM
MINING AND MINERALS DIVISION
NEW MEXICO ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT

SCALE: AS SHOWN	BLM #53A	DRAWN BY: MWT
DATE: 8/6/14		REVISED BY:
BAT CUPOLA - PLAN VIEW		
FILE:	SAN PEDRO MINE SAFEGUARD PROJECT - PH.I	FIGURE: 13



GRATING DETAILS AT SECTION A-A IN FIG. 13

SCALE: 3" = 1'-0"



GRATING DETAILS AT SECTION B-B IN FIG. 13

SCALE: 3" = 1'-0"

GENERAL NOTES:

1. TUBULAR STEEL, STEEL SHAPES, PLATES, AND BARS SHALL BE WEATHERING STEEL AS SPECIFIED. WELD ALL JOINTS. TOLERANCES ON THE CENTER-TO-CENTER DIMENSIONS BETWEEN CROSSBARS IS ±1/16 INCH.

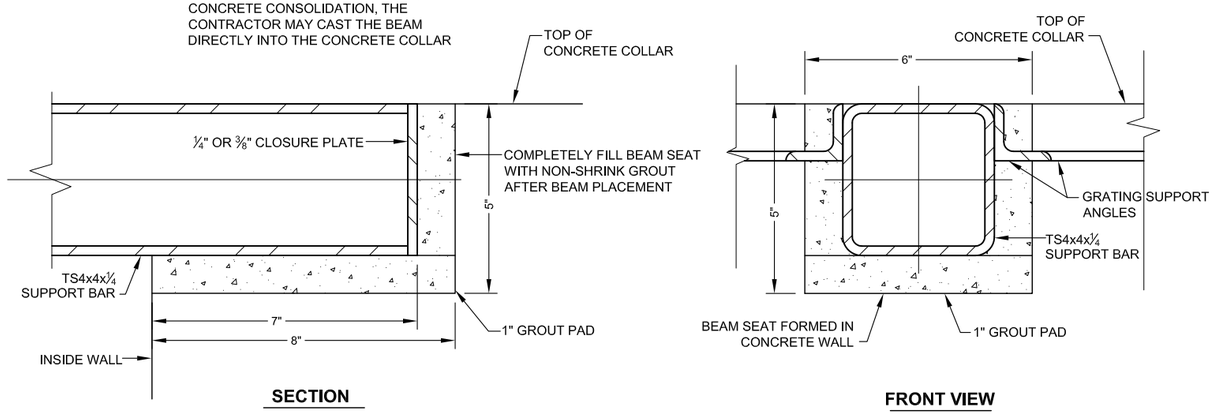
2. CONSTRUCT AND WELD THE CLOSURE TO ELIMINATE SURFACES ON WHICH MOISTURE ACCUMULATION CAN OCCUR. JOINTS SHALL BE TIGHT SO THAT MOISTURE CANNOT ENTER BETWEEN THE PLIES OF MATERIAL.

3. THE CONTRACTOR SHALL CONSTRUCT A RAPTOR PERCH (NOT SHOWN IN ALL VIEWS). PERCH SHALL BE MADE FROM 1" Ø ROUND BAR WELDED TO ONE CORNER OF THE CUPOLA (FOR A MIN. 1' LENGTH) AND SHALL EXTEND 6' ABOVE THE TOP OF THE CUPOLA. WELD A 12" CROSSBAR (¾"Ø) AT THE TOP TO FORM A "T". BARS SHALL BE WEATHERING STEEL. IN ADDITION, WELD A ¾"Ø BAR INSIDE THE CUPOLA TO ACT AS A PERCH ON ONE QUARTER OF THE MINE OPENING WITHOUT BLOCKING THE PASSAGEWAY.

4. SEE SPECIFICATION 05530 FOR STEEL GRATING DETAILS. ORIENT GRATING BEARING BARS TO SHORTEST DISTANCE BETWEEN SUPPORTS.

5. PLACE A SURVEY MARKER, PROVIDED BY THE PROJECT MANAGER, INTO THE CONCRETE COLLAR.

NOTE: WITH PROPER FORMWORK, BRACING OF THE SUPPORT BEAMS, AND CONCRETE CONSOLIDATION, THE CONTRACTOR MAY CAST THE BEAM DIRECTLY INTO THE CONCRETE COLLAR



4x4 BEAM SEAT DETAILS

SCALE: 3" = 1'-0"

ABANDONED MINE LAND PROGRAM
MINING AND MINERALS DIVISION
NEW MEXICO ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT

SCALE: AS SHOWN	BLM #53A	DRAWN BY: MWT
DATE: 2014		REVISED BY:
STRUCTURE DETAILS		
FILE:	SAN PEDRO MINE SAFEGUARD PROJECT- PH.I	FIGURE: 14

GENERAL NOTES:

1. THE SHAPE AND DIMENSIONS SHOWN FOR THE EXISTING ADIT OPENINGS ARE APPROXIMATE. FIELD VERIFY ALL DIMENSIONS BEFORE FABRICATION.

