

III. MINE PLAN

A. General description of the mining operation

The Forbes Pit is a sand and gravel mine, crushing and/or screening, operated on grazing land in Sheridan County off Hwy 331, Big Goose Road.

The life of the mine is unknown because the ability to process material is based on the market at the time.

The equipment will be located within an open pit. There will not be one specific staging area throughout the life of the mine. Reclamation back to grazing land will be done continuously as pits are mined so that the landowner may continue to ranch. Therefore, the location of equipment will change continually. The equipment anticipated for mining could include the following:

- Masaba Cone Crusher with Conveyors
- Masaba Feeder
- Cat 160 H Blade
- Komatsu D65 Dozer
- Komatsu Haul Trucks
- Komatsu PC 290 Excavators
- Komatsu WA 470 Loader
- Water Truck
- Cat Skid Steer
- Semi-Trucks /Side Dump Trailers

The gravel seam varies but is mostly five feet thick throughout the project area. The pit depth will vary from approximately 5 feet to 7 feet. We estimate approximately 1,000,000 tons of material will be mined throughout the life expectancy of the mine.

The Storm King Mine operated and mined coal from 1923-1958. It is on the Northwest side of the haul road. We do not believe that the abandoned mine will have any effects or issues with our proposed operations.

Given the shallow nature of the gravel seam and our mining operation we do not anticipate encountering any oil, gas, groundwater, or other minerals. Although there is a gas line that does run through the permit boundary. As the mining approach gets close to the Phillips 66 gas line, we will request a locate and ensure an appropriate buffer is maintained to avoid interference and protect the existing gas line, in accordance with Phillips 66's requirements.

The only building onsite will be for the scale. It will store the printer for the scale. There will be intermittent use of a portable crushing and screening plant. No stationary bulk oil or fuel storage will occur at the permit site. Fuel storage will be limited to what is contained in the machinery fuel tanks.

Map MP1 of the Mine Plan shows the location of the access/haul road associated with the initial mining sequence. The main access road will be built and remain after mining is complete for landowner access. Additional haul roads throughout the permit area will be created and remain for utilization by the landowner upon completion of mining. When building the additional haul roads, the topsoil will be salvaged prior to the construction of the roadway.

There are no power transmission and/or communication lines in the proposed permitted area.

There are no sedimentation or treatment ponds associated with the permit application.

Mullinax Inc. does not anticipate extensive surface water runoff along the boundary of the pit area, haul/access road or overburden stockpile. Mullinax Inc. is seeking Authorization to Discharge Storm Water Associated with Mineral Activities and is establishing a Storm Water Pollution Prevention Plan (SWPPP). The mine is on flat hilltops. Berms will be set in place if needed along the edges to ensure runoff is contained within the pit.

Mullinax Inc.'s mining and processing operation may generate small amounts of non-hazardous solid waste. These solid wastes might include spent tires, wooden or paper packing materials, used oil filters (drained for at least 48 hours), empty (and well-drained) lubricant containers, metal equipment parts, etc.

Mullinax Inc. will remove these items from the site and dispose of them at an authorized landfill and will not burn any of these solid waste materials.

There are no load-out facilities proposed at this site. The only conveyors are those associated with the portable crusher and screener for stockpile placement off the crusher or screener.

Mineral stockpiles will change as mining progresses. Mullinax Inc. will reclaim as we progress to enable the landowner to reseed and harvest crops with the least amount of interruption. Therefore, the mineral stockpiles will follow the mine progression. Spoils and mineral stockpiles will not be placed on unstripped native lands. If these stockpiles are placed adjacent to native lands, a buffer of at least eight feet will be maintained.

There are currently fences around a larger area containing the permit boundary. Berms or fencing will be constructed in the case that there is an area that needs to be restricted from traffic, such as new seeding. The entrance to the permit area is over 2 miles onto marked private land.

We will not be using any auger methods of mining.

Mullinax Inc. will not have any underground mines on this site.

