



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

January 2, 2025

Bryan K. Jorgensen  
Grand Junction Concrete Pipe Co.  
556 Struthers Ave.  
Grand Junction, CO 81501-3826

**Re: South Fruita Gravel Pit - File No. M-1981-243**  
**Grand Junction Concrete Pipe Co.**  
**Surety Increase (SI-7)**  
**Surety Increase**

Dear Bryan K. Jorgensen:

On January 2, 2025 the Division of Reclamation, Mining and Safety increased the current Financial Warranty for this permit to \$436,823.00, in accordance with Rule 4.2.1 of the Rules and Regulations. This is an increase of \$199,099.00.

Surety Increase based on changes to site conditions and inflation.

Please see the November 5, 2024 inspection report for details regarding why this surety increase is required.

On January 2, 2025, the Division ordered amendment of the current Financial Warranty or submittal of a new Financial Warranty reflecting the increase, within 60 days.

Please make arrangements with Sara M. 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 M. Stevenson-Benn by telephone at (303) 866-3567, 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 if the amount of any increased Financial Warranty has not been provided by March 3, 2025.

Bond Held:	\$237,724.00
Prior Liability:	\$237,724.00
Change in Liability:	\$199,099.00



Revised Liability:	\$436,823.00
Prior Permit Acreage:	95.18
Change in Permit Acreage:	0.00
Revised Permit Acreage:	95.18
Prior Affected Acreage:	73.18
Change in Affected Acreage:	0.00
Revised Affected Acreage:	73.18

If you have any questions, please contact me by telephone at (970) 210-1272, or by email at Amy.yeldell@state.co.us.

Sincerely,



Amy C. Yeldell  
Environmental Protection Specialist

cc: Bryan Jorgensen

M-GR-04



November 25, 2024

Bryan Jorgensen  
Grand Junction Pipe Co  
556 Struthers Ave  
Grand Junction, CO 81501

***RE: South of Fruita Gravel Pit, Permit No. M-1981-243, Proposed Surety Increase (SI-7)***

Dear Mr. Jorgensen:

This reclamation cost update was in response to the site inspection conducted on November 5, 2024. It is Division policy to periodically update its costs to ensure that the Financial Warranty adequately, reflects the actual current cost of fulfilling the requirements of the approved reclamation plan.

The bond was last recalculated in 2022 with SI-6. Below is a table summarizing input values that have been updated based on site conditions. This table does not account for price changes resulting from inflation or other RS Means cost changes. Bond calculations are based on a combination of field observations and worst case scenario based on the approved reclamation plan.

General Assumptions:

- Immediately reclaim current site conditions.
- East Arcuby slopes reclaimed only surrounding area needs reclaimed.
- Roads around lakes remain – TR may be required for as built
- Prev South Karp is actually East Arcuby
- Changes from SI-6 are noted in red (3 years of inflationary costs)

Task	Form Used	Description
01a	Dozer	Arcuby East – Push Riprap into Pond 2500 LCY Pitrun 200 ft push



01b	Ripper	Arcuby East - Decompact processing stockpile area 6.6 ac affected – (1600 LD x 12 ft road through = 0.44) = 6.16 ac
01c	Scraper	Arcuby East – Place Topsoil 6.16 ac @ 6" = 4,969 CY From SE Karp stockpile – 1760LF
01d	Reveg	Arcuby East – Reveg Pond Stockpile Area 6.16ac @ 40% failure
02a	Pump	Karp – Dewater Pond 9.6ac pond 15' deep Perimeter is approx. 3432
02b	Dozer	Karp – Grade Highwalls 5417 CCY 300 LF 15'H to 5:1 and 2000 LF 15'H to 3:1 from 1:1 all cut/fill
02c	Ripper	Karp – Rip stockpile processing area 9.5 ac
02d	Scraper	Karp – Place topsoil 10,890 CCY 4 ac around pond and 9.5 ac processing area @ 6" From SE Karp stockpile 1500 ft haul
02e	Reveg	Karp – Reveg 13.5 ac @ 40% failure
03a	Pump	West Arcuby – Dewater Pond 20.3 ac pond 15'D Perimeter is approx.. 4377 LF
03b	Scraper	West Arcuby – Grade Highwalls 32,223 LCY all slopes from 1:1 W:400LF 20'H to 5:1 backfill = 11,852 CY S:1,050LF 20'H to 3:1 backfill = 15,556 CY E:1,300 LF' 20'H to 3:1 cut fill = 4,815 CY Avg backfill 700 LF away

03c	Ripper	West Arcuby – Rip stockpile processing area <b>5 ac</b>
03d	Scraper	West Arcuby – Place topsoil <b>6,615 CCY</b> <b>3.2 ac</b> around pond (2750LF of highwall x 50'W) and <b>5ac</b> processing @ 6" <b>From W Arcuby stockpile 900 ft haul</b>
03e	Reveg	West Arcuby – Reveg <b>18ac @ 40% failure</b> <b>8.2 ac new reclaim and 9.8ac north of pond affected lands not pond</b>
10a	Mob	Update equipment
10b	Mob	Update equipment
Indirect		<b>Job hours approx. half all hours not including pumping</b> <b>Added Engineering work/ contact/ bid prep</b>

Per policy I wanted to send this out for review prior to issuance. Please look it over and let me know if there are errors or concerns. If no response is received by **Monday, December 30, 2024** then I'll issue SI-6 as is. SI-6 will result in a total required bond amount of **\$436,823**, which is an increase of \$199,009 over the \$237,724 currently held.

