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

December 7, 2023

Jason McGraw
General Shale Brick, Inc.
1845 W. Dartmouth Ave.
Denver, CO 80110

Re: Navajo Clay Pit, Permit No. M-1993-004, Technical Revision No. 3 (TR-03) Adequacy Review-2

Dear Mr. McGraw:

The Division of Reclamation, Mining and Safety (Division/DRMS) has reviewed the content of your adequacy review response for TR-03 submitted on November 3, 2023. The decision date is set for January 3, 2024. After reviewing your response, the Division has further comments that need to be addressed before approval:

1. The operation is approved for a maximum disturbance of 25 acres. However, your proposed bond estimate only covers costs for reclaiming 16 acres of disturbance. If you only want to be bonded for the existing 16 acres, please let us know. Note that if you plan to disturb additional lands, you'll need to submit a Technical Revision with a revised bond estimate to cover the extra disturbance.

2. The Division has estimated that the current height of the pit walls is around 40 feet, with slope gradients that are either 1H:1V or 2H:1V. In order to backfill the pit walls to the approved final slope configuration of 3H:1V using cut/fill methods, approximately 120 feet of space will be required. However, there may not be enough space within the approved affected area to use cut/fill methods to backfill the western and northern pit walls as the crest of the western pit wall is currently 75-95 feet from the western affected land boundary, and the northern pit wall's crest is currently 80-90 feet from the northern affected land boundary. On the other hand, there seems to be sufficient space along the eastern and southern pit walls to use cut/fill methods for backfilling these highwalls to 3H:1V.

   The bond estimate includes two tasks for backfilling the pit walls called “Backfill West Highwall” and “Backfill East Highwall,” with volumes provided for each of these tasks (21,250 cy and 41,667 cy, respectively). However, information supporting these chosen volumes, such as a description of the highwalls (e.g., height, total length, existing slope gradient) or the methods to be utilized for backfilling the highwalls (e.g., backfill,

cut/fill), has not been provided. Therefore, please provide this information so that the bond estimate can be revised accordingly. If different methods will be necessary for reclaiming portions of the highwalls (e.g., backfill for the western pit wall, cut/fill for the eastern pit wall), the Division recommends splitting these tasks up accordingly, with the method specified in the estimate.

3. General Shale has committed to filling the exposed groundwater in the pit with enough material to reach a minimum of 2 feet above the static water level for final reclamation. A part of the bond estimate includes a task for "Backfill Pit", which requires a material volume of 21,322 cubic yards. Please provide information that supports how the material volume was estimated, such as the static water level in the pit or the surface area of water in the pit.

4. The bond estimate includes a task for "Place Topsoil" with an estimated volume of 11,062 cubic yards. However, this volume does not match the approved topsoil replacement depth of 6 inches, and the current disturbance at the site requires retopsoiling. While 16 acres of land are currently disturbed, the plan is to leave a 0.3-acre livestock pond, resulting in 15.7 acres of disturbed land that will need to be retopsoiled and revegetated for reclamation. Based on this information, the Division estimates that 12,665 cubic yards of topsoil will be required for retopsoiling the 15.7 acres of disturbed land. To move forward, please specify the portion of disturbed land in acres that will be retopsoiled for reclamation and adjust the bond estimate accordingly.

5. The mining plan map has been updated and it now indicates the storage locations of the existing topsoil and overburden stockpiles along the northern and western edges of the pit. However, the Division's field observations suggest that there is also topsoil bermed around the perimeter of the stockpile area and adjacent to the access road. Therefore, it is necessary to specify the precise locations of all topsoil and overburden stockpiles on the site and ensure that the revised mining plan map includes this information.
   It is important to consider the location of topsoil and overburden stockpiles since it affects the bond estimate, such as the haul distance. Therefore, the Division recommends dividing the topsoil tasks into different parts to reflect the different costs associated with different haul distances for specific portions of the disturbed lands. For instance, the topsoil task can be split into three different tasks, including one for the pit area, one for the stockpile area, and one for the access road.

6. For reclamation, the operator is proposing to mix overburden with (up to 500 cy) imported scrap brick and place it into the pit in 1-2 foot lifts. Please include a task in the bond estimate that includes costs for this proposal.

7. The proposed stormwater management plan includes a series of check dams composed of imported scrap brick, stormwater berms, and ditches. Based on the revised reclamation plan map, it appears these stormwater features will be reclaimed. However, there is no task included for reclaiming these features. Please include a task in the bond estimate that includes costs for reclaiming the stormwater features. Additionally, please provide sufficient information on the stormwater features (e.g., number of check dams, approximate dimensions, material volumes) and how they will be reclaimed (e.g., scrap brick backfilled in pit, berms graded) to support the costs provided in the estimate.

8. The bond estimate includes a task for "Fertilizer". Please specify the type, application rate, and soil incorporation methods for the fertilizer that is planned to be utilized for reclamation.

9. The bond estimate does not include indirect costs. Please be advised, the Division's cost estimate must include indirect costs for overhead and profit, legal, engineering, and project management, which typically add 22-28% on top of the direct costs. While it is not necessary for indirect costs to be included in your bond estimate, just be aware that it will be included in the Division's final estimate.

If you require additional information, or have questions or concerns, please feel free to contact me by phone at (303) 866-3567, ext. 8147, or by email at joel.renfro@state.co.us.

Sincerely,

Joel Renfro
Environmental Protection Specialist

Cc:
Harold Stickler, General Shale Brick, Inc.
Amy Eschberger, DRMS