B. Mining Method and Schedule

The removal of topsoil will be performed in such a way as to minimize contamination. We will not salvage any topsoil if the conditions are too muddy or the ground is frozen. An area will be stripped using a rubber-tired scraper to prepare. The area cleared will be of a size to contain both a topsoil stockpile and a subsoil at a 3:1. The area will allow enough room for these piles, mining activities, and a buffer to ensure materials do not get contaminated. The topsoil shall be segregated so as not to become mixed with spoil or waste material. It will be stockpiled in the most advantageous manner and saved for reclamation purposes. Topsoil shall be stockpiled on stable areas within the permit boundary in such a manner so as to minimize wind and water erosion as well as unnecessary compaction. The topsoil and spoil piles will be marked with the appropriate signs within 150 feet of these piles. Only areas where overburden/subsoil/spoil piles are placed will be stripped prior to stockpiling.

Stockpiles size will vary. One acre of land will produce approximately 806 cubic yards of topsoil. Topsoil will be stripped from the first pit and added to this stockpile. When the stockpiles are at capacity, a toe ditch dug around the topsoil stockpile to prevent contamination. The topsoil will then be seeded with a temporary seed mix to prevent erosion.

Mullinax Inc. has trained the staff and operators out at the pits to recognize changes in the colors from the typical dark topsoil color to the lighter color beneath as well as being able to identify the change in texture from a loamy texture to the clay layer underneath.

Mullinax Inc. will stake the permit boundaries for each new pit area prior to commencement of work in the newly permitted areas. These stakes will facilitate proper location of the pit and roads. The entire permit area cannot be staked at the same time as the landowner will still be utilizing the land. The depth of the pit will vary from approximately 5 -7 feet.

We will not have any spoil piles outside of the pit boundaries.

With the exception of limited quantities of motor oil and diesel fuel in the mining equipment, there are not potential environmental hazards present on our mine site. In the event Mullinax had an oil leak or fuel leak in a piece of equipment the contaminated soil would be removed from the site.

Processed material from the crushing and screening operation will be stockpiled within a mined-out section of the pit. The location is undetermined as it will depend on what area we are in when crushing commences. All processed material stockpiles will be subject to the same buffer requirements as other stockpiles.

Materials will be handled in different ways depending on the demand at the time. Some gravel (pit run) will be loaded with an excavator into semi-trucks with side dump trailers and transported back to our main crushing site on Fort Road in Sheridan, Wyoming. Other times, our portable crusher will be on-site.

As the gravel is mined from the pit area it will be loaded with an excavator into semi-trucks with side dump trailers as pit run gravel or will be loaded into a jaw crusher for processing and then removed from the pit site by truck and trailer.

Map MP1 identifies a general sequence of pits by numbered units. Area #1 included the previous 15 Acre Permit boundary. Upon approval of this application in the spring of Year 1, Mullinax Inc. plans to continue excavation in Area #1 for approximately 3 years. This description will include

the first seven years of progression with a commitment to update the pit progression for each subsequent year in the required annual report to DEQ.

Mullinax Inc. projects the sequence through the permit area based upon its knowledge of the current need for construction materials in the region. The exact rate at which the expansion will take place is unknown and will be somewhat determined by market needs. Mining will follow the numbered areas sequentially shown on MP1 of Mine Plan.

In each Annual Report, Mullinax Inc. will provide an updated map with existing pit area and a projection of future mining for at least the next twelve-month period. The permit will be revised if progressions in the annual report do not match the permit.

Forbes Pit Progression Schedule

<u>Area</u>	<u>Mining Period</u>
Area 1	2024-2026
Area 2	2025-2027
Area 3	2026-2028
Area 4	2027-2029
Area 5	2028-2030
Area 6	2029-2031
Phase 2	2030-2046
Phase 3	2046-2054

C. Mining hydrology

Given the shallow nature of the gravel seam and our mining operation we do not anticipate encountering any groundwater. Our mining practices always ensure the land is sloped towards the pit area to prevent any water runoff that could cause erosion of the land. Berms will be set in place to contain the water to the pit area. There is only one stock reservoir located in the permit area so we will not be encountering any water sources during mining.

