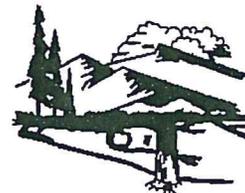




# Department of Environmental Quality



To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.

Matt Mead, Governor

Todd Parfitt, Director

September 2, 2016

Exhibit 88

Joe Artery  
P. O. Box 110  
Lander, WY 82520

Re: AML Project 17.32  
Task Order Number No. 48-16  
Portal Closures at Acme, Kooi, and Old Monarch Mines

Dear Mr. Artery:

Enclosed is an original AML-signed Task Order for the above referenced project. Please sign and date the Task Order on page 2 of the document. Return one copy of the entire original signed document to the following address:

Jane Nuoci  
Abandoned Mine Land Division  
200 W. 17<sup>th</sup> Street Suite 400  
Cheyenne, WY 82002

Thank you for your cooperation on this matter. If you have any questions please do not hesitate to call me at 307-777-6145.

Sincerely,

Alan Edwards  
AML Administrator

AE/mlb

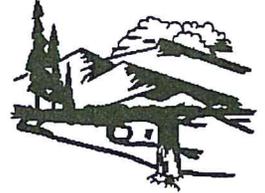
Enclosure





# Department of Environmental Quality

To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.



Matt Mead, Governor

Todd Parfitt, Director

September 16, 2016

Department Administration and Information  
Division of General Services  
Procurement  
700 West 21<sup>st</sup> Street  
Cheyenne, WY 82002

Attn: Brenda Crozier, Principal Buyer

Re: Statewide Contract – Artery Construction, Inc.  
AML Project 17.32 - Task Order Number 48-16  
Portal Closures at Acme, Kooi, and Old Monarch Mines

Dear Ms. Crozier:

This letter is written notification that Task Order 48-16 has been executed between the State of Wyoming, Department of Environmental Quality, Abandoned Mine Land Division (AML) and Artery Construction, Inc. for portal closures at Acme, Kooi, and Old Monarch Mines north of Sheridan (AML Project 17J) in Sheridan County at an estimated cost of \$161,078.00. The work will begin approximately on September 19, 2016 and is expected to be completed by December 31, 2016.

If I can be of any assistance, please contact me at 307-777-6145.

Sincerely,

Alan Edwards  
AML Administrator

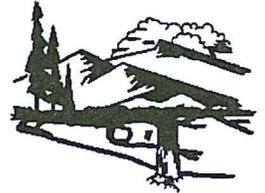
AE/mlb

ec: Bill Locke  
Jeff Swanson  
Jean Weiss





# Department of Environmental Quality



To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.

Matt Mead, Governor

Todd Parfitt, Director

September 16, 2016

Department of Employment  
Division of Employment Affairs  
1510 E. Pershing Blvd., Ste. 2015  
Cheyenne, WY 82002

Attn: Jason Delo, Program Manager

Re: Statewide Contract – Artery Construction, Inc.  
AML Project 17.32 - Task Order Number 48-16  
Portal Closures at Acme, Kooi, and Old Monarch Mines

Dear Mr. Delo:

This letter is written notification that Task Order 48-16 has been executed between the State of Wyoming, Department of Environmental Quality, Abandoned Mine Land Division (AML) and Artery Construction, Inc. for portal closures at Acme, Kooi, and Old Monarch Mines north of Sheridan (AML Project 17J) in Sheridan County at an estimated cost of \$161,078.00. The work will begin approximately on September 12, 2016 and is expected to be completed by December 31, 2016.

If I can be of any assistance, please contact me at 307-777-6145.

Sincerely,

Alan Edwards  
AML Administrator

AE/mlb

cc: Bill Locke  
Jeff Swanson  
Jean Weiss



**ATTACHMENT A  
AML PROJECT 17.32  
TASK ORDER NO. 48-16**

AML Contractor: Artery Construction Inc.

AML Project Manager: Jeff Swanson

AML Project Engineer: RESPEC

1. Upon execution of this Task Order No. 48-16, the CONTRACTOR is required to commence the work described herein as Appendix A.
2. The CONTRACTOR will be reimbursed at the unit rates as specified in Section C, Bid Proposal, of the Contract Documents, and in the CONTRACTOR'S cost estimate attached hereto as Appendix B. If this Task Order will result in the creation of new pay item or any change in the billing rates, then a Contract Amendment must be completed and fully executed before the Task Order is initiated.
3. Materials costs shall be reimbursed to the CONTRACTOR by either lump sum (LS) or in accordance with costs reflected in materials purchase receipts presented at the conclusion of the Work. The agreed upon method of reimbursement (LS or receipt) shall be identified in Appendix A, Statement of Work of this Task Order.
4. Total costs associated with this Task Order No. 48-16 shall **not exceed \$ 166,078.00.**
5. Task Order Budget

A.	Previous Task Order Obligations	\$	<b>284,905.00</b>
B.	Task Order No. 48-16	\$	<b>166,078.00</b>
<b>Total Obligations =</b>			<b>\$ 450,983.00</b>
6. Under this Task Order, the work required is attached hereto as Appendix A.
7. **Term of Task Order.** The date of this Task Order is September 16, 2016. This Task Order shall remain in effect until completion of the task on or before the time frame agreed to by parties, but in any event, no later than December 31, 2016.
8. **Changes to Task Order.** Modifications or changes to the specific terms of this Task Order shall be made only upon mutual written agreement by the parties, by Amendment, by Change Order, or Field Order.

9. **Notice to Proceed.** The AML Administrator will issue a fully executed written Task Order to the CONTRACTOR before any work can commence. A fully executed Task Order will act as a Notice to Proceed (NTP). Any costs incurred for work performed by the CONTRACTOR before the issuance of the NTP for this Task Order, will be considered outside the Contract Scope of Work and

will not be eligible for payment.

**Notice to Proceed:** On or before September 16, 2016.

**10. Special Provisions.** With the exception of the tasks explicitly delineated in this Task Order, all other conditions of the original Contract, including but not limited to Sovereign Immunity, shall remain unchanged and in full force and effect.

**11. Signatures.** In witness thereof, the parties to this Contract, either personally or through their duly authorized representatives, have executed this Task Order No. 48-16 on the dates set out below, and certify that they have read, understood, and agreed to the terms and conditions of this Task Order.

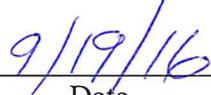
**DEPARTMENT OF ENVIRONMENTAL QUALITY,  
ABANDONED MINE LAND DIVISION**

  
\_\_\_\_\_  
Alan Edwards, AML Administrator

  
\_\_\_\_\_  
Date

**ARTERY CONSTRUCTION, INC.**

  
\_\_\_\_\_  
Brady Joe Artery, President

  
\_\_\_\_\_  
Date

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**APPENDIX A**  
**STATEMENT OF WORK – TASK ORDER NO. 48-16**  
**Acme, Kook, and Old Monarch Mines Reclamation – AML Project 17J**  
**SECTION 1 – INTRODUCTION**

This Statement of Work (SOW) describes the hazard mitigation work to be performed at the following AML sites located in Sheridan County (see Sheet No. 1):

- A. 032183 - ACME No. 3 Mine (ACME 2016 – 1&2) 10 miles north of Sheridan
- B. 032042 - Kooi Mine (Kooi 2016-1 & 2) 11 miles north of Sheridan
- C. 032045 - Old Monarch Mine (Monarch 2016-1 & 2) 11 miles north of Sheridan

These sites consist of surface subsidence features common found in overlying shallow room-and-pillar coal mines. The features develop from the collapse of the mine roof into an underground mine opening, resulting in caving of the overlying strata and an abrupt depression in the ground surface. The subsidence features are to be over excavated, a rock concrete wedge will be constructed in the over excavation, and the remaining portion of the feature will be backfilled and revegetated.

