

March 24, 2023

Garrett Varra Raptor Materials LLC 8120 Gage Street Frederick, CO 80516

Re: Two Rivers Sand, Gravel and Reservoir Project; File No. M-2022-013; 112c Permit Application; Reclamation Cost Estimate

Dear Mr. Varra:

Please find attached to this letter the Division's reclamation cost estimate for the Two Rivers Sand, Gravel and Reservoir Project. If you have any questions, please contact me at <u>rob.zuber@state.co.us</u> or (720) 601-2276.

Sincerely,

Phot D. Zh

Robert D. Zuber, P.E. Environmental Protection Specialist

Enclosure

Copied with enclosure:

Brad Janes, RM; Kevin Jeakins, RM; Peter Christianson, RESPEC; Michael Cunningham, DRMS



COST SUMMARY WORK

	ers Sand, Gra r Project	vel and Pe	rmit Action:	2023 Application	Permit/Jol	b#: <u>M2022013</u>
ROJECT	IDENTIFIC	ATION				
ROJECT Task #:	<u>IDENTIFIC</u> 000	State:	Colorado		Abbreviation:	None
			Colorado Weld		Abbreviation: Filename:	None M013-000

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Dewater pit - initial pumping	PUMPING	1	423.90	\$50,818
01b	Dewater pit - continual pumping	PUMPING	1	488.58	\$8,956
02a	Grade slope under liner	DOZER	2	23.74	\$13,650
02b	Haul liner material to pit area	TRUCK1	1	272.99	\$106,214
02c	Mix material for liner	DOZER	2	27.45	\$15,781
02d	Compact liner	COMPACT	2	29.00	\$13,814
03a	Haul subsoil from NE stockpile to pit area	TRUCK1	1	1,403.94	\$546,244
03b	Compact fill above liner	COMPACT	2	37.28	\$17,761
03c	Haul topsoil to pit area	TRUCK1	1	16.70	\$6,497
03d	Spread topsoil on pond bank	DOZER	2	3.72	\$2,138
03e	Seed banks of pond	REVEGE	1	9.00	\$19,016
04a	Demo and remove concrete and conveyor	DEMOLISH	1	175.00	\$37,426
05a	Rip processing area, wash pond area	RIPPER	2	21.89	\$12,588
05c	Haul topsoil to process and wash pond areas	TRUCK1	1	52.75	\$20,526
05d	Spread topsoil on process and wash pond areas	DOZER	2	8.44	\$4,851
05e	Seed processing area and wash pond area	REVEGE	1	22.00	\$47,785
06a	Mobilization and Demob.	MOBILIZE	1	0.50	\$3,585
		<u>SUBTO</u>	DTALS:	3016.88	\$927,650

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$18,739
Performance bond:	1.05	Total =	\$9,740
Job superintendent:	1,508.44	Total =	\$113,329
Profit:	10.00	Total =	\$92,765
		TOTAL O & P =	\$234,573
		CONTRACT AMOUNT (direct + O & P) = $($	\$1,162,223

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

\$500	Total =	\$500
0.00	Total =	\$0
5.00		\$58,111
0.00	Total =	\$0
	0.00	0.00 Total = 5.00

TOTAL INDIRECT COST = \$293,184

TOTAL BOND AMOUNT (direct + indirect) = ____\$1,220,834

PUMPING WORK

	Dewater p	it - initial pumpin	g		
Two Rivers Sand, Gr Reservoir Project	avel and	Permit Action:	2023 Application	Permit/Job#:	M2022013
PROJECT IDENTIF	ICATION				
Task #: 01A Date: 2/15/2023 User: RDZ		State: Colorado ounty: Weld		Abbreviation: Filename:	None M013-01a
Agency or orga	nization name				
		: DRMS			
HOURLY EQUIPME					
Malas and Madal.	Description			Quantity	
Make and Model: Attachment 1:		e pump - 460v, 8 in e - 6 in. diam., 25 f		5	
Attachment 2:		ose - 6 in. D., 25 ft		5	
Labor Unit 1:	Pump opera			1	
Weight:	95 per day 0.70 S Tons)				
Cost Breakdown:		1			
		¢71.00	Utilization %		
Ownership Cost/ Operating Cost/		\$71.90 \$19.75	NA 100		
Operator Cost/		\$28.23	NA		
Total Unit Cost/		\$119.88	1121		
Total Fleet Cost/		\$119.88			
		φ117.00			
PUMPING QUANTI					1 0000
Initial Pond Vol Final Pond Vol		88,437,229.00		Conversion factor:	1.0000
Total Pond Inflow Su		88,437,229.00	gallons	Unit inflow rate in	
	Area:	300,000	Sq. ft.	gph/sq. ft.:	0.0000
Total Pond Inflow Vo		500,000		5pn/ 5q. 1t	0.0000
per H		0.00	gallons		
Source	of estimated v	olume: Exh L, p	ages 4 - 5		
PUMPING TIME			0		
	kimum Pump	anacity:	170,000	gph/pump	
	stimated Sucti		0	gpn/pump feet	
	mated Dischar		15	feet	
	Тс	tal Head:	15	feet	
	CPB Pump	Capacity:	168,000	gph/pump	
	Site	Altitude:	4,680	feet	
	ted Pumping		840,000	gph	
Initial Una	djusted Pumpi		462.43	hours	
	during Initial		0 462.43	gallons Hours	
Inflow	dilleted Dumm	OF LUDE			
Inflow on Net Unac			1.0000		
Inflow o Net Unad Altitu	ude Adjustme	nt Factor:	<u>1.0000</u> 0.9167	(3% rule) (55 min./hr.)	
Inflow o Net Una Altitu P		nt Factor: y Factor:	1.0000 0.9167 423.91	(5% rule) (55 min./hr.) hours	
Inflow o Net Una Altitu P	ude Adjustmer ump Efficienc djusted Pumpi	nt Factor: y Factor:	0.9167	(55 min./hr.)	