Please feel free to contact me with any further questions. Amy Yeldell at the Division of Reclamation, Mining and Safety, Rm 215, 1001 E 62<sup>nd</sup> Ave, Denver CO 80216. Direct contact can be made by phone at 970-210-1272 or via email at amy.yeldell@ state.co.us

Sincerely,



**Amy Yeldell**  
Environmental Protection Specialist

Ec:  
Travis Marshall, Senior EPS, Grand Junction DRMS  
Jon Muller, Kilgore

## COST SUMMARY WORK

Task description: 2024 Update

Site: South Fruita Gravel Pit

Permit Action: 2024

Permit/Job#: M1981243

### PROJECT IDENTIFICATION

Task #: ACY

State: Colorado

Abbreviation: None

Date: 11/21/2024

County: Mesa

Filename: M243-ACY

User: ACY

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Arcuby East - Push riprap into pond	DOZER	1	14.41	\$4,901
01b	Arcuby East - Rip stockpile/processing area	RIPPER	1	9.91	\$3,427
01c	Arcuby East - Place 6" topsoil	SCRAPER1	1	10.26	\$18,062
01d	Arcuby East - Reveg	REVEGE	1	9.00	\$38,951
02a	Karp - Dewater Pond	PUMPING	1	139.39	\$9,618
02b	Karp - Grade Highwalls	DOZER	1	10.63	\$3,615
02c	Karp - Rip stockpile/processing area	RIPPER	1	14.80	\$5,116
02d	Karp - Place 6" topsoil	SCRAPER1	1	20.23	\$35,614
02e	Karp - Reveg	REVEGE	1	19.00	\$38,951
03a	Arcuby West - Dewater Pond	PUMPING	1	348.66	\$24,058
03b	Arcuby West - Grade Highwalls and transport backfill	SCRAPER1	1	45.55	\$80,196
03c	Arcuby West - Rip stockpile/processing area	RIPPER	1	7.79	\$2,692
03d	Arcuby West - Place 6" topsoil	SCRAPER1	1	10.70	\$18,844
03e	West Arcuby - Reveg	REVEGE	1	25.00	\$51,935
10a	Initial Mobilization	MOBILIZE	1	2.88	\$7,866
10b	Secondary Mobilization	MOBILIZE	1	2.88	\$1,657
<b><u>SUBTOTALS:</u></b>				<b>691.09</b>	<b>\$345,503</b>

### INDIRECT COSTS

#### OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$6,979
Performance bond:	1.05	Total =	\$3,628
Job superintendent:	110.00	Total =	\$8,720
Profit:	10.00	Total =	\$34,550
		TOTAL O & P =	\$53,877
		CONTRACT AMOUNT (direct + O & P) =	\$399,380

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	\$500	Total =	\$500
Engineering work and/or contract/bid preparation:	4.25	Total =	\$16,974
Reclamation management and/or administration:	5.00		\$19,969

CONTINGENCY: 0.00      Total = \$0

TOTAL INDIRECT COST = \$91,320

**TOTAL BOND AMOUNT (direct + indirect) = \$436,823**

**BULLDOZER WORK**Task description: Arcuby East - Push riprap into pondSite: South Fruita Gravel PitPermit Action: 2024Permit/Job#: M1981243**PROJECT IDENTIFICATION**Task #: 01AState: ColoradoAbbreviation: NoneDate: 11/25/2024County: MesaFilename: M243-01aUser: ACYAgency 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:	\$173.32	NA
Operating Cost/Hour:	\$109.71	100
Ripper own. Cost/Hour:	\$14.53	NA
Ripper op. Cost/Hour:	\$2.39	30
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: \$339.98Total Fleet Cost/Hour: **\$339.98****MATERIAL QUANTITIES**Initial Volume: 2,500Swell factor: 1.000Loose volume: **2,500 LCY**Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 200 feetUnadjusted hourly production: 491.9 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: 0 %Average site altitude: 4,600 feetMaterial weight: 3,250 lbs/LCYWeight description: Gravel - Pitrun**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(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:	0.708	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3526

Adjusted unit production: 173.44 LCY/hr

Adjusted fleet production: **173.44** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)

Unit cost: \$1.960/LCY

Total job time: **14.41** Hours

Total job cost: **\$4,901**



## BULLDOZER RIPPING WORK

Task description: Arcuby East - Rip stockpile/processing area

Site: South Fruita Gravel Pit

Permit Action: 2024

Permit/Job#: M1981243

### PROJECT IDENTIFICATION

Task #: 01B

State: Colorado

Abbreviation: None

Date: 11/25/2024

County: Mesa

Filename: M243-01b

User: ACY

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU  
Ripper Attachment: 3-Shank Ripper

