

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

1313 Sherman Street, Room 215 Denver, Colorado 80203

January 29, 2019

Karl Nyquist Prowers Aggregate Operators, LLC 7991 Shaffer Parkway, Suite 200 Littleton, CO 80127

Re: West Farm Pit, Permit No. M-2008-078, 112c Permit Amendment Application (Revision No. AM-01), Adequacy Review No. 3

Mr. Nyquist:

The Division of Reclamation, Mining and Safety (Division) has completed its adequacy review of your response submitted via email on January 24, 2019. The Division has calculated a reclamation bond (see enclosed estimate) for the proposed operation based on the mining and reclamation plans provided in the above referenced application.

The Division has the following clarification regarding a discrepancy between the Division's bond estimate and the operator's bond estimate:

1) The Division's bond estimate includes costs for reclaiming all proposed disturbance in Phases 5-12 in the North Mining Area (85.46 acres). This is in contrast to the operator's bond estimate for Phases 5-12, which only includes costs for reclaiming pit slopes (above water line) for the proposed second reservoir. The reclamation bond must include costs for reclaiming the proposed maximum disturbance for the site. Once the second reservoir has been fully excavated and is ready for water storage, the operator may request a Surety Reduction for Phases 5-12, to only include costs for reclaiming the pit slopes above water line (as with the Phase 1-4 reservoir).

Please review the enclosed estimate and submit any comments at your earliest convenience. If the Division receives no comments from you by the application decision date of **February 4, 2019**, and no extension of the decision date has been requested by that time, the application will be approved with the required financial warranty set at the amount provided in the estimate, \$1,849,793.00.

If you have any questions, you may call me at (303) 866-3567, ext. 8129, or email me at <u>amy.eschberger@state.co.us</u>.

Sincerely,

any Eschberger

Amy Eschberger Environmental Protection Specialist

January 29, 2019 West Farm Pit, Permit No. M-2008-078 Page **2** of **2**

Encl: Division's Bond Estimate

Cc: J.C. York J&T Consulting, Inc. 305 Denver Avenue, Suite D Fort Lupton, CO 80621



COST SUMMARY WORK

]	Fask descrip	otion:	Cost Summar	·у			
Site:	West Far	rm Pit		Permit Action:	AM-01 Bond Estimate	Permit/Job#	: <u>M2008078</u>
<u>P</u>]	ROJECT	IDENTIFIC	CATION				
	Task #:	000	State	e: Colorado		Abbreviation:	None
	Date:	1/18/2019	County	Prowers		Filename:	M078-000
	User:	AME					

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form	Fleet	Task Hours	Cost
001	DescriptionWest wash plant/sediment pond area; Backfill sediment	Used SCRAPER1	Size	14.65	\$12,169.00
001	ponds	SCRAPERI	1	14.03	\$12,109.00
002	West wash plant/sed pond area; Rip ground	RIPPER	1	13.82	\$3,113.00
002	West wash plant/sed point area; Replace topsoil	SCRAPER1	1	13.82	\$13,901.00
003	West wash plant/sediment pond area; Revegetate	REVEGE	1	8.87	\$14,974.00
004	Scale house/land west; Rip ground	RIPPER	2	19.61	\$8,833.00
005	Scale house/land west, Replace topsoil	SCRAPER1	1	41.13	\$48,712.00
000	Scale house/land west; Revegetate	REVEGE	1	26.76	\$45,175.00
007	Scale house/fand west; Revegetate	RIPPER	2	8.47	\$3,816.00
008	South stockpile area; Replace topsoil				
010		SCRAPER1 REVEGE	1	17.73	\$14,729.00
	South stockpile area; Revegetate		1	11.56	\$19,515.00
011	Stockpile/sediment pond area-Ph 13; Backfill sediment ponds	SCRAPER1	1	23.79	\$28,177.00
012	Stockpile/sediment pond area-Ph 13; Rip ground	RIPPER	2	10.61	\$4,783.00
013	Stockpile/sediment pond area-Ph 13; Replace topsoil	SCRAPER1	1	11.11	\$13,160.00
014	Stockpile/sediment pond area-Ph 13; Revegetate	REVEGE	1	14.49	\$24,462.00
015	Stockpile areas, Phases 14-17; Rip ground	RIPPER	2	39.81	\$17,933.00
016	Stockpile areas, Phases 14-17; Replace topsoil	SCRAPER1	1	57.89	\$68,554.00
017	Stockpile areas, Phases 14-17; Revegetate	REVEGE	1	54.33	\$91,718.00
018	Phases 1-4 reservoir slopes; Replace topsoil	SCRAPER1	1	16.05	\$13,334.00
019	Phases 1-4 reservoir slopes; Revegetate	REVEGE	1	5.01	\$8,458.00
020	Phases 5-12, north mining area; Rip ground	RIPPER	2	62.62	\$28,208.00
021	Phases 5-12, north mining area; Replace topsoil	SCRAPER1	1	97.73	\$115,733.00
022	Phases 5-12, north mining area; Revegetate	REVEGE	1	85.46	\$144,271.00
023	North disturbed area/roadside ditch; Revegetate	REVEGE	1	3.09	\$5,216.00
024	Parking area; Revegetate	REVEGE	1	3.16	\$5,335.00
025	Parcel B; Rip ground	RIPPER	2	17.07	\$7,688.00
026	Parcel B; Replace topsoil	SCRAPER1	1	20.41	\$24,176.00
027	Parcel B; Revegetate	REVEGE	1	23.05	\$38,890.00
028a	20% slurry wall, phases 1-4, 2,725 LF (N & W sides) x \$79	NA	1	0.00	\$215,275.00
028b	20% slurry wall, phases 5-7, 9-12, 6,625 LF x \$68	NA	1	0.00	\$450,500.00
029	Mobilization/Demobilization	MOBILIZE	1	18.11	\$53,918.00
		SUBT	OTALS:	738.13	\$1,544,726

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$31,203.47
Performance bond:	1.05	Total =	\$16,219.62
Job superintendent:	200.00	Total =	\$14,610.00
Profit:	10.00	Total =	\$154,472.60
		TOTAL O & P =	\$216,505.69
		CONTRACT AMOUNT (direct + O & P) = $($	\$1,761,231.69

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	500.00	Total =	500.00
Engineering work and/or contract/bid preparation:	0.00	Total =	\$0.00
Reclamation management and/or administration:	5.00		\$88,061.58
CONTINGENCY:	0.00	Total =	\$0.00
	TOTAL IN	DIRECT COST =	\$305,067.27
TOTAL BO	ND AMOUNT (d	irect + indirect) =	\$1,849,793.27

Site: West Farm Pit		Permit Action:	AM-01 Bond Est	imate Perr	nit/Job#: <u>M200</u>)8078
PROJECT IDEN	TIFICATION					
Task #: 001	St	ate: Colorado		Abbrev	viation: None	
Date: 1/18/2	2019 Cour	nty: Prowers		File	ename: M078	-001
User: AME						
Agency or	organization name:	DRMS				
HOURLY EQU	PMENT		COSTShi	ft basis: <u>1 per da</u>	ay	
		Equipme	ent Description			
		raper: Cat 637	'G			
Supr	-L ort Equipment -Load	Dozer: NA	R DS XR Series II			
Supp	-Dump		R DS XR Series II			
Road M	aintenance – Motor G	rader: CAT 10	5M			
. <u></u>	-Water 7	Truck: Water	Fanker, 3,500 Gal.			
Cost Breakdown:	Scraper Work	Team	Support Equipr	nent	Maintenance	Fauinme
<u>Cost Dicakuowii</u> .	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water
%Utilization-machine:	100	NA	100	100	50	
Ownership cost/hour:		NA	\$61.41	\$61.41	\$77.19	
Operating cost/hour:		NA	\$54.22	\$54.22	\$31.67	
%Utilization-ripper:		NA	NA	NA	NA	
Ripper own. cost/hour:	NA	NA	\$0.00	\$0.00	\$0.00	
Ripper op. cost/hour:	NA	NA	\$0.00	\$0.00	\$0.00	
Operator cost/hour:	\$31.05	NA	\$41.52	\$41.52	\$28.69	
Unit Subtotals:	\$353.51	NA	\$157.15	\$157.15	\$137.55	
Number of Units:	1	0	1	1	1	
Group Subtotals:	Work:	\$353.51	Support:	\$314.30	Maint:	\$16
Total work team co	st/hour: <u>\$830.76</u>					
MATERIAL QU	ANTITIES					
Initial volume		CCY	Swell facto	r: 1.125		
Loose volume	: 6,913	LCY				
	urce of estimated volu					
Source	of estimated swell fa	ctor: Cat Hand	dbook			
HOURLY PROI	DUCTION					
			Scraper Boy	vl (volume) Basi	<u>s:</u>	
Material weight			Struck V	olume: 24.00		.CY
Material description	Decomposed rock 75% Earth	- 25% Rock,	Heaped V	olume: 34.00	Ι	.CY
						~ .
Rated Payload	81,600 pounds		Average V	olume: 29.00	L	.CY

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 3600 feet

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

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	1800.00	0.00	3.00	3.00	2800	0.91

Haul Time: 0.91 minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1800.00	0.00	3.00	3.00	2949	0.75

Return Time:	0.75	minutes
Total Scraper team cycle time:	3.06	minutes
Adjusted for job conditions:	471.96	LCY/Hour
Selected Number of Scrapers:	1	Scraper(s)
Adjusted single scraper team (unit) hourly production:	471.96	LCY/Hour
Adjusted multiple scraper team (fleet) hourly production:	471.96	LCY/Hour
Use diverse device and easting the same 560 62 LOV/Hours		

Unadjusted unit production/hour: 568.63 LCY/Hour Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size:	1	Team(s)	Total job time:	14.65	Hours
Unit cost:	\$1.760	/LCY	Total job cost:	\$12,169	

