



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

September 9, 2023

Kurt Thurmann  
Holcim – WCR, Inc.  
1687 Cole Blvd, Suite 300  
Golden, CO 80401

**RE: Division's Financial Warranty Cost Estimates for Ingleside Quarry (M1980-037HR)**

Dear Mr. Thurmann,

On April 27, 2023 the Division performed an inspection in response to a Succession of Operators application (Revision No. SO-4) that was received by the Division on January 24, 2023 to transfer the site from Pioneer Sand and Gravel to Holcim-WCR, Inc. As part of the inspection the financial warranty for the quarry was calculated. The Division used observations made during the inspection, and permit file information during the cost estimate calculations.

A copy of the estimate is attached for your review. The Division will allow 14 days from the date of this letter or until **September 19, 2023** to review and comment on the bond estimate prior to issuing a surety increase notice for the Ingleside Quarry. Once the surety increase has been issued by the Division, the Operator/Permittee will have 60 days to provide the additional financial warranty.

If you need additional information or have any questions, please contact me by telephone at **303-866-3567 x8114**, or by email at [patrick.lennberg@state.co.us](mailto:patrick.lennberg@state.co.us).

Sincerely,

Patrick Lennberg  
Environmental Protection Specialist

cc: Jared Ebert, DRMS

ec: Kurt Thurmann, Holcim – WCR, Inc., [kurt.thurmann@holcim.com](mailto:kurt.thurmann@holcim.com)



## COST SUMMARY WORK

Task description: Cost Summary

Site: Ingleside Quarry

Permit Action: 2023 SO-4

Permit/Job#: M1980037HR

### PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 9/1/2023

County: Larimer

Filename: M037-000

11:37:42 AM

User: JPL

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

| Task                     | Description   | Form Used | Fleet Size | Task Hours    | Cost             |
|--------------------------|---|-----------|------------|---------------|------------------|
| 001                      | Blasting benches in highwall                              | BLASTING  | 1          | 129.24        | \$62,805         |
| 002                      | Backfill and grade ~22,222 cy of rubble                   | DOZER     | 2          | 22.08         | \$19,408         |
| 003                      | Rip storage area and internal haul roads                  | RIPPER    | 2          | 10.53         | \$9,415          |
| 004                      | Spread fines on reclaimed benches                         | DOZER     | 1          | 0.55          | \$244            |
| 005                      | Revegetate Pit floor, storage areas, internal haul roads. | REVEGE    | 1          | 12.22         | \$32,345         |
| 006                      | Revegetating benches                                      | REVEGE    | 1          | 1.00          | \$1,485          |
| 007                      | Equipment Mobilization/Demobilization                     | MOBILIZE  | 1          | 3.20          | \$5,590          |
| <b><u>SUBTOTALS:</u></b> |   |           |            | <b>178.82</b> | <b>\$131,292</b> |

### INDIRECT COSTS

#### OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$2,652

Performance bond: 1.05

Total = \$1,379

Job superintendent: 89.41

Total = \$5,819

Profit: 10.00

Total = \$13,129

TOTAL O & P = \$22,979

CONTRACT AMOUNT (direct + O & P) = \$154,271

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): \$500

Total = \$500

Engineering work and/or contract/bid preparation: 8.00

Total = \$12,342

Reclamation management and/or administration: 5.00

\$7,714

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$43,534

**TOTAL BOND AMOUNT (direct + indirect) = \$174,826**

**SURFACE BLASTING WORK**Task description: **Blasting benches in highwall**Site: **Ingleside Quarry**Permit Action: **2023 SO-4**Permit/Job#: **M1980037HR****PROJECT IDENTIFICATION**Task #: **001**State: **Colorado**Abbreviation: **None**Date: **5/5/2023**County: **Larimer**Filename: **001**User: **JPL**Agency or organization name: **DRMS****BLAST AREA DIMENSIONS**

|                                   | QUANTITY  | UNIT |
|-----------------------------------|---|------|
| Blast Area Configuration:         | Box-shaped mass (flat safety benches, general pit blasting) |      |
| Blasting Method Description:      | Conventional surface blast (fragmentation only)             |      |
| Highwall or Bench Face Angle:     | 0.00  | h:lv |
| Regraded Slope Angle:             | 0.00  | h:lv |
| Highwall or Bench Length:         | 1,200   | feet |
| Highwall or Bench Width:          | 20  | feet |
| Highwall or Bench Height:         | 30.0  | feet |
| Depth to Base of Cut at Highwall: | 25.0  | feet |

