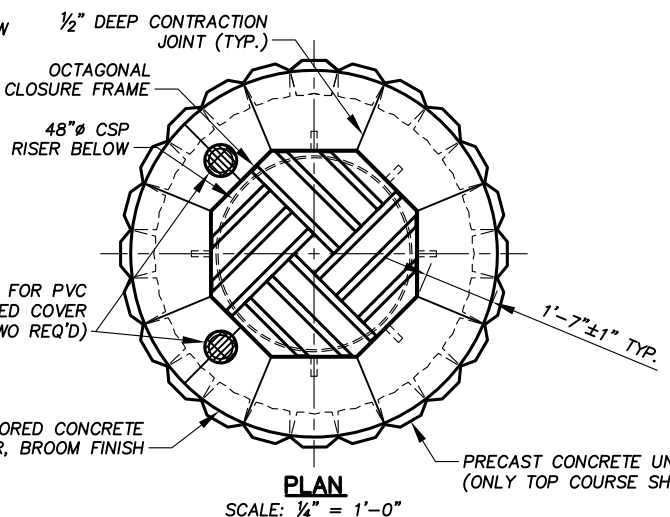
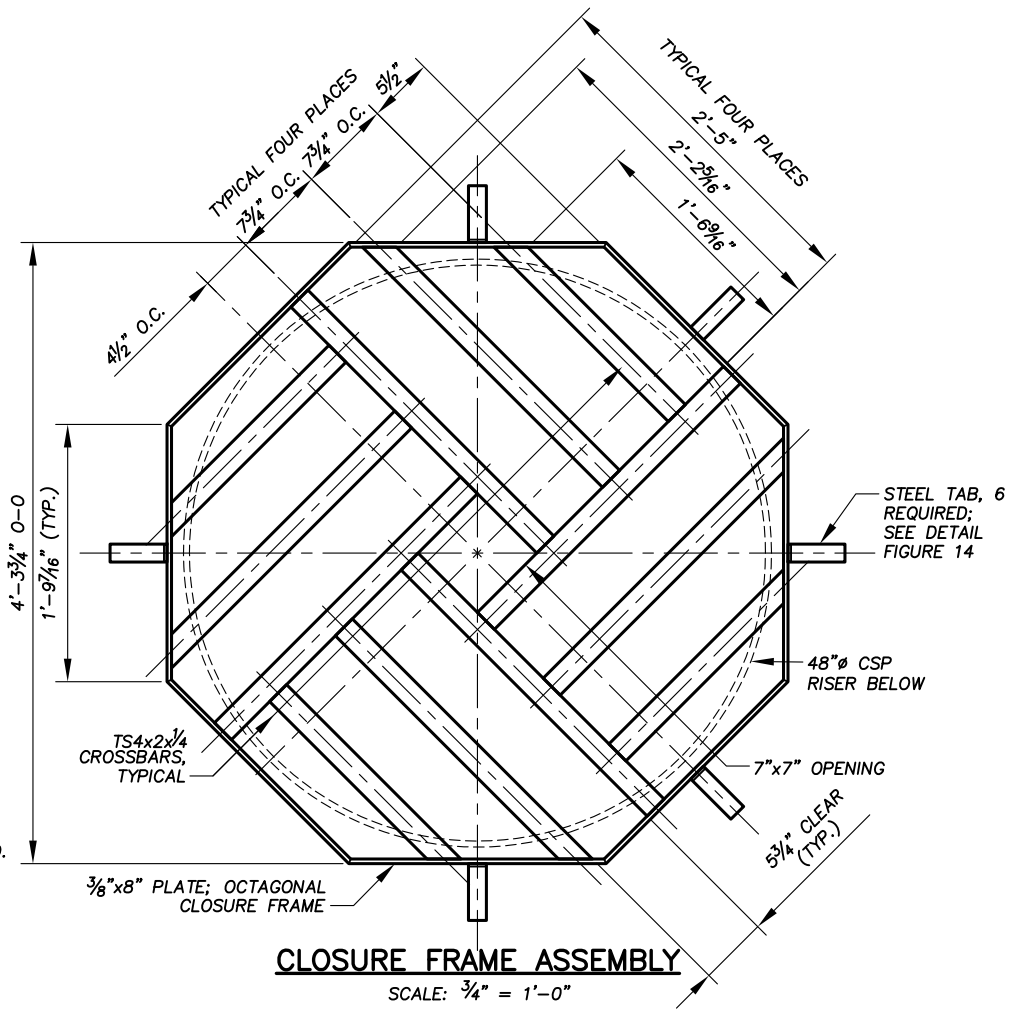


