Jocelyn Carter/Joel Renfro - DRMS Environmental Protection Specialist

Cc: Kasey Campbell - Sedgwick County Road and Bridge Department

Below are responses to comments addressing the DRMS reclamation permit M-2024-005 for the Laster Gravel Pit operated by the Sedgwick County Road and Bridge Department. Attached to this response letter are the specific documents that were changed per the comments. These changes have been filed with the Sedgwick County Clerk and Recorder.

112 Reclamation Permit Application General Operation Information

1. The provided proof of public notification in the Julesburg Advocate newspaper stated the operation name as "Laster Pit". In the 112 Application Form, the operation name is given as "Sedgwick County Road and Bridge Laster Pit". The Division will use the name given on the application form for all communications with the operator, necessary agencies, and the public. Please submit an updated 112 Application Form with the operation name "Laster Pit".

Response: An updated page 1 of the application form with operation name changed to "Laster Pit" is included as Attachment 1 to this letter. An operation name updated performance warranty and affidavit of authority to execute performance warranty are currently being sent by Kacey Campbell. All maps were updated to have "Laster Pit" as the operation name and are included in Attachments 3-7 to this letter.

Rule 6.4.4 Exhibit D – Mining Plan

2. Rule 6.4.4(c) requires information about all water diversions and impoundments. There are three proposed sedimentation ponds shown on the map titled "Sedimentation Pond Locations". During the per-operation inspection, it was observed that the two proposed sedimentation to the west have pre-existing berms to retain water. Clearly indicate that these two berms are pre-existing in the Mining Plan and state whether they will remain or be reclaimed during the reclamation operation. The settling pond located in the northeast area of the permit does not appear to have an existing retention berm. Provide information about the proposed construction and reclamation of the retention berm(s) that may be constructed for the retention pond located in the northeast portion of the permit boundary.

Response: The water diversions and impoundments sections in the mining plan and reclamation plan sections have been updated to state that the pre-existing berms in the west ponds will used for mining surface water controls and that these berms won't be reclaimed after the mining has completed. These sections are also updated to include details on constructing a berm for the northeast pond. It is stated that this berm will be removed and reclaimed following mining completion. The updated mining and reclamation plans (Exhibits D,E) are included as Attachment 2 to this letter. The reclamation plan map now includes the ponds and is included as Attachment 3 to this letter.

Rule 6.4.6 Exhibit F – Reclamation Plan Map

3. The current map submitted showing the expected physical appearance of the affected land does not include all the affected areas depicted in other maps, specifically the road and the settling ponds. Please submit an updated reclamation plan map that includes all the affected lands, in accordance with Rule 6.4.6(a), and that portrays the proposed final land use of the affected lands, in accordance with Rule 6.4.6(b).

Response: The permit area is updated in all maps to include the road from the landfill into the gravel pit operation. The reclamation plan map is updated to portray the final land use of the affected lands and include the settling ponds.

Rule 6.4.14 Exhibit N – Source of Legal Right to Enter

4. The Gravel Purchase and Access Agreement document provided is not notarized by ACL Land & Cattle, LLC., the landowner. During the pre-operational inspection, the Operator mentioned that the county was recently offered an opportunity to purchase the land. Please submit Exhibit N – Source of Legal Right to Enter with either the Gravel Purchase and Access Agreement notarized by ACL Land & Cattle, LLC., or if the Operator has purchased the land, submit a copy of the ownership document in accordance with Rule 6.4.14

Response: As discussed, we sent a properly notarized land access agreement a few months ago but the DRMS either did not receive it or can not locate it. A new properly notarized land access agreement is currently being sent in certified mail with the performance warranty and affidavit of authority to execute the performance warranty.

Attachments

Attachment 1 – Updated Page 1 of 112c Form

Attachment 2 – Updated Reclamation and Mining Plans (Exhibits D,E)

Attachment 3 – Updated Reclamation Grade Map

Attachment 4 – Updated Mining Grade Map

Attachment 5 – Updated Mining Phases/Mining Plan Map

Attachment 6 – Updated Sedimentation Pond Location Map

Attachment 7 – Updated Adjoining Surface Owners Map

ATTACHMENT 1 UPDATED PAGE 1 OF 112C FORM

STATE OF COLORADO

DIVISION OF RECLAMATION, MINING AND SAFETY

Department of Natural Resources

1313 Sherman St., Room 215 Denver, Colorado 80203 Phone: (303) 866-3567 FAX: (303) 832-8106

CHECK ONE:



