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

November 7, 2023

Nathan Rinderle
Upland Gravel, LLC
3202 Springfield Rd
Grand Junction, CO 81503

Re: Upland Gravel Pit No. 3 - File No. M-2005-077
Upland Gravel, LLC
Surety Increase (SI-1)
Post Inspection Surety Increase

Dear Nathan Rinderle:

On November 7, 2023 the Division of Reclamation, Mining and Safety increased the current Financial Warranty for this permit to $306,321.00, in accordance with Rule 4.2.1 of the Rules and Regulations. This is an increase of $248,536.00.

Please see the July 5, 2023 inspection report for details regarding why this surety increase is required.

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 (November 7, 2023).

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 (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 6, 2024, if the amount of any increased Financial Warranty has not been provided.

Bond Held:	$57,785.00
Prior Liability:	$57,785.00
Change in Liability:	$248,536.00
Revised Liability:	$306,321.00
Prior Permit Acreage:	134.60
Change in Permit Acreage:	0.00

Revised Permit Acreage:	134.60
Prior Affected Acreage:	44.60
Change in Affected Acreage:	0.00
Revised Affected Acreage:	44.60

If you have any questions, please contact me by telephone at (303) 866-3567 x 8183, or by email at Amy.yeldell@state.co.us.

Sincerely,

Amy C. Yeldell
Environmental Protection Specialist

M-GR-04

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

November 7, 2023

Nathan/ Jason Rinderle
Upland Gravel, LLC
3202 Springfield Rd
Grand Junction, CO 81503

RE: Upland Gravel Pit Np. 3, Permit No. M-2005-077, Surety Increase (SI-1)

General Assumptions:

- All slopes go to a 3H: 1V or less. No need for backfill at this time.
- 2 ft overburden replacement and 1 foot topsoil replacement. Stockpiles are centrally located with an average centroid to centroid distance of approx. 300'
- Pocking of slopes per rec plan.
- Broadcast seed, Disk 6", mulch w/ 2 ton/ac of straw, weed treatment of Halogeton
- Overall seeding amount higher than 2D area depicted on map due to sloping 12.5 ac vs 13.1
- Decreased seeding failure form 60% to 50% based on previous success.
- Currently hold, $57,785. In a corporate surety. No increases since permit issuance in 2006.

Problems:

- Rec Plan states max of 6 ac requiring reveg, this needs to be revised

Suggestion/ Edits:

- Change seeding to drill seeding since you're already disking the pockets. Would reduce overall seed cost. Or propose dropping pocking in general unless necessary, cross ripping is usually sufficient.
- Provide the number of acres for which overburden has already been replaced if any.
- What's the number of acres reclaimed in Phase 1 and 2? This area can be subtracted from the total amount needing overburden, topsoil and reveg.
- In general provide updated/corrected values for any of the inputs listed below. Be sure to include a source.
- Can make one or several revisions under one Technical Revision (TR) for the same fee.

Task	Form Used	Description

01a	Excavator	Phase 1- Pull back slopes – 3738 CY 300 LF, Vertical, 15'H
01b	Dozer	Phase 1 & 2 - Highwall Reduction – 1557 CY 500 LF, Vertical, @ 15' H, cut fill
01c	Dozer	Phase 4 - Highwall Reduction - 4049 CY 1,300 LF, Vertical, @ 15' H, cut fill
02a	Scraper	Overburden Replacement Pit Floor 33,234 CY Phase 1, 2 and 4 bottoms ~10.3 ac @ 2' 300' avg push
02b	Grader	Ripping Pit Floor Phase 1, 2 and 4 bottoms ~10.3 ac
02c	Scraper	Topsoil Replacement Pit Floor 16,617 CY Phase 1, 2 and 4 bottoms ~10.3 ac @ 1' 300' avg push
03a	Scraper	Overburden Replacement Slopes 9,034 CY Phase 1, 2 and 4 (47'x 2100 LF) 2.8 ac @2' 300' avg push
03b	Scraper	Topsoil Replacement Slopes 4,517 CY Phase 1, 2 and 4 (47'x 2100 LF) 2.8ac @ 1' 300' avg push
03c	Excavator	Pocketing Slopes 4517 CY Phase 1, 2 and 4 (47'x 2100 LF) = 2.8ac * 2' D / 2(half area)
04a	Grader	Rip Haul Road (1.75 ac) 3800LF * 20' W
05a	Reveg	Phase 1 Reveg ~4.15 ac
05b	Reveg	Phase 2 Reveg ~4.45 ac
05c	Reveg	Phase 4 Reveg ~4.49 ac
05d	Reveg	Haul Road Reveg ~1.75ac

10a	Mob	Initial Mobilization D9 x 4, 637 x 2, 345 x 1, 14M x 1, 2500 gal x 1, Power mulcher, Crimper, Tractor, Crew Truck x 2, Flatbed x 1
10b	Mob	Secondary Mobilization Power mulcher, Crimper, Tractor, Crew Truck x 2
Indirect		BLM Requires Davis Bacon Wages (equivalent to DRMS costs) DRMS has statutory 23.5% cost (32-32.5-117(4)(b)(i)), cumulative of all indirect costs

