

C/015/009 Incoming

#5240

**Fossil Rock Mine**

Rick Parkins  
General Manager  
225 North 5<sup>th</sup> Street Suite 900  
Grand Junction, CO 81501  
(970)263-5130

July 13, 2016

Permit Supervisor, Utah Coal Regulatory Program  
Utah Division of Oil, Gas and Mining  
1594 West North Temple, Suite 121  
PO Box 145801  
Salt Lake City, UT 84114-5801

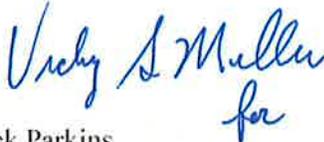
Re: Abatement Action for Citation #211730, Fossil Rock Resources, LLC, Permit Number C/015/0009

Dear Sirs:

Please find enclosed with this letter an amendment to the Fossil Rock Permit to address the Abatement Action for Citation #211730. The amendment includes calculations and text associated with ditches and diversions at the waste rock site.

If you have questions or need addition information please contact Vicky Miller at (435)286-4481.

CANYON FUEL COMPANY, Fossil Rock Mine



Rick Parkins  
General Manager

Encl.

cc: DOGM Correspondence File

RECEIVED

JUL 14 2016

DIV. OF OIL, GAS & MINING

RECEIVED

JUL 13

DIV. OF OIL, GAS & MINING

## APPLICATION FOR COAL PERMIT PROCESSING

Permit Change  New Permit  Renewal  Exploration  Bond Release  Transfer

Permittee: Canyon Fuel Company, LLC

Mine: Fossil Rock Resources, LLC

Permit Number: C/015/0009

Title: Abatement Action for Citation # 21173

Description, Include reason for application and timing required to implement:

**Instructions:** If you answer yes to any of the first eight (gray) questions, this application may require Public Notice publication.

- |   |   |
|---|---|
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 1. Change in the size of the Permit Area? Acres: _____ Disturbed Area: <input type="checkbox"/> increase <input type="checkbox"/> decrease. |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 2. Is the application submitted as a result of a Division Order? DO# _____  |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 3. Does the application include operations outside a previously identified Cumulative Hydrologic Impact Area?                               |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 4. Does the application include operations in hydrologic basins other than as currently approved?   |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 5. Does the application result from cancellation, reduction or increase of insurance or reclamation bond?                                   |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 6. Does the application require or include public notice publication?   |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 7. Does the application require or include ownership, control, right-of-entry, or compliance information?                                   |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 8. Is proposed activity within 100 feet of a public road or cemetery or 300 feet of an occupied dwelling?                                   |
| <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | 9. Is the application submitted as a result of a Violation? NOV # <u>21173</u>  |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 10. Is the application submitted as a result of other laws or regulations or policies?<br><i>Explain:</i> _____                             |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 11. Does the application affect the surface landowner or change the post mining land use?   |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 12. Does the application require or include underground design or mine sequence and timing? (Modification of R2P2)                          |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 13. Does the application require or include collection and reporting of any baseline information?   |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 14. Could the application have any effect on wildlife or vegetation outside the current disturbed area?                                     |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 15. Does the application require or include soil removal, storage or placement?   |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 16. Does the application require or include vegetation monitoring, removal or revegetation activities?                                      |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 17. Does the application require or include construction, modification, or removal of surface facilities?                                   |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 18. Does the application require or include water monitoring, sediment or drainage control measures?  |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 19. Does the application require or include certified designs, maps or calculation?   |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 20. Does the application require or include subsidence control or monitoring?   |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 21. Have reclamation costs for bonding been provided?   |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 22. Does the application involve a perennial stream, a stream buffer zone or discharges to a stream?  |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 23. Does the application affect permits issued by other agencies or permits issued to other entities?                                       |

Please attach four (4) review copies of the application. If the mine is on or adjacent to Forest Service land please submit five (5) copies, thank you. (These numbers include a copy for the Price Field Office)

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein.

