November 4, 2024

Nikie Gagnon
Environmental Protection Specialist
DRMS Room 215
1001 E 62nd Ave
Denver, CO 80216

Marcovich Resource 112c Construction Materials Reclamation Permit Application AR#2

Ms. Gagnon:

Please see our adequacy responses inline with your comments. The comments have been addressed in line as well as in the permit documents and maps.

1. Adequacy Response Letter Page 2: The last sentence of the response to the Colorado Parks and Wildlife comments states "Colorado DNR Parks & Wildlife – Mule Deer HPHs. Did you intend to respond to this comment? If so, please submit the complete response to the Division.

> We feel that by avoiding the riparian buffer, mule deer impacts have been mitigated by maintaining the riparian buffer and only mining in the areas disturbed by previous agricultural practices. CPW Mule Deer Severe Winter Range, Winter Concentration Areas and Migration Corridors shape files are created by offsets of the center line of the river corridor. Those boundaries closely align with the riparian buffer that has been excluded from mining. Only the inlet/outlet structures are within those areas.

2. Adequacy Response Letter Page 5 states, "The operator intends to import backfill material under the same process as the Chavers Resource utilizing the import documents and processes as already approved…

> The applicant acknowledges the requirement to submit an inert fill application to the Division for the Marcovich permit area prior to importing fill.

3. The applicant submitted a revised Map C-3 which shows the topsoil stockpiles along the east side of the permit area. Please revise the text in Exhibit D Section 4 Topsoil and Overburden Handling to reflect this change and submit the revised Exhibit to the Division.

> The sentence, "Stockpiles must be below the elevation of the baseline conditions because the site is nearly entirely within the floodplain." has been deleted. Remaining references are to mapped locations.

4. Exhibit D Section 5 Site Access states, "the Marcovich Mining Resource will be accessed via

two easements to cross agricultural land to the active Chavers Mining Resource." This is incorrect. Please update the text to state there are three easements to be consistent with Exhibit A and the Map C-1 – Access Map. Please also label the three easements on Map C-1 as described in Exhibit A and resubmit the C-1 map and the revised Exhibit D to the Division.

The text has been updated to state three. Labels have been added to map C-1, which is attached.

5. The Division accepts the insertion of an Alternative Reclamation Plan in Exhibit E Section 2, along with the Alternative Reclamation Plan Map in Exhibit F-3. Please commit to submitting a Technical Revision to change the final size/configuration of the Developed Water Resource and adjacent rangeland areas, if the plan deviates from Exhibit E Table E-1 and Map F-1…

The applicant acknowledges the requirement to submit a Technical Revision to change the final size/configuration of the Developed Water Resource and adjacent rangeland areas, if the plan deviates from Exhibit E Table E-1 and Map F-1. Additionally, the applicant acknowledges the requirement to submit an amendment application to completely backfill the pit. Finally, the application acknowledges their responsibility to provide the Office notice of any proposed backfill activity not identified in the approved reclamation plan.

6. Exhibit G Section 1. General: The applicant states that Billy Mihelich, PE, the district engineer authorized the ditch to be removed by the mining. Please submit evidence of this authorization to the Division.

Please see the attached pdf of the email from Bill Mihelich, PE.

7. Exhibit G, Section 18. Wetlands…

While the NWI does show wetlands in the access ROW, the resolution of the data does not represent the area well. The following photo shows the ROW section which overlaps with the NWI mapped area. The existing road will be improved with road base but will not enter the lower terrace which maybe jurisdictional wetlands. A fence delineates the end of the riparian area.

8. Appendix G-2 Groundwater Monitoring Plan (GWMP): In Exhibit G Section 1.2 Monitoring Well Network,…

Please see the attached revised GWMP. The operator commits to submitting a Baseline Data Summary report as a Technical Revision to the Division, prior to commencement of mining.

9. Appendix G-3 Dewatering Evaluation Report.

The operator acknowledges that the Division will require the operator to evaluate the groundwater impacts if the groundwater levels are nearing the trigger points listed in Table 4.1.2.

10. The Division reviewed the applicant's Reclamation Cost Estimate in Exhibit L and concurs with the $1,418,253.00 estimate.

The applicant looks forward to posting the bond.

Regards,

Benjamin Miller, PhD.
Lewicki & Associates, PLLC
(720) 842- 5321
ben@lewicki.biz

From: Ben Miller <ben@lewicki.biz>
Sent: Monday, April 1, 2024 11:51 AM
To: William Mihelich <wmihelich@ccwcd.org>
Subject: Removal or reroute of concrete lined ditch.

Thank you for your time today. The attached kmz file shows the ditch location. It cuts across the middle of the planned pit. I will get you a boundary for the future pit later today. We are adjusting it based on wetland feedback.

-Ben Miller

From: William Mihelich <wmihelich@ccwcd.org>
Sent: Monday, April 1, 2024 11:51 AM
To: Ben Miller <ben@lewicki.biz>
Subject: RE: Removal or reroute of concrete lined ditch.

Ben,

I took a look at what you sent and you are okay to proceed with the removal of the concrete lined ditch that is shown in red.

Billy Mihelich, P.E.

District Engineer

Central Colorado Water Conservancy District

3209 W. 28th St., Greeley, Colorado, 80634

(O) 970-330-4540

(C) 970-888-4772

Marcovich Mining Resource

112c Colorado Division of Reclamation, Mining, and Safety Construction Material Regular Operation Application

May 2024

Revised November 2024

By:

Asphalt Specialties Co., Inc.

Represented by:

Lewicki & Associates

Table of Contents

INTRODUCTION

The proposed Marcovich Mining Resource is located just west of U.S. Highway 85 and southwest of the city limits of Fort Lupton in Weld County, CO. The property is bound by the South Platte River to the west. Asphalt Specialties Co., Inc. (Asphalt Specialties) is both the permittee and operator of the proposed aggregate mining operation. The site contains a group of agricultural fields, a residence, stock watering ponds, and agriculture related buildings. Mining access to the site will be via an easement across the agricultural parcel to the south and into the Asphalt Specialties Chavers Mining Resource (M-2015-030).

Asphalt Specialties is proposing that the site be converted to a gravel pit to feed raw materials to their processing and sales point at the Chavers Mining Resource. The permit area of this operation will be 57.28 acres. The affected area from mining will be 44.2 acres. Reclamation will convert the site to water storage ponds surrounded by rangeland. A portion of the ponds may be refilled based on market conditions for inert fill disposal.

The proposed operation at the Marcovich Mining Resource will consist of mining sand and gravel, then transporting material to the Chavers Mining Resource. Processing of the extracted materials at the Chavers Mining Resource will include crushing, screening, washing, and the use of concrete and asphalt plants.

EXHIBIT A LEGAL DESCRIPTION

The site is located southwest of the City of Fort Lupton in Weld County, Colorado. The legal boundary is shown on Map C-1 which is included in Exhibit C. A general location map is shown in Exhibit B which indicates the mine entrance coordinates.

