

STATE OF  
COLORADO

Zuber - DNR, Rob &lt;rob.zuber@state.co.us&gt;

---

## Increase of Required Surety for the Anderson Pit

1 message

---

**Zuber - DNR, Rob** <rob.zuber@state.co.us>

Fri, Dec 1, 2023 at 9:38 AM

To: "Burkey, Jason K (CRH Americas Materials)" &lt;jason.burkey@na.crh.com&gt;

Cc: "Stevenson-Benn - DNR, Sara" &lt;sara.stevenson-benn@state.co.us&gt;

Hello, Mr. Burkey -

Please see the attached letter. This increase in required surety is the result of my inspection in July and the subsequent TR that we just approved.

Note that I did not copy the folks at Lewicki & Associates. I will leave that up to you if you want them involved in this permitting action.

Regards,  
Rob

Rob Zuber, P.E.  
Environmental Protection Specialist  
Active Mines Regulatory Program



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

***I am working remotely and can be reached by cell at 720.601.2276.***

**Physical Address:**

1313 Sherman Street, Room 215  
Denver, CO 80203

**Mailing Address:**

Division of Reclamation, Mining and Safety, Room 215  
1001 East 62nd Avenue  
Denver, CO 80216

[rob.zuber@state.co.us](mailto:rob.zuber@state.co.us) | <http://drms.colorado.gov>



---

**M2005021\_SI2\_DRMS\_Letter\_with\_Reclamation\_Cost\_Estimate.pdf**

410K



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

December 1, 2023

Jason Burkey  
Oldcastle SW Group, Inc. dba United Companies of Mesa County  
2273 River Road  
Grand Junction, CO 81502-3609

**Re: Anderson Pit - File No. M-2005-021,  
Oldcastle SW Group, Inc. dba United Companies of Mesa County,  
Surety Increase (SI-2), Increase of Required Surety Based on Inspection and TR-02**

Dear Mr. Burkey:

On December 1, 2023, the Division of Reclamation, Mining and Safety increased the current Financial Warranty for this permit to \$601,915.00, in accordance with Rule 4.2.1 of the Rules and Regulations. This is an increase of \$371,815.00. Please see the detailed estimate enclosed with this letter.

The Division ordered amendment of the current Financial Warranty, or submittal of a new Financial Warranty reflecting the increase, within 60 days from the date of this letter (December 1, 2023).

Please make arrangements with Sara Stevenson-Benn at the Division's Denver office for submittal of the financial warranty. Any other questions regarding completion, execution and/or submittal of financial warranty forms should also be directed to Sara Stevenson-Benn by telephone at (303) 866-3567 (8148), or by email at Sara.stevenson-benn@state.co.us.

The Permittee for this site may be scheduled for a Formal Board Hearing for possible revocation of the permit after January 30, 2024, if the amount of any increased Financial Warranty has not been provided.

Bond Held:	\$230,100.00
Prior Liability:	\$230,100.00
Change in Liability:	\$371,815.00
Revised Liability:	\$601,915.00
Prior Permit Acreage:	244.62
Change in Permit Acreage:	0.00
Revised Permit Acreage:	244.62
Prior Affected Acreage:	188.76
Change in Affected Acreage:	0.00
Revised Affected Acreage:	188.76



If you have any questions, please contact me by telephone (720-601-2276), or by email at [Rob.zuber@state.co.us](mailto:Rob.zuber@state.co.us).

Sincerely,

A handwritten signature in blue ink, appearing to read "Robert D. Zuber". The signature is fluid and cursive, with the first name "Robert" and last name "Zuber" clearly distinguishable.

Robert D. Zuber, P.E.  
Environmental Protection Specialist

Cc: Sara Stevenson-Benn, DRMS

Enclosure

## COST SUMMARY WORK

Task description: Cost Summary

Site: Anderson Pit

Permit Action: TR2

Permit/Job#: M2005021

### PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 10/31/2023

County: Delta

Filename: M021-000

User: RDZ

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Demolition and disposal of structures	DEMOLISH	1	40.00	\$54,956
01b	Fuel and tank removal	DEMOLISH	1	40.00	\$3,328
02a	Dewater current pit	PUMPING	1	397.86	\$119,100
03a	Haul material to backfill slope	TRUCK1	1	77.31	\$31,517
03b	Cut slopes to 3H:1V and remaining site grading	DOZER	1	59.76	\$25,496
04a	Rip compacted areas prior to topsoil replacement	RIPPER	1	101.08	\$45,301
05a	Haul topsoil to areas to seed	TRUCK1	1	206.19	\$84,061
05b	Replace topsoil over stripped areas	DOZER	1	41.93	\$17,888
06a	Revegetate rangeland area	REVEGE	1	35.00	\$87,831
06b	Vegetate wetland perimeter	REVEGE	1	1.00	\$16,010
07a	Mobilize reclamation crew and equipment	MOBILIZE	1	2.80	\$3,307
<b><u>SUBTOTALS:</u></b>				<b>1002.93</b>	<b>\$488,795</b>