**BLAST AREA VOLUMES**

|   | QUANTITY | UNIT        |
|---|----------|-------------|
| Total Volume of Dimensional Mass to be Shot:            | 22,222   | cubic yards |
| Blast Volume to Subdrill Grade and Blast Pattern Lines: | 17,778   | cubic yards |
| Blast Volume to Finish Grade and Blast Pattern Lines:   | 17,778   | cubic yards |
| Remaining Volume Required to be Re-Shot or Ripped:      | 4,444    | cubic yards |

**BLAST AREA DESIGN**

|                                       | QUANTITY                             | UNIT           |
|---------------------------------------|--------------------------------------|----------------|
| Recommended Blasthole Diameter:       | 3.333                                | inches         |
| Selected Blasthole Diameter:          | 4.000                                | inches         |
| Subdrilling Allowance:                | 0.0                                  | feet           |
| Blasthole Depth:                      | 25.0                                 | feet           |
| Density of Rock:                      | Average Density Rock<br>(ANFO Basis) | rock density   |
| Burden to Charge Diameter Ratio:      | 25                                   | times diameter |
| Burden:                               | 8.0                                  | feet           |
| Spacing to Burden Ratio:              | 1.3                                  | times burden   |
| Spacing:                              | 10.0                                 | feet           |
| Cubic Yards of Rock per Blasthole:    | 74.07                                | cubic yards    |
| Powder Factor Description:            | Medium                               | rock strength  |
| Powder Factor:                        | 0.575                                | pounds/cu. yd. |
| Density of Blasting Agent:            | 0.85                                 | grams/cc       |
| Quantity of Explosives per Blasthole: | 42.59                                | POUNDS         |
| Height of Powder Column:              | 9.20                                 | feet           |
| Height of Stemming per Blasthole:     | 15.80                                | feet           |
| Stemming to Burden Ratio:             | 1.98                                 | times burden   |
| Quantity of Stemming per Blasthole:   | 0.0511                               | cubic yards    |
| Number of Rows:                       | 2                                    | rows           |
| Number of Blastholes per Row:         | 120                                  | holes per row  |
| Total Number of Blastholes:           | 240                                  | holes          |
| Total Length of all Blastholes:       | 6,000                                | feet           |

**BLASTING MATERIALS QUANTITIES**

|   | QUANTITY | UNIT        |
|---|----------|-------------|
| Total Quantity of Stemming Required:            | 12.26    | cubic yards |
| Total Quantity of Explosives Required:          | 10,222   | pounds      |
| Total Quantity of det. cord/fuse/wire Required: | 9,258    | linear feet |
| Quantity of Blasting Caps per Blasthole:        | 1        | cap(s)      |
| Total Quantity of Blasting Caps Required:       | 240      | caps        |
| Quantity of Primers per Blasthole:              | 1        | primer(s)   |
| Total Quantity of Primers Required:             | 240      | primers     |
| Quantity of Delays per Blasthole:               | 1        | delay(s)    |
| Total Quantity of Delays Required:              | 242      | delays      |