Horsepower: 310

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$173.32	NA
Operating Cost/Hour:	\$109.71	100
Ripper Ownership Cost/Hour:	\$14.53	NA
Ripper Operating Cost/Hour:	\$7.95	100
Operator Cost/Hour:	\$40.04	NA
Total Unit Cost/Hour:	\$345.55	
Total Fleet Cost/Hour:	<b>\$345.55</b>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA  
Area: 6.16 acres Rip Depth (ft): 2.00 Volume: 19,876 BCY or CCY

Source of estimated quantity: 6.6 ac affected – (1600 LD x 12 ft road through = 0.44)

### HOURLY PRODUCTION

#### Seismic:

Seismic Velocity: NA feet/second

#### Area:

Average Ripping Depth: 2.00 feet/pass  
Average Ripping Width: 7.08 feet/pass  
Average Ripping Length: 150.00 feet/pass  
Average Dozer Speed: 88.00 feet/minute  
Average Maneuver Time: 0.25 minutes/pass  
Production per unit area: 0.748 acres/hour

#### Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.748 Acres/hr  
Site Altitude: 4,600 feet  
Altitude Adj: 1.00 (CAT HB)  
Job Efficiency: 0.83 (1 shift/day)  
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.62 Acres/hr  
Adjusted Hourly Fleet Production: **0.62** Acres/hr

### JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **9.92** Hours

Unit cost: \$556.276 Per acre Total job cost: **\$3,427**

**SCRAPER TEAM WORK**Task description: Arcuby East - Place 6" topsoilSite: South Fruita Gravel PitPermit Action: 2024Permit/Job#: M1981243**PROJECT IDENTIFICATION**Task #: 01CState: ColoradoAbbreviation: NoneDate: 11/25/2024County: MesaFilename: M243-01cUser: ACYAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 627G w/push-pull
-Dozer:	Cat D8T - 8SU
Support Equipment -Load Area:	NA
-Dump Area:	Cat D8T - 8SU
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

**Cost Breakdown:****Scraper Work Team****Support Equipment****Maintenance Equipment**

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	100	NA	NA
Ownership cost/hour:	\$234.09	\$173.32	NA	\$173.32	NA	NA
Operating cost/hour:	\$265.71	\$109.71	NA	\$109.71	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA
Operator cost/hour:	\$57.52	\$40.04	NA	\$40.04	NA	NA
Unit Subtotals:	\$557.32	\$323.07	NA	\$323.07	NA	NA
Number of Units:	2	1	0	1	0	0
Group Subtotals:	Work: \$1,437.71		Support: \$323.07		Maint:	\$0.00

Total work team cost/hour: \$1,760.78**MATERIAL QUANTITIES**Initial volume: 4,969

CCY

Swell factor: 1.215Loose volume: 6,037

LCY

Source of estimated volume: 6.16 ac @ 6"Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>1,600 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Top Soil</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>33.00 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 4600 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.830	0.830	

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1760.00	0.00	5.00	5.00	2218	0.92

Haul Time: 0.92 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1760.00	0.00	5.00	5.00	2814	0.77

Return Time: 0.77 minutesTotal Scraper team cycle time: 3.19 minutesAdjusted for job conditions: 588.55 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 588.55 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 588.55 LCY/HourUnadjusted unit production/hour: 709.09 LCY/Hour

Optimal Number of Scrapers per push dozer: \_\_\_\_\_

**JOB TIME AND COST**Fleet size: 1 Team(s)Total job time: 10.26 HoursUnit cost: \$2.992 /LCYTotal job cost: \$18,062

**REVEGETATION WORK**Task description: East Arcuby - RevegSite: South Fruita Gravel PitPermit Action: 2024Permit/Job#: M1981243**PROJECT IDENTIFICATION**Task #: 01DState: ColoradoAbbreviation: NoneDate: 11/25/2024County: MesaFilename: M243-01dUser: ACYAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
6-24-24, 10-20-10, 15-15-15	300.00	pound	\$0.45	\$135.96
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$135.96</b>

**Application**

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$43.12
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$43.12</b>

**TILLING**

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$117.61
<b>Total Tilling Cost/Acre</b>	<b>\$117.61</b>

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alkali Sacaton	0.05	1.95	\$1.45
Indian Ricegrass - Paloma	3.12	10.10	\$64.06
Crested Wheatgrass - Ephraim	1.50	6.89	\$8.24
Canby Bluegrass - Canbar	0.45	9.57	\$6.75
Galleta	3.00	10.95	\$166.31
Saltbush, Four Wing	1.00	1.38	\$19.87
<b>Totals Seed Mix</b>	<b>9.12</b>	<b>40.83</b>	<b>\$266.68</b>

**Application**

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Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$236.64
<b>Total Seed Application Cost/Acre</b>	<b>\$236.64</b>

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

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	\$4.13	\$4.13
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$492.78	\$985.56
<b>Total Mulch Materials Cost/Acre</b>				<b>\$989.69</b>

**Application**

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$85.37
Power mulcher (MEANS 32 91 13.16 0350)	\$157.25
Weed spray, truck, aquatic area, nox. [DMG]	\$79.77
<b>Total Mulch Application Cost/Acre</b>	<b>\$322.39</b>