Unit cost: \$0.000131 /Gallon

Total job cost: \$50,818

CIRCES Cost Estimating Software

		PUMP	ING WO	RK		
ewater pit - continual pumping						
	D	••••••				

Task description:	Dewater pit - continual pun	nping		
Two Rivers Sand, G	ravel and Permit Action:			
Reservoir Project		2023 Application	Permit/Job#:	M2022013
PROJECT IDENTI	FICATION			
Task #: 01B	State: Colorado		Abbreviation:	None
Date: 2/15/2023	B County: Weld		Filename:	M013-01b
User: RDZ				
Agency or org	anization name: DRMS			
HOURLY EQUIPM	ENT COST			
	Description		Quantity	
Make and Model:	Submersible pump - 460v, 8 in	n.	1	
Attachment 1:	1 1 ·		1	
Attachment 2:			1	
Labor Unit 1:			0	
Horsepower:	95			
	per day			
Weight:	0.70			
J)	JS Tons)			
Cost Breakdown:				
		Utilization %		
Ownership Cost		NA		
Operating Cost	/Hour: \$3.95	100		
Operator Cost	:/Hour: \$0.00	NA		
Total Unit Cost	/Hour: \$18.33			
Total Fleet Cos	t/Hour: \$18.33			
PUMPING QUANT				
Initial Pond Vo			Conversion factor:	1.0000
Final Pond Vo	, ,	gallons	Conversion ractor.	1.0000
Total Pond Inflow S	· · · · · · · · · · · · · · · · · · ·	ganons	Unit inflow rate in	
Total Fond Inflow 5	Area: 300,000	Sq. ft.	gph/sq. ft.:	0.0000
Total Pond Inflow V			501/34.1	0.0000
	Hour: 0.00	gallons		
Source	of estimated volume: Exh L, p	bages 4 - 5		
PUMPING TIME				
	aximum Pump Capacity:	170,000	gph/pump	
	Estimated Suction Head:	0	feet	
	imated Discharge Head:	15	feet	
200	Total Head:	15	feet	
	CPB Pump Capacity:	168,000	gph/pump	
	Site Altitude:	4,680	feet	
	sted Pumping Capacity:	168,000	gph	
	adjusted Pumping Time:	532.99	hours	
	during Initial Pumping:	0	gallons	
	adjusted Pumping Time:	532.99	Hours	
	tude Adjustment Factor:	1.0000	(3% rule)	
	Pump Efficiency Factor:	0.9167	(55 min./hr.)	
	Adjusted Pumping Time:	488.59	hours	
	Adjusted Pumping Time:		hours	

Unit cost: \$0.000100 /Gallon

Total job cost: \$8,956

CIRCES Cost Estimating Software

BULLDOZER WORK

	ravel and Perm	it Action:	2023 Application	Permit/Io	b#: M2022013
Reservoir Project		-	2023 Application		υπ. <u>IVI202201</u> .
PROJECT IDENTIF	ICATION				
Task #: 02A		Colorado		Abbreviation:	None
Date: 2/15/2023	County:	Weld		Filename:	M013-02a
User: RDZ					
Agency or orga	nization name: DRM	IS			
HOURLY EQUIPME	<u>ENT COST</u>				
Basic Machine: Ca	at D8T - 8SU				
Horsepower: 31	0		-		
	emi-Universal		-		
	shank ripper		_		
	per day		-		
Data Source: (C	(RG)		-		
Cost Breakdown:		1	TT.'11		
		104.95	Utilization %		
Ownership Cost/Hour:		\$124.85 \$97.63	<u>NA</u> 100		
Operating Cost/Hour: Ripper own.					
Cost/Hour:		\$16.38	NA		
Ripper op. Cost/Hour:		\$8.60	100		
Operator Cost/Hour:		\$40.04	NA		
Total unit Cost/Hour: Total Fleet Cost/Hour:	\$574.99				
	TITIES 424				
Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 26, Swell factor: 1.2	TITIES 424				
Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 26, Swell factor: 1.2	TTIES 424 15 105 LCY ume: Calculated) lf, 66' length, 1' deep).	
Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 26, Swell factor: 1.2 Loose volume: 32, Source of estimated vol Source of estimated swe	TTIES 424 15 105 LCY ume: Calculated ell Cat Handboo) lf, 66' length, 1' deej).	
Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 26, Swell factor: 1.2 Loose volume: 32, Source of estimated vol Source of estimated swe factor: 1	TTIES 424 15 105 LCY ume: Calculated is ell Cat Handbook CION	ook) lf, 66' length, 1' deej).	
Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 26, Swell factor: 1.2 Loose volume: 32, Source of estimated vol Source of estimated swe factor: HOURLY PRODUCT Average push distance: Unadjusted hourly	TTIES 424 15 105 LCY ume: Calculated 1 ell Cat Handbo TION 50 feet 1,400.0 LCY/	bok hr)	
Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 26, Swell factor: 1.2 Loose volume: 32, Source of estimated vol Source of estimated vol Source of estimated swe factor: HOURLY PRODUCT Average push distance: Unadjusted hourly production: Materials consistency de Average push	TTIES 424 15 105 LCY ume: Calculated 1 ell Cat Handbo TION 50 feet 1,400.0 LCY/	bok hr)	
Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 26, Swell factor: 1.2 Loose volume: 32, Source of estimated vol Source of estimated swefactor: HOURLY PRODUCT Average push distance: Unadjusted hourly production: Materials consistency definition	TTIES 424 15 105 LCY ume: Calculated freed ell Cat Handbo FION 50 feet 1,400.0 LCY/ escription: Partly con	bok hr)	
Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 26, Swell factor: 1.2 Loose volume: 32, Source of estimated vol Source of estimated vol Source of estimated swe factor: HOURLY PRODUCT Average push distance: Unadjusted hourly production: Materials consistency de Average push gradient:	TTIES 424 15 105 LCY ume: Calculated i ell Cat Handbo FION	bok hr)	

Bulldozer Worksheet Cont'd

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.100	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	0.545	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4830