RICHARD PARKINS  
Print Name

Richard Parkins, GENERAL MANAGER, 7-13-16  
Sign Name, Position, Date

Subscribed and sworn to before me this 13 day of JULY, 2016

Kathleen Widner  
Notary Public

My commission Expires: 8-3, 2018

Attest: State of COLORADO ) ss:  
County of MESA

**KATHLEEN WIDNER**  
Notary Public  
State of Colorado  
Notary ID 19944011144  
My Commission Expires Aug 3, 2018

|                                    |                                  |  |
|------------------------------------|----------------------------------|--|
| <p><b>For Office Use Only:</b></p> | <p>Assigned Tracking Number:</p> | <p>Received by Oil, Gas &amp; Mining</p> <p style="text-align: center; color: blue; font-size: 1.2em;">RECEIVED</p> <p style="text-align: center; color: red;">JUL 14 2016</p> <p style="text-align: center; color: blue;">DIV. OF OIL, GAS &amp; MINING</p> |
|------------------------------------|----------------------------------|--|



FOSSIL ROCK MINE

CHAPTER 4

## Chapter 4 – Land Use and Air Quality

### Table of Contents

|  |   |
|--|---|
| R645-301-400: Land Use and Air Quality.....    | 2 |
| R645-301-410 Land Use.....                     | 2 |
| R645-301-411 Environmental Description.....    | 2 |
| R645-301-412 Reclamation Plan.....             | 4 |
| R645-301-413 Performance Standards.....        | 4 |
| R645-301-420 Air Quality.....                  | 4 |
| R645-301-421 Clean Air Act.....                | 4 |
| R645-301-422 Utah Division of Air Quality..... | 5 |

Appendix A: Cultural Resource Evaluation

Appendix B: Air Quality Approval Order



FOSSIL ROCK MINE

CHAPTER 5

To minimize erosion on the road bed the road cross-section was sloped 1% toward the roadside ditch (refer to Exhibit I). Roadside ditches have been provided along the entire length of the road to channel runoff into the cross culverts. Sediment controls, i.e. straw bales and/or silt fences perpendicular to the flow have been placed at no more than 200 foot intervals to prevent additional sediments from entering the natural channel.

All drainage culverts are designed to safely pass the 10 year, 6 hour precipitation event without a buildup of head water at the inlet. The inlet of all culverts has been provided with a rock rip-rap headwall to protect against erosion. The culverts have a minimum of 12 inches of compacted cover and have been installed in line with the natural drainage channel. Refer to Plate 4-4 for location of all culverts and R645-301-700 Hydrology, Appendix C and C-1 for calculations.

#### Operation and Maintenance

On an as needed basis, as the road surface deteriorates due to usage and weather, a blade will be used to recontour the travel surface of the road. The rills and gullies will be backfilled and a smooth surface will be developed with side slopes of 1%. Road base gravel will be added to the surface as needed.

The ditches along the access road will be maintained at the same time as the road surface. A blade will be used to clean sediment and debris from the ditch. In areas where excessive erosion occurs, rock rip-rap will be placed to help control it.

The inlet and outlet works of all culverts will be maintained as needed. Any debris clogging these structures will be removed. Rock rip-rap will be used to control erosion. Any erosion that occurs on the fill or cut slopes will be repaired by either backfilling or in those cases where a small channel has developed, due to drainage concentration, a rip-rap channel will be established.

The silt fences along the toe of the road fill sections or in the roadside ditches will be cleaned of sediment accumulation by backhoe or hand methods. This material will be either used to backfill rills and gullies or disposed in the waste rock site.

