



STATE OF
COLORADO

Carter - DNR, Jocelyn <jocelyn.carter@state.co.us>

St. Barbara_M2004-013 TR3 Adequacy Review Response

1 message

Mike Golliher <MGolliher@petelien.com>

Fri, Aug 16, 2024 at 10:26 AM

To: "Carter - DNR, Jocelyn" <jocelyn.carter@state.co.us>, Amy Eschberger - DNR <amy.eschberger@state.co.us>

Cc: Danielle Wiebers <DWiebers@petelien.com>, Dakota DeBoer <ddeboer@petelien.com>

Ms. Carter,

Please accept this response to Adequacy Review No. 2 for Technical Revision No. 3 for the St. Barbara Quarry (M2004-013)

Within it we addressed the six items identified within the July 16, 2024 review.

We are also providing a revised map of Exhibit C-3, Mining Plan Map that includes the location of two (2) additional topsoil stockpiles for this Technical Revision.

Best regards,

Mike

Michael Golliher

Technical Director of Mine Planning

Pete Lien & Sons Inc.

Office: (605) 939-2719

Mobile: (605) 209-2619

mgolliher@petelien.com



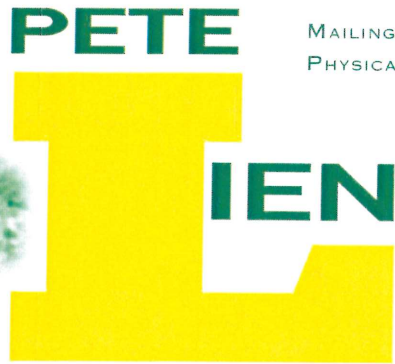
2 attachments



20240814_StBarbara Quarry (M2004-013) TR3-Adequacy Review No. 2 Response Submittal.pdf
7687K



20240814_StBarbara Quarry (M2004-013) Exhibit C-3 Mining Plan Map.pdf
3507K



MAILING ADDRESS: P.O. Box 440 RAPID CITY, SD 57709-0440 PH. 605-342-7224
PHYSICAL ADDRESS: 3401 UNIVERSAL DR. RAPID CITY, SD 57702 FX. 605-342-6979

& Sons, Inc.

August 14, 2024

Colorado Division of Reclamation, Mining and Safety
Room 215
1001 E 62nd Avenue
Denver, Colorado 80216

**Re: Pete Lien & Sons, Inc.; Mining Permit No. M-2004-013; St. Barbara Sand and Gravel Mine;
Technical Revision Request to increase acreage disturbed.**

Permittee submits the following items for further clarification based on the July 16, 2024,
Adequacy Review No. 2, letter from Jocelyn Carter, Environmental Protection Specialist.

**Item 1. Exhibit L – Reclamation Costs for an estimated disturbed area of 90.3 acres.
There are 5.7 acres not accounted for in the submitted exhibit.**

- The Operator submits this summary for affected acres that are used in Exhibit L to estimate costs of reclamation:

| | |
|--------------------|----------------|
| Quarry Disturbance | 19.8 ac |
| Backfilled Area | 13.1 ac |
| Graded Area | 35.1 ac |
| Ponds | 9.3 ac |
| <u>Seeded</u> | <u>13.0 ac</u> |
| Total Disturbance | 90.3 ac |

Item 2. Please clarify where the 13.0 acres that currently have topsoil and have been reseeded are located.

- The map has been revised to show the area where topsoil has been placed and has been seeded. These areas were mistakenly identified as topsoil stockpiles whereas they are actually existing berms. These berms were initially identified on Exhibit C-3.
- Two Topsoil Stockpiles, now located south of the quarry pond and identified on the map, will be used to reclaim the backfilled area, north-west of the quarry pond during the next period of activity in the quarry.

Item 3. Crimping and Mulching. Are both operations required?

- The Operator accepts that the Division would need to perform both tasks to optimize revegetation if reclamation operations were taken over by the Division.



PETE

LIEN

& Sons, Inc.

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Item 4. Discrepancy in information, Exhibit L – Reclamation Costs. Revise the bond calculation estimate to match the proposed acreage for the reclamation tasks.

- Exhibit L – Cost Estimate by Major Phase of Reclamation by acre has been revised to match the proposed acreage on the map and include cost estimates by major phase of reclamation.