**SECTION 2 – GENERAL INFORMATION**

**Description of Work**

- A. This work shall generally include the following sequential work items:

ACME 2016 -1&2, Kooi 2016 – 1 & 2 and the Monarch 2016-1 & 2 Sites:

1. Strip, salvage, and stockpile the topsoil from around each subsidence feature.
2. Over excavate the subsidence feature in the shape of a truncated cone to a minimum 15 foot depth stockpiling the over excavated material nearby.
3. Place 12 inch minimum diameter rock into each over excavated subsidence to a minimum thickness of ten foot, or as approved by the Engineer.
4. Place concrete into the rock voids.
5. Allow the concrete to cure for a minimum of 24 hours.
6. Remove the over excavated material from the temporary stockpiles and place as backfill over the rock/concrete closure. Place the backfill material in 12 inch lifts. Level each lift and compact with available equipment, as approved by the Engineer. Mound the backfill material to direct surface water away from the closure.
7. Replace the salvaged topsoil evenly over all disturbed areas.
8. Hand broadcast seed at all disturbed areas. The seed shall be covered with approximately ¼ inch of topsoil by raking or other methods approved by the Engineer.

- B. The Contractor shall furnish all labor, tools, supplies, and equipment necessary to perform the site preparation, excavation, hauling, backfilling, and grading, as shown on the Drawings, as described herein, and as directed by the Engineer.
- C. Some of the work may require the Contractor to work in close proximity to steep slopes and underground mine workings. The Contractor shall be responsible for using extreme caution when doing any work on or near these hazards. The Contractor shall take appropriate precautions to ensure the safety of Contractor's personnel and equipment when working in these areas. The Contractor shall be responsible for the health and safety of Contractor's personnel, assigns, subcontractors, and suppliers. Special precautions must be taken, as required, to protect operators and equipment from hazards.
- D. Excavation shall include all material classifications removed from within the designated areas, as directed by the Engineer.
- E. Selective handling of topsoil/coversoil and unclassified material during earthwork activities is required. The Contractor shall be aware that topsoil/coversoil may be encountered at all times and at all locations on the project. Encountered topsoil/coversoil shall be stockpiled in locations determined by the Engineer or placed on graded slopes as directed by the Engineer.
- F. The Contractor shall be aware that old mining and domestic debris such as tires, concrete, scrap metal, wood, and domestic trash may be encountered. This material shall be disposed of as directed by the Engineer. The Contractor will be reimbursed for dumping fees (actual invoices) related to off-site disposal of such materials, if required.

## **Definitions**

- A. Topsoil/Coversoil – materials that include roots, organic materials, vegetation, and have the appropriate physical and chemical characteristics, as defined in the field by the Engineer, to allow use as a plant growth medium.
- B. Unclassified material - rock, sand, soil (wet or dry) that does not meet the criteria for topsoil/coversoil, is removed from its present location, and is hauled and placed as backfill material.
- C. Sinkhole – an abrupt vertical or nearly vertical opening at the surface generally caused by a sudden failure of the overburden into an underground mine opening.
- D. Subsidence – The gradual sinking of landforms to a lower level as a result of mining operations.

- E. Unsuitable Material – includes coal and may include mining debris, metal objects, concrete, or other man-made materials indicative of prior mining activity.
- F. Engineer – The Engineer for this AML Project 17J is RESPEC Consulting and Services.
- G. Work – All planning, management, equipment, personnel, materials, fuel, office support, insurance, services and other incidentals required to execute the reclamation and remediation of the AML Sites included herein. Contractor shall use his/her best efforts to perform the work in an expeditious manner consistent with this SOW.

### **Health and Safety**

- A. The Contractor is responsible for site safety at all times. The Contractor shall be aware that the site is remote and that a safety plan shall be in place prior to performing the reclamation work. The safety plan shall include, but is not limited to, a means of communication, emergency phone numbers, evacuation route, and personal protection equipment as needed.
- B. Much of the site access through the Taylor property and designated earthwork required for this SOW are in areas which may have been historically mined underground and the Contractor shall be aware of the potential for hazardous subsidence sinkholes which may occur at random. It shall be the responsibility of the Contractor to examine the access road and site personally and to conduct such additional investigations as necessary for the execution of the work.
- C. The Contractor shall be aware that coal and coal fumes are combustible materials. The Contractor shall be responsible for using extreme caution when performing the work and take appropriate measures that will prevent the starting of any fires.
- D. The Contractor is responsible for the health and safety of personnel, subcontractors, and suppliers. Special precautions shall be taken to protect operators and equipment from hazards. The Contractor, personnel, subcontractors, and suppliers may be exposed to coal dust during performance of the work.

### **Stormwater Discharge General Permitting**

- A. The State of Wyoming Abandoned Mine Land Division (AML) has obtained a General Permit to Discharge Stormwater Associated with Small Construction Activity under the Wyoming Pollutant Discharge Elimination System (WPDES). This General Permit applies to this project. The Contractor is responsible for the construction, maintenance, replacement, and removal of temporary erosion control devices as required by the permit and as directed in the field by the Engineer.

## SECTION 3 – SITE SPECIFIC INFORMATION

### Site Conditions

- A. Much of the designated earthwork required for this SOW is in areas which have been historically mined underground and the Contractor shall be aware of the potential for hazardous subsidence sinkholes which may occur at random. It shall be the responsibility of the Contractor to examine the sites personally and to conduct such additional investigations as necessary for the execution of the work.
- B. The Contractor is responsible for the health and safety of personnel, subcontractors, and suppliers. Special precautions shall be taken to protect operators and equipment from hazards. The Contractor, personnel, subcontractors, and suppliers may be exposed to coal dust during performance of the work.

