



COLORADO

**Division of Reclamation,
Mining and Safety**

Department of Natural Resources

1313 Sherman Street, Room 215
Denver, Colorado 80203

March 16, 2018

Andre LaRoche
Transit Mix Concrete Co.
444 E. Costilla St.
Colorado Springs, CO 80903

**Re: Adequacy Review No. 2; 112c Reclamation Permit Application; Hitch Rack Ranch Quarry;
File No. M-2017-049**

Mr. LaRoche:

The Division has completed its second adequacy review of the above referenced application. The review period for the application is currently scheduled to close on **March 30, 2018**. The following adequacy items must be addressed to the Division's satisfaction before a favorable recommendation can be issued for the application. In your response, please reference the item numbers utilized in this document.

EXHIBIT C - Pre-mining and Mining Plan Map(s) of Affected Lands (Rule 6.4.3):

- 1) Please specify the minimum distance that will be maintained between the toe of the F1 backfill pile and the proposed affected land boundary.
- 2) Please specify the maximum height of highwall at final reclamation extending above the F2 backfill area. In Item No. 33 of the Preliminary Adequacy Review, the Division asked for the maximum length, for which you provided an answer. Please complete the description of the final highwall configuration by specifying the maximum height of highwall which will extend above the backfill.
- 3) The applicant's response to Item No. 34 of the Preliminary Adequacy Review stated the B-B' cross-section on Figure C-11 was revised to indicate the creek location, and the groundwater level at the creek was revised to match the creek elevation. However, the only revision to the cross-section is to the left portion of the generalized water level, where it was raised above the pit floor elevation. Please explain and/or make any necessary corrections.
- 4) In Figures C-11 and C-12, the locations of all monitoring wells are shown on the Insert Plan View, with the exception of MW-LTC-7. Please add the location of MW-LTC-7 to the insert. Additionally, monitoring wells MW-LTC-2 and MW-LTC-6 appear to be mislocated, as they are outside of the proposed permit boundary. Please correct the locations for these two wells.
- 5) In Figure C-12, Insert Plan View, Little Turkey Creek is located approximately 300 feet from the northern pit crest on section line C-C'. However, on the C-C' cross-section the northern pit crest is located approximately 200 feet from Little Turkey Creek. Please eliminate the contradiction and ensure all permit documents consistently describe the operation. Please revise the cross-section and/or insert to ensure consistency and accuracy.



EXHIBIT D - Mining Plan (Rule 6.4.4):

- 6) Please provide discharge/energy dissipation details for drainage channel F2-2 at station 29+00 per Figure C-9d. Please provide these details for both the operational phase and final reclamation phase.

EXHIBIT E - Reclamation Plan (Rule 6.4.5):

- 7) Revised Figure C-1 shows the portion of the access road to be paved, and the approximate location of the proposed power distribution line. However, Figure C-1 does not delineate or label the proposed 4-strand wire fencing. Additionally, the applicant's response to Item No. 51 of the Preliminary Adequacy Review states that removal costs have been included in Exhibit L for this fencing. However, the only fencing demolition costs included in Exhibit L address 245 feet of chain link fencing from the central substation. Please revise Exhibit L to include costs for removing the 4-strand fence, and Figure C-1 to delineate and label the 4-strand fence.
- 8) On revised page E-8, the applicant states all areas will be seeded with the grass seed mixture included in Table E-3. However, Table E-3 now shows Mixed Conifer Planting Rate. In revised Exhibit E, the permanent grass seed mixture is shown in Table E-7. Please revise the text to refer to the correct table.
- 9) The mixed conifer revegetation plan shown in Table E-3 does not correlate with the mixed conifer revegetation plan given in Exhibit L, revegetation summary. In Exhibit L, there are two separate revegetation plans for mixed conifer: one for Highwall Benches, with 43 stems/acre, and composed of 85% Douglas Fir and 15% Ponderosa Pine; and one for Pit Bottom and Fines Slopes, with 43 stems/acres, and composed of 30% Douglas Fir, 60% Ponderosa Pine, 5% Gamble Oak, and 5% Three Leaf Sumac. If the applicant is proposing two separate mixed conifer revegetation mixtures, please include them in Table E-3, and make sure they correlate with what is given in Exhibit L.
- 10) The revised Table E-4, Mountain Shrubland Planting Rate, does not correlate with Exhibit L, revegetation summary. In Exhibit L, there is a mixture given for Mountain Shrubland Access Road and Fines Slopes. This mixture includes a species, "WS", which is not identified in the Vegetation Index, and does not include Mountain snowberry and Kinnikinnick, two species listed on Table E-4. Please ensure the necessary corrections to Table E-4 and/or Exhibit L, revegetation summary, are completed to eliminate contradiction and ensure consistency.
- 11) The revised Table E-5, Riparian Planting Rate, does not correlate with Exhibit L, revegetation summary. The applicant's response to Item No. 53 of the Preliminary Adequacy Review indicates that costs for planting each mixture is the same because they have the same planting rates and percentages of tree and shrub species. This would be acceptable, except that neither of the mixes are portrayed in Exhibit L. In Exhibit L, there is one mixture given for Riparian, consisting of 350/acre bare root seedlings, with 65% White Sagewort, 25% Bluestem Willow, and 10% Narrowleaf Cottonwood. Please make the necessary corrections to Table E-5 and/or Exhibit L, revegetation summary, to ensure consistency.
- 12) The applicant's response to Item No. 58 of the Preliminary Adequacy Review states that Exhibit E has been revised to include a table listing the acreage associated with each revegetation type, and that