The Marcovich Mining Resource is located southwest of Fort Lupton in Weld County, CO in part of the Northeast ¼ of the Northwest ¼ of Section 7, Township 1 North, Range 66 West, of the 6th Principal Meridian (PM). The legal description of mining portion of the permit area is as follows:

Beginning at the Northwest Corner of the Northeastern Quarter of the Southwestern Quarter of Section 7 Township 1 North, Range 66 West of the 6th Principal Meridian;

Thence, a x a distance of x feet to the point of beginning;

Thence, N48° 50' 10.07"E a distance of 247.23 feet;

Thence, N88° 51' 55.21"E a distance of 902.63 feet;

Thence, N89° 33' 30.91"E a distance of 344.14 feet;

Thence S03° 14' 49.41"W a distance of 1533.69 feet;

Thence N89° 30' 23.42"W a distance of 220.05 feet;

Thence S89° 38' 26.79"W a distance of 85.25 feet;

Thence S89° 14' 25.14"W a distance of 1259.23 feet;

Thence N00° 21' 25.96"W a distance of 1165.87 feet to the point of beginning.

The mining portion of the permit area contains 54.65 acres more or less.

Three temporary easements have been granted to the operation to cross the Sakata Farms Inc., Ogilvie, and Hunt Brothers Properties, Inc. properties. All easements are 40 feet wide. The Sakata easement is 1,160 feet long for a total of 1.07 acres. The Ogilvie easement is 1,100 feet long for a total of 1.01 acres. The Hunt Brothers Properties, Inc. easement is 600 feet long for a total of 0.55 acres. Therefore, the total permit acreage is 57.28 acres. The easement documentation is attached to this section.

EXHIBIT B INDEX MAP

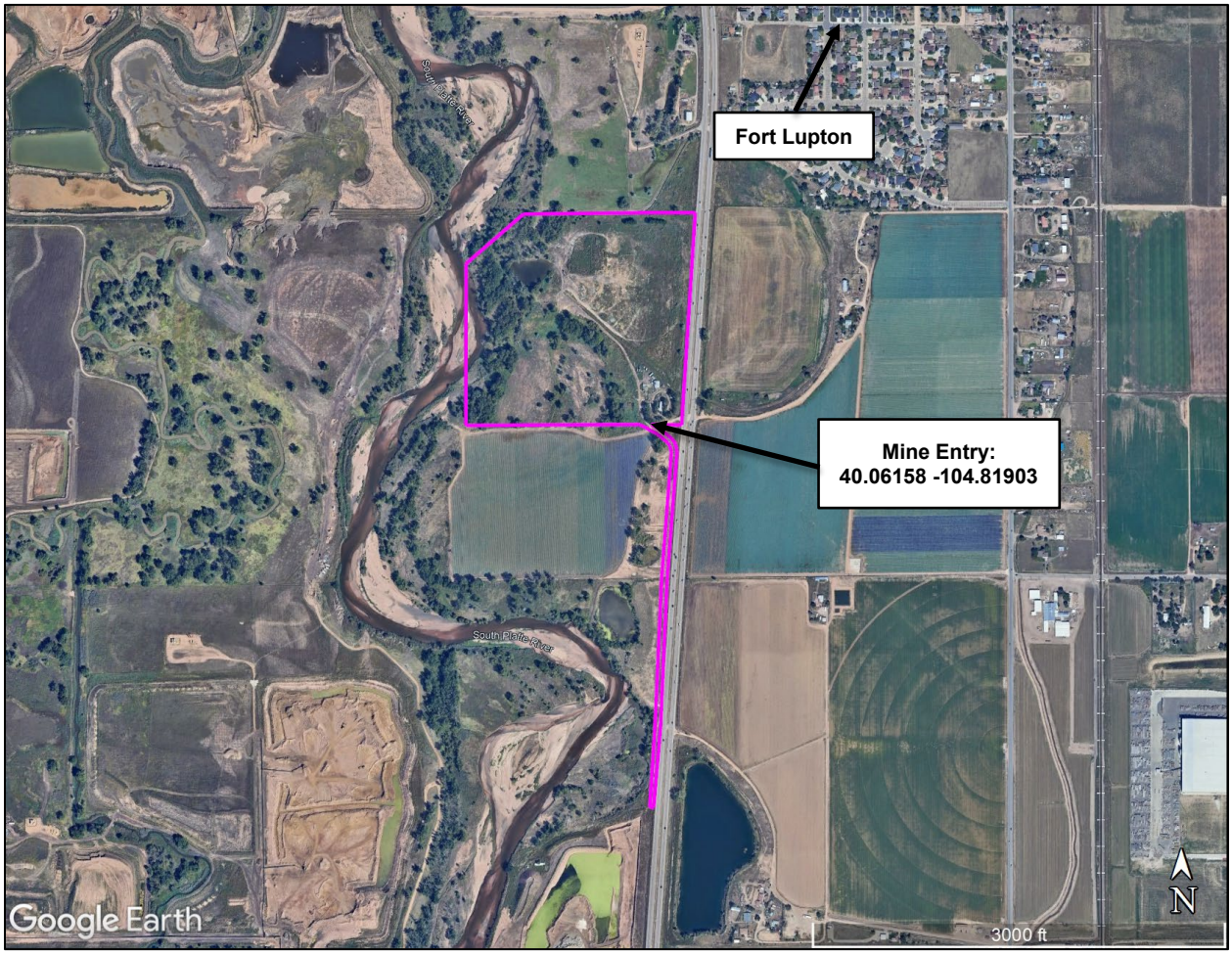

EXHIBIT C PREMINE AND MINE PLAN MAPS

Map C-1 Access Road

Map C-2 Current Conditions

Map C-3 Mining Plan

Map C-4 Cross Sections

EXHIBIT D MINING PLAN

1. General Mining Plan

The property boundary has been surveyed. Map C-3 outlines the mining plan including the affected area of 44.2-acre. Sand and gravel will be extracted for use in construction materials such as crushed rock, sand, washed rock, concrete, and asphalt. There is also the possibility of incidental fill dirt production.

Access to the mine will be through a new road constructed between the current site and Chavers Mining Resource (M-2015-030). This road has been included in the legal description. The access road has been specifically designed to accommodate mine traffic, with all necessary earthwork for road improvement completed before mining begins.

To prevent groundwater infiltration into the pit and facilitate water storage, a slurry wall will be installed around the mining area. Just outside the slurry wall boundary lies the affect area boundary. The affected area boundary avoids the active South Platte River channel and riparian buffer along the river except for inlet/outlet control structures. The affected area boundary will be signed to prevent disturbance outside that area.

Dozers and scrapers will strip topsoil and overburden from mining areas, storing them in designated stockpiles. Any stockpile remaining for over 90 days will be seeded to prevent erosion. During pre-mine stripping, all existing buildings, except the manufactured home and garages, will be demolished, and debris will be entirely removed from the site. Sand and gravel extraction will involve loaders, excavators, dozers, and trucks, with material transported to Chavers Mining Resource for processing. Backfill materials may be hauled back to this site from the Chavers Mining Resource. While haul trucks are currently anticipated, there is potential for replacement by a conveyor belt in the future.

The sand and gravel deposit, averaging 20-23 feet in thickness, will be mined progressively from north to south. Mining and reclamation will occur simultaneously to minimize overall disturbance. There is ample on-site topsoil and overburden for successful reclamation, transforming the site into water storage ponds surrounded by rangeland. The reclamation process will involve backfilling, regrading, topsoiling, and revegetation. Some or all of the water storage pond may be filled based on market demands for inert fill disposal.