### Project Location & Site Access

- A. ACME No. 3 Mine (ACME 2016 – 1) site is located north of Sheridan. Travel north out of Sheridan on I-90 approximately 10.1 miles and exit at the WY-345/Acme Rd. (Exit #14) turning left at the stop sign onto the Acme/Monarch Rd.. After passing beneath I-90, turn right on WY- 345 and head west. Travel west approximately 2 miles then turn right at the entrance to Taylor Quarry. Travel along the quarry entrance road, driving past the Scale House and staying on the main haul road for .4 miles from the turn off at County Road 345. The subsidence lies to the south of the haul road approximately 10 yards (see Sheet No. 2). Site Coordinates Acme 2016-1: Latitude 44°54'48.03"N, Longitude - 107° 3'36.95"W. Site Coordinates Acme 2016-2: Latitude 44°54'48.112"N, Longitude - 107° 3'36.348"W
- B. Kooi Mine (Kooi 2016-1 & 2) is located north of Sheridan. Traveling north out of Sheridan on I-90 for approximately 10.1 miles, exit at the WY-345/Acme Rd. (Exit #14) turning left at the stop sign onto the Acme/Monarch Rd.. After passing beneath I-90, turn right on WY- 345 and head west for three miles. Turn left off of WY- 345 onto Kooi Road and follow Kooi Road until it ends. Proceed through the barbed wire gate at the south side of the Kooi Road termination. Follow the two track road down around the corner and over the dry creek bed (approximately .10 miles). Turn left onto another two track road and proceed through the first wire gate traveling east to the second wire gate. Once through the gate turn right and proceed along the fence line for 1,100 ft. to the intersection of two fences. The site is located approximately 260 feet west of the intersection; the second site is directly north of this site on the hill side (see Sheet No. 2). Site Coordinates Kooi 2016-1: Latitude 44°54'3.99"N,

Longitude - 107° 4'4.15"W. Site Coordinates Kooi 2016-2: Latitude 44°54'4.67"N, Longitude - 107° 4'4.05"W.

- C. Old Monarch Mine (Monarch 2016-1 & 2) is located north of Sheridan. Traveling north out of Sheridan on I-90 for approximately 10.1 miles, exit at the WY-345/Acme Rd. (Exit #14) turning left at the stop sign onto the Acme/Monarch Rd.. After passing beneath I-90, turn right on WY- 345 and head west for three miles. Turn left off of WY- 345 onto Kooi Road and follow Kooi Road until it ends. Proceed through the barbed wire gate at the south side of the Kooi Road termination. Follow the two track road for approximately one mile. Turn left onto another two track road. Proceed approximately ½ mile and bear left proceed for another ¾ of a mile. At this point the site is located approximately 1,000 feet to the east (see Sheet No. 2). Site Coordinates Monarch 2016-1: Latitude 44°53'58.06"N, Longitude - 107° 3'26.10"W. Site Coordinates Monarch 2016-2: Latitude 44°54'0.54"N, Longitude - 107° 3'24.66"W.
- D. During execution of the work, the Contractor must stay on designated roads, as shown on the Drawings. Roads shall be maintained and watered for efficient prosecution of the work and to minimize dust generation, as directed by the Engineer.
- E. The Contractor will not be allowed to build new access roads or travel outside the designated routes, as shown on the Drawings, without prior written approval of the Engineer.
- F. The Contractor shall be liable to private landowners, Sheridan County, the State of Wyoming, and/or the United States Government for damages to any private or public roads utilized by the Contractor. This includes rutting, loss of gravel, loss of shape, cattle guard damage, fences, fence gates, etc., as determined by the Engineer.
- G. The Contractor shall be responsible to reimburse landowners or leaseholders for livestock or other property injured or damaged by Contractor's traffic on the access roads.
- H. All costs associated with the maintenance and/or upgrades to any of the existing access roads shall not be paid for directly, but shall be considered subsidiary to Mobilization / Demobilization.
- I. Prior to any new access road or haul road construction, available topsoil shall be stripped as directed by the Engineer, and either windrowed adjacent to the road or stockpiled in a manner that minimizes wind and water erosion. Any and all new access or haul roads constructed will be reclaimed upon completion of the project.

- J. All costs associated with Engineer authorized new access road and/or haul road construction and reclamation shall be paid for on a "Time and Material" basis utilizing the materials, labor and equipment types described in the associated AML 17.32-3 Task Order.

## **Restrictions**

- A. The Contractor shall identify and develop rapid communication procedures with the closest available emergency medical response units and medical centers.
- B. The work shall occur during daylight hours and shall not be performed when darkness or other conditions require the use of artificial light to safely perform the work, without the prior written approval of the Engineer.
- C. Antiques, artifacts and similar objects, as identified by the Engineer, remain the property of the State of Wyoming. Artifacts, antiques and similar objects include, but are not limited to:
  - i. Cornerstone and contents
  - ii. Commemorative plaques
  - iii. Archaeological and/or paleontological artifacts or finds
  - iv. Historical artifacts
- D. Materials shall not be burned on site without appropriate permits and the approval of the Engineer.
- E. The work shall stop and the Engineer shall be notified immediately if an accident occurs or upon discovery of a hazard that threatens the safety of workers or the public. The Engineer shall be notified immediately of any situation, which may cause environmental damage.
- F. The Contractor shall submit to the Engineer daily logs and/or reports indicating the following: 1) crew sizes, 2) hours worked, 3) equipment used, 4) work completed and materials used, 5) delays, 6) equipment downtime, 7) injuries, 8) problems and concerns encountered, and 9) any complaints received.
- G. Should onset of adverse weather conditions force construction to stop work prior to completion, the site shall be left in a condition that minimizes safety hazards and risk of erosion by heavy storm events. Temporary erosion control structures may be required.

## **Utilities**

- A. The Contractor shall conduct locates of all underground utilities in accordance with the current “Wyoming Underground Facilities Notification Act” (W.S. 37-12-301 through 37-12-305) at least 48 hours, but not more than 14 business days prior to any excavation or operation in the area. The Contractor shall call and obtain appropriate clearances from Wyoming One-Call at 811. The Contractor shall complete exploratory excavations, as required, to determine the locations of all utilities that may interfere with the work. The Contractor shall notify the Engineer immediately upon encountering an unknown utility line or object that is in direct conflict with the work, and shall not proceed with any work that could damage the utility line or object encountered. There are no subsurface utilities shown on the Drawings and no utility investigation was conducted by AML or the Engineer.
- B. The Contractor shall notify all utility companies when construction begins in the vicinity of any overhead or buried utility lines, and to arrange for a representative of the utility to be present if the Contractor’s operations are in close proximity to any utility which could present a hazard.
- C. The Contractor shall assume full responsibility for repairing and/or replacing any and all existing utilities that are damaged during the work. The Contractor shall repair and/or replace damaged existing utilities to the satisfaction of the utility company, Engineer, and AML. No separate payment will be made for utility work.

#### **SECTION 4 – TECHNICAL SPECIFICATIONS AND EXECUTION**

##### **Mobilization/Demobilization/Staging Area**

- A. The Contractor's construction staging area, equipment storage area, and materials lay down area will be confined to the area(s) indicated in the field by the Engineer.
- B. Prior to Mobilization, Contractor will inspect the proposed staging area to determine its suitability for the Contractor’s purpose and determine if the staging area’s condition is acceptable. The purpose of this inspection is to determine if there are contractual or environmental reasons, which might affect its use by the Contractor or affect the Contractor’s cost of final reclamation, following the completion of construction.
- C. The Contractor is responsible for the Contractor’s own work area, storage area, and maintaining security against intrusion. The work area may be temporarily fenced at the Contractor's discretion.
- D. The Contractor accepts the liability of negligent damage or loss of said equipment and/or supplies during project life.

- E. The disposal of solid waste, used petroleum products, sewage waste materials or discarded trash is the responsibility of the Contractor.
- F. All products will be stored in the staging area in such a manner to conform to local, state, and federal regulations. Areas containing petroleum products including fuel storage tanks or trucks will be controlled to contain spills and allow complete clean-up.
- G. The Contractor must pay all required fees and dispose of all solid waste in an approved landfill site. All waste petroleum products and cleaned up materials from petroleum spills will be disposed of in accordance with Wyoming Department of Environmental Quality regulations.

