

# EXHIBIT E – RECLAMATION PLAN

Meeker Sand & Gravel: M-1976-038

The entire disturbed area of the current pit and proposed new section will be returned to its post-mining use as dry rangeland, with the exception of an 11.51 acre area in the front portion of the current pit that will remain for industrial use following completion of mining. Buildings included, but not limited to: batch plant and ancillary buildings, shop & maintenance buildings, office and truck scales will remain following completion of mining in the area designated as industrial. No additional work will be required in the industrial area for final reclamation (16). The mine area is surrounded on all sides by agricultural use varying from dry rangeland, to irrigated pasture and hay ground.

Following final reclamation, no slopes will be greater than 3.0H:1.0V.

## Current Pit Reclamation:

Reclamation will follow as we continue to mine available reserves from the pit floor, meaning the main pit area will not be reclaimable until the remaining sections of pit floor have been extracted. The remaining area to mine on the pit floor and thereafter reclaim is approximately 18 acres. As soon as a 2-3 acre section is extracted, area will be regraded using the overburden and topsoil piles that have been stockpiled to the immediate north of the mined area. All areas will be reclaimed by dozer regrading within a short distance of the work areas. Approximately 12-24" of overburden will be replaced followed by 6-12" of topsoil (T). Prior to any replacement of topsoil, the subsoil/overburden will be ripped to a depth of 12 inches if the material has compaction levels that could inhibit root growth. If any compaction of topsoil occurs during the placement process, it will also be ripped or harrowed to its replacement depth to help facilitate successful seeding and eventual revegetating. We expect the final grade in this area of the pit to be mostly flat in topography, with some slight undulations. No piles or berms will remain (A). Main mine road will be left to access the wash plant area and new, proposed mining area. Map F-1 shows information pertinent to the reclamation of the areas.

We will also be mining up to the mine boundaries, as well. This area makes up approximately 1.5 acres. Immediately after extracting the gravel near the boundary, we will reslope using a dozer and mixed overburden/topsoil stockpiles that exist in close proximity to these areas. Final slopes will be no steeper than 3.0H:1.0V (B). As the mining of the pit floor moves close to completion and meets up with these edges that have been resloped with overburden, final reclamation will occur. Prior to any replacement of topsoil, the subsoil/overburden will be ripped to a depth of 12 inches if the material exhibits compaction levels that could inhibit root growth. If any compaction of topsoil occurs during the placement process, it will also be ripped or harrowed to its replacement depth. It is estimated that seeding and planting will take place within 1 year of topsoil being replaced and will be during the window of Sept 15 to April 15 or as soil and weather conditions allow (19).

Once final topsoil placement has occurred, the site will be seeded according to mix which takes into consideration the recommendation of the local NRCS, CPW and DRMS. Please see full report and recommendation letter under Exhibit I. Weed control plan is currently in place and

## EXHIBIT E (Cont.)

Meeker Sand & Gravel: M-1976-038

Reclamation Plan

will address the minimization of weeds in these reclaimed areas, working closely with the Rio Blanco County Weed Control District, with annual inspections to be made.

<b>TIMELINE: CURRENT MINING OPERATION</b>	<b>ESTIMATED TIME TO COMPLETE</b>
Continued mining of pit floor at estimated rate of movement of 2-3 acres/year.	5-6 years
Re-grading of floor area following mining	Happening concurrently, as mining moves north-westerly across remainder of pit
Replacement of topsoil and reseeding	Happening concurrently, but estimated to happen within 6 mos – 1 year of final grading being completed. (19)
Mining of edges of pit to extract remaining resources	1-2 years
Re-sloping walls as soon as feasibly possible following mining	As soon as possible following mining
Replacement of topsoil and reseeding	Within 1 year of final grading being completed as weather and soil conditions allow (19)

Proposed, New Section Reclamation:

Since reclamation will follow mining as it moves westerly, we anticipate that the maximum disturbed acreage to reclaim at any time will be 50 acres. Initially, overburden will be stripped and stored in a topographically low area located approximately between Phase 1 and Phase 2 areas. The overburden will be used to create a catch basin in this naturally low-occurring area approximately 50' south of property line (K). This impoundment area will serve as a catch basin for all stormwater run-off and will also be used as a recycle pond. A graduated series of additional catch basins can be created in this area in the future, to the south of the primary basin, if necessary. These containment/material berms will be removed when it becomes necessary to re-use the material in reclamation. (I)