CONSTRUCTION MATERIALS REGULAR (112) OPERATION RECLAMATION PERMIT APPLICATION FORM

There is a File Number Already Assigned to this Operation

| | | Permit # <u>M</u> | (Please refe | erence the f | ile number currently | assigned | to this operat | ion) |
|------------------------------------|--|--|--|---|---|---|---|---|
| | | New Application (Rule 1 | | | Amendment App | olication (| Rule 1.10) | |
| | | Conversion Application | (Rule 1.11) |) | | | | |
| | Pe | rmit # <u>M</u> | (provide fo | r Amendm | ents and Conversion | ns of exis | ting permits) | |
| forn subi app the | n; (2) I nit you lication applica | eation for a Construction Materials Re Exhibits A-S, Addendum 1, any section of a replication, be sure to include on a form, two (2) copies of Exhibits A-S lation fee described under Section (4) 1" or 8 1/2" X 14" size. To expedite | ons of Exhib te (1) <u>comp</u> , Addendun below. Exi | oit 6.5 (Geo olete signed on 1, appropr hibits shoul | technical Stability E and notarized ORI iate sections of 6.5 (or d NOT be bound or | xhibit; an IGINAL Geotechnic in a 3-rii | d (3) the appli and one (1) c ical Stability F ng binder; ma | cation fee. When you opy of the completed exhibit, and a check for ps should be folded to |
| | | | | | N INFORMATION | | | |
| | | Type or print clearly | , in the spa | ce provide | d, <u>ALL</u> informatio | n request | ed below. | |
| 1. | App 1.1 | Type of organization (corporation, | | _ | | | | |
| 2. | <u>Ope</u> | ration name (pit, mine or site name | <u>e)</u> : | | | | | |
| 3. | Peri | nitted acreage (new or existing site | <u>)</u> : | | | | | permitted acres |
| | 3.1 | Change in acreage (+) | | | | | | acres |
| | 3.2 | Total acreage in Permit area | | | | | | acres |
| 4. 5. | Fees 4.1 4.2 4.4 4.5 | New Application New Quarry Application Amendment Fee Conversion to 112 operation (set by | | | | | \$2,696.00 \$3,342.00 \$2,229.00 \$2,696.00 | amendment fee |
| 3. | | | .J. 1 | | | | | 11- a /T / |
| | 5.1 | Incidental commoditie(s) to be mine 3/ lbs/Tons/yr | | | | | / | |
| | 5.2 | Anticipated end use of primary com | nmoditie(s) | to be mined | l: | | | |
| | 53 | Anticipated end use of incidental co | mmoditie(s | to be min | ed· | | | |

ATTACHMENT 2 UPDATED RECLAMATION AND MINING PLANS (EXHIBITS D,E)

4.0 EXHIBIT D - Mining Plan

4.1 Process Description

Mining shall be done in three, approximately 7 year-long phases, over 20 years. Each phase of mining will be accomplished by first removing 6-12 inches of topsoil over time that will be stockpiled for reclamation use after excavation has been completed. Gravel will then be removed with the use of a front-end loader. The expected amount of material to be mined is 5,000 tons per year for 20 years. Mining will generally start at the West end of the affected area and progress eastward. As shown in Figure 5, mining will start on the tops of three dunes in the affected area and progress downward and outward. Mining shall be done such that there are no slopes greater than a 3:1 gradient in the mining area. Gravel will be removed to the contours shown in Figure 5. Extracted gravel will not be processed on site. Material that is removed but contains insufficient gravel for use (overburden) will be stockpiled to be used as backfill after mining activities have ceased. Any additional mining after the first 20 years will be carried out in the similar manner as described in this mining plan.

After extraction, any backfilling and final grading will be done to control erosion from stormwater runoff and ensure that there are no slopes greater than 3:1 in the mined area. Backfill will be compacted so that the ground remains stable.

After any backfilling and grading a 6-12 inch thick topsoil cover will be placed and seeded in accordance with the reclamation plan.

4.2 Water Diversions and Impoundments

Three siltation ponds will be ready prior to any mining activities. They will be located down the slope of the mined area in existing depressions in the ground. Their proposed locations are shown in Figure 6. The 2 ponds to the west have pre-existing berms to retain water and these areas will not be constructed further. These pre-existing berms will remain after excavation has ceased and not be reclaimed. The pond to the northeast will need to be constructed. A berm will be constructed to the approximate boundaries shown such that there is 3 feet of depth from the outlet of the pond and that there are no slopes steeper than 3:1. This constructed berm will be removed and reclaimed



after excavation has ceased. These ponds should be sufficient to settle any collected sediment during extreme rainfall events.

4.3 Projected Extraction Rate

5,000 tons of gravel are expected to be removed each year for 20 years. Mining shall be separated into 3 phases, approximately 7 years for each phase. In each phase about 33,000 tons of material will be extracted.

4.4 Mining Phases

Each phase of mining will last approximately 7 years. There are 3 phases. See Figure 3 for a map of the proposed mining phases.

Phase 1 2024-2030

Phase 2 2031-2037

Phase 3 2038-2044

Phase 1:

Description: Removal of the top of the northwest dune that progresses downward and outward to the contour outlined in red in Figure 5.