### **Quality Control, Sanitation & Environmental Protection**

- A. Regular coordination meetings shall be held at times specified by the Engineer. The Contractor, the Engineer, and all subcontractors active on the site shall be represented at each conference.
- B. Work shall not be permitted on legal holidays, nights (8 PM to 5 AM), or weekends without prior written approval from the Engineer.
- C. The Contractor shall provide a portable Sanitation Facility for the use of the Contractor's employees, Engineer, and AML. Said facility shall be maintained in a neat and sanitary condition and shall comply with the requirements of the General Safety and Health Regulations of Wyoming Occupational Health and Safety Commission and State and local Boards of Health. The cost of this facility shall be included in Mobilization / Demobilization.
- D. The Contractor shall **ONLY** service and fuel equipment in the area designated in the field by the Engineer as the Staging Area.
- E. The Contractor shall guard against contamination of topsoil, water and air from oil, fuel or other fluid spills; from vehicle emissions; or from garbage waste or other debris. All oil, fuel or other petroleum-based spills shall be cleaned up immediately utilizing an approved "spill kit," as manufactured by Sorbent Products Company, or equivalent. The contaminated material shall be hauled off-site to an approved disposal area. All costs associated with prevention and/or clean-up shall be included in Mobilization / Demobilization.
- F. The Contractor shall comply with all State of Wyoming, Department of Environmental Quality, and Sheridan County rules and regulations during

construction including, but not limited to, the handling and storage of fuel, oil and other liquids.

- G. The Contractor shall maintain a clean work site during construction. Personal trash and litter, including food wrappers, beverage containers, cigarette butts, paper and other items, as determined by the Engineer, shall be picked up, contained and properly disposed at all times.
- H. No pets will be allowed within the designated project boundary without the written approval from the Engineer.
- I. A site specific traffic control plan is not required for this SOW. However, Contractor shall be aware that there are three landowner gates that must be used to access the work. Currently, landowner livestock is present. Therefore, the gates shall only be temporarily opened to allow for ingress and egress of the work crew, equipment, and supplies. Gates **will not** be left open.

### **Equipment**

- A. All equipment utilized in the performance of this SOW shall be in good operating condition and shall meet the minimum requirement specified. Prior to initiating construction work, the Contractor shall submit a list of proposed equipment, **including age**, to be used for this SOW to the Engineer for review and approval. The Engineer has the right to inspect and reject equipment based on equipment performance, productivity, and excessive down time.
- B. The Contractor's attention is specifically directed to the fact that discontinuities of work will occur with specific equipment during construction activities. Payment shall only be made for the actual number of days or hours that the equipment is performing or available to perform the work.
- C. In the event of equipment breakdowns, the Contractor shall repair, correct or replace such equipment within 72 hours, all as specified in a written notice from the Engineer. If the Contractor does not repair, correct or replace such equipment within the allotted time, the Engineer may have the equipment removed and replaced. The Contractor shall pay all direct and indirect costs of such action, including compensation for additional professional services, and appropriate deductive Task Order shall be issued. No additional payment will be made to the Contractor to repair, correct or replace equipment.
- D. The actual equipment type and size will be as specified in the Contractor's AML 17.32-3, Section C, Bid Proposal – Bid No. 0342-Y.

### **Materials**

- A. For each material delivered to the site, the Contractor shall furnish to the Engineer an authorized invoice from the supplier containing the following:
- i. Invoice number, description and quantity of each material,
  - ii. Unit rate and total cost of each material,
  - iii. Total cost of invoice, and
  - iv. Signature of supplier.
- B. The Engineer must receive all material invoices at the time of delivery. No payment will be made for materials that are not included on the invoice. No payment will be made for materials used prior to delivery of the material invoice to the Engineer. No payment will be made for material brought to the site by any other means or unaccompanied by an invoice.
- C. “Materials Transportation” costs are subsidiary to Mobilization /Demobilization.

### **Competent Rock Backfill**

- A. The rock backfill material shall consist of 12” (twelve inch) minimum competent rock. The backfill rock material can be obtained from a local nearby source as approved by the Engineer.
- i. Rock shall be sound and durable and free from organic material, clay or shale seams, cracks, or other structural defects and shall have a specific gravity of at least 2.65. The rock shall be angular in shape. The rocks shall have a maximum dimension not more than three times the least dimension.
  - ii. Rounded stone (i.e., river rock), cobbles, or boulders will not be acceptable unless specifically authorized by the Engineer. Suitable rock types generally include, but are not limited to, granite and similar crystalline rock types, limestone, and dolomite. Unsuitable rock types are generally shale, slates, volcanic rocks, schists, and sandstones. Broken concrete will be acceptable, but must be approved in writing by the Engineer.
  - iii. The rock can be obtained from an off-site source that has legally procured a valid mine permit from the applicable state agency. The Contractor shall identify the rock and the subcontractor providing the rock and furnish the Engineer with a copy of the permit prior to delivery and rock placement.
- B. Scale tickets shall be furnished to the Engineer for each load of rock material delivered to the job site.

### **Redi-Mix Concrete**

- A. The proportion of ingredients shall be selected to allow the proper placement, durability, strength, and other required properties. The proportion of ingredients shall be such as to produce a mixture that will work readily into the corners and angles of the rocks and forms, but without permitting the materials to segregate or excessive free water to collect on the surface. The mix design shall be proportioned in accordance with field experience or trial batches.
- B. Before any concrete is placed on the job, the Contractor shall submit to the Engineer the concrete mix design he/she proposes to use. The mix design must be approved by the Engineer prior to their use on the project.
  - i. Strength: The compressive strength shall be 3,500 psi at 28 days.
  - ii. Durability: All concrete grout subjected to freezing and thawing while wet shall have an air content of 5%-7% and a maximum water-cement ration of 0.45.
  - iii. Slump: Slump shall be no less than 1" and no greater than 6".
- C. Batch tickets shall be furnished to the Engineer for each load of ready-mix concrete delivered to the job. All materials and the proportioning of it shall conform in every respect to those specified heretofore. Ready-mixed concrete shall be mixed and delivered in accordance with "Specifications for Ready-Mixed Concrete" (ASTM C-94).
- D. Indiscriminate addition of water to increase slump shall be prohibited. Concrete shall be mixed only in quantities required for immediate use. Concrete that has sat for more than 90 minutes from batch time shall be rejected.
- E. When concrete arrives at the project site with slump below four inches, water may be added only if the maximum permissible water-cement ratio is not exceeded. The following rule-of-thumb shall be followed when adding water on the job site to raise the concrete's slump: **One gallon of water per cubic yard for one inch slump.** Per ASTM C94, an additional 30 revolutions of the mixer drum at mixing speed shall be required after the addition of water. Adding water on the job site can only be performed when approved by the Engineer.
- F. To maintain the temperature of the concrete above the minimum placing temperature of 50 degrees F, the as-mixed temperature shall not be less than 55 degrees F when the mean temperature falls below 40 degrees F. If water or aggregate has been heated, the water shall be combined with the aggregate in the mixer before cement is added. Cement shall not be added to mixtures of water and aggregate when the temperature of the mixture is greater than 100 degrees F.