#### **Waste Rock Storage Facility Design**

The facility is designed to fit into the existing topography of the area with as little disturbance as is possible to the existing drainage system. Only one ephemeral drainage channel required a permanent diversion for the construction and operation at the facility. At completion, only 15.82 acres have been disturbed. A sediment pond designed and constructed as part of the facility catches and treats all the runoff from the site before releasing it back into the natural channel (refer to R645-301-700, Appendix C). The construction, operation, and reclamation of the facility will occur in the following sequence:

the surface of the pile will discharge in a controlled manner into ditch DA and then to the sediment pond as shown on Drawing CM-10877-WB, Plate 4-14. Should water accumulate in depressions on the surface of the waste material, to a level which may affect the stability of the waste pile, this water will be pumped to the sediment pond. When the active surface of the refuse pile reaches an elevation of approximately 6,795 feet, drainage control will be as the following describes. The western diversion ditch, labeled DA on Plate 4-5, drains the upland undisturbed areas, the top of the waste pile, the west slope of the waste pile and the top and inside slope of the topsoil pile. The eastern diversion ditch (DB) drains the east slope of the waste pile and top and inside slope of the subsoil stockpile. The total runoff to be collected into the sediment pond is 2.17 acre feet for the 10 year, 24 hour storm event. The estimated annual sediment production for the site is 1.65 acre feet. The actual design of the sediment pond provides 4.58 acre feet of storage so that there is 2.41 ac. ft. of sediment storage available. The spillway for the sediment pond safely passes runoff from a 25 year, 6 hour storm event with the required one foot freeboard. Refer to R645-301-700 Hydrology, Appendix C and C-1 for all hydrological calculations.

The outside slopes of the two soil stockpiles have silt fences constructed at their bases to treat the runoff from precipitation and are designated as alternate sediment control area 1D, Plate 4-2. Interim revegetation was accomplished as soon as practical after construction to stabilize the slopes.

As needed the ditches and diversion will be re-established/cleaned using equipment suited to the task. Due to the limitations associated with access to ditches DA and DB, their proximity to the undisturbed area boundary and refuse pile slopes the cleaned ditches will resemble a box shape. Eventually the ditches will take on various geometric shapes as the unconsolidated native and fill material reach their natural angle of repose. The ditches will be re-established/cleaned in a manner to convey runoff to the sediment pond, with appropriate flow capacities as required by the permit.

Supplemental information has been added in Appendix C-1. Figure 2 provides additional configurations for Ditch DA. A trapezoidal ditch as permitted has been drawn inside the outline of the various ditch shape having the potential to occur as the box ditch obtains its natural angle of repose.

Monitoring of these drainage controls will be on a regular basis and maintenance will be scheduled as needed to ensure that they operate as designed. The ditches and silt fences will be cleaned, repaired and reshaped with a backhoe or hand methods as appropriate.

### **Waste Rock Storage Facility Placement and Handling of Materials**

During the operation of the mine, certain waste products are generated that are not part of the coal product, they include; underground development waste, trommel screen reject, and sediment from the pond and drainages. The fill of the disposal site comprises of material that



FOSSIL ROCK MINE

CHAPTER 7

## Chapter 7 - Hydrology

### Table of Contents

|   |    |
|---|----|
| R645-301-700: Hydrology .....   | 2  |
| R645-301-710 Introduction .....   | 2  |
| R645-301-724 Baseline Information .....                                 | 2  |
| R645-301-728 Probable Hydrologic Consequences (PHC) Determination ..... | 4  |
| R645-301-730 Operation Plan .....                                       | 4  |
| R645-301-740 Design Criteria and Plans .....                            | 5  |
| R645-301-742 Sediment Control Measures .....                            | 5  |
| R645-301-747 Disposal of Non-Coal Mine Waste .....                      | 6  |
| R645-301-748 Casing and Sealing of Wells .....                          | 6  |
| R645-301-750 Performance Standards .....                                | 6  |
| R645-301-751 Water Quality Standard and Effluent Limitations .....      | 7  |
| R645-301-752 Sediment Control Measures .....                            | 7  |
| R645-301-753 Impoundments and Discharge Structures .....                | 9  |
| R645-301-755 Casing and Sealing of Wells .....                          | 10 |
| R645-301-760 Reclamation .....  | 10 |
| R645-301-763 Siltation Structures .....                                 | 10 |
| R645-301-765 Permanent Casing and Sealing of Wells .....                | 10 |