Adjusted unit production:	676.20 LCY/hr
Adjusted fleet production:	1352.4 LCY/hr

Fleet size:	2 Dozer(s)
Unit cost:	\$0.425/LCY

Total job time:	23.74 Hours
Total job cost:	\$13,650

TRUCK/LOADER TEAM WORK

Task descriptior	: Haul lin	ner material	to pit :	area			
Two Rivers S Site: <u>Reservoir Pr</u>	and, Gravel and oject	Permit	Action	n: 2023 Applic	ation	Permit/Job#: <u>M</u>	2022013
PROJECT ID	ENTIFICATION	1					
			Colorad Veld	lo	Ab	breviation: <u>Not</u> Filename: <u>M0</u>	ne 113-02b
Agenc	y or organization na	me: DRM	S				
HOURLY EQ	UIPMENT COS	<u>T</u>			Shift bas	is: <u>1 per day</u>	
				quipment Descri			
	Truck Loader Tea	-		ric 12-18 cy, 6x4	1		
S	upport Equipment -1	-Loader:	NA	966H high lift			
	-D	ump Area:	NA				
Roa	l Maintenance – Mor	tor Grader: ater Truck:	NA Wate	r Tanker, 3,500	Gal		
	- •••	atel Huck.	wate.	1 1 alikel, 5,500	Gal.		
<u>Cost Breakdow</u>	n: Truck/Lo Truck	ader Team Loader		Support I Load Area	Equipment Dump Area	Maintenan Motor Grader	ce Equipment Water Truck
%Utilization-machine	: 100		100	NA	NA	NA	100
Ownership cost/hour	:: \$24.21	\$49	0.15	NA	NA	NA	\$14.98
Operating cost/hour		\$43	3.04	NA	NA	NA	\$33.32
%Utilization-riper			0	NA	NA	NA	NA
Ripper own. cost/hour			0.00	NA	NA	NA	\$0.00
Ripper op. cost/hour		\$35	0.00	NA NA	NA NA	NA NA	\$0.00 \$0.00
Unit Subtotals		\$128		NA	NA	NA	\$48.30
Number of Units		φ120	1	0	0	0	1
Group Subtotals		\$340.78	-	Support:	\$0.00	Maint:	\$48.30
*	cost/hour: \$389.0						,
	<u> </u>						
MATERIAL	<u>QUANTITIES</u>						
Initial volu			CCY	Swell	factor: <u>1.000</u>		
Loose volu	/		LCY				
Sou	Source of estimated sw) lf, 4' deep, 66' andbook	slope length, and	4'x4' keyway	
300	Material Purch		\$0.00	IIIUUUUK			
			\$0.00				
HOURLY P	RODUCTION						
Truck Capacity	<u>/:</u>						
	al weight: 1,600	. 11		Pounds/LCY			
	escription: Top Solution: Top Solution: 50,300			Pounds			

Truck/Loader Worksheet Co	nt'd	Task # 02B			Page 2 of 3	
Payload Capacity:	31.44	LCY				
Truck Bed (volume) Basis:						
Struck Volume:		LCY				
Heaped Volume:		LCY				
Average Volume:		LCY				
Adjusted Volume:	18.00	LCY				
Final	Truck Volume	Based on Number of I	Loader Passes:	15.75	LCY	
Loading Tool Capacity			Buc	ket Size Class:	NA	
Rated Capacity:	5.000	LCY (heaped)	2			_
Bucket Fill Factor:	1.050	Other - moist loan	n (100-	110%) 1.050		-
Adjusted Capacity:	5.250	LCY		110,00) 1.000		-
Job Condition Corrections	<u>:</u>	Site	Altitude (ft.):	<u>4680</u> feet		
Altitude Adj:	Truck 1.000	Loader 1.000	Source (CAT HE			
Job Efficiency:	0.830	0.830	(CAT HI	· · · · · · · · · · · · · · · · · · ·		
			(entrin	3)		
Net Correction:	0.830	0.830				
Loading Tool Cycle Time:	Number	of Loading Tool Pass	es Required to	Fill Truck:	3 p	asses
Excavators and Front Shove	els:					
Machine Cycle Time v Selected Value						
Track Loaders –						
Cycle Time Elements (min.)		r • • • •				
Load: NA	M	aneuver: NA		Dump: 0.10	00	
Wheel and Track Loaders	- Unadjusted Ba	sic Loader Cycle Time	e (load, dump, 1	maneuver):	0.500 minu	ites
Cycle Time Factors				Factor (min.)	Source	
Material:	No adjustmer	t - factor not applicabl	e 0.00	0.000	(Cat HB)	_
Stockpile:	No adjustmer	t - factor not applicabl	e 0.00	0.000	(Cat HB)	_
Truck Ownership:	No adjustmer	nt - factor not applicabl	e 0.00	0.000	(Cat HB)	_
Operation:		nt - factor not applicab		0.000	(Cat HB)	_
Dump Target:	No adjustmer	t - factor not applicabl		0.000	(Cat HB)	_
		Net Cycle Time		0.000	minutes	
		Adjusted Loader		0.500	minutes	
		Net Load Tin	he per Truck:	1.100	minutes	
Truck Cycle Time:						
Truck Exchange Time	e: 0.50	Minutes	Adjusted	for site altitude:	0.500	Minute
Truck Load Time	2: 1.100	Minutes	Adjusted	for site altitude:	1.100	Minute
ck Maneuver and Dump Time	e: 0.90	Minutes	Adjusted	for site altitude:	0.900	Minute
Truck Travel (Haul & Return maintained 3.0	n) Time:	Road Condition: <u>Fin</u>	rm, smooth, rol	lling, dirt/lt. surface	ed, watered,	

Haul Route:

	Thau Kot	ite.		T	1				
	Seg #	Haul	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	U	(Ft)			(%)	(%)	(fpm)	Time	
		(1 0)			(/0)	(/0)	(17.11)	(min)	
	1	1600	.00	0.00	3.00	3.00	2824	0.728	
						Haul Time:	0.728	minutes	
	Return R	oute:					0.720	minutes	
	Seg #	Haul	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	_	(Ft)			(%)	(%)	(fpm)	Time (min)	
	1	1600	.00	0.00	3.00	3.00	2874	0.592	
						D. (0.500		
						Return Time:	0.592	minutes	
					Total Tru	ck Cycle Time:	3.820	minutes	
T	Loading To	ol unit							
L	-	uction	590.63	LCY/Hour		A diustad for i	ob efficiency:	490.22	LCY/Hour
Truch	unit Prod		590.05			Aujusicu ibi j	ob efficiency.	490.22	
TTUCK	Cont Flou	uction	247.38	LCY/Hour		A divistad for i	ob officianaw	205.33	LCY/Hour
			247.30			Aujusteu tor j	ob efficiency:	205.55	
Optim	al No. of T	rucks:	2	Truck(s)		Selected Num	ber of Trucks:	2	Truck(s)
1									
					•	k team production			
						er team production			
				Adjusted multip	le truck/loade	er team production	on: 410	.65 LCY/	Hour
	JOB TI	ME Al	ND COST						
	Fleet	size:	1	Team(s)	7	Fotal job time:	272.9	9 Hor	urs
		-				-			
	Unit	cost:	\$0.947	/LCY	r.	Total job cost:	\$106,2	.14	

BULLDOZER WORK

Reservoir Proje	nd, Gravel and ect	Permit Action	2023 Application	Permit/Jo	b#: <u>M202201</u>
ROJECT IDEN		_			
Task #: $02C$		State: Colorado	1	Abbreviation:	None M012.02-
Date: 2/28/ User: RDZ	/2023	County: Weld		Filename:	M013-02c
Agency or	r organization na	ame: DRMS			
OURLY EQUI	PMENT COS	<u>T</u>			
Basic Machine:	Cat D8T - 8S	SU			
Horsepower:					
Blade Type:		sal			
Attachment:					
Shift Basis:					
Data Source:					
ost Breakdown:					
<u>est Broundo will</u> .			Utilization %		
Ownership Cost/H	Hour:	\$124.85	NA		
Operating Cost/H		\$97.63	100		
Ripper		¢16.20			
Cost/H		\$16.38	NA		
Ripper op. Cost/H	Hour:	\$8.60	100		
Operator Cost/H	Hour:	\$40.04	NA		
IATERIAL QU	ANTITIES 56,052				
Initial Volume: Swell factor: Loose volume: Source of estimate factor: OURLY PROD Average push dista Unadjusted hourly production:	1.215 68,103 LCY ed volume: ed swell DUCTION ance: 5	Assumed half the vo Cat Handbook	olume of liner material.		
Swell factor: Loose volume: Source of estimate Source of estimate factor: OURLY PROD Average push dista Unadjusted hourly	1.215 68,103 LCY ed volume: ed swell DUCTION ance: 5 7 1	Cat Handbook 50 feet 1,400.0 LCY/hr			
Swell factor: Loose volume: Source of estimate factor: IOURLY PROD Average push dista Unadjusted hourly production:	1.215 68,103 LCY ed volume: ed swell DUCTION ance: 5 7 1	Cat Handbook 50 feet 1,400.0 LCY/hr			
Swell factor: Loose volume: Source of estimate Source of estimate factor: OURLY PROD Average push dista Unadjusted hourly production: Materials consister Average push	1.215 68,103 LCY ed volume: ed swell DUCTION ance: 5 7 1 ncy description: 0 %	Cat Handbook 50 feet 1,400.0 LCY/hr Partly consolidate			
Swell factor: Loose volume: Source of estimate Source of estimate factor: OURLY PROD Average push dista Unadjusted hourly production: Materials consister Average push gradient:	$\begin{array}{c c} \hline 1.215 \\ \hline 68,103 \text{ LCY} \\ \hline ed \text{ volume:} \\ \hline ed \text{ swell} \\ \hline \hline \\ \hline $	Cat Handbook 50 feet 1,400.0 LCY/hr Partly consolidate			
Swell factor: Loose volume: Source of estimate Source of estimate factor: OURLY PROD Average push dista Unadjusted hourly production: Materials consister Average push gradient: Average site altitu	$\begin{array}{c c} \hline 1.215 \\ \hline 68,103 \text{ LCY} \\ \hline ed \text{ volume:} \\ \hline ed \text{ swell} \\ \hline \hline \\ \hline $	Cat Handbook 50 feet 1,400.0 LCY/hr Partly consolidate eet bs/LCY			

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.100	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8862

Adjusted unit production:	1,240.68 LCY/hr			
Adjusted fleet production:	2481.36 LCY/hr			