Mining will extend to the bottom of the gravel deposit, maintaining final mining slopes at 1.5H:1V along the perimeter. The active highwall will have a near-vertical slope, progressing halfway down the final mining slope to enable the dozer to knock down the remaining highwall, creating the completed mining slope. Slopes will then be backfilled with sand or overburden to achieve the reclaimed 3H:1V slopes, with specific slope details available on Map C-4 cross sections.

No blasting will occur at the Marcovich Mining Resource. If refuse, acid, or toxic materials are unexpectedly encountered, these materials will be removed from the site and disposed of appropriately.

2. Mining Timetable

Mining operations at the Marcovich Mining Resource are expected to take approximately 7.3 years to complete, based on an annual average production of 700,000 tons. Actual production rates will fluctuate based on market conditions. An approximate mining timetable based on this production and the phased mining plan is shown in Table D-1.

Table D-1 Mining Timetable

Description	Time Required
Construction of access road and slurry wall.	2 months
Initial stripping of Northern Phase.	1 month
Mine and reclaim Northern Phase according to approved plans. Reclamation occurs as mining has reached its maximum extents in an area.	3 years
Initial stripping of Southern Phase.	1 month
Mine and reclaim Southern Phase according to approved plans. Reclamation occurs as mining has reached its maximum extents in an area.	3 years
Total	7.3 years

3. Mine Facilities and Operation

The site will contain the following facilities and equipment:

Facilities:

- Portable toilet
- Mine office (portable)
- Portable fuel storage

Equipment:

- Front-end loaders
- Bulldozers
- Scrapers
- Haul trucks (off highway)
- Water trucks
- Graders
- Excavators
- Conveyors

Asphalt Specialties will provide portable toilets and bottled water to employees on site during operations. Any fuel stored on site will have full secondary containment that can carry 110% of the fuel tank volume. All facilities will be removed during reclamation.

4. Topsoil and Overburden Handling

Topsoil averages 0.5-1.5 feet, averaging 1 foot, overlying 2.5 feet of overburden. Topsoil and overburden will be stripped with appropriate earthmoving equipment as deemed suitable for the operation such as front-end loaders, dozers, excavators, and water trucks. Topsoil and overburden will be stockpiled separately onsite in either designated stockpiles, berms, or directly placed to create final reclamation slopes. The very first portion of stripping will be hauled from Marcovich to Chavers. After that stripped materials will be directly placed into reclamation or stockpiled in designated areas. These materials will be directly placed in the designated stockpile areas or berms which can be seen on Map C-3. Stockpiles to be in place longer than 90 days will be seeded with the permanent seed mix to prevent erosion (see Exhibit E for seed mix). An average of one feet of topsoil and 2.5 feet of overburden were assumed to determine the overall material balance shown in Table D-2.

Table D-2 Topsoil and Overburden Material Generated During Mining

	Stripping Area (ac)	Material Generated (CY)
Topsoil	32.1	51,870
Overburden	32.1	129,680

Due to the reclaimed land use as water storage ponds, there will be an excess of topsoil than what is needed for reclamation. This is because the pond makes up the majority of the reclaimed land and does not need to be topsoiled entirely. There is not enough overburden to meet reclamation needs by itself, however, with excess topsoil and potential sand, there is more than enough material on site for reclamation. Excess topsoil and overburden will be used to achieve the final grading shown in the reclamation map in Exhibit F. Overburden, topsoil, and sand will be used to backfill mining slopes to their final reclaimed state. Topsoil will be replaced on all disturbances outside of the ponds and on the pond slopes. It will not be replaced on the pond floor. Topsoil will be replaced in an average two-foot layer to restore the existing soil conditions. Details pertaining to reclamation can be found in Exhibit E and the maps in Exhibit F.

5. Site Access

The Marcovich Mining Resource will be accessed via three easements to cross agricultural land to the active Chavers Mining Resource. A 40-foot wide easement has been granted to the operator. A two lane graveled road will be constructed. This road will remain in place after mining is completed. Easements are shown on map C-1.

6. Water Information, Rights, and Augmentation

All water right issues such as availability of water for this operation, consumption rates, dust control, etc. are presented in Exhibit G – Water Information.

7. Schedule of Operations

Mining operations will occur as dictated by demand with an average annual production of 700,000 tons. Mining, screening, and processing will be conducted on site with portable equipment throughout the year. The operator will not have night gravel mining operations, although minor truck activity and repairs may occur after hours.

8. Weld County Impacts and Environmental Impacts

All potential county impacts and concerns are addressed in the Weld County Use by Special Review.

EXHIBIT E RECLAMATION PLAN

1. General Reclamation Plan

The total affected area to be reclaimed under this permit is 44.2 acres out of the 57.28-acre permit area. Reclamation of the Marcovich Mining Resource will convert the site to a final land use of a water storage pond surrounded by rangeland. Reclamation will occur concurrently with mining. Final reclamation will be completed after mining has finished. The pre-mine land use is predominantly agriculture with one residence. Surroundings land uses include agriculture, open space, and mining. Pursuant to Rule 6.4.5.2(b), the applicant evaluated the post-mine land use in regard to adopted state and local land use plans for this area and adjacent land uses. The proposed post-mine land use of water storage ponds and rangeland is compatible with the general agricultural character of the area. Table E-1 below summarizes the anticipated final land uses within the affected area upon completion of reclamation. The distribution of rangeland and water storage pond may vary based on the market demand for inert backfill storage.

Table E-1 Reclamation Areas

Description	Area (Acres)
Rangeland	12.1
Water Storage Pond	26.7
Access Roads/Easements	2.63
Disturbed Area Total	41.4
Undisturbed Area	15.8
Total Affected Area	**57.28**

Reclamation will occur concurrently as mining progresses. No more than 1,000 feet of highwall will be unreclaimed at a time. Mining slopes will be backfilled and graded to a maximum 3H:1V slope. The slopes will then be compacted for stabilization and to prevent erosion. All portable facilities and equipment will be removed from the area. All berms will be flattened. The slurry wall will remain during and after reclamation. The pond slopes and any other surrounding disturbances will be topsoiled and seeded for revegetation. Topsoil will be replaced in a two-foot layer to restore the current soil profile. Revegetation will be completed using a native seed mix recommended by the Natural Resource Conservation Service. Revegetation efforts will be monitored following reclamation. The pit will be used for freshwater storage after it has been fully reclaimed and revegetated.

There will be more than enough material stockpiled from on-site materials to fulfill reclamation needs as the groundwater lake takes up the majority of the reclamation area. Table E-2 shows the volumes of topsoil and overburden required for reclamation and the material volumes that will be stripped and stockpiled. As shown, there is an excess of topsoil that is stripped versus what is required for reclamation. The stripped overburden does not meet the amount required for backfilling the pits. However, there will be an excess of topsoil and sand that will be more

than enough to meet these requirements. These calculations were made assuming that the site has a uniform one foot of topsoil and 2.5 feet of overburden across all areas. Sand volumes were not calculated as detailed information on their location and thickness were not obtained. No sand volume is assumed for the reclamation volume balance calculations, however, sand is very likely to be encountered. Any sand encountered will either be sold or used to augment the overburden for backfill. Topsoil will be replaced in an average two-foot layer across all non-pond disturbances, while overburden and other excess material will be used to backfill the pit slopes from 1.5H:1V to 3H:1V.

