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

May 24, 2021

Mr. Scott Davis
Schmidt Construction Company
2635 Delta Dr.
Colorado Springs, CO 80910

Re: Menzer Quarry, Permit No. M-1976-009-HR;
Financial Warranty Increase, Revision No. SI-1

Dear Mr. Davis:

On May 24, 2021 the Division of Reclamation, Mining and Safety increased the current Financial Warranty for this permit to $667,738.00, in accordance with Rule 4.2.1 of the Rules and Regulations. This is an increase of $211,738.00. The Division's reclamation cost estimate is attached for your records.

The Division ordered amendment of the current Financial Warranty, or submittal of a new Financial Warranty reflecting the increase, is due within 60 days from the date of this letter. If you wish to submit a different type of Financial Warranty, please contact me such that I may send you the applicable form.

If you have any questions, please contact me.

Sincerely,

Timothy A. Cazier, P.E.
Environmental Protection Specialist

ec: Sara M. Stevenson-Benn, DRMS
Mark Heifner

M-FW-14

COST SUMMARY WORK

Task description: **Cost Summary**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
Date: 5/24/2021 County: El Paso Filename: M009-000
User: TC1

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Mobilize/demobilize reclamation equipment	MOBILIZE	1	3.90	$11,513
002	Repair and or clear roads to benches and topsoil stockpile	DOZER	1	8.64	$2,309
003	Clean benches - move rock rubble to bench wall	DOZER	1	41.18	$10,132
004	Haul backfill fines} to quarry benches - truck/loader operations	TRUCK1	1	100.69	$138,950
005	Grade track dumped backfill to 5:1 on benches	DOZER	1	94.42	$23,229
006	Haul topsoil from stockpiles to benches	TRUCK1	1	69.59	$71,929
007	Remove plant foundations miscellaneous trash, debris *{assume 1.65% inflation from 1997 costs}*	NA	1	20.00	$33,000
008	Rip the quarry floor	RIPPER	1	72.84	$19,463
009	Haul growth medium to quarry floor & former #10: grade w/ dozer	TRUCK1	1	104.81	$95,173
011	Establish grades for riparian areas *{assume 1.65% inflation from 1997 costs}*	NA	1	4.00	$2,640
012A	Broadcast grass seed mix on north facing quarry benches	REVEGE	1	45.00	$8,910
012B	Broadcast grass seed mix on east facing quarry benches	REVEGE	1	45.00	$8,580
012C	Broadcast grass seed mix on south facing quarry benches	REVEGE	1	25.00	$4,822
013	Drill grass seed mix on quarry floor	REVEGE	1	100.00	$36,551
014	Collect seed and broadcast on riparian areas *{assume 1.65% inflation from 1997 costs}*	NA	1	4.00	$3,300
015	Plant trees on 6 acres of mine benches (operator supplied cost) *{assume 1.65% inflation from 1997 costs}*	NA	1	4.00	$2,970
016	Stain bench highwalls, visual impact benches only (operator supplied cost) *{assume 1.65% inflation from 1997 costs}*	NA	1	20.00	$37,274
017	Grade topsoil stockpile and quarry bench access road areas	DOZER	1	10.30	$2,534
018	Broadcast seed - graded haul road areas	REVEGE	1	10.00	$3,180
		SUBTOTALS:		**783.37**	**$516,459**

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	$10,432
Performance bond:	1.05	Total =	$5,423
Job superintendent:	391.69	Total =	$27,242
Profit:	10.00	Total =	$51,646
		TOTAL O & P =	$94,743
		CONTRACT AMOUNT (direct + O & P) =	$611,202

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	$0	Total =	$0
Engineering work and/or contract/bid preparation:	4.25	Total =	$25,976
Reclamation management and/or administration:	5.00		$30,560
CONTINGENCY:	0.00	Total =	$0
		TOTAL INDIRECT COST =	$151,279
		TOTAL BOND AMOUNT (direct + indirect) =	**$667,738**

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Mobilize/demobilize reclamation equipment**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 001 State: Colorado Abbreviation: None
Date: 5/19/2021 County: El Paso Filename: M009-001
User: TC1

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:	$17.20	$29.63	$38.69
Operating Cost/Hour:	$26.56	$47.02	$55.69
Operator Cost/Hour:	$23.63	$23.63	$23.63
Helper Cost/Hour:	$0.00	$23.53	$23.53
Total Unit Cost/Hour:	$67.39	$123.81	$141.54