**HOURLY EQUIPMENT COST**Shift basis: 1 per day

|                                     | Description                   |
|-------------------------------------|-------------------------------|
| Drilling Equipment - Drill:         | ATLAS COPCO ROC D7-11,4.0 in. |
| -Drill Pad Preparation:             | NA                            |
| Misc. Drill Support Equipment:      | NA                            |
| Misc. Explosives Support Equipment: | NA                            |
| Explosives Delivery –Bulk Truck:    | ANFO Bulk Delivery Truck      |
| -Cap Truck:                         | Cap Delivery Truck            |

| <b><u>Cost Breakdown:</u></b> | Drilling Equipment | Drill Pad Preparation | Misc. Drill Support | Misc. Expl. Support | Explosives Delivery Bulk Truck | Explosives Delivery Cap Truck |
|-------------------------------|--------------------|-----------------------|---------------------|---------------------|--------------------------------|-------------------------------|
|                               | Drilling           |                       |                     |                     | MiscTruck                      | MiscTruck                     |
| %Utilization-machine:         | 50                 | NA                    | NA                  | NA                  | 5                              | 5                             |
| Ownership cost/hour:          | \$217.10           | NA                    | NA                  | NA                  | \$156.81                       | \$5.06                        |
| Operating cost/hour:          | \$104.20           | NA                    | NA                  | NA                  | \$9.85                         | \$1.53                        |
| %Utilization-ripper:          | NA                 | NA                    | NA                  | NA                  | NA                             | NA                            |
| Ripper own. cost/hour:        | NA                 | NA                    | NA                  | NA                  | \$0.00                         | \$0.00                        |
| Ripper op. cost/hour:         | NA                 | NA                    | NA                  | NA                  | \$0.00                         | \$0.00                        |
| Operator cost/hour:           | \$28.23            | NA                    | NA                  | NA                  | \$70.24                        | \$70.24                       |
| Unit Subtotals:               | \$349.53           | \$0.00                | \$0.00              | \$0.00              | \$236.90                       | \$76.82                       |
| Number of Units:              | 1                  | 0                     | 0                   | 0                   | 1                              | 1                             |
| Group Subtotals:              | \$349.53           | \$0.00                | \$0.00              | \$0.00              | \$236.90                       | \$76.82                       |

Total work team cost/hour: **\$663.25****MATERIALS COST**

|                           | Description   | Unit        | Unit Cost | Quantity  | Total Cost |
|---------------------------|---|-------------|-----------|-----------|------------|
| Blasting Agent:           | Bulk ANFO nom. density ( 7,900-15,000 fps )           | Pound       | \$0.718   | 10222.222 | \$7,339.56 |
| Primers or Boosters:      | Cast primer, 0.3 lb (electric or non-electric system) | Each        | \$2.540   | 240.000   | \$609.60   |
| Blasting Caps:            | Non-electric cap, delay (non-electric systems)        | Each        | \$6.400   | 240.000   | \$1,536.00 |
| Det. Cord, fuse, or wire: | Detonating cord, 10 gr./ft. (non-electric systems)    | Linear foot | \$0.320   | 9257.600  | \$2,962.43 |
| Delays:                   | MS connectors (non-electric systems)                  | Each        | \$8.690   | 242.000   | \$2,102.98 |
| Miscellaneous:            | NO MISCELLANEOUS MATERIALS REQUIRED                   | NA          | \$0.000   | 0.000     | \$0.00     |

|                              |                  |             |            |       |                    |
|------------------------------|------------------|-------------|------------|-------|--------------------|
| Drill bits:                  | Bit life = 1,400 | Linear feet | \$1,095.19 | 4.286 | \$4,693.67         |
| <b>Total Materials Cost:</b> |                  |             |            |       | <b>\$19,244.24</b> |

**DRILLING AND EXPLOSIVES PREPARATION TIME**

|                           |        |             |
|---------------------------|--------|-------------|
| Total Drilling Length:    | 6,000  | linear feet |
| Unadjusted Drilling Rate: | 112.00 | feet/hour   |
| Drilling Time:            | 84.17  | hours       |

**Job Condition Corrections:**

|                         |              |               |
|-------------------------|--------------|---------------|
| Site Altitude:          | 5,800        | feet          |
| Altitude Adjustment:    | 0.95         | (DRMS est.)   |
| Job Efficiency Factor:  | 0.67         | (CH. Exc. HB) |
| Adjusted Drilling Rate: | <b>71.29</b> | feet/hour     |
| Explosives Prep. Time:  | 45.08        | hours         |