Area: 1.87 acres

Location:

Top of Dune: Lat: 40.949377° Long: -102.240557°

Volume Extracted: 31,657 cubic yards

Depth of Extraction from top of dune: 24 feet

Phase 2:

Description: Removal of the top of dune directly east of first dune that progresses downward and outward to contour outlined in red in Figure 5.

Area: 1.95 acres

Location:

Top of Dune: Lat: 40.949179° Long: -102.239440°

Volume Extracted: 32,550 cubic yards

Depth of Extraction from top of dune: 20 feet

Phase 3:

Description: Removal of the top of dune south of first 2 dunes dune that progresses downward and outward to contour outlined in red in Figure 5.

Area: 1.78 acres

Location:

Top of Dune: Lat: 40.948458° Long: -102.238900°

Volume Extracted: 35,636 cubic yards

Depth of Extraction from top of dune: 26 feet

4.5 Stockpile Handling

Figure 3 shows the proposed locations of stockpiles.

Topsoil

Each mining phase will consist of the following, 6-12 inches of topsoil removed and stockpiled for reclamation use. Woody vegetation will be removed from topsoil prior to stockpiling. Stockpiles of topsoil will be located away from mining areas so that they are not disturbed prior to reclamation activities as shown on Figure 3. Stockpiles of topsoil shall not be more than 2 feet in height to allow enough air exposure to maintain soil quality. Stockpiles of topsoil shall not be compacted. Individual stockpiles of topsoil will be stabilized against erosion. Erosion stabilization of topsoil stockpiles shall be done using temporary seeding, the seed and seeding rate to be used depending on time of year is shown in Table 1 below.

Overburden

The 1993 Geotechnical report from empire laboratories indicates that there is a clay stratum that is approximately 3 feet thick. This clay will be stockpiled as overburden material and backfilled after mining operations have ceased. The amount of overburden material to be removed is estimated to be 15%. Overburden stockpiles will be located away from mining areas as indicated in Figure 3. Stockpiles of overburden shall be approximately 10 feet in height and the approximate lateral dimensions are shown in Figure 3. Erosion stabilization of overburden stockpiles shall be done using temporary seeding, the seed and seeding rate to be used depending on time of year is shown in Table 1 below.

Table 1 - Overburden and Topsoil Stockpile Stabilization

| Common Name | Botanical Name | Application Time | Seeding Rates (LBS PLS / Acre) | Planting Depth (inches) |
|-------------|-----------------------|-------------------|---|-------------------------------|
| Oats | Avena sativa | October 1 - May 1 | 35 | 1-2 |
| | | · | | |

Product (Gravel)

Gravel intended for use will be stockpiled in the current phase mining phase area.

4.6 Nature of Extracted Material

A geotechnical engineering report was done by Empire Laboratories, dated June 1993, for the landfill less than a quarter mile north of the proposed gravel pit. Since the land of the gravel pit is close and is in the same geological zone it is assumed that there will be similar conditions at the proposed gravel pit. The geotechnical engineering report is attached in Appendix A.

The upper granular stratum containing various amounts of silt and gravel will be encountered at the surface and extend $2\frac{1}{2}$ to $6\frac{1}{2}$ feet below the surface.

The clay stratum was encountered below the granular stratum containing varying amounts of sand and clay extends 7 -10 feet below the surface.

The lower granular stratum was encountered below the clay layer and extends to depths of 18 ½ feet to 21 ½ feet below the surface. It contains varying amounts of clay and gravel.

4.7 Nature of Stratum Immediately Beneath Extracted Material

The material beneath the mined deposit is sandstone bedrock of the Ogallala formation. In the geotechnical report this material had an observed permeability to water of 0.11×10^{-7} which is relatively impermeable.

4.8 Commodities to be Mined

Gravel for county roads will be extracted. There are no expected incidental products that will be extracted.

4.8 Refuse and Acid Forming or Toxic Producing Materials

There is no refuse and acid-forming or toxic producing materials expected to be extracted.

4.9 Use of Explosives

There is no expectation that explosives will be used in conjunction with mining or reclamation operations.

4.10 Access Roads

Current roads at the landfill will be used to access the mining site. A dirt road will be constructed for mining and hauling equipment. The beginning of the road will exit the landfill at the designated mining entrance. It will generally head east from there into mining areas. It will be lengthened over time as mining operations progress east. The constructed road will be about 20 feet in width. Figure 3 shows the proposed route of the access road.

5.0 EXHIBIT E - Reclamation Plan

5.1 Post Reclamation Land Use

Reclamation will be done so the land may be used as rangeland. This was chosen since the area is currently used as rangeland. The total area to be reclaimed will be approximately 5.6 acres, about 1.9 acres per phase.