revegetation types with multiple species, lists based on water availability, also have the acreage specific to each species list. However, Table E-2, Reclamation Areas by Planting Type, includes 0 acres for Wet Shrubland and 0 acres for Dry Riparian. Please provide an estimated acreage for all revegetation type mixtures. Additionally, the acreages accorded to each revegetation type in Table E-2 do not correlate with those given in Exhibit L, revegetation summary. For example, Table E-2 shows that 81.14 acres will be revegetated to Mixed Conifer, while Exhibit L shows that 57.97 acres will be revegetated to Mixed Conifer. The values are inconsistent for all revegetation types. Also, according to Table E-2, a total of 195.82 acres will be revegetated, while Exhibit L costs account for revegetating a total of 139.51 acres. This is a difference of 56.31 acres. Please make the necessary corrections to Table E-2 and/or Exhibit L to eliminate these contradictions.

EXHIBIT G - Water Information (Rule 6.4.7):

- 13) The applicant's response to Item No. 66 of the Preliminary Adequacy Review states the operation will require an average of 4-6 truckloads per day using a 6,000-7,000 gallon tanker truck. If the quarry were to operate 365 days/year, that would give a maximum of 15.33 million gallons/year (42,000 gallons/day x 365 days). Is this value correct for mining phases of the project? Please provide an estimate of the project water requirements including annual volumes for the development, mining, and reclamation phases of the project.

EXHIBIT L - Reclamation Costs (Rule 6.4.12):

- 14) Table L-2, Phase III Revegetation Areas by Affected Lands Type, shows a total of 139.51 acres will be revegetated. This amount is consistent with the acreage given in the Exhibit L, revegetation summary, but is inconsistent with Table E-2, which shows a total of 195.82 acres will be revegetated. Please make the necessary corrections to Table E-2 and/or Table L-2 so that they are consistent.
- 15) In the revised Exhibit L, revegetation summary, a Vegetation Index was added to clarify species types. However, the species identified as "WS" under the Mountain Shrubland Access Road and Fines Slopes category is not included in the Vegetation Index. Please add this species to the index. Additionally, please add the grass seed mixture (from Exhibit E) to this exhibit so that all information required to calculate the bond is available in Exhibit L. Furthermore, please ensure all revegetation species proposed in Exhibit E are accounted for in Exhibit L.

EXHIBIT S - Permanent Man-Made Structures (Rule 6.4.19):

- 16) In this exhibit, the Applicant lists three distribution lines owned by Colorado Springs Utilities: one on the west side of Highway 115, one to Fort Carson, and one on the Hitch Rack Ranch property. However, the Division was unable to locate the distribution line on the Hitch Rack Ranch property on the revised Figure C-2. Please ensure the distribution line is shown on Figure C-2, and the owner of the structure is identified.
- 17) In this exhibit, the Applicant lists State Highway 115 and a fence along State Highway 115 owned by the Colorado Board of Land Commissioners (State of Colorado). However, the Division was unable to locate the fence on the revised Figure C-2. Please ensure the fence is shown on Figure C-2, and the owner of the structure is identified.



Geotechnical Stability Exhibit (Rule 6.5):

- 18) In the Pit Wall Geotechnical Assessment, the Applicant mentions the six new monitoring wells and piezometer installed on site in July 2017, stating that although they were primarily intended to provide information on groundwater levels, they do provide information on rock types, rock quality, and other geotechnical information in the area. These 7 wells are listed in Table 1 – Borehole Details along with the 13 boreholes that were drilled previously. Please expand the response to Item No. 126 of the Preliminary Adequacy Review, specifying how information from the 2017 wells was used in the pit wall geotechnical assessment.