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	$128.22	$141.54	1	$269.76	$141.54	$250.00
Cat 770D	37.54	$81.31	$123.81	5	$1,025.60	$619.05	$1,250.00
CAT 990H	83.34	$111.11	$141.54	1	$252.65	$141.54	$250.00
Water Tanker, 5,000 Gal.	15.00	$29.31	$67.39	1	$96.70	$67.39	$250.00
CAT 14M	23.57	$65.89	$67.39	1	$133.28	$67.39	$250.00
Drill/Broadcast Seeder with Tractor	25.00	$6.72	$67.39	1	$74.11	$67.39	$250.00
Subtotals:					**$1,852.10**	**$1,104.30**	**$2,500.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Subtotals:			**$0.00**	**$0.00**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	COLORADO SPRINGS	
Total one-way travel distance:	19.00	miles
Average Travel Speed:	40.00	mph

Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	$11,512.78
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	$0.00

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.48	0.48
Return Time (Hours):	0.48	0.48
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.95	0.95

JOB TIME AND COST

Total job time:	**3.90**	Hours
Total job cost:	**$11,513**	

BULLDOZER WORK

Task description: **Repair and or clear roads to benches and topsoil stockpile**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 002 State: Colorado Abbreviation: None
Date: 5/18/2021 County: El Paso Filename: M009-002
User: TC1

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:

		Utilization %
Ownership Cost/Hour:	$116.22	NA
Operating Cost/Hour:	$89.77	100
Ripper own. Cost/Hour:	$12.00	NA
Ripper op. Cost/Hour:	$9.18	100
Operator Cost/Hour:	$40.04	NA

Total unit Cost/Hour: $267.19
Total Fleet Cost/Hour: **$267.19**

MATERIAL QUANTITIES

Initial Volume: 2,037
Swell factor: 1.215
Loose volume: **2,475** LCY

Source of estimated volume: AM-03 CIRCES worksheet
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: Consolidated stockpile 1.0

Average push gradient: 10 %
Average site altitude: 6,975 feet

Material weight: 3,300 lbs/LCY

Weight description: Decomposed rock - 75% Rock, 25% Earth

Job Condition Correction Factor		Source
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:	0.600	(FND-SF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2046

Adjusted unit production: 286.44 LCY/hr

Adjusted fleet production: **286.44** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: $0.933/LCY

Total job time: **8.64** Hours
Total job cost: **$2,309**

BULLDOZER WORK

Task description: **Clean benches - move rock rubble to bench wall**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 003 State: Colorado Abbreviation: None
Date: 5/18/2021 County: El Paso Filename: M009-003
User: TC1

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

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

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$116.22	NA
Operating Cost/Hour:	$89.77	100
Ripper own. Cost/Hour:	$0.00	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$40.04	NA

Total unit Cost/Hour: $246.02
Total Fleet Cost/Hour: **$246.02**

MATERIAL QUANTITIES

Initial Volume: 23,518
Swell factor: 1.000
Loose volume: **23,518** LCY

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

HOURLY PRODUCTION

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

Materials consistency description: Loose stockpile 1.2

Average push gradient: 0 %
Average site altitude: 6,975 feet

Material weight: 2,950 lbs/LCY

Weight description: Traprock - broken

Job Condition Correction Factor Source

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:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.780	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4079

Adjusted unit production: 571.06 LCY/hr

Adjusted fleet production: **571.06** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: $0.431/LCY

Total job time: **41.18** Hours

Total job cost: **$10,132**

TRUCK/LOADER TEAM WORK

Task description: **Haul backfill fines} to quarry benches - truck/loader operat**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 004 State: Colorado Abbreviation: None
Date: 5/18/2021 County: El Paso Filename: M009-004
User: TC1

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 770D
-Loader:	CAT 990H high lift
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance –Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 5,000 Gal.