On the Sedgwick County Assessor map, current land use in the permit area is marked for agriculture. All adjoining parcels are also marked for agricultural use. The primary use of this land for agriculture is grazing. This land is also used for hunting mule deer and upland birds.

The total area to be reclaimed will be approximately 5.6 acres, about 1.9 acres per phase.

5.2 General Requirements

At the entrance of the mine site the Operator shall post a sign, which shall be clearly visible from the access road, with a minimum size equaling one hundred and eighty-seven (187) square inches, such as eleven (11) inches in height and seventeen (17) inches in width, with appropriate font size, with the following:

- (a) the name of the Operator and the operation name;
- (b) a statement that a reclamation permit for the operation has been issued by the Colorado Mined Land Reclamation Board; and
- (b) the permit number

The boundaries of the affected area will be marked by monuments or other markers that are clearly visible and adequate to delineate such boundaries.

Reclamation work will begin as soon as feasible after a mining area has been fully excavated and graded according to the mining plan. All reclamation work will be completed, including revegetation within 5 years of mining operations ceasing in each area.

Final site stabilization must include establishment of a uniform vegetative cover with an individual plant density equal to 70 percent of pre-disturbance levels as required by regulation. This criterion

will be validated based on pre-construction site photographs and those of post-closure photographic records and written visual inspections carried out by the owner or its designated representative. At the completion of the vegetative cover establishment and at such time that the 70% vegetation criterion can validated (per Section F), a final set of photographic records will be collected for future reference and record purposes. Once these conditions have been met, a letter of project completion will be provide to CDPHE as a final record of permit compliance.

Final Grading will be done so that no slopes are greater than 3:1, stormwater runoff is reasonably controlled, and that the land is traversable by livestock. This will ensure that the land is appropriate for rangeland uses.

Any drill or auger holes will be filled with available gravel or soil materials from mining.

5.2 Water Diversions and Impoundments

After all mining has ceased, the pre-existing berms on the 2 west siltation ponds will not be removed or reclaimed. This is chosen to not interfere with the current use of these ponds. The berm to be constructed in the northeast siltation pond will be removed and reclaimed. Soil from the berm removal may be backfilled into the mining area. Any area in and around the siltation ponds that are disturbed by future mining activities will be reclaimed with 6-12 inches of topsoil and revegetated according to this plan. Backfilling shall be done such that there are no slopes greater than 3:1.

5.3 Soil Management

Any overburden stockpiles will be backfilled into mining pits. Backfill will be compacted for stability. Existing stockpiles of topsoil from mining will be used to cover mined areas at final grade. Topsoil will be placed in a thickness of 6-12 inches. Compaction of topsoil cover shall be avoided as much as feasible.

5.4 Reclamation Phases

There will be 4 phases of reclamation that coincide with the completion of each mining phase.

Phase 1 2031-2035

Phase 2 2038-2042

Phase 3 2045-2049

Phase 1:

Area: 1.87 acres

Location:

Top of Dune: Lat: 40.949377° Long: -102.240557°

Phase 2:

Area: 1.95 acres

Location:

Top of Dune: Lat: 40.949179° Long: -102.239440°

Phase 3:

Area: 1.78 acres

Location:

Top of Dune: Lat: 40.948458° Long: -102.238900°

During each phase:

The access road in mining areas will not be reclaimed until the last phase of mining is completed.

Future stockpile locations will not be reclaimed until the last phase of mining is completed. See Figure 3 for these locations.

Backfilling shall be done as soon as feasible over areas where mining operations have ceased. Backfilling shall be done in flat lifts with the edges of the mining area graded to a 3:1 slope.

Topsoil shall be placed as soon as feasible over areas where final mining grades have been reached.

After backfilling stockpiles, the locations of stockpiles that are outside of future mining areas shall be reclaimed according to this plan. Figure 6 shows a proposed final grade for reclamation where 3.25 feet of backfill and 0.75 feet of topsoil have been filled into mining pits, however the amount of overburden that will be stockpiled and backfilled is unknown so Figure 6 is only a representation of an acceptable final grade.

Seeding of topsoil will be done as soon as feasible after topsoil has been placed, ideally not more than 2 days after placement to prevent loss of topsoil quality and invasion of undesirable plant species.

The reclaimed area will be monitored for three years with general observation from operators that good revegetation is taking place. Areas where no vegetation has grown or where there is invasion from noxious weeds shall be recorded. This will ensure that proper vegetation occurs within five years of ceased mining operations. Observations will be recorded 4 times a year for 3 years after seeding.

If acceptable revegetation to control erosion is not taking place the ground in the area of poor vegetation will be revegetated according to this plan and the area will be monitored for three additional years. Additionally, if noxious weed invasion threatens the continued development of the desired vegetation it will be removed and the area that had noxious weeds will be revegetated according to this plan and the area will be monitored for one additional year.