### INDIRECT COSTS

#### OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$9,874

Performance bond: 1.05

Total = \$5,132

Job superintendent: 308.78

Total = \$20,095

Profit: 10.00

Total = \$48,880

TOTAL O & P = \$83,981

CONTRACT AMOUNT (direct + O & P) = \$572,776

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

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

Total = \$500

Engineering work and/or contract/bid preparation: 0.00

Total = \$0

Reclamation management and/or administration: 5.00

\$28,639

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$113,120

**TOTAL BOND AMOUNT (direct + indirect) = \$601,915**

## DEMOLITION WORK

Task description: Demolition and disposal of structures

Site: Anderson Pit

Permit Action: TR2

Permit/Job#: M2005021

### PROJECT IDENTIFICATION

Task #: 01A

State: Colorado

Abbreviation: None

Date: 11/24/2023

County: Delta

Filename: M021-01a

User: RDZ

Agency or organization name: DRMS

### UNIT COSTS

Location adjustment: 98.20 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Concrete plant slab	60' x 90' x 6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	5,400.00	SF	\$1.30	\$7,032.42
Concrete plant building stemwall	1' x 1' x 304'	Demo. and on-site disposal in excavated pit, 1.0 ft. x 2 ft. - Max. 200 ft. push	304.00	LF	\$5.21	\$1,583.54
Concrete plant foundation pads	5 @ 10' x 1.5' x 4'	Demo. and on-site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	200.00	SF	\$2.60	\$520.90
Truck scale foundation	700 s.f.	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 200 ft. push	700.00	SF	\$1.74	\$1,215.41
Fuel storage slab	24' x 36'	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	864.00	SF	\$1.30	\$1,125.19
Concrete plant building, machinery in half of bldg	(60' x 90' x 25').5	Bldg. (MN) demo./off-site disposal in approved landfill - Max. 5 mile haul	67,500.00	CF	\$0.43	\$29,119.50
Concrete plant feeder conveyor	50'	OBSOLETE-Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	50.00	LF	\$44.51	\$2,225.45
Section of sediment pond discharge pipe	20" diameter x 85'	Pipe, sewer/water - 21 to 24 in. diameter pipe	85.00	LF	\$7.54	\$640.90
Disposal fees for steel	1000 c.y.	Loading and 5 mile haul, salvage allowed - Steel frame structures	1,000.00	CY	\$12.50	\$12,500.00

Job Hours: 40.00

Subtotal  
(unadjusted): \$55,963.31

Total Cost  
(adjusted for location): \$54,955.97

## DEMOLITION WORK

Task description: **Fuel and tank removal**

Site: **Anderson Pit**

Permit Action: **TR2**

Permit/Job#: **M2005021**

### PROJECT IDENTIFICATION

Task #: **01B**

State: **Colorado**

Abbreviation: **None**

Date: **11/27/2023**

County: **Delta**

Filename: **M021-01b**

User: **RDZ**

Agency or organization name: **DRMS**

### UNIT COSTS

**Location adjustment: 89.80 %**

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Fuel farm tank	10,000 gallons	Haul tank to certified salvage dump - 9,000 to 12,000 gal. tank	1.00	EA	\$1,050.00	\$1,050.00
Fuel farm tank - remove fuel	NA	Remove sludge, water, and rem. product from tank - 9,000 to 12,000 gal.	1.00	EA	\$432.00	\$432.00
Diesel tank for crusher	8,000 gallons	Haul tank to certified salvage dump - 6,000 to 8,000 gal. tank	1.00	EA	\$880.00	\$880.00
Tank for crusher - remove fuel	NA	Remove sludge, water, and rem. product from tank - 6,000 to 8,000 gal.	1.00	EA	\$324.00	\$324.00
Diesel tank for wash plant	3,000 gallons	Haul tank to certified salvage dump - 3,000 to 5,000 gal. tank	1.00	EA	\$760.00	\$760.00
Tank for wash plant - remove fuel	NA	Remove sludge, water, and rem. product from tank - 3,000 to 5,000 gal.	1.00	EA	\$259.50	\$259.50