**JOB TIME AND COST**

|                                       |                 |                 |       |
|---------------------------------------|-----------------|-----------------|-------|
|                                       | Total Job Time: | <b>129.25</b>   | Hours |
| Unit cost: <u>\$3.533</u> per cu. yd. | Total Job Cost: | <b>\$62,805</b> |       |

**BULLDOZER WORK**Task description: **Backfill and grade ~22,222 cy of rubble**Site: **Ingleside Quarry** Permit Action: **2023 SO-4** Permit/Job#: **M1980037HR****PROJECT IDENTIFICATION**

Task #: **002** State: **Colorado** Abbreviation: **None**  
 Date: **5/5/2023** County: **Larimer** Filename: **002**  
 User: **JPL**

Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**

Basic Machine: **Cat D8T - 8SU**  
 Horsepower: **310**  
 Blade Type: **Semi-Universal**  
 Attachment: **3-shank ripper**  
 Shift Basis: **1 per day**  
 Data Source: **(CRG)**

**Cost Breakdown:**

|                        |                 | <u>Utilization %</u> |
|------------------------|-----------------|----------------------|
| Ownership Cost/Hour:   | \$241.38        | NA                   |
| Operating Cost/Hour:   | \$143.92        | 100                  |
| Ripper own.            | \$14.11         | NA                   |
| Cost/Hour:             |                 |                      |
| Ripper op. Cost/Hour:  | \$0.00          | 0                    |
| Operator Cost/Hour:    | \$40.04         | NA                   |
| Total unit Cost/Hour:  | \$439.45        |                      |
| Total Fleet Cost/Hour: | <b>\$878.89</b> |                      |

**MATERIAL QUANTITIES**

Initial Volume: **22,222**  
 Swell factor: **1.000**  
 Loose volume: **22,222 LCY**

Source of estimated volume: **Division of Reclamation, Mining & Safety**  
 Source of estimated swell factor: **Cat Handbook**

**HOURLY PRODUCTION**

Average push distance: **50 feet**  
 Unadjusted hourly production: **1,400.0 LCY/hr**

Materials consistency description: **Rock, well ripped or blasted 0.8**

Average push gradient: **0 %**  
 Average site altitude: **5,600 feet**

Material weight: **2,550 lbs/LCY**Weight description: **Sandstone**

Job Condition Correction Factor Source  
 Operator Skill: **0.750** (AVG.)

|                       |       |               |
|-----------------------|-------|---------------|
| Material consistency: | 0.800 | (CAT HB)      |
| Dozing method:        | 1.000 | (GEN.)        |
| Visibility:           | 1.000 | (AVG.)        |
| Job efficiency:       | 0.830 | (1 SHIFT/DAY) |
| Spoil pile:           | 0.800 | (FND-RF)      |
| Push gradient:        | 1.000 | (CAT HB)      |
| Altitude:             | 1.000 | (CAT HB)      |
| Material Weight:      | 0.902 | (CAT HB)      |
| Blade type:           | 1.000 | (PAT)         |

Net correction: 0.3594

Adjusted unit production: 503.16 LCY/hr

Adjusted fleet production: **1006.32** LCY/hr

### **JOB TIME AND COST**

Fleet size: 2 Dozer(s)

Unit cost: \$0.873/LCY

Total job time: **22.08** Hours

Total job cost: **\$19,408**

## BULLDOZER RIPPING WORK

Task description: Rip storage area and internal haul roads

Site: Ingleside Quarry Permit Action: 2023 SO-4 Permit/Job#: M1980037HR

### PROJECT IDENTIFICATION

Task #: 003 State: Colorado Abbreviation: None  
Date: 5/5/2023 County: Larimer Filename: 003  
User: JPL