BULLDOZER RIPPING WORK

	Task description:	West wash plant/sediment	pond area; Rip gro	ound		
Site	: West Farm Pi	t Permit Action	: AM-01 Bond Est	timate Perm	nit/Job#: <u>M20</u>	008078
	PROJECT ID	ENTIFICATION				
	Task #:002		0	Abbrev	iation: None	;
		8/2019 County: Prowers		File	ename: M078	8-002
	User: <u>AN</u>					
	Agency	or organization name: DRMS				
	HOURLY EQ	UIPMENT COST				
	Basic 1	Machine: Cat D8T - 8SU		Horsepower:	310	
	Ripper Att	achment:3-Shank Ripper		Shift Basis:	1 per day	
				Data Source:	(CRG)	
	Cost Breakdown:		I	Jtilization %		
		Ownership Cost/Hour:	\$93.62	NA		
		Operating Cost/Hour:	\$73.35	100		
		er Ownership Cost/Hour:	\$8.93	NA		
	Кірг	Deer Operating Cost/Hour: Operator Cost/Hour:	\$7.78 \$41.52	100 NA		
		Total Unit Cost/Hour:	\$225.20			
		Total Fleet Cost/Hour: \$2	25.20			
	MATERIAL C	DUANTITIES Se	elected estimating m	ethod: Area		
	Alternate Method	<u>ls:</u>				
Seismic:	NA	Bank Volume:	NA	BCY	NA	
Area:	8.87	acres Rip Depth (ft):	2.00	Volume: 28,6	521	BCY or CO
		Source of estimated quantity: <u>AM-</u>	01 materials			
	HOURLY PRO	<u>DDUCTION</u>				
	Seismic:					
		Seismic Velocity:	NA	feet/second	I	
	Area:					
		Average Ripping Depth:	2.56	mph		
		Average Ripping Width:	7.08	degrees		
		Average Ripping Length: Average Dozer Speed:	200.00 88.00	feet feet		
		Average Maneuver Time:	0.25	feet		
		Production per unit area:	0.773	acres/hour		
	Job Condition Co	prrection Factors				
	Un	adjusted Hourly Unit Production:	0.773	Acres/hr		
		Site Altitude:	3,600	feet		
		Altitude Adj:	1.00	(CAT HB)		
		Job Efficiency:	0.83	(1 shift/day	1)	
		Net Correction:	0.83	multiplier		
		Adjusted Hourly Unit Production		Acres/hr		
		Adjusted Hourly Fleet Production	n: 0.64	Acres/hr		
	JOB TIME AN	ND COST				
	Fleet size:	1 Grader(s)	Total job time:	13.8	32	Hours
	Unit cost:	\$350.941 Per acre	Total job cost:	\$3,1	13	
			-			

Task # 003

Page 1 of 2

Site: West Farm Pit		Permit	Action:	AM-01 Bond Es	stimate Perr	mit/Job#: <u>M2008</u>	3078
PROJECT IDE	NTIFICATION						
Task #: 003	S	State: 0	Colorado		Abbrev	viation: None	
		unty: I	Prowers		File	ename: M078-0)03
User: <u>AM</u>							
Agency of	or organization name:	DRM	S				
HOURLY EQU	IPMENT_			COSTSI	nift basis: <u>1 per d</u>	ay	
			Equipme	ent Description			
		craper:	Cat 637	7G			
Sur	- port Equipment -Load	Dozer:	NA Cat D7	R DS XR Series II	-		
	-Dumj	p Area:	Cat D7	R DS XR Series II			
Road I	Aaintenance – Motor (CAT 1				
	-Water	Truck:	Water	Fanker, 3,500 Gal.			
Cost Breakdown	Scraper Wor	rk Team		Support Equip	oment	Maintenance	Equipment
	Scraper	Doz	zer	Load Area	Dump Area	Motor Grader	Water Tru
%Utilization-machine	: 100		NA	100	100	50	
Ownership cost/hour	: \$155.61		NA	\$61.41	\$61.41	\$77.19	\$12
Operating cost/hour	: \$166.86		NA	\$54.22	\$54.22	\$31.67	\$13
%Utilization-ripper	: NA		NA	NA	NA	NA]
Ripper own. cost/hour			NA	\$0.00	\$0.00	\$0.00	\$0
Ripper op. cost/hour			NA	\$0.00	\$0.00	\$0.00	\$0
Operator cost/hour			NA	\$41.52	\$41.52	\$28.69	\$0
Unit Subtotals			NA	\$157.15	\$157.15	\$137.55	\$25
Number of Units		\$707	0	1	1	1	¢1.60.05
Group Subtotals	: Work:	\$707	/.02	Support:	\$314.30	Maint:	\$162.95
Total work team c <u>MATERIAL Q</u> Initial volum			CCY	Swell fact	or: 1.215		
Loose volum			LCY	5 wen faet			
	ource of estimated vo e of estimated swell f		AM-01 Cat Han	materials dbook			
HOURLY PRO	DUCTION						
				Scraper Bo	owl (volume) Basi	<u>s:</u>	
Material weigh					Volume: 24.00		CY
	~ ~			TT 1 1	7.1	T /	CY
Material description Rated Payloa				Heaped V Average V			CY

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 3600 feet

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

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	3100.00	0.00	3.00	3.00	2800	1.31

Haul Time: **1.31** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	3100.00	0.00	3.00	3.00	2949	1.19
				Return Time:	1.19	minutes
			Total Scrape	er team cycle time:	3.90	minutes
			Adjusted	for job conditions:	370.31	LCY/Hour
			Selected Nu	umber of Scrapers:	2	Scraper(s)
	Adjuste	d single scrap	er team (unit)	hourly production:	740.62	LCY/Hour
	Adjusted n	nultiple scrap	er team (fleet)	hourly production:	740.62	LCY/Hour
Optima	Unadjusted unit pro al Number of Scrapers pe			LCY/Hour		
JOB T	ME AND COST					
	t size: 1	Team(s)	-	otal job time:	11.74	Hours

Unit cost: \$1.599 /LCY

Total job cost: \$13,901

REVEGETATION WORK

r	Fask descrip	tion:	West wash plan	t/sediment p	ond area; Revegetate		
Site:	West Fari	n Pit	Pe	rmit Action:	AM-01 Bond Estimate	Permit/Job#	: <u>M2008078</u>
<u>P</u>	ROJECT I	DENTIFIC	CATION				
	Task #:	004	State:	Colorado		Abbreviation:	None
	Date:	1/18/2019	County:	Prowers		Filename:	M078-004
	User:	AME					

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)	\$106.29
Total Tilling Cost/Acre	\$106.29

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	3.00	48.97	\$49.98
Alkali Sacaton	1.50	58.54	\$43.50
Switchgrass - Blackwell	4.00	35.72	\$39.24
Buffalograss - Texoka	6.00	5.79	\$81.84
Sideoats Grama - Vaughn	9.00	29.55	\$92.16
Western Wheatgrass - Arriba	16.00	40.40	\$132.48
Totals Seed Mix	39.50	218.96	\$439.20

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
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$576.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
Weed spray, truck, aquatic area, annuals [DMG]		\$27.96
Weed spray, truck, aquatic area, nox. [DMG]		\$70.14
	Total Mulch Application Cost/Acre	\$166.88

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	8.87	Cost /Acre:	\$1,520.37
Estimated Failure Rate:	25%	Cost /Acre*:	\$671.20
*Selected Replanting Work Items:	SEEDING		
L. W. 1 L. 1. C			

Initial Job Cost:	\$13,485.68
Reseeding Job Cost:	\$1,488.39
Total Job Cost:	\$14,974
Job Hours:	8.87

BULLDOZER RIPPING WORK

	Task description:	Scale hous	e/land west; Rip g	round			
Site:	: West Farm Pit	;	Permit Action:	AM-01 Bond Es	stimate Permi	t/Job#: <u>M2</u>	008078
	PROJECT IDE	NTIFICATION					
	Task #: 005		State: Colorado		Abbrevia		
			unty: Prowers		Filer	ame: M07	8-005
	User: AM						
	Agency	or organization name	DRMS				
	HOURLY EQU	JIPMENT COST					
	Basic M	Machine: Cat D8T	- 8SU		Horsepower:	310	
	Ripper Atta	chment: <u>3-Shank</u>	Ripper		Shift Basis:	1 per day	
					Data Source:	(CRG)	
	Cost Breakdown:						
		Ownership Cost/Ho	ur.	\$93.62	Utilization % NA		
		Operating Cost/Ho		\$73.35	100		
		r Ownership Cost/Ho			NA		
	Ripp	er Operating Cost/Ho Operator Cost/Ho		\$7.78 \$41.52	100 NA		
		Total Unit Cost/Ho		\$225.20	NA		
		Total Fleet Cost/Ho	ur: \$45	0.40			
	MATERIAL Q	<u>UANTITIES</u>	Sel	ected estimating n	nethod: Area		
	Alternate Method	<u>s:</u>					
mic:	NA		Bank Volume:	NA	BCY	NA	
rea:	26.76	acres	Rip Depth (ft):	2.00	Volume: 86,34		BCY or
		Source of estimated	quantity: AM-0	l materials			
	HOURLY PRO						
		DUCTION					
	<u>Seismic:</u>	Seismi	c Velocity:	NA	feet/second		
		Seisiil	c velocity	NA			
	<u>Area:</u>	A	in a Dantha	2.56	1.		
		Average Ripp Average Ripp		2.56 7.08	mph degrees		
		Average Ripp		500.00	feet		
		Average D		88.00	feet		
		Average Mane		0.25	feet		
		Production pe	er unit area:	0.822	acres/hour		
	Job Condition Con	rrection Factors					
	Una	djusted Hourly Unit	Production:	0.822	Acres/hr		
		Si	te Altitude:	3,600	feet		
			titude Adj:	1.00	(CAT HB)		
			Efficiency:	0.83	(1 shift/day)		
		Net	Correction:	0.83	multiplier		
		Adjusted Hourl	y Unit Production:	0.68	Acres/hr		
			Fleet Production:	1.36	Acres/hr		
	JOB TIME AN	D COST					
	Fleet size:		der(s)	Total job time:	19.61	l	Hours
	Fleet size:	Gra	der(s) acre	Total job time: Total job cost:			Hours

Site: West Farm Pit		Permit Act	ion:	AM-01 Bond Estir	nate Peri	nit/Job#:	M2008	078
PROJECT IDEN	FIFICATION							
Task #: 006	S	tate: Color	rado		Abbrev	viation:	None	
Date: 1/18/2	019 Cou	nty: Prow	vers		Fil	ename:	M078-0	06
User: <u>AME</u>								
Agency or	organization name:	DRMS						
HOURLY EQUIE	MENT_			COSTShift	basis: <u>1 per d</u>	ay		
				ent Description				
		1	t 637	G				
Suppo	- rt Equipment -Load	Dozer: NA		R DS XR Series II				
Suppo	-Dump			R DS XR Series II				
Road Ma	intenance – Motor C	Grader: CA	AT 16					
	-Water	Truck: Wa	ater T	Fanker, 3,500 Gal.				
Cost Breakdown:	Scraper Wor	k Team		Support Equipm	ent	Main	tenance E	Equipment
	Scraper	Dozer			Dump Area	Motor		Water Tr
%Utilization-machine:	100	N	JA	100	100		50	
Ownership cost/hour:	\$155.61	Ň	ΝA	\$61.41	\$61.41		\$77.19	\$1
Operating cost/hour:	\$166.86	N	JА	\$54.22	\$54.22		\$31.67	\$13
%Utilization-ripper:	NA	N	ΝA	NA	NA		NA	
Ripper own. cost/hour:	NA	N	ΝA	\$0.00	\$0.00		\$0.00	\$0
Ripper op. cost/hour:	NA	N	ΝA	\$0.00	\$0.00		\$0.00	\$0
Operator cost/hour:	\$31.05	N	ΝA	\$41.52	\$41.52		\$28.69	\$0
Unit Subtotals:	\$353.51	N	ΝA	\$157.15	\$157.15	\$	137.55	\$2
Number of Units:	2		0	1	1		1	
Group Subtotals:	Work:	\$707.02		Support:	\$314.30		Maint:	\$162.9
Total work team cost	/hour: \$1,184.27							
MATERIAL QUA	<u>INTITIES</u>							
Initial volume:	21,586	CC		Swell factor:	1.215			
Loose volume:	26,227	LCY	Y					
	rce of estimated vol		-	naterials				
Source	of estimated swell fa	actor: Cat	Hanc	lbook				
HOURLY PROD	UCTION							
				Scraper Bow	(volume) Bas	is:		
Material weight:	1,600 lbs/LCY			Struck Vo	lume: 24.00		LC	Y
Material description:	Top Soil			Heaped Vo				
Rated Payload:	81,600 pounds			Average Vo			LC	
Payload Capacity:	51.00 LCY			Adjusted Cap	acity: 29.00		LC	I