Item 5. Submitted map that shows an area of 23.4 acres labeled “St. Barbara Quarry-Pond”. Clarify the discrepancy between backfilling pond areas and disturbed land.

- It was not our intention to imply that 23.4 acres would be the size of the pond. The updated map with this response now identifies ponds that will require backfilling separately. The amount of exposed water based on our review is currently 9.26 acres which is within the 9.76 acres allowed within the current Substitute Water Supply Plan (SWSP ID 4695, WDID 1407803). Therefore, it would not be necessary to update the SWSP.

Item 6. Exhibit L – Reclamation Costs, Updated Division policy regarding slurry walls.

- A paragraph has been added to Exhibit L that recognizes the updated Division policy that requires a bond for 100% of the cost of the slurry wall while retaining the Operator’s intent to submit a Technical Revision when an end user has been established.

Item 7. Exhibit C-3, Mining Plan Map: Additional Topsoil Stockpile Locations

- Two additional Topsoil Stockpile locations have been added to Exhibit C-3, Mining Plan Map, to show the approximate location of additional stockpiles. These topsoil stockpiles currently contain approximately 10,000 cubic yards.

If there are any questions regarding this submittal or if additional information is required, please contact me at (605) 939-2719 or by email at mgolliher@petelien.com.

Respectfully,



Dakota DeBoer
Executive Director, Ready Mix and Precast
Pete Lien & Sons, Inc.



Michael Golliher
Technical Director of Mine Planning
Pete Lien & Sons, Inc.

Attachments included: St. Barbara Exhibits C-3, D, L, Site Map

Exhibit D - Mining Plan

Overview

The St. Barbara Sand and Gravel Mine permit area is approximately 364 acres, of which eventually 304 acres will be mined.

The size of the area(s) to be affected at any one time will be a maximum of 96 acres. All lands shall be excluded that would be otherwise included as land affected but which have been reclaimed in accordance with an approved plan.

A plant and product stockpile area of approximately 30 acres and a fresh water/settling pond area of approximately 18 acres will be placed in the northwest area of the permit property. Both of these areas will be mined. The plant area will contain product stockpiles, crushers, screens, conveyors, a wash plant, scale house, office and associated outdoor storage and vehicle and equipment parking.

Sand and gravel products will be mined, processed and shipped at an undetermined rate. Due to the economy the mine was shut down in 2008. There is currently no production taking place. The originally planned rate of production would require mining about 5 to -7 acres annually. There are currently no definite plans to re-open the mine and a temporary cessation notice is included with this amendment application. This may be a dry mine, and dewatering will take place continuously over the life of the mine. It is possible that the operator may go to wet mining using either a dragline or suction dredge. Topsoil, overburden, and sand and gravel will be excavated by front-end loaders, dozers or scrapers, and will be transported to the plant site by truck, conveyor, or front-end loaders.

The post-mining land use of this property will be lined water storage comprising 210 acres of water surface and 94 acres of reseeded dry land.

Schedule and Sequence

Mining commenced in summer of 2004 and will continue for at least 25 years, depending on market demand and economic conditions.

The initial stage of operations will include construction of the plant and associated facilities in the plant area and construction of the freshwater/settling pond area. The process water ponds will remain in the same area until mining and processing of the remainder of the property ceases.

Mining will then begin east of the plant area and proceed east to the eastern permit boundary setback. Once excavation reaches this setback, mining will move to the west

portion of the property and proceed east again, repeating this process until mining area 1 is exhausted (see Exhibit C-3 for mining sequence).

Mining area 2 (east of the Public Service Company power line) will be mined in the same way, except it will proceed from east to west. The plant area will be mined last and the processing equipment will be relocated to previously backfilled areas. The process water ponds will be relocated and that area will be mined also.

Topsoil

Topsoil quantities sufficient to implement the reclamation plan (approximately 257,000 cubic yards) will be salvaged and stockpiled. Approximately one foot of topsoil will be recovered until there is enough available for reclamation and then after that topsoil material will be handled and used as overburden (or perhaps sold off-site in relatively small quantities).

Topsoil will be stockpiled along Nyberg Road for mining area 1 and along the eastern portion of mining area 2. [The approximate location of two additional topsoil stockpiles has been added](#) (see Exhibit C-3). Topsoil stockpiles will be seeded with the seed mix contained in the reclamation plan (Exhibit E) to stabilize them and protect them from erosion until the topsoil is used for reclamation.