Table E-2 Reclamation Volumes

		Material Available on Site		Requirements for Reclamation	
Reclamation Area	Area (acres)	Topsoil Stripped (CY)	Overburden Stripped (CY)	Topsoil Required (CY)	Overburden Backfill Required (CY)
Mining Area & Surroundings	32.2	51,870	129,680	30,300	109,278

Excess material will be used for backfilling slopes. Sand that may be encountered will be used for backfilling or will be sold. Asphalt Specialties will keep the minimum amount of material (topsoil, overburden, and potentially sand) required for reclamation throughout the entire mine life.

Based on market demand, a portion or all of the area within the slurry wall may be backfilled. If the site is completely or partially backfilled the amount of area reclaimed as dry rangeland will increase. The operator will ensure that material is clean and uncontaminated. They will utilize the same forms as the Chavers Resource because the Chavers resource will act as the processing and sales point for the Marcovich site.

2. Alternative Reclamation Plan

The site may alternatively be reclaimed to entirely rangeland following a Technical Revision. The pit will be backfilled entirely with excess material from both on and off site. Material will be graded and compacted prior to topsoiling, ripping, and seeding for revegetation. All other components of reclamation will remain the same as the primary reclamation plan, except for the removal of the water storage use. Pit walls will be backfilled to 3H:1V after mining is completed in an area. See Map F-3 for details on the alternative reclamation plan.

The approximate volumes needed for reclamation are as follows. It is assumed that all pit walls have been backfilled to 3H:1V prior to the total backfilling of the pit. The volume to backfill the walls to their final reclaimed slopes is shown in Table E-2.

Table E-3

		Material Available on Site		Requirements for Reclamation	
Reclamation Area	Area (acres)	Topsoil Stripped (CY)	Overburden Stripped (CY)	Topsoil Required (CY)	Pit Backfill Required (CY)
Mining Area & Surroundings	32.2	51,870	129,680	51,870	1,194,650

3. Topsoil Replacement

An average of one foot of topsoil will be stripped and stockpiled prior to mining. After backfilling and grading has been completed during reclamation, topsoil will be replaced at 0.5 to 1.5 feet, at an average depth of one foot in a manner that is similar to the pre-mine soil profile. Topsoil will only be placed on the pond slopes and other surrounding disturbances. Topsoil will not be replaced on the pond floors. Replaced topsoil will be directly placed by loaders and haul trucks. All topsoiled areas will be disced to aid in root penetration.

4. Haul Roads and Access

All internal haul roads will remain following reclamation to support the future land use.

5. Reclamation Timetable and Sequence

The sequence and timing of reclamation can be seen in Table E-4 below. The reclamation schedule is dependent on the rate of mining and fluctuating market demands. The operator will reclaim the site concurrently with the progression of mining to limit the total disturbance.

Table E-4 Reclamation Timetable

Description	Time Required
Develop and mine Northern Phase	3 years
Develop and mine Southern Phase	3 years
Backfill, topsoil, and revegetate remaining disturbances	1 year
Vegetation monitoring	2 years
Total	9 years

6. Revegetation Plans

Seed will be placed in all areas to be vegetated following grading, topsoiling, and discing of the soil. All disturbances that are retopsoiled will be seeded with a Rangeland Seed Mix. The Weld County recommended mix to be used is as follows:

6.1. Rangeland Seed Mix

Species	Pounds of pure live seed per acre (drilled)
Sand Bluestem	1.0
Sand Lovegrass	2.5
Indian Ricegrass	3.0
Prairie Sandreed	0.75
Green Needlegrass	1.5
Little Bluestem	0.75
Yellow Indiangrass	0.5
Switchgrass	1.5
Sand Dropseed	0.5
Total	**12.0**

Broadcast seeding will be done at double the drill rate. Mulch will be placed at roughly 4000 pounds per acre.

7. Post Reclamation Site Drainage

The site will drain internally following reclamation. All water that enters the site will drain to the water storage pond in the center of the site. Refer to map G-1 for the post reclamation drainage of the site.

8. Revegetation Success Criteria

Revegetation will be deemed adequate when erosion is controlled, the vegetation cover matches neighboring wildlife habitat areas, and when it is considered satisfactory according to Division standards. This will be monitored for a minimum of two years following the completion of reclamation.

9. Monitoring Reclamation Success

Measures will be employed for the control of any noxious weed species. The objective of this weed management plan is to control undesirable plants on the Marcovich property. Plants identified through the Colorado Noxious Weed Act (C.R.S 35-5.5) and the Weld County Noxious Weed List as undesirable and designated for management within the county will be removed.

Any weeds identified as List A species will be eradicated. Other lower listed plants identified as noxious weeds will be managed by control measures. A Weed Control Plan will be utilized as follows:

1) Each April, a weed survey will be taken of the permit area.
2) If any patches or plants have been identified, they will be sprayed by backpack sprayer or 4-wheeler using chemicals approved for use by the weed control staff of Weld County.
3) After reclamation, weed surveys and spraying will continue until the perennial cover and production of the site have met DRMS requirements and bond release has been obtained.

The Division and Weld County staff will be consulted regarding any weed infestation areas and any control measures prior to their initiation. The plan does not contemplate total weed removal on the property. Rather, the goal is to prevent the spread of weeds into uninfected areas as is the primary goal of the Weld County Weed Management Plan.

Each year during the mining operation, the permit area will be monitored closely, through which the operator may determine if any additional weeds have grown. If any new species of weeds are found, Weld County and the Division will be consulted in order to formulate the best plan for the new infestation.

9.1. Weed List

Weeds listed in Table E-1 will be eradicated or suppressed according to Weld County requirements.

Table E-1. Weld County Weed List

Eradication	Suppression
List A (in Weld County)	
Cypress Spurge	Myrtle Spurge
Haire Willow-Herb	Purple Loosestrife
Japanese	Yellow Flag Iris
List B (in Weld County)	
Absinth Wormwood	Eurasian Watermilfoil
Black Henbane	Jointed Goatgrass
Bull Thistle	Musk Thistle
Chamomile species	Russian knapweed
Chinese Clematis	Scotch Thistle
Houndstongue	Yellow Nutsedge
Moth Mullein	Bouncingbet

Eradication	Suppression
Oxeye Daisy	Common Tansy
Plumeless thistle	Dalmation Toadflax
Spotted knapweed	Dames Rocket
Sulfur Cinquefoil	Diffuse Knapweed
Tamarisk	Hoary Cress
Wild Caraway	Leafy Spurge
Yellow Toadflax	Perrenial Pepperweed
Canada Thistle	Russian Olive
Common & Cutleaf Thistle	
List C (in Weld County)	
Common Mullein	Field Bindweed
Cheatgrass/Downy Brome	Puncturevine/Goatheads

EXHIBIT F RECLAMATION MAPS

Map F-1 Reclamation Plan

Map F-2 Flow Structures

Map F-3 Reclamation Alternative

EXHIBIT G WATER INFORMATION

1. General

The Marcovich Mining Resource is within the floodplain and floodway of the South Platte River. The pond onsite is a remanent of a gravel pit that operated from 1960's until being captured by the river in the late 1970's. Central Colorado Water Conservancy District (CCWCD) installed augmentation wells east of Highway 85 that discharged into a ditch, flowed underneath the highway and into the pond in question. In 2009, CCWCD was ordered to cease and desist from pumping those wells. The ditch has remained abandoned since those orders. Billy Mihelich, PE, the district engineer authorized the ditch be removed by the mining. The mine's intent is to utilize the pond as a discharge point for dewatering activities to prevent potential for erosion at the discharge point. Sampling will occur prior to water entering the pond.

