



COLORADO

Division of Reclamation,
Mining and Safety

Department of Natural Resources

1313 Sherman Street, Room 215
Denver, CO 80203

August 2, 2017

Ms. Josephine Bassi
2046 Lake Avenue
Pueblo, CO 81004

Re: North Farm Road Gravel Pit, Permit No.M-2000-110, Notice of Surety Increase, SI-01

Dear Ms. Bassi,

The Division of Reclamation, Mining and Safety (DRMS) has reviewed the financial warranty as part of the succession of operator application process. DRMS staff has determined the revised required reclamation cost to be \$26,992.24.

The succession of operator request cannot be approved until a reclamation bond in the amount of \$26,992.24 is submitted and accepted by the DRMS. If you have any questions placing a replacement financial warranty please contact Barbara Coria at (303) 866-3567 ext. 8148 or at barbara.coria@state.co.us.

If you need additional information, please contact me at the Division of Reclamation, Mining and Safety, Grand Junction Field Office, 101 S. 3rd St., Suite 301, Grand Junction, Colorado 81501, telephone no. 970.241.2042.

Sincerely,

Travis Marshall
Environmental Protection Specialist

ec: Richard Bassi, Bassi North Farm, LLC
Barbara Coria, DRMS

Enclosure: Updated Reclamation Cost Estimate



COST SUMMARY WORK

Task description: Bond Increase for Succession of Operator

Site: North Farm Road Gravel Pit

Permit Action: SI-01

Permit/Job#: M2000110

PROJECT IDENTIFICATION

Task #: 001

State: Colorado

Abbreviation: None

Date: 8/1/2017

County: Rio Grande

Filename: M110-001

User: THM

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Remove Concrete Debris	DEMOLISH	1	8.00	\$638.91
02a	Rough Grading	DOZER	1	12.77	\$2,449.00
03a	Rip Compacted Areas	RIPPER	1	4.74	\$981.00
04a	Haul topsoil from stockpile for spreading	SCRAPER1	1	7.30	\$5,147.00
05a	Spread topsoil on graded areas	DOZER	1	6.49	\$1,342.00
06a	Revegetate Disturbed Area	REVEGE	1	8.00	\$6,556.00
07a	Mobilization	MOBILIZE	1	2.50	\$3,492.00
<u>SUBTOTALS:</u>				49.8	\$20,606

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02
Performance bond: 1.05
Job superintendent: 24.90
Profit: 10.00

Total = \$416.24

Total = \$216.36

Total = \$1,818.95

Total = \$2,060.60

TOTAL O & P = \$4,512.15

CONTRACT AMOUNT (direct + O & P) = \$25,118.15

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): 0.00

Total = 0.00

Engineering work and/or contract/bid preparation: 0.00

Total = \$0.00

Reclamation management and/or administration: 5.00

\$1,255.91

CONTINGENCY: 3.00

Total = \$618.18

TOTAL INDIRECT COST = \$6,386.24

TOTAL BOND AMOUNT (direct + indirect) = \$26,992.24

DEMOLITION WORK

Task description: Remove Concrete Debris

Site: North Farm Road Gravel Pit

Permit Action: SI-01

Permit/Job#: M2000110

PROJECT IDENTIFICATION

Task #: 01A

State: Colorado

Abbreviation: None

Date: 8/1/2017

County: Rio Grande

Filename: M110-01a

User: THM

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 89.00 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Demo. fuel containment structure	15x15x3 ft, 6" thick	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 50 ft. push	405.00	SF	\$0.60	\$241.38
Offsite disposal of fuel cont. structure	10 CY	Loading and 5 mile haul, salvage allowed - Masonry structures	10.00	CY	\$10.35	\$103.50
Offsite disposal of general debris	20 CY	Loading and 5 mile haul, salvage allowed - Wood frame structures	20.00	CY	\$18.65	\$373.00

Job Hours: 8.00

Subtotal
(unadjusted): \$717.88

Total Cost
(adjusted for location): \$638.91

BULLDOZER WORKTask description: Rough GradingSite: North Farm Road Gravel PitPermit Action: SI-01Permit/Job#: M2000110**PROJECT IDENTIFICATION**Task #: 02AState: ColoradoAbbreviation: NoneDate: 8/1/2017County: Rio GrandeFilename: M110-02aUser: THMAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D8T - 8SUHorsepower: 310Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$83.81	NA
Operating Cost/Hour:	\$66.17	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.85	NA