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 3600 feet

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

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	4000.00	0.00	3.00	3.00	2800	1.63

Haul Time: **1.63** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	4000.00	0.00	3.00	3.00	2949	1.50
				Return Time:	1.50	minutes
			Total Scrape	er team cycle time:	4.53	minutes
			Adjusted	for job conditions:	318.81	LCY/Hour
	Selected Number of Scrapers:					Scraper(s)
	Adjusted single scraper team (unit) hourly production:				637.62	LCY/Hour
	Adjusted m	nultiple scrap	er team (fleet)	hourly production:	637.62	LCY/Hour
Optima	Unadjusted unit pro al Number of Scrapers pe			LCY/Hour		
JOB TI	IME AND COST					
Flee	t size: 1	Team(s)	Т	otal job time:	41.13	Hours

Unit cost: \$1.857 /LCY

Total job cost: ______\$48,712

REVEGETATION WORK

Task descri	ption:	Scale house/land	Scale house/land west; Revegetate			
Site: West Fa	rm Pit	Per	mit Action:	AM-01 Bond Estimate	Permit/Job#	t: <u>M2008078</u>
	<u>IDENTIFIC</u>					
Task #:	007	State:	Colorado		Abbreviation:	None
Date:	1/18/2019	County:	Prowers		Filename:	M078-007
User:	AME					

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)	\$106.29
Total Tilling Cost/Acre	\$106.29

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	3.00	48.97	\$49.98
Alkali Sacaton	1.50	58.54	\$43.50
Switchgrass - Blackwell	4.00	35.72	\$39.24
Buffalograss - Texoka	6.00	5.79	\$81.84
Sideoats Grama - Vaughn	9.00	29.55	\$92.16
Western Wheatgrass - Arriba	16.00	40.40	\$132.48
Totals Seed Mix	39.50	218.96	\$439.20

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
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$576.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
Weed spray, truck, aquatic area, annuals [DMG]		\$27.96
Weed spray, truck, aquatic area, nox. [DMG]		\$70.14
	Total Mulch Application Cost/Acre	\$166.88

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	26.76	Cost /Acre:	\$1,520.37
Estimated Failure Rate:	25%	Cost /Acre*:	\$671.20
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$40,685.10
Reseeding Job Cost:	\$4,490.33
Total Job Cost:	\$45,175
Job Hours:	26.76

BULLDOZER RIPPING WORK

Site:	: West Farm P	it	Permit Action:	AM-01 Bond Es	stimate Pe	rmit/Job#:	: M2008078	3
		ENTIFICATION						
					A 1. 1		News	
	Task #: 00 Date: 1/1		State: Colorado County: Prowers			eviation: ilename:	None M078-008	
	User: AN				1	nename.	1070-000	
		or organization nam	-					_
	HOURLY EQ	UIPMENT COST						
	Basic	Machine: Cat D8	T - 8SU		Horsepower:		310	
	Ripper Att	tachment: <u>3-Shan</u>	k Ripper		Shift Basis:		per day	
					Data Source:	(CRG)	
	Cost Breakdown	<u>:</u>						
			.		Utilization %			
		Ownership Cost/I		\$93.62	NA 100			
	Rinn	Operating Cost/I er Ownership Cost/I		\$73.35 \$8.93	100 NA			
		per Operating Cost/I		\$7.78	100			
	P	Operator Cost/I		\$41.52	NA			
		Total Unit Cost/I		\$225.20				
		Total Fleet Cost/I	Hour: \$45	0.40				
			10ul. \$43					
	MATERIAL (<u>JUANTITIES</u>	Sele	ected estimating n	nethod: Area			
	Alternate Method	ds:						
mic:	NA		Bank Volume:	NA	BCY		NA	
Area:	11.56	acres	Rip Depth (ft):	2.00	Volume: 3	7,300	E	BCY or
		Source of estimate	d quantity: AM-01	materials				
	HOURLY PR	ODUCTION						
	Seismic:	Soia	mia Valooitu:	NIA	faat/saas	nd		
		Sels	mic Velocity:	NA	feet/seco	ma		
	Area:							
			pping Depth:	2.56	mph			
			pping Width: pping Length:	7.08 500.00	degrees			
			Dozer Speed:	88.00	feet feet			
			neuver Time:	0.25	feet			
			per unit area:	0.822	acres/ho	ur		
	Job Condition Co	orrection Factors						
				0.922	A			
	Ur	nadjusted Hourly Un	It Production:	0.822	Acres/hr			
			Site Altitude:	3,600	feet			
			Altitude Adj:	1.00	(CAT H			
			b Efficiency:	0.83	(1 shift/c	•		
		N	et Correction:	0.83	multiplie			
			urly Unit Production:	0.68	Acres/hr			
		Adjusted Hou	rly Fleet Production:	1.36	Acres/hr			
	JOB TIME AN	ND COST						
	Fleet size:	2 G	rader(s)	Total job time:	. 8	3.47	Hour	s
	-							
	Unit cost:	\$330.074 P	er acre	Total job cost:		6,816		

Site: West Farm Pit		Permit	Action:	AM-01 Bond Est	imate Perr	nit/Job#: <u>M200</u>	8078
PROJECT IDEN	TIFICATION						
Task #: 009	S	State: (Colorado		Abbrev	viation: None	
Date: 1/18/		unty: I	Prowers		File	ename: M078-	009
User: <u>AME</u>							
Agency of	organization name:	DRM	S				
HOURLY EQUI	PMENT_			COSTShi	ift basis: <u>1 per d</u>	ay	
			Fauinme	ent Description			
	-5	Scraper:	Cat 637	•			
		-Dozer:	NA Oct D7				
Supp	ort Equipment -Loa -Dum	d Area: p Area:		R DS XR Series II R DS XR Series II			
Road M	aintenance – Motor		CAT 16				
	-Water	Truck:	Water 7	Fanker, 3,500 Gal.			
Cost Breakdown:	Scraper Wo	rk Team		Support Equip	ment	Maintenance	Equipmen
<u></u> _	Scraper	Doz	zer	Load Area	Dump Area	Motor Grader	Water 7
%Utilization-machine:	100		NA	100	100	50	
Ownership cost/hour:	\$155.61		NA	\$61.41	\$61.41	\$77.19	\$
Operating cost/hour:	\$166.86		NA	\$54.22	\$54.22	\$31.67	\$
%Utilization-ripper:	NA		NA	NA	NA	NA	
Ripper own. cost/hour:	NA		NA	\$0.00	\$0.00	\$0.00	
Ripper op. cost/hour:	NA		NA	\$0.00	\$0.00	\$0.00	
Operator cost/hour:			NA	\$41.52	\$41.52	\$28.69	
Unit Subtotals:	\$353.51		NA	\$157.15	\$157.15	\$137.55	\$
Number of Units:	1	 • • • • •	0	1	1	1	¢1.c2
Group Subtotals:	Work:	\$353	3.51	Support:	\$314.30	Maint:	\$162.
Total work team co <u>MATERIAL QU</u> Initial volume Loose volume Sc	ANTITIES : 9,325	lume.	CCY LCY AM-01 n	Swell facto	or: <u>1.215</u>		
	of estimated swell t		Cat Hand				
				Scraper Boy	wl (volume) Basi	<u>s:</u>	
Material weight				Struck V Heaped V	olume: 24.00	L	CY CY
Material description Rated Payload				Average V			CY

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 3600 feet

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

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	750.00	0.00	3.00	3.00	2800	0.47

Haul Time: **0.47** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	750.00	0.00	3.00	3.00	2949	0.39
				Return Time:	0.39	minutes
			Total Scrap	er team cycle time:	2.26	minutes
			Adjusted	l for job conditions:	639.03	LCY/Hour
			Selected N	lumber of Scrapers:	1	Scraper(s)
	Adjuste	d single scra	per team (unit)	hourly production:	639.03	LCY/Hour
	Adjusted n	nultiple scrap	per team (fleet)	hourly production:	639.03	LCY/Hour
Optim	Unadjusted unit pro al Number of Scrapers pe			LCY/Hour		
JOB T	IME AND COST					
Flee	t size: 1	Team(s)		Total job time:	17.73	Hours
Uni	t cost: \$1.300	/LCY		Total job cost:	\$14,729	

REVEGETATION WORK

Task description:		South stockpile area; Revege	etate		
Site: West	Farm Pit	Permit Action:	AM-01 Bond Estimate	Permit/Job#	: M2008078
PROJE	CT IDENTIFIC	ATION			
Task	x #: 010	State: Colorado		Abbreviation:	None
Da	ate: 1/18/2019	County: Prowers		Filename:	M078-010
Us	er: AME				

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)	\$106.29
Total Tilling Cost/Acre	\$106.29

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	3.00	48.97	\$49.98
Alkali Sacaton	1.50	58.54	\$43.50
Switchgrass - Blackwell	4.00	35.72	\$39.24
Buffalograss - Texoka	6.00	5.79	\$81.84
Sideoats Grama - Vaughn	9.00	29.55	\$92.16
Western Wheatgrass - Arriba	16.00	40.40	\$132.48
Totals Seed Mix	39.50	218.96	\$439.20

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
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$576.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
Weed spray, truck, aquatic area, annuals [DMG]		\$27.96
Weed spray, truck, aquatic area, nox. [DMG]		\$70.14
	Total Mulch Application Cost/Acre	\$166.88

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	11.56	Cost /Acre:	\$1,520.37
Estimated Failure Rate:	25%	Cost /Acre*:	\$671.20
*Selected Replanting Work Items:	SEEDING		
Initial Lab Coate \$17 575 49			

Initial Job Cost:	\$17,575.48
Reseeding Job Cost:	\$1,939.77
Total Job Cost:	\$19,515
Job Hours:	11.56