Additional Items:

- 19) Please review and respond to the adequacy reviews provided by Division staff Peter Hays and Elliott Russell (enclosed).
- 20) Pursuant to Rule 1.6.2(1)(c) and (2), the response to these adequacy items must be placed with the County Clerk and Recorder and thereby made available for public review. Please ensure the applicant's response to these adequacy items includes proof that this was done.

Please be advised that on March 30, 2018, the application may be deemed inadequate and denied unless all adequacy items are addressed to the Division's satisfaction. Please ensure the Division has sufficient time to complete its review process by responding to these adequacy items by close of business on **March 20, 2018**. The Division reserves the right to further supplement this document with additional adequacy items and/or details as necessary.

If you have any questions, you may contact me by email at amy.eschberger@state.co.us or by telephone at 303-866-3567, ext. 8129.

Sincerely,



Amy Eschberger
Environmental Protection Specialist

Enclosure: Second Adequacy Review of Exhibit 6.5 – Geotechnical Stability; From Peter Hays, DRMS;
Dated March 16, 2018

Follow-Up Wildlife Adequacy Review; From Elliott Russell, DRMS; Dated March 16, 2018

Ec: Paul Kos, Norwest Corporation at: pkos@norwestcorp.com
Wally Erickson, DRMS at: wally.erickson@state.co.us
Peter Hays, DRMS at: peter.hays@state.co.us
Eric Scott, DRMS at: eric.scott@state.co.us
Elliott Russell, DRMS at: elliott.russell@state.co.us
Tim Cazier, DRMS at: tim.cazier@state.co.us





COLORADO

Division of Reclamation,
Mining and Safety

Department of Natural Resources
1313 Sherman Street, Room 215
Denver, CO 80203

MEMORANDUM

Date: March 16, 2018

To: Amy Eschberger; Division of Reclamation, Mining & Safety

From: Peter Hays; Division of Reclamation, Mining & Safety

Re: **Second Adequacy Review of Exhibit 6.5 – Geotechnical Stability
Transit Mix Concrete Co.; Hitch Rack Ranch Quarry; File No. M-2017-049**

The Division of Reclamation, Mining and Safety (Division/DRMS) has reviewed the Geotechnical Exhibit included within Exhibit 6.5 and the Applicant's adequacy responses received on March 9 and 14, 2018 for the Hitch Rack Ranch Quarry 112c permit application. The Applicant will need to address the following adequacy items identified in the review:

Hitch Rack Ranch Quarry Waste Stockpile Analyses:

1. The Division is reviewing and verifying the SLOPE/W data provided by Norwest for the Waste Stockpile Stability Analyses with Clover Technology's Galena software. The Division will submit comments related to the Waste Stockpile Stability Analyses once the verification modeling is complete, if required.

Hitch Rack Ranch Pit Wall Geotechnical Assessment:

2. The Division did not receive a map indicating the cross-section profile locations for the Geotechnical Model Analysis for the Slope L-E models with the Applicant's adequacy response. Please provide the map indicating the cross-section profile locations for the Geotechnical Model Analysis for the Slope L-E models.
3. The Division did not receive the SLOPE/W slope stability analysis model inputs for the Geotechnical Model Analysis for the Bench L-E and Slope L-E models with the Applicant's adequacy response. Please provide the SLOPE/W slope stability analysis model inputs for the Geotechnical Model Analysis for the Bench L-E and Slope L-E models to allow the Division to duplicate the analysis with Clover Technology's Galena software for verification purposes.

If you have any questions regarding these adequacy items, please contact me by email at peter.hays@state.co.us or by telephone at 303-866-3567, Ext. 8124.





COLORADO

Division of Reclamation,
Mining and Safety

Department of Natural Resources
1313 Sherman Street, Room 215
Denver, Colorado 80203

To: Amy Eschberger, DRMS

From: Elliott Russell, DRMS

Date: March 16, 2018

Re: Follow-up Wildlife Adequacy Review, Hitch Rack Ranch Quarry, DRMS File No. M-2017-049

6.4.8 Exhibit H – Wildlife Information

1. The Applicant has committed to conducting migratory bird and raptor surveys prior to starting each mining phase. Please also commit to providing the Division with the results of these surveys.
2. Within the response to Adequacy Item No. 3, the Applicant states no further Mexican spotted owl (MSO) surveys are required because no MSOs were documented during the three consecutive years of MSO surveys. Please address if the periodic migratory bird and raptor surveys, which will be conducted prior to starting each mining phase, will identify MSOs and MSO nests, if present on the affected lands. If so, the response to Adequacy Item No. 3 is adequate. However, in accordance with Rule 3.1.8(1), if these future surveys cannot determine the presence of MSOs and MSO nests on the affected lands, please also commit to conducting additional MSO surveys prior to starting each mining phase.