Job Hours: **40.00**

**Subtotal**  
(unadjusted): **\$3,705.50**

**Total Cost**  
(adjusted for location): **\$3,327.54**

## PUMPING WORK

Task description: Dewater current pit

Site: Anderson Pit

Permit Action: TR2

Permit/Job#: M2005021

### PROJECT IDENTIFICATION

Task #: 02A

State: Colorado

Abbreviation: None

Date: 10/31/2023

County: Delta

Filename: M021-02a

User: RDZ

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

	Description	Quantity
Make and Model:	Centrifugal pump - 200M, 10 in.	7
Attachment 1:	Suction hose - 4 in. diam., 25 ft.	7
Attachment 2:	Discharge hose - 4 in. D., 25 ft.	7
Labor Unit 1:	Pump operator (same as 1st)	1
Horsepower:	70	
Shift Basis:	1 per day	
Weight:	1.95	
	(US Tons)	

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$119.91	NA
Operating Cost/Hour:	\$151.76	100
Operator Cost/Hour:	\$27.68	NA
Total Unit Cost/Hour:	\$299.35	

Total Fleet Cost/Hour: \$299.35

### PUMPING QUANTITIES

Initial Pond Volume:	1,610.00		Conversion factor:	325850.5800
Final Pond Volume:	<b>524,619,433.80</b>	gallons		
Total Pond Inflow Surface Area:	10,000	Sq. ft.	Unit inflow rate in gph/sq. ft.:	0.3516
Total Pond Inflow Volume per Hour:	3,516.00	gallons		

Source of estimated volume: Maps

### PUMPING TIME

Maximum Pump Capacity:	200,000	gph/pump
Estimated Suction Head:	15	feet
Estimated Discharge Head:	15	feet
Total Head:	30	feet
CPB Pump Capacity:	168,000	gph/pump
Site Altitude:	5,000	feet
Adjusted Pumping Capacity:	1,176,000	gph
Initial Unadjusted Pumping Time:	446.10	hours
Inflow during Initial Pumping:	1,568,505	gallons
Net Unadjusted Pumping Time:	447.44	Hours
Altitude Adjustment Factor:	0.9700	(3% rule)
Pump Efficiency Factor:	0.9167	(55 min./hr.)
Total Adjusted Pumping Time:	397.86	hours

### JOB TIME AND COST

Total job time: 397.86 Hours

Unit cost: \$0.000226 /Gallon

Total job cost: \$119,100

**TRUCK/LOADER TEAM WORK**Task description: **Haul material to backfill slope**Site: **Anderson Pit**Permit Action: **TR2**Permit/Job#: **M2005021****PROJECT IDENTIFICATION**Task #: **03A**State: **Colorado**Abbreviation: **None**Date: **10/31/2023**County: **Delta**Filename: **M021-03a**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Shift basis: **1 per day**

		Equipment Description
Truck Loader Team -Truck:		Generic 10-12 cy, 6x4
-Loader:		CAT 966H high lift
Support Equipment -Load Area:		NA
-Dump Area:		NA
Road Maintenance -Motor Grader:		NA
-Water Truck:		NA

**Cost Breakdown:****Truck/Loader Team****Support Equipment****Maintenance Equipment**

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	NA	NA	NA
Ownership cost/hour:	\$21.85	\$65.69	NA	NA	NA	NA
Operating cost/hour:	\$62.55	\$48.09	NA	NA	NA	NA
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$0.00	\$40.71	NA	NA	NA	NA
Unit Subtotals:	\$84.40	\$154.49	NA	NA	NA	NA
Number of Units:	3	1	0	0	0	0
Group Subtotals:	Work: \$407.69		Support: \$0.00		Maint: \$0.00	

Total work team cost/hour: **\$407.69****MATERIAL QUANTITIES**Initial volume: **26,741**

CCY

Swell factor: **1.060**Loose volume: **28,345**

LCY

Source of estimated volume: **Highwall 1000' long, 38' high. Grade from 2:1 to 3:1.**Source of estimated swell factor: **Cat Handbook**Material Purchase Cost: **\$0.00**Total Cost: **\$0.00****HOURLY PRODUCTION****Truck Capacity:**