SI-1 will result in a total required bond amount of **$306,321**, which is an increase of $248,536 over the $57,785 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 62nd Ave, Denver CO 80216. Direct contact can be made by phone at 303-866-3567 Ext 8183 or via email at amy.yeldell@ state.co.us

Sincerely,

Amy Yeldell

Amy Yeldell
Environmental Protection Specialist

COST SUMMARY WORK

Task description: **Post inspection update 07-05-2023**

Site: **Upland Gravel Pit No. 3** Permit Action: 07-2023 Permit/Job#: M2005077

PROJECT IDENTIFICATION

Task #: ACY State: Colorado Abbreviation: None
Date: 7/17/2023 County: Mesa Filename: M077-ACY
User: ACY

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Phase 1- Pull back slopes	EXCAVATE	1	7.34	$1,945
01b	Phase 1 & 2- Highwall Reduction	DOZER	4	0.69	$1,268
01c	Phase 4 - Highwall Reduction	DOZER	4	1.79	$3,298
02a	Overburden Replacement Pit Floor	SCRAPER1	1	28.87	$93,149
02b	Ripping Pit Floor	GRADER	1	7.84	$2,343
02c	Topsoil Replacement Pit Floor	SCRAPER1	1	14.11	$45,540
03a	Overburden Replacement Slopes	SCRAPER1	1	7.85	$25,321
03b	Topsoil Replacement Slopes	SCRAPER1	1	3.84	$12,319
03c	Pocketing Slopes	EXCAVATE	1	8.87	$2,350
04a	Rip Haul Road	GRADER	1	1.33	$398
05a	Phase 1 Reveg	REVEGE	1	8.30	$11,726
05b	Phase 2 Reveg	REVEGE	1	8.90	$12,573
05c	Phase 2 Reveg	REVEGE	1	8.90	$12,573
05d	Haul Road Reveg	REVEGE	1	3.50	$4,945
10a	Initial Mobilization	MOBILIZE	1	2.50	$12,931
10b	Secondary Mobilization	MOBILIZE	1	2.50	$1,521
		SUBTOTALS:		**117.13**	**$244,200**

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	$4,933
Performance bond:	1.05	Total =	$2,564
Job superintendent:	58.56	Total =	$3,811
Profit:	10.00	Total =	$24,420
		TOTAL O & P =	$35,728
		CONTRACT AMOUNT (direct + O & P) =	$279,928

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	$500	Total =	$500
Engineering work and/or contract/bid preparation:	4.25	Total =	$11,897
Reclamation management and/or administration:	5.00		$13,996
CONTINGENCY:	0.00	Total =	$0
		TOTAL INDIRECT COST =	$62,121
		TOTAL BOND AMOUNT (direct + indirect) =	**$306,321**

HYDRAULIC EXCAVATOR WORK

Task description: **Phase 1- Pull back slopes**

Site: **Upland Gravel Pit No. 3** Permit Action: 07-2023 Permit/Job#: M2005077

PROJECT IDENTIFICATION

Task #: 01A State: Colorado Abbreviation: None
Date: 7/17/2023 County: Mesa Filename: M077-01a
User: ACY

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat 345D L 12'-10" Stick
Attachment 1: ROPS Cab

Horsepower: 380
Weight (MT): 49.37
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$121.73	NA
Operating Cost/Hour:	$96.14	100
Operator Cost/Hour:	$46.87	NA
Total Unit Cost/Hour:	$264.74	

Total Fleet Cost/Hour: $264.74

MATERIAL QUANTITIES

Initial volume: 3,738 CCY Swell factor: 1.000
Loose volume: **3,738** LCY

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

HOURLY PRODUCTION

Excavator Cycle Time (load bucket, swing loaded, dump bucket, swing empty):

Basic Job Condition Description: AVERAGE
Secondary Job Condition within Basic Description: AVERAGE
Cycle Time Value: 0.315 minutes

Load Bucket Capacity

Bucket Size Class: Medium

Rated Capacity: 3.14 LCY (heaped)
Bucket Fill Factor: 1.025 Bank Clay; Earth (100%-105%) 1.025
Adjusted Capacity: **3.22** LCY

Job Condition Correction Factors Site Altitude: 5000 feet

		Source
Altitude Adj:	1.00	(CAT HB)
Job Efficiency:	0.83	(1 shift/day)
Net Correction:	0.83	multiplier

Unadjusted Hourly Unit Production: 613.05 LCY/Hour
Adjusted Hourly Unit Production: 508.83 LCY/Hour
Adjusted Hourly Fleet Production: **508.83** LCY/Hour

JOB TIME AND COST

Fleet size: 1 Excavator Total job time: **7.35** Hours

Unit cost: $0.520 /LCY Total job cost: **$1,945**

BULLDOZER WORK

Task description: **Phase 1 & 2- Highwall Reduction**

Site: **Upland Gravel Pit No. 3** Permit Action: 07-2023 Permit/Job#: M2005077

PROJECT IDENTIFICATION

Task #:	01B	State:	Colorado	Abbreviation:	None
Date:	7/17/2023	County:	Mesa	Filename:	M077-01b
User:	ACY				