Overburden

Overburden (clay and silt) averages approximately 6 feet thick across the property. Overburden material for the entire mine area will amount to approximately 3.4 million cubic yards. This material will be used as reclamation backfill.

Overburden removed at the start of mining will be stockpiled at the eastern end of the plant area and in the southern portion of mining area 1. These stockpiles will remain in place and will be used for reservoir construction. An adequate volume of overburden will be stockpiled to backfill the areas shown on Exhibit F: Reclamation Plan Map at the end of mining operations. See Exhibit C-3 for approximate overburden stockpile locations.

Sand and Gravel

Nominal thickness of sand and gravel on the site is 25 feet. This will amount to a total reserve of approximately 12 million cubic yards (18,000,000 tons). About 10% of the

sand and gravel deposit will be process waste (approximately 1.2 million cubic yards). This material will also be used for reclamation backfill in the northern part of the property.

Operation Components

The access to a public road (i.e. Nyberg Road), mine boundaries, office/scale house, and processing plant are shown on Exhibit C-3.

Roads

All roads inside the mining limits will be temporary and will be reclaimed after mining is completed. The access to Nyberg Road and one perimeter road around the property will remain after mining and reclamation are completed.

Drainage, Runoff, and Dewatering Conveyance Structures

Storm drainage will be either 1) routed into the pit floor and used for processing water or discharged through the dewatering system, or 2) routed to the settling pond in the southeast part of mining area 1. Diversion ditches and berms will be used, if necessary, to ensure that runoff from disturbed areas will be controlled in this manner.

Dewatering water will be conveyed from a dewatering trench to a settling pond. From the settling pond the water will be discharged through an outfall structure into the Arkansas River pursuant to an approved COPS permit. A U.S. Army Corps of Engineers permit has been obtained for the outfall structure.

Sizing of Settling Ponds and Outfall Structures

Settling ponds and outfall structures have been designed to meet the discharge requirements.

Water Demand and Source

Exhibit G, Water Information, contains a discussion of water demand and source. Also contained in Exhibit G are discussions of protecting the hydrologic balance (groundwater and surface water) and compliance with Colorado water law.

Acid and Toxic Producing Materials/Explosives

No acids or toxic producing materials (or refuse) will be exposed as a result of mining operations. No explosives will be used.

Processing

Pit run sand and gravel will be transported from the dewatered pit area by loader, truck, and/or conveyor to the plant/material stockpile area. Pit run is then fed either into a crusher (if necessary), or directly into a wet screen. At the screen, the pit run will be separated into various material stockpiles.

The oversize rock may be crushed, depending on market conditions, and returned back into the screening circuit.

The rock products will be washed via water spray bars. The sand will be washed via sand screws. The rock products will be stacked via conveyor, then loaded and stockpiled via front-end loader. The washed concrete sand will be conveyed, then stockpiled via stacking conveyor. Material will be transported offsite via truck.

Commodities Produced and Used

Specification aggregates will be produced including concrete sand, road base, coarse, aggregates, and other construction material products. The primary use will be for concrete aggregates at Pete Lien & Sons' concrete plant in Colorado Springs. No incidental products are planned to be produced.

Exhibit L - Reclamation Costs

Reclamation costs for this mining permit were based on the maximum ~~disturbed~~ **affected** acreage ~~(80 acres)~~ **of 96 acres** at any given time: including plant and stockpile areas. **All lands shall be excluded that would be otherwise included as land affected but which have been reclaimed in accordance with an approved plan.** The DRMS approved the current reclamation bond of ~~\$410,693 on June 4, 2004~~ **\$549,479 on November 30, 2020.**

Cost Estimate by Major Phase of Reclamation (2024 Cost Estimate for 90.3 affected acres):

