

November 15, 2024

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**RE: 15 Road Gravel Pit – Technical Revision
Reclamation Map Update and Topsoil Amendment Clarification**

Oldcastle SW Group, Inc. dba United Companies of Mesa County submits this adequacy response to the CDRMS review of Technical Revision 07 of the 15 Road Pit reclamation permit, dated November 26, 2024. Revised maps and text for the permit are attached.

1. *Please provide a revised Reclamation Plan (Exhibit E) and the Worst-Case Reclamation Cost Estimate (Exhibit L), which incorporates all proposed changes to the existing plan.*

Please see the attached revised Exhibits E and L.

2. *TR-7 proposes to eliminate wetland shelves. Page H-2 of AM-1 states "...shallow wetland areas upon lake filling and will fully comply with the COE permit for wetland removal and replacement." Additionally page M-1 states "7) An individual COE permit issued to disturb the minor wetlands...."*
 - a. *Under the COE can the wetlands shelf be eliminated entirely? If not, can the wetlands shelf of Lake 1 be constructed elsewhere?*

Map F-1 has been revised to contain the correct area of reclaimed wetlands. 7.99 acres of wetlands are required, and the designs on Map F-1 include 8.98 acres of wetlands through shallow sloping along the north shores of Lakes 3 and 4.

- b. *Similarly on the east side of Lake 4 previously it was noted to be an existing marsh that should be avoided. The revised map does not show this area as being avoided. Will/ can this area also be affected? Is a replacement elsewhere required?*

The "marsh area" has been mined through. It was not part of any delineated wetlands.

3. *The revised Reclamation Plan Map F-1 has Lake 1 water surface at 17.6 ac which is the same as the previous maps despite no longer having a wetland shelf. Similarly Lake 4 is also slightly larger if the marsh is affected. Please provided:*
 - a. *The updated water surface area of Lake 1 and Lake 4*
 - b. *The remaining area where topsoil and ripping is required around Lake 1*
 - c. *The revised area requiring topsoiling and ripping around lake 4*
 - d. *The area associated with each seed mix (rangeland vs wetlands) for Lake 1 that still needs to be applied. And the area that will be required for Lake 4.*

Map F-1 has been revised with the areas of Lakes 1, 3, and 4 as requested. The table below lists the areas requiring topsoiling and seeding as of the end of 2024.

	Lake 1 Area (acres)	Lake 4 Area (acres)	Total Area (acres)
Topsoiling	15.86	13.39	29.25
Rangeland Seeding	14.69	9.59	24.28
Wetland Seeding	1.16	3.79	4.95

4. *The request for this TR was the result of a proposed bond calculation dated October 9, 2024. The Division had noted several items that needed to be clarified / updated.*

a. *The proposed calculation factored in the use of Biosolids and fertilizers. TR-7 only mentions omitting Biosolids. Will fertilizers still be used?*

Fertilizers are not planned as part of reclamation at the 15 Road Pit.

b. *Seeding and mulching methods do not match. If wetlands are to be broadcast seeded, mulching should not be straw mulch crimped. Revise to drill seed or omit mulch.*

c. *Update user provided demo costs*

i. *Truck scale - \$ 4000.*

ii. *Office building with foundation - \$7000*

iii. *Storage building - \$300*

iv. *Fuel Storage: \$ 1000.*

Please see the revised Exhibit L.

Regards,



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RECLAMATION PLAN

EXHIBIT E

1. General Reclamation Plan

The reclamation plan will create lakes with wetland fringes and shelves for wildlife habitat, which is the primary post mining land use. Four lakes will be created. Lake 2 has been completed and released. Lakes 1, 3, & 4 remain to be reclaimed as mining progresses.

1.1. Commercial Use Pillars.

Pillars of approx. 10,000 square feet each may be left behind in Lakes 3 & 4 using backfill along the sides to create a natural shore line. A maximum of 20 pillars will be left behind. The pillar areas will be used as building sites for commercial use. All lakes will have wetland fringes around them. Lakes 3 & 4 will have larger sections of wetland fringe on gentle slopes on the north side. All lakes slopes will be no steeper than 3H:1V. Maps F-1 and F-2 show the final configuration of the site.

