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**Technical Analysis and Findings**  
**Utah Coal Regulatory Program**

**PID:** C0410002  
**TaskID:** 4780  
**Mine Name:** SUFCO MINE  
**Title:** CONSTRUCTION OF WATERWAY AND REPAVING

**Summary**

The Permittee submitted an amendment to Section 5.3.4.1 that stated how the parking area adjacent to the mine office will be resurfaced. The amendment details how the existing asphalt in the area will be removed so the surface can be regarded to slope to the center of the parking area where a concrete waterway will be constructed. To reflect the changes at the site Appendix 5-11 has an addition of detail showing the paved area. An updated Office Building sheet within Appendix 5-9 was also submitted reflecting the additional concrete demolition in the bond amount.

The amendment was found to be deficient in information under: R645-301-121.200,-121.141, -521.170, -527.200-.210,-542.200, -553.100, & -830. The addition information requested from the Permittee is detailed below.

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**Operation Plan**

**Road System Plans and Drawings**

*Analysis:*

The Permittee submitted an amendment to Section 5.3.4.1 that stated how the parking area adjacent to the mine office will be resurfaced. The amendment details how the existing asphalt in the area will be removed so the surface can be regarded to slope to the center of the parking area. A concrete waterway will be placed along the center four feet of the parking area. The waterway will be nine inches thick with #4 and #5 rebar placed at intervals 12 inch from center. The resurfacing will included six inches of asphalt, totaling 9,926 square feet of asphalt, 207 linear feet of 4 foot gutter, and 21.3 cubic yards of concrete.

To reflect the changes at the site Appendix 5-11 has an addition of detail showing the paved area. An updated Office Building sheet within Appendix 5-9 was also submitted reflecting the additional concrete demolition in the bond amount.

*Deficiencies Details:*

R645-301-121.200,-121.141 Requires the maps to be clear and concise and be presented in a consolidated format set forth on U.S.G.S1:24,000 scale series.

- The figured supplied to be added to Appendix 5-11 is missing a legend as well as either a scale bar or scale base reference (i.e. Scale 1"=30' @ ARCH E ). Scale alone when submitted in digital copies does not give enough information and leaves the chance for misinterpretation.

o The Permittee will need to add a legend and preferably a scale bar with one inch base reference or some other kind of base reference to match the scale.

- The current MRP version of Chapter 5 Table of Contents List of Appendices does not include Appendix 5-11
  - o The Permittee will need to submit an updated List of Appendices for Chapter 5 that shows Appendix 5-11
- The current Appendix 5-11 is becoming clutter and confusing to follow, it contains partial main facilities details and then it also contains the West Lease information.
  - o The Permittee will need to submit an updated appendix splitting the West Lease information into a separate Appendix 5-12 to help clear up the clutter of Appendix 5-11, or submit reasoning justifying why Appendix 5-11 should remain as it is. There are also relevant main facility drawings within the Chapter 5 text that seem like they should be moved to Appendix 5-11 so that all main site facility drawings are located in a single location.
- A manhole and untreated base course are called out on the provided updated figure in Appendix 5-11, in order to appropriately cost out the reclamation specific details of these items are required
  - o The Permittee will add a manhole detail on the provided figure that shows the total vertical linear feet if precast or the square feet of face for a cast in place manhole. If the man hole is to be removed an estimate of the excavation volume must also be supplied.
  - o The Permittee will address how and why the Untreated Base Course will be treated at reclamation. Typically subgrade is removed and stockpiled.

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## Hydrologic Sediment Control Measures

*Analysis:*

The Permittee is proposing to regrade the Sufco employee parking lot to facilitate better drainage from the site. The water will sheet flow to sediment traps and will be routed to the sediment ponds. The changes made to the grading of the site do not require any additional changes to the drainage system for the Sufco main surface facilities.

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## Reclamation Plan

### Backfill and Grading General

*Analysis:*

The Permittee describes how the parking area adjacent to the mine office will be regraded to slope towards the proposed waterway at the center and then resurfaced with new asphalt.

*Deficiencies Details:*

R645-301-521.170, -527.200-.210,-542.200,& -553.100 Requires that road details will be provided that described all roads systems to be constructed, used or maintained within the purposed permit area. The description will include a map, appropriate cross sections, and specification for each road width, road gradient, road surface, road cut, fill embankment, etc. The Division requests additional information based on the assumption that the reclamation plan for the parking area remains unchanged as described in Chapter 5 Section 5.4 and Plate 5-3A-B due to no amendments to the stated section.

- The Permittee supplied a map to be added to Appendix 5-11 with most of the required information; however, the text describes how the site will be regraded to match the gradients shown in the figure but does not disclose how the new contours will affect the reclamation regarding volumes as described in Plate 5-3A-B.
  - o The Permittee will submit the volume changes, if any, as they will affect the earthwork cost estimate sheets in Appendix 5-9. This information can be presented as a cut/fill volumetric Figure showing the relevant information such as no addition cut/fill required, additional fill, or additional cut. An alternative to a figure could be the addition of text to Chapter 5 Section 5.4.2.2 describing the altered grading increase/decrease or text in Section 5.3.4.1 stating that the cut/fill for reclamation shown in Plate 5-3A remains unchanged, whichever is relevant.

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## Bonding Determination of Amount

*Analysis:*

The Permittee submitted updated sheets for the Office Building within the Demolition cost estimate reflecting the addition of the new four foot wide concrete waterway in the area. The demolition for the asphalt in the area was left unchanged due to it being placed back in place.

*Deficiencies Details:*

R645-301-830 The bond amount will be determined by the Division based upon the requirements of the approved permit and reclamation plan, reflect the probable difficulty of reclamation, etc.

- The line item for Steel Bldg. large has the wrong unit cost. According to the OSM Handbook for Calculation of Reclamation Bond Amounts, page 8, bond calculations will utilize the "bare cost" data from the RS Means reference manual.
  - o The 2014 RS Means 02 41 16.13 0020 bare unit cost is \$0.27/CF
- The Transportation Cost for a 16-ton Dump Truck describes and utilizes RS Means reference cost of 16-ton Dump Truck but utilizes the improper unit cost of 12 ton truck.
  - o Clarification is requested which truck was meant for this line item and then the following appropriate unit cost to be used:

Dump Truck 12 ton	01 54 33 20 5250	\$417.2 /day
Truck dump 16 ton payload	01 54 33 20 5300	\$692.2 /day
- There is an error in the costing of the Truck rental. The smallest increment is determined by the Unit in the Unit cost column. The total quantity displayed in the Quantity column must utilize the unit cost's unit. This means that the smallest increment is a day, which must be rounded up.
  - o The ceiling function must be utilized in determining the total cost of the truck rental. (i.e. 18.3 days=19 days, Total Cost=\$692.2/day \* 19 days=\$13,152)
- The line item for the asphalt demolition is improperly listed under six inches concrete demolition slab instead of six inches of asphalt with eight inches of untreated base course. The proper material description and units must be applied to match the RS Means unit cost.
  - o RS Means 02 41 13.17 5050 Bituminous removal 4" to 6" thick
- Clarification of the intent of the base course is required. In the event of removal, there is a line item missing for the removal of the 6617 cubic feet of base course.
  - o RS Means 01 54 33.20 0320 Excavator 2.5 CY capacity
- Addition of the manhole removal or abandonment whichever is relevant and requires clarification on details
  - o RS Means 02 41 13.42 0200 Manhole Demo, excluding excavation, cast in place 4'-8' deep.

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