**NURSERY STOCK PLANTING**

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

**JOB TIME AND COST**

No. of Acres: 13.5                      Cost /Acre: \$2,112.09  
 Estimated Failure Rate: 40%                      Cost /Acre\*: \$1,933.01  
 \*Selected Replanting Work Items: TILLING,SEEDING,MULCHING

Initial Job Cost: **\$28,513.22**  
 Reseeding Job Cost: **\$10,438.25**  
 Total Job Cost: **\$38,951**  
 Job Hours: **9.00**

## PUMPING WORK

Task description: **Karp - Dewater Pond**

Site: **S Fruita Grav Pit**

Permit Action: 2024

Permit/Job#: M1981243

### PROJECT IDENTIFICATION

Task #: 02A

State: Colorado

Abbreviation: None

Date: 11/25/2024

County: Mesa

Filename: M243-02a

User: ACY

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

	Description	Quantity
Make and Model:	Submersible pump - 460v, 6 in.	3
Attachment 1:	Suction hose - 6 in. diam., 25 ft.	9
Attachment 2:	Discharge hose - 6 in. D., 25 ft.	3
Labor Unit 1:	Pump operator	1
Horsepower:	<u>60</u>	
Shift Basis:	<u>1 per day</u>	
Weight:	<u>0.45</u>	
	(US Tons)	

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$29.07</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$11.70</u>	<u>100</u>
Operator Cost/Hour:	<u>\$28.23</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$69.00</u>	
Total Fleet Cost/Hour:	<u>\$69.00</u>	

### PUMPING QUANTITIES

Initial Pond Volume:	<u>144.00</u>		Conversion factor:	<u>325850.5800</u>
Final Pond Volume:	<u><b>46,922,483.52</b></u>	gallons		
Total Pond Inflow Surface Area:	<u>418,176</u>	Sq. ft.	Unit inflow rate in gph/sq. ft.:	<u>0.1758</u>
Total Pond Inflow Volume per Hour:	<u>73,515.34</u>	gallons		

Source of estimated volume: 9.6 ac pond 15' Deep, bottom inflow

### PUMPING TIME

Maximum Pump Capacity:	<u>130,000</u>	gph/pump
Estimated Suction Head:	<u>15</u>	feet
Estimated Discharge Head:	<u>15</u>	feet
Total Head:	<u>30</u>	feet
CPB Pump Capacity:	<u>123,300</u>	gph/pump
Site Altitude:	<u>4,600</u>	feet
Adjusted Pumping Capacity:	<u>369,900</u>	gph
Initial Unadjusted Pumping Time:	<u>126.85</u>	hours
Inflow during Initial Pumping:	<u>9,325,554</u>	gallons
Net Unadjusted Pumping Time:	<u>152.06</u>	Hours
Altitude Adjustment Factor:	<u>1.0000</u>	(3% rule)
Pump Efficiency Factor:	<u>0.9167</u>	(55 min./hr.)
Total Adjusted Pumping Time:	<u>139.40</u>	hours

### JOB TIME AND COST

Total job time: **139.40** Hours

Unit cost: \$0.000171 /Gallon

Total job cost: **\$9,618**

**BULLDOZER WORK**Task description: **Karp - Grade Highwalls**Site: **South Fruita Gravel Pit**Permit Action: **2024**Permit/Job#: **M1981243****PROJECT IDENTIFICATION**Task #: **02B**State: **Colorado**Abbreviation: **None**Date: **11/25/2024**County: **Mesa**Filename: **M243-02b**User: **ACY**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:	\$173.32	NA
Operating Cost/Hour:	\$109.71	100
Ripper own. Cost/Hour:	\$14.53	NA
Ripper op. Cost/Hour:	\$2.39	30
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: **\$339.98**Total Fleet Cost/Hour: **\$339.98****MATERIAL QUANTITIES**Initial Volume: **5,417**Swell factor: **1.180**Loose volume: **6,392 LCY**Source of estimated volume: **300 LF 15'H to 5:1 and 2000 LF 15'H to 3:1 from 1:1 all cut/**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: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **4,600 feet**Material weight: **2,400 lbs/LCY**Weight description: **Clay and gravel - Dry****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(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: 0.4294

Adjusted unit production: 601.16 LCY/hr

Adjusted fleet production: **601.16** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)

Unit cost: \$0.566/LCY

Total job time: **10.63** Hours

Total job cost: **\$3,615**



## BULLDOZER RIPPING WORK

Task description: Karp - Rip stockpile/processing area

Site: South Fruita Gravel Pit

Permit Action: 2024

Permit/Job#: M1981243

### PROJECT IDENTIFICATION

Task #: 02C

State: Colorado

Abbreviation: None

Date: 11/25/2024

County: Mesa

Filename: M243-02c

User: ACY

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU  
Ripper Attachment: 3-Shank Ripper

Horsepower: 310

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$173.32	NA
Operating Cost/Hour:	\$109.71	100
Ripper Ownership Cost/Hour:	\$14.53	NA
Ripper Operating Cost/Hour:	\$7.95	100
Operator Cost/Hour:	\$40.04	NA
Total Unit Cost/Hour:	\$345.55	
Total Fleet Cost/Hour:	<b>\$345.55</b>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA  
Area: 9.50 acres Rip Depth (ft): 2.00 Volume: 30,653 BCY or CCY