Mining within the floodway will be conducted with no filling or stockpiling above the natural ground grade. Groundwater is located roughly five feet below the natural grade. All groundwater onsite is part of the South Platte River alluvial aquifer. Prior to mining, a slurry wall will be installed around the perimeter, as shown on Map C-3. These slurry walls will be for the development of water storage reservoirs following reclamation. Asphalt Specialties is committed to protecting the hydrological balance and water quality at the site.

2. Water Quality Protection

The primary concerns surrounding water quality protection at the Marcovich Mining Resource site are the potential impacts to the surface and groundwater from sediment, hydraulic fluids, and diesel fuel. Sediment will be controlled through the use of stormwater retention within the disturbance area through the life of the mine. The site will be graded in a manner that maintains all surficial flows within the disturbed area, in turn containing all sediment and unwanted discharges from leaving the site. Hydraulic fluids and diesel fuels will be contained within vehicles that follow best practices of maintenance; these practices include regular inspections of vehicles, hydraulic lines, and any other potential spill sources. Diesel fuel or other oils will not be stored on-site.

Any surface water discharges from the site will be sampled in accordance with the NPDES discharge permit. All discharge will be via the approved Outfall, the proposed location of which is shown on Map C-3. A dewatering sump will be utilized within the pit. The mine's intent is to utilize the pond as a discharge point for dewatering activities to prevent potential for erosion at the discharge point. Sampling will occur prior to water entering the pond.

Table G-1. Surface Water Discharge Monitoring Requirements in NPDES Discharge Permit

Parameter	Monitoring Frequency	Sample Type
Flow	Instantaneous, Monthly	In-situ
pH	2x/month	Grab
Total Suspended Solids	2x/month	Grab
Oil and Grease Visual	2x/month	Visual
Oil and Grease	Contingent on visibility of oil and grease	Grab
Total Flow	Instantaneous, Monthly	Calculated
Selenium, Potentially Dissolved	2x/month	Grab
Total Dissolved Solids	Quarterly	Grab

Note: these are the anticipated analytes based on operator experience at similar sites. CDPHE may issue different sampling requirements with the permit.

3. Floodplain

The majority of the site is within the 100-year floodplain and floodway as reported by the Federal Emergency Management Agency. These boundaries are shown in the Exhibit C and F maps. The minimum distance maintained from the South Platte River to excavation activities is 100 feet. Additionally, no stockpiling or filling above the natural grade will occur in the floodway. Overall, the downstream flood impacts should remain the same or be reduced from activity at the site as the removal of material results in more storage space for flood water below the existing grade. A no-rise certification has been provided to Weld County as part of its floodplain development permit.

In accordance with the Mile High Flood Control District technical guidelines, inflow/outflow structures will be installed along the riverbank where mining reaches its closest point to the South Platte River. Details of these designs can be seen on Map G-1.

In the event of flooding at the site, equipment from the active mining floor will be removed and the pit will be allowed to fill with water. The flooded pit will be pumped only after the flood has subsided. All fuel will be stored at least one foot above the base flood elevation and in sufficient secondary containment with 110% carrying capacity.

4. Wetlands

The National Wetlands Inventory aerial-based mapping indicates the presence of wetlands within the permit area. They are however limited to a concrete lined ditch and a settling pond at the end of the ditch. An onsite inventory of potential wetlands will be undertaken before disturbing these areas. Exhibit C and F maps show the NWI mapped wetlands.

5. Aquifers

The only identified aquifer located at the site is the shallow alluvial aquifer of the South Platte River. The depth to this aquifer varies throughout the year but is typically five feet below surface. According to the U.S. Geological Survey's Ground Water Atlas of the United States[1], the underlying bedrock aquifer is the Laramie Fox Hills Aquifer of the Denver Basin system. The entirety of the Marcovich Mining Resource mining operation will take place in the overlaying alluvium above a shale/siltstone layer; the Laramie Fox Hills Aquifer will not be mined.

6. Surface Water

The mining operation will impact surface water in the area through the stormwater runoff that enters the site. Map G-1 shows the drainage patterns and how they are affected throughout the life of the mine. The maps include information on the drainage basins currently, during mining, and post reclamation as well as the drainage directions throughout these stages. The primary concern for surface water protection at the site is preventing the discharge of sediment, oil, and/or hydraulic fluids from the operation areas. Oils and hydraulic fluids are stored on site following the standard best management practices. These practices include the use of secondary containment at fluid storage and transfer points, spill kits, and employee training regarding safe handling practices. Sediment is trapped onsite using controls and best management practices by directing and controlling surface water runoff that enters the disturbed areas. More information on sediment and surface water control is provided below.

6.1. Surface Water Handling

One drainage basin collects all stormwater runoff on and around the Marcovich site. This is shown on the Drainage Map. Currently, the area has a series of dams to provide stock watering ponds. Those ponds will be removed prior to mining.

6.1.1. Mining

During all phases of mining, surface water runoff will drain to the active pit or reclaimed reservoir. Water collected in the active mining pod will be allowed to evaporate or will be discharge via the approved CDPHE outfall once sediment has settled out.

6.1.2. Post Reclamation

The drainage patterns during mining will be retained following reclamation of the site. Any surface water runoff will collect in the reclaimed reservoir. There is enough storage capacity above the anticipated reservoir level and the top of the shore to store the 100-year storm events. More on those calculations are provided in section 6.2 below.

[1] https://pubs.usgs.gov/ha/ha730/ch_c/

6.1.3. Flood Protection

Mining will extend to within 200 feet from the South Platte River as shown on the Drainage Map. Due to this proximity to the river, measures will be taken to protect the riverbank from erosion during a flood event. An inflow and outflow structure will be constructed between the River and the mining pod once mining is within 300 feet of the river. These structures will allow for the safe exchange of flood waters between the pit and river which prevents erosion of the riverbank and pitside slope during flood events. These structures are of a design approved for use by the Mile High Flood District. Details of the inflow/outflow structure are shown on Map F-2.

6.2. Disturbed Area Runoff

During all stages of mining, there is enough water storage capacity to contain the 5-year and 100-year 24-hour storm events and prevent erosion from surface water discharge. The expected rainfall from these events at the Marcovich Site is provided in Table G-2 below.

Table G-2. Area Storm Events (from NOAA[2])

Event Probability	Event Rainfall (inches)
5-YR 24-HR	2.29
100-YR 24-HR	4.64

The peak runoff was generated from these values for the three drainage basins during all stages of mining. Pre-mine, mining, and reclamation conditions are delineated on the Drainage Map. The discharge volumes from these storm events are calculated in Appendix G-1 at the end of this exhibit. Table G-3 summarizes the runoff volumes and storage volumes for each drainage. All drainage calculations were made using the Rational Method identified in the Mile High Flood Control District.