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine:	Cat D9T - 9SU
Horsepower:	405
Blade Type:	Semi-Universal
Attachment:	3-shank ripper
Shift Basis:	1 per day
Data Source:	(CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$238.76	NA
Operating Cost/Hour:	$162.29	100
Ripper own. Cost/Hour:	$18.32	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$40.04	NA

Total unit Cost/Hour: $459.41
Total Fleet Cost/Hour: **$1,837.62**

MATERIAL QUANTITIES

Initial Volume:	1,557
Swell factor:	1.330
Loose volume:	**2,071** 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: 2,110.5 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: 0 %
Average site altitude: 5,000 feet

Material weight: 2,900 lbs/LCY

Weight description: Decomposed rock - 50% Rock, 50% Earth

Job Condition Correction Factor		Source
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:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production: 750.07 LCY/hr
Adjusted fleet production: **3000.28** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)
Unit cost: $0.612/LCY

Total job time: **0.69** Hours
Total job cost: **$1,268**

BULLDOZER WORK

Task description: **Phase 4 - Highwall Reduction**

Site: **Upland Gravel Pit No. 3** Permit Action: 07-2023 Permit/Job#: M2005077

PROJECT IDENTIFICATION

Task #: 01C State: Colorado Abbreviation: None
Date: 7/17/2023 County: Mesa Filename: M077-01c
User: ACY

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU
Horsepower: 405
Blade Type: Semi-Universal
Attachment: 3-shank ripper
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$238.76	NA
Operating Cost/Hour:	$162.29	100
Ripper own. Cost/Hour:	$18.32	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$40.04	NA

Total unit Cost/Hour: $459.41
Total Fleet Cost/Hour: **$1,837.62**

MATERIAL QUANTITIES

Initial Volume: 4,049
Swell factor: 1.330
Loose volume: **5,385** 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: 2,110.5 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: 0 %
Average site altitude: 5,000 feet

Material weight: 2,900 lbs/LCY

Weight description: Decomposed rock - 50% Rock, 50% Earth

Job Condition Correction Factor		Source
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:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production: 750.07 LCY/hr
Adjusted fleet production: **3000.28** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)
Unit cost: $0.612/LCY

Total job time: **1.79** Hours
Total job cost: **$3,298**

SCRAPER TEAM WORK

Task description: **Overburden Replacement Pit Floor**

Site: **Upland Gravel Pit No. 3** Permit Action: 07-2023 Permit/Job#: M2005077

PROJECT IDENTIFICATION

Task #: 02A State: Colorado Abbreviation: None
Date: 7/17/2023 County: Mesa Filename: M077-02a
User: ACY

Agency or organization name: DRMS

HOURLY EQUIPMENT

COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 637G w/push-pull
-Dozer:	Cat D9T - 9SU
Support Equipment -Load Area:	Cat D9T - 9SU
-Dump Area:	Cat D9T - 9SU
Road Maintenance –Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 3,500 Gal.

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	100	100	50	100
Ownership cost/hour:	$255.23	$238.76	$238.76	$238.76	$149.33	$16.65
Operating cost/hour:	$280.59	$162.29	$162.29	$162.29	$46.40	$37.60
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	$0.00	$0.00	$0.00	$0.00	$0.00
Ripper op. cost/hour:	NA	$0.00	$0.00	$0.00	$0.00	$0.00
Operator cost/hour:	$47.07	$40.04	$40.04	$40.04	$46.87	$0.00
Unit Subtotals:	$582.89	$441.09	$441.09	$441.09	$242.60	$54.25
Number of Units:	2	2	1	1	1	1
Group Subtotals:	Work:	$2,047.96	Support:	$882.18	Maint:	$296.85

Total work team cost/hour: **$3,226.99**

MATERIAL QUANTITIES

Initial volume: 33,234 CCY Swell factor: 1.125
Loose volume: **37,388** LCY

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

HOURLY PRODUCTION

Material weight: 2,550 lbs/LCY
Material description: Earth - Dry packed
Rated Payload: 81,600 pounds
Payload Capacity: 32.00 LCY

Scraper Bowl (volume) Basis:

Struck Volume: 24.00 LCY
Heaped Volume: 34.00 LCY
Average Volume: 29.00 LCY
Adjusted Capacity: **29.00** LCY

Cycle Time:

Scraper Loading Time: 1.00 Minutes
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction: Site Altitude: 5000 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: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	300.00	0.00	3.00	3.00	2800	0.38

Haul Time: **0.38** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	300.00	0.00	3.00	3.00	2949	0.25

Return Time: **0.25** minutes

Total Scraper team cycle time: **2.23** minutes
Adjusted for job conditions: 1,295.25 LCY/Hour
Selected Number of Scrapers: 2 Scraper(s)
Adjusted single scraper team (unit) hourly production: 1,295.25 LCY/Hour
Adjusted multiple scraper team (fleet) hourly production: **1,295.25** LCY/Hour