## Sinkhole Mitigation Execution

**ACME No. 3 (ACME 2016 – 1), Kooi Mine (Kooi 2016-1 & 2) and Old Monarch Mine (Monarch 2016-1 & 2) Sites**

- A. Using appropriate equipment, the subsidence features shall be drained of any water observed within the feature, as approved by the Engineer.
- B. Using appropriate equipment, the subsidence features shall be cleared and grubbed of all vegetative matter. The cleared and grubbed vegetative material shall be stockpiled adjacent to the subsidence feature in a separate pile located as directed by the Engineer.
- C. Excavate, haul and stockpile all topsoil material within the designated disturbance area, as directed by the Engineer. Topsoil stripping shall only be performed when the ground is free of frost to allow for proper excavation, removal and stockpiling. Material stockpiles shall be constructed in a manner to minimize wind and water erosion.
- D. Over excavate each subsidence feature into the configuration of a truncated cone and to a minimum depth of 15 foot, as shown on Sheet No. 5. Stockpile the over excavated material adjacent to the subsidence feature as directed by the Engineer.
- E. Twelve-inch minimum diameter competent rock shall be placed into each over excavated subsidence feature with an excavator to a minimum thickness of approximately ten foot, or as directed by the Engineer.
- F. Place concrete into the rock voids using truck chute or tremie chute methods. Each truck load (lift) of concrete placed shall be vibrated using a “Flex-Shaft Vibrator” to the satisfaction of the Engineer before proceeding with subsequent lifts. The intent of the vibrating process is to ensure the rock void spaces are completely filled with concrete. In general, all placement of concrete shall be in conformance with “Specifications for Structural Concrete for Building” ACI 301-10. Cold weather concreting shall conform to ACI 306.1. Prior to placing the concrete, any type of debris or other materials considered detrimental to the integrity of the concrete shall be removed from the concrete pour area. Allow the concrete to cure for a minimum of 24 hours.
- G. Once the concrete has cured, the over-excavated material shall be removed from the temporary stockpile and placed as backfill into the remaining portion of the open excavation. The backfill shall be mounded to direct water from the closure to the lines and grades shown on the Drawings or as determined by the Engineer. On site borrow material sources shall be used if there are insufficient quantities of the over-excavated material. Borrow material shall consist of unclassified soils obtained from within the designated Area of Potential Effect, as approved by the Engineer.

- H. Each lift of backfill shall be placed in approximately horizontal layers at a thickness of approximately one foot and compacted using the excavator's bucket. No density requirements will be applied; however, the Contractor shall conduct the placement and subsequent compaction in such a manner, as approved by the Engineer, to obtain maximum compaction possible.
- I. After backfill placement has been completed; the area shall be scarified to a minimum depth of four inches. Topsoil/coversoil shall be removed from the temporary stockpiles, hauled and placed over the final graded and disturbed surfaces to a minimum depth of one foot or as directed by the Engineer.

### **Revegetation**

- A. All disturbed areas, shall be scarified to a minimum depth of four inches parallel to the contours and at intervals sufficient to be suitable as a seed bed, as approved by the Engineer. The final seed bed surface shall be free from cobbles and boulders that may be detrimental to revegetation activities, as determined by the Engineer.
- B. Seed Mixture: Standard Dryland Pasture seed mix will be applied at a rate of 40lbs per acre.
- C. The total percentage (%) of "crop seed" shall not exceed three (3%) percent by weight. The species and varieties of seed, or blends of seeds, shall furnish the Pure Live Seed (PLS) at the rates stipulated in the seed mixture. No seed that has less than eighty (80%) percent pure seed live will be used.
- D. All disturbed areas shall have the specified seed mix uniformly distributed with a mechanical device specifically designed for such work at the manufacturer's specified seeding rate.
- E. The ground shall be thoroughly raked or dragged **immediately** after seeding to cover the seed with approximately ¼ inch of soil. Raking or dragging will be done parallel to the contour with suitable equipment approved by the Engineer.
- F. The revegetation work shall be performed between September 1st and the time that frost prevents preparation of a proper seedbed or as determined by the Engineer.

### **Final Cleanup**

- A. The Contractor will maintain a clean work site during construction. Personal trash and litter, including food wrappers, beverage containers, cigarette butts, paper and other items will be kept picked up and contained.

- B. At the end of construction, the Contractor shall clean all areas affected by construction including petroleum products spills, garbage, trash and debris as directed by the Engineer. All waste materials will be disposed of in accordance with State, and Sheridan County requirements. The Contractor is responsible for securing an appropriate disposal site.
- C. Damage by the Contractor's operations to any areas outside the designated staging area(s) will be repaired at the Contractor's expense and will include any additional top-soiling and seeding that may be required, as determined by the Engineer.
- D. The cost of final cleanup shall be considered subsidiary to Mobilization / Demobilization.

### Measurement and Payment

- A. Payment will be made for Mobilization / Demobilization at the lump sum price bid to cover the costs of preparatory work and operations including those necessary for the movement of personnel, per diem, travel, equipment, supplies and incidentals to the project sites; staging area construction (sanitation facilities, access road construction and maintenance); and final clean-up.
- B. "Equipment" work hours or days will be measured by the actual number of hours or days that each specific piece of equipment performs work. A **Water Truck will be required for fire protection** and will be paid for 4 hours per day for everyday that it is on-site, full of water and available to apply water. A work day will be considered any day that at least 4 hours of work can be performed. Down time will not be measured nor paid for. The time and cost of the operator, mechanic, and maintenance personnel for the "Equipment" will not be measured separately but will be included in the equipment unit prices.
- C. "Superintendent" and "Laborer" hours will be measured by the actual number of hours that they perform work to the nearest one-quarter hour.
- D. Payment for the accepted quantities of equipment and labor will be made at the daily or hourly unit rate indicated in the associated AML 17.32-3 Task Order. The unit rates shall include, furnishing the specified equipment in completely operable condition, maintaining and operating the equipment, establishing and maintaining any needed controls for performing the work, materials, equipment, tools, fuel, oil, lubricants, and all other incidentals necessary to complete the work.
- E. "Materials" shall include grass seed, rock, concrete and any incidentals necessary to complete the work, as approved by the Engineer. The Contractor shall receive

payment for the actual cost of such materials delivered to the project sites. No payment will be made for "Materials" until the Contractor has furnished the Engineer with an itemized invoice of the materials and cost of such materials. Payment will not be made for materials until written verification is furnished by the Engineer.

- F. The "ATV" and/or "UTV" work days will be measured by the actual number of days that the "ATV" and/or "UTV" performs or is available to perform work to the nearest one-half day. The time and cost of the operator will be measured separately as "Foreman" or Laborer".