Table G-3. Drainage Calculations

Drainage Basin 1					
Site Condition	Area (ac)	Curve Number	100-Yr 24-Hr Runoff (ac-ft)	Discharge Flow Rate (gpm)*	Detention Capacity (ac-ft)***
Base	44.0	70	6.55	0	N/A
Mine	44.0	82	10.3	1000-3000**	820
Reclamation	44.0	89	12.8	0	81.6

* The discharge flow rate is calculated from the peak discharge of the 100-Yr 24-Hr storm event.

**Discharge flow rate is variable and controlled during mining as all discharges are pumped from the pit
***Detention Capacity calculated in CAD as the surface volume above the pit floor (approx. 25 feet @ 32 acres) or water storage pond (approx. 3 feet @ 27 acres).

[2] National Oceanic and Atmospheric Administration

7. Groundwater

Groundwater is located approximately five feet below the surface at the Marcovich site. This was determined from wells installed onsite. Table G-4 outlines all wells within 600' of the permit area. These well locations are also shown on Map C-2. Groundwater quality data was gathered in advance of mining. This data and discussion of it can be seen in the Groundwater Monitoring Plan in Appendix G-2.

Table G-4. Wells Within 600' of Permit Area

Applicant/Well ID	Permit ID	Total Depth (feet)	Purpose	Distance from nearest mining area (ft)
ELIZABETH A WETHINGTON & CO	197906	30	Domestic Stock	600
WETHINGTON, ELIZABETH A	19458-F-R	34	Irrigation	<100 but spotted from quarters
EHELNS, WM H	936-WCB	48	Irrigation	<100 but spotted from quarters
ASPHALT SPECIALTIES CO., INC. (HUNT, DAN)	4000003-MH	29	Monitoring	0
LELL, J	124421	34	Domestic	0
CENTRAL COLO W CONSER DIST	20005-F	41	Other	375

*Lell, J and Asphalt Specialties wells on the property are under the applicant's control.

7.1. Groundwater – Mining

Prior to mining, a slurry wall will be installed around the perimeter of the pit to prevent groundwater flow into the mining area. Following slurry wall installation, the operator will mine out the pod by dewatering it via the approved CDPHE discharge point. Pumping to conduct this dewatering will take place during the initial mining and then pumping will cease. Stormwater runoff that is collected may be pumped out to protect local water rights, once sediment has settled. For this reason, the CDPHE discharge point will be maintained over the life of the mine. The pump will be located at least two feet below the active mining floor at the lowest point of the pit. It will be surrounded by a gravel filter. This configuration minimizes the risk of sediment being pumped out of the pit.

The typical pit pump location can be seen on Map C-2.

7.2. Groundwater – Reclamation

A permanent water storage reservoir will be left behind, as can be seen on Map F-1. There will be no groundwater consumptive use in reclamation.

7.3. Groundwater – Slurry Wall Impact

The installation of a slurry wall within the alluvial aquifer of the South Platte River may create two potential impacts to the aquifer: the creation of local groundwater shadows or mounding that damage neighboring structures or property and the potential exacerbation of regional groundwater impacts. For these reasons, the applicant will submit a groundwater model prior to

installation of the slurry wall. If the determined by modelling, a French drain system will be installed to mitigate modelled impacts.

8. Water Related Permits

The operator is applying for all necessary permits that have not already been acquired for water handling at the Marcovich Mining Resource. This includes a discharge permit with the Colorado Department of Public Health and Environment and a gravel well permit for initial dewatering of each pod with the Colorado Division of Water Resources.

9. Water Consumption and Source

Water for dust control will be the primary consumptive use at the Marcovich Mining Resource site. Water will be purchased from a local source during operations for consumptive uses. No ongoing water consumptive use exists in reclamation, since the water storage pod is lined. This water will be sourced from a freshwater pond in the processing area. This pond will be covered by a gravel well permit. Table G-7 summarizes the estimated water consumption for the operation throughout the year.

Table G-5. Water Consumption

Month	Dust Control (ac-ft)	Evaporative Depletions (ac-ft)	Water Removed from Mining (ac-ft)	Total (ac-ft)
Jan	0.11	0.00	0.00	0.1
Feb	0.12	0.00	0.00	0.1
Mar	0.19	0.00	0.00	0.2
Apr	0.32	0.00	0.00	0.3
May	0.42	0.00	0.00	0.4
Jun	0.51	0.00	0.00	0.5
Jul	0.53	0.00	0.00	0.5
Aug	0.47	0.00	0.00	0.5
Sep	0.35	0.00	0.00	0.4
Oct	0.25	0.00	0.00	0.3
Nov	0.14	0.00	0.00	0.1
Dec	0.11	0.00	0.00	0.1
Total	**3.50**	**0.00**	**0.00**	**3.5**

The Marcovich Mining Resource sources water for operations via water contract. Any groundwater exposure will be covered by a gravel well permit with the Colorado Division of Water Resources.

Appendix G-1 Hydrology Calculations

Appendix G-2 Groundwater Quality Monitoring Plan

Appendix G-3 Groundwater Model

EXHIBIT H WILDLIFE INFORMATION

1. Introduction

Given the location of the Marcovich Mining Resource just south of Fort Lupton, adjacent to the highway, and surrounded by an abundance of gravel pits and agricultural fields, it is safe to assume that wildlife habitat fragmentation has already occurred. Colorado Parks and Wildlife (CPW) habitat and range mapping has been used to develop this wildlife analysis. The CPW will be consulted as part of the mine permitting process.

2. Description of Significant Wildlife Resources on the Affected Land

The affected land is within seasonal and general range of a few non-endangered species.

There are no bald eagle nests within 5,000 feet of the site, but the site is considered part of a few bald eagle ranges: summer forage, winter forage, and winter concentration.

The affected area is within the mule deer corridor and their severe and normal winter range. The site is not near any mule deer migration corridors or highway crossings. The site is also within the white-tailed deer concentration area and winter range.

3. Seasonal Use of the Area

Bald eagles make use of the site as summer and winter forage, as well as a winter concentration area. Mule deer and white-tailed deer use the site as winter range. All other significant wildlife resources are year-round in their usage.

4. Presence and Estimated Population of Threatened or Endangered Species

No federally listed threatened and endangered species and/or habitat were identified on the or immediately surrounding the affected land.

5. Effect of Proposed Operation on Existing Wildlife

Impacts on wildlife use from the proposed project would include direct temporary elimination of potential habitat within the affected area during mining, and temporary localized displacement associated with additional noise and lighting from the proposed project. This localized loss of habitat would not disrupt regional migration or significant movement patterns and would not threaten the overall health and viability of any species. Nearby lands are also disturbed for

similar uses, and as such, the Marcovich Mining Resource will not cause a significant impact on the local area's wildlife habitat.

The affected area will be fully reclaimed at the conclusion of mining which will restore some degree of wildlife habitat over time. Concurrent reclamation and phased mining will also help to reduce the total impact on wildlife. Transformation of the bulk of the agricultural fields onsite into water storage ponds will be a permanent change in overall habitat.