Unadjusted unit production/hour: 1,560.54 LCY/Hour
Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **28.87** Hours

Unit cost: $2.491 /LCY Total job cost: **$93,149**

MOTOR GRADER WORK

Task description: **Ripping Pit Floor**

Site: **Upland Gravel Pit No. 3** Permit Action: 07-2023 Permit/Job#: M2005077

PROJECT IDENTIFICATION

Task #: 02B State: Colorado Abbreviation: None
Date: 7/17/2023 County: Mesa Filename: M077-02b
User: ACY

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 14M Horsepower: 259
Ripper Attachment: Multi-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$149.33	NA
Operating Cost/Hour:	$92.79	100
Ripper Ownership Cost/Hour:	$5.83	NA
Ripper Operating Cost/Hour:	$4.02	100
Operator Cost/Hour:	$46.87	NA
Total Unit Cost/Hour:	$298.84	

Total Fleet Cost/Hour: **$298.84**

MATERIAL QUANTITIES

Total Area to be graded or ripped: 10.30 acres

Source of estimated acreage: Phase 1, 2 and 4 bottoms ~10.3 ac

HOURLY PRODUCTION

Average Grader Speed: 1.50 mph
Selected Application: Ripping (0-3 mph) - 1.50
Selected Blade Angle: -1 degrees
Effective Blade Length: 0.00 feet
Width of blade overlap per pass: 2.00 feet
Net grading or ripping width per pass: 8.50 feet
Unadjusted Hourly Unit Production: 1.5455 acres/hour

Job Condition Correction Factors Site Altitude: 5000 feet

		Source
Altitude Adj:	1.00	(CAT HB)
Job Efficiency:	0.85	(1sh/d, mod.)
Net Correction:	0.8500	multiplier

Adjusted Hourly Unit Production: 1.3136 acres/Hour
Adjusted Hourly Fleet Production: **1.3136** acres/Hour

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **7.84** Hours

Unit cost: $227.49 per acre Total job cost: **$2,343**

SCRAPER TEAM WORK

Task description: **Topsoil Replacement Pit Floor**

Site: **Upland Gravel Pit No. 3** Permit Action: 07-2023 Permit/Job#: M2005077

PROJECT IDENTIFICATION

Task #: 02C State: Colorado Abbreviation: None
Date: 7/17/2023 County: Mesa Filename: M077-02c
User: ACY

Agency or organization name: DRMS

HOURLY EQUIPMENT

COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 637G w/push-pull
-Dozer:	Cat D9T - 9SU
Support Equipment -Load Area:	Cat D9T - 9SU
-Dump Area:	Cat D9T - 9SU
Road Maintenance –Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 3,500 Gal.

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	100	100	50	100
Ownership cost/hour:	$255.23	$238.76	$238.76	$238.76	$149.33	$16.65
Operating cost/hour:	$280.59	$162.29	$162.29	$162.29	$46.40	$37.60
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	$0.00	$0.00	$0.00	$0.00	$0.00
Ripper op. cost/hour:	NA	$0.00	$0.00	$0.00	$0.00	$0.00
Operator cost/hour:	$47.07	$40.04	$40.04	$40.04	$46.87	$0.00
Unit Subtotals:	$582.89	$441.09	$441.09	$441.09	$242.60	$54.25
Number of Units:	2	2	1	1	1	1
Group Subtotals:	Work:	$2,047.96	Support:	$882.18	Maint:	$296.85

Total work team cost/hour: **$3,226.99**

MATERIAL QUANTITIES

Initial volume: 16,617 CCY Swell factor: 1.115
Loose volume: **18,528** LCY

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

HOURLY PRODUCTION

Material weight: 2,100 lbs/LCY
Material description: Earth - Loam
Rated Payload: 81,600 pounds
Payload Capacity: 38.86 LCY

Scraper Bowl (volume) Basis:

Struck Volume: 24.00 LCY
Heaped Volume: 34.00 LCY
Average Volume: 29.00 LCY
Adjusted Capacity: **29.00** LCY

Cycle Time:

Scraper Loading Time: 1.00 Minutes
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction: Site Altitude: 5000 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: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	300.00	0.00	3.00	3.00	2800	0.35

Haul Time: **0.35** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	300.00	0.00	3.00	3.00	2949	0.25

Return Time: **0.25** minutes

Total Scraper team cycle time: **2.20** minutes
Adjusted for job conditions: 1,312.91 LCY/Hour
Selected Number of Scrapers: 2 Scraper(s)
Adjusted single scraper team (unit) hourly production: 1,312.91 LCY/Hour
Adjusted multiple scraper team (fleet) hourly production: **1,312.91** LCY/Hour

Unadjusted unit production/hour: 1,581.82 LCY/Hour
Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **14.11** Hours

Unit cost: $2.458 /LCY Total job cost: **$45,540**

SCRAPER TEAM WORK

Task description: **Overburden Replacement Slopes**

Site: **Upland Gravel Pit No. 3** Permit Action: 07-2023 Permit/Job#: M2005077

PROJECT IDENTIFICATION

Task #: 03A State: Colorado Abbreviation: None
Date: 7/17/2023 County: Mesa Filename: M077-03a
User: ACY

Agency or organization name: DRMS

HOURLY EQUIPMENT

COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 637G w/push-pull
-Dozer:	Cat D9T - 9SU
Support Equipment -Load Area:	Cat D9T - 9SU
-Dump Area:	Cat D9T - 9SU
Road Maintenance –Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 3,500 Gal.