Source of estimated quantity: Previous Map and field estimates

### HOURLY PRODUCTION

#### Seismic:

Seismic Velocity: NA feet/second

#### Area:

Average Ripping Depth: 2.00 feet/pass  
Average Ripping Width: 7.08 feet/pass  
Average Ripping Length: 200.00 feet/pass  
Average Dozer Speed: 88.00 feet/minute  
Average Maneuver Time: 0.25 minutes/pass  
Production per unit area: 0.773 acres/hour

#### Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.773 Acres/hr  
Site Altitude: 4,600 feet  
Altitude Adj: 1.00 (CAT HB)  
Job Efficiency: 0.83 (1 shift/day)  
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.64 Acres/hr  
Adjusted Hourly Fleet Production: **0.64** Acres/hr

### JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **14.80** Hours

Unit cost: \$538.489 Per acre Total job cost: **\$5,116**

**SCRAPER TEAM WORK**Task description: **Karp - Place 6" topsoil**Site: **South Fruita Gravel Pit**Permit Action: 2024Permit/Job#: M1981243**PROJECT IDENTIFICATION**Task #: 02DState: ColoradoAbbreviation: NoneDate: 11/25/2024County: MesaFilename: M243-02dUser: ACYAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 627G w/push-pull
-Dozer:	Cat D8T - 8SU
Support Equipment -Load Area:	NA
-Dump Area:	Cat D8T - 8SU
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

**Cost Breakdown:****Scraper Work Team****Support Equipment****Maintenance Equipment**

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	100	NA	NA
Ownership cost/hour:	\$234.09	\$173.32	NA	\$173.32	NA	NA
Operating cost/hour:	\$265.71	\$109.71	NA	\$109.71	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA
Operator cost/hour:	\$57.52	\$40.04	NA	\$40.04	NA	NA
Unit Subtotals:	\$557.32	\$323.07	NA	\$323.07	NA	NA
Number of Units:	2	1	0	1	0	0
Group Subtotals:	Work:	\$1,437.71	Support:	\$323.07	Maint:	\$0.00

Total work team cost/hour: **\$1,760.78****MATERIAL QUANTITIES**Initial volume: 10,890

CCY

Swell factor: 1.215Loose volume: **13,231**

LCY

Source of estimated volume: 4 ac around pond (TR-3), 9.5 ac processing area 6" thickSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>1,600 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Top Soil</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>33.00 LCY</u>	Adjusted Capacity:	<b><u>18.85</u></b>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 4600 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.830	0.830	

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	0.00	5.00	5.00	2218	0.80

Haul Time: 0.80 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1200.00	0.00	5.00	5.00	2814	0.57

Return Time: 0.57 minutesTotal Scraper team cycle time: 2.87 minutesAdjusted for job conditions: 654.17 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 654.17 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 654.17 LCY/HourUnadjusted unit production/hour: 788.15 LCY/Hour

Optimal Number of Scrapers per push dozer: \_\_\_\_\_

**JOB TIME AND COST**Fleet size: 1 Team(s)Total job time: 20.23 HoursUnit cost: \$2.692 /LCYTotal job cost: \$35,614

**REVEGETATION WORK**Task description: **Karp - Reveg**Site: **South Fruita Gravel Pit**Permit Action: 2024Permit/Job#: M1981243**PROJECT IDENTIFICATION**Task #: 02EState: ColoradoAbbreviation: NoneDate: 11/25/2024County: MesaFilename: M243-02eUser: ACYAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
6-24-24, 10-20-10, 15-15-15	300.00	pound	\$0.45	\$135.96
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$135.96</b>

**Application**

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$43.12
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$43.12</b>

**TILLING**

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$117.61
<b>Total Tilling Cost/Acre</b>	<b>\$117.61</b>

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alkali Sacaton	0.05	1.95	\$1.45
Indian Ricegrass - Paloma	3.12	10.10	\$64.06
Crested Wheatgrass - Ephraim	1.50	6.89	\$8.24
Canby Bluegrass - Canbar	0.45	9.57	\$6.75
Galleta	3.00	10.95	\$166.31
Saltbush, Four Wing	1.00	1.38	\$19.87
<b>Totals Seed Mix</b>	<b>9.12</b>	<b>40.83</b>	<b>\$266.68</b>

**Application**

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Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$236.64
<b>Total Seed Application Cost/Acre</b>	<b>\$236.64</b>

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

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	\$4.13	\$4.13
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$492.78	\$985.56
<b>Total Mulch Materials Cost/Acre</b>				<b>\$989.69</b>

**Application**

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$85.37
Power mulcher (MEANS 32 91 13.16 0350)	\$157.25
Weed spray, truck, aquatic area, nox. [DMG]	\$79.77
<b>Total Mulch Application Cost/Acre</b>	<b>\$322.39</b>