Appendix A: Request for Well Monitoring Construction

Appendix B: Water Well Analysis Reports

Appendix C: Drainage Control Design

Appendix C-1: Additional Diversion Ditch Details

reasonably treated by the sedimentation pond due to remote geographic locations, and which could not meet effluent limitations without treatment. These areas are considered Alternative Sediment Control Areas (ASCA). These areas will be treated by best management practices (BMP's) which include, but are not limited to: silt fences, berms, catch basins, vegetation, sediment filters, rolled erosion control products. ASCA areas present at the Waste Rock Storage Facility include the access road and the subsoil pile. Refer to Plate 4-2 for location of ASCA areas with this site. Also refer to Appendix C and C-1 for the design of drainage control structures.

#### **R645-301-747 Disposal of Non-Coal Mine Waste**

Inherently, non-coal mine waste finds its way into the coal produced from the underground mining process. This waste is transported out of the mine with the produced coal. During breaking and screening (sizing) of the coal product, coal mine waste (refuse) is removed and separated from the final coal product. This waste stream is transported to the Waste Rock Storage Facility for permanent disposal.

As required by R645-301-528.330, non-coal wastes including, but not limited to, grease, lubricants, paints, flammable liquids, garbage, and other combustible materials generated during mining activities will be disposed of in a solid waste disposal area. Non-coal wastes found in the storage pile are removed prior to permanent placement of the material. The non-coal waste is temporarily stored at the site until such time it can be transported off-site to a proper solid waste disposal site.

#### **R645-301-748 Casing and Sealing of Wells**

The water well located at the Waste Rock Storage Facility shall be cased, sealed, or otherwise managed, as approved by the Division, to prevent acid or other toxic drainage from entering ground or surface water, to minimize disturbance to the hydrologic balance, and to ensure the safety of people, livestock, fish and wildlife, and machinery in the permit and adjacent area.

The well has been provided with a steel casing and cemented in place at the surface. A lockable end cap is installed to prevent unauthorized access to the well.

#### **R645-301-750 Performance Standards**

Coal mining and reclamation operations will be conducted to minimize disturbance to the hydrologic balance within the permit and adjacent areas, to prevent material damage to the hydrologic balance outside the permit area and support approved post-mining land uses in accordance with the terms and conditions of the approved permit and the performance standards of R645-301 and R645-302. For the purposes of SURFACE COAL MINING AND RECLAMATION ACTIVITIES, operations will be conducted to assure the protection or replacement of water rights in accordance with the terms and conditions of the approved permit and the performance standards of R645-301 and R645-302.

### **R645-301-751 Water Quality Standard and Effluent Limitations**

Discharges of water from areas disturbed by coal mining and reclamation operations will be made in compliance with Utah and federal water quality laws and regulations and with effluent limitations for coal mining promulgated by the U.S. Environmental Protection Agency set forth in 40 CFR Part 434.

If the site receives a storm greater than the designed capacity of the sediment pond, discharge from the sediment pond will be routed through the designed emergency spillway and into the ephemeral drainage. Discharge from the sediment pond would constitute an emergency situation and comply with State of Utah Department of Environmental Quality Division of Water Quality storm water regulations.

### **R645-301-752 Sediment Control Measures**

Sediment control measures will be located, maintained, constructed and reclaimed according to plans and designs given under R645-301-732, R645-301-742 and R645-301-760 (refer to Appendix C and C-1: Drainage Control Plan for design, construction and maintenance of sediment controls for the Waste Rock Storage Facility).

At reclamation of the Waste Rock Storage Facility, pocking (or surface roughening) will be used to intercept and trap sediment on a microscale. Roughening also collects moisture, which improves vegetation establishment and consequently prevents erosion. Pocking is highly recommended for moderate to steep slopes (up to 1h:1½v) but is also useful for flat or gently sloping areas with erosive soils and arid climates. Pocks are created by the use of a track-hoe shovel to dig, poke, or push basins with a minimum depth of eighteen inches. These basins should be 1 ½ to 2 feet deep and have the width of the bucket. This allows the basins to be up to four feet wide. The most common construction method is to dig a bucket load of soil and then drop it 2 to 3 feet above the soil surface. Repeat this process in a random and overlapping pattern, making it impossible for water to flow down slope.