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	100	100	50	100
Ownership cost/hour:	$255.23	$238.76	$238.76	$238.76	$149.33	$16.65
Operating cost/hour:	$280.59	$162.29	$162.29	$162.29	$46.40	$37.60
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	$0.00	$0.00	$0.00	$0.00	$0.00
Ripper op. cost/hour:	NA	$0.00	$0.00	$0.00	$0.00	$0.00
Operator cost/hour:	$47.07	$40.04	$40.04	$40.04	$46.87	$0.00
Unit Subtotals:	$582.89	$441.09	$441.09	$441.09	$242.60	$54.25
Number of Units:	2	2	1	1	1	1
Group Subtotals:	Work:	$2,047.96	Support:	$882.18	Maint:	$296.85

Total work team cost/hour: **$3,226.99**

MATERIAL QUANTITIES

Initial volume: 9,034 CCY Swell factor: 1.125
Loose volume: **10,163** LCY

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

HOURLY PRODUCTION

Material weight: 2,550 lbs/LCY
Material description: Earth - Dry packed
Rated Payload: 81,600 pounds
Payload Capacity: 32.00 LCY

Scraper Bowl (volume) Basis:

Struck Volume: 24.00 LCY
Heaped Volume: 34.00 LCY
Average Volume: 29.00 LCY
Adjusted Capacity: **29.00** LCY

Cycle Time:

Scraper Loading Time: 1.00 Minutes
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction: Site Altitude: 5000 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: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	300.00	0.00	3.00	3.00	2800	0.38

Haul Time: **0.38** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	300.00	0.00	3.00	3.00	2949	0.25

Return Time: **0.25** minutes

Total Scraper team cycle time: **2.23** minutes
Adjusted for job conditions: 1,295.25 LCY/Hour
Selected Number of Scrapers: 2 Scraper(s)
Adjusted single scraper team (unit) hourly production: 1,295.25 LCY/Hour
Adjusted multiple scraper team (fleet) hourly production: **1,295.25** LCY/Hour

Unadjusted unit production/hour: 1,560.54 LCY/Hour
Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **7.85** Hours

Unit cost: $2.491 /LCY Total job cost: **$25,321**

SCRAPER TEAM WORK

Task description: **Topsoil Replacement Slopes**

Site: **Upland Gravel Pit No. 3** Permit Action: 07-2023 Permit/Job#: M2005077

PROJECT IDENTIFICATION

Task #: 03B State: Colorado Abbreviation: None
Date: 7/17/2023 County: Mesa Filename: M077-03b
User: ACY

Agency or organization name: DRMS

HOURLY EQUIPMENT

COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 637G w/push-pull
-Dozer:	Cat D9T - 9SU
Support Equipment -Load Area:	Cat D9T - 9SU
-Dump Area:	Cat D8T - 8SU
Road Maintenance –Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 3,500 Gal.

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	100	100	50	100
Ownership cost/hour:	$255.23	$238.76	$238.76	$241.38	$149.33	$16.65
Operating cost/hour:	$280.59	$162.29	$162.29	$143.92	$46.40	$37.60
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	$0.00	$0.00	$0.00	$0.00	$0.00
Ripper op. cost/hour:	NA	$0.00	$0.00	$0.00	$0.00	$0.00
Operator cost/hour:	$47.07	$40.04	$40.04	$40.04	$46.87	$0.00
Unit Subtotals:	$582.89	$441.09	$441.09	$425.34	$242.60	$54.25
Number of Units:	2	2	1	1	1	1
Group Subtotals:	Work:	$2,047.96	Support:	$866.43	Maint:	$296.85

Total work team cost/hour: **$3,211.24**

MATERIAL QUANTITIES

Initial volume: 4,517 CCY Swell factor: 1.115
Loose volume: **5,036** LCY

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

HOURLY PRODUCTION

Material weight: 2,100 lbs/LCY
Material description: Earth - Loam
Rated Payload: 81,600 pounds
Payload Capacity: 38.86 LCY

Scraper Bowl (volume) Basis:

Struck Volume: 24.00 LCY
Heaped Volume: 34.00 LCY
Average Volume: 29.00 LCY
Adjusted Capacity: **29.00** LCY

Cycle Time:

Scraper Loading Time: 1.00 Minutes
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction: Site Altitude: 5000 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: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	300.00	0.00	3.00	3.00	2800	0.35

Haul Time: **0.35** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	300.00	0.00	3.00	3.00	2949	0.25

Return Time: **0.25** minutes

Total Scraper team cycle time: **2.20** minutes
Adjusted for job conditions: 1,312.91 LCY/Hour
Selected Number of Scrapers: 2 Scraper(s)
Adjusted single scraper team (unit) hourly production: 1,312.91 LCY/Hour
Adjusted multiple scraper team (fleet) hourly production: **1,312.91** LCY/Hour