5.5 Seeding

The NRCS has provided recommendations for reclamation. This includes seed bed preparation, method of seeding, and seed mix to be planted. They are described below. These recommendations are shown in Appendix B and Table 2 below.

5.5.1 Seedbed Preparation

A no till seedbed preparation is recommended, topsoil will be placed in one 6-12 inch lift and compaction of topsoil shall be avoided as much as feasible.

5.5.2 Seeding Method

Seeding will be done with a no-till seed drill applicator.

The NRCS did not provide specifications on drill seeding. To ensure good revegetation, the same drill seeding method will be used that is in an approved permit for the Colorado Land Board pit in Washington County. Permit No. M2010009.

Ideally, seed drilling will be done with 7-12 inch spacing. Ideally, the seed drill should have the capability to plant fluffy seeds, be equipped with a seed box agitator, a small seed box for heavier seeds, double disc furrow openers with depth bands and packer wheels. Seeding should be done at depth from ½ " to ¾".

Table 2-Seed Mix

| Common name | Genus, species Required | Recommended Cultivar Required | % of Seed Mix required | PLS Seed Rate (lbs/ac) | Targeted PLS Seeds /Sq-Ft |
|---------------------------|-----------------------------------|---|---------------------------------|---------------------------------|---------------------------------|
| Bluestem, Little PA | Schizachyriu m scoparium | aldous, camper, cimmaron, blaze | 20.0% | 0.67 | 4.00 |
| Grama, Sideoats PA | Bouteloua curtipendula | el reno, vaughn, butte | 15.0% | 0.68 | 3.00 |
| Grama, Blue PA | Bouteloua gracilis | alma, bad river, hachita, lovington | 25.0% | 0.31 | 5.00 |
| Wheatgrass, Western PA | Pascopyrum smithii | arriba, barton | 10.0% | 0.26 | 2.00 |
| Switchgrass PA | Panicum virgatum | alamo, NE 28, blackwell | 10.0% | 0.22 | 2.00 |
| Bluestem, Sand PA | Andropogon hallii | woodward, elida, garden | 10.0% | 0.79 | 2.00 |
| Buffalograss (bur) PA | Buchloe dactyloides | mesa, sharps, texoka, codie, bowie | 10.0% | 1.56 | 2.00 |

5.5.3 Fertilization

The NRCS recommendations state that the use of a hydromulch applicator for fertilization would be ideal, but is not required. If hydromulch is used it will be done in accordance with the following. These requirements come from CDOT standard practices.

Type I Hydromulch Specifications

Spray-on Mulch Blanket (Type 1) shall be a hydraulically applied matrix containing organic fibers, water soluble crosslinked tackifier, and reinforcing biodegradable fibers. The reinforcing fibers shall completely break down (be compostable) and shall not release metals or toxins. Mulch Blanket (Type 1) shall conform to the following:

Table 3- Type I Hydromulch Specifications

| Properties | Requirement | Test Method |
|----------------------|---------------------|-------------|
| Organic Fibers | 71% Min. | ASTM D2974 |
| Cross linked | $10\% \pm 2\%$ Min. | |
| Tackifiers | | |
| Reinforcing Fibers | 2.5% Min. | |
| Biodegradability | 100% | ASTM D5338 |
| Ground Cover at | 90% Min. | ASTM D6567 |
| Application Rate | | |
| Functional Longevity | 12 Months Min. | |
| Cure Time | < 8 hours | |
| Application Rate | 3,000 lb/acre | |

The organic fiber shall not contain lead paint, printing ink, varnish, petroleum products, seed germination inhibitors, or chlorine bleach. The organic fibers and reinforcing interlocking fibers cannot be produced from sawdust, cardboard, paper, or paper by-products.

Type II Hydromulch Specifications

Spray-on Mulch Blanket (Type 2) shall be a hydraulically applied matrix pre-packaged containing both a soil and fiber stabilizing compound and thermally processed wood fiber. The sterilized weed-free wood fiber mulch shall be manufactured through a thermo-mechanical defibrating process containing a specific range of fiber lengths averaging 0.25 inches or longer. Mulch Blanket (Type 2) shall meet the following requirements:

Table 4A- Type II Hydromulch Specifications

| Property | Requirement | Test Method | | |
|----------------------|-----------------------|----------------------|--|--|
| Fiber Retention On | ≥ 40% | Tyler Ro-Tap Method | | |
| 28-Mesh Screen | | | | |
| Moisture Content | $12\% \pm 2\%$ | Total Air Dry Weight | | |
| | | Basis | | |
| Organic Matter | $99.2\% \pm 0.2\%$ | Oven Dry Weight | | |
| | | Basis | | |
| Ash Content | $0.8\% \pm 0.2\%$ | Oven Dry Weight | | |
| | | Basis | | |
| pH At 3% | $4.5 - 7.0 \pm 0.5\%$ | | | |
| Consistency In Water | | | | |
| Sterilized Weed-Free | Yes | | | |
| Non-Toxic To Plant | Yes | | | |
| Or Animal Life | | | | |
| Application rate | 3,000 lb./acre | | | |