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU Horsepower: 310  
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

|                             |                 | Utilization % |
|-----------------------------|-----------------|---------------|
| Ownership Cost/Hour:        | \$241.38        | NA            |
| Operating Cost/Hour:        | \$143.92        | 100           |
| Ripper Ownership Cost/Hour: | \$14.11         | NA            |
| Ripper Operating Cost/Hour: | \$7.45          | 100           |
| Operator Cost/Hour:         | \$40.04         | NA            |
| Total Unit Cost/Hour:       | \$446.90        |               |
| Total Fleet Cost/Hour:      | <b>\$893.79</b> |               |

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA  
Area: 12.30 acres Rip Depth (ft): 1.00 Volume: 19,844 BCY or CCY

Source of estimated quantity: DRMS Estimate of current Storage, Scale House and Road Areas

### HOURLY PRODUCTION

#### Seismic:

Seismic Velocity: NA feet/second

#### Area:

Average Ripping Depth: 2.56 feet/pass  
Average Ripping Width: 7.08 feet/pass  
Average Ripping Length: 100.00 feet/pass  
Average Dozer Speed: 88.00 feet/minute  
Average Maneuver Time: 0.25 minutes/pass  
Production per unit area: 0.703 acres/hour

#### Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.703 Acres/hr  
Site Altitude: 5,600 feet  
Altitude Adj: 1.00 (CAT HB)  
Job Efficiency: 0.83 (1 shift/day)  
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.58 Acres/hr  
Adjusted Hourly Fleet Production: 1.17 Acres/hr

### JOB TIME AND COST

Fleet size: 2 Grader(s) Total job time: 10.53 Hours



Unit cost:      \$765.443      Per acre

Total job cost:      **\$9,415**

**BULLDOZER WORK**Task description: Spread fines on reclaimed benchesSite: Ingeside QuarryPermit Action: 2023 SO-4Permit/Job#: M1980037HR**PROJECT IDENTIFICATION**Task #: 004State: ColoradoAbbreviation: NoneDate: 5/5/2023County: LarimerFilename: 004User: JPLAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D8T - 8SUHorsepower: 310Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

|                        |                 | <u>Utilization %</u> |
|------------------------|-----------------|----------------------|
| Ownership Cost/Hour:   | \$241.38        | NA                   |
| Operating Cost/Hour:   | \$143.92        | 100                  |
| Ripper own.            |                 |                      |
| Cost/Hour:             | \$14.11         | NA                   |
| Ripper op. Cost/Hour:  | \$0.00          | 0                    |
| Operator Cost/Hour:    | \$40.04         | NA                   |
| Total unit Cost/Hour:  | \$439.45        |                      |
| Total Fleet Cost/Hour: | <b>\$439.45</b> |                      |

**MATERIAL QUANTITIES**Initial Volume: 444Swell factor: 1.000Loose volume: 444 LCYSource of estimated volume: Division of Reclamation, Mining & Safety

Source of estimated swell

factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 75 feetUnadjusted hourly  
production: 1,017.1 LCY/hrMaterials consistency description: Partly consolidated stockpile 1.1

Average push

gradient:

Average site altitude: 5,600 feetMaterial weight: 1,600 lbs/LCYWeight description: Top Soil**Job Condition Correction Factor**Operator Skill: 0.750**Source**

(AVG.)

|                       |       |               |
|-----------------------|-------|---------------|
| Material consistency: | 1.100 | (CAT HB)      |
| Dozing method:        | 1.000 | (GEN.)        |
| Visibility:           | 1.000 | (AVG.)        |
| Job efficiency:       | 0.830 | (1 SHIFT/DAY) |
| Spoil pile:           | 0.800 | (FND-RF)      |
| Push gradient:        | 1.000 | (CAT HB)      |
| Altitude:             | 1.000 | (CAT HB)      |
| Material Weight:      | 1.438 | (CAT HB)      |
| Blade type:           | 1.000 | (PAT)         |

Net correction: 0.7877

Adjusted unit  
production: 801.17 LCY/hr  
Adjusted fleet  
production: **801.17** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.549/LCY