Assuming no pillars are left for the post-mine use of commercial lands, the breakdown of post-mining land use is as follows:

Table E-1. Reclamation Areas – No Pillars

Reclamation Area	Area (acres)
Lake Surface	138.55
Wetlands	17.27
Dryland flat and slopes	44.32
Undisturbed	29.40
Total area:	229.54

If a reasonable amount of pillars are left for commercial use, the following breakdown of post-mining land use applies:

Table E-2. Reclamation Areas - Pillars

Reclamation Area	Area (acres)
Lake Surface	118.55
Commercial Use	20
Wetlands	17.27
Dryland flat and slopes	44.32
Undisturbed	29.40
Total area:	229.54

As discussed in the mine plan, the site is divided into four pits that become the four lakes. Lake 2 has been reclaimed and released. As each pit is being mined, reclamation will occur simultaneously in both the final phases of the previous pit and the excavated phases of the current pit. The previous pit will have final grading of topsoil along with seeding, while the reclamation in the current pit will consist of overburden placement to achieve the desired side-

slopes. In this way, reclamation can occur simultaneously with mining, and stockpiles will be kept to a minimum. Initial stripping in Lake 1 will have to be stockpiled due to a lack of an empty pit or phase to place the overburden and topsoil. Stockpiled overburden and topsoil will be used in reclamation. The worst case reclamation scenario occurs at the conclusion of mining: the end of Lake 4. The reclamation timetable is shown below in Section 2 in Table E-4 and the worst-case scenario is calculated in **Exhibit L: Reclamation Costs**.

2. Topsoil replacement

Most of the topsoil is not stockpiled, but simply moved from phase to phase during the mining process. However, in the case of the initial mining of some areas, topsoil is stockpiled for use after completion of mining in that pit. The mining plan details this topsoil stockpiling.

Topsoil will be placed over all disturbed areas beginning at least 10-ft below the lake water level. Using a replacement thickness of 8 inches, this yields a total topsoil volume needed of 53,961 CY. Table E-3 shows the breakdown of topsoil placement. As shown in the mining plan, the operation will generate more than 200,000 CY of topsoil. Excess topsoil will be used to enhance the depth of topsoil in place on the reclaimed slopes.

Table E-3. Topsoil Replacement Volumes

	Area to be topsoiled (acres)	TS Volume (CY)
Lake 1	15.86	17,058
<i>Lake 2 (Released)</i>	<i>10.86</i>	11,681
Lake 3	10.06	10,820
Lake 4	13.39	14,402
Totals	50.17	53,961

The topsoil will be placed on finished slopes as they are made, eliminating the need for most stockpiling. Only the very end of Pit 4 will need stockpiled topsoil, which will be retrieved from the stockpile created at the start of mining in that pit.

3. Haul Roads and Access

It is planned that an access road will wind around the land pads to access all areas after reclamation. The location of this road is not known and will not be accounted for in the reclamation plan. As stated above, all land pads will be topsoiled, seeded and mulched.

4. Reclamation Timetable

The estimated reclamation timeline is shown below. It is based on market experience of production for construction materials in the Fruita, CO area. Exhibit L: Reclamation Costs describes the worst-case bond scenario.

Table E-4. Reclamation Timetable

Task #	Description	Time Needed Months
1	Prepare sediment pond and place berm along I-70	0.25
2	Strip topsoil from Pit 1 to stockpile at northwest corner of Pit 1	0.5
3	Bring in portable crusher, screen plant, stackers, truck scale, and scale house.	0.25
4	Mine Pit 1	29.7
5	Reclaim Pit 1 and mine Pit 2	30.0
6	Reclaim Pit 2 and mine Phases 1-3 of Pit 3. Reclaim the previous phase as each phase is being mined.	25.0
7	Mine Pits 3 and 4 while completing reclamation in Pit 1.	183.0
8	Final backfill of Pits 3 and 4 to complete lakeshores.	6.0
9	Topsoil and revegetate all disturbed areas	24.0
10	Remove all facilities	1.3
	<i>Total months</i>	<i>300.0</i>
	Total years	25.0