The soil and fiber stabilizing compound shall be composed of linear anionic copolymers of acrylamide pre-packed within the bag having a minimum content of 1.0 percent. The compound shall conform to the following:

Table 4B- Type II Hydromulch Specifications

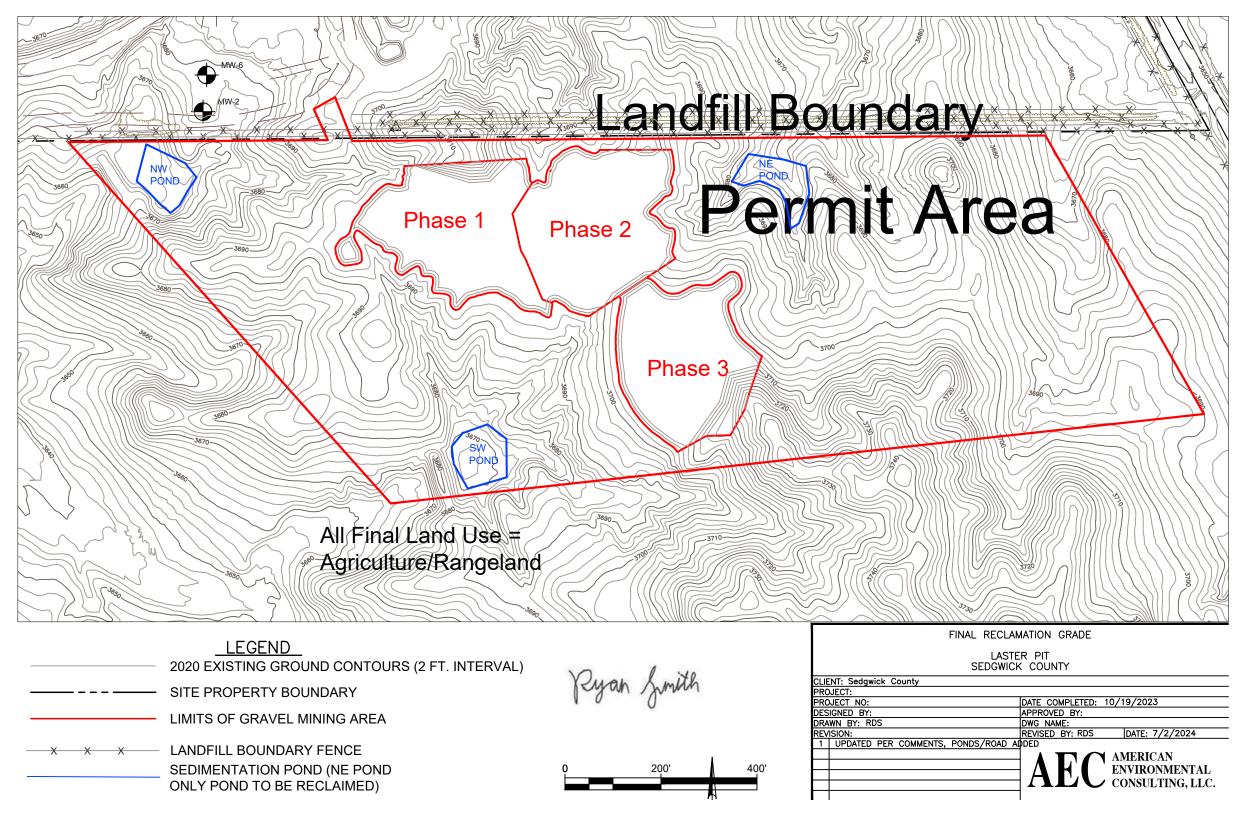
| Property | Requirement |
|-----------------------------------|---------------|
| Molecular Weight | $\geq 12x106$ |
| Charge Density | > 25% |
| Non-Toxic To Plant Or Animal Life | Yes |

The NRCS does not recommend any trees or shrubs to be used for reclamation of the mining area.