Page 1 of 2

Site: West Farm Pit		Permit	Action:	AM-01 Bond E	stimate Per	rmit/Job#:	M20080	078
PROJECT IDEN	TIFICATION							
Task #: 011	S	State: C	olorado		Abbre	eviation: N	None	
Date: 1/18/20)19 Co	unty: P	rowers		Fi	ilename: N	A078-01	11
User: AME								
Agency or o	organization name:	DRMS	5					
HOURLY EQUIP	MENT			COSTS	hift basis: <u>1 per o</u>	<u>day</u>		
			Equipme	ent Description				
		craper:	Cat 637					
Suppo	rt Equipment -Loa	-Dozer:	NA Cat D7	R DS XR Series I	T			
Suppo		p Area:		R DS XR Series I				
Road Ma	intenance – Motor	Grader:	CAT 10	5M				
	-Water	Truck:	Water 7	Fanker, 3,500 Gal	l.			
Cost Breakdown:	Scraper Wo	rk Team		Support Equi	nment	Mainte	nance E	auinme
<u>Cost Dicundown</u> .	Scraper	Doz	er	Load Area	Dump Area	Motor Gr		Water
%Utilization-machine:	100		NA	100	100		50	
Ownership cost/hour:	\$155.61		NA	\$61.41	\$61.41	\$7	7.19	
Operating cost/hour:	\$166.86		NA	\$54.22	\$54.22		31.67	
%Utilization-ripper:	NA		NA	NA	NA		NA	
Ripper own. cost/hour:	NA		NA	\$0.00	\$0.00	\$	60.00	
Ripper op. cost/hour:	NA		NA	\$0.00	\$0.00	\$	60.00	
Operator cost/hour:	\$31.05		NA	\$41.52	\$41.52	\$2	28.69	
Unit Subtotals:	\$353.51		NA	\$157.15	\$157.15	\$13	37.55	
Number of Units:	2		0	1	1		1	
Group Subtotals:	Work:	\$707	.02	Support:	\$314.30	М	laint:	\$16
Total work team cost	/hour: \$1,184.27							
MATERIAL QUA	NTITIES							
Initial volume:	17,655		CCY	Swell fac	tor: 1.125			
Loose volume:	19,862		LCY					
Sou	rce of estimated vo			naterials				
Source of	of estimated swell f	factor:	Cat Hand	dbook				
HOURLY PROD	UCTION							
v				Scraper B	owl (volume) Ba	sis:		
Material weight:	2,650 lbs/LCY			-			LC	Y
Material description:		ed rock - 25% Rock, Heaped Volume: 34.00				LC		
Rated Payload:	81,600 pounds				Volume: 29.00			
Payload Capacity:	30.79 LCY			Adjusted (Capacity: 29.00		LC	Y

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 3600 feet

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

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	2375.00	0.00	3.00	3.00	2800	1.12

Haul Time: 1.12 minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2375.00	0.00	3.00	3.00	2949	0.94

Return Time:	0.94	minutes
Total Scraper team cycle time:	3.46	minutes
Adjusted for job conditions:	417.40	LCY/Hour
Selected Number of Scrapers:	2	Scraper(s)
Adjusted single scraper team (unit) hourly production:	834.80	LCY/Hour
Adjusted multiple scraper team (fleet) hourly production:	834.80	LCY/Hour
Unadjusted whit mechanics (hours 502.80 LCV/Hours		

Unadjusted unit production/hour: 502.89 LCY/Hour Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size:	1	Team(s)	Total job time:	23.79	Hours
Unit cost:	\$1.419	/LCY	Total job cost:	\$28,177	_

BULLDOZER RIPPING WORK

	Task description:	Stock	pile/sediment pond are	a-Ph 13; Rip grou	und		
Site	: West Farm Pi	it	Permit Action:	AM-01 Bond Est	imate Permit/Jol	b#: <u>M2008078</u>	8
	PROJECT ID	ENTIFICATIO	<u>DN</u>				
	Task #: 012		State: Colorado		Abbreviatior	-	
		8/2019	County: Prowers		Filename	e: M078-012	
	User: AN	4E					
	Agency	or organization	name: DRMS				
	HOURLY EQ	UIPMENT CO	<u>ST</u>				
	Basic	Machine: Cat	 D8T - 8SU]	Horsepower:	310	
	Ripper Att		ank Ripper			1 per day	
			**]	Data Source:	(CRG)	
	Cost Breakdown:	:					
	<u>cost Diviliao (m</u>	-		U	tilization %		
		Ownership Co		\$93.62	NA		
		Operating Co		\$73.35	100		
		er Ownership Co		\$8.93	NA		
	Ripp	per Operating Co		\$7.78	100		
		Operator Co Total Unit Co		\$41.52 \$225.20	NA		
		Total Unit Co		\$225.20			
		Total Fleet Co	st/Hour: \$450).40			
	MATERIAL (Alternate Method			ected estimating m			
smic: Area:	NA 14.49	0.0700	Bank Volume: Rip Depth (ft):	NA 2.00	BCY Volume: 46,754	NA	
Alea.	14.47	acres	ated quantity: AM-01		volume. <u>40,734</u>	L	
	HOURLY PRO		eismic Velocity:	NA	feet/second		
	A		·				
	<u>Area:</u>	Average	e Ripping Depth:	2.56	mph		
			Ripping Width:	7.08	degrees		
			Ripping Length:	500.00	feet		
			ge Dozer Speed:	88.00	feet		
			Maneuver Time:	0.25	feet		
		Product	on per unit area:	0.822	acres/hour		
	Job Condition Co	prrection Factors					
	Un	adjusted Hourly	Unit Production:	0.822	Acres/hr		
			Site Altitude:	3,600	feet		
			Altitude Adj:	1.00	(CAT HB)		
			Job Efficiency:	0.83	(1 shift/day)		
			Net Correction:	0.83	multiplier		
		Adjusted l	Hourly Unit Production:	0.68	Acres/hr		
			Iourly Fleet Production:	1.36	Acres/hr		
	JOB TIME AN	ND COST					
	Fleet size:	2			10 (3	Hour	
		2	Grader(s)	Total job time:	10.62	Hour	8
	Unit cost:	\$330.074	Grader(s) Per acre	Total job time: Total job cost:	\$4,783	Hour	8

Task # 013

Page 1 of 2

Site: West Farm Pit		Permit	Action:	AM-01 B	ond Es	stimate	Pern	nit/Job#:	M2008	8078
PROJECT IDE	NTIFICATION									
Task #: 013	S	tate: (Colorado				Abbrev	viation:	None	
Date: 1/18			Prowers				File	ename:	M078-0)13
User: AMI	Ξ									
Agency of	or organization name:	DRM	S							
HOURLY EQU	IPMENT			С	OSTSł	ift basis:	<u>1 per da</u>	a <u>y</u>		
			Equipme	nt Descript	tion					
	-S	craper:	Cat 637							
		Dozer:	NA							
Sup	port Equipment -Loac Dumr-			R DS XR S R DS XR S						
Road N	Jaintenance – Motor C		CAT 16							
	-Water			anker, 3,50	00 Gal.					
<u>Cost Breakdown</u> :	Scraper Wor			Suppor Load Ar			A #2.2	Main Motor (Equipment Water Tı
	Scraper	Doz	zer	Load Al	ea	Dump .	Area	Motor	Grader	water 11
%Utilization-machine	: 100		NA		100		100		50	
Ownership cost/hour	: \$155.61		NA	\$6	1.41	\$	61.41		\$77.19	\$1
Operating cost/hour	: \$166.86		NA	\$5	4.22	\$	54.22		\$31.67	\$1
%Utilization-ripper	: NA		NA		NA		NA		NA	
Ripper own. cost/hour	: NA		NA	\$	0.00		\$0.00		\$0.00	\$
Ripper op. cost/hour	: NA		NA	\$	0.00		\$0.00		\$0.00	\$
Operator cost/hour	: \$31.05		NA	\$4	1.52	\$	41.52		\$28.69	\$
Unit Subtotals	: \$353.51		NA	\$15	7.15	\$1	57.15	\$	137.55	\$2
Number of Units			0		1		1		1	
Group Subtotals	: Work:	\$707	7.02	Supp	port:	\$314.	.30		Maint:	\$162.9
Total work team co	ost/hour: <u>\$1,184.27</u> J ANTITIES									
Initial volume Loose volume	e: 11,689		CCY LCY	Swe	ell fact	or: <u>1.2</u>	15			
	ource of estimated vo e of estimated swell f		AM-01 n Cat Hand							
HOURLY PRO	DUCTION									
				<u>Scra</u>	aper Bo	wl (volun	ne) Basi	s:		
Material weigh	t: 1,600 lbs/LCY			S	struck V	Volume:	24.00		LC	CY
Material description	n: Top Soil			He	eaped V	Volume:	34.00		LC	CY
Rated Payload						Volume:	29.00			
Payload Capacity	7: 51.00 LCY			Adjı	isted C	apacity:	29.00		LC	CY

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 3600 feet

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

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	750.00	0.00	3.00	3.00	2800	0.47

Haul Time: **0.47** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	750.00	0.00	3.00	3.00	2949	0.39
				Return Time:	0.39	minutes
			1	per team cycle time:	2.26	minutes
				l for job conditions:	639.03	LCY/Hour
	Adjusto	d single sore		Number of Scrapers:) hourly production:	1,278.05	Scraper(s) LCY/Hour
	5	U	• • • • •) hourly production:	1,278.05	LCY/Hour
Optim	Unadjusted unit pro al Number of Scrapers pe			LCY/Hour		
JOB T	IME AND COST					
Flee	et size:1	Team(s)		Total job time:	11.11	Hours
Uni	t cost: \$0.927	/LCY		Total job cost:	\$13,160	

REVEGETATION WORK

Task description: S		Stockpile/sedim	Stockpile/sediment pond area-Ph 13; Revegetate					
Site:	West Farm	n Pit	Pe	rmit Action:	AM-01 Bond Estimate	Permit/Job#	: <u>M2008078</u>	
<u>P</u>]	ROJECT II	DENTIFIC	ATION					
	Date:	014 1/18/2019 AME	State: County:	Colorado Prowers			None M078-014	
	Agen	cy or organi	zation name: DF	RMS				

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)	\$106.29
Total Tilling Cost/Acre	\$106.29

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	3.00	48.97	\$49.98
Alkali Sacaton	1.50	58.54	\$43.50
Switchgrass - Blackwell	4.00	35.72	\$39.24
Buffalograss - Texoka	6.00	5.79	\$81.84
Sideoats Grama - Vaughn	9.00	29.55	\$92.16
Western Wheatgrass - Arriba	16.00	40.40	\$132.48
Totals Seed Mix	39.50	218.96	\$439.20

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
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$576.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
Weed spray, truck, aquatic area, annuals [DMG]		\$27.96
Weed spray, truck, aquatic area, nox. [DMG]		\$70.14
	Total Mulch Application Cost/Acre	\$166.88

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	14.49	Cost /Acre:	\$1,520.37
Estimated Failure Rate:	25%	Cost /Acre*:	\$671.20
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$22,030.16
Reseeding Job Cost:	\$2,431.42
Total Job Cost:	\$24,462
Job Hours:	14.49