Unadjusted unit production/hour: 1,581.82 LCY/Hour
Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **3.84** Hours

Unit cost: $2.446 /LCY Total job cost: **$12,319**

HYDRAULIC EXCAVATOR WORK

Task description: **Pocketing Slopes**

Site: **Upland Gravel Pit No. 3** Permit Action: 07-2023 Permit/Job#: M2005077

PROJECT IDENTIFICATION

Task #: 03C State: Colorado Abbreviation: None
Date: 7/17/2023 County: Mesa Filename: M077-03c
User: ACY

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat 345D L 12'-10" Stick
Attachment 1: ROPS Cab

Horsepower: 380
Weight (MT): 49.37
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$121.73	NA
Operating Cost/Hour:	$96.14	100
Operator Cost/Hour:	$46.87	NA
Total Unit Cost/Hour:	$264.74	

Total Fleet Cost/Hour: $264.74

MATERIAL QUANTITIES

Initial volume: 4,517 CCY Swell factor: 1.000
Loose volume: **4,517** LCY

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

HOURLY PRODUCTION

Excavator Cycle Time (load bucket, swing loaded, dump bucket, swing empty):

Basic Job Condition Description: AVERAGE
Secondary Job Condition within Basic Description: AVERAGE
Cycle Time Value: 0.315 minutes

Load Bucket Capacity

Bucket Size Class: Medium

Rated Capacity: 3.14 LCY (heaped)
Bucket Fill Factor: 1.025 Bank Clay; Earth (100%-105%) 1.025
Adjusted Capacity: **3.22** LCY

Job Condition Correction Factors Site Altitude: 5000 feet

		Source
Altitude Adj:	1.00	(CAT HB)
Job Efficiency:	0.83	(1 shift/day)
Net Correction:	0.83	multiplier

Unadjusted Hourly Unit Production: 613.05 LCY/Hour
Adjusted Hourly Unit Production: 508.83 LCY/Hour
Adjusted Hourly Fleet Production: **508.83** LCY/Hour

JOB TIME AND COST

Fleet size: 1 Excavator Total job time: **8.88** Hours

Unit cost: $0.520 /LCY Total job cost: **$2,350**

MOTOR GRADER WORK

Task description: **Rip Haul Road**

Site: **Upland Gravel Pit No. 3** Permit Action: 07-2023 Permit/Job#: M2005077

PROJECT IDENTIFICATION

Task #: 04A State: Colorado Abbreviation: None
Date: 7/17/2023 County: Mesa Filename: M077-04a
User: ACY

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 14M Horsepower: 259
Ripper Attachment: Multi-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$149.33	NA
Operating Cost/Hour:	$92.79	100
Ripper Ownership Cost/Hour:	$5.83	NA
Ripper Operating Cost/Hour:	$4.02	100
Operator Cost/Hour:	$46.87	NA
Total Unit Cost/Hour:	$298.84	

Total Fleet Cost/Hour: **$298.84**

MATERIAL QUANTITIES

Total Area to be graded or ripped: 1.75 acres

Source of estimated acreage: 3800LF * 20' W

HOURLY PRODUCTION

Average Grader Speed: 1.50 mph
Selected Application: Ripping (0-3 mph) - 1.50
Selected Blade Angle: -1 degrees
Effective Blade Length: 0.00 feet
Width of blade overlap per pass: 2.00 feet
Net grading or ripping width per pass: 8.50 feet
Unadjusted Hourly Unit Production: 1.5455 acres/hour

Job Condition Correction Factors Site Altitude: 5000 feet

		Source
Altitude Adj:	1.00	(CAT HB)
Job Efficiency:	0.85	(1sh/d, mod.)
Net Correction:	0.8500	multiplier

Adjusted Hourly Unit Production: 1.3136 acres/Hour
Adjusted Hourly Fleet Production: **1.3136** acres/Hour

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **1.33** Hours

Unit cost: $227.49 per acre Total job cost: **$398**

REVEGETATION WORK

Task description: **Phase 1 Reveg**

Site: **Upland Gravel Pit No. 3** Permit Action: 07-2023 Permit/Job#: M2005077

PROJECT IDENTIFICATION

Task #: 05A State: Colorado Abbreviation: None
Date: 7/17/2023 County: Mesa Filename: M077-05a
User: ACY

Agency or organization name: DRMS

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			$	$
			Total Fertilizer Materials Cost/Acre	**$0.00**

Application

Description	Cost /Acre
	$
Total Fertilizer Application Cost/Acre	**$0.00**

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	$112.82
Total Tilling Cost/Acre	**$112.82**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Paloma	4.00	12.95	$44.50
Crested Wheatgrass - Ephraim	3.20	14.69	$13.84
Sand Dropseed	0.10	11.94	$0.98
Pubescent Wheatgrass - Luna	6.00	12.40	$20.40
Galleta	5.40	19.71	$120.69
Saltbush, Four Wing	6.00	8.26	$75.00
Saltbush, Shadscale	6.00	8.95	$60.00
Totals Seed Mix	30.70	88.90	**$335.41**