Sediment control shall be maintained as runoff will be limited or eliminated by ponding water within the pocks. To illustrate the effectiveness of the pocks for controlling erosion and sedimentation, the revised universal sediment loss equation is used in a modeling program as discussed below (UDOGM, Practical Guide to Reclamation in Utah, pg 106).

Justification to control runoff is made by utilizing the computer program RUSLE2. This program solves a set of mathematical equations that compute values for rill and inter-rill erosion on the overland portion of the landscape. The user inputs variables to describe the site conditions such as climate, topography, soils, management practices, etc. to compute estimates for soil loss within the site.

Three areas were modeled using RUSLE2. These areas are the reclaimed berms of the refuse pile, the reclaimed top of the pile, and the reference area immediately north of the pile. The

reference area was chosen because it is a main contributor of sediment near the site.

Variables used are those listed in the database files of the RUSLE2 program version 2.0.4.0. Not all variables are directly representative (i.e. location) of the site conditions; however they were similar to the conditions found at the site.

Results of the modeling calculations showed that sediment contributions from the pile are 0.23 t/ac/yr (top of reclaimed pile) and 0.16 t/ac/yr (reclaimed berms). The soil loss eroded portion of the reclaimed berms computed a 2.6 t/ac/yr. However, because of how terraces are constructed on the berms during reclamation, the program credits for deposition of sediment.

The reference area calculations (or soil loss from areas out of the permit area) showed sediment contributions of 16 t/ac/yr. The yield from this area is appreciably more than the sediment contributions from the reclaimed area. Therefore, a case is made that shows there will be no additional contributions of suspended solids to areas outside of the permit area than what naturally exist. Refer to Appendix Exhibit XXII to review the Erosion Calculation Worksheets.

- 752.100 Siltation structures and diversions are located, maintained, constructed and will be reclaimed according to plans and designs given under R645-301-732, R645-301-742 and R645-301-763.
- 752.200 Road Drainage. Roads are located, designed, constructed, reconstructed, used, maintained and will be reclaimed according to R645-301-732.400, R645-301-742.400 and R645-301-762 and to achieve the following:
- 752.210 Control or prevent erosion, siltation and the air pollution attendant to erosion by vegetating or otherwise stabilizing all exposed surfaces in accordance with current, prudent engineering practices;
- 752.220 Control or prevent additional contributions of suspended solids to stream flow or runoff outside the permit area;
- 752.230 Neither cause nor contribute to, directly or indirectly, the violation of effluent standards given under R645-301-751;
- 752.240 Minimize the diminution to or degradation of the quality or quantity of surface- and ground-water systems; and
- 752.250 Refrain from significantly altering the normal flow of water in streambeds or drainage channels.

### **R645-301-755 Casing and Sealing of Wells**

All wells will be managed to comply with R645-301-748 and R645-301-765. The water well will be cased, sealed, or otherwise managed, as approved by the Division.

### **R645-301-760 Reclamation**

Before abandoning a permit area or seeking bond release, the permittee will ensure that temporary structures are removed and reclaimed, and that sedimentation ponds, diversions, impoundments and treatment facilities meet the requirements of R645-301 and R645-302 for permanent structures, have been maintained properly and meet the requirements of the approved reclamation plan for permanent structures and impoundments. ~~PacifiCorp~~ The permittee will renovate such structures if necessary to meet the requirements of R645-301 and R645-302 and to conform to the approved reclamation plan. For complete discussion related to the reclamation plan for the Waste Rock Storage Facility refer to R645-301-500 Engineering, and Plates 4-7 and 4-12 in the Maps Section.