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	100	100
Ownership cost/hour:	$81.31	$111.11	NA	NA	$65.89	$29.31
Operating cost/hour:	$68.45	$116.76	NA	NA	$58.96	$42.13
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	$0.00	NA	NA	$0.00	$0.00
Ripper op. cost/hour:	NA	$0.00	NA	NA	$0.00	$0.00
Operator cost/hour:	$24.82	$35.97	NA	NA	$46.87	$0.00
Unit Subtotals:	$174.58	$263.84	NA	NA	$171.73	$71.45
Number of Units:	5	1	0	0	1	1
Group Subtotals:	Work:	$1,136.74	Support:	$0.00	Maint:	$243.18

Total work team cost/hour: **$1,379.92**

MATERIAL QUANTITIES

Initial volume: 89,572 CCY Swell factor: 1.000
Loose volume: **89,572** LCY

Source of estimated volume: AM-03 CIRCES worksheet
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: 2,850 Pounds/LCY
Description: Sand - Damp
Rated Payload: 82,000 Pounds
Payload Capacity: 28.77 LCY

Truck Bed (volume) Basis:

Struck Volume:	21.60	LCY
Heaped Volume:	31.70	LCY
Average Volume:	26.65	LCY
Adjusted Volume:	28.77	LCY

Final Truck Volume Based on Number of Loader Passes: **24.75** LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	11.250	LCY (heaped)
Bucket Fill Factor:	1.100	Other - rock/dirt mixtures (100-120%) 1.100
Adjusted Capacity:	**12.375**	LCY

Job Condition Corrections: Site Altitude (ft.): 6975 feet

	Truck	Loader	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	**0.830**	**0.830**	

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): 0.600 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material up to 1/8" diameter 0.02	0.020	(Cat HB)
Stockpile:	Dumped by truck 0.02	0.020	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders - 0.04	-0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Small target 0.04	0.040	(Cat HB)

Net Cycle Time Adjustment:	0.000	minutes
Adjusted Loader Cycle Time:	**0.600**	minutes
Net Load Time per Truck:	**0.700**	minutes

Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	0.600	Minutes
Truck Load Time:	0.700	Minutes	Adjusted for site altitude:	0.700	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.000	Minutes

Truck Travel (Haul & Return) 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	1840.00	7.00	3.00	10.00	834	2.247
2	1840.00	1.00	3.00	4.00	2051	1.121

Haul Time: **3.368** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1840.00	-1.00	3.00	2.00	4254	0.745
2	1840.00	-7.00	3.00	-4.00	3893	0.515

Return Time: **1.260** minutes
Total Truck Cycle Time: **6.928** minutes

Loading Tool unit Production 1,142.31 LCY/Hour Adjusted for job efficiency: 948.12 LCY/Hour
Truck Unit Production 214.35 LCY/Hour Adjusted for job efficiency: 177.91 LCY/Hour

Optimal No. of Trucks: 5 Truck(s) Selected Number of Trucks: 5 Truck(s)

Adjusted hourly truck team production: 889.54 LCY/Hour
Adjusted single truck/loader team production: 889.54 LCY/Hour
Adjusted multiple truck/loader team production: **889.54** LCY/Hour

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **100.69** Hours

Unit cost: $1.551 /LCY Total job cost: **$138,950**

BULLDOZER WORK

Task description: **Grade track dumped backfill to 5:1 on benches**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 005 State: Colorado Abbreviation: None
Date: 5/18/2021 County: El Paso Filename: 005
User: TC1

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

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

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$116.22	NA
Operating Cost/Hour:	$89.77	100
Ripper own. Cost/Hour:	$0.00	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$40.04	NA

Total unit Cost/Hour: $246.02
Total Fleet Cost/Hour: **$246.02**

MATERIAL QUANTITIES

Initial Volume: 44,097
Swell factor: 1.000
Loose volume: **44,097** LCY

Source of estimated volume: AM-03 CIRCES Worksheet
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: Loose stockpile 1.2

Average push gradient: 15 %
Average site altitude: 6,975 feet

Material weight: 2,400 lbs/LCY

Weight description: Sand - Dry, loose

Job Condition Correction Factor		Source
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:	0.700	(FND-MF)
Push gradient:	0.666	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.958	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3336

Adjusted unit production: 467.04 LCY/hr

Adjusted fleet production: **467.04** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: $0.527/LCY

Total job time: **94.42** Hours
Total job cost: **$23,229**

TRUCK/LOADER TEAM WORK

Task description: **Haul topsoil from stockpiles to benches**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 006 State: Colorado Abbreviation: None
Date: 5/18/2021 County: El Paso Filename: M009-006
User: TC1

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 770D
-Loader:	CAT 990H high lift
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance –Motor Grader:	NA
-Water Truck:	Water Tanker, 5,000 Gal.