36" ADS culverts will be installed for hydrologic controls across road crossings and drainage basins if needed. It is noted on the map where they will be located. Included on the following page is the pass peak flow analysis ensuring the 36" culvert will be adequate in the drainages.

However, in the event that we do encounter groundwater, we will install catch ditches & sediment basins to control runoff. These structures will be built with earth berms that are substantial enough to control the volume of runoff. The Land Quality Division will be notified if sediment basins need to be constructed. The water we will use for dust control on our haul road will come from the water tap in our yard on Fort Road/Industrial Road. Depending on conditions we estimate approximately 8,000-16,000 gallons per day may be required for dust suppression.

D. Refuse disposal

Mullinax Inc.'s mining and processing operation may generate small amounts of non-hazardous solid waste. These solid wastes might include spent tires, wooden or paper packing materials, used oil filters (drained for at least 48 hours), empty (and well-drained) lubricant containers, metal equipment parts, etc.

Mullinax Inc. will remove these items from the site and dispose of them at an authorized landfill and will not burn any of these solid waste materials.

E. Public Nuisance and Safety

Plan to Avoid Constituting a Public Nuisance

Nearby Dwellings

There is no occupied dwelling, home, public building, school, church, community or institutional park or cemetery within three hundred (300) feet of the proposed affected area.

Normal Operation Hours

Mullinax Inc. will operate processing equipment and/or haul material from 7:00 AM to 5:00 PM on Monday through Friday.

Water Used in Dust Suppression and Processing

Dust suppression along the access road and in other traveled locations in the processing area will be accomplished using water applied with a water truck. The application of water will depend on the conditions. The water for dust suppression will be imported by truck to the site.

Mullinax Inc. does not anticipate developing a ground water source on the site. Thus, Mullinax Inc. does not have and has not sought groundwater appropriations in support of this mining operation.

Water used in the crushing operation is transported by water truck to the site.

No gravel washing will be conducted at the site.

Lighting

No nighttime lighting is anticipated at the site. As required light plants will be utilized during normal working hours for safety and will be directed toward the inside of the pit location.

Entrance Sign

Mullinax Inc. will post a permit identification sign along the haul/access road corridor near its junction with US Highway 331. The sign will contain the following information:

Mullinax Inc.
PO Box 2044
Sheridan, WY 82801
(307) 674-4466
Owner: Nathan Mullinax
LQD Permit No. _____

Fencing

The permit area lies within a vast holding of land owned by W. Cameron Forbes and SunSource LLC.. There are fences throughout the permit area to isolate the various grazing fields.

Material: Steep Slopes or Escarpments

This portion includes commitments to not push material over steep slopes or escarpments and leave a buffer between highwalls and topsoil stockpiles.

No materials will be pushed over steep slopes or escarpment on any sides of the pit. Berms will be constructed above all high walls.

All topsoil piles will be located within a stripped pit and will be located away from the bottom of highwalls.

Plans for Entering Controlled Highway

A stop sign has been placed at the end of the haul road, entering Highway 331.

Truck drivers are trained regarding safety issues related to access onto and off of Highway 331 into a rural residential area.

Plans to Minimize Impacts to Wildlife

In a cooperative effort to preserve the wildlife resources of the State and minimize impacts to Sage Grouse, threatened or endangered plants and animal species, Migratory Birds of High Federal Interest or wildlife with crucial or critical habitat, Mullinax Inc. commits to:

- Notify the LQD Sheridan District Office, the WGFD District Biologist, and the USFWS if any of the information in this Appendix is known to have significantly changed as the mining operation progresses.
- In the future, if Migratory Birds of High Federal Importance (MBHFI) are found to be nesting within one mile of the project area or Mountain Plovers are found to be nesting in the permit area it is recommended by the USFWS that their guidelines be implemented.
- The owner will commit to wildlife protection measures recommended by the USFWS and/or the WGF for threatened or endangered species.