Fleet size:	2 Dozer(s)
Unit cost:	\$0.232/LCY

Total job time:	27.45 Hours
Total job cost:	\$15,781

COMPACTION WORK

Comparison:	act liner				
Two Rivers Sand, Gravel and Reservoir Project	Permit Action:	2023 Applica	tion Per	mit/Job#:	M2022013
PROJECT IDENTIFICATIO	N				
Task #: 02D	State: Colorado		Abbre	eviation:	None
Date: 2/15/2023	County: Weld		Fi	lename:	M013-02d
User: RDZ					
Agency or organization na	ame: DRMS				
HOURLY EQUIPMENT COS	<u>ST</u>				
Basic Machine: CAT	815F		Horsepower:	,	240
Compactor Type: Soil -	tamping foot	_	Shift Basis:		er day
			Data Source:	(0	CRG)
<u>Cost Breakdown:</u>					
- ·· -		16	Utilization %		
Ownership Cost			<u>NA</u>		
Operating Cost Operator Cost			100 NA		
Total Unit Cost			1111		
Total Fleet Cost	·				
MATERIAL QUANTITIES					
Loose volume:	112,104	LCY	Shri	nkage fact	or: 0.910
Compacted volume:	102,015	CCY			
		as hauled qua	antity.		
Source of estimated sl	rrinkage factor: Cat H	landbook			
HOURLY PRODUCTION		Unadjust	ed hourly production	$\mathbf{bn} = (\mathbf{W} \mathbf{x})$	S x L x C) / P
Compacted w	idth per pass (W):	6.50	feet		
	pactor Speed (S):	8.00	mph		
Compacted thickne		10.00	inches		
	sion Constant (C):	16.3		/12in./27cu	1.ft.)
Required number of m Unadjusted Hourly		4 2,119.00	passes CCY/hou	r	
				11	
ob Condition Correction Factors		Site Altit	ude: <u>4,680</u> feet		
	Source	N N			
Altitude Adj: 1.0	, , , , , , , , , , , , , , , , , , , ,				
	1 () enitt/dot	/			
Job Efficiency: 0.8					
Job Efficiency:0.8Net Correction:0.83	00 multiplier		0007		
Job Efficiency: 0.8 Net Correction: 0.83 Adjusted H	00 multiplier ourly Unit Production:	1,758.77			
Job Efficiency: 0.8 Net Correction: 0.83 Adjusted H	00 multiplier	1,758.77 3,517.54			
Job Efficiency: 0.8 Net Correction: 0.83 Adjusted H	00 multiplier ourly Unit Production:				
Job Efficiency: 0.8 Net Correction: 0.83 Adjusted H Adjusted H	00 multiplier ourly Unit Production:	3,517.54		29.00	Hours

TRUCK/LOADER TEAM WORK

Task description:	Haul su	bsoil from 1	NE sto	ckpile to pit are	a		
	Two Rivers Sand, Gravel andPermitSite:Reservoir Project			n: 2023 Applic	ation	Permit/Job#:	M2022013
PROJECT IDE	NTIFICATION	I					
Task #: 03A		-	Colora	do	Ab	breviation: N	None
Date: 2/15/ User: RDZ		County:	Weld			Filename: <u>N</u>	M013-03a
			10				
Agency of	r organization nai	me: DRM	15				
HOURLY EQU	IPMENT COS'	<u>Γ</u>			Shift bas	is: <u>1 per day</u>	
				Quipment Descri			
,	Truck Loader Tea	m -Truck: -Loader:		eric 12-18 cy, 6x4 `966H high lift	1		
Sup	oort Equipment -I		NA	900H lligh llit			
	-D	ump Area:	NA				
Road M	Iaintenance – Mot	or Grader: ater Truck:	NA	er Tanker, 3,500	Cal		
	- ••• 2	aler Truck.	wate	er ranker, 5,500	Gai.		
Cost Breakdown:		ader Team			Equipment		ance Equipment
	Truck	Loader		Load Area	Dump Area	Motor Grader	r Water Truck
%Utilization-machine:	100		100	NA	NA	NA	A 100
Ownership cost/hour:	\$24.21	\$4	9.15	NA	NA	NA	A \$14.98
Operating cost/hour:	\$57.28	\$4	3.04	NA	NA	NA	A \$33.32
%Utilization-riper:	NA		0	NA	NA	NA	
Ripper own. cost/hour:	NA		0.00	NA	NA	NA	
Ripper op. cost/hour:	NA \$24.82		0.00 5.97	NA NA	NA NA	NA NA	
Operator cost/hour: Unit Subtotals:	\$24.82		8.16	NA NA	NA	NA NA	
Number of Units:	2	\$1Z	0.10	0	0		0
Group Subtotals:	Work:	\$340.78	1	Support:	\$0.00	Maint	-
*				Support	\$0.00	1/Ium	φ10.50
Total work team co	ost/hour: <u>\$389.08</u>	8					
MATERIAL QU	J ANTITIES						
Initial volume			CCY	Swell	factor: 1.000		
Loose volume		33	LCY	Swein	<u>1.000</u>		
So	ource of estimated	l volume:	10.81	0 lf, x-section is	1.440 sa ft		
	e of estimated swe	ell factor:		andbook	.,		
	Material Purch		\$0.00				
	Te	otal Cost:	\$0.00				
HOURLY PRO	DUCTION						
<u>Truck Capacity:</u> Truck Payload (we	ight) Basis:						
Material	weight: 1,600			Pounds/LCY			
	ription: Top So						
Rated P	ayload: 50,300)		Pounds			

Truck/Loader Worksheet Co	ont'd	Task # 03A			Page 2 of 3	
Payload Capacity:	31.44	LCY				
Truck Bed (volume) Basis:						
Struck Volume:	12.00	LCY				
Heaped Volume:	18.00	LCY				
Average Volume:	15.00	LCY				
Adjusted Volume:	18.00	LCY				
Fina	l Truck Volume	Based on Number of I	Loader Passes:	15.75	LCY	
Loading Tool Capacity			D 1		NT A	
Dated Conseitur	5 000	ICV (beened)	Buck	tet Size Class:	NA	_
Rated Capacity: Bucket Fill Factor:	5.000	LCY (heaped) Other - moist loa	m (100.1	10%) 1.050		-
Adjusted Capacity:	5.250	LCY	III (100-1	10%) 1.030		_
Job Condition Corrections			e Altitude (ft.): <u>4</u>	690 faat		
Job Condition Corrections				10 <u>80</u> 1001		
Altitudo Adia	Truck	Loader	Source			
Altitude Adj: Job Efficiency:	1.000 0.830	1.000 0.830	(CAT HB (CAT HB	,		
JOD Efficiency.	0.830	0.830	(CAI HB	5)		
Net Correction:	0.830	0.830				
	within this Bas – Material Desci	ic Rating: NA				
Cycle Time Elements (min.)):					
Load: NA	N	Ianeuver: NA		Dump: 0.	100	
Wheel and Track Loaders	- Unadjusted Ba	asic Loader Cycle Time	e (load, dump, n	naneuver):	0.500 min	ites
Cycle Time Factors				Factor (min.)		_
Material:		nt - factor not applicab		0.000	(Cat HB)	_
Stockpile:	2	nt - factor not applicab		0.000	(Cat HB)	_
Truck Ownership: Operation:		nt - factor not applicab ent - factor not applicab		0.000 0.000	(Cat HB) (Cat HB)	_
Dump Target:		nt - factor not applicat		0.000	(Cat HB) (Cat HB)	_
Dump Target.	No adjustille	Net Cycle Time		0.000	minutes	_
		Adjusted Loader		0.500	minutes	
			ne per Truck:	1.100	minutes	
Truck Cycle Time:						
Truck Exchange Tim	e: 0.50	Minutes	Adjusted	for site altitude:	0.500	Minute
Truck Load Tim	e: 1.100	Minutes	Adjusted	for site altitude:	1.100	Minute
ck Maneuver and Dump Tim	e: 0.90	Minutes	Adjusted	for site altitude:	0.900	Minute
Truck Travel (Haul & Retur maintained 3.0	m) Time:	Road Condition: <u>Fi</u>	rm, smooth, roll	ling, dirt/lt. surfa	aced, watered,	