### **R645-301-763 Siltation Structures**

It is planned for the sediment pond to be removed during the reclamation of the Waste Rock Site as outlined in R645-301-540. State and Federal regulation require such structures to remain for at least two years after the last augmented seeding unless removal is authorized by the Division. For the Division to authorize removal a case must be made by the permittee that removal of the siltation structure will not contribute additional suspended solids to stream flow or runoff outside the permit area.

### **R645-301-765 Permanent Casing and Sealing of Wells**

When no longer needed for monitoring or other use approved by the Division upon a finding of no adverse environmental or health and safety effects, the water well shall be abandoned and provided a watertight barrier to the migration of water in the well bore, in the annular spaces or in fractures and openings adjacent to the well bore. Well abandonment shall be conducted as approved by the Division.



FOSSIL ROCK

WASTE ROCK STORAGE FACILITY

## **CHAPTER 7**

### **APPENDIX C-1 – ADDITIONAL DIVERSION DITCH DETAILS**

## **Additional Diversion Ditch Details**

July 7, 2016

Arthur Etter P.E.

### General

This section is included as a supplement to the original design engineer's analysis and is intended to provide the site operator with additional options for the final cross-sectional shape of diversion Ditch DA. The need for the additional configurations are a result of both the operational difficulties associated with maintaining a v-ditch and the propensity of the native, unconsolidated fill material to reach the natural angle of repose.

### Ditch DA

In an effort to reduce erosion each ditch configuration is designed with a maximum mean velocity of five feet per second. Additional Ditch DA cross-sections will be trapezoidal and unlined. These ditch configurations will be applicable for the entire ditch length until it approaches the pond where the slope increases from 2 to 18%. At that point, a wide, rip-rap lined trapezoidal ditch, as detailed on drawing sheet number CM-10830-WB will be used.

The original design parameters and methodologies will remain unchanged. Manning's number is 0.035, channel slope is 2%, maximum mean velocity is five feet per second, and the minimum design flow for each ditch configuration is 18.9 cubic feet per second. The ditch capacity is calculated for each shape as follows.

$$Q = A * V$$

where: Q = discharge or flow, ft<sup>3</sup>/s

A = cross-sectional area of flow, ft<sup>2</sup>

V = mean cross-sectional velocity, ft/s

For a given depth of flow in an open channel with steady, uniform flow, the mean velocity is computed with Manning's equation.

$$V = \frac{1.486}{n} * R^{2/3} * S^{1/2}$$

where: n = Manning's roughness coefficient, 0.035

R = hydraulic radius = A/P, ft

P = wetted perimeter, ft

S = channel slope, ft/ft

For a trapezoidal shaped open channel as shown in Figure 1, the area, hydraulic radius and wetted perimeter are calculated as follows.

$$A = y * (B + y * z)$$

$$P = B + 2 * y\sqrt{(1 + z^2)}$$

$$R = A/P$$

where: y = height of flow, ft  
 B = width of base, ft  
 z = side slope, ft/ft

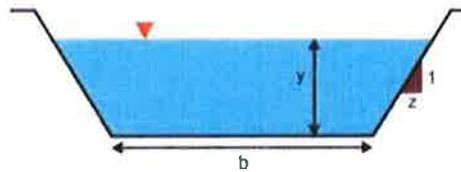


Figure 1: Ditch Section View

The ditch capacity and mean flow velocity for each of the configurations is presented in Table 1.

| Description | Water Depth | Side Slope, | Channel Base | Flow Velocity | Discharge |
|-------------|-------------|-------------|--------------|---------------|-----------|
|             | y (ft)      | Z (ft/ft)   | B (ft)       | V (ft/s)      | Q (cfs)   |
| Section A   | 1.00        | 0.0         | 4.50         | 4.7           | 21.15     |
| Section B   | 1.00        | 0.5         | 4.00         | 4.8           | 21.74     |
| Section C   | 1.00        | 1.0         | 3.50         | 4.8           | 21.53     |
| Section D   | 1.00        | 1.5         | 3.00         | 4.6           | 20.92     |
| Section E   | 1.00        | 2.0         | 2.50         | 4.5           | 20.18     |
| Section F   | 1.00        | 2.5         | 2.00         | 4.3           | 19.42     |

Table 1: Ditch DA Discharge Capacities

Figure 2 presents the additional ditch configurations that are acceptable to use at the waste rock storage site.