**END OF NARRATIVE PORTION OF SOW**

**THE FOLLOWING 12 PAGES (Pages 18-32) CONTAIN FIGURES 1 – 6**

**Sheet No. 1**



**Sheet No. 2**



**Sheet No. 3**

Q:\Projects\2016\173\ACME 2016\_1&2\173-ACME 2016\_1&2\_Site Conditions Map.dwg Aug 09, 2016 11:25m Miralind



**PROJECT:** AML17J, K001, 2016 (SITES 1&2), ACME 2016 (SITES 1&2) & MONARCH 2016 (SITES 1&2)  
**SITE CONDITIONS MAP**  
**CLIENT:** WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
**ABANDONED MINE LANDS DIVISION**

**REVISIONS:**  
 08/09/2016

**SCALE:**  
 1" = 100'

**DRAWN BY:**  
 TFC/MIR

**RESPEC**  
 CONSULTING & SERVICES  
 1000 S. GARDENWAY ROAD  
 SUITE 100  
 CHEYENNE, WY 82001  
 PHONE: (307) 634-9946

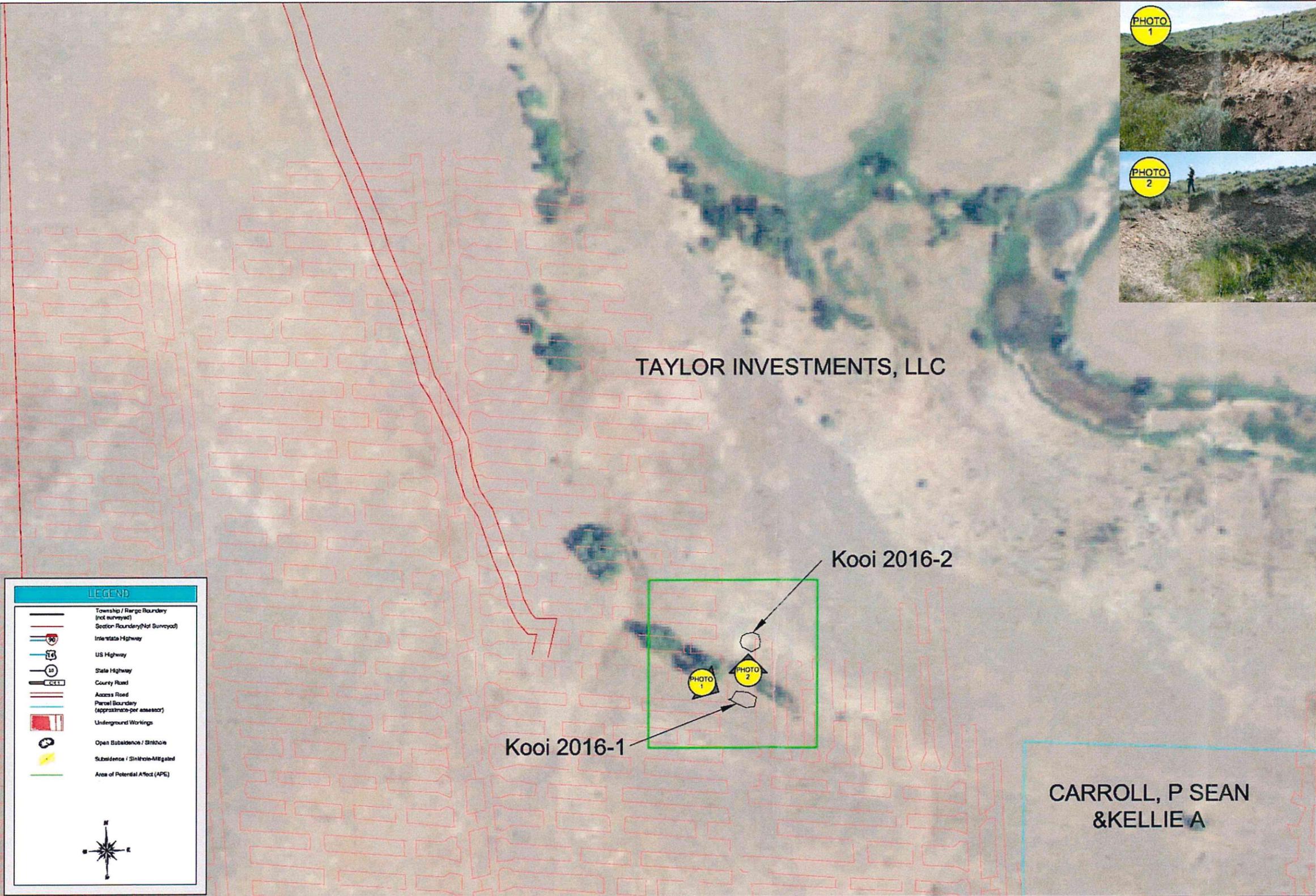
**ACME 2016\_1&2 SITE CONDITIONS**

**SHEET NO.**  
 3

**WYOMING**

**Sheet No. 4**

C:\Projects\AML 17\AML17\_25\Kooi 2016\Kooi 2016\_1\_1\_2\_SiteConditions.dwg Aug 10, 2016 - 12:12pm M:\projects\aml



**PROJECT:** AML17J, KOOI 2016 (SITES 1&2), ACME 2016 (SITES 1&2) & MONARCH 2016 (SITES 1&2)  
**SITE CONDITION MAP**  
**CLIENT:** WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
 ABANDONED MINE LANDS DIVISION