	Haul Rou	te:							
	Seg #	Haul	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
		(Ft)			(%)	(%)	(fpm)	Time	
-	1	1600.	00	0.00	3.00	3.00	2824	(min) 0.728	
Į	1	1000	.00	0.00	5.00	5.00	2024	0.728	
						Haul Time:	0.728	minutes	
г	Return Ro			1			1		
	Seg #		Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
		(Ft)			(%)	(%)	(fpm)	Time (min)	
	1	1600.	.00	0.00	3.00	3.00	2874	0.592	
						Return Time:	0.592	minutes	
					Total True	ck Cycle Time:		minutes	
т	oading Too	1 unit				-			
L	Produ		590.63	LCY/Hour		Adjusted for i	ob efficiency:	490.22	LCY/Hour
Truck	Unit Produ		570.05			i lajustea ioi j	ob efficiency.		
			247.38	LCY/Hour		Adjusted for j	ob efficiency:	205.33	LCY/Hour
Optima	al No. of Tr	ucks:	2	Truck(s)		Selected Num	ber of Trucks:	2	Truck(s)
				Adjuste	d hourly true	k team production	on: 410.	.65 LCY/	Hour
						r team production			
				Adjusted multip					
				5 1		1			
	JOB TIM	ME AN	ND COST						
	Fleet	size:	1	Team(s)	1	Total job time:	1,403.	94 Hou	ırs
	Unit	cost: _	\$0.947	/LCY	-	Fotal job cost:	\$546,2	44	

Task # 03A

COMPACTION WORK

Compact	fill above liner				
Two Rivers Sand, Gravel and Reservoir Project	Permit Action:	2023 Applicatio	<u>n</u> Pe	rmit/Job#:	M2022013
PROJECT IDENTIFICATION					
Task #: 03B	State: Colorado unty: Weld			eviation: ilename:	None M013-03b
Agency or organization name	DRMS				
HOURLY EQUIPMENT COST					
Basic Machine: CAT 815	F		Horsepower:		240
	ping foot		Shift Basis:		er day
			Data Source:	(0	CRG)
Cost Breakdown:					
			Utilization %		
Ownership Cost/Ho			NA		
Operating Cost/Ho Operator Cost/Ho			100 NA		
Total Unit Cost/Ho			NA		
	· · ·				
Total Fleet Cost/Ho	ur: \$476.	.33			
MATERIAL QUANTITIES					
Loose volume:	576,533	LCY	Shr	inkage fact	or: 0.910
Compacted volume:	524,645	$-\frac{101}{CCY}$	SIII	llikage laet	01. 0.910
	,		•,		
Source of estimat Source of estimated shrin		as hauled quant andbook	ity.		
HOURLY PRODUCTION		Unadjusted	hourly production	$on - (W \mathbf{v})$	SvIvC)/P
			• •	OII - (VV X)	<u>5 x L x C// 1</u>
Compacted width Average Compac	· · ·	<u>6.50</u> 8.00	feet		
Compacted thickness or		10.00	mph inches		
	Constant (C):	16.3		/12in./27cu	ı.ft.)
Required number of machi		1	passes		
Unadjusted Hourly Un	it Production:	8,476.00	CCY/ho	ur	
ob Condition Correction Factors		Site Altitud	e: <u>4,680</u> feet		
	Source				
Altitude Adj: 1.00	(CAT HB)				
Job Efficiency: 0.83	(1 shift/day	<u>)</u>			
Net Correction: 0.8300	multiplier				
Adjusted Hourl	y Unit Production:	7,035.08	CCY/Hour		
•	y Fleet Production:	14,070.16	CCY/Hour		
IOB TIME AND COST					
	mpactor(s)	Tota	l job time:	37.29	Hours
	• • • •		·		Hours
	mpactor(s) CCY		l job time: l job cost:	37.29 \$17,761	Hours