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	100
Ownership cost/hour:	$81.31	$111.11	NA	NA	NA	$29.31
Operating cost/hour:	$68.45	$116.76	NA	NA	NA	$42.13
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	$0.00	NA	NA	NA	$0.00
Ripper op. cost/hour:	NA	$0.00	NA	NA	NA	$0.00
Operator cost/hour:	$24.82	$35.97	NA	NA	NA	$0.00
Unit Subtotals:	$174.58	$263.84	NA	NA	NA	$71.45
Number of Units:	4	1	0	0	0	1
Group Subtotals:	Work:	$962.16	Support:	$0.00	Maint:	$71.45

Total work team cost/hour: **$1,033.61**

MATERIAL QUANTITIES

Initial volume: 56,943 CCY Swell factor: 1.000
Loose volume: **56,943** LCY

Source of estimated volume: AM-03 CIRCES Worksheet
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: 2,650 Pounds/LCY
Description: Decomposed rock - 25% Rock, 75% Earth
Rated Payload: 82,000 Pounds
Payload Capacity: 30.94 LCY

Truck Bed (volume) Basis:

Struck Volume:	21.60	LCY
Heaped Volume:	31.70	LCY
Average Volume:	26.65	LCY
Adjusted Volume:	30.94	LCY

Final Truck Volume Based on Number of Loader Passes: **31.22** LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	11.250	LCY (heaped)
Bucket Fill Factor:	0.925	Loose material - 1/8" to 3/8" (90 - 95%) 0.925
Adjusted Capacity:	**10.406**	LCY

Job Condition Corrections: Site Altitude (ft.): 6975 feet

	Truck	Loader	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	**0.830**	**0.830**	

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 3 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): 0.600 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 0.02	0.020	(Cat HB)
Stockpile:	Dumped by truck 0.02	0.020	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders - 0.04	-0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Small target 0.04	0.040	(Cat HB)
	Net Cycle Time Adjustment:	0.000	minutes
	Adjusted Loader Cycle Time:	**0.600**	minutes
	Net Load Time per Truck:	**1.300**	minutes

Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	0.600	Minutes
Truck Load Time:	1.300	Minutes	Adjusted for site altitude:	1.300	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.000	Minutes

Truck Travel (Haul & Return) 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	1875.00	5.00	3.00	8.00	1057	1.842
2	1300.00	0.00	3.00	3.00	2754	0.889

Haul Time: **2.731** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1300.00	0.00	3.00	3.00	4074	0.662
2	1875.00	-5.00	3.00	-2.00	4254	0.477

Return Time: **1.139** minutes
Total Truck Cycle Time: **6.770** minutes

Loading Tool unit Production 985.86 LCY/Hour Adjusted for job efficiency: 818.26 LCY/Hour

Truck Unit Production 276.68 LCY/Hour Adjusted for job efficiency: 229.64 LCY/Hour

Optimal No. of Trucks: 4 Truck(s) Selected Number of Trucks: 4 Truck(s)

Adjusted hourly truck team production: 918.58 LCY/Hour
Adjusted single truck/loader team production: 818.26 LCY/Hour
Adjusted multiple truck/loader team production: **818.26** LCY/Hour

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **69.59** Hours

Unit cost: $1.263 /LCY Total job cost: **$71,929**

BULLDOZER RIPPING WORK

Task description: **Rip the quarry floor**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 008 State: Colorado Abbreviation: None
Date: 5/18/2021 County: El Paso Filename: M009-008
User: TC1

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:	$116.22	NA
Operating Cost/Hour:	$89.77	100
Ripper Ownership Cost/Hour:	$12.00	NA
Ripper Operating Cost/Hour:	$9.18	100
Operator Cost/Hour:	$40.04	NA
Total Unit Cost/Hour:	$267.19	
Total Fleet Cost/Hour:	**$267.19**	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 49.70 acres Rip Depth (ft): 1.50 Volume: 120,274 BCY or CCY

Source of estimated quantity: AM-03 CIRCES Worksheet

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:	500.00	feet/pass
Average Dozer Speed:	88.00	feet/minute
Average Maneuver Time:	0.25	minutes/pass
Production per unit area:	0.822	acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production:	0.822	Acres/hr
Site Altitude:	6,975	feet
Altitude Adj:	1.00	(CAT HB)
Job Efficiency:	0.83	(1 shift/day)
Net Correction:	0.83	multiplier
Adjusted Hourly Unit Production:	0.68	Acres/hr
Adjusted Hourly Fleet Production:	**0.68**	Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **72.84** Hours