2. STEEL PLATES AND SHAPES SHALL BE WEATHERING STEEL. WELD ALL JOINTS. CONSTRUCT THE BAT GATE TO ELIMINATE SURFACES ON WHICH MOISTURE OR DEBRIS CAN BE TRAPPED. ALL TUBULAR MEMBERS SHALL BE HERMETICALLY SEALED TO PREVENT THE INCURSION OF MOISTURE, EXCEPT AS OTHERWISE NOTED. ROUND OR CHAMFER ALL EXPOSED SHARP CORNERS AND EDGES.

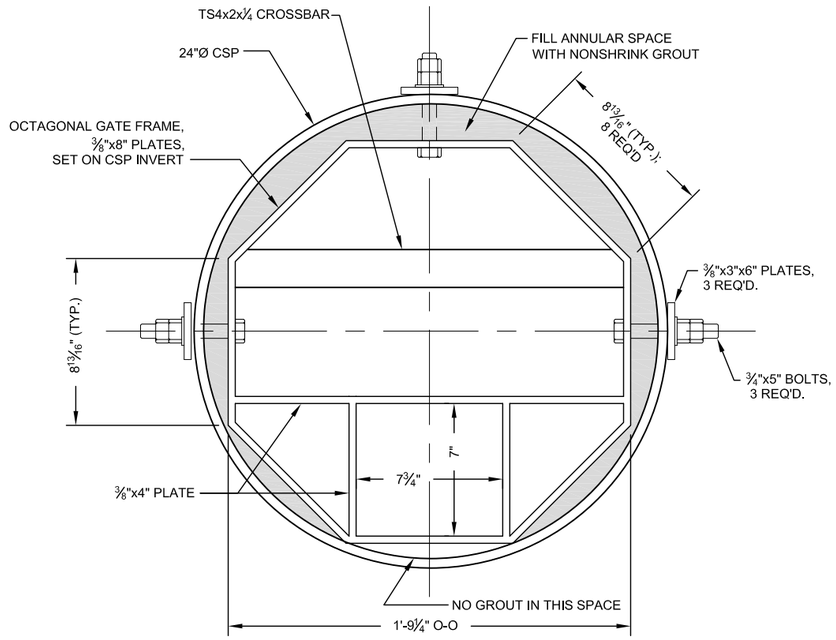
3. DOUBLE-NUT ALL BOLTS.

4. THE CONTRACTOR HAS THE OPTION OF USING 8" STEEL PLATE WHERE 4" STEEL PLATE IS SHOWN IN THE DRAWING.

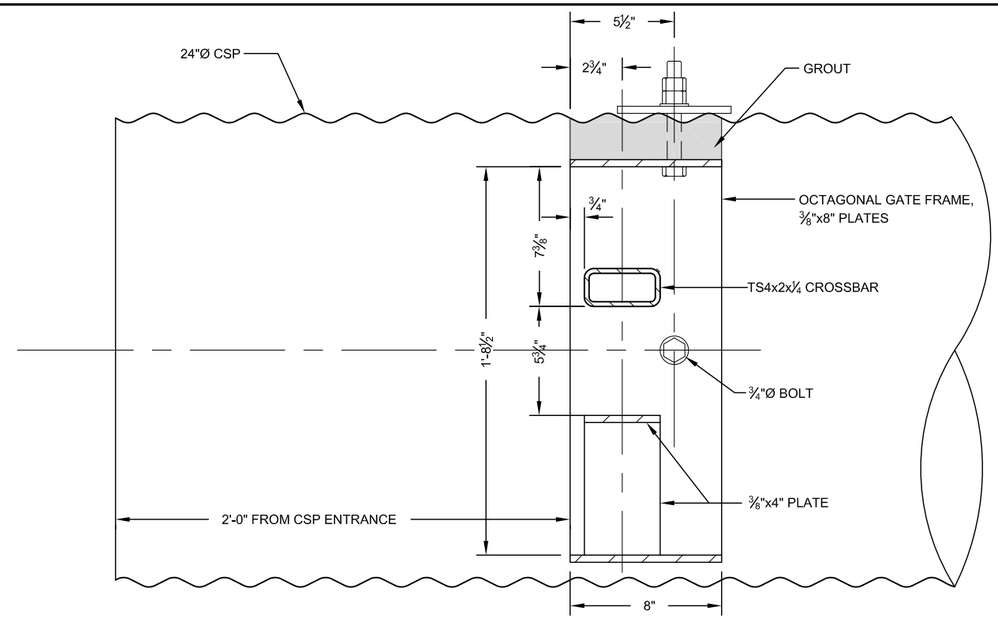
5. VERIFY THAT THE OPENINGS OF THE CSP ARE NOT OBSTRUCTED BY FILL OR ROCK.