Total job time: **0.55** Hours  
Total job cost: **\$244**

**REVEGETATION WORK**Task description: Revegetate Pit floor, storage areas, internal haul roads.Site: Ingleside QuarryPermit Action: 2023 SO-4Permit/Job#: M1980037HR**PROJECT IDENTIFICATION**Task #: 005State: ColoradoAbbreviation: NoneDate: 5/5/2023County: LarimerFilename: 005User: JPLAgency or organization name: DRMS**FERTILIZING****Materials**

| Description | Units /<br>Acre | Unit | Cost / Unit   | Cost /Acre    |
|-------------|-----------------|------|---|---------------|
|             |                 |      | \$  | \$            |
|             |                 |      | <b>Total Fertilizer<br/>Materials<br/>Cost/Acre</b> | <b>\$0.00</b> |

**Application**

| Description                                   | Cost /Acre    |
|---|---------------|
|   | \$            |
| <b>Total Fertilizer Application Cost/Acre</b> | <b>\$0.00</b> |

**TILLING**

| Description                    | Cost /Acre    |
|--------------------------------|---------------|
|                                | \$            |
| <b>Total Tilling Cost/Acre</b> | <b>\$0.00</b> |

**SEEDING**

| Seed Mix                   | Rate –<br>PLS<br>LBS /<br>Acre | Seeds<br>per SQ.<br>FT | Cost /Acre     |
|----------------------------|--------------------------------|------------------------|----------------|
| Indian Ricegrass - Native  | 2.50                           | 8.09                   | \$16.25        |
| Little Bluestem - Native   | 2.00                           | 11.94                  | \$27.13        |
| Sideoats Grama - Vaughn    | 3.00                           | 9.85                   | \$25.13        |
| Pubescent Wheatgrass - VNS | 3.50                           | 7.23                   | \$11.03        |
| <b>Totals Seed Mix</b>     | <b>11.00</b>                   | <b>37.11</b>           | <b>\$79.53</b> |

**Application**

|  |  |
|--|--|
|  |  |
|--|--|

| Description                             | Cost /Acre      |
|---|-----------------|
| Drill Seeding (DRMS Survey Cost)        | \$232.00        |
| <b>Total Seed Application Cost/Acre</b> | <b>\$232.00</b> |

**MULCHING and MISCELLANEOUS****Materials**

| Description                               | Units /<br>Acre | Unit | Cost / Unit | Cost /Acre      |
|---|-----------------|------|-------------|-----------------|
| Straw, delivered {MEANS 31 25 14.16 1200} | 2.00            | TON  | \$429.79    | \$859.57        |
| <b>Total Mulch Materials Cost/Acre</b>    |                 |      |             | <b>\$859.57</b> |

**Application**

| Description                              | Cost /Acre     |
|--|----------------|
| Crimping, with tractor {DMG survey data} | \$74.46        |
| <b>Total Mulch Application Cost/Acre</b> | <b>\$74.46</b> |

**NURSERY STOCK PLANTING**

| Common Name                             | No /<br>Acre | Type and Size | Planting<br>Cost | Fertilizer<br>Pellet Cost | Cost /Acre    |
|---|--------------|---------------|------------------|---------------------------|---------------|
|   |              |               |                  |                           | \$            |
| <b>Totals Nursery Stock Cost / Acre</b> |              |               |                  |                           | <b>\$0.00</b> |

**JOB TIME AND COST**

|                                  |             |              |            |
|----------------------------------|-------------|--------------|------------|
| No. of Acres:                    | 24.44       | Cost /Acre:  | \$1,245.56 |
| Estimated Failure Rate:          | 25%         | Cost /Acre*: | \$311.53   |
| *Selected Replanting Work Items: | SEEDING     |              |            |
| Initial Job Cost:                | \$30,441.49 |              |            |
| Reseeding Job Cost:              | \$1,903.45  |              |            |
| Total Job Cost:                  | \$32,345    |              |            |
| Job Hours:                       | 12.22       |              |            |