BULLDOZER RIPPING WORK

	Task description:	: Stockp	ile areas,	Phases 14-1	7; Rip ground				
Site	: West Farm P	it	Per	mit Action:	AM-01 Bond E	Estimate P	ermit/Job#:	M200807	78
	PROJECT ID	ENTIFICATIO	N						
	Task #: 01: Date: 1/1 User: AN	8/2019	State: County:	Colorado Prowers			reviation: Filename:	None M078-015	5
	Agency	or organization na	ime: DF	RMS					
	HOURLY EO	UIPMENT COS	т						
			8T - 8SU			Horsepower:		310	
	Ripper Att		nk Ripper			Shift Basis:		er day	
						Data Source:	((CRG)	
	Cost Breakdown	<u>:</u>			I	TT.'1' .' 0/			
		Ownership Cost	/Hour		\$93.62	Utilization % NA			
		Operating Cost			\$73.35	100	_		
		er Ownership Cost			\$8.93	NA	_		
	Rip	per Operating Cost Operator Cost			\$7.78 \$41.52	100 NA	_		
		Total Unit Cost			\$225.20	INA	-		
				4 4 7					
		Total Fleet Cost	Hour:	\$45	0.40				
	MATERIAL (<u>DUANTITIES</u>		Sele	ected estimating	method: Are	a		
	Alternate Method	ds:							
ismic:	NA		Ban	k Volume:	NA	BCY		NA	
Area:	54.33	acres	Rip	Depth (ft):	2.00	Volume:	175,305		BCY of
		Source of estima	ted quantit	ty: AM-01	l materials				
	HOURLY PR	ODUCTION							
	Seismic:								
	<u></u>	Sei	ismic Velo	city:	NA	feet/sec	cond		
	Area:								
			Ripping D		2.56	mph			
			Ripping W		7.08	degrees	5		
		Average R	ipping Lei e Dozer Sp	·	500.00 88.00	feet feet			
		Average M			0.25	feet			
		0	n per unit		0.822	acres/h	our		
	Job Condition Co	orrection Factors							
	Un	adjusted Hourly U	nit Produc	tion:	0.822	Acres/h	nr		
			Site Alti		3,600	feet			
			Altitude		1.00	(CAT I			
			Job Efficie Net Correc		0.83	(1 shift multipl			
		Adjusted Ho Adjusted Ho		Production: Production:	0.68 1.36	Acres/hr Acres/hr			
	IOR TIME AN	•		110000000000000000000000000000000000000	1.50	/ 10100/111			
	JOB TIME AN Fleet size:		Grader(s)		Total job time	2:	39.82	Ηοι	ırs
	_				-			1130	-
	Unit cost:	\$330.074	Per acre		Total job cos	t: \$	17,933		

Task # 016

Page 1 of 2

ite: West Farm Pit		mit Action:	AM-01 Bond Estin	mate Pern	nit/Job#: <u>M200</u>	8078
PROJECT IDENT						
Task #: 016	State:	Colorado		Abbrev		016
Date: <u>1/18/201</u> User: AME	19 County:	Prowers		F116	ename: M078-	-016
	ganization name: DF	RMS				
HOURLY EQUIPM			COSTShif	t basis: <u>1 per d</u> a	av	
<u>HOURET EQUIT</u>		Equipme		t basis. <u>1 per u</u>	<u>uy</u>	
	-Scraper		ent Description			
	-Dozei	r: NA				
Support	t Equipment -Load Area		R DS XR Series II			
Road Mair	-Dump Area ntenance –Motor Grader		R DS XR Series II			
	-Water Truck		Fanker, 3,500 Gal.			
			~			
<u>Cost Breakdown</u> :	Scraper Work Tea Scraper I	m Dozer	Support Equipm Load Area	ent Dump Area	Maintenance Motor Grader	Equipment Water Tr
	-			-		
%Utilization-machine:	100	NA	100	100	50	
Ownership cost/hour:	\$155.61	NA	\$61.41	\$61.41	\$77.19	\$12
Operating cost/hour:	\$166.86	NA	\$54.22	\$54.22	\$31.67	\$1
%Utilization-ripper:	NA	NA	NA	NA	NA	
Ripper own. cost/hour:	NA	NA	\$0.00	\$0.00	\$0.00	\$
Ripper op. cost/hour:	NA	NA	\$0.00	\$0.00	\$0.00	\$
Operator cost/hour:	\$31.05	NA	\$41.52	\$41.52	\$28.69	\$
Unit Subtotals:	\$353.51	NA	\$157.15	\$157.15	\$137.55	\$2
Number of Units:	2 W. 1	0	1	1	1	¢1(C) ()
Group Subtotals:	work: \$	/07.02	Support:	\$314.30	Maint:	\$162.9
Number of Units: Group Subtotals: Total work team cost/f MATERIAL QUAI	Work: \$' hour: \$1,184.27	0 707.02	Support:	1 \$314.30	l Maint:	\$162
Initial volume:	43,826 53,249	CCY LCY	Swell factor	: 1.215		
Loose volume:						
Source	ce of estimated volume: f estimated swell factor:					
Source	f estimated swell factor:					
Source of	f estimated swell factor:		lbook	l (volume) Basi	<u>s:</u>	
Source of Source of <u>HOURLY PRODU</u>	f estimated swell factor:		lbook		L	CY
Source of Source of <u>HOURLY PRODU</u> Material weight: Material description:	f estimated swell factor: I <u>CTION</u>		lbook <u>Scraper Bow</u>	blume: 24.00 blume: 34.00	L	CY CY CY

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 3600 feet

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

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	2000.00	0.00	3.00	3.00	2800	0.92

Haul Time: **0.92** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2000.00	0.00	3.00	3.00	2949	0.82
				Return Time:	0.82 r	ninutes
			Total Scrape	r team cycle time:	3.14	minutes
			Adjusted f	or job conditions:	459.94	LCY/Hour
			Selected Nu	mber of Scrapers:	2	Scraper(s)
	Adjusted	l single scrap	er team (unit) h	ourly production:	919.87	LCY/Hour
	Adjusted m	ultiple scrap	er team (fleet) h	ourly production:	919.87	LCY/Hour
Optima	Unadjusted unit pro Il Number of Scrapers pe			LCY/Hour		
JOB TI	ME AND COST					
Fleet	t size: 1	Team(s)	Te	otal job time:	57.89	Hours

 Unit cost:
 \$1.287
 /LCY
 Total job cost:
 \$68,554

REVEGETATION WORK

Task description:		Stockpile areas, Phases 14-17; Revegetate				
Site: West F	arm Pit	Per	mit Action:	AM-01 Bond Estimate	Permit/Job	#: <u>M2008078</u>
<u>PROJEC</u>	<u>T IDENTIFIC</u>	<u>CATION</u>				
Task #	: 017	State:	Colorado		Abbreviation:	None
	: 1/18/2019	County:	Prowers		Filename:	M078-017
Date	. 1/16/2019	County.	110 wers		i nename.	1010/001/

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)	\$106.29
Total Tilling Cost/Acre	\$106.29

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	3.00	48.97	\$49.98
Alkali Sacaton	1.50	58.54	\$43.50
Switchgrass - Blackwell	4.00	35.72	\$39.24
Buffalograss - Texoka	6.00	5.79	\$81.84
Sideoats Grama - Vaughn	9.00	29.55	\$92.16
Western Wheatgrass - Arriba	16.00	40.40	\$132.48
Totals Seed Mix	39.50	218.96	\$439.20

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
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$576.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
Weed spray, truck, aquatic area, annuals [DMG]		\$27.96
Weed spray, truck, aquatic area, nox. [DMG]		\$70.14
	Total Mulch Application Cost/Acre	\$166.88

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	54.33	Cost /Acre:	\$1,520.37
Estimated Failure Rate:	25%	Cost /Acre*:	\$671.20
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$82,601.70
Reseeding Job Cost:	\$9,116.57
Total Job Cost:	\$91,718
Job Hours:	54.33

Scraper Worksheet Cont'd

Task # 018

Page 1 of 2

Site: West Farm Pit		Permit	Action:	AM-01 Bond Est	imate Per	mit/Job#: <u>N</u>	1200807	78
PROJECT IDEN	<u>FIFICATION</u>							
Task #:018		tate: (Colorado		Abbre		one	
Date: $1/18/20$	019 Cou	nty: H	Prowers		Fil	ename: M	078-018	3
User: <u>AME</u>			~					
	organization name:	DRM	.5					
HOURLY EQUIP	<u>MENT</u>			COSTShi	ft basis: <u>1 per d</u>	ay		
				ent Description				
		craper: Dozer:	Cat 637 NA	/G				
Suppo	rt Equipment -Load			R DS XR Series II				
	-Dump			R DS XR Series II				
Road Ma	intenance –Motor G -Water		CAT 10	6M Гапкег, 3,500 Gal.				
	- water	TTUCK.	water	Talikel, 5,500 Gal.				
Cost Breakdown:	Scraper Worl			Support Equipm		Mainten		
	Scraper	Doz	zer	Load Area	Dump Area	Motor Gra	der	Water T
%Utilization-machine:	100		NA	100	100		50	
Ownership cost/hour:	\$155.61		NA	\$61.41	\$61.41	\$77	7.19	\$
Operating cost/hour:	\$166.86		NA	\$54.22	\$54.22	\$31	.67	\$
%Utilization-ripper:	NA		NA	NA	NA		NA	
Ripper own. cost/hour:	NA		NA	\$0.00	\$0.00	\$0	0.00	
Ripper op. cost/hour:	NA		NA	\$0.00	\$0.00	\$0	0.00	
Operator cost/hour:	\$31.05		NA	\$41.52	\$41.52	\$28	8.69	
Unit Subtotals:	\$353.51		NA	\$157.15	\$157.15	\$137	7.55	\$
Number of Units:	1		0	1	1		1	
Group Subtotals:	Work:	\$353	3.51	Support:	\$314.30	Ma	int:	\$162.
Total work team cost	/hour: <u>\$830.76</u>							
MATERIAL QUA	ANTITIES							
Initial volume:	4,042		CCY	Swell factor	r: <u>1.215</u>			
Loose volume:	4,911		LCY					
	rce of estimated vol		AM-01 I					
Source	of estimated swell fa	ictor:	Cat Hand	UUUUK				
HOURLY PROD	UCTION							
	_			Scraper Boy	vl (volume) Bas	is:		
Material weight:	1,600 lbs/LCY			Struck V			LCY	.
Material description:	Top Soil			Heaped V			- LCT	
Rated Payload:	81,600 pounds			Average V				
Payload Capacity:	51.00 LCY			Adjusted Ca	pacity: 29.00		LCY	

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 3600 feet

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

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	4280.00	0.00	3.00	3.00	2800	1.73

Haul Time: **1.73** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	4280.00	0.00	3.00	3.00	2949	1.59
				Return Time:	1.59	minutes
			Total Scrap	er team cycle time:	4.72	minutes
			Adjusted	for job conditions:	305.97	LCY/Hour
			Selected N	umber of Scrapers:	1	Scraper(s)
	Adjuste	d single scra	per team (unit)	hourly production:	305.97	LCY/Hour
	Adjusted m	nultiple scrap	per team (fleet)	hourly production:	305.97	LCY/Hour
Optima	Unadjusted unit pro- al Number of Scrapers pe			LCY/Hour		
JOB T	IME AND COST					
Flee	t size: 1	Team(s)]	Fotal job time:	16.05	Hours

Unit cost: \$2.715 /LCY

Total job cost: ______\$13,334_____

REVEGETATION WORK

Task descr	iption:	Phases 1-4 reser	voir slopes;	Revegetate		
Site: West Fa	rm Pit	Per	rmit Action:	AM-01 Bond Estimate	Permit/Job#	: M2008078
PROJECT	<u>IDENTIFIC</u>	ATION				
Task #:	019	State:	Colorado		Abbreviation:	None
Date:	1/18/2019	County:	Prowers		Filename:	M078-019
User:	AME					