Application

Description	Cost /Acre
Broadcast seeding [DMG]	$267.22
Total Seed Application Cost/Acre	**$267.22**

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	$4.01	$4.01
Herbicide - Plateau @ 1.0 pt/ac	1.00	ACRE	$19.79	$19.79
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	$429.79	$859.57
Total Mulch Materials Cost/Acre				**$883.37**

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	$74.46
Power mulcher (MEANS 32 91 13.16 0350)	$147.67
Weed spray, truck, aquatic area, nox. [DMG]	$62.72
Total Mulch Application Cost/Acre	**$284.85**

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: 4.15 Cost /Acre: $1,883.67
Estimated Failure Rate: 50% Cost /Acre*: $1,883.67
*Selected Replanting Work Items: TILLING,SEEDING,MULCHING

Initial Job Cost: **$7,817.23**
Reseeding Job Cost: **$3,908.62**
Total Job Cost: **$11,726**
Job Hours: **8.30**

REVEGETATION WORK

Task description: **Phase 2 Reveg**

Site: **Upland Gravel Pit No. 3** Permit Action: 07-2023 Permit/Job#: M2005077

PROJECT IDENTIFICATION

Task #: 05B State: Colorado Abbreviation: None
Date: 7/17/2023 County: Mesa Filename: M077-05b
User: ACY

Agency or organization name: DRMS

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			$	$
			Total Fertilizer Materials Cost/Acre	**$0.00**

Application

Description	Cost /Acre
	$
Total Fertilizer Application Cost/Acre	**$0.00**

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	$112.82
Total Tilling Cost/Acre	**$112.82**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Paloma	4.00	12.95	$44.50
Crested Wheatgrass - Ephraim	3.20	14.69	$13.84
Sand Dropseed	0.10	11.94	$0.98
Pubescent Wheatgrass - Luna	6.00	12.40	$20.40
Galleta	5.40	19.71	$120.69
Saltbush, Four Wing	6.00	8.26	$75.00
Saltbush, Shadscale	6.00	8.95	$60.00
Totals Seed Mix	30.70	88.90	**$335.41**

Application

Description	Cost /Acre
Broadcast seeding [DMG]	$267.22
Total Seed Application Cost/Acre	**$267.22**

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	$4.01	$4.01
Herbicide - Plateau @ 1.0 pt/ac	1.00	ACRE	$19.79	$19.79
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	$429.79	$859.57
Total Mulch Materials Cost/Acre				**$883.37**

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	$74.46
Power mulcher (MEANS 32 91 13.16 0350)	$147.67
Weed spray, truck, aquatic area, nox. [DMG]	$62.72
Total Mulch Application Cost/Acre	**$284.85**

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: 4.45 Cost /Acre: $1,883.67
Estimated Failure Rate: 50% Cost /Acre*: $1,883.67
*Selected Replanting Work Items: TILLING,SEEDING,MULCHING

Initial Job Cost: **$8,382.33**
Reseeding Job Cost: **$4,191.17**
Total Job Cost: **$12,573**
Job Hours: **8.90**

REVEGETATION WORK

Task description: **Phase 2 Reveg**

Site: **Upland Gravel Pit No. 3** Permit Action: 07-2023 Permit/Job#: M2005077

PROJECT IDENTIFICATION

Task #: 05C State: Colorado Abbreviation: None
Date: 7/17/2023 County: Mesa Filename: M077-05c
User: ACY

Agency or organization name: DRMS

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			$	$
			Total Fertilizer Materials Cost/Acre	**$0.00**

Application

Description	Cost /Acre
	$
Total Fertilizer Application Cost/Acre	**$0.00**

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	$112.82
Total Tilling Cost/Acre	**$112.82**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Paloma	4.00	12.95	$44.50
Crested Wheatgrass - Ephraim	3.20	14.69	$13.84
Sand Dropseed	0.10	11.94	$0.98
Pubescent Wheatgrass - Luna	6.00	12.40	$20.40
Galleta	5.40	19.71	$120.69
Saltbush, Four Wing	6.00	8.26	$75.00
Saltbush, Shadscale	6.00	8.95	$60.00
Totals Seed Mix	30.70	88.90	**$335.41**

Application

Description	Cost /Acre
Broadcast seeding [DMG]	$267.22
Total Seed Application Cost/Acre	**$267.22**

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	$4.01	$4.01
Herbicide - Plateau @ 1.0 pt/ac	1.00	ACRE	$19.79	$19.79
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	$429.79	$859.57
Total Mulch Materials Cost/Acre				**$883.37**

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	$74.46
Power mulcher (MEANS 32 91 13.16 0350)	$147.67
Weed spray, truck, aquatic area, nox. [DMG]	$62.72
Total Mulch Application Cost/Acre	**$284.85**

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: 4.45 Cost /Acre: $1,883.67
Estimated Failure Rate: 50% Cost /Acre*: $1,883.67
*Selected Replanting Work Items: TILLING,SEEDING,MULCHING