6. THE FINISH GRADE ON THE OUTSIDE OF THE CULVERT SHALL HAVE POSITIVE DRAINAGE AWAY FROM THE STRUCTURE.

7. SPRAY PAINT VISIBLE PORTIONS OF CSP (INSIDE AND OUT) WITH COLOR THAT BLENDS IN WITH THE SURROUNDING ROCK AS DIRECTED BY THE PROJECT MANAGER.



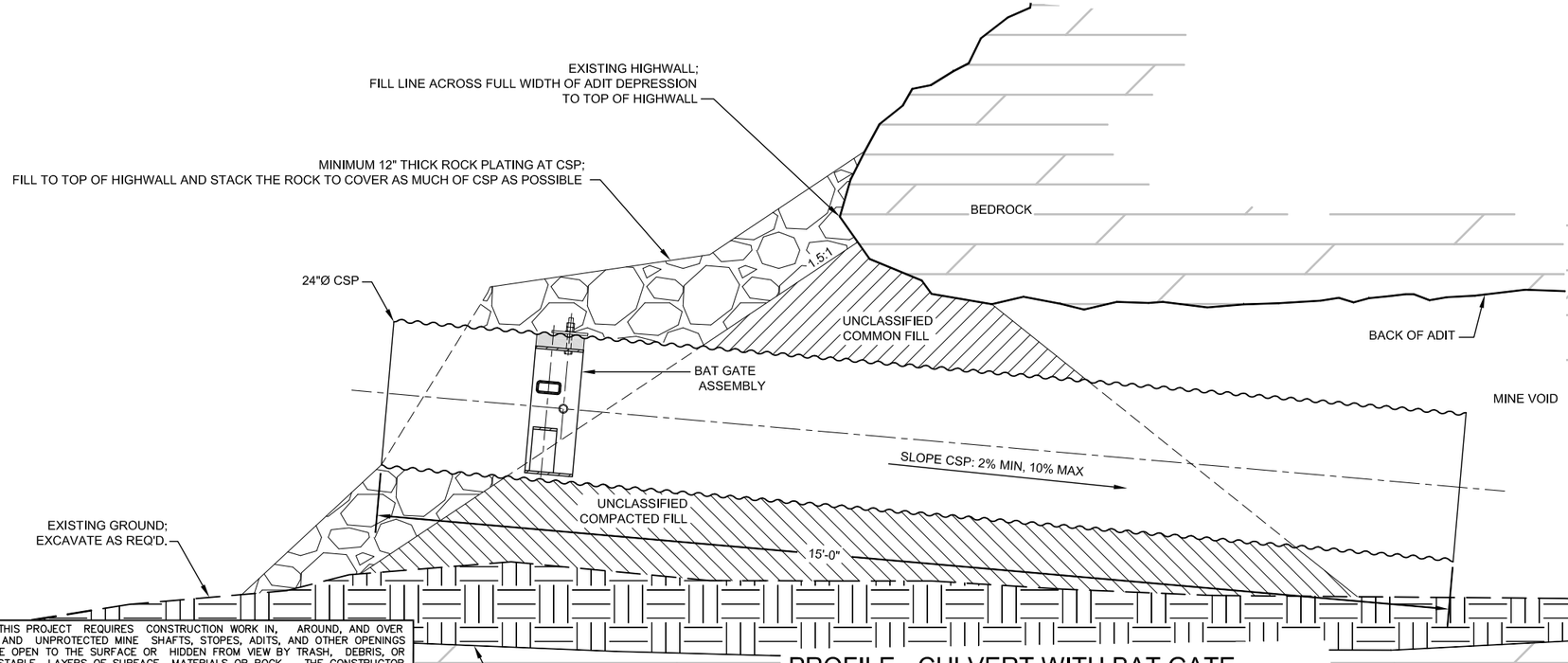
ELEVATION



SECTION

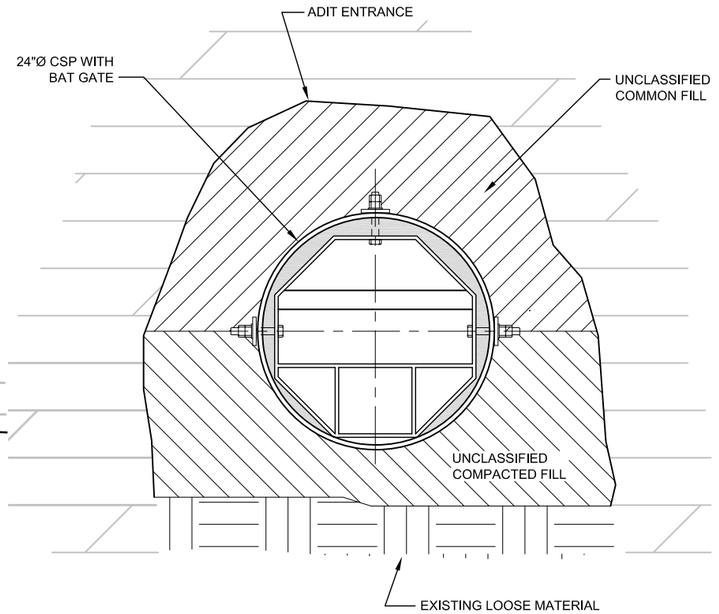
BAT GATE ASSEMBLY

SCALE: 1½" = 1'-0"



PROFILE - CULVERT WITH BAT GATE

SCALE: ½" = 1'-0"



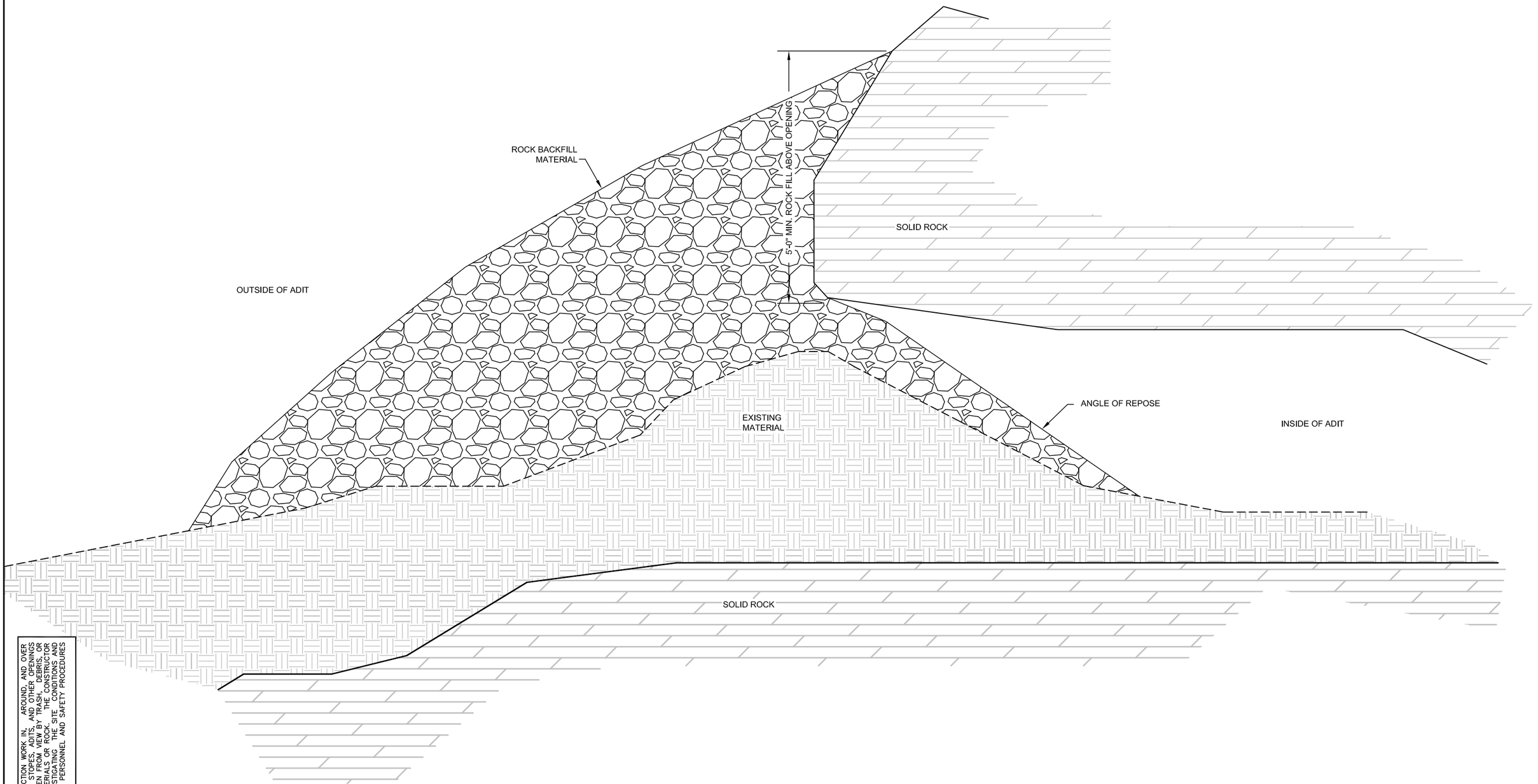
FRONT SECTION VIEW

SCALE: ¾" = 1'-0"