REVEGETATION WORKTask description: Revegetating benchesSite: Ingleside QuarryPermit Action: 2023 SO-4Permit/Job#: M1980037HRPROJECT IDENTIFICATIONTask #: 006State: ColoradoAbbreviation: NoneDate: 5/5/2023County: LarimerFilename: 006User: JPLAgency or organization name: DRMSFERTILIZING**Materials**

| Description | Units /<br>Acre | Unit | Cost / Unit   | Cost /Acre    |
|-------------|-----------------|------|---|---------------|
|             |                 |      | \$  | \$            |
|             |                 |      | <b>Total Fertilizer<br/>Materials<br/>Cost/Acre</b> | <b>\$0.00</b> |

**Application**

| Description                                   | Cost /Acre    |
|---|---------------|
|   | \$            |
| <b>Total Fertilizer Application Cost/Acre</b> | <b>\$0.00</b> |

TILLING

| Description                    | Cost /Acre    |
|--------------------------------|---------------|
|                                | \$            |
| <b>Total Tilling Cost/Acre</b> | <b>\$0.00</b> |

SEEDING

| Seed Mix                   | Rate –<br>PLS<br>LBS /<br>Acre | Seeds<br>per SQ.<br>FT | Cost /Acre      |
|----------------------------|--------------------------------|------------------------|-----------------|
| Indian Ricegrass - Native  | 5.00                           | 16.18                  | \$32.50         |
| Little Bluestem - Native   | 4.00                           | 23.88                  | \$54.27         |
| Sideoats Grama - Vaughn    | 6.00                           | 19.70                  | \$50.25         |
| Pubescent Wheatgrass - VNS | 7.00                           | 14.46                  | \$22.05         |
| <b>Totals Seed Mix</b>     | <b>22.00</b>                   | <b>74.22</b>           | <b>\$159.07</b> |

**Application**

|  |  |
|--|--|
|  |  |
|--|--|

| Description                             | Cost /Acre      |
|---|-----------------|
| Broadcast seeding [DMG]                 | \$267.22        |
| <b>Total Seed Application Cost/Acre</b> | <b>\$267.22</b> |

**MULCHING and MISCELLANEOUS****Materials**

| Description                               | Units /<br>Acre | Unit | Cost / Unit | Cost /Acre      |
|---|-----------------|------|-------------|-----------------|
| Straw, delivered {MEANS 31 25 14.16 1200} | 2.00            | TON  | \$429.79    | \$859.57        |
| <b>Total Mulch Materials Cost/Acre</b>    |                 |      |             | <b>\$859.57</b> |

**Application**

| Description                              | Cost /Acre        |
|--|-------------------|
| Hydromulching (MEANS 32 92 19.13 1100)   | \$1,306.80        |
| <b>Total Mulch Application Cost/Acre</b> | <b>\$1,306.80</b> |

**NURSERY STOCK PLANTING**

| Common Name                             | No /<br>Acre | Type and Size | Planting<br>Cost | Fertilizer<br>Pellet Cost | Cost /Acre    |
|---|--------------|---------------|------------------|---------------------------|---------------|
|   |              |               |                  |                           | \$            |
| <b>Totals Nursery Stock Cost / Acre</b> |              |               |                  |                           | <b>\$0.00</b> |

**JOB TIME AND COST**

|                                  |         |              |            |
|----------------------------------|---------|--------------|------------|
| No. of Acres:                    | 0.55    | Cost /Acre:  | \$2,592.66 |
| Estimated Failure Rate:          | 25%     | Cost /Acre*: | \$426.29   |
| *Selected Replanting Work Items: | SEEDING |              |            |

|                     |                   |
|---------------------|-------------------|
| Initial Job Cost:   | <b>\$1,425.96</b> |
| Reseeding Job Cost: | <b>\$58.61</b>    |
| Total Job Cost:     | <b>\$1,485</b>    |
| Job Hours:          | <b>1.00</b>       |