**NURSERY STOCK PLANTING**

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

**JOB TIME AND COST**

No. of Acres: 13.5                      Cost /Acre: \$2,112.09  
 Estimated Failure Rate: 40%                      Cost /Acre\*: \$1,933.01  
 \*Selected Replanting Work Items: TILLING,SEEDING,MULCHING

Initial Job Cost: **\$28,513.22**  
 Reseeding Job Cost: **\$10,438.25**  
 Total Job Cost: **\$38,951**  
 Job Hours: **19.00**

## PUMPING WORK

Task description: West Arcuby - Dewater Pond

Site: S Fruita Grav Pit

Permit Action: 2024

Permit/Job#: M1981243

### PROJECT IDENTIFICATION

Task #: 03A

State: Colorado

Abbreviation: None

Date: 11/25/2024

County: Mesa

Filename: M243-03a

User: ACY

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

	Description	Quantity
Make and Model:	Submersible pump - 460v, 6 in.	3
Attachment 1:	Suction hose - 6 in. diam., 25 ft.	9
Attachment 2:	Discharge hose - 6 in. D., 25 ft.	3
Labor Unit 1:	Pump operator	1

Horsepower: 60

Shift Basis: 1 per day

Weight: 0.45

(US Tons)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$29.07	NA
Operating Cost/Hour:	\$11.70	100
Operator Cost/Hour:	\$28.23	NA
Total Unit Cost/Hour:	\$69.00	

Total Fleet Cost/Hour: \$69.00

### PUMPING QUANTITIES

Initial Pond Volume:	<u>304.00</u>		Conversion factor:	<u>325850.5800</u>
Final Pond Volume:	<u>99,058,576.32</u>	gallons		
Total Pond Inflow Surface Area:	<u>884,268</u>	Sq. ft.	Unit inflow rate in gph/sq. ft.:	<u>0.1758</u>
Total Pond Inflow Volume per Hour:	<u>155,454.31</u>	gallons		

Source of estimated volume: 20.3 ac pond 15' Deep, bottom inflow

### PUMPING TIME

Maximum Pump Capacity:	<u>130,000</u>	gph/pump
Estimated Suction Head:	<u>15</u>	feet
Estimated Discharge Head:	<u>15</u>	feet
Total Head:	<u>30</u>	feet
CPB Pump Capacity:	<u>123,300</u>	gph/pump
Site Altitude:	<u>4,600</u>	feet
Adjusted Pumping Capacity:	<u>369,900</u>	gph
Initial Unadjusted Pumping Time:	<u>267.80</u>	hours
Inflow during Initial Pumping:	<u>41,630,395</u>	gallons
Net Unadjusted Pumping Time:	<u>380.34</u>	Hours
Altitude Adjustment Factor:	<u>1.0000</u>	(3% rule)
Pump Efficiency Factor:	<u>0.9167</u>	(55 min./hr.)
Total Adjusted Pumping Time:	<u>348.66</u>	hours

### JOB TIME AND COST

Total job time: 348.66 Hours

Unit cost: \$0.000171 /Gallon

Total job cost: \$24,058

**SCRAPER TEAM WORK**Task description: **West Arcuby - Grade Highwalls and transport backfill**Site: **South Fruita Gravel Pit**Permit Action: 2024Permit/Job#: M1981243**PROJECT IDENTIFICATION**Task #: 03BState: ColoradoAbbreviation: NoneDate: 11/25/2024County: MesaFilename: M243-03bUser: ACYAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 627G w/push-pull
-Dozer:	Cat D8T - 8SU
Support Equipment -Load Area:	NA
-Dump Area:	Cat D8T - 8SU
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

**Cost Breakdown:****Scraper Work Team****Support Equipment****Maintenance Equipment**

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	100	NA	NA
Ownership cost/hour:	\$234.09	\$173.32	NA	\$173.32	NA	NA
Operating cost/hour:	\$265.71	\$109.71	NA	\$109.71	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA
Operator cost/hour:	\$57.52	\$40.04	NA	\$40.04	NA	NA
Unit Subtotals:	\$557.32	\$323.07	NA	\$323.07	NA	NA
Number of Units:	2	1	0	1	0	0
Group Subtotals:	Work: \$1,437.71		Support: \$323.07		Maint:	\$0.00

Total work team cost/hour: **\$1,760.78****MATERIAL QUANTITIES**Initial volume: 32,223

CCY

Swell factor: 1.115Loose volume: **35,929**

LCY

Source of estimated volume: Staff estimatesSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,500 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Clay - Dry</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>21.12 LCY</u>	Adjusted Capacity:	<b><u>18.85</u></b>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 4600 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.830	0.830	

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	700.00	0.00	5.00	5.00	2218	0.48

Haul Time: 0.48 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	700.00	0.00	5.00	5.00	2814	0.40

Return Time: 0.40 minutesTotal Scraper team cycle time: 2.38 minutesAdjusted for job conditions: 788.85 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 788.85 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 788.85 LCY/HourUnadjusted unit production/hour: 950.42 LCY/Hour

Optimal Number of Scrapers per push dozer: \_\_\_\_\_

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 45.55 HoursUnit cost: \$2.232 /LCYTotal job cost: \$80,196