As mining moves westerly, reclamation will begin on east permit boundary following at approximately the same rate as mining is moving westerly with the intent that the stripping of the overburden can then be placed directly on the floor where it will be graded immediately. Access road will remain during this time, with areas surrounding it to be reclaimed. Overburden will be used to cover pit floor areas and bring north slopes to 3.0H:1.0V. Final grading will follow the natural undulation of the pit floor that is created while mining, but is expected to be fairly flat. No piles or berms will remain (E). Mining will daylight out as possible on the north, south and west sides (D). If not able to daylight out at any point, any walls will be sloped to a final grade of 3:1. Approximately 12-24" of overburden will be replaced prior to replacing topsoil (17). Topsoil stored in stockpiles to the north (J) will be used to top the sub-soil/overburden at a depth of approximately 6" – 12". Seeding and planting will take place within 6 months to 1 year of final grading being completed (19). As Phase 2 is completed, the

## **EXHIBIT E (Cont.)**

### **Meeker Sand & Gravel: M-1976-038**

#### **Reclamation Plan**

entire Phase 1 area will be reclaimed. Prior to any replacement of topsoil, the subsoil/overburden will be ripped to a depth of 12 inches if the material has compaction levels that could inhibit root growth.

Some additional, inert fill will be generated by mixer truck wash-out areas during the lifetime of the mine, which will be used as backfill prior to replacement of overburden and topsoil. All concrete will be buried a minimum of three feet below final grade per DRMS policy. Signed affidavit is included as Exhibit E-2 certifying that the material is clean and inert (18).

The final reclamation task, following completion of mining in Phase 2, will be to reshape the shorelines of the existing recycle ponds, catch basins and reclaim the wash plant area. Ponds will remain intact to provide for livestock water and wildlife habitat for the post-mining uses. (C) Shorelines and slopes will be reshaped to give livestock and wildlife ability to utilize the ponds in the future. Entire wash plant/classifying area will also be regraded. We expect there will be some sloping in the final reclaimed topography due to the elevation changes from the main mine pit floor to the wash plant area floor. Approximately 12-24" of overburden will be replaced prior to replacing topsoil (17). Topsoil will be replaced. The overburden and topsoil will be hauled in from storage piles not in the immediate vicinity using scrapers and haul trucks being loaded with front-end loaders. Dozers will regrade and spread the topsoil. Existing dams between recycle ponds will remain intact, as will the access roads that are necessary for accessing the site for its post-mining uses. Final, reclaimed topography is expected to be primarily flat, as mining will daylight out on the north, south and west sides. (D)

Once final topsoil placement has been achieved, the site will be seeded with seed mix which has taken into account recommendations from the NRCS, CPW and DRMS. Seed mix is included as Exhibit E-3.(20a) Seeding rates specified are for drill seeding. (20b) 3000lbs of weed free straw will be applied per acre and crimped in place following seeding, according to NRCS recommendation (AM-3 AR-1 10). Weed control plan is currently in place and will address minimizing weeds in these reclaimed areas, working closely with the Rio Blanco County Weed Control District with annual inspections to be made. No fertilizer will be used in final reclamation (AM-3 AR-1 11) No nursery stock (trees or shrubs) will be planted during final reclamation. (AM-3 AR-1 12)

**EXHIBIT E (Cont.)**

Meeker Sand &amp; Gravel: M-1976-038

Reclamation Plan

<b>TIMELINE: PROPOSED / EXPANSION OPERATION</b>	<b>ESTIMATED TIME TO COMPLETE</b>
Strip overburden and topsoil, moving to berms in stated locations	Ongoing ahead of mining operation as it moves westerly
Extracting gravel from gravel face working westerly through Phase 1	17-20 years
Re-grading mined out areas as mining moves westerly, replacement of overburden (17)	Ongoing as mining moves westerly
Replacement of Topsoil and reseeding	Within 6 mos – 1 year of final grading being completed.
Strip overburden and topsoil, moving to berms in stated locations in Phase 2	Ongoing ahead of mining operation as it moves westerly
Extracting gravel from gravel face working westerly through Phase 2	10 years
Replacement of topsoil and reseeding	Within 1 year of final grading being completed as soil and weather conditions allow

Areas that have been affected previously by prior operator(s) within the mine boundary will be reclaimed according to reclamation plan. Previously-affected areas that are outside the mine boundary will remain in current condition (un-reclaimed) (F). Neighbor's access road will remain during mining and following final reclamation (J)(25). Additionally, an existing road that provides access to the Highland Ditch on the north side of the permit will remain following final reclamation as well (K)(25).

Industrial area (11.51 acres) located at the front of the mine will remain following completion of mining to allow continued use of batch plant, office and shop buildings (G). Entrance road will remain to allow access to this industrial area (H)(25).

Map F-1.1 shows an approximation of what topography will be following final reclamation. Daylighting out on the North, South and West sides will leave the topography fairly flat with undulations following the original/natural topography. Narrative call-outs on the map address final reclamation points not able to show on the map visually. Fresh water well is outside of the permit boundary and indicated on the map as (WELL) (26).