Unit cost: $391.619 Per acre Total job cost: **$19,463**

TRUCK/LOADER TEAM WORK

Task description: **Haul growth medium to quarry floor & #10: grade w/ dozer**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 009 State: Colorado Abbreviation: None
Date: 5/19/2021 County: El Paso Filename: M009-009
User: TC1

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 770D
-Loader:	CAT 990H high lift
Support Equipment -Load Area:	NA
-Dump Area:	Cat D8T - 8SU
Road Maintenance –Motor Grader:	NA
-Water Truck:	Water Tanker, 5,000 Gal.

Cost Breakdown:

	Truck/Loader Team		Support Equipment		Maintenance Equipment	
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	75	NA	100
Ownership cost/hour:	$81.31	$111.11	NA	$116.22	NA	$29.31
Operating cost/hour:	$68.45	$116.76	NA	$67.32	NA	$42.13
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	$0.00	NA	$0.00	NA	$0.00
Ripper op. cost/hour:	NA	$0.00	NA	$0.00	NA	$0.00
Operator cost/hour:	$24.82	$35.97	NA	$40.04	NA	$0.00
Unit Subtotals:	$174.58	$263.84	NA	$223.58	NA	$71.45
Number of Units:	2	1	0	1	0	1
Group Subtotals:	Work:	$613.00	Support:	$223.58	Maint:	$71.45

Total work team cost/hour: **$908.03**

MATERIAL QUANTITIES

Initial volume: 75,827 CCY Swell factor: 1.000
Loose volume: **75,827** LCY

Source of estimated volume: AM-03 CIRCES Worksheet
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: 2,650 Pounds/LCY
Description: Decomposed rock - 25% Rock, 75% Earth
Rated Payload: 82,000 Pounds
Payload Capacity: 30.94 LCY

Truck Bed (volume) Basis:

Struck Volume:	21.60	LCY
Heaped Volume:	31.70	LCY
Average Volume:	26.65	LCY
Adjusted Volume:	30.94	LCY

Final Truck Volume Based on Number of Loader Passes: **31.22** LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	11.250	LCY (heaped)
Bucket Fill Factor:	0.925	Loose material - 1/8" to 3/8" (90 - 95%) 0.925
Adjusted Capacity:	**10.406**	LCY

Job Condition Corrections: Site Altitude (ft.): 6975 feet

	Truck	Loader	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	**0.830**	**0.830**	

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 3 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): 0.600 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 0.02	0.020	(Cat HB)
Stockpile:	Dumped by truck 0.02	0.020	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders - 0.04	-0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
	Net Cycle Time Adjustment:	-0.040	minutes
	Adjusted Loader Cycle Time:	**0.560**	minutes
	Net Load Time per Truck:	**1.220**	minutes

Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	0.600	Minutes
Truck Load Time:	1.220	Minutes	Adjusted for site altitude:	1.220	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.000	Minutes

Truck Travel (Haul & Return) 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	1250.00	2.00	3.00	5.00	1629	0.921

Haul Time: **0.921** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1250.00	-2.00	3.00	1.00	4254	0.557

Return Time: **0.557** minutes
Total Truck Cycle Time: **4.298** minutes

Loading Tool unit Production 1,029.19 LCY/Hour Adjusted for job efficiency: 854.23 LCY/Hour

Truck Unit Production 435.81 LCY/Hour Adjusted for job efficiency: 361.72 LCY/Hour

Optimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 723.45 LCY/Hour
Adjusted single truck/loader team production: 723.45 LCY/Hour
Adjusted multiple truck/loader team production: **723.45** LCY/Hour

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **104.81** Hours

Unit cost: $1.255 /LCY Total job cost: **$95,173**

REVEGETATION WORK

Task description: **Broadcast grass seed mix on north facing quarry benches**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 012A State: Colorado Abbreviation: None
Date: 5/19/2021 County: El Paso Filename: M009-012A
User: TC1

Agency or organization name: DRMS

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	120.00	pound	$0.34	$40.20
Triple superphosphate, 0-46-0	100.00	pound	$0.43	$42.50
			Total Fertilizer Materials Cost/Acre	**$82.70**

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	$37.03
Total Fertilizer Application Cost/Acre	**$37.03**