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)	\$106.29
Total Tilling Cost/Acre	\$106.29

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	3.00	48.97	\$49.98
Alkali Sacaton	1.50	58.54	\$43.50
Switchgrass - Blackwell	4.00	35.72	\$39.24
Buffalograss - Texoka	6.00	5.79	\$81.84
Sideoats Grama - Vaughn	9.00	29.55	\$92.16
Western Wheatgrass - Arriba	16.00	40.40	\$132.48
Totals Seed Mix	39.50	218.96	\$439.20

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

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$576.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
Weed spray, truck, aquatic area, annuals [DMG]		\$27.96
Weed spray, truck, aquatic area, nox. [DMG]		\$70.14
	Total Mulch Application Cost/Acre	\$166.88

NURSERY STOCK PLANTING

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

No. of Acres:	5.01	Cost /Acre:	\$1,520.37
Estimated Failure Rate:	25%	Cost /Acre*:	\$671.20
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$7,617.05
Reseeding Job Cost:	\$840.68
Total Job Cost:	\$8,458
Job Hours:	5.01

BULLDOZER RIPPING WORK

	Task description	: Phases	5-12, north mining ar	ea; Rip ground	<u>l</u>		
Site:	: West Farm Pi	it	Permit Action:	AM-01 Bond E	Estimate Pern	nit/Job#: <u>M2</u>	2008078
	PROJECT ID	ENTIFICATIO	N				
	Task #: 020	0	State: Colorado		Abbrev	iation: Nor	ne
		8/2019	County: Prowers		File	ename: M0	78-020
	User: AN	AE					
	Agency	or organization n	ame: DRMS				
	HOURLY EQ	UIPMENT COS	<u>ST</u>				
	Basic	Machine: Cat D	98T - 8SU		Horsepower:	310	
	Ripper Att	tachment: 3-Sha	ank Ripper		Shift Basis:	1 per da	
					Data Source:	(CRG)	
	Cost Breakdown	<u>.</u>					
		~ ~	~~	* • • • •	Utilization %		
		Ownership Cos Operating Cos		\$93.62 \$73.35	<u>NA</u> 100		
	Rinn	er Ownership Cos		\$8.93	<u> </u>		
		per Operating Cos		\$7.78	100		
		Operator Cos		\$41.52	NA		
		Total Unit Cos	t/Hour:	\$225.20			
		Total Fleet Cos	t/Hour: \$450	.40			
	MATERIAL (· · · · · · · · · · · · · · · · · · ·		.1 1 4		
			Sele	cted estimating	method: Area		
	Alternate Method	ds:					
smic:	NA		Bank Volume:	NA	BCY	NA	DCU
Area:	85.46	acres	Rip Depth (ft):	2.00	Volume: 275	5,751	BCY or 0
		Source of estimation	ted quantity: <u>AM-01</u>	materials			
	HOURLY PR	ODUCTION					
	Seismic:						
	<u></u>	Se	ismic Velocity:	NA	feet/second	d	
	Area:						
	<u>nica.</u>	Average	Ripping Depth:	2.56	mph		
		Average	Ripping Width:	7.08	degrees		
			Ripping Length:	500.00	feet		
			e Dozer Speed:	88.00	feet		
			Ianeuver Time: on per unit area:	0.25 0.822	feet acres/hour		
				0.822			
	Job Condition Co						
	Un	nadjusted Hourly U	Init Production:	0.822	Acres/hr		
			Site Altitude:	3,600	feet		
			Altitude Adj:	1.00	(CAT HB)		
			Job Efficiency: Net Correction:	0.83	(1 shift/da multiplier	y)	
					•		
			ourly Unit Production:	0.68	Acres/hr		
		Adjusted Ho	ourly Fleet Production:	1.36	Acres/hr		
	JOB TIME AN	ND COST					
	Fleet size:	2	Grader(s)	Total job time	e: <u>62.</u>	63	Hours
	Unit cost:	\$330.074	Per acre	Total job cos	t: \$28,	208	
		ψ550.074		10101 100 008	φ 40 ,	200	

Page 1 of 2

SCRAPER TEAM WORK

	viation: <u>None</u> ename: <u>M078-</u>	021
User: AME Agency or organization name: DRMS HOURLY EQUIPMENT COSTShift basis: 1 per d		
HOURLY EQUIPMENT COSTShift basis: 1 per display the format of the series		
Equipment Description -Scraper: Cat 637G NA Support Equipment -Load Area: Cat D7R DS XR Series II Cot A1 00 O		
Equipment Description -Scraper: .Dozer: NA Support Equipment -Load Area: Cat D7R DS XR Series II .Dump Area: Cat D7R DS XR Series II Cost Breakdown: Scraper Work Team Support Equipment .Water Truck: Water Tanker, 3,500 Gal. Cost Breakdown: Scraper Work Team Support Equipment .Water Truck: Water Tanker, 3,500 Gal. Cost Breakdown: Scraper Work Team Support Equipment .Water Truck: Water Tanker, 3,500 Gal. .Water Truck: Water Tanker, 3,500 Gal. .Water Truck: Water Tanker, 3,500 Gal.	av	
-Scraper: Cat 637G NA NA Support Equipment -Load Area: Cat D7R DS XR Series II -Dump Area: Cat D7R DS XR Series II Road Maintenance -Motor Grader: CAT 16M -Water Truck: Water Tanker, 3,500 Gal. Cost Breakdown: Scraper Vork -Water Truck: Vater Tanker, 3,500 Gal. Cost Breakdown: Scraper Work Team Scraper Dozer Load Area Dump Area %Utilization-machine: 100 100 NA 900 \$0.00 900 \$155.61 9100 NA 9100 <td></td> <td></td>		
-Dozer: NA Support Equipment -Load Area: Cat D7R DS XR Series II -Dump Area: Cat D7R DS XR Series II Cat Dad Area Dump Area Matter and Series Mathematics O I NA		
-Dump Area:Cat D7R DS XR Series IIRoad Maintenance – Motor Grader: -Water Truck:CAT 16M-Water Truck:Water Tanker, 3,500 Gal.Cost Breakdown:ScraperScraperDozerLoad AreaDump Area%Utilization-machine:100NA100Ownership cost/hour:\$155.61NA\$61.41Operating cost/hour:\$166.86NA\$54.22%Utilization-ripper:NANANARipper own. cost/hour:NANANASupport cost/hour:\$31.05NA\$41.52Statistic\$353.51Number of Units:201Group Subtotals:Work:Work:\$707.02Support:\$314.30Total work team cost/hour:\$1,184.27MATERIAL QUANTITIESInitial volume:68,938CCYSwell factor:1.215Loose volume:83,760LooseLCY		
Road Maintenance –Motor Grader: -Water Truck:CAT 16M Water Tanker, 3,500 Gal.Cost Breakdown:Scraper Work TeamSupport EquipmentScraperDozerLoad AreaDump Area%Utilization-machine:100NA100100Ownership cost/hour:\$155.61NA\$61.41\$61.41Operating cost/hour:\$166.86NA\$54.22\$54.22%Utilization-ripper:NANANANARipper own. cost/hour:NANA\$0.00\$0.00Ripper op. cost/hour:\$31.05NA\$41.52\$41.52Unit Subtotals:\$353.51NA\$157.15\$157.15Number of Units:2011Group Subtotals:Work:\$707.02Support:\$314.30Total work team cost/hour:\$1,184.27		
Water Truck: Water Tanker, 3,500 Gal. Cost Breakdown: Scraper Dozer Load Area Dump Area %Utilization-machine: 100 NA 100 100 Ownership cost/hour: \$155.61 NA \$61.41 \$61.41 Operating cost/hour: \$166.86 NA \$54.22 \$54.22 %Utilization-ripper: NA NA NA NA Ripper own. cost/hour: NA NA \$0.00 \$0.00 Ripper op. cost/hour: NA NA \$0.00 \$0.00 Operator cost/hour: \$31.05 NA \$41.52 \$41.52 Unit Subtotals: \$353.51 NA \$157.15 \$157.15 Number of Units: 2 0 1 1 Group Subtotals: Work: \$707.02 Support: \$314.30 Total work team cost/hour: \$1,184.27 Swell factor: 1.215 Loose volume: 68,938 CCY Swell factor: 1.215		
Cost Breakdown: Scraper Work Team Support Equipment Scraper Dozer Load Area Dump Area %Utilization-machine: 100 NA 100 100 Ownership cost/hour: \$155.61 NA \$61.41 \$61.41 Operating cost/hour: \$166.86 NA \$54.22 \$54.22 %Utilization-ripper: NA NA NA NA Ripper own. cost/hour: NA NA \$0.00 \$0.00 Ripper op. cost/hour: NA NA \$0.00 \$0.00 Operator cost/hour: \$31.05 NA \$41.52 \$41.52 Unit Subtotals: \$353.51 NA \$157.15 \$157.15 Number of Units: 2 0 1 1 Group Subtotals: Work: \$707.02 Support: \$314.30 Total work team cost/hour:: \$1,184.27		
Scraper Dozer Load Area Dump Area %Utilization-machine: 100 NA 100 100 Ownership cost/hour: \$155.61 NA \$61.41 \$61.41 Operating cost/hour: \$166.86 NA \$54.22 \$54.22 %Utilization-ripper: NA NA NA NA Ripper own. cost/hour: NA NA \$0.00 \$0.00 Ripper op. cost/hour: NA NA \$0.00 \$0.00 Operator cost/hour: \$31.05 NA \$41.52 \$41.52 Unit Subtotals: \$353.51 NA \$157.15 \$157.15 Number of Units: 2 0 1 1 Group Subtotals: Work: \$707.02 Support: \$314.30 Total work team cost/hour: \$1.184.27		
%Utilization-machine: 100 NA 100 100 Ownership cost/hour: \$155.61 NA \$61.41 \$61.41 Operating cost/hour: \$166.86 NA \$54.22 \$54.22 %Utilization-ripper: NA NA NA NA Ripper own. cost/hour: NA NA \$0.00 \$0.00 Ripper op. cost/hour: NA NA \$0.00 \$0.00 Operator cost/hour: NA NA \$0.00 \$0.00 Operator cost/hour: \$31.05 NA \$41.52 \$41.52 Unit Subtotals: \$353.51 NA \$157.15 \$157.15 Number of Units: 2 0 1 1 Group Subtotals: Work: \$707.02 Support: \$314.30 Total work team cost/hour: \$1,184.27	Maintenance	
Ownership cost/hour: \$155.61 NA \$61.41 \$61.41 Operating cost/hour: \$166.86 NA \$54.22 \$54.22 %Utilization-ripper: NA NA NA NA Ripper own. cost/hour: NA NA NA NA Ripper own. cost/hour: NA NA \$0.00 \$0.00 Ripper op. cost/hour: NA NA \$0.00 \$0.00 Operator cost/hour: \$31.05 NA \$41.52 \$41.52 Unit Subtotals: \$353.51 NA \$157.15 \$157.15 Number of Units: 2 0 1 1 Group Subtotals: Work: \$707.02 Support: \$314.30 Total work team cost/hour: \$1,184.27	Motor Grader	Water Tr
Operating cost/hour: \$166.86 NA \$54.22 \$54.22 %Utilization-ripper: NA NA NA NA Ripper own. cost/hour: NA NA NA \$0.00 \$0.00 Ripper op. cost/hour: NA NA \$0.00 \$0.00 Operator cost/hour: NA NA \$0.00 \$0.00 Operator cost/hour: \$31.05 NA \$41.52 \$41.52 Unit Subtotals: \$353.51 NA \$157.15 \$157.15 Number of Units: 2 0 1 1 Group Subtotals: Work: \$707.02 Support: \$314.30 Total work team cost/hour: \$1,184.27	50	-
%Utilization-ripper:NANANANARipper own. cost/hour:NANA\$0.00\$0.00Ripper op. cost/hour:NANA\$0.00\$0.00Operator cost/hour:\$31.05NA\$41.52\$41.52Unit Subtotals:\$353.51NA\$157.15\$157.15Number of Units:2011Group Subtotals:Work:\$707.02Support:\$314.30Total work team cost/hour:\$1,184.27	\$77.19	\$1
Ripper own. cost/hour: NA NA NA \$0.00 \$0.00 Ripper op. cost/hour: NA NA \$0.00 \$0.00 Operator cost/hour: \$31.05 NA \$41.52 \$41.52 Unit Subtotals: \$353.51 NA \$157.15 \$157.15 Number of Units: 2 0 1 1 Group Subtotals: Work: \$707.02 Support: \$314.30 Total work team cost/hour: \$1,184.27	\$31.67	\$1
NA NA NA \$0.00 \$0.00 Operator cost/hour: \$31.05 NA \$41.52 \$41.52 Unit Subtotals: \$353.51 NA \$157.15 \$157.15 Number of Units: 2 0 1 1 Group Subtotals: Work: \$707.02 Support: \$314.30 Total work team cost/hour: \$1,184.27	NA	
Operator cost/hour: \$31.05 NA \$41.52 \$41.52 Unit Subtotals: \$353.51 NA \$157.15 \$157.15 Number of Units: 2 0 1 1 Group Subtotals: Work: \$707.02 Support: \$314.30 Total work team cost/hour: \$1,184.27 MATERIAL QUANTITIES CCY Swell factor: 1.215 Loose volume: 83,760 LCY Swell factor: 1.215	\$0.00	\$0
Image: Note of the image: Note of Unit Subtotals: \$353.51 NA \$157.15 Number of Units: 2 0 1 1 Group Subtotals: Work: \$707.02 Support: \$314.30 Total work team cost/hour: \$1,184.27	\$0.00	\$
Number of Units: 2 0 1 1 Group Subtotals: Work: \$707.02 Support: \$314.30 Total work team cost/hour: \$1,184.27	\$28.69	\$
Group Subtotals: Work: \$707.02 Support: \$314.30 Total work team cost/hour: \$1,184.27 MATERIAL QUANTITIES Swell factor: 1.215 Initial volume: 68,938 CCY Swell factor: 1.215 Loose volume: 83,760 LCY Swell factor: 1.215	\$137.55	\$2:
Total work team cost/hour: \$1,184.27 MATERIAL QUANTITIES Initial volume: 68,938 CCY Swell factor: 1.215 Loose volume: 83,760 LCY Swell factor: 1.215	1	
MATERIAL QUANTITIESInitial volume:68,938CCYSwell factor:1.215Loose volume:83,760LCY	Maint:	\$162.9
Source of estimated volume: AM-01 materials		
Source of estimated swell factor: Cat Handbook		
HOURLY PRODUCTION		
Scraper Bowl (volume) Basi	<u>is:</u>	
Material weight: 1,600 lbs/LCY Struck Volume: 24.00		CY
Material description: Top Soil Heaped Volume: 34.00		CY
Rated Payload:81,600 poundsAverage Volume:29.00Payload Capacity:51.00 LCYAdjusted Capacity:29.00		CY CY

