COLORADO DIVISION OF RECLAMATION, MINING AND SAFETY
1313 Sherman Street, Room 215, Denver, Colorado 80203 ph(303) 866-3567

REQUEST FOR TECHNICAL REVISION (TR) COVER SHEET

File No.: M- 1982121 Site Name: Mid-Continent Limestone Quarry

County Garfield TR# *(DRMS Use only)*

Permittee: RMR Aggregates, Inc.

Operator (If Other than Permittee):

Permittee Representative: Robert Wagner

Please provide a brief description of the proposed revision:

The proposed revision incorporates a Rockfall Berm into the existing permit.

As defined by the Minerals Rules, a Technical Revision (TR) is: "a change in the permit or application which does not have more than a minor effect upon the approved or proposed Reclamation or Environmental Protection Plan." The Division is charged with determining if the revision as submitted meets this definition. If the Division determines that the proposed revision is beyond the scope of a TR, the Division may require the submittal of a permit amendment to make the required or desired changes to the permit.

The request for a TR is not considered "filed for review" until the appropriate fee is received by the Division (as listed below by permit type). Please submit the appropriate fee with your request to expedite the review process. After the TR is submitted with the appropriate fee, the Division will determine if it is approvable within 30 days. If the Division requires additional information to approve a TR, you will be notified of specific deficiencies that will need to be addressed. If at the end of the 30 day review period there are still outstanding deficiencies, the Division must deny the TR unless the permittee requests additional time, in writing, to provide the required information.

There is no pre-defined format for the submittal of a TR; however, it is up to the permittee to provide sufficient information to the Division to approve the TR request, including updated mining and reclamation plan maps that accurately depict the changes proposed in the requested TR.

Required Fees for Technical Revision by Permit Type - Please mark the correct fee and submit it with your request for a Technical Revision.

Permit Type	**Required TR Fee**	**Submitted** (mark only one)
110c, 111, 112 construction materials, and 112 quarries	$216	☑
112 hard rock (not DMO)	$175	☐
110d, 112d(1, 2 or 3)	$1006	☐

Rocky Mountain Industrials
6200 S. Syracuse Way, Suite 450
Greenwood Village, CO 80111

July 8, 2024

Robert Wagner
RMR Aggregates, Inc.
Rocky Mountain Industrials
6200 S. Syracuse Way, Suite 450
Greenwood Village, CO 80111

Amy Yeldell
Russ Means
1313 Sherman Street, Room 215
Denver, CO 80203

RE: Technical Revision to Add Rockfall Berm to Mining Plan

Dear Ms. Yeldell and Mr. Means,

RMR Aggregates, Inc. (RMRA) is submitting this Technical Revision (TR) in accordance with the requirements of the Inspection Report from the May 28, 2024 inspection of the Mid-Continent Limestone Quarry. The included pages contain the details of the rockfall berm's purpose, construction, and reclamation. Additionally, the MSHA approval for the rockfall berm is included in Appendix A.

Please let me know if you have any questions related to this TR or require any additional information.

Sincerely,

Robert T. Wagner
VP, Engineering
Rocky Mountain Industrials
rwagner@rockymountainindustrials.com

Rocky Mountain Industrials
6200 S. Syracuse Way, Suite 450
Greenwood Village, CO 80111

Overview

As a mine plan change, related to the January 2023 rockslide event, RMRA will construct of a 15-foot tall Rockfall Berm on the production bench to the north of current operations. As a part of the plan, RMRA is using recommendations from our geotechnical engineering group.

Figure 1 – Site Map

Rockfall Berm

In our conversations with our geotechnical engineering group, a Rockfall Berm was discussed as a potential mitigation measure against future rockfall incidents. RMRA will construct this specific Rockfall Berm using the recommendations from those discussion and the geotechnical modelling that ensued.

The Rockfall Berm will serve to provide an added layer of safety for both current and future operations at the quarry. The Rockfall Berm is intended to keep any future rockfall activity contained in the area between the existing highwall and the Rockfall Berm.

Rockfall Berm Design

Based on geotechnical modelling of various rockfall scenarios, a berm location and design were developed to control 100% of simulated rockfall blocks events. The simulated rockfall berm location can be seen in Figure 2. In the geotechnical simulations, a 15-foot-tall berm with a crest width of 5 feet and side slopes at an estimated angle of repose of 32 degrees was used to control the rockfall events.