TRUCK/LOADER TEAM WORK

Task description:		psoil to pit area				
Two Rivers SanSite:Reservoir Proje		Permit Acti	on: 2023 Applic	cation	Permit/Job#: <u>M</u>	2022013
PROJECT IDEN	NTIFICATION	I				
Task #: 03C		State: Color	ado	Ab	breviation: No	ne
Date: 2/15/		County: Weld			Filename: MO	013-03c
User: <u>RDZ</u>						
Agency of	r organization nai	me: DRMS				
HOURLY EQU	IPMENT COS'	<u>T</u>		Shift bas	is: <u>1 per day</u>	
			Equipment Descri	ption		
· · · · · · · · · · · · · · · · · · ·	Truck Loader Tea		neric 12-18 cy, 6x4	4		
Supr	ort Equipment -I		T 966H high lift			
	-D	ump Area: NA				
Road M	laintenance – Mot		ter Tanker, 3,500	Cal		
	- ••• 2	alei IIuck. wa	ter Taliker, 5,500	Gal.		
Cost Breakdown:		ader Team	11	Equipment		ce Equipment
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
Utilization-machine:	100	100	NA	NA	NA	10
Ownership cost/hour:	\$24.21	\$49.15	NA	NA	NA	\$14.9
Operating cost/hour:	\$57.28	\$43.04	NA	NA	NA	\$33.3
%Utilization-riper: ipper own. cost/hour:	NA NA	0	NA NA	NA NA	NA NA	N/ \$0.0
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	\$0.0
Operator cost/hour:	\$24.82	\$35.97	NA	NA	NA	\$0.0
Unit Subtotals:	\$106.31	\$128.16	NA	NA	NA	\$48.3
Number of Units:	2	1	0	0	0	
Group Subtotals:	Work:	\$340.78	Support:	\$0.00	Maint:	\$48.30
Total work team co	st/hour: <u>\$389.08</u>	8				
<u>MATERIAL QU</u>	JANTITIES					
Initial volume				factor: <u>1.000</u>		
Loose volume	/					
	ource of estimated		of 8.5 acres and c Handbook	lepth of 6".		
Source	Material Purch					
		otal Cost: \$0.0				
	ΝΠΟΤΓΛΙ					
HOURLY PRO	DUCTION					
Truck Capacity:	abt) Design					
Truck Payload (we Material			Pounds/LCY			
Desc	ription: Top So					
Rated Pa	ayload: 50,300)	Pounds			-

Truck/Loader Worksheet Co	ont'd	Task # 03C			Page 2 of 3	
Payload Capacity:	31.44	LCY				
Truck Bed (volume) Basis:						
Struck Volume:	12.00 I	LCY				
Heaped Volume:		LCY				
Average Volume:		LCY				
Adjusted Volume: _	18.00 I	LCY				
Fina	l Truck Volume	Based on Number of Lo	ader Passes:	15.75	LCY	
Loading Tool Capacity			Dual	zet Size Class	NT A	
Rated Capacity:	5.000	LCY (heaped)	Buci	ket Size Class:	NA	_
Bucket Fill Factor:	1.050	Other - moist loam	(100-1	10%) 1.050		-
Adjusted Capacity:	5.250	LCY	(100-1	10/0) 1.030		-
Job Condition Corrections	<u>s:</u>	Site A	ltitude (ft.): 4	<u>1680</u> feet		
	Truck	Loader	Source			
Altitude Adj:	1.000	1.000	(CAT HE	·		
Job Efficiency:	0.830	0.830	(CAT HE	5)		
Net Correction:	0.830	0.830				
	vs. Job Condition within this Basic - Material Descrip	Rating: NA				
Cycle Time Elements (min.)):					
Load: NA	Ma	aneuver: NA		Dump: 0.10	00	
Wheel and Track Loaders	- Unadjusted Bas	sic Loader Cycle Time (load, dump, r	naneuver):	0.500 minu	ites
Cycle Time Factors				Factor (min.)	Source	
Material:		t - factor not applicable		0.000	(Cat HB)	_
Stockpile:		t - factor not applicable		0.000	(Cat HB)	_
Truck Ownership:		t - factor not applicable		0.000	(Cat HB)	_
Operation:		tt - factor not applicable		0.000	(Cat HB)	_
Dump Target:	No adjustment	t - factor not applicable		0.000	(Cat HB)	_
		Net Cycle Time A Adjusted Loader C		0.000	minutes minutes	
		Net Load Time		1.100	minutes	
Truck Cycle Time:						
Truck Exchange Tim	e: 0.50	Minutes	Adjusted	for site altitude:	0.500	Minute
Truck Load Tim	e: 1.100	Minutes	Adjusted	for site altitude:	1.100	Minute
ck Maneuver and Dump Tim	e: 0.90	Minutes	Adjusted	for site altitude:	0.900	Minute
Truck Travel (Haul & Retur maintained 3.0	n) Time:	Road Condition: Firm	, smooth, rol	ling, dirt/lt. surfac	ed, watered,	

Haul Rou	ite:							
Seg #		Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	(Ft)			(%)	(%)	(fpm)	Time (min)	
1	1600.	00	0.00	3.00	3.00	2824	0.728	
					Haul Time:	0.728	minutes	
Return R	oute:				-			
Seg #	Haul	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	(Ft)			(%)	(%)	(fpm)	Time (min)	
1	1600.	00	0.00	3.00	3.00	2874	0.592	
					Return Time:	0.592	minutes	
				Total Tru	ck Cycle Time:	3.820	minutes	
Loading To	ol unit							
0	uction	590.63	LCY/Hour		Adjusted for j	ob efficiency:	490.22	LCY/Hour
Truck Unit Prod	uction							
	-	247.38	LCY/Hour		Adjusted for j	ob efficiency:	205.33	LCY/Hour
Optimal No. of T	rucks:	2	Truck(s)		Selected Num	ber of Trucks:	2	Truck(s)
			Adjuste	d hourly truc	k team production	on: 410.	.65 LCY/	Hour
			Adjusted sing	le truck/loade	er team production	on: 410.	.65 LCY/	Hour
			Adjusted multip	le truck/loade	er team production	on: 410 .	.65 LCY/	Hour
JOB TI	ME AN	D COST						
Fleet		1	Team(s)	5	Fotal job time:	16.7	0 Hor	urs
Unit	cost:	\$0.947	/LCY	,	Total job cost:	\$6,49	7	
					<u>.</u>	- /		