Initial Job Cost: **$8,382.33**
Reseeding Job Cost: **$4,191.17**
Total Job Cost: **$12,573**
Job Hours: **8.90**

REVEGETATION WORK

Task description: **Haul Road Reveg**

Site: **Upland Gravel Pit No. 3** Permit Action: 07-2023 Permit/Job#: M2005077

PROJECT IDENTIFICATION

Task #: 05D State: Colorado Abbreviation: None
Date: 7/17/2023 County: Mesa Filename: M077-05d
User: ACY

Agency or organization name: DRMS

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			$	$
			Total Fertilizer Materials Cost/Acre	**$0.00**

Application

Description	Cost /Acre
	$
Total Fertilizer Application Cost/Acre	**$0.00**

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	$112.82
Total Tilling Cost/Acre	**$112.82**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Paloma	4.00	12.95	$44.50
Crested Wheatgrass - Ephraim	3.20	14.69	$13.84
Sand Dropseed	0.10	11.94	$0.98
Pubescent Wheatgrass - Luna	6.00	12.40	$20.40
Galleta	5.40	19.71	$120.69
Saltbush, Four Wing	6.00	8.26	$75.00
Saltbush, Shadscale	6.00	8.95	$60.00
Totals Seed Mix	30.70	88.90	**$335.41**

Application

Description	Cost /Acre
Broadcast seeding [DMG]	$267.22
Total Seed Application Cost/Acre	**$267.22**

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	$4.01	$4.01
Herbicide - Plateau @ 1.0 pt/ac	1.00	ACRE	$19.79	$19.79
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	$429.79	$859.57
Total Mulch Materials Cost/Acre				**$883.37**

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	$74.46
Power mulcher (MEANS 32 91 13.16 0350)	$147.67
Weed spray, truck, aquatic area, nox. [DMG]	$62.72
Total Mulch Application Cost/Acre	**$284.85**

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: 1.75 Cost /Acre: $1,883.67
Estimated Failure Rate: 50% Cost /Acre*: $1,883.67
*Selected Replanting Work Items: TILLING,SEEDING,MULCHING

Initial Job Cost: **$3,296.42**
Reseeding Job Cost: **$1,648.21**
Total Job Cost: **$4,945**
Job Hours: **3.50**

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Initial Mobilization**

Site: **Upland Gravel Pit No. 3** Permit Action: 07-2023 Permit/Job#: M2005077

PROJECT IDENTIFICATION

Task #: 10A State: Colorado Abbreviation: None
Date: 7/17/2023 County: Mesa Filename: M077-10a
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:

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
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 D9T - 9SU	66.13	$257.08	$175.95	4	$1,732.12	$703.80	$1,000.00
Cat 637G w/push-pull	59.59	$255.23	$175.95	2	$862.36	$351.90	$500.00
Cat 345D L 12'-10" Stick	54.31	$121.73	$175.95	1	$297.68	$175.95	$250.00
CAT 14M	23.57	$155.16	$82.29	1	$237.45	$82.29	$250.00
Drill/Broadcast Seeder with Tractor	25.00	$6.73	$82.29	1	$89.02	$82.29	$250.00
Power Mulcher (Bowie LD-90)	6.00	$25.94	$82.29	1	$108.23	$82.29	$250.00
Subtotals:					**$3,326.86**	**$1,478.52**	**$2,500.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Water Tanker, 3,500 Gal.	$93.16	1	$93.16	$93.16
Flatbed Truck, 4x2, 30K GVW	$64.45	1	$64.45	$64.45
Light Duty Pickup, 4x4, 3/4 T.	$72.29	2	$144.58	$144.58

Subtotals:	**$302.19**	**$302.19**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	GRAND JUNCTION	
Total one-way travel distance:	5.00	miles
Average Travel Speed:	40.00	mph

Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	$12,855.07
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	$75.55

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.13	0.13
Return Time (Hours):	0.13	0.13
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.25	0.25

JOB TIME AND COST

Total job time:	**2.50**	Hours
Total job cost:	**$12,931**	

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Secondary Mobilization**

Site: **Upland Gravel Pit No. 3** Permit Action: 07-2023 Permit/Job#: M2005077

PROJECT IDENTIFICATION

Task #: 10B State: Colorado Abbreviation: None
Date: 7/17/2023 County: Mesa Filename: M077-10b
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:

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
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
Drill/Broadcast Seeder with Tractor	25.00	$6.73	$82.29	1	$89.02	$82.29	$250.00
Power Mulcher (Bowie LD-90)	6.00	$25.94	$82.29	1	$108.23	$82.29	$250.00
Subtotals:					**$197.25**	**$164.58**	**$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, 3/4 T.	$72.29	2	$144.58	$144.58
Subtotals:			**$144.58**	**$144.58**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	GRAND JUNCTION	
Total one-way travel distance:	5.00	miles
Average Travel Speed:	40.00	mph

Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	$1,484.96
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	$36.15

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.13	0.13
Return Time (Hours):	0.13	0.13
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.25	0.25

JOB TIME AND COST

Total job time:	**2.50**	Hours
Total job cost:	**$1,521**	