5. Revegetation Plan

The dry flatland and slope areas will be harrowed and drill seeded with a mix consisting of the following in order to control erosion:

Table E-5. Dryland/Rangeland Seed Mix

Species*	Project Drill Seed Mix Rate (lbs PLS** per acre)
Alkali Sacaton	3.0
Inland Saltgrass	3.0
Indian Ricegrass	2.0
Needle and Thread Grass	1.0
Western Wheatgrass	3.5
Total	12.5

These grasses have proven to do well in the dry lowland environment of the lower Colorado River valley. They will prevent erosion and do provide forage and cover for animals. Certified weed free hay or straw mulch will also be applied at the rate of 2000 lbs/acre.

The topsoiled slopes of the lake designated for wetlands will be broadcast seeded or hydroseeded for a distance 5 feet below waterline and 10 feet above waterline with the following mix:

Table E-6. Wetland Seed Mix

Species	Project Drill Seed Mix Rate (lbs PLS** per acre)
Slender wheatgrass	3
Basin Wildrye	1.5
Inland Saltgrass	1
Alkali Sacaton	1
Timothy	1
Redtop grass	1
Carex sedge	0.1
Common Reedgrass	0.5
Canadian Reedgrass	0.2
Skunkbush Sumac	0.4
Black Greasewood	1
Snowberry	1
Northern Sweetvetch	0.5
Orchardgrass	0.5
Western Wheatgrass	0.1
Total	12.8

Seeding will normally be done during the fall when temperatures are cooler.

A total of 285 cottonwood trees have been found within the disturbed area. Upon final filling of each lake area, the exact waterline will be determined and at least 2 cottonwood saplings will be planted for each cottonwood that is removed. They will be planted approximately 12" -18" vertically above the waterline so that they will not have to be watered.

6. Post-Reclamation Site Drainage

The entire permit area will drain to the lakes after reclamation, as shown on Map F-1.

At the request of Colo. Parks and Wildlife (CPW), the operator commits to installing metal grate screens at the inlet of Lake 4 and the outlet of Lake 1 into the North channel of the Colorado River. The two installations will be reviewed by CPW and will meet their approval. Although it will be prohibited to stock the lakes with non-native species, these screens will prevent any species (especially non-native species) from leaving the lake and entering the river.

7. Weed Control

Measures will be employed for control of any noxious weed species. Control measures will also be used if growth of weed species on the reclaimed area threatens further spread of the weeds to nearby areas. A Weed Control Plan will be utilized as follows:

- 1) Each April, a weed survey will be made 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 Mesa County.
- 3) After reclamation, weed surveys and spraying will continue until the perennial cover and production of the site have met DMG requirements and bond release has been obtained.

The Division and Mesa County weed control staff will be consulted regarding any weed infestation area and any control measures prior to their initiation. The plan does not contemplate total weed removal on the property. Past experience shows that some initial weed cover in the first year following the retopsoiling is beneficial to the reclamation effort in dry range site. Weeds tend to provide shade for new grasses, are a means of holding snow on the seedbed longer and protect it from wind and water erosion until the planted species have taken hold.

During the removal of overburden, if an area of heavy seed infestation is encountered, it will be buried in the slopes rather than used as a growth medium. During all phases of the mining operation, the permit area will be monitored closely every year which the permit is active to determine if there are any additional weeds invading the area. Weed control will again be initiated if the problem becomes serious. The Division will be consulted regarding any additional weed infestation area and any control measures prior to their initiation. If infestations of similar weeds as are present now is experienced, the current weed control plan will continue to be used. If any new species of weeds are found, Mesa County Weed Control Authority and the Division will be consulted in order to formulate the best plan for the new infestation. The plan does not contemplate total weed removal on the property. Past experience shows that some initial weed cover in the first year following retopsoiling is beneficial to the reclamation effort. Weeds tend to provide shade for new grasses, are a means of holding snow on the seedbed longer and protect it from wind and water erosion until the planted species have taken hold.