TILLING

Description	Cost /Acre
	$
Total Tilling Cost/Acre	**$0.00**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.50	8.16	$6.86
Ryegrass, Perennial - Belramo	1.20	6.80	$2.16
Sideoats Grama - Vaughn	1.30	4.27	$10.89
Intermediate Wheatgrass - Oahe	2.20	4.70	$6.16
Pubescent Wheatgrass - Luna	2.00	4.13	$6.80
Yellow Sweet Clover - Madrid	5.00	29.84	$14.13
Streambank Wheatgrass - Sodar	1.60	5.22	$9.12
Western Wheatgrass - Native	2.30	5.81	$13.80
Flax, Lewis Blue	4.00	26.53	$66.00
Totals Seed Mix	20.10	95.46	**$135.92**

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
			$	$
Total Mulch Materials Cost/Acre				**$0.00**

Application

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

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: 11.36 Cost /Acre: $522.87
Estimated Failure Rate: 50% Cost /Acre*: $522.87
*Selected Replanting Work Items: FERTILIZING,SEEDING

Initial Job Cost: **$5,939.80**
Reseeding Job Cost: **$2,969.90**
Total Job Cost: **$8,910**
Job Hours: **45.00**

REVEGETATION WORK

Task description: **Broadcast grass seed mix on east facing quarry benches**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 012B State: Colorado Abbreviation: None
Date: 5/19/2021 County: El Paso Filename: M009-012B
User: TC1

Agency or organization name: DRMS

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	120.00	pound	$0.34	$40.20
Triple superphosphate, 0-46-0	100.00	pound	$0.43	$42.50
			Total Fertilizer Materials Cost/Acre	**$82.70**

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	$37.03
Total Fertilizer Application Cost/Acre	**$37.03**

TILLING

Description	Cost /Acre
	$
Total Tilling Cost/Acre	**$0.00**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.50	8.16	$6.86
Crested Wheatgrass - Nordan	1.70	7.81	$6.63
Sideoats Grama - Vaughn	1.50	4.92	$12.56
Yellow Sweet Clover - Madrid	5.00	29.84	$14.13
Slender Wheatgrass - San Luis	1.80	6.57	$7.65
Streambank Wheatgrass - Sodar	1.80	5.87	$10.26
Western Wheatgrass - Native	2.70	6.82	$16.20
Flax, Lewis Blue	3.00	19.90	$49.50
Totals Seed Mix	18.00	89.89	**$123.79**

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
			$	$
Total Mulch Materials Cost/Acre				**$0.00**

Application

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

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: 11.2 Cost /Acre: $510.74
Estimated Failure Rate: 50% Cost /Acre*: $510.74
*Selected Replanting Work Items: FERTILIZING,SEEDING

Initial Job Cost: **$5,720.29**
Reseeding Job Cost: **$2,860.14**
Total Job Cost: **$8,580**
Job Hours: **45.00**

REVEGETATION WORK

Task description: **Broadcast grass seed mix on south facing quarry benches**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 012C State: Colorado Abbreviation: None
Date: 5/19/2021 County: El Paso Filename: M009-012C
User: TC1

Agency or organization name: DRMS

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	120.00	pound	$0.34	$40.20
Triple superphosphate, 0-46-0	100.00	pound	$0.43	$42.50
			Total Fertilizer Materials Cost/Acre	**$82.70**

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	$37.03
Total Fertilizer Application Cost/Acre	**$37.03**

TILLING

Description	Cost /Acre
	$
Total Tilling Cost/Acre	**$0.00**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.50	8.16	$6.86
Great Basin Wildrye - Magnar	1.80	7.31	$20.79
Sideoats Grama - Vaughn	1.50	4.92	$12.56
Crested Wheatgrass - Standard	1.70	7.81	$7.06
Yellow Sweet Clover - Madrid	5.00	29.84	$14.13
Streambank Wheatgrass - Sodar	1.80	5.87	$10.26
Western Wheatgrass - Native	2.70	6.82	$16.20
Totals Seed Mix	15.00	70.73	**$87.86**

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
			$	$
Total Mulch Materials Cost/Acre				**$0.00**

Application

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

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: 6.77 Cost /Acre: $474.81
Estimated Failure Rate: 50% Cost /Acre*: $474.81
*Selected Replanting Work Items: FERTILIZING,SEEDING