The NRCS was consulted about recommendations regarding final reclamation. Their response was identical to previous response received when permitting the current mine (20). NRCS recommendations are included as Exhibit E-1

## EXHIBIT E-1

### Meeker Sand & Gravel: M-1976-038

#### NRCS Reclamation Recommendations

##### 1) Reclamation Recommendations –

- a. Each soil map unit has an ecological site associated that describes the historic vegetative species present.
  - i. Soil Map Unit 11: The ecological site present is the Stony Foothills (R048AY287CO). If the site was undisturbed, the following percentage of composition by plant weight would be expected: western wheatgrass (15%), bluebunch wheatgrass (10%), Galleta (10%), Indian ricegrass (5%), Needle-and-thread (5%), junegrass (5%), squirreltail (5%), forbs (5%), black and big sagebrush (15%), fringed sagebrush (5 %), serviceberry (5%), rabbitbrush (5%), and pinyon and Juniper (up to 10%). The ecological optimum ground cover is approximately 25%.
  - ii. Soil Map Unit 105 and 106: The ecological site present is Deep Clay Loam (R048AY292CO). If the site was undisturbed, the following percentage of composition by plant weight would be expected: western wheatgrass (40%), lettermans needlegrass (20%), muttongrass (15%), slender wheatgrass (15%), nodding brome (10%), silver lupine (5%), mules-ears (5%), Indian paintbrush (5%), sulfur buckwheat (5%), big sagebrush (5%), serviceberry (5%), snowberry (2%), and others (10%). The approximate ground cover for the Deep Clay Loam ecological sites is 35%.
- b. The following grass species are recommended to be used to reseed the site. This recommendation is in pounds of pure live seed.

Species	Variety	Pounds (PLS/Acre)
Western Wheatgrass	Arriba	3.2
Thickspike Wheatgrass	Critana	2.2
Streambank Wheatgrass	Siberian	2.2
Russian Wildrye	Vinal	2
Smooth Bromegrass	Regar	1.3
Total Pounds PLS/Acre		10.9

\*Smooth Bromegrass can become competitive and overtake native species.

- i. The addition of topsoil on the project site will improve the establishment of the seeding. Topsoil should be evenly dispersed across the project site. If the project is seeded by drilling, the project site may require earthwork to improve conditions for drilling. Some areas within the project may require broadcasting instead of drilling where steeper slopes are present.
- ii. Mulching is recommended at approximately 3,000 pounds of clean (weed free) straw per acre with a crimper.
- iii. Scouting and monitoring for invasive vegetative species will be necessary for the establishment of the seeding mix. If chemicals are used to treat the vegetative weed pressures, the chemical label needs to be checked to ensure that the

- chemical will not have a negative effect on the planted species. The label will direct the application, storage, disposal, and safety measures for the chemical.
- iv. It is recommended that the site does not allow livestock grazing and excessive soil disturbance for one to two years to promote the establishment of the seeding.

References:

Soil Survey Staff. 2022. Keys to Soil Taxonomy, 13th edition. USDA Natural Resources Conservation Service.

Natural Resources and Conservation Service . (n.d.). Web soil survey.  
<https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>

## Signed Affidavit Concerning Use of Waste Concrete as Inert Backfill

## Signed Affidavit Concerning Use of Waste Concrete as Inert Backfill

The applicant, Meeker Sand & Gravel, by Katie Conrado, as Mine Permit Contact, does hereby certify that the concrete material that may be used in the future reclamation of the Meeker Sand & Gravel mine will be clean and inert as required by Rule 1.1(22), per Rule 3.1.5(9)(c).

*Pradeep*  
Signature

Representative Name: Katie Conrado

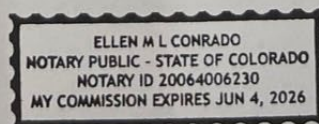
Title : Mine Permit Contact

County of Rio Blanco

The foregoing was acknowledged to me before this 3<sup>rd</sup> day of October, 2023,  
by Katie Conrado as mine Permit Contract  
of meeker Sand & Gravel, Inc.

Ellen Conrado  
Notary Public

My Commission Expires: 6-4-26



**EXHIBIT E-3**

Meeker Sand &amp; Gravel: M-1976-038

Proposed Reclamation Seed Mix

<b>SPECIES</b>	<b>PERCENT IN MIX</b>	<b>PLS/ACRE DRILLED</b>	<b>PLS/ACRE BROADCAST</b>
Russian Wildrye	15%	2.25	3
Mountain Brome	10%	1.5	2
Paiute Orchardgrass	10%	1.5	2
Sherman Big Bluegrass	10%	1.5	2
Bluebunch Wheatgrass	14%	2.1	2.8
Prairie Junegrass	5%	0.75	1
Indian Ricegrass	7%	1.05	1.4
Northern Sweetvetch	2%	0.3	0.4
Mountain Big Sagebrush	2%	0.3	0.4
Falcata Alfalfa	5%	0.75	1
Triticale (sterile)	20%	3	4
<b>TOTAL</b>	<b>100.00%</b>	<b>15</b>	<b>20</b>