CAUTION – THIS PROJECT REQUIRES CONSTRUCTION WORK IN, AROUND, AND OVER HAZARDOUS AND UNPROTECTED MINE SHAFTS, STOPES, ADITS, AND OTHER OPENINGS WHICH MAY BE OPEN TO THE SURFACE OR HIDDEN FROM VIEW BY TRASH, DEBRIS, OR THIN AND UNSTABLE LAYERS OF SURFACE MATERIALS OR ROCK. THE CONSTRUCTOR SHALL BE RESPONSIBLE FOR THOROUGHLY INVESTIGATING THE SITE CONDITIONS AND SCHEDULING EQUIPMENT, EQUIPMENT OPERATIONS, PERSONNEL AND SAFETY PROCEDURES TO PREVENT ACCIDENTS AND INJURIES.

ABANDONED MINE LAND PROGRAM
MINING AND MINERALS DIVISION
NEW MEXICO ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT

SCALE: AS SHOWN	MOUNTAIN VIEW #52	DRAWN BY: MWT
DATE:		REVISED BY:
	CULVERT WITH BAT GATE	
FILE:	SAN PEDRO MINE SAFEGUARD PROJECT – PH I	FIGURE: 15



CAUTION – THIS PROJECT REQUIRES CONSTRUCTION WORK IN, AROUND, AND OVER HAZARDOUS AND UNPROTECTED MINE SHAFTS, STOPES, ADITS, AND OTHER OPENINGS WHICH MAY BE OPEN TO THE SURFACE OR HIDDEN FROM VIEW BY TRASH, DEBRIS, OR THIN AND UNSTABLE LAYERS OF SURFACE MATERIALS OR ROCK. THE CONSTRUCTOR SHALL BE RESPONSIBLE FOR THOROUGHLY INVESTIGATING THE SITE CONDITIONS AND SCHEDULING EQUIPMENT, EQUIPMENT OPERATIONS, PERSONNEL AND SAFETY PROCEDURES TO PREVENT ACCIDENTS AND INJURIES.

SECTION

SCALE: ¼" = 1'-0"

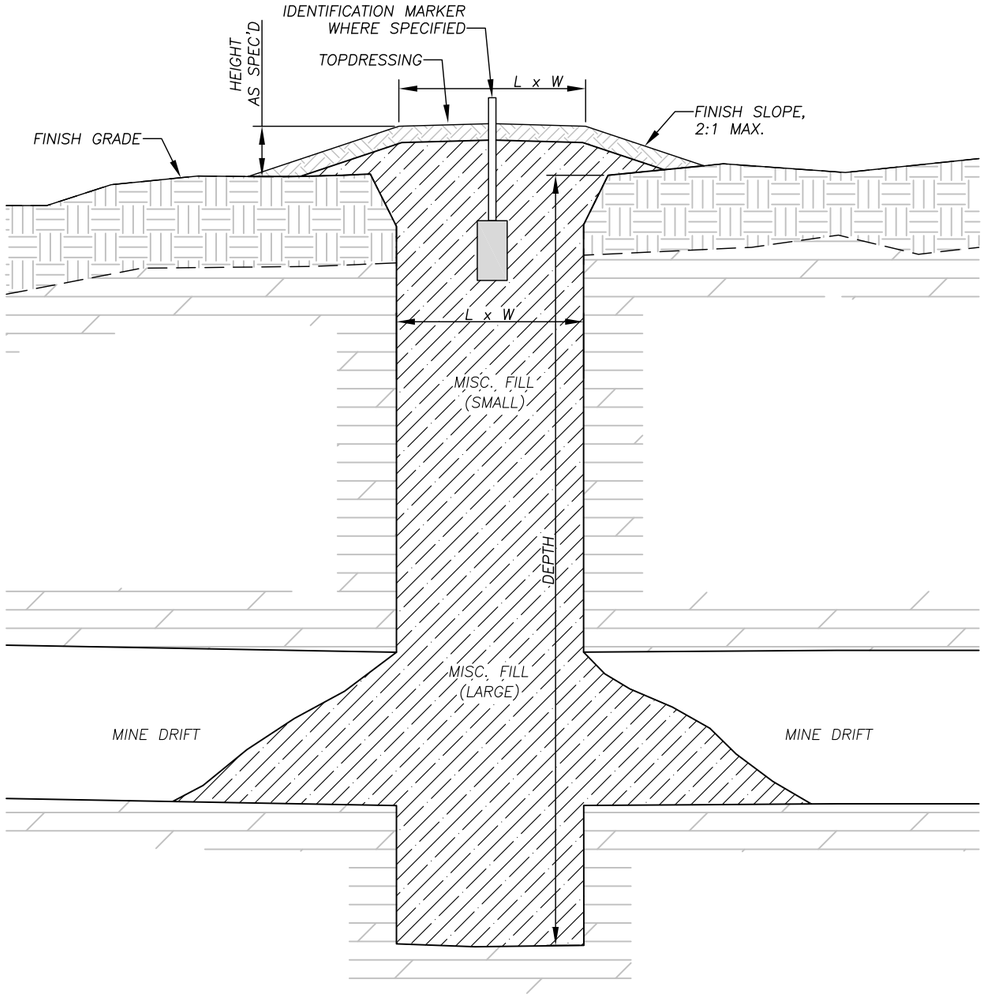
GENERAL NOTES:

1. THE SHAPE AND DIMENSIONS SHOWN AT THE EXISTING ADIT OPENING ARE APPROXIMATE. QUANTITY OF FILL NEEDED VARIES BY LOCATION.

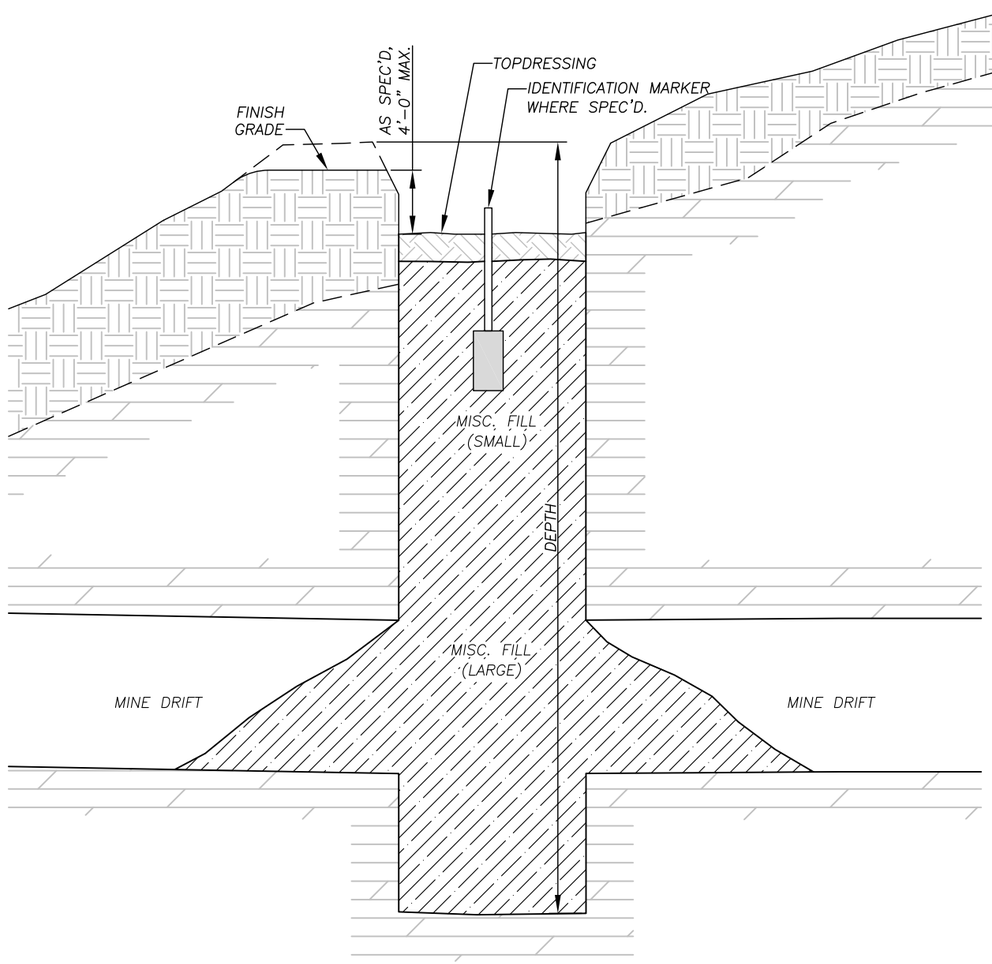
3. ALTHOUGH ANY FILL IS ACCEPTABLE, ROCK FILL (12"-18" SIZE) IS MOST DESIRABLE.