6. Impacts to Fish

Mining will not take place in any water ways or natural lakes. Surface water controls will protect offsite drainages and fish habitats from sediment discharges. Asphalt Specialties will not stock the reclaimed lake with non-native species at any time.

7. Wildlife Surveys and Timing Limitations

Black-tailed prairie dog colonies exist within the site. These are potential habitats for burrowing owls, a Colorado state-threatened species. The site will cultivate the fallow field to destroy all abandoned prairie dog burrows before March 15 so that burrowing owls cannot utilize burrows for nesting. Otherwise, a burrowing owl survey per Colorado Parks and Wildlife guidelines would need to be conducted for site disturbances that occur between March 15 and October 31.

EXHIBIT I SOILS INFORMATION

1. General

A soil report was generated using the United States Department of Agriculture's NRCS Web Soil Survey (WSS)[3] and is included in this exhibit as Appendix I-1 at the end of this exhibit. The WSS provides soil data and information produced by the National Cooperative Soil Survey. The majority of the site's soil consists of aquolls and aquents with a gravelly substratum in the eastern area, and the Ellicott-Ellicott sandy skeletal complex in the western area along the river (see Map C-1). The A-horizon of the soil profile was used as the basis for determining the topsoil stripping depth during mining operations. These primary soil types that exist at the site are described as follows.

2. Suitability for Reclamation Revegetation

The two main soil types provide an average of two feet of suitable material for revegetation. The soil in the east (3-Aquolls and Aquents) is not considered prime farmland, but the soil in the west (10-Ellicott-Ellicott sandy-skeletal complex) is considered prime farmland if irrigated. As the majority of the site will be reclaimed to a pond, converting the land back to agriculture is not considered for reclamation. However, the soil should be suitable to be used for rangeland as portions of the site currently are rangeland. Revegetating disturbances as rangeland will also complement the reclaimed land use of open space.

3. Soil Type Descriptions

3—Aquolls and Aquents, gravelly substratum

Map Unit Setting

National map unit symbol: 3627
Elevation: 4,000 to 7,200 feet
Mean annual precipitation: 12 to 18 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 80 to 155 days
Farmland classification: Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season

Map Unit Composition

*Aquolls and similar soils:*55 percent
*Aquents, gravelly substratum, and similar soils:*30 percent
*Minor components:*15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Aquolls

Setting

Landform: Swales, flood plains, streams
Down-slope shape: Linear

[3] https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm.

Across-slope shape: Linear
Parent material: Recent alluvium

Typical profile

H1 - 0 to 48 inches: loam
H2 - 48 to 60 inches: gravelly sand

Properties and qualities

*Slope:*0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Low
*Capacity of the most limiting layer to transmit water (Ksat):*Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: About 6 to 48 inches
Frequency of flooding: FrequentNone
Frequency of ponding: None
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: D
Ecological site: R067BY035CO - Salt Meadow
Hydric soil rating: Yes

Description of Aquents, Gravelly Substratum

Setting

*Landform:*S tream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Recent alluvium

Typical profile

H1 - 0 to 48 inches: variable
H2 - 48 to 60 inches: very gravelly sand

Properties and qualities

*Slope:*0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
*Capacity of the most limiting layer to transmit water (Ksat):*Moderately high to very high (0.57 to 19.98 in/hr)
Depth to water table: About 6 to 24 inches
Frequency of flooding: Frequent None
Frequency of ponding: None
*Calcium carbonate, maximum content:*10 percent
Maximum salinity: Nonsaline to moderately saline (0.0 to 8.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): 6w
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: D
Ecological site: R067BY035CO - Salt Meadow
Hydric soil rating: Yes

Minor Components

Bankard

*Percent of map unit:*10 percent
Hydric soil rating: No

Ustic torrifluvents

*Percent of map unit:*5 percent
Hydric soil rating: No

10—Ellicott-Ellicott sandy-skeletal complex, 0 to 3 percent slopes, rarely flooded

Map Unit Setting

National map unit symbol: 2xsth
Elevation: 3,950 to 5,960 feet
Mean annual precipitation: 13 to 17 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 135 to 165 days
Farmland classification: Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60

Map Unit Composition

*Ellicott, rarely flooded, and similar soils:*65 percent
*Ellicott sandy-skeletal, rarely flooded, and similar soils:*25 percent
*Minor components:*10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ellicott, Rarely Flooded

Setting

Landform: Drainageways, flood plains on intermittent streams
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Noncalcareous, stratified sandy alluvium

Typical profile

A - 0 to 4 inches: sand
AC - 4 to 13 inches: sand
C1 - 13 to 30 inches: sand
C2 - 30 to 44 inches: sand
C3 - 44 to 80 inches: coarse sand

Properties and qualities

*Slope:*0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Negligible
*Capacity of the most limiting layer to transmit water (Ksat):*High to very high (13.00 to 39.96 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.1 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Ecological site: R067BY031CO - Sandy Bottomland
Hydric soil rating: No

Description of Ellicott Sandy-skeletal, Rarely Flooded

Setting

Landform: Channels on drainageways, channels on intermittent streams
Down-slope shape: Linear
Across-slope shape: Concave, linear
Parent material: Noncalcareous, stratified sandy alluvium

Typical profile

A - 0 to 4 inches: very gravelly coarse sand

AC - 4 to 13 inches: very gravelly sand
C1 - 13 to 30 inches: very gravelly sand
C2 - 30 to 44 inches: very gravelly sand
C3 - 44 to 80 inches: very gravelly coarse sand

Properties and qualities

*Slope:*0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Negligible
*Capacity of the most limiting layer to transmit water (Ksat):*High to very high (13.00 to 39.96 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.1 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.2 inches)

Interpretive groups

Land capability classification (irrigated): 4s
Land capability classification (nonirrigated): 8s
Hydrologic Soil Group: A
Ecological site: R067BY031CO - Sandy Bottomland
Hydric soil rating: No

Minor Components

Haverson

*Percent of map unit:*10 percent
Landform: Terraces
*Landform position (three-dimensional):*Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R067BY036CO - Overflow
Hydric soil rating: No

Appendix I-1 Soil Report

EXHIBIT J VEGETATION INFORMATION

1. Existing Vegetation Community

The native vegetation at the Marcovich Mining Resource is mostly limited to the eastern banks of the Platte River and low-lying areas used for stock watering ponds. The remaining portions of the site are agricultural fields. The native vegetation that is present consists of mature cottonwoods galleries with a shrubby midstory. The understory is predominantly dry grasses and shrubs.

Some small portions of the site contain dry rangeland vegetation. The remaining areas of the site are agricultural fields which do not contain native vegetation, and will be removed during mining. The reclamation plan aims to revegetate the site to similar conditions of the existing native rangeland vegetation.

Figure J-1 Typical vegetation in river corridor

Figure J-2 Typical rangeland vegetation

2. Wetlands

Wetlands identified on the site from the National Wetlands Inventory are shown on Map C-1. A preliminary investigation of wetlands onsite indicates only manmade structures are associated with wetlands. This is limited to a concrete ditch, return irrigation ditch, stock ponds, and a settling pond at the end of the concrete ditch. (see Appendix J-1). A full delineation will be conducted prior to mining in stock ponds area.