## BULLDOZER RIPPING WORK

Task description: Arcuby West - Rip stockpile/processing area

Site: South Fruita Gravel Pit

Permit Action: 2024

Permit/Job#: M1981243

### PROJECT IDENTIFICATION

Task #: 03C

State: Colorado

Abbreviation: None

Date: 11/25/2024

County: Mesa

Filename: M243-03c

User: ACY

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU  
Ripper Attachment: 3-Shank Ripper

Horsepower: 310

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$173.32	NA
Operating Cost/Hour:	\$109.71	100
Ripper Ownership Cost/Hour:	\$14.53	NA
Ripper Operating Cost/Hour:	\$7.95	100
Operator Cost/Hour:	\$40.04	NA
Total Unit Cost/Hour:	\$345.55	
Total Fleet Cost/Hour:	<b>\$345.55</b>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA  
Area: 5.00 acres Rip Depth (ft): 2.00 Volume: 16,133 BCY or CCY

Source of estimated quantity: Map and field estimates

### HOURLY PRODUCTION

#### Seismic:

Seismic Velocity: NA feet/second

#### Area:

Average Ripping Depth: 2.00 feet/pass  
Average Ripping Width: 7.08 feet/pass  
Average Ripping Length: 200.00 feet/pass  
Average Dozer Speed: 88.00 feet/minute  
Average Maneuver Time: 0.25 minutes/pass  
Production per unit area: 0.773 acres/hour

#### Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.773 Acres/hr  
Site Altitude: 4,600 feet  
Altitude Adj: 1.00 (CAT HB)  
Job Efficiency: 0.83 (1 shift/day)  
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.64 Acres/hr  
Adjusted Hourly Fleet Production: **0.64** Acres/hr

### JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **7.79** Hours

Unit cost: \$538.489 Per acre Total job cost: **\$2,692**

**SCRAPER TEAM WORK**Task description: Arcuby West - Place 6" topsoilSite: South Fruita Gravel PitPermit Action: 2024Permit/Job#: M1981243**PROJECT IDENTIFICATION**Task #: 03DState: ColoradoAbbreviation: NoneDate: 11/25/2024County: MesaFilename: M243-03dUser: ACYAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-Dozer:	Cat D8T - 8SU
Support Equipment -Load Area:	NA
-Dump Area:	Cat D8T - 8SU
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

**Cost Breakdown:**

## Scraper Work Team

## Support Equipment

## Maintenance Equipment

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	100	NA	NA
Ownership cost/hour:	\$234.09	\$173.32	NA	\$173.32	NA	NA
Operating cost/hour:	\$265.71	\$109.71	NA	\$109.71	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA
Operator cost/hour:	\$57.52	\$40.04	NA	\$40.04	NA	NA
Unit Subtotals:	\$557.32	\$323.07	NA	\$323.07	NA	NA
Number of Units:	2	1	0	1	0	0
Group Subtotals:	Work: \$1,437.71		Support: \$323.07		Maint:	\$0.00

Total work team cost/hour: \$1,760.78**MATERIAL QUANTITIES**Initial volume: 6,615

CCY

Swell factor: 1.215Loose volume: 8,037

LCY

Source of estimated volume: 3.2 ac pond (2750LF of highwall x 50'W) and 5ac processingSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Scraper Bowl (volume) Basis:

Material weight:	<u>1,600 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Top Soil</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>33.00 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 4600 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.830	0.830	

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	900.00	0.00	5.00	5.00	2218	0.53

Haul Time: 0.53 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	900.00	0.00	5.00	5.00	2814	0.47

Return Time: 0.47 minutesTotal Scraper team cycle time: 2.50 minutesAdjusted for job conditions: 750.98 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 750.98 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 750.98 LCY/HourUnadjusted unit production/hour: 904.80 LCY/Hour

Optimal Number of Scrapers per push dozer: \_\_\_\_\_

**JOB TIME AND COST**Fleet size: 1 Team(s)Total job time: 10.70 HoursUnit cost: \$2.345 /LCYTotal job cost: \$18,844

**REVEGETATION WORK**Task description: West Arcuby - RevegSite: South Fruita Gravel PitPermit Action: 2024Permit/Job#: M1981243**PROJECT IDENTIFICATION**Task #: 03EState: ColoradoAbbreviation: NoneDate: 11/25/2024County: MesaFilename: M243-03eUser: ACYAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
6-24-24, 10-20-10, 15-15-15	300.00	pound	\$0.45	\$135.96
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$135.96</b>

**Application**

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$43.12
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$43.12</b>

**TILLING**

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$117.61
<b>Total Tilling Cost/Acre</b>	<b>\$117.61</b>

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alkali Sacaton	0.05	1.95	\$1.45
Indian Ricegrass - Paloma	3.12	10.10	\$64.06
Crested Wheatgrass - Ephraim	1.50	6.89	\$8.24
Canby Bluegrass - Canbar	0.45	9.57	\$6.75
Galleta	3.00	10.95	\$166.31
Saltbush, Four Wing	1.00	1.38	\$19.87
<b>Totals Seed Mix</b>	<b>9.12</b>	<b>40.83</b>	<b>\$266.68</b>

