



COLORADO
Division of Reclamation,
Mining and Safety
Department of Natural Resources

1313 Sherman Street, Room 215
Denver, CO 80203

November 1, 2016

Troy Campbell
Coffey Engineering
4045 St. Cloud Drive, Suite 180
Loveland, CO 80538

RE: Arkins Park Quarries; DRMS File No. M-1985-212; Adequacy Review No. 1 (AM03)

Dear Mr. Campbell,

The Division of Reclamation, Mining and Safety (Division) has completed its preliminary adequacy review of your 112 Construction Materials Reclamation Amendment Permit Application. The application was received on August 4, 2016 and was called complete for review on September 2, 2016. The decision date for this application is December 1, 2016. **Please be advised that if you are unable to satisfactorily address any concerns identified in this review before the decision date, it will be your responsibility to request an extension of the review period. If there are outstanding issues that have not been adequately addressed prior to the end of the review period, and no extension has been requested, the Division will deny this application.**

The review consisted of comparing the application content with specific requirements of Rule 6.1, 6.2, 6.4, and 6.5 of the Minerals Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials. In general the application was substantially adequate, however, as with most applications there are a few items that will require the submittal of additional information or clarification of the existing information. Inadequacies are identified under the respective exhibit heading along with suggested corrective actions to correct them.

1. The Division received comments from the Colorado Historical Society and the Colorado Division of Water Resources. The letters have been attached for your review. Please address the comments noted in the letters, and make any changes in the application as necessary.

6.4.1 Exhibit A – Legal Description

2. Pursuant to Rule 6.4.1(1), the legal description must identify the affected lands. The legal description provided under Exhibit A references 235.24 acres. Presumably, this is the total area of land owned by Neil C. Sprague, Arlis Sprague and Vernon Trupp. Please revise the legal description under Exhibit A to include the total acreage to be



permitted under this Amendment Application (192.4 acres), or remove all reference to acreage.

6.4.3 Exhibit C – Pre-mining and Mining Plan Map(s) of Affected Lands

3. As required by Rule 6.2.1(2)(e), the acceptable range of map scales shall not be larger than 1 inch = 50 feet nor smaller than 1 inch = 660 feet. The map scale of Exhibit C.1 is at 1 inch = 800 feet. Please revise the scale of Exhibit C.1 to match the acceptable range of map scales.
4. As required by Rule 6.4.3(b), the Mining Plan Map must show power and communication lines on the area of affected land and within 200 feet of all boundaries of such area. Please revise Exhibit C.1 to include the overhead powerlines along County Road 27.
5. As required by Rule 6.4.3(c), the Mining Plan Map must show the existing topography of the area with contour lines of sufficient detail to portray the direction and rate of slope. Please revise Exhibit C.1 to include contour lines.
6. As required by Rule 6.4.3(e), the Mining Plan Map must show the type of vegetation covering the affected lands. Please revise Exhibit C.1 to show the type of vegetation covering the affected lands. This information may be portrayed by adding a note to the Mining Plan Map which describes the existing vegetation.

6.4.4 Exhibit D – Mining Plan

7. The Mining Plan states back seams of sandstone are blasted with dynamite when necessary. The Division performed a review of the permit file and could not locate an approved blasting plan. Pursuant to Rule 6.5(4), at sites where blasting is part of the proposed mining or reclamation plan, the Applicant shall demonstrate through appropriate blasting, vibration, geotechnical, and structural engineering analyses, that off-site areas will not be adversely affected by blasting. Please provide a blasting plan which conforms to the requirements of Rule 6.5(4).
8. The Mining Plan states the size of the areas to be worked at any given time will be between 2.8 acres and 4.4 acres. The Operator has not specified the total area which will be quarried at any given time. Please specify the total number of acres which will be actively mined. According to the Mining Plan Map, there is 17.4 acres of active mining disturbance. Will 17.4 acres be the limit for active mining areas?
9. The Reclamation Plan Map states the disturbed areas encompass 139.1 acres. In addition, the map provides acreages for the individual types of disturbances (mining, topsoil storage, material storage, future mining, reclamation started, reclamation completed). The individual acreages do not add up to 139.1 acres. Please provide an

accounting of the types of disturbance that make up the 139.1 acres of disturbed/affected land.

10. Please clarify if the maximum allowed disturbance at the Arkins Park Quarries will be 139.1 acres. The maximum allowed disturbance designation is a way for the Operator to limit how much area within the permit boundary will require a reclamation bond. By committing to a maximum allowed disturbance of 139.1 acres, the bond will be limited to reclaiming the various types of disturbances which make up the 139.1 acres.
11. The total area to be permitted under this Amendment Application will be 192.4 acres. Please confirm that the total permit area is to be designated as affected land. Designating the entire permit area as affected land will allow the operator to disturb any portion of the mine site within the permit boundary.