Truck Payload (weight) Basis:

Material weight: **2,900**

Pounds/LCY

Description: **Sand and gravel - Dry**Rated Payload: **35,400**

Pounds

Payload Capacity: **12.21**

LCY



Truck Bed (volume) Basis:

Struck Volume:	10.00	LCY
Heaped Volume:	12.00	LCY
Average Volume:	11.00	LCY
Adjusted Volume:	12.00	LCY

Final Truck Volume Based on Number of Loader Passes: 9.25 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	5.000	LCY (heaped)
Bucket Fill Factor:	0.925	Loose material - 1/8" to 3/8" (90 - 95%) 0.925
Adjusted Capacity:	<b>4.625</b>	LCY

Job Condition Corrections:

Site Altitude (ft.): 5000 feet

	<b>Truck</b>	<b>Loader</b>	<b>Source</b>
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	<b>0.830</b>	<b>0.830</b>	

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 2 passes

Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: NA  
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: \_\_\_\_\_

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Operation:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Dump Target:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		0.000	minutes
Adjusted Loader Cycle Time:		<b>0.500</b>	minutes
Net Load Time per Truck:		<b>0.600</b>	minutes

Truck Cycle Time:

Truck Exchange Time:	0.50	Minutes	Adjusted for site altitude:	0.500	Minutes
Truck Load Time:	0.600	Minutes	Adjusted for site altitude:	0.600	Minutes
Truck Maneuver and Dump Time:	0.90	Minutes	Adjusted for site altitude:	0.900	Minutes

Truck Travel (Haul & Return) Time:  
maintained 2.0

Road Condition: Hard, smooth, stabilized, surfaced, watered,

## Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2300.00	2.00	2.00	4.00	2665	0.961

Haul Time: **0.961** minutes

## Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2300.00	-2.00	2.00	0.00	2938	0.808

Return Time: **0.808** minutesTotal Truck Cycle Time: **3.769** minutes

Loading Tool unit  
 Production 504.55 LCY/Hour      Adjusted for job efficiency: 418.77 LCY/Hour  
 Truck Unit Production  
147.25 LCY/Hour      Adjusted for job efficiency: 122.22 LCY/Hour  
 Optimal No. of Trucks: 3 Truck(s)      Selected Number of Trucks: 3 Truck(s)

Adjusted hourly truck team production: 366.66 LCY/Hour  
 Adjusted single truck/loader team production: 366.66 LCY/Hour  
 Adjusted multiple truck/loader team production: **366.66** LCY/Hour

**JOB TIME AND COST**Fleet size: 1 Team(s)      Total job time: **77.31** HoursUnit cost: \$1.112 /LCY      Total job cost: **\$31,517**

**BULLDOZER WORK**Task description: Cut slopes to 3H:1V and remaining site gradingSite: Anderson PitPermit Action: TR2Permit/Job#: M2005021**PROJECT IDENTIFICATION**Task #: 03BState: ColoradoAbbreviation: NoneDate: 10/31/2023County: DeltaFilename: M021-03bUser: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D8T - 8SUHorsepower: 310Blade Type: Semi-UniversalAttachment: NAShift 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:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$426.60Total Fleet Cost/Hour: **\$426.60****MATERIAL QUANTITIES**Initial Volume: 26,741Swell factor: 1.000Loose volume: **26,741** LCYSource of estimated volume: Highwall 1000' long and 38' high. Grade 2:1 slope to 3:1.Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 100 feetUnadjusted hourly production: 852.6 LCY/hrMaterials consistency description: Partly consolidated stockpile 1.1Average push gradient: 0 %Average site altitude: 5,000 feetMaterial weight: 2,400 lbs/LCYWeight description: Clay and gravel - Dry**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(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:	0.958	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5248

Adjusted unit production: 447.44 LCY/hr

Adjusted fleet production: **447.44** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
 Unit cost: \$0.953/LCY

Total job time: **59.76** Hours  
 Total job cost: **\$25,496**

## BULLDOZER RIPPING WORK

Task description: Rip compacted areas prior to topsoil replacement

Site: Anderson Pit Permit Action: TR2 Permit/Job#: M2005021

### PROJECT IDENTIFICATION

Task #: 04A State: Colorado Abbreviation: None  
Date: 10/31/2023 County: Delta Filename: M021-04a  
User: RDZ

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:	\$41.30	NA
Total Unit Cost/Hour:	\$448.16	
Total Fleet Cost/Hour:	<b>\$448.16</b>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA  
Area: 50.00 acres Rip Depth (ft): 2.00 Volume: 161,333 BCY or CCY

Source of estimated quantity: Exhibit L in TR2 adequacy response.