Total unit Cost/Hour: \$191.83Total Fleet Cost/Hour: \$191.83**MATERIAL QUANTITIES**Initial Volume: 5,082Swell factor: 1.165Loose volume: 5,921 LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 65 feetUnadjusted hourly production: 1,170.3 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: -5 %Average site altitude: 7,640 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth**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:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3963

Adjusted unit production: 463.79 LCY/hr

Adjusted fleet production: 463.79 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.414/LCY

Total job time: 12.77 Hours

Total job cost: \$2,449

BULLDOZER RIPPING WORK

Task description: Rip Compacted Areas

Site: North Farm Road Gravel Pit

Permit Action: SI-01

Permit/Job#: M2000110

PROJECT IDENTIFICATION

Task #: 03A

State: Colorado

Abbreviation: None

Date: 8/1/2017

County: Rio Grande

Filename: M110-03a

User: THM

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:	\$83.81	NA
Operating Cost/Hour:	\$66.17	100
Ripper Ownership Cost/Hour:	\$7.55	NA
Ripper Operating Cost/Hour:	\$7.21	100
Operator Cost/Hour:	\$41.85	NA
Total Unit Cost/Hour:	\$206.59	
Total Fleet Cost/Hour:	\$206.59	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA

Bank Volume: NA

BCY

NA

Area: 3.15 acres

Rip Depth (ft): 1.50

Volume: 7,623

BCY or CCY

Source of estimated quantity: TR-01 Application

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth:	<u>2.56</u>	mph
Average Ripping Width:	<u>7.08</u>	degrees
Average Ripping Length:	<u>300.00</u>	feet
Average Dozer Speed:	<u>88.00</u>	feet
Average Maneuver Time:	<u>0.25</u>	feet
Production per unit area:	<u>0.800</u>	acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.800 Acres/hr

Site Altitude: 7,640 feet

Altitude Adj: 1.00 (CAT HB)

Job Efficiency: 0.83 (1 shift/day)

Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.66 Acres/hr

Adjusted Hourly Fleet Production: 0.66 Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s)

Total job time: 4.75 Hours

Unit cost: \$311.305 Per acre

Total job cost: \$981

SCRAPER TEAM WORKTask description: Haul topsoil from stockpile for spreadingSite: North Farm Road Gravel PitPermit Action: SI-01Permit/Job#: M2000110**PROJECT IDENTIFICATION**Task #: 04AState: ColoradoAbbreviation: NoneDate: 8/1/2017County: Rio GrandeFilename: M110-04aUser: THMAgency 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:	NA
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	NA	NA	NA
Ownership cost/hour:	\$99.75	\$83.81	NA	NA	NA	NA
Operating cost/hour:	\$118.23	\$66.17	NA	NA	NA	NA
%Utilization-ripper:	NA	100	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$7.55	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$7.21	NA	NA	NA	NA
Operator cost/hour:	\$31.26	\$41.85	NA	NA	NA	NA
Unit Subtotals:	\$249.24	\$206.59	NA	NA	NA	NA
Number of Units:	2	1	0	0	0	0
Group Subtotals:	Work: \$705.07	Support: \$0.00	Maint: \$0.00			

Total work team cost/hour: **\$705.07****MATERIAL QUANTITIES**Initial volume: 4,358

CCY

Swell factor: 1.000Loose volume: 4,358

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight: 2,550 lbs/LCY
 Material description: Earth - Dry packed
 Rated Payload: 52,800 pounds
 Payload Capacity: 20.71 LCY

Struck Volume: 15.70 LCY
 Heaped Volume: 22.00 LCY
 Average Volume: 18.85 LCY
 Adjusted Capacity: 18.85 LCY

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

Site Altitude: 7640 feet

	Scraper	Push Dozer	Source
Altitude Adj:	0.960	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.797	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	0.84

Haul Time: 0.84 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	0.00	5.00	5.00	2814	0.68

Return Time: 0.68 minutesTotal Scraper team cycle time: 3.02 minutesAdjusted for job conditions: 596.96 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 596.96 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 596.96 LCY/HourUnadjusted unit production/hour: 749.01 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: 7.30 HoursUnit cost: \$1.181 /LCY Total job cost: \$5,147