**Application**

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Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$236.64
<b>Total Seed Application Cost/Acre</b>	<b>\$236.64</b>

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

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	\$4.13	\$4.13
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$492.78	\$985.56
<b>Total Mulch Materials Cost/Acre</b>				<b>\$989.69</b>

**Application**

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$85.37
Power mulcher (MEANS 32 91 13.16 0350)	\$157.25
Weed spray, truck, aquatic area, nox. [DMG]	\$79.77
<b>Total Mulch Application Cost/Acre</b>	<b>\$322.39</b>

**NURSERY STOCK PLANTING**

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

**JOB TIME AND COST**

No. of Acres: 18 Cost /Acre: \$2,112.09  
 Estimated Failure Rate: 40% Cost /Acre\*: \$1,933.01  
 \*Selected Replanting Work Items: TILLING,SEEDING,MULCHING

Initial Job Cost: **\$38,017.62**  
 Reseeding Job Cost: **\$13,917.67**  
 Total Job Cost: **\$51,935**  
 Job Hours: **25.00**

**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: **Initial Mobilization**Site: **S Fruita Grav Pit**Permit Action: **2024**Permit/Job#: **M1981243****PROJECT IDENTIFICATION**Task #: **10A**State: **Colorado**Abbreviation: **None**Date: **11/25/2024**County: **Mesa**Filename: **M243-10a**User: **ACY**Agency or organization name: **DRMS****EQUIPMENT TRANSPORT RIG COST**Shift basis: **1 per day**Cost Data Source: **CRG Data**Truck 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:	\$10.44	\$22.18	\$23.94
Operating Cost/Hour:	\$26.48	\$54.55	\$55.65
Operator Cost/Hour:	\$22.52	\$22.52	\$22.52
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$59.44	\$122.78	\$125.64

**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	53.08	\$187.85	\$125.64	2	\$626.98	\$251.28	\$500.00
Cat 627G w/push-pull	43.48	\$234.09	\$122.78	2	\$713.74	\$245.56	\$500.00
Drill/Broadcast Seeder with Tractor	25.00	\$41.02	\$59.44	1	\$100.46	\$59.44	\$250.00
Power Mulcher (Bowie LD-90)	6.00	\$27.21	\$59.44	1	\$86.65	\$59.44	\$250.00
Submersible pump - 460v, 6 in.	0.45	\$8.79	\$59.44	1	\$68.23	\$59.44	\$250.00

Subtotals: **\$1,596.06** **\$675.16** **\$1,750.00****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	\$81.06	2	\$162.12	\$162.12
Flatbed Truck, 6x4, 45K GVW	\$110.00	1	\$110.00	\$110.00
Light Duty Pickup, 4x4, 3/4 T.	\$97.64	1	\$97.64	\$97.64

Subtotals:	<b>\$369.76</b>	<b>\$369.76</b>
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**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:	GRAND JUNCTION, CO	
Total one-way travel distance:	10.00	miles
Average Travel Speed:	45.00	mph
Total Non-Roadable Mob/Demob Cost *	\$7,701.55	
'* two round trips with haul rig:		
Total Roadable Mob/Demob Cost **	\$164.34	
'** one round trip, no haul rig:		

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.22	0.22
Return Time (Hours):	0.22	0.22
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.44	0.44

**JOB TIME AND COST**

Total job time:	<b>2.89</b>	Hours
Total job cost:	<b>\$7,866</b>	

**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: **Secondary Mobilization**Site: **S Fruita Grav Pit**Permit Action: 2024Permit/Job#: M1981243**PROJECT IDENTIFICATION**Task #: 10BState: ColoradoAbbreviation: NoneDate: 11/25/2024County: MesaFilename: M243-10bUser: ACYAgency 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:	\$10.44	\$22.18	\$23.94
Operating Cost/Hour:	\$26.48	\$54.55	\$55.65
Operator Cost/Hour:	\$22.52	\$22.52	\$22.52
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$59.44	\$122.78	\$125.64

**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
Drill/Broadcast Seeder with Tractor	25.00	\$41.02	\$59.44	1	\$100.46	\$59.44	\$250.00
Power Mulcher (Bowie LD-90)	6.00	\$27.21	\$59.44	1	\$86.65	\$59.44	\$250.00

Subtotals: **\$187.11** **\$118.88** **\$500.00****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	\$81.06	2	\$162.12	\$162.12
Flatbed Truck, 4x2, 15K GVW	\$70.47	1	\$70.47	\$70.47
Light Duty Pickup, 4x4, 3/4 T.	\$97.64	1	\$97.64	\$97.64

Subtotals: **\$330.23** **\$330.23**



**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:	GRAND JUNCTION, CO	
Total one-way travel distance:	10.00	miles
Average Travel Speed:	45.00	mph
Total Non-Roadable Mob/Demob Cost *	\$1,510.22	
** two round trips with haul rig:		
Total Roadable Mob/Demob Cost **	\$146.77	
** one round trip, no haul rig:		

**Transportation Cycle Time:**

	Non- Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.22	0.22
Return Time (Hours):	0.22	0.22
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.44	0.44

**JOB TIME AND COST**

Total job time: 2.89 Hours

Total job cost: \$1,657