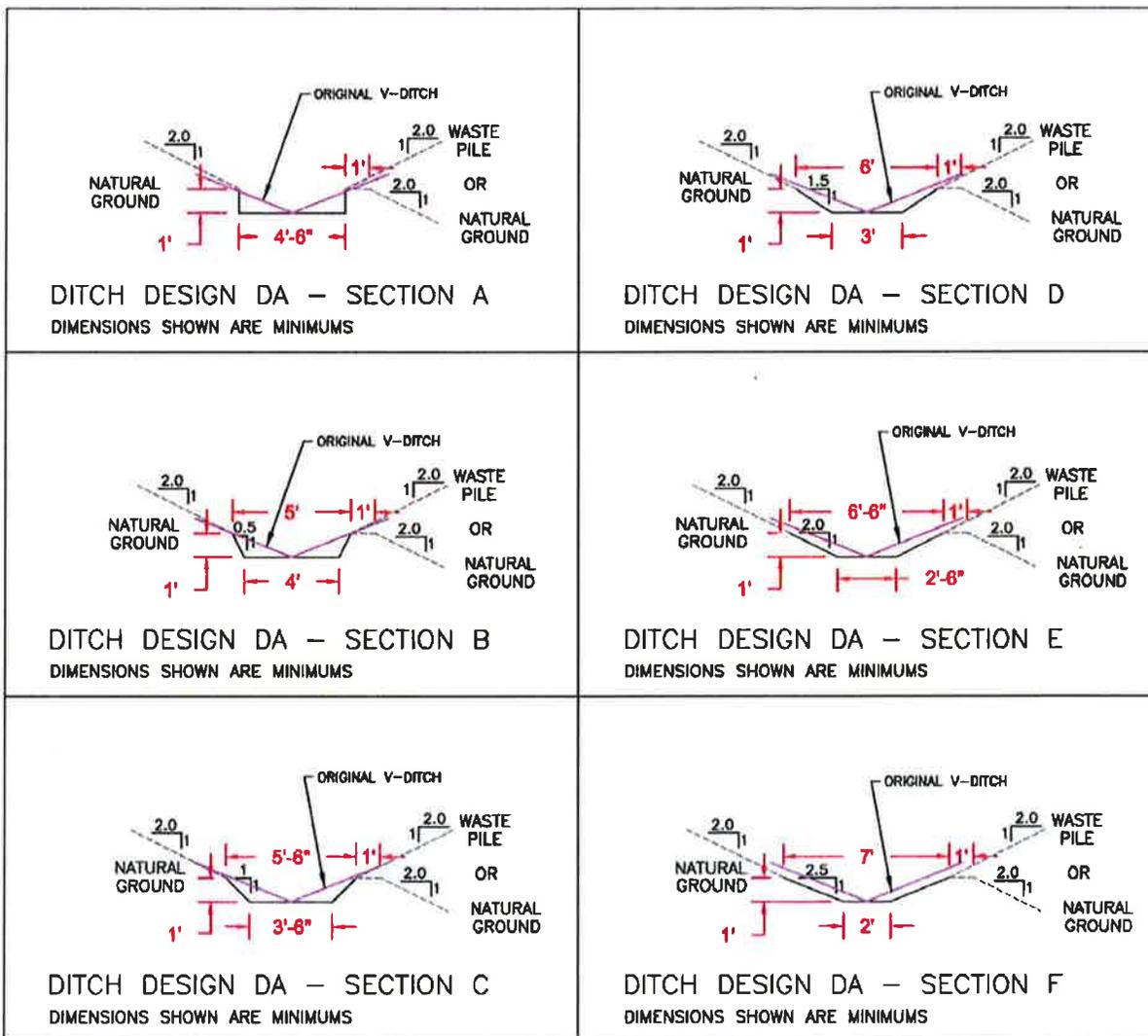


Figure 2: Additional Ditch DA Configurations