**REVISIONS:**  
 06/16/2016

**SCALE:**  
 1" = 50'

**DRAWN BY:**  
 TFC/MIH

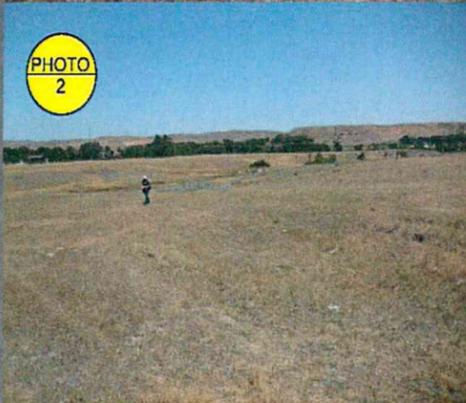
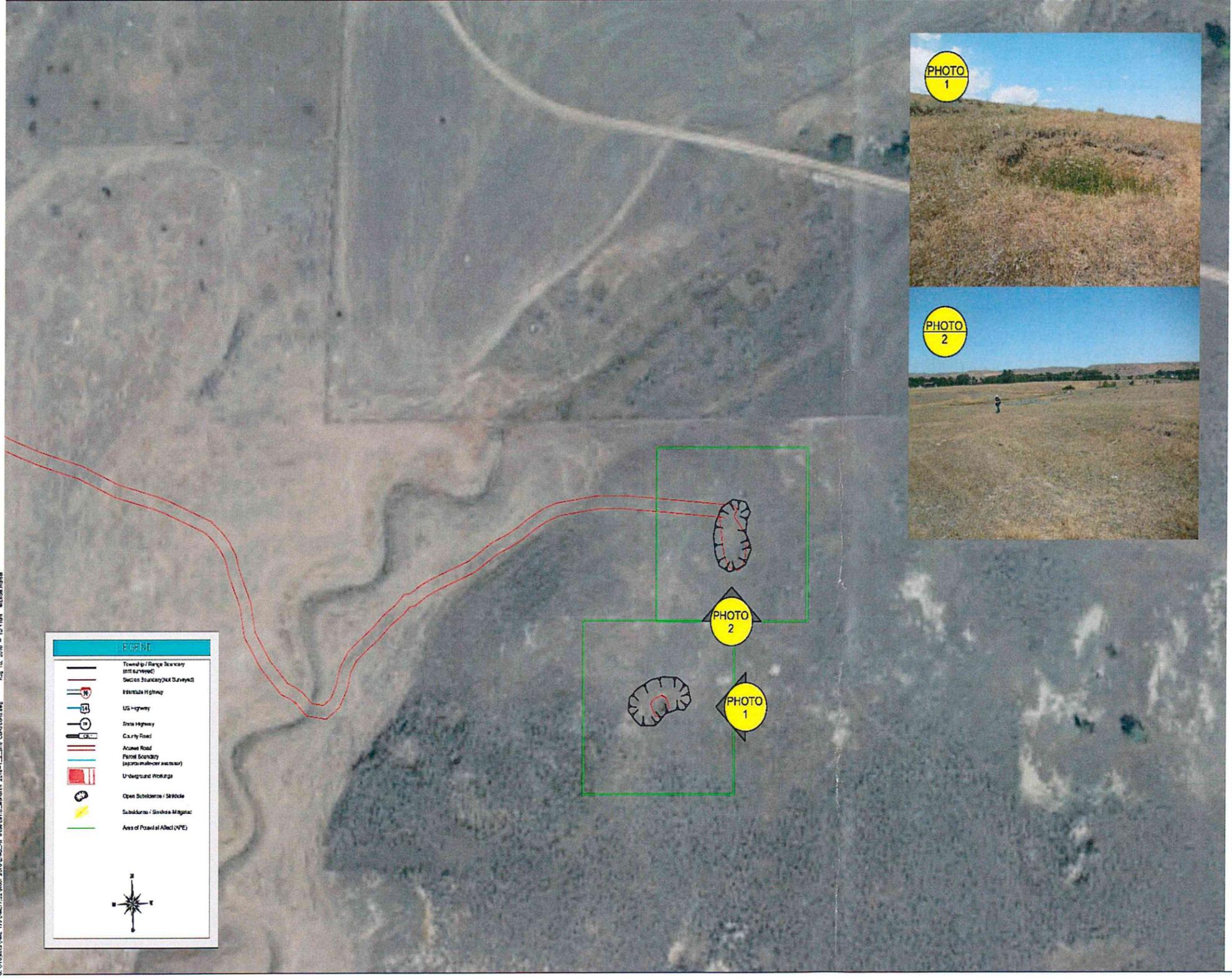
**RESPEC CONSULTING & SERVICES**  
 7800 WILLOWSTONE ROAD  
 SUITE 100  
 FARMINGTON, WY 82401  
 PHONE: (307) 325-9944

**KOOI 2016 1&2 SITE CONDITIONS**

**SHEET NO.**  
 4

**Sheet No. 5**

Q:\Projects\17A\_AML17J\_2016\17A\_AML17J\_2016\17A\_AML17J\_2016.dwg Aug 10, 2016 - 10:15am Michael Hines



  
**PROJECT:** AML17J, KOOL 2016 (SITES 1&2), ACME 2016 (SITES 1&2) & MONARCH 2016 (SITES 1&2)  
**SITE CONDITION MAP**  
**CLIENT:** WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
 ABANDONED MINE LANDS DIVISION

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**REVISIONS:**  
 8/10/16

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**SCALE:**  
 1" = 50'

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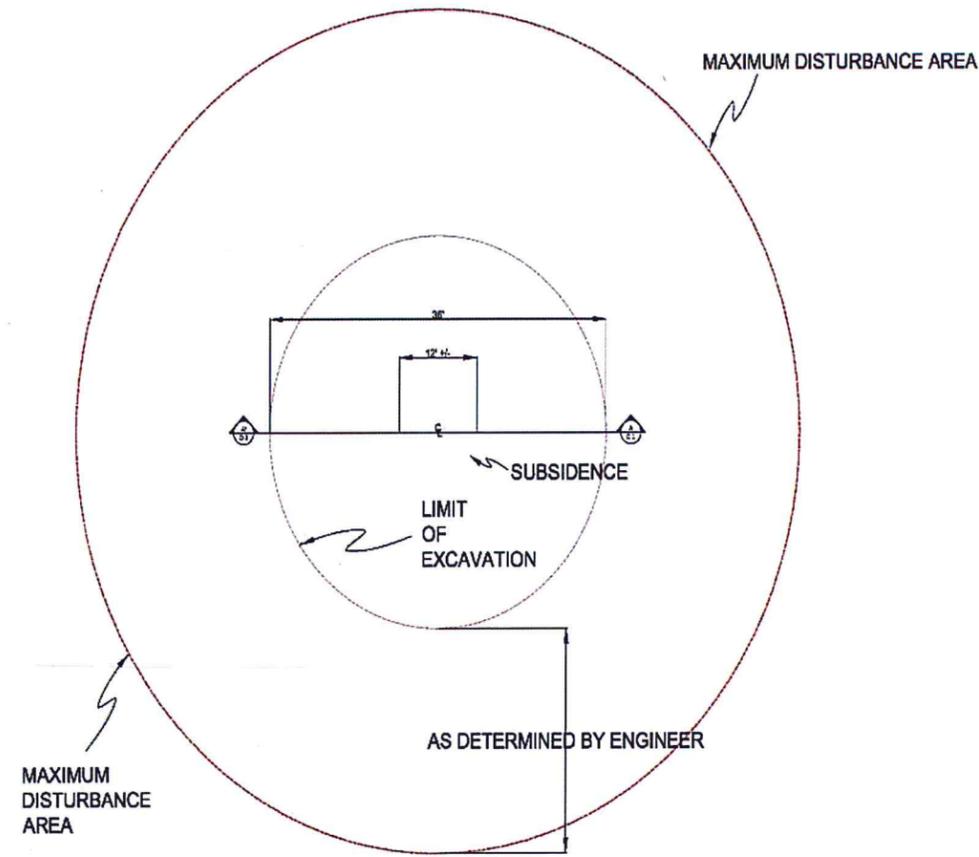
**DRAWN BY:**  
 TFG/MIH

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**MONARCH 2016 1&2 SITE CONDITIONS**  
**SHEET NO.**  
 6

**Sheet No. 6**

C:\Projects\MLL 17\AML17.33\Draw 2016\DWG\_01\_Subsidence Mitigation Details.dwg Aug 15, 2016 10:27am Mlsal@wydot.gov