1. Filling Settling Pond. 0.51 acres, 7.5 ft. deep, Average push 250 ft. (\$6,255)
2. Fill Process Ponds and Mining Area. 8.75 acres, 7.5-15 ft. deep, 750 ft. haul. (\$258,675)
3. Replace Topsoil. 77.3 acres, 7 inches deep, Average haul 1,000 ft. (\$122,630)
Total Affected 90.3 acres -13.0 acres Reseeded = 77.3 acres; 81,374 LCY
4. Revegetate. 77.3 acres, Fertilize, Tilling, Seeding. Alkali Sacaton(1.5 lb./ac), Switchgrass (4.0 lb./ac.), Galletta 11.0 lb./ac.), Western Wheatgrass, (16.0 lb./ac.).
Total Affected 90.3 acres -13.0 acres Reseeded = 77.3 acres
 Seeding: 77.3 acre x \$2,406.55/ac = \$186,026.32
 Reseeding: 90.3 acre x 15% failure x \$678.56/ac = \$9,191.10
 Total Revegetation Cost: \$195,217.41
5. Equipment Mobilization. Nearest town: Pueblo. (\$26,309)
6. Indirect Costs. Overhead, Profit, Legal, Engineering, Project Management. \$151,075 (estimated)

As discussed in Exhibit E - Reclamation Plan, a slurry wall of approximately 13,094 feet in length is required for Mine Area 1. A planning number for the cost of slurry wall construction is \$3.00 per square foot. Thus, 13,094 feet long x 35 feet deep equals 458,290 square feet. Constructing this slurry wall would therefore cost approximately \$1,375,000. Mine Area 2 impounds approximately 353 acre-feet of water. This requires a slurry wall approximately 6,565 feet long. Thus, 6,565 feet x 35 feet deep equals 229,775 square feet. Constructing the slurry wall would therefore cost approximately \$689,000.

The Pierre Shale directly underlies the sand and gravel deposit on the property. This geologic unit is well known for its relative impermeability and is a very suitable bedrock for impounding water.

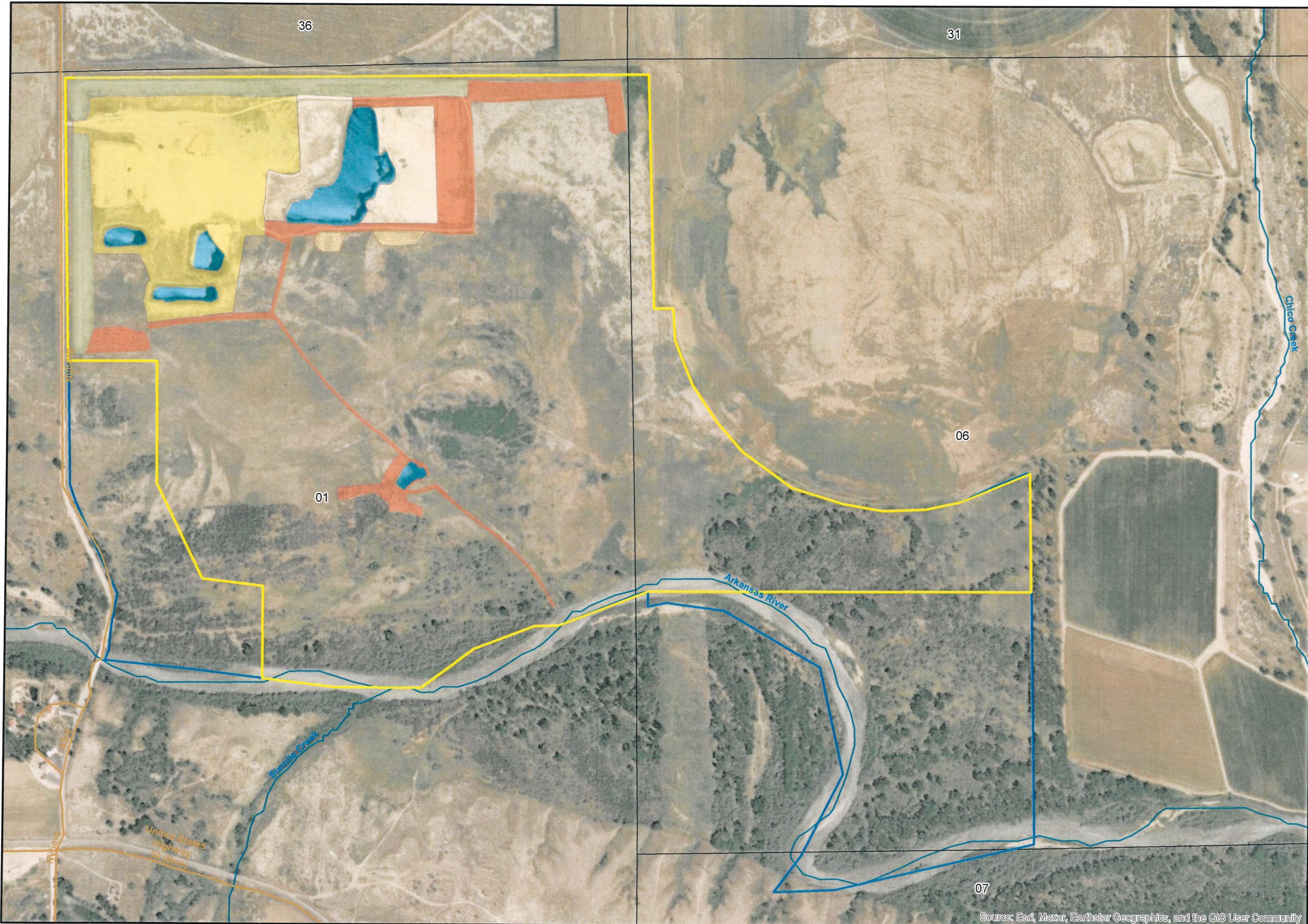
~~It is recognized that the DRMS has a policy whereby a financial warranty for a slurry wall can be submitted at 20% of the value of the slurry wall provided that detailed engineering design plans are submitted.~~ updated its policy on bonding for slurry walls.