ABANDONED MINE LAND PROGRAM
MINING AND MINERALS DIVISION
NEW MEXICO ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT

SCALE: AS SHOWN	VARIOUS LOCATIONS	DRAWN BY: MWT
DATE:		REVISED BY:
TYPICAL ADIT BACKFILL		
FILE:	SAN PEDRO MINE SAFEGUARD PROJECT – PHASE I	FIGURE: 16



MOUNDED BACKFILL DESIGN
(TYPICAL SECTION)



DEPRESSED BACKFILL DESIGN
(TYPICAL SECTION)

GENERAL NOTES:

1. THE FILL AT AND ABOVE DRIFT LEVELS SHALL CONSIST OF THE COARSEST MATERIAL AVAILABLE. SMALLER MATERIAL MAY BE USED ELSEWHERE. SEE THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

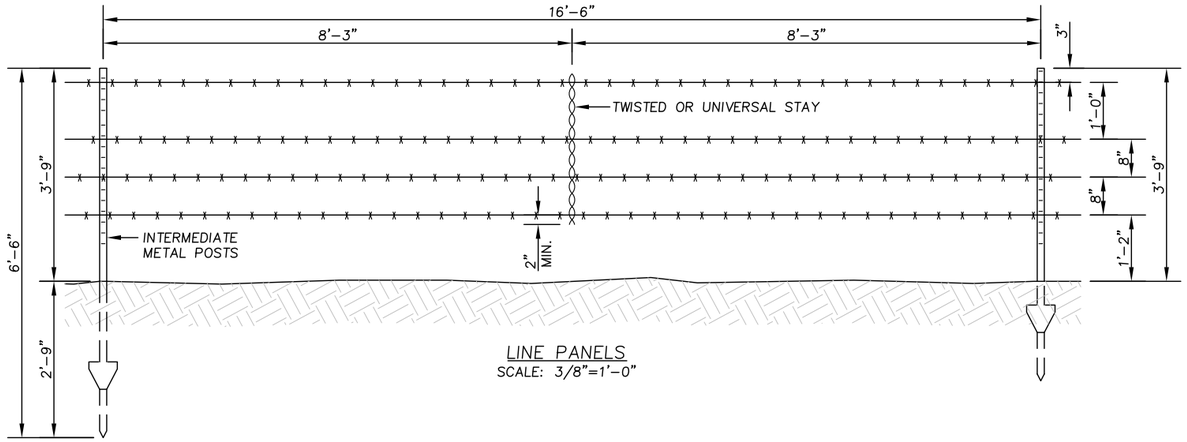
2. AS PRACTICABLE, SHAPE THE REMAINING MINE WASTE MATERIAL TO RESEMBLE AN UNDISTURBED MINE WASTE PILE.

3. THE LENGTH AND WIDTH OF THE TOP OF THE MOUND SHALL BE EQUAL TO OR GREATER THAN THE INTERNAL SHAFT LENGTH AND WIDTH RESPECTIVELY.

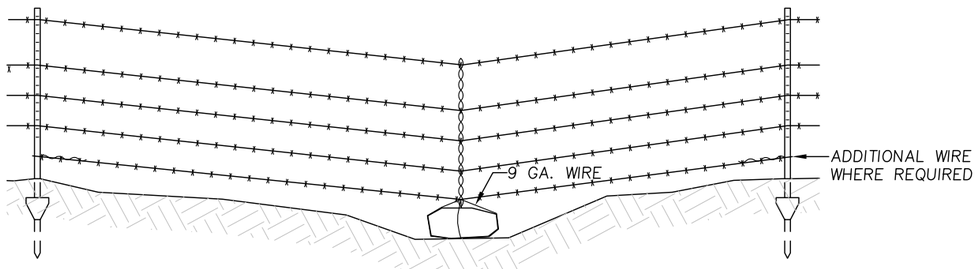
ABANDONED MINE LAND PROGRAM
MINING AND MINERALS DIVISION
NEW MEXICO ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT

SCALE: NOT TO SCALE	VARIOUS LOCATIONS	DRAWN BY: JAK
DATE:		REVISED BY:
SHAFT BACKFILL DESIGNS		
FILE:	SAN PEDRO MINE SAFEGUARD PROJECT-PH I	FIGURE: 17