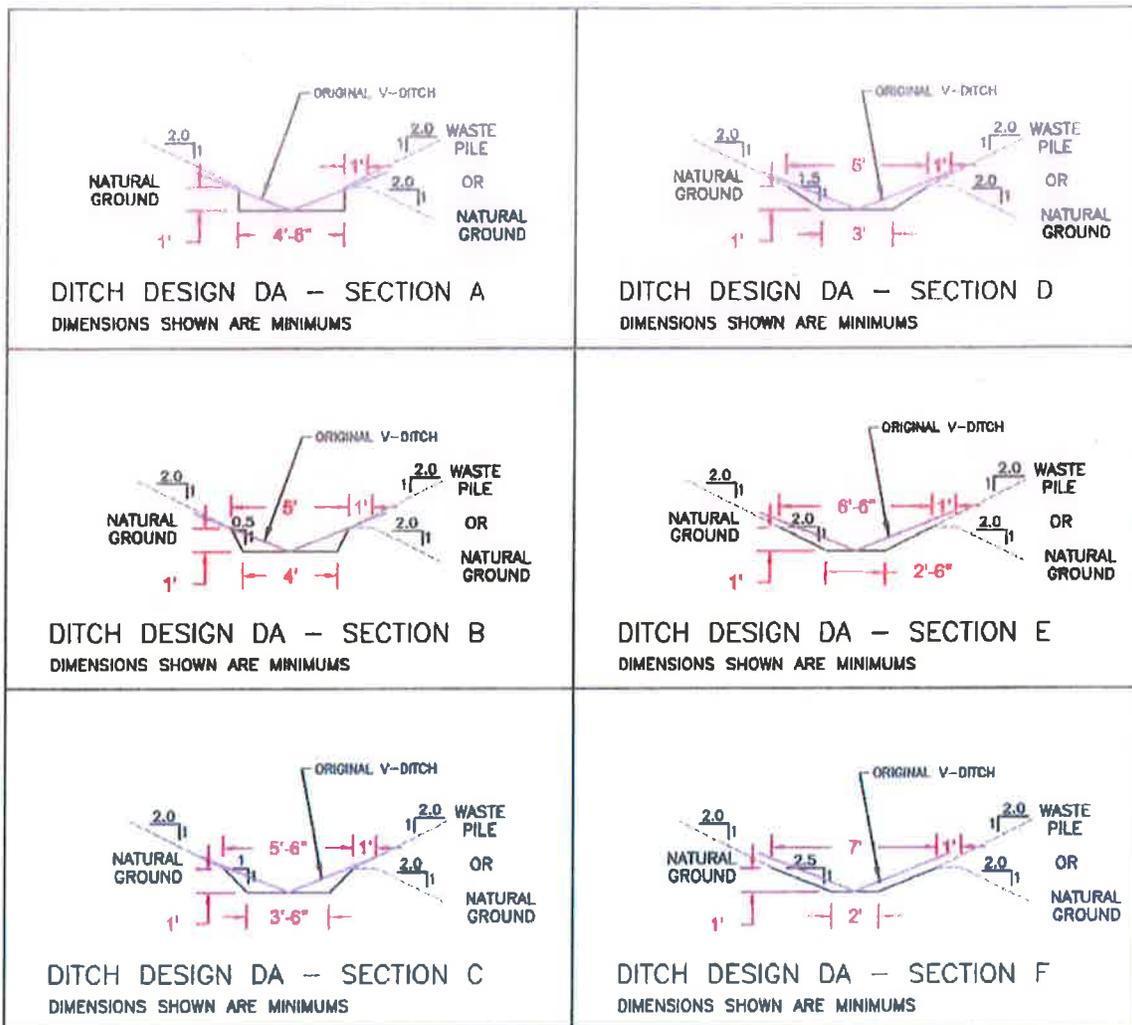


Figure 2: Additional Ditch DA Configurations