8. Revegetation Success Criteria

Since the pre-mine site is basically dry rangeland of relatively poor cover and production, and the post-mining uses of the site are lakes and wetlands. The lakes do not require strict vegetation success criteria. It is suggested that the dryland vegetation be approximately 10% perennial cover. Since the Fruita area receives less than 10 inches of rain annually, no more than this cover can be expected.

The wetland areas should be restored to typical wetland covers of at least 50% live perennial cover. The revegetated area will be monitored for success of reclamation until accepted by the

Division. If revegetation failures occur prior to release, an analysis of the site will be made and the area will be revegetated again as necessary.

9. Monitoring Reclamation Success

Monitoring the reclamation on an ongoing basis will help to assure successful reclamation. The operator plans to use the local NRCS office in Mesa County to assist in determining the ability of the reclaimed land to control erosion and any other suggestions which may enhance the reclamation of the site. All areas disturbed and reclaimed and any other important items regarding the reclamation will be submitted in the annual reports to CDRMS.

RECLAMATION PLAN MAP

EXHIBIT F

Map F-1 shows the final contours of the reclaimed area as well as the final land use.

Map F-2 shows details of both the wetland shelf designs and the building lots built around the pillars left for commercial use.

RECLAMATION COSTS

EXHIBIT L

The worst-case reclamation scenario will occur at the end of mining of Lake 4. At that stage, the largest amount of dewatering will be required, which is the primary cost driver for reclamation. Each stage of reclamation for the worst-case scenario is described below:

1. Final Backfilling

Lake 4 will be dewatered. The final highwall, estimated to be 2000 feet long, will be backfilled from 2H:1V to 3H:1V. Dewatering will be conducted with an electric pump capable of at least 12,000 gpm pumping rate. Backfill placement will be conducted using front end loaders.

2. Structure Removal

The northeast corner of the permit area contains the below-ground truck scale, the small scale house, office building with 24' x 28' concrete foundation of 6" thickness, and a large Quonset hut cloth storage building of 30 feet x 60 feet length. This building is portable and can be removed easily. There is no foundation for this building. Fuel is also stored in steel secondary containment troughs in this area.

The cost for removal of these structures is estimated as follows:

Truck scale: \$5000.

Office building with foundation: \$8000

Storage building: \$700

Fuel Storage: \$2000.

3. Topsoiling and Revegetation

Topsoil will be placed to the thickness described in Exhibit E over all disturbed areas except lake slopes that are at least 10 feet below the lake waterline and the lake bottoms. Topsoil will be prepared in accordance with Exhibit E including discing or ripping. Seed will be placed according to the approved seed mix and with mulch as applicable in the different seeding areas (dryland and wetland). A seed failure rate of 25% is assumed in the cost calculations. It is estimated that roughly 21 acres of dryland and 4 acres of wetland seeding will be needed in the worst-case scenario. Including the failure rate increases these areas to 26.3 and 5 acres, for cost calculation purposes, respectively.

Worst case reclamation costs for this scenario are given below, including a total bond amount:

Table L-1. Worst-Case Scenario Reclamation Costs

Description	Material Quantity	Unit	Unit Cost	Cost
Drain Lake 4 to complete backfilling, topsoiling, and seeding.	264.79	Acre-ft	\$105	\$27,803
Highwall backfilling from mining to final condition. 180 SQ. FT. over 2700 FT.	18,000	CY	\$1.50	\$27,000
Facilities removal.	1	Unit	\$15700	\$15,700
Topsoiling to 8 inches deep the maximum disturbance area of 25 acres.	26,900	CY	\$1.50	\$40,350
Discing of topsoil to a depth of 8 inches over 25 acres.	25	acres	\$105	\$2,625
Seeding of 21-acre dryland area. (25% reseed rate = 26.3 acres)	26.3	acres	\$400	\$10,520
Mulching and crimping of mulch over 21-acre dryland area.	26.3	acres	\$850	\$22,355
Seeding of 4-acre wetland area. (25% reseed rate = 5 acres)	5	acres	\$650	\$3,250
Weed control management for two years on 25 acres	25	acres	\$220	\$5,500
Subtotal				\$155,103
DRMS cost (28%)				\$43,429
Total Bond Amount				\$198,532