BULLDOZER WORKTask description: Spread topsoil on graded areasSite: North Farm Road Gravel PitPermit Action: SI-01Permit/Job#: M2000110**PROJECT IDENTIFICATION**Task #: 05AState: ColoradoAbbreviation: NoneDate: 8/1/2017County: Rio GrandeFilename: M110-05aUser: THMAgency 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:	<u>\$83.81</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$66.17</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$7.55</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$7.21</u>	<u>100</u>
Operator Cost/Hour:	<u>\$41.85</u>	<u>NA</u>

Total unit Cost/Hour: \$206.59Total Fleet Cost/Hour: \$206.59**MATERIAL QUANTITIES**Initial Volume: 4,901Swell factor: 1.000Loose volume: 4,901 LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 50 feetUnadjusted hourly production: 1,400.0 LCY/hrMaterials consistency description: Loose stockpile 1.2Average push gradient: 0 %Average site altitude: 7,640 feetMaterial weight: 2,550 lbs/LCYWeight description: Earth - Dry packed**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>1.200</u>	<u>(CAT HB)</u>
Dozing method:	<u>1.000</u>	<u>(GEN.)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5390

Adjusted unit production: 754.60 LCY/hr
Adjusted fleet production: 754.6 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.274/LCY

Total job time: 6.49 Hours
Total job cost: \$1,342

REVEGETATION WORKTask description: Revegetate Disturbed AreaSite: North Farm Road Gravel PitPermit Action: SI-01Permit/Job#: M2000110**PROJECT IDENTIFICATION**Task #: 06AState: ColoradoAbbreviation: NoneDate: 8/1/2017County: Rio GrandeFilename: M110-06aUser: THMAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	200.00	pound	\$0.34	\$68.00
			Total Fertilizer Materials Cost/Acre	\$68.00

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$144.62
Total Fertilizer Application Cost/Acre	\$144.62

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$106.29
Total Tilling Cost/Acre	\$106.29

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Crested Wheatgrass - Ephraim	5.50	25.25	\$20.19
Russian Wildrye - Bozoiaky	1.00	4.02	\$6.33
Streambank Wheatgrass - Sodar	1.00	3.26	\$6.09
Western Wheatgrass - Arriba	3.00	7.58	\$24.24
Totals Seed Mix	10.50	40.11	\$56.85

Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$232.00

Total Seed Application Cost/Acre	\$232.00
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MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$261.00	\$522.00
Total Mulch Materials Cost/Acre				\$522.00

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$66.02
Power mulcher (MEANS 32 91 13.16 0350)	\$99.32
Total Mulch Application Cost/Acre	\$165.34

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:	4.05	Cost /Acre:	\$1,295.10
Estimated Failure Rate:	25%	Cost /Acre*:	\$1,295.10
*Selected Replanting Work Items:	FERTILIZING,TILLING,SEEDING,MU LCHING		
Initial Job Cost:	\$5,245.16		
Reseeding Job Cost:	\$1,311.29		
Total Job Cost:	\$6,556		
Job Hours:	8.00		

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: MobilizationSite: North Farm Road Gravel PitPermit Action: SI-01Permit/Job#: M2000110**PROJECT IDENTIFICATION**Task #: 07AState: ColoradoAbbreviation: NoneDate: 8/1/2017County: Rio GrandeFilename: M110-07aUser: THMAgency 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:**

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	\$16.63	\$18.37	\$22.33
Operating Cost/Hour:	\$44.38	\$46.13	\$50.07
Operator Cost/Hour:	\$27.66	\$27.66	\$27.66
Helper Cost/Hour:	\$0.00	\$25.39	\$25.39
Total Unit Cost/Hour:	\$88.67	\$117.55	\$125.45

NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D8T - 8SU	47.71	\$83.81	\$117.55	1	\$201.36	\$117.55	\$250.00
Cat 627G w/push-pull	43.48	\$99.75	\$117.55	1	\$217.30	\$117.55	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$12.22	\$88.67	1	\$100.89	\$88.67	\$250.00
Power Mulcher (Bowie LD-90)	6.00	\$7.03	\$88.67	1	\$95.70	\$88.67	\$250.00

Subtotals: **\$615.25** **\$412.44** **\$1,000.00****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	\$19.43	1	\$19.43	\$19.43

Subtotals: **\$19.43** **\$19.43**

EQUIPMENT HAUL DISTANCE and Time

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

Total Non-Roadable Mob/Demob Cost *	\$3,487.42
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	\$4.86
** one round trip, no haul rig:	

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
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Total job cost:	\$3,492
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