3. Estimated Carrying Capacity

The final use for the site will be a water storage pond with surrounding rangeland which will serve as open space and public recreation. Since the pond makes up the vast majority of the site area, the rangeland is not anticipated to be used for grazing.

Appendix J-1 Wetlands Report

EXHIBIT K CLIMATE INFORMATION

The Marcovich Mining Resource is located southeast of Fort Lupton, Colorado at an elevation of approximately 4890 feet. The area is classified as a cold semi-arid climate (BSk) under the Koppen Climate Classification system. This climate type is typically characterized as dry and moderate with cool, wetter winters and warm, dryer summers. Table K-1 shows a summary of the climate for this area based on records from 1980-2016.

Table K-1 Climate Data of Fort Lupton, Colorado[4]

	Average Temperature (F)		Average Precipitation (in)	
	Maximum	Minimum	Total precip.	Total snow
January	43	20	0.5	2.1
February	47	23	0.4	2.3
March	56	29	0.9	2.7
April	63	36	1.3	1.6
May	82	45	2.4	0.2
June	83	54	1.7	0.0
July	88	59	1.3	0.0
August	86	57	1.2	0.0
September	78	48	1.2	0.2
October	65	37	0.8	1.3
November	52	27	0.5	2.5
December	42	20	0.3	2.6
Yearly (avg)	**65.4**	**37.9**	**12.4**	**15.5**

[4] https://weatherspark.com/y/3746/Average-Weather-in-Fort-Lupton-Colorado-United-States-Year-Round

EXHIBIT L RECLAMATION COSTS

The worst-case reclamation scenario will occur at the beginning of mining due to the cost of the slurry wall. Inlet and outlet structures are included in this estimate, but do not need to be constructed immediately. Before mining progresses within the 300-foot offset, the structures will be installed. In addition to the slurry wall cost, the highwall will be dozed to a 1.5H:1V slope and then backfilled with material to a 3H:1V slope. Sufficient material stockpiles will remain onsite until the final backfilling is complete. For worst case bonding, it has been assumed that 1000 feet of highwall will require backfill and other reclamation work. After final grading is complete, stockpiled topsoil will be placed at a thickness of one foot. The topsoiled areas will then be seeded based on the permitted seed plan. A breakdown of the estimated worst-case reclamation cost is shown in Table L-1.

Once the slurry wall is installed, the permittee may pursue a reduced bond via a bond reduction request to CDRMS. The slurry wall unit cost is based on previous CDRMS slurry wall cost calculations for other similar sites.

Table L-1 Marcovich Mining Resource Bond Estimate.

Description	Material Quantity	Unit	Unit Cost	Cost
Construct slurry wall. 4750-ft by 50-ft deep.	237,500	Sq. ft.	$4.30	$1,021,250
Inflow / outflow structures including excavation, riprap, concrete, and vegetation.	1	each	$35,000	$35,000
Topsoiling to 1 FT. deep along the slurry wall installation path. 20-ft wide x 4750-ft long (2.2 acres) x 1-ft deep.	3,520	CY	$1.05	$3,700
1000-ft of highwall backfilled from 1.5H:1V to 3H:1V to a depth of 25-ft.	17,360	CY	$1.05	$18,230
Topsoil areas above water level and above highwall 1 ft. deep (4 acres)	9,680	CY	$1.05	$10,160
Scarify topsoiled areas prior to seeding (slurry wall installation path + highwall and surroundings)	6.2	acres	$150	$930
Seeding of topsoiled areas.	6.2	acres	$400	$2,480
Mulching of topsoiled areas.	6.2	acres	$500	$3,100
Weed control management for two years.	2	each	$1500	$3,000
Subtotal				$1,108,010
DRMS cost (28%)				$310,243
Total				**$1,418,253**

EXHIBIT M OTHER PERMITS REQUIRED

The following permits are necessary to operate at the Marcovich Mining Resource. Copies of all permits will be provided to the Division after they have been acquired.

1. Weld County Use Permit
2. Colorado Air Pollution Control Division Fugitive Dust Permit and Air Pollution Emission Notice (APEN)
3. Water Quality Control Commission Discharge Permit
4. Colorado Dept. of Transportation access permit (this may be covered by the existing Chavers Resource)
5. Weld County Floodplain Development permit
6. Colorado Division of Water Resources gravel well permit

EXHIBIT N RIGHT OF ENTRY

The surface and mineral owners of the property to be mined are Jerry and Adam Marcovich. A right of entry affidavit is attached.

EXHIBIT O OWNERS OF AFFECTED LAND AND MINERAL TO BE MINED

The owner(s) of record of affected land (surface area) and owners of substance to be mined are Jerry and Adam Marcovich.

ROW owners are Sakata Farms Inc., Ogilvie, and Hunt Brothers Properties, Inc. properties.

EXHIBIT P MUNICIPALITIES WITHIN TWO MILES

The Marcovich Mining Resource is located immediately southeast of Fort Lupton, Colorado, a city in Weld County.

Fort Lupton

130 S McKinley Avenue

Fort Lupton, CO

EXHIBIT Q PROOF OF MAILING OF NOTICES TO THE BOARD OF COUNTY COMMISSIONERS AND SOIL CONSERVATION DISTRICT

Notices were filed with the Weld County Board of Commissioners and the West Greeley Conservation District in support of this permit application.

Weld County Board of Commissioners
1150 O Street
P.O. Box 758
Greeley, CO 80631

Platte Valley Conservation District
57 W Bromley Lane
Brighton, CO 80601

EXHIBIT R PROOF OF FILING WITH COUNTY CLERK

A return receipt from the Weld County Clerk & Recorder is attached.

Weld County Clerk and Recorder
1250 H Street
Greeley, CO 80631

EXHIBIT S PERMANENT MAN-MADE STRUCTURES

The following is a list of man-made structures within 200 feet of the affected area. All of these structures are shown on Map C-1. Landowner boundaries can also be found on Map C-1. Proof of delivery of structure agreements is attached to this exhibit. In the event that a structure agreement is unobtainable, defer to the Geotechnical Stability Exhibit which indicates that all structures will be protected.

Table S-1. Permanent Structures within 200' of the Affected Area

Owner	Owner Address	Structures	General Location
Sakata Land Co.	PO BOX 508 Brighton, CO 80601	Access Road, fences, culverts, return irrigation ditch	Parcel directly south of the permit area and across Highway 85 from the permit area.
Lawrence Scott	1165 S Denver Ave Fort Lupton, CO 80621	Fence, culvert, and return irrigation ditch	Located east of the affected area across Highway 85
City of Aurora	15151 E ALAMEDA PKWY # 3200 AURORA, CO 800121555	Fence, culvert, and return irrigation ditch	North of permit area.
Xcel Energy	7493 Highway 85 Fort Lupton, CO 80621	Powerlines servicing permit area and property to the north.	East of permit area.
Colorado Department of Transportation	10601 W. 10th St. Greeley, CO 80634	US Highway 85 and related structures.	East of permit area.

RULE 1.6.2(1)(B)

Prior to the submittal of the application, a sign was erected at the entrance to the site that contains the required information dictated by Rule 1.6.2(1)(b).

Please see attached sign certification.