TYPICAL



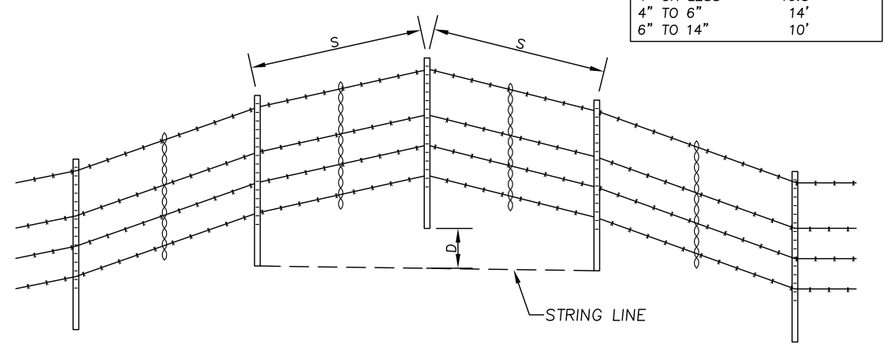
LINE PANELS
SCALE: 3/8"=1'-0"



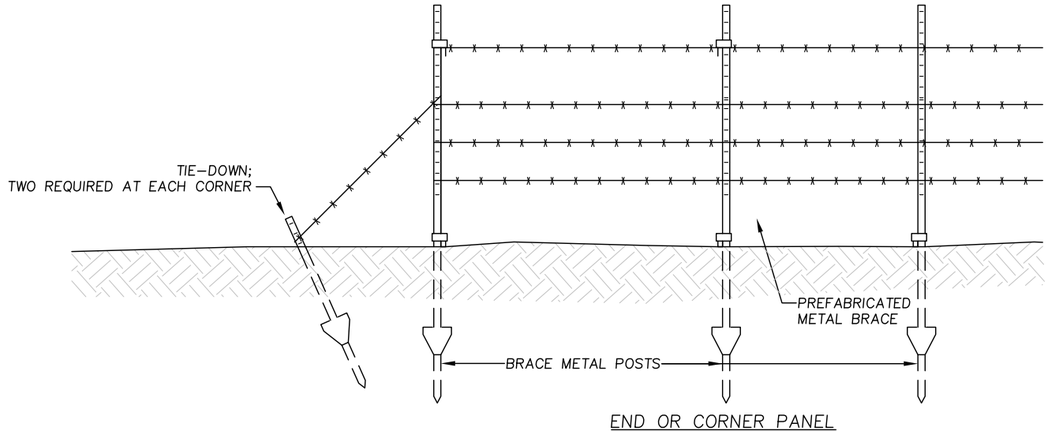
PANEL AT MINOR DEPRESSION
NOT TO SCALE

NOTE: ADD ADDITIONAL WIRE AND A ROCK DEADMAN (MINIMUM WEIGHT 50 LBS.) WHEN SPACE BETWEEN BOTTOM WIRE AND GROUND EXCEEDS 20 INCHES.

DISTANCE 'D'	POST SPACING "S"
4" OR LESS	16.5'
4" TO 6"	14'
6" TO 14"	10'



ISOMETRIC VIEW -- CONTOUR FENCING
NOT TO SCALE



END OR CORNER PANEL
SCALE: 3/8"=1'-0"

NOTES ON CONTOUR FENCING:

1. CONTOUR FENCING MAY BE USED WHERE A CURVED FENCE LINE IS DESIRABLE, WITH THE CONCURRENCE OF THE PROJECT MANAGER. PLACE THE WIRES ON THE OUTSIDE OF THE POSTS ON CURVE SO THAT, WHEN THE WIRE IS STRETCHED, IT WILL PULL AGAINST THE POSTS AND NOT AGAINST THE TIES.

2. SET POSTS FOR CONTOUR FENCING LEANING OUT A FEW INCHES; POSTS SHALL STRAIGHTEN TO A PLUMB POSITION WHEN WIRE IS STRETCHED. STRETCH TO MODERATE TENSION FOR A CURVED FENCE; THE SHARPER THE CURVE, THE LESS TENSION IS NEEDED.

3. USE CLAMPS PROVIDED BY THE MANUFACTURER TO ATTACH METAL POSTS TO PANELS AND BRACES. INSTALL BRACE PANELS ACCORDING TO MANUFACTURER'S INSTRUCTIONS. PREFABRICATED PANELS AND BRACES SHALL BE 'EASY FENCE' BY D-C INDUSTRIES OR EQUIVALENT.

4. RUN FENCE IN STRAIGHT LINES BETWEEN END AND CORNER POSTS, EXCEPT WHERE CONTOUR FENCING IS USED.

5. AVOID ACUTE ANGLES (LESS THAN 90°) AT FENCE CORNERS.

ABANDONED MINE LAND PROGRAM
MINING AND MINERALS DIVISION
NEW MEXICO ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT

SCALE: AS SHOWN	VARIOUS LOCATIONS	DRAWN BY: JAK
DATE: 12/15/11		REVISED BY: MWT
BARBED WIRE FENCE		
FILE:	SAN PEDRO MINE SAFEGUARD PROJECT - PH. I	FIGURE: 18