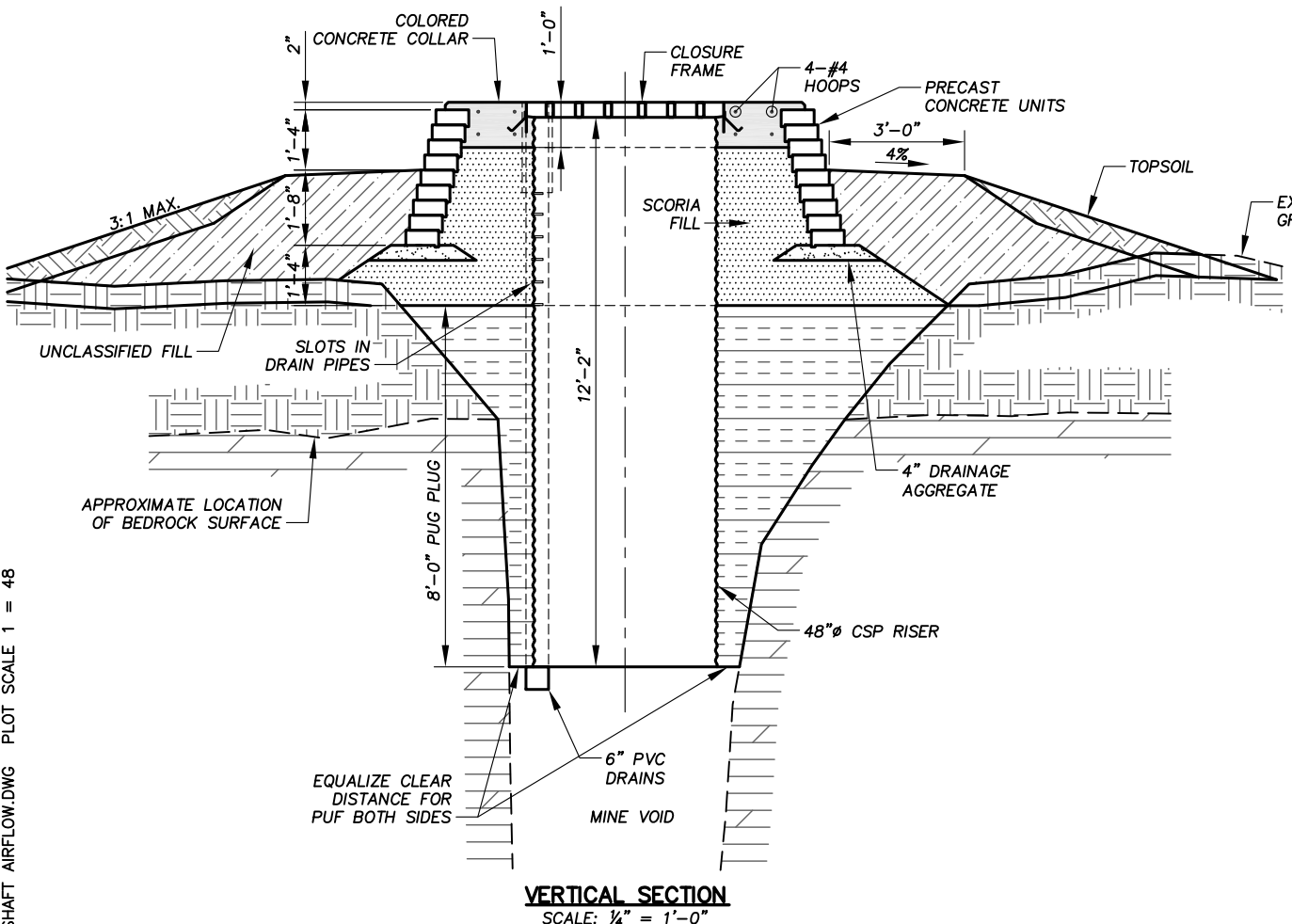
HORIZONTAL SECTION
(SECTION NEAR BEDROCK SURFACE)
SCALE: 1/4" = 1'-0"