Initial Job Cost: **$3,214.46**
Reseeding Job Cost: **$1,607.23**
Total Job Cost: **$4,822**
Job Hours: **25.00**

REVEGETATION WORK

Task description: **Drill grass seed mix on quarry floor**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 013 State: Colorado Abbreviation: None
Date: 5/19/2021 County: El Paso Filename: M009-013
User: TC1

Agency or organization name: DRMS

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	120.00	pound	$0.34	$40.20
Triple superphosphate, 0-46-0	100.00	pound	$0.43	$42.50
			Total Fertilizer Materials Cost/Acre	**$82.70**

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	$37.03
Total Fertilizer Application Cost/Acre	**$37.03**

TILLING

Description	Cost /Acre
Chisel plowing {DMG}	$94.63
Total Tilling Cost/Acre	**$94.63**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.25	4.08	$3.43
Great Basin Wildrye - Magnar	0.90	3.66	$10.40
Sideoats Grama - Vaughn	0.75	2.46	$6.28
Crested Wheatgrass - Standard	0.85	3.90	$3.53
Yellow Sweet Clover - Madrid	2.50	14.92	$7.06
Streambank Wheatgrass - Sodar	0.90	2.93	$5.13
Western Wheatgrass - Native	1.35	3.41	$8.10
Totals Seed Mix	7.50	35.37	**$43.93**

Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	$232.00
Total Seed Application Cost/Acre	**$232.00**

MULCHING and MISCELLANEOUS

Materials

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

Application

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

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: 49.7 Cost /Acre: $490.29
Estimated Failure Rate: 50% Cost /Acre*: $490.29
*Selected Replanting Work Items: FERTILIZING,TILLING,SEEDING

Initial Job Cost: **$24,367.41**
Reseeding Job Cost: **$12,183.71**
Total Job Cost: **$36,551**
Job Hours: **100.00**

BULLDOZER WORK

Task description: **Grade topsoil stockpile and quarry bench access road areas**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 017 State: Colorado Abbreviation: None
Date: 5/19/2021 County: El Paso Filename: M009-017
User: TC1

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

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

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$116.22	NA
Operating Cost/Hour:	$89.77	100
Ripper own. Cost/Hour:	$0.00	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$40.04	NA

Total unit Cost/Hour: $246.02
Total Fleet Cost/Hour: **$246.02**

MATERIAL QUANTITIES

Initial Volume: 6,111
Swell factor: 1.000
Loose volume: **6,111** LCY

Source of estimated volume: AM-03 CIRCES Worksheet
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: Partly consolidated stockpile 1.1

Average push gradient: -5 %
Average site altitude: 6,975 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:	1.100	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4238

Adjusted unit production: 593.32 LCY/hr

Adjusted fleet production: **593.32** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: $0.415/LCY

Total job time: **10.30** Hours
Total job cost: **$2,534**

REVEGETATION WORK

Task description: **Broadcast seed - graded haul road areas**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 018 State: Colorado Abbreviation: None
Date: 5/19/2021 County: El Paso Filename: M009-018
User: TC1

Agency or organization name: DRMS

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	120.00	pound	$0.34	$40.20
Triple superphosphate, 0-46-0	100.00	pound	$0.43	$42.50
			Total Fertilizer Materials Cost/Acre	**$82.70**

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	$37.03
Total Fertilizer Application Cost/Acre	**$37.03**

TILLING

Description	Cost /Acre
Chisel plowing {DMG}	$94.63
Total Tilling Cost/Acre	**$94.63**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.50	8.16	$6.86
Great Basin Wildrye - Magnar	1.80	7.31	$20.79
Sideoats Grama - Vaughn	1.80	5.91	$15.08
Crested Wheatgrass - Standard	1.70	7.81	$7.06
Streambank Wheatgrass - Sodar	1.80	5.87	$10.26
Western Wheatgrass - Native	2.70	6.82	$16.20
Totals Seed Mix	10.30	41.88	**$76.24**

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
			$	$
Total Mulch Materials Cost/Acre				**$0.00**

Application

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

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: 3.8 Cost /Acre: $557.82
Estimated Failure Rate: 50% Cost /Acre*: $557.82
*Selected Replanting Work Items: FERTILIZING,TILLING,SEEDING

Initial Job Cost: **$2,119.72**
Reseeding Job Cost: **$1,059.86**
Total Job Cost: **$3,180**
Job Hours: **10.00**