Commitment to Prevent the Spread of Designated and Prohibited Noxious Weeds

Mullinax Inc. will strive to prevent the spread and/or serious infestations of designated and prohibited noxious weeds within the permit area through the following practices:

- Mullinax Inc. will not disturb future areas until such time as they prepare that area to be mined.
- Mullinax Inc. will broadcast a mixture of quick growing grasses (or crop seed, if the owner desires) on all topsoil stockpiles and select disturbed lands in order to limit the potential for weedy invasions.
- If weed infestations occur, Mullinax Inc. will contract a licensed applicator for the application of chemical herbicides to combat the noxious weeds.

MANNINGS EQUATION - 25 YEAR FLOOD

$$v = k_n / n R^{2/3} S^{1/2} \quad (1)$$

where

v = cross-sectional average velocity (ft/s, m/s)

$k_n = 1.486$ for English units and $k_n = 1.0$ for SI units

A = cross sectional area of flow (ft², m²)

n = Manning coefficient of roughness

R = hydraulic radius (ft, m)

S = slope of pipe (ft/ft, m/m)

Hydraulic radius can be expressed as

$$R = A / P \quad (2)$$

where

A = cross sectional area of flow (ft²)

P = wetted perimeter (ft)

The volume flow in the channel can be calculated as

$$q = A v = A k_n / n R^{2/3} S^{1/2} \quad (3)$$

where

q = volume flow (ft³/s, m³/s)

A = cross-sectional area of flow (ft², m²)

FOR FULL FLOW - NO HEAD - GRAVITY FLOW			
Pipe size (diameter - inches) =	36	inches	
Pipe size (diameter - inches) =	3	feet	
Area =	7.065	square feet	
Perimeter =	9.42	feet	
R =	0.75		
n =	0.012	(HDPE)	
S =	0.05	ft/ft	
V =	22.9	ft/sec	
Q =	161.5	cfs	