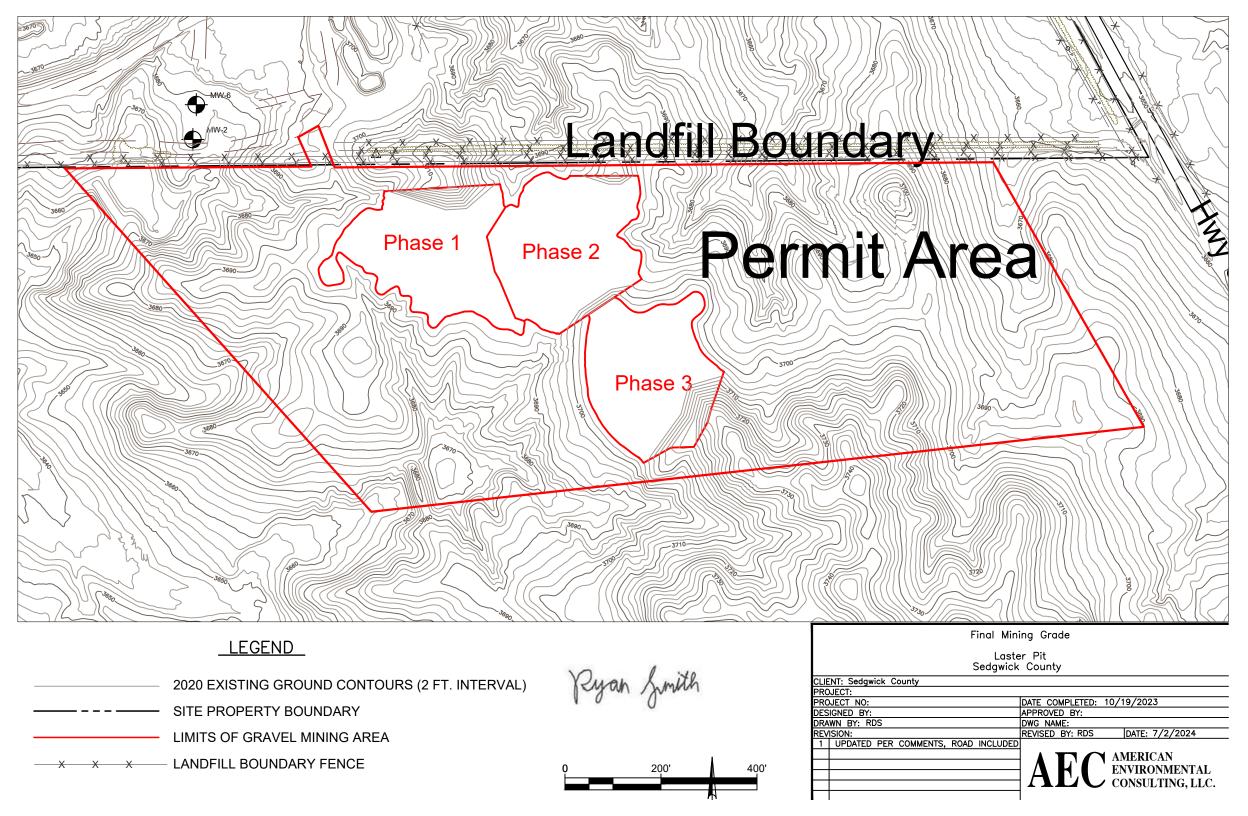
6.0 EXHIBIT F - Reclamation Plan Map

See Figure 6 for a representation of an acceptable final Reclamation Grade

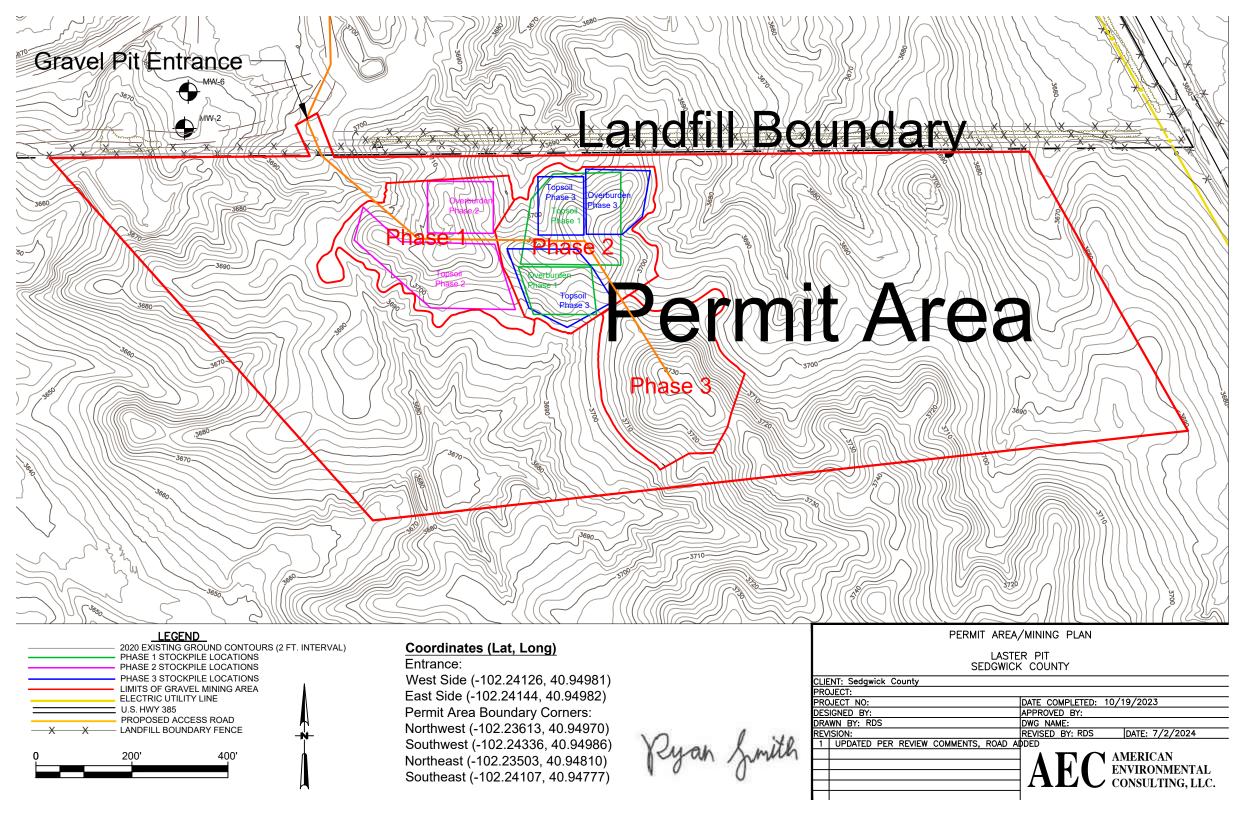
ATTACHMENT 3 UPDATED RECLAMATION GRADE MAP