<u>0.80</u> Minutes

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 3600 feet

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

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	2345.00	0.00	3.00	3.00	2800	1.04

Haul Time: **1.04** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2345.00	0.00	3.00	3.00	2949	0.93
				Return Time:	0.93	minutes
			Total Scrape	r team cycle time:	3.37	minutes
			Adjusted f	for job conditions:	428.55	LCY/Hour
			Selected Nu	mber of Scrapers:	2	Scraper(s)
	Adjusted	d single scrap	er team (unit) h	ourly production:	857.09	LCY/Hour
	Adjusted m	ultiple scrap	er team (fleet) h	ourly production:	857.09	LCY/Hour
Optima	Unadjusted unit proo I Number of Scrapers pe		-	LCY/Hour		
	IME AND COST	Team(s)		otal job time:	97 73	Hours

Fleet size:	1	Team(s)	Total job time:	97.73	Hours
Unit cost:	\$1.382	/LCY	Total job cost:	\$115,733	

Task description: P		Phases 5-12, nor	Phases 5-12, north mining area; Revegetate			
ite: West Farm Pit		Pe	rmit Action:	AM-01 Bond Estimate	Permit/Job	#: <u>M2008078</u>
PROJECT	IDENTIFIC	CATION				
Task #:	022	State:	Colorado		Abbreviation:	None
Data	1/18/2019	County:	Prowers		Filename:	M078-022
Date:						

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)	\$106.29
Total Tilling Cost/Acre	\$106.29

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	3.00	48.97	\$49.98
Alkali Sacaton	1.50	58.54	\$43.50
Switchgrass - Blackwell	4.00	35.72	\$39.24
Buffalograss - Texoka	6.00	5.79	\$81.84
Sideoats Grama - Vaughn	9.00	29.55	\$92.16
Western Wheatgrass - Arriba	16.00	40.40	\$132.48
Totals Seed Mix	39.50	218.96	\$439.20

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

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$576.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
Weed spray, truck, aquatic area, annuals [DMG]		\$27.96
Weed spray, truck, aquatic area, nox. [DMG]		\$70.14
	Total Mulch Application Cost/Acre	\$166.88

NURSERY STOCK PLANTING

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

No. of Acres:	85.46	Cost /Acre:	\$1,520.37
Estimated Failure Rate:	25%	Cost /Acre*:	\$671.20
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost: \$129,930.82			

Initial Job Cost:	\$129,930.82
Reseeding Job Cost:	\$14,340.19
Total Job Cost:	\$144,271
Job Hours:	85.46

Task description:		North disturbed	North disturbed area/roadside ditch; Revegetate			
Site:	West Farm Pit	Pe	rmit Action:	AM-01 Bond Estimate	Permit/Job#	: M2008078
P	ROJECT IDENTIFI	CATION				
	Task #: 023 Date: 1/18/2019 User: AME	State: County:	Colorado Prowers			None M078-023
	User: AME Agency or organ	nization name:	RMS			

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)	\$106.29
Total Tilling Cost/Acre	\$106.29

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	3.00	48.97	\$49.98
Alkali Sacaton	1.50	58.54	\$43.50
Switchgrass - Blackwell	4.00	35.72	\$39.24
Buffalograss - Texoka	6.00	5.79	\$81.84
Sideoats Grama - Vaughn	9.00	29.55	\$92.16
Western Wheatgrass - Arriba	16.00	40.40	\$132.48
Totals Seed Mix	39.50	218.96	\$439.20

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

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$576.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
Weed spray, truck, aquatic area, annuals [DMG]		\$27.96
Weed spray, truck, aquatic area, nox. [DMG]		\$70.14
	Total Mulch Application Cost/Acre	\$166.88

NURSERY STOCK PLANTING

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

No. of Acres:	3.09	Cost /Acre:	\$1,520.37
Estimated Failure Rate:	25%	Cost /Acre*:	\$671.20
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$4,697.94
Reseeding Job Cost:	\$518.50
Total Job Cost:	\$5,216
Job Hours:	3.09

tion:	Parking area; R	evegetate			
m Pit	Per	rmit Action:	AM-01 Bond Estimate	Permit/Job	t: <u>M2008078</u>
		Colorado		Abbreviation	None
1/18/2019 AME	County:	Prowers		Filename:	M078-024
	024 1/18/2019	m Pit Per IDENTIFICATION 024 State: 1/18/2019 County:	m Pit Permit Action: IDENTIFICATION 024 State: 1/18/2019 County:	m Pit Permit Action: AM-01 Bond Estimate IDENTIFICATION O24 State: Colorado 1/18/2019 County: Prowers	m Pit Permit Action: AM-01 Bond Estimate Permit/Job# IDENTIFICATION O24 State: Colorado Abbreviation: 1/18/2019 County: Prowers Filename:

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)	\$106.29
Total Tilling Cost/Acre	\$106.29

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	3.00	48.97	\$49.98
Alkali Sacaton	1.50	58.54	\$43.50
Switchgrass - Blackwell	4.00	35.72	\$39.24
Buffalograss - Texoka	6.00	5.79	\$81.84
Sideoats Grama - Vaughn	9.00	29.55	\$92.16
Western Wheatgrass - Arriba	16.00	40.40	\$132.48
Totals Seed Mix	39.50	218.96	\$439.20

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

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$576.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
Weed spray, truck, aquatic area, annuals [DMG]		\$27.96
Weed spray, truck, aquatic area, nox. [DMG]		\$70.14
	Total Mulch Application Cost/Acre	\$166.88

NURSERY STOCK PLANTING

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

No. of Acres:	3.16	Cost /Acre:	\$1,520.37
Estimated Failure Rate:	25%	Cost /Acre*:	\$671.20
*Selected Replanting Work Items:	SEEDING	-	

Initial Job Cost:	\$4,804.37
Reseeding Job Cost:	\$530.25
Total Job Cost:	\$5,335
Job Hours:	3.16