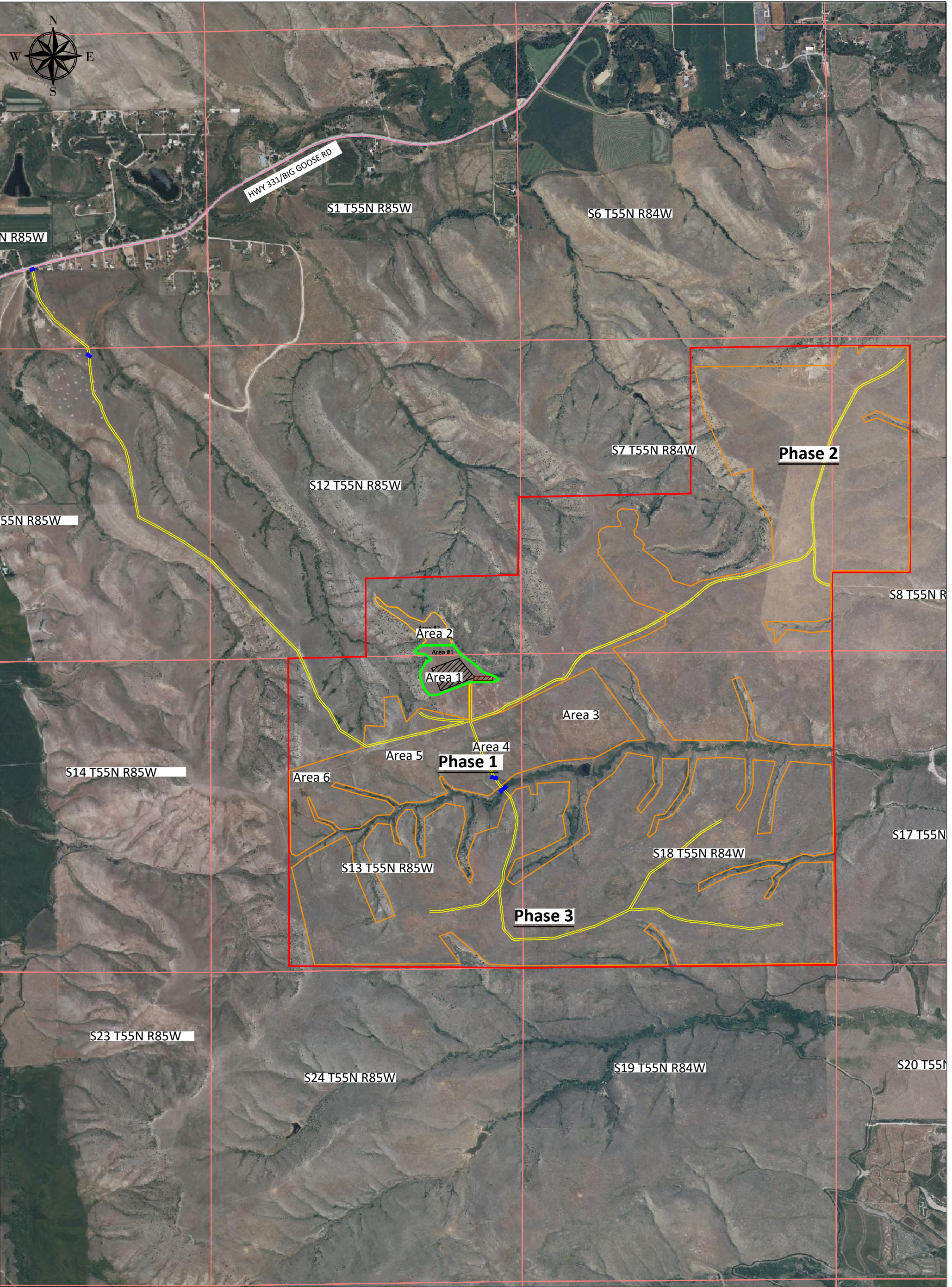
FOR PIPES FLOWING FULL - MANNINGS EQUATION IS WRITTEN	
V =	$\frac{0.59 \cdot (D^{0.667}) \cdot (S^{0.5})}{n}$
Q =	$\frac{0.463 \cdot (D^{2.6667}) \cdot (S^{0.5})}{n}$

MANNING'S "N" VALUES	
CONCRETE PIPE	0.013
CMP PIPE	0.022
PVC PIPE	0.013
HDPE	0.012

1/2 full			
	36	inches	
	3	feet	
Area =	3.5325	square feet	
P =	4.71		
R =	0.75		
n =	0.012	(HDPE)	
S =	0.05	ft/ft	
V =	22.9	ft/sec	
Q =	80.8	cfs	

CULVERT BATTERY - NO HEAD - GRAVITY FLOW			
Pipe size (diameter - inches) =	30	inches	
Pipe size (diameter - feet) =	2.5	feet	
Area =	4.90625	square feet	
Perimeter =	7.85	feet	
R =	0.625		
n =	0.012	(HDPE)	
S =	0.05	ft/ft	
V =	20.3	ft/sec	
Q =	198.7	cfs	

DESIGN CULVERT		
Q ₂₅ =	154	CFS
ONE 36" CMP		
Q _{FULL} =	162	CFS
	105.21%	
TWO 30" CMPs		
Q _{FULL} =	199	CFS
	129.40%	
**CULVERT(S) SHOULD BE CHOSEN TO HAVE A 36" EQUIVALENT DIAMETER		



LEGEND	
	Gravel Pit Boundaries
	Affected Area
	Sections
	Big Goose Road
	Road Way
	LMO Boundary
	Topsoil
	Equipment Area
	Culverts (2) 36" ADS

Notes:

Forbes Pit
Mine Plan Map

MULLINAX
SAND & GRAVEL
(307)674-4466 P.O. Box 2044 Sheridan, Wyoming 82801

Scale: 1"=1500'

Date: Jan. 6, 2023