The current policy is for the Operator to bond for 100% of the costs for installing the slurry wall prior to its construction. After the Operator has performed the 90-day leak test required by the SEO, the Operator can request a surety reduction to reduce the slurry wall bonding to not less than 20% of the costs.

The applicant currently does not have such plans or an updated cost estimate and won't until an end-user of the reservoir is known.

~~At that time, the plans will be developed. It is proposed that the financial warranty be increased by \$412,800 (which is 20% of the cost of constructing the slurry wall) and that a~~ A Technical Revision be submitted when an end user is known and they have designed the slurry wall.

The applicant commits to a slurry wall design that meets or exceeds the specifications of the DRMS and the State Engineer's Office.



St Barbara Pit

Locations: Portions of Section 1
T21S R63W & Portions of
Section 6 T 21S R62W
Pueblo County, CO

Background: World Imagery/
PLS Aerial

*Not official PLS map. See GIS Coordinator.

Legend

- Seeded 13 ac
- Disturbance 19.8 ac
- Backfilled 13.1 ac
- Graded 35.1 ac
- Ponds 9.26 ac
- Temporary Topsoil Stockpile
- Mine Permit
- Roads
- PLS
- Section Lines-CO
- Rivers



0 300 600 Feet



Last Revised: 7/31/2024
Drawn by: THutchens
Verified by:
Surveyed:

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

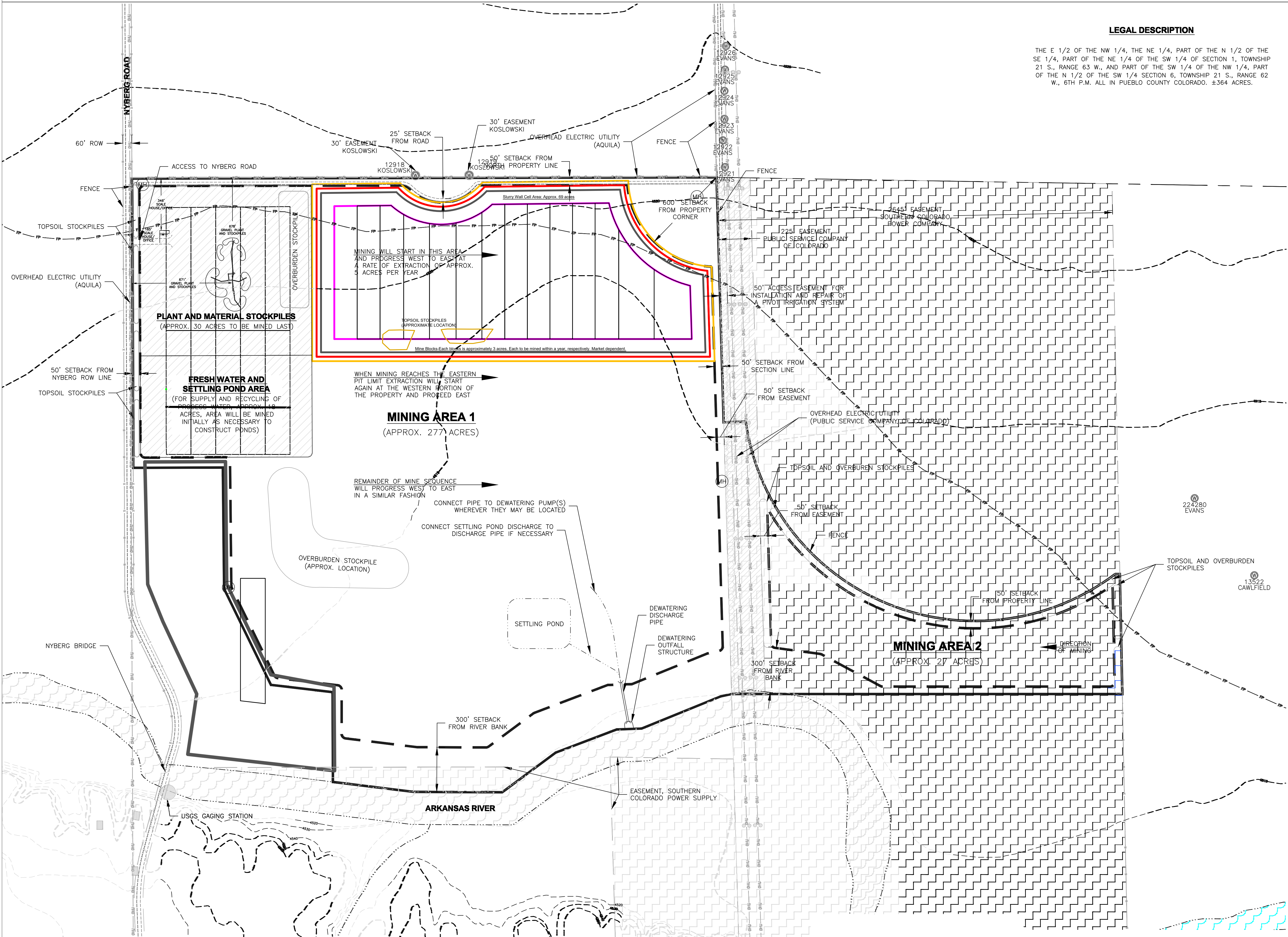
LEGAL DESCRIPTION

THE E 1/2 OF THE NW 1/4, THE NE 1/4, PART OF THE N 1/2 OF THE SE 1/4, PART OF THE NE 1/4 OF THE SW 1/4 OF SECTION 1, TOWNSHIP 21 S., RANGE 63 W., AND PART OF THE SW 1/4 OF THE NW 1/4, PART OF THE N 1/2 OF THE SW 1/4 SECTION 6, TOWNSHIP 21 S., RANGE 62 W., 6TH P.M. ALL IN PUEBLO COUNTY COLORADO. ±364 ACRES.

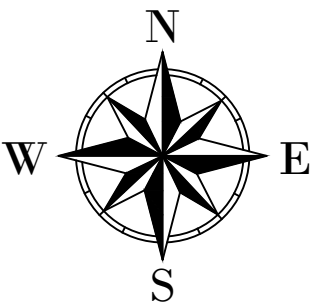
GRAPHIC SCALE



(IN FEET)
1 inch = 300 ft.



| LEGEND | | | |
|--------|------------------------------|--|-----------------------|
| | PROPERTY/PERMIT BOUNDARY | | MINING LIMITS |
| | SECTION LINE | | UNPAVED ROAD |
| | DITCH/WATERWAY | | EASEMENT/R.O.W. |
| | FENCE | | EXISTING STRUCTURE |
| | EXISTING TOPOGRAPHIC CONTOUR | | OVERHEAD UTILITY |
| | | | 100-YR FLOODPLAIN |
| | | | WATER WELL |
| | | | PROPOSED MONITOR WELL |
| | | | SLURRY WALL |
| | | | 30' MINING OFFSET |



Scale: 1:300



Last Revised: 8/13/2024
Drawn By: TJH
Verified By: MNG
Surveyed: N/A