### 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: 50.00 feet/pass  
Average Dozer Speed: 88.00 feet/minute  
Average Maneuver Time: 0.25 minutes/pass  
Production per unit area: 0.596 acres/hour

#### Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.596 Acres/hr  
Site Altitude: 5,000 feet  
Altitude Adj: 1.00 (CAT HB)  
Job Efficiency: 0.83 (1 shift/day)  
Net Correction: 0.83 multiplier  
Adjusted Hourly Unit Production: 0.49 Acres/hr  
Adjusted Hourly Fleet Production: **0.49** Acres/hr

### JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **101.08** Hours  
Unit cost: \$906.021 Per acre Total job cost: **\$45,301**

**TRUCK/LOADER TEAM WORK**Task description: **Haul topsoil to areas to seed**Site: **Anderson Pit**Permit Action: **TR2**Permit/Job#: **M2005021****PROJECT IDENTIFICATION**Task #: **05A**State: **Colorado**Abbreviation: **None**Date: **11/1/2023**County: **Delta**Filename: **M021-05a**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Shift basis: **1 per day**

Equipment Description	
Truck Loader Team -Truck:	Generic 10-12 cy, 6x4
-Loader:	CAT 966H high lift
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

**Cost Breakdown:****Truck/Loader Team****Support Equipment****Maintenance Equipment**

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	NA	NA	NA
Ownership cost/hour:	\$21.85	\$65.69	NA	NA	NA	NA
Operating cost/hour:	\$62.55	\$48.09	NA	NA	NA	NA
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$0.00	\$40.71	NA	NA	NA	NA
Unit Subtotals:	\$84.40	\$154.49	NA	NA	NA	NA
Number of Units:	3	1	0	0	0	0
Group Subtotals:	Work: \$407.69		Support: \$0.00		Maint: \$0.00	

Total work team cost/hour: **\$407.69****MATERIAL QUANTITIES**Initial volume: **80,670**

CCY

Swell factor: **1.215**Loose volume: **98,014**

LCY

Source of estimated volume: **Area of 50 acres. 12 inches deep.**Source of estimated swell factor: **Cat Handbook**Material Purchase Cost: **\$0.00**Total Cost: **\$0.00****HOURLY PRODUCTION****Truck Capacity:**

Truck Payload (weight) Basis:

Material weight: **1,600**

Pounds/LCY

Description: **Top Soil**Rated Payload: **35,400**

Pounds

Payload Capacity: **22.13**

LCY

Truck Bed (volume) Basis:

Struck Volume:	10.00	LCY
Heaped Volume:	12.00	LCY
Average Volume:	11.00	LCY
Adjusted Volume:	12.00	LCY

Final Truck Volume Based on Number of Loader Passes: 10.50 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	5.000	LCY (heaped)
Bucket Fill Factor:	1.050	Moist loam or sandy clay (100% - 110%) 1.050
Adjusted Capacity:	<b>5.250</b>	LCY

Job Condition Corrections:

Site Altitude (ft.): 5000 feet

	<b>Truck</b>	<b>Loader</b>	<b>Source</b>
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	<b>0.830</b>	<b>0.830</b>	

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 2 passes

Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: NA  
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: \_\_\_\_\_

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Operation:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Dump Target:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		0.000	minutes
Adjusted Loader Cycle Time:		<b>0.500</b>	minutes
Net Load Time per Truck:		<b>0.600</b>	minutes

Truck Cycle Time:

Truck Exchange Time:	0.50	Minutes	Adjusted for site altitude:	0.500	Minutes
Truck Load Time:	0.600	Minutes	Adjusted for site altitude:	0.600	Minutes
Truck Maneuver and Dump Time:	0.90	Minutes	Adjusted for site altitude:	0.900	Minutes

Truck Travel (Haul & Return) Time:  
maintained 2.0

Road Condition: Hard, smooth, stabilized, surfaced, watered,

## Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	2.00	2.00	4.00	2665	0.660

Haul Time: **0.660** minutes

## Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	-2.00	2.00	0.00	2938	0.535