BULLDOZER RIPPING WORK

<u>P</u>	West Farm Pit PROJECT IDENTI Task #: 025	Perm					
_			nit Action:	AM-01 Bond E	stimate Permit/J	ob#: <u>M20</u>	08078
H	Te ele #. 025	FICATION					
Ē	Task #: 025	State:	Colorado		Abbreviatio	on: None	
E	Date: 1/18/2019		Prowers		Filenan		
H	User: AME						
H	Agency or org	anization name: DR	MS				
	HOURLY EQUIPM	IENT COST					
	Basic Machi	ne: Cat D8T - 8SU			Horsepower:	310	
	Ripper Attachme				Shift Basis:	1 per day	
	Tupper Transmiss				Data Source:	(CRG)	
<u>C</u>	Cost Breakdown:						
					Utilization %		
		nership Cost/Hour:		\$93.62	NA		
		erating Cost/Hour:		\$73.35	100		
		nership Cost/Hour:		\$8.93	NA		
		erating Cost/Hour:		\$7.78	100		
		perator Cost/Hour:		\$41.52	NA		
	Tot	al Unit Cost/Hour:		\$225.20			
	Tota	al Fleet Cost/Hour:	\$450).40			
<u>N</u>	MATERIAL QUAN	TITIES	Sele	cted estimating 1	method: Area		
A	Alternate Methods:						
eismic:	NA	Bank	Volume:	NA	BCY	NA	
Area:			epth (ft):	2.00	Volume: 74,375	1111	BCY or CC
		ce of estimated quantity					
.			. <u>AM-01</u>	materials			
	HOURLY PRODUC	<u>CTION</u>					
<u>S</u>	beismic:						
		Seismic Veloc	ity:	NA	feet/second		
А	Area:						
	<u></u>	Average Ripping De	oth:	2.56	mph		
		Average Ripping Wi		7.08	degrees		
		Average Ripping Len		400.00	feet		
		Average Dozer Spe		88.00	feet		
		Average Maneuver Ti		0.25	feet		
		Production per unit a		0.813	acres/hour		
Jo	ob Condition Correction	on Factors					
Jo		on Factors ed Hourly Unit Product	ion:	0.813	Acres/hr		
Jo		ed Hourly Unit Product					
<u>J(</u>		ed Hourly Unit Product	ıde:	3,600	feet		
<u>J</u> (ed Hourly Unit Product Site Altitu Altitude A	ıde: Adj:	3,600 1.00	feet (CAT HB)		
<u>J</u> (ed Hourly Unit Product Site Altitu Altitude A Job Efficier	ıde: Adj:	3,600 1.00 0.83	feet (CAT HB) (1 shift/day)		
<u>](</u>		ed Hourly Unit Product Site Altitu Altitude A Job Efficier Net Correct	nde: Adj: hcy: ion:	3,600 1.00 0.83 0.83	feet (CAT HB) (1 shift/day) multiplier		
<u>J</u> (Unadjust	ed Hourly Unit Product Site Altitu Altitude A Job Efficier Net Correct Adjusted Hourly Unit F	ide: Adj: icy: ion: Production:	3,600 1.00 0.83 0.83 0.68	feet (CAT HB) (1 shift/day) multiplier Acres/hr		
<u>J</u> (Unadjust	ed Hourly Unit Product Site Altitu Altitude A Job Efficier Net Correct	ide: Adj: icy: ion: Production:	3,600 1.00 0.83 0.83	feet (CAT HB) (1 shift/day) multiplier		
	Unadjust	ed Hourly Unit Product Site Altitu Altitude A Job Efficier Net Correct Adjusted Hourly Unit H Adjusted Hourly Fleet H	ide: Adj: icy: ion: Production:	3,600 1.00 0.83 0.83 0.68	feet (CAT HB) (1 shift/day) multiplier Acres/hr		
	Unadjust	ed Hourly Unit Product Site Altitu Altitude A Job Efficier Net Correct Adjusted Hourly Unit H Adjusted Hourly Fleet H	ide: Adj: icy: ion: Production:	3,600 1.00 0.83 0.83 0.68	feet (CAT HB) (1 shift/day) multiplier Acres/hr Acres/hr		Hours

Page 1 of 2

SCRAPER TEAM WORK

Site: West Farm Pit		Permit	t Action:	AM-01 Bond Es	stimate Pe	rmit/Job#:	M2008	3078
PROJECT IDE	NTIFICATION							
Task #: 026	S	State: (Colorado		Abbr	eviation:	None	
Date: 1/18 User: AM		unty:]	Prowers		F	ilename:	M078-0)26
	or organization name:	DRM	IS					
HOURLY EQU	-			COSTS	nift basis: 1 per	dav		
<u>HOURLI EQU</u>			Equipmo		<u>111 00313. <u>1 per</u></u>	<u>uay</u>		
	-2	Scraper:	Cat 637	ent Description G				
		-Dozer:	NA Cat D7	R DS XR Series I	r			
Sup	port Equipment -Loa -Dum	p Area:		R DS XR Series II R DS XR Series II				
Road I	Aaintenance – Motor	Grader:	CAT 16	5M				
	-Water	Truck:	Water	Fanker, 3,500 Gal				
Cost Breakdown	Scraper Wo	rk Team		Support Equip	oment	Maiı	itenance	Equipmen
	Scraper	Do	zer	Load Area	Dump Area	Motor	Grader	Water 7
%Utilization-machine	: 100		NA	100	100		50	
Ownership cost/hour	: \$155.61		NA	\$61.41	\$61.41		\$77.19	\$
Operating cost/hour	: \$166.86		NA	\$54.22	\$54.22		\$31.67	\$
%Utilization-ripper			NA	NA	NA		NA	
Ripper own. cost/hour			NA	\$0.00	\$0.00		\$0.00	
Ripper op. cost/hour			NA	\$0.00	\$0.00		\$0.00	
Operator cost/hour			NA	\$41.52	\$41.52		\$28.69	
Unit Subtotals			NA	\$157.15	\$157.15	3	137.55	\$
Number of Units		\$707	0	1 Second sector	<u>¢214.20</u>		1 Mainti	¢1(2)
Group Subtotals		\$707	7.02	Support:	\$314.30		Maint:	\$162.
Total work team c	ost/hour: <u>\$1,184.27</u>							
MATERIAL Q	UANTITIES							
Initial volum	e: 18,594		CCY	Swell fact	or: 1.215			
Loose volum	e: 22,592		LCY					
S	ource of estimated vo	olume:	AM-01 r	naterials				
Source	e of estimated swell	factor:	Cat Hand	dbook				
HOURLY PRO	DUCTION							
<u>HUUKLIIKU</u>				Soropor D	owl (volume) Ba	cic.		
				•			т.	
Material weigh Material description				Struck Heaped	Volume: <u>24.00</u> Volume: <u>34.00</u>			CY CY
Rated Payloa	^			Average `				CY
Payload Capacit				Adjusted C			LC	

<u>0.80</u> Minutes

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 3600 feet

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

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	1250.00	0.00	3.00	3.00	2800	0.65

Haul Time: **0.65** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1250.00	0.00	3.00	3.00	2949	0.56
				Return Time:	0.56 r	ninutes
			Total Scrape	er team cycle time:	2.61	minutes
			Adjusted	for job conditions:	553.33	LCY/Hour
			Selected N	umber of Scrapers:	2	Scraper(s)
	Adjuste	d single scra	per team (unit)	hourly production:	1,106.67	LCY/Hour
	Adjusted n	nultiple scrap	ber team (fleet)	hourly production:	1,106.67	LCY/Hour
Optima	Unadjusted unit pro al Number of Scrapers pe			_ LCY/Hour		
JOB T	IME AND COST					
	t size: 1	Team(s)	1		20.41	Hours

Unit cost: _____\$1.070 /LCY

Total job cost: \$24,176

Task desc	ription:	Parcel B; Reveg	etate			
ite: West F	arm Pit	Pe	rmit Action:	AM-01 Bond Estimate	Permit/Job	#: <u>M2008078</u>
PROJEC	<u>r identific</u>	CATION				
Task #	: 027	State:	Colorado		Abbreviation:	None
Date	: 1/18/2019	County:	Prowers		Filename:	M078-027
Daic						

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)	\$106.29
Total Tilling Cost/Acre	\$106.29

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	3.00	48.97	\$49.98
Alkali Sacaton	1.50	58.54	\$43.50
Switchgrass - Blackwell	4.00	35.72	\$39.24
Buffalograss - Texoka	6.00	5.79	\$81.84
Sideoats Grama - Vaughn	9.00	29.55	\$92.16
Western Wheatgrass - Arriba	16.00	40.40	\$132.48
Totals Seed Mix	39.50	218.96	\$439.20

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

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$576.00

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$68.78
Weed spray, truck, non-aquatic area, nox. [DMG]	\$73.22
Weed spray, truck, non-aquatic areas, ann. [DMG]	\$23.91
Total Mulch Application Cost/Acre	\$165.91

NURSERY STOCK PLANTING

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

No. of Acres:	23.05	Cost /Acre:	\$1,519.40
Estimated Failure Rate:	25%	Cost /Acre*:	\$671.20
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost: \$35,022,17			

Initial Job Cost:	\$35,022.17
Reseeding Job Cost:	\$3,867.79
Total Job Cost:	\$38,890
Job Hours:	23.05

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task descriptio	n: Mo	bilization/Demob	ilization				
e: West Farm	Pit	Permit	Action: <u>AM-0</u>	1 Bond E	stimate	Permit/Job#:	M2008078
PROJECT ID	ENTIFICATI	<u>ON</u>					
Task #: 0	29	State: Co	olorado		Abbre	viation: Nor	ne
	/18/2019		owers		 Fi		78-029
	ME	J					
Agenc	y or organizatior	n name: DRMS					
EQUIPMENT	TRANSPOR	<u>T RIG COST</u>					
				(Shift ba Cost Data Sour	1	
Tru	ick Tractor Desc	ription: GENE	RIC ON-HIGH				EL POWERED,
Т	- 1- T 1 D		ENERIC FOLD		(2ND HALF,		UDMENT
110	uck Trailer Desc	ription: G					UIPMENT
			_	KAILEK	(25T, 50T, AN	ND 1001)	
Cost Breakdown	<u>.</u>						
Available Rig	Capacities	0-25 Tons	26-50 Tons	51+	Tons		
	nip Cost/Hour:	\$16.63	\$18.37	\$2	22.33		
Operati	ng Cost/Hour:	\$44.38	\$46.13	\$5	50.07		
Operat	tor Cost/Hour:	\$27.66	\$27.66	\$2	27.66		
Help	er Cost/Hour:	\$0.00	\$25.39	\$2	25.39		
Total U	nit Cost/Hour:	\$88.67	\$117.55	\$1	25.45		
NON ROADA	BLE EOUIPN	MENT:					
				T 1			DOT D
Machine	Weight/	Owner ship	Haul Rig	Fleet	Haul Trip	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Description	Unit	Cost/hr/ unit	Cost/hr/uni	Size	Cost/hr/	Cost/III/ fleet	Cost/ neet
	(TONS)		t		fleet		
Cat 637G	57.28	\$155.61	\$125.45	4	\$1,124.24	\$501.80	\$1,000.00
Cat D7R DS	34.57	\$66.14	\$117.55	4	\$734.76	\$470.20	\$500.00
Series II LGP	52.00	¢102.55	¢105.45	2	¢456.00	¢250.00	¢500.00
Cat D8T - 8SU	53.08	\$102.55	\$125.45	2	\$456.00	\$250.90	\$500.00
CAT 16M	28.73	\$77.19	\$117.55	2	\$389.48	\$235.10	\$500.00

Subtotals: \$2,704.48 \$1,458.00 \$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.	\$38.41	2	\$76.82	\$76.82
Drill/Broadcast Seeder with Tractor	\$36.08	2	\$72.16	\$72.16
Light Duty Pickup, 4x4, 3/4 T.	\$12.23	1	\$12.23	\$12.23
		Subtotals:	\$161.21	\$161.21

Subtotals: **\$161.21** \$161.21

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region: Total one-way travel distance: Average Travel Speed:	LAMAR 1.10 40.00	miles mph
Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	\$53,909.58	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	\$8.87	

Transportation Cycle Time:

Haul Time (Hours): Return Time (Hours):	Non- Roadable Equipment 0.03 0.03	Roadable Equipment 0.03 0.03
Loading Time (Hours):	4.50	NA
Unloading Time (Hours):	4.50	NA
Subtotals:	9.06	0.06

JOB TIME AND COST

Total job time: **18.11** Hours

Total job cost: **\$53,918**