6.4.5 Exhibit E – Reclamation Plan

12. The information provided under Exhibit L: Reclamation Costs indicates the seed mix will be applied at a rate of 24 lbs/acre. However, the High Plains/Foothills Grass Mix, which shows the percent species to be planted, calls for seeding at a rate of 16 lbs/acre. The Division recommends using a seeding rate of 16 lbs/acre. Applying the proposed seed mix at a rate of 24 lbs/acre will result in too many seeds per square foot, which can prevent the germination of the planted grass species. Please clarify which seeding rate will be used at the site.
13. The Reclamation Plan states the specific types of fertilizer to be used during reclamation will be recommended after a soil inspection. Please clarify if any soil tests have been conducted which show the type of fertilizer to be used at the site.
14. The Reclamation Plan states there will be an average of two feet of waste rock across the working decks which will need to be replaced. Please clarify if there will be an average of two feet of waste rock generated across the current and future mining areas. In the Division's experience, sandstone quarries typically have a minimum of two feet of waste rock generated from all mining areas.
15. The Reclamation Plan states the volume of waste rock from the working decks, which will need to be spread over the active mining area is 4,560 cubic yards. The Reclamation Plan also states there will be an average of two feet of waste rock across the working decks which will need to be replaced. The total active mining area is 17.44 acres. If two feet of waste rock was generated across the active mining areas, then there would be 56,283 cubic yards of material which would need to be replaced. Please explain how the volume of 4,560 cubic yards was calculated.
16. The Reclamation Plan states the working decks are comprised of 20% overburden. In addition, the Reclamation Plan references overburden which will be stored above the

working decks. Please clarify if 20% of the overburden from the active mining areas will be stored in working deck and the remaining 80% of the overburden will be stockpiled above the active mining areas. This information is required in order to calculate the financial warranty.

17. The Reclamation Plan states “the future total will be limited by agreement on a yearly basis between the State of Colorado Division of Reclamation, Mining and Safety and the Operator of the mine”. Please clarify if this statement refers to the amount of overburden which will be stockpiled or if it refers to a limitation on the size of the affected area.
18. The Reclamation Plan calls for mixing mulch into the topsoil before replacing topsoil over the reclaimed areas. The purpose of mulch is to protect the soil from erosion and to improve germination of the planted grass species. Mixing mulch into the topsoil before replacing the topsoil is not an effective method. Please revise the Reclamation Plan to include a surface application of mulch and specify the application method.
19. The Operator has identified several types of mulch to be used during reclamation. Please specify the amount of each type of mulch which will be used based on an application rate of 2 tons per acre.
20. The Reclamation Plan states the broadcasting method of planting will most likely be used. The Operator must specify the exact seed application method to be used as this information is necessary to calculate the financial warranty. Please commit to a specific seeding application method.
21. The Reclamation Plan does not specifically address how the material storage and processing areas will be reclaimed. Please revise the Reclamation Plan to include the specific reclamation measures which will be applied to these areas.
22. The Reclamation Plan does not account for the removal of the buildings and ancillary facilities (sediment tanks, fuel tanks, concrete pads) related to material processing. These structures must be accounted for in the Reclamation Plan and the removal of the structures must be included in the financial warranty calculation. The approved post-mining land use for the site is rangeland. Therefore, the Reclamation Plan must be commensurate with the post-mining land use. If the owner of the land wishes for any buildings to remain after the mine is reclaimed, then the Operator must provide a justification as to how any remaining structures are related to the post-mining land use. In addition, the Operator would need to provide a signed and notarized statement from the landowner which demonstrates the landowner’s desire to have the structures remain in place.

6.4.6 Exhibit F – Reclamation Plan Map

23. As required by Rule 6.4.6(a), the Reclamation Plan Map must show the proposed topography of the site with contour lines of sufficient detail to portray the direction and rate of slope of all reclaimed lands. Please revise the Reclamation Plan Map to include contour lines which show the proposed topography of all reclaimed areas.

6.4.7 Exhibit G – Water Information

24. As required by Rule 6.4.7(2)(c), submit a brief statement or plan showing how water from runoff from disturbed areas, piled material and operating surfaces will be managed to protect against pollution of surface water, both during and after reclamation.

6.4.10 Exhibit J – Vegetation Information

25. The Operator has stated that 12-15% of the undisturbed vegetation consists of cheatgrass. Cheatgrass is a Colorado listed noxious weed which must be managed by the Operator. The Operator developed a Weed Control Plan through Technical Revision No. 2. The approved Weed Control Plan only addresses the control of diffuse knapweed. Please revise the Weed Control Plan so that management of cheatgrass is included.

6.4.12 Exhibit L – Reclamation Costs

26. The reclamation cost estimate provided by the Operator accounts for reclamation utilizing in-house resources. Pursuant to Rule 6.4.12(1), the information provided by the Operator must be sufficient to calculate the cost of reclamation that would be incurred by the state. Please revise the reclamation cost estimate accordingly.
27. The reclamation cost estimate does not include the cost to remove existing buildings, fuel tanks, and sediment tanks. Please revise the reclamation cost estimate to include the removal of these structures. In addition, provide a description of the structures, including the building materials and the dimensions of the structures. Please see additional comments under Item No. 22.

6.4.13 Exhibit M – Other Permits and Licenses

28. Please indicate if the Operator holds a stormwater discharge permit for the operation and see additional comments under Item No. 24. If the Operator does not hold a stormwater discharge permit and cannot demonstrate that all stormwater at the site is contained within the disturbed area, then the Operator will need to obtain a stormwater discharge permit from the Colorado Department of Public Health and Environment.

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This concludes the Division's preliminary adequacy review of this application. Please remember that the decision date for this application is December 1, 2016. As previously mentioned, if you are unable to provide satisfactory responses to any inadequacies prior to this date, **it will be your responsibility to request an extension of time to allow for continued review of this application.** If there are still unresolved issues when the decision date arrives and no extension has been requested, the application will be denied.

If you have any questions, please contact me at (303)866-3567 x8116.

Sincerely,

A handwritten signature in blue ink, appearing to read "Mike C.", is positioned above the printed name of the sender.

Michael A. Cunningham
Environmental Protection Specialist

Enclosures

CC: Wally Erickson, DRMS
Neil Sprague, Arkins Park Stone Corp.
Arlis Sprague, Arkins Park Stone Corp.