Return Time: **0.535** minutesTotal Truck Cycle Time: **3.195** minutes

Loading Tool unit  
 Production 572.73 LCY/Hour      Adjusted for job efficiency: 475.36 LCY/Hour  
 Truck Unit Production  
197.18 LCY/Hour      Adjusted for job efficiency: 163.66 LCY/Hour  
 Optimal No. of Trucks: 3 Truck(s)      Selected Number of Trucks: 3 Truck(s)

Adjusted hourly truck team production: 490.99 LCY/Hour  
 Adjusted single truck/loader team production: 475.36 LCY/Hour  
 Adjusted multiple truck/loader team production: **475.36** LCY/Hour

**JOB TIME AND COST**Fleet size: 1 Team(s)      Total job time: **206.19** HoursUnit cost: \$0.858 /LCY      Total job cost: **\$84,061**



**BULLDOZER WORK**Task description: Replace topsoil over stripped areasSite: Anderson PitPermit Action: TR2Permit/Job#: M2005021**PROJECT IDENTIFICATION**Task #: 05BState: ColoradoAbbreviation: NoneDate: 11/1/2023County: DeltaFilename: M021-05bUser: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D8T - 8SUHorsepower: 310Blade Type: Semi-UniversalAttachment: NAShift 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:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$426.60Total Fleet Cost/Hour: **\$426.60****MATERIAL QUANTITIES**Initial Volume: 30,720Swell factor: 1.000Loose volume: **30,720 LCY**Source of estimated volume: 114.2 ac. @ 2" depthSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 100 feetUnadjusted hourly production: 852.6 LCY/hrMaterials consistency description: Loose stockpile 1.2Average push gradient: 0 %Average site altitude: 5,000 feetMaterial weight: 1,600 lbs/LCYWeight description: Top Soil**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.200	(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: 0.8593

Adjusted unit production: 732.64 LCY/hr

Adjusted fleet production: **732.64** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)

Unit cost: \$0.582/LCY

Total job time: **41.93** Hours

Total job cost: **\$17,888**

**REVEGETATION WORK**Task description: Revegetate rangeland areaSite: Anderson Pit Permit Action: TR2 Permit/Job#: M2005021**PROJECT IDENTIFICATION**

Task #: 06A State: Colorado Abbreviation: None  
 Date: 10/31/2023 County: Delta Filename: M021-06a  
 User: RDZ

Agency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
			<b>Total Fertilizer Materials 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
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$112.82
Weed control spraying (MEANS 31 31 16.13 3100)	\$338.80
<b>Total Tilling Cost/Acre</b>	<b>\$451.62</b>

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Crested Wheatgrass - Fairway	1.50	6.89	\$6.04
Yellow Sweet Clover - Madrid	1.50	8.95	\$4.24
Streambank Wheatgrass - Sodar	3.00	9.78	\$17.10
Thickspike Wheatgrass - Critana	3.00	10.61	\$20.63
Rabbitbrush, Rubber	0.25	3.72	\$16.07
Saltbush, Four Wing	0.25	0.34	\$3.13
Sumac, Skunkbrush	0.25	0.12	\$5.25
		40.41	<b>\$72.45</b>

<b>Totals Seed Mix</b>	9.75		
------------------------	------	--	--

**Application**

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

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

<b>Description</b>	<b>Units / Acre</b>	<b>Unit</b>	<b>Cost / Unit</b>	<b>Cost /Acre</b>
Herbicide - Curtail @ 4.0 pt/ac	1.00	ACRE	\$35.09	\$35.09
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$429.79	\$859.57
<b>Total Mulch Materials Cost/Acre</b>				<b>\$894.66</b>

**Application**

<b>Description</b>	<b>Cost /Acre</b>
Crimping, with tractor {DMG survey data}	\$74.46
Weed spray, truck, aquatic area, nox. [DMG]	\$62.72
<b>Total Mulch Application Cost/Acre</b>	<b>\$137.18</b>

**NURSERY STOCK PLANTING**

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

**JOB TIME AND COST**

No. of Acres:	39.3	Cost /Acre:	\$1,787.91
Estimated Failure Rate:	25%	Cost /Acre*:	\$1,787.91
*Selected Replanting Work Items:	TILLING,SEEDING,MULCHING		
Initial Job Cost:	<b>\$70,264.86</b>		
Reseeding Job Cost:	<b>\$17,566.22</b>		
Total Job Cost:	<b>\$87,831</b>		
Job Hours:	<b>35.00</b>		