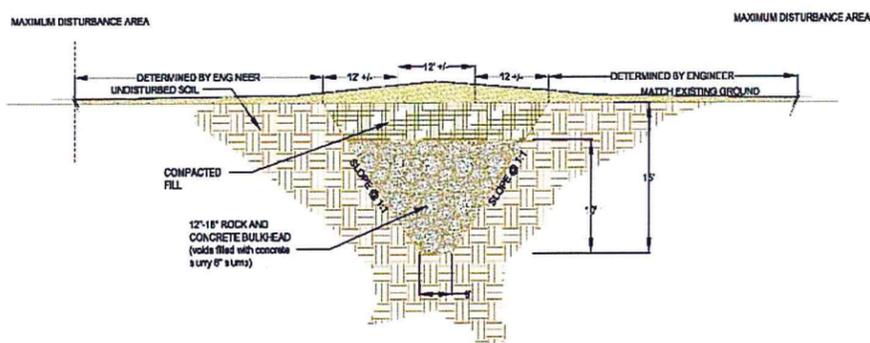


**PLAN VIEW**  
NTS

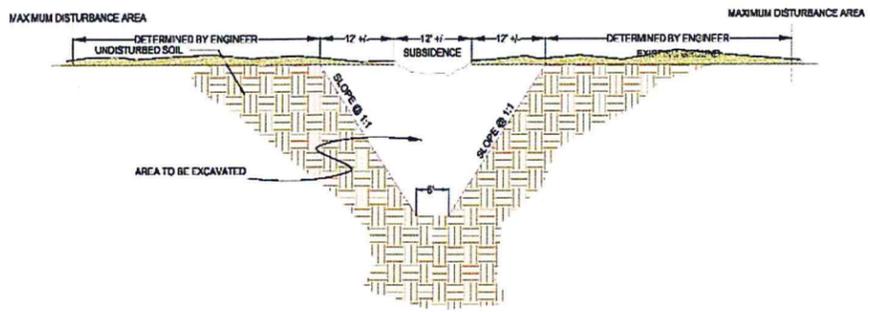
- NOTES:**
1. STRIP, SALVAGE, AND STOCKPILE THE TOPSOIL FROM AROUND EACH SUBSIDENCE FEATURE.
  2. OVER EXCAVATE THE SUBSIDENCE FEATURE IN THE SHAPE OF A TRUNCATED CONE TO A MINIMUM 15 FOOT DEPTH STOCKPILING THE OVER EXCAVATED MATERIAL NEARBY.
  3. PLACE 12 INCH MINIMUM DIAMETER ROCK INTO EACH OVER EXCAVATED SUBSIDENCE TO A MINIMUM THICKNESS OF 10 FOOT, OR AS APPROVED BY THE ENGINEER.
  4. PLACE CONCRETE INTO THE ROCK VOIDS.
  5. ALLOW THE CONCRETE TO CURE FOR A MINIMUM OF 24 HOURS.
  6. REMOVE THE OVER EXCAVATED MATERIAL FROM THE TEMPORARY STOCKPILES AND PLACE AS BACKFILL OVER THE ROCK/CONCRETE CLOSURE. PLACE THE BACKFILL MATERIAL IN 12 INCH LIFTS. LEVEL EACH LIFT AND COMPACT WITH AVAILABLE EQUIPMENT, AS APPROVED BY THE ENGINEER. MOUND THE BACKFILL MATERIAL TO DIRECT SURFACE WATER AWAY FROM THE CLOSURE.
  7. REPLACE THE SALVAGED TOPSOIL EVENLY OVER ALL DISTURBED AREAS.
  8. HAND BROADCAST SEED AT ALL DISTURBED AREAS, AS DIRECTED BY THE ENGINEER.

**CAUTION**

THIS PROJECT REQUIRES CONSTRUCTION WORK AROUND AND OVER HAZARDOUS AND UNPROTECTED MINE SHIFTS, ADITS, STOPES, UNDERGROUND WORKINGS AND OTHER OPENINGS WHICH MAY BE OPEN TO THE SURFACE OR HOLES FROM VIEW BY THIN LAMINAE OF THIN AND UNSTABLE LAYERS OF SOFT CLAY MATERIALS OR ROCK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THOROUGHLY INVESTIGATING THE SITE CONDITIONS AND KNOWLEDGE OF EQUIPMENT, EQUIPMENT OPERATIONS, PERSONNEL AND SAFETY PROCEDURES TO PREVENT ACCIDENTS AND INJURIES.



**RECLAMATION SECTION**  
A'-A  
NTS



**EXCAVATION DETAIL**  
NTS



**PROJECT:** AML17.1, KOOL 2016 (SITES 1&2), ACME 2016 (SITES 1&2) & MONARCH 2016 (SITES 1&2)  
**SUBSIDENCE MITIGATION DETAILS**  
**CLIENT:** WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
ABANDONED MINE LANDS DIVISION

**REVISIONS:**  
08/10/2016

**SCALE:**  
NTS

**DRAWN BY:**  
TFG/MIH




**SUBSIDENCE MITIGATION DETAILS**

**SHEET NO.**  
6

END OF SOW

**APPENDIX B**  
**CONTRACTOR'S COST QUOTE**



Date: 8/4/2016  
 Proposal No. 080416 (1)  
 Sheet No. 1

To: AML 17J, 17.32 Taylor Ranch 1 & 2,  
 Kooi 1 & 2  
 Monarch 1 & 2

Work to be performed at: Taylor Ranch, Kooi, Monarch (6 Sink Holes)

Description:			Due in full upon receipt	
			Line Total	
	Mob		LS	\$38,725.00
	Materials:			
240yds	Concrete		LS	\$31,500.00
120yds	Rock		LS	\$2,400.00
90lbs	Seed		LS	\$653.00
C5	120hrs	Supervisor	\$85/hr	\$10,200.00
030	120hrs	Supervisor Pick-Up	\$50/hr	\$6,000.00
031	12days	Operator Pick-Up	\$250/day	\$3,000.00
C5	120hrs	Labor	\$50/hr	\$6,000.00
003	120hrs	320C Excavator	\$200/hr	\$24,000.00
006	120hrs	938G Loader	\$180/hr	\$21,600.00
008	80hrs	12yd Dump Truck	\$140/hr	\$11,200.00
009	80hrs	2000 gal Water Truck	\$120/hr	\$9,600.00
032	12days	Utility Trailer	\$100/day	\$1,200.00

Quotation prepared by: *Kristy L Arterey*  
 This is a quotation on the goods named, subject to the conditions noted below:  
 (Describe any conditions pertaining to these prices and any additional terms of the agreement.  
 You may want to include contingencies that will affect the quotation.)

Subtotal	\$166,078.00
Sales Tax	-
<b>Total</b>	<b>\$166,078.00</b>

To accept this quotation, sign here and return: \_\_\_\_\_

Thank you for your business!

57 Tweed Lane; PO Box 110; Lander, WY 82520; 332-9494; arteryconstructioninc@gmail.com

**APPENDIX C**  
**ACCEPTANCE OF WORK**  
**AML PROJECT NO. 17.32 - TASK ORDER NO. 48-16**

This AML Project, for hazard mitigation (portal closures) at Acme, Kooi, and Old Monarch Mines north of Sheridan (AML Project 17J) in Sheridan County has been completed by the Contractor. The Contractor, Project Engineer, and AML Project Manager hereby certify that the work on this Project is complete. The Property Owner:

- Has reviewed the work, or
- Did not review the work:

The undersigned Property Owner

- Finds the work acceptable, or
- Finds the work unacceptable because:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

Property Owner: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Phone No.: \_\_\_\_\_

By: \_\_\_\_\_  
PROPERTY OWNER SIGNATURE DATE

By: \_\_\_\_\_  
ENGINEER'S SIGNATURE DATE

By: \_\_\_\_\_  
CONTRACTOR'S SIGNATURE DATE

By: \_\_\_\_\_  
AML PROJECT MANAGER'S SIGNATURE DATE