Figure 2 – Google Earth Image of Maximum Runout Points and Rockfall Berm Location

Rockfall Berm Location

RMRA previously constructed a 6-foot-tall safety berm along the northern edge of its Production Bench Area (see Figure 3). This location is south of the maximum runout line, from the geotechnical modelling, by about 40-50 feet. RMRA will use this same safety berm location as the location of the 15-foot-tall Rockfall Berm. The new Rockfall Berm will be constructed directly over top of the existing safety berm.

Figure 3 – Placement of Rockfall Berm on North Edge of Access Area

Rockfall Berm Design

RMRA will use the Rockfall Berm design parameters that match the geotechnical modelling with one modification to the crest width. RMRA will increase the width of the berm crest to approximately 17 feet wide. This will allow for a wheel loader to drive across the top of the Rockfall Berm on a 10-foot-wide road, during the berm's construction, while maintaining a half-wheel height berm on each side of the wheel loader. The profile of the proposed Rockfall Berm is shown in Figure 4. The rockfall berm will be constructed using crushed limestone material from the quarry.

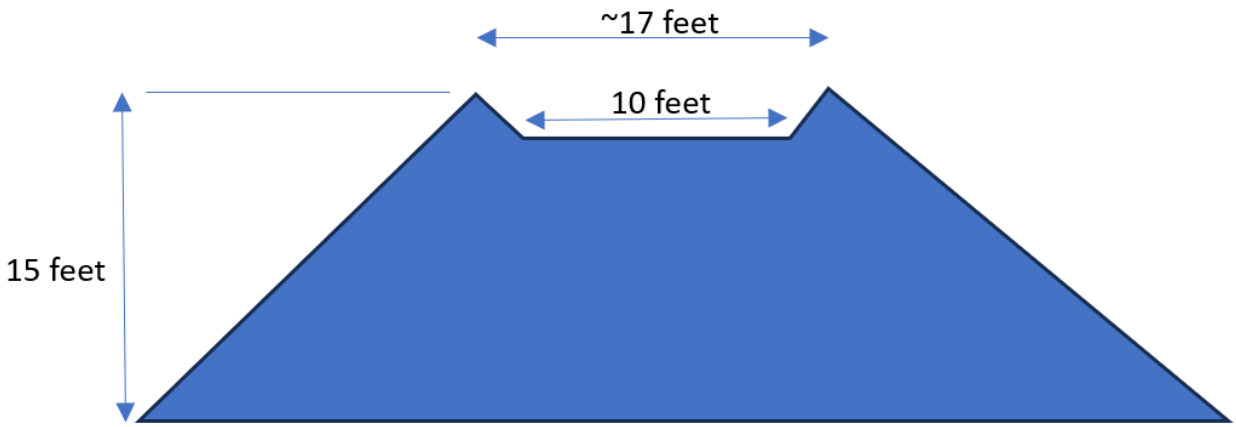

Figure 4 – Rockfall Berm Profile

Rockfall Berm Reclamation

The rockfall berm will be reclaimed according to the approved reclamation plan in the mine permit. Specifically, reclamation will follow the procedures outlined in Section III. Reclamation Plan – Area A (quarry benches). The material in the Rockfall Berm qualifies as “loose materials”.

Appendix A

MSHA Approval of Rockfall Berm

Mine Citation/Order Continuation

U.S. Department of Labor
Mine Safety and Health Administration

Section I--Subsequent Action/Continuation Data

1. Subsequent Action	1a. Continuation	2. Dated (Original Issue) Mo Da Yr	3. Citation/ Order Number
☑	☐	01/19/2023	9154256 - 07

4. Served To	5. Operator
Robert Wagner - Vice President of Engineering	RMR AGGREGATES, INC.

6. Mine	7. Mine ID	
MID-CONTINENT QUARRY	05-04954	(Contractor)

Section II--Justification for Action

This 103(k) order is being modified to allow work identified in the plan titled "Rockfall Berm Construction Plan", dated November 3, 2023. The plan consists of a cover letter and 5 pages along with an 87 page document containing a rock failure analysis and stabilization report for the affected area. This will allow mine operator to construct a substantial berm that would keep any future rockfall activity contained in the area between the existing highwall and the rockfall berm.

Section III--Subsequent Action Taken

8. Extended To	A. Date Mo Da Yr	B. Time (24 Hr. Clock)	C. Vacated	D. Terminated	E. Modified
			☐	☐	☑

Section IV--Inspection Data

9. Type of Inspection	10. Event Number
E08	6465937

11. AR Name	AR Number	12. Date Mo Da Yr	13. Time (24 Hr. Clock)
Gary Joseph Polson	24766	02/02/2024	09:10