**REVEGETATION WORK**Task description: Vegetate wetland perimeterSite: Anderson PitPermit Action: TR2Permit/Job#: M2005021**PROJECT IDENTIFICATION**Task #: 06BState: ColoradoAbbreviation: NoneDate: 11/24/2023County: DeltaFilename: M021-06bUser: RDZAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	1.00	pound	\$0.50	\$0.50
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$0.50</b>

**Application**

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$41.82
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$41.82</b>

**TILLING**

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$112.82
Weed control spraying (MEANS 31 31 16.13 3100)	\$338.80
<b>Total Tilling Cost/Acre</b>	<b>\$451.62</b>

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alkali Sacaton	1.00	39.03	\$28.48
Great Basin Wildrye - Magnar	1.50	6.10	\$17.33
Nebraska Sedge	1.00	20.94	\$166.50
Slender Wheatgrass - Native	3.00	10.95	\$13.88
Red Top	1.00	114.55	\$7.88
Reedgrass, Canadian (or Blue Joint)	0.50	51.42	\$101.63
Reedgrass, Northern - Native	0.50	51.42	\$68.33
Saltgrass, Inland	1.00	13.86	\$42.80
Timothy, Alpine - Native	1.00	29.84	\$24.25

<b>Totals Seed Mix</b>	10.50	338.12	<b>\$471.05</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 / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
<b>Total Mulch Materials Cost/Acre</b>				<b>\$0.00</b>

## Application

Description	Cost /Acre
	\$
<b>Total Mulch Application Cost/Acre</b>	<b>\$0.00</b>

## NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
Totals Nursery Stock Cost / Acre					\$0.00

### JOB TIME AND COST

No. of Acres:	<u>10.7</u>	Cost /Acre:	<u>\$1,196.99</u>
Estimated Failure Rate:	<u>25%</u>	Cost /Acre*:	<u>\$1,196.99</u>
*Selected Replanting Work Items:	<u>FERTILIZING,TILLING,SEEDING</u>		
Initial Job Cost:	<u><b>\$12,807.79</b></u>		
Reseeding Job Cost:	<u><b>\$3,201.95</b></u>		
Total Job Cost:	<u><b>\$16,010</b></u>		
Job Hours:	<u><b>1.00</b></u>		

**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: **Mobilize reclamation crew and equipment**Site: **Anderson Pit**Permit Action: TR2Permit/Job#: M2005021**PROJECT IDENTIFICATION**Task #: 07AState: ColoradoAbbreviation: NoneDate: 10/31/2023County: DeltaFilename: M021-07aUser: RDZAgency or organization name: DRMS**EQUIPMENT TRANSPORT RIG COST**Shift basis: 1 per dayCost Data Source: CRG DataTruck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED,  
400 HP (2ND HALF, 2006)Truck Trailer Description: GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT  
TRAILER (25T, 50T, AND 100T)**Cost Breakdown:**

<b>Available Rig Capacities</b>	<b>0-25 Tons</b>	<b>26-50 Tons</b>	<b>51+ Tons</b>
Ownership Cost/Hour:	\$20.26	\$36.04	\$47.05
Operating Cost/Hour:	\$39.51	\$76.08	\$82.85
Operator Cost/Hour:	\$22.52	\$22.52	\$22.52
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$82.29	\$158.17	\$175.95

**NON ROADABLE EQUIPMENT:**

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D8T - 8SU	47.71	\$241.38	\$158.17	1	\$399.55	\$158.17	\$250.00
CAT 966H	25.80	\$65.69	\$82.29	1	\$147.98	\$82.29	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$6.73	\$82.29	1	\$89.02	\$82.29	\$250.00

Subtotals: **\$636.55** **\$322.75** **\$750.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 1 T. Crew	\$27.44	1	\$27.44	\$27.44
Generic 10-12 cy, 6x4	\$116.31	3	\$348.93	\$348.93

Subtotals: **\$376.37** **\$376.37**

**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region: DELTA  
 Total one-way travel distance: 5.00 miles  
 Average Travel Speed: 25.00 mph

Total Non-Roadable Mob/Demob Cost \* \$3,156.82  
 \*\* two round trips with haul rig:  
 Total Roadable Mob/Demob Cost \*\* \$150.55  
 \*\* one round trip, no haul rig:

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.20	0.20
Return Time (Hours):	0.20	0.20
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.40	0.40

**JOB TIME AND COST**

Total job time: 2.80 Hours

Total job cost: \$3,307