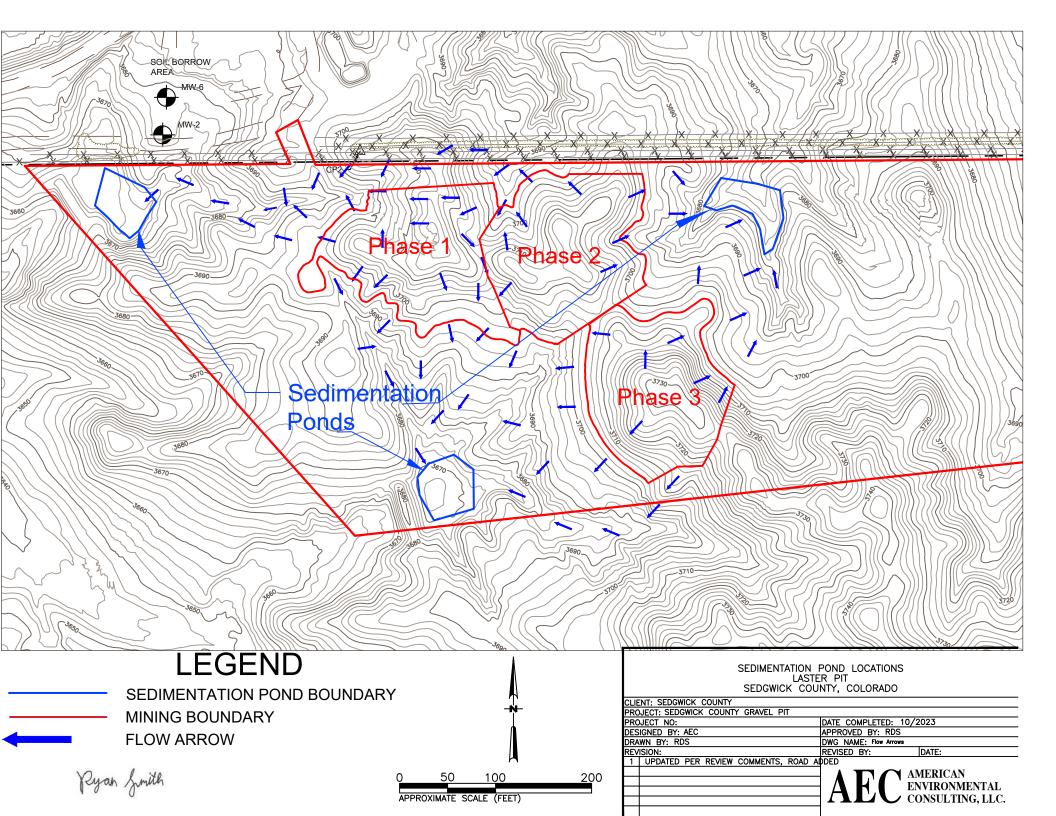
ATTACHMENT 4 UPDATED MINING GRADE MAP



ATTACHMENT 5 UPDATED MINING PHASES/MINING PLAN MAP



ATTACHMENT 6 UPDATED SEDIMENTATION POND LOCATION MAP



ATTACHMENT 7 UPDATED ADJOINING SURFACE OWNERS MAP