PLAN
SCALE: 1/4" = 1'-0"



CLOSURE FRAME ASSEMBLY
SCALE: 3/4" = 1'-0"



VERTICAL SECTION
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. THIS DRAWING SHOWS THE GENERAL SHAPE AND APPROXIMATE SIZE OF THE MINE OPENING AND THE CORRESPONDING LAYOUT OF THE BAT COMPATIBLE CLOSURE AND ARCH RISER PIPE. THE DRAWING SHALL BE USED AS A GUIDE FOR FIELD LAYOUT. DETERMINE THE ACTUAL LAYOUT AND DIMENSIONS OF THE CLOSURE IN THE FIELD PRIOR TO FABRICATION.
2. WHENEVER PRACTICABLE, SET ASIDE TOPSOIL FOR LATER USE AS SHOWN ON THE DRAWING.
3. 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.
4. STEEL PLATES, SHAPES AND BARS SHALL BE WEATHERING STEEL. WELD ALL JOINTS. CONSTRUCT THE CLOSURE FRAME ASSEMBLY TO ELIMINATE SURFACES ON WHICH MOISTURE OR DEBRIS CAN BE TRAPPED. PLIES OF MATERIAL SHALL BE TIGHT TO PREVENT THE INCURSION OF MOISTURE. ALL TUBULAR MEMBERS SHALL BE HERMETICALLY SEALED TO PREVENT THE INCURSION OF MOISTURE. EXCEPT AS OTHERWISE NOTE, ROUND OR CHAMFER ALL EXPOSED SHARP CORNERS AND EDGES.
5. MINIMIZE THE AMOUNT OF ROCK, TIMBER AND OTHER DEBRIS THAT FALLS INTO THE MINE OPENING DURING CONSTRUCTION.
6. THOROUGHLY COMPACT ALL FILL UNDERNEATH THE PRECAST CONCRETE MASONRY UNITS AND CONCRETE COLLAR. PLACE SCORIA AND DRAINAGE AGGREGATE IN NOT MORE THAN SIX-INCH LAYERS AND COMPACT BY SLICING WITH A SHOVEL OR VIBRATING.
7. FILL THE ANNULAR SPACE BETWEEN THE CLOSURE FRAME AND CSP RISER WITH NON-SHRINK GROUT. SLOPE TOP OF GROUT TO DRAIN INTO CSP.
8. SLOPE THE FINISH GRADE TO DRAIN STORM WATER AWAY FROM THE 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 HIS EQUIPMENT, EQUIPMENT OPERATIONS, PERSONNEL, AND SAFETY PROCEDURES TO PREVENT ACCIDENTS AND INJURIES.

NOTE ON POLYURETHANE FOAM (PUF) PLUG: THE PUF AT THE NORTH SIDE OF THE SHAFT AWAY FROM THE LOWER SHAFT OPENING SERVES NO STRUCTURAL PURPOSE. THE CONTRACTOR SHALL PREVENT PUF FROM ENTERING THE DRIFTS ON THE NORTH SIDE OF THE UPPER MINE OPENING AND SHALL REDUCE THE VOLUME OF PUF REQUIRED ABOVE THE NORTH FLOOR LEVEL BY CONSTRUCTING A VERTICAL FORM AS INDICATED OR BY PLACING EMPTY CARDBOARD BOXES, SPENT TIRES WITH THE WHEEL HOLES BLOCKED OR OTHER MEANS ACCEPTABLE TO THE PROJECT ENGINEER.

ABANDONED MINE LAND PROGRAM		
MINING AND MINERALS DIVISION		
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT		
SCALE: AS SHOWN	COLUMBIA LODE	DRAWN BY: JAK
DATE: JAN. 28, 2010		REVISED:
HORIZONTAL BAT GATE AT FEATURE 049-066S SHAFT		
LAKE VALLEY MINE SAFEGUARD PROJECT - PH. IV		DRAWING NUMBER: FIGURE 18

049-066 SHAFT AIRFLOW.DWG PLOT SCALE 1 = 48