BULLDOZER WORK

	iption:	opread	topson of	n pond bank			
	vers Sand, pir Project	Gravel and	Per	mit Action:	2023 Application	Permit/Job#:	M2022013
PROJEC	T IDENT	IFICATIO	N				
Task #:			State:	Colorado		Abbreviation:	None
Date:	2/15/20	23	County:	Weld		Filename:	M013-03d
User:	RDZ						
А	agency or o	rganization na	ıme: DF	RMS			
HOURLY	Y EQUIP	MENT COS	<u>5T</u>				
Basic M	Iachine:	Cat D8T - 8S	U				
Horse	epower:	310					
	• • •	Semi-Univers					
		1-shank rippe	r				
		1 per day					
Data	Source:	(CRG)					
Cost Break	<u>kdown</u> :						
					Utilization %		
	ip Cost/Hou			\$124.85	NA		
	ng Cost/Hou			\$97.63	100		
	n. Cost/Hou			\$16.38	NA		
Ripper of	p. Cost/Hou	ır:		\$8.60	100		
Operato	or Cost/Hou	ır:		\$40.04	NA		
Initial Vo		NTITIES ,857 .215					
Swell		,331 LCY					
Swell Loose vo		,551 LC I					
Loose vo Source of e Source of e	olume: 8	olume: well factor:	Area of 8 Cat Hand	3.5 acres. De lbook	pth of 6".		
Loose vo Source of e Source of e <u>HOURLY</u> Average pu	olume: 8 estimated ve estimated sy	olume: well factor: V <u>CTION</u> e:5		lbook	pth of 6".		
Loose vo Source of e Source of e <u>HOURLY</u> Average pu Unadjusted	olume: 8 estimated ve estimated sv Y PRODU ush distance d hourly pro	olume: well factor: V <u>CTION</u> e:5	Cat Hand 0 feet ,400.0 LC	lbook Y/hr	pth of 6".		
Loose vo Source of e Source of e <u>HOURLY</u> Average pu Unadjusted Materials c	olume: 8 estimated ve estimated sw Y PRODU ush distance d hourly pro- consistency ush gradien	olume: vell factor: VCTION e: oduction: description:	Cat Hand 0 feet ,400.0 LC Partly o	lbook Y/hr			
Loose vo Source of e Source of e HOURLY Average pu Unadjusted Materials c Average pu	olume: 8 estimated ve estimated sw Y PRODU ush distance d hourly pro consistency ush gradien te altitude:	olume: vell factor: VCTION e:5 oduction:1 description: t:5 %	Cat Hand 0 feet ,400.0 LC Partly o	lbook Y/hr			
Loose vo Source of e Source of e HOURLY Average pu Unadjusted Materials c Average pu Average si	olume: 8 estimated ve estimated so Y PRODU ush distance d hourly pro- consistency ush gradien te altitude: reight:	blume: well factor: $\frac{5}{2}$ well factor: $\frac{5}{2}$ well factor: $\frac{5}{2}$ well factor: $\frac{5}{2}$ duction: $\frac{5}{4}$, $\frac{680}{6}$	Cat Hand 0 feet ,400.0 LC Partly of peet ps/LCY	lbook Y/hr			
Loose vo Source of e Source of e HOURLY Average pu Unadjusted Materials o Average pu Average si Material w Weight des	olume: 8 estimated ve estimated so Y PRODU ush distance d hourly pro- consistency ush gradien te altitude: veight: scription: tion Correct	olume: well factor: vell factor: 0 CTION e: 5 oduction: 1 description: t: 5 % 4,680 fe 1,600 lt Top Soi ion Factor	Cat Hand 0 feet ,400.0 LC Partly of peet ps/LCY	lbook Y/hr	stockpile 1.1		
Loose vo Source of e Source of e HOURLY Average pu Unadjusted Materials o Average pu Average si Material w Weight des Job Condit	olume: 8 estimated ve estimated so Y PRODU ush distance d hourly pro consistency ush gradien te altitude: reight: scription: tion Correct Opera	olume: vell factor: vell factor: vell factor: vell factor: vell factor: tor Skill:	Cat Hand 0 feet ,400.0 LC Partly of peet ps/LCY 11 0.	lbook Y/hr consolidated	stockpile 1.1 <u>Source</u> (AVG.)		
Loose vo Source of e Source of e HOURLY Average pu Unadjusted Materials o Average pu Average si Material w Weight des Job Condit	olume: 8 estimated ve estimated so Y PRODU ush distance d hourly pro consistency ush gradien te altitude: veight: scription: <u>tion Correct</u> Opera faterial con	olume: vell factor: vell factor: vell factor: vell factor: vell factor: tor Skill:	Cat Hand 0 feet ,400.0 LC Partly of peet bs/LCY 1 0. 1.	lbook Y/hr consolidated	stockpile 1.1		

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)
Net correction:	0.8002	

Adjusted unit production:	1,120.28 LCY/hr
Adjusted fleet production:	2240.56 LCY/hr

Fleet size:	2 Dozer(s)
Unit cost:	\$0.257/LCY

Total job time:	3.72 Hours
Total job cost:	\$2,138

REVEGETATION WORK

1	Task description:Seed bar		Seed bank	ks of po	nd			
Site:	Two Rive Reservoir	ers Sand, Gra r Project	avel and	Peri	nit Action:	2023 Application	Permit/Jol	b#: <u>M2022013</u>
<u>PI</u>	ROJECT	IDENTIFIC	CATION					
<u>P</u>	ROJECT Task #:	IDENTIFIC		State:	Colorado		Abbreviation:	None
<u> PI</u>			<u> </u>	State: _	Colorado Weld		Abbreviation: Filename:	None M013-03e

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	200.00	pound	\$0.38	\$76.00
			Total Fertilizer Materials Cost/Acre	\$76.00

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$39.64
	Total Fertilizer Application Cost/Acre	\$39.64

TILLING

Description		Cost /Acre
Chisel plowing {DMG}		\$98.43
Weed control spraying (MEANS 31 31 16.13 3100)		\$290.40
	Total Tilling Cost/Acre	\$388.83

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alkali Sacaton	0.10	3.90	\$2.85
Blue Grama - Lovington	0.20	3.26	\$3.20
Indian Ricegrass - Paloma	1.90	6.15	\$21.14
Switchgrass - Pathfinder	0.90	8.04	\$11.48
Sand Dropseed	0.10	11.94	\$0.98
Kentucky Bluegrass - Ginger	0.10	4.94	\$0.32
Little Bluestem - Pastura	0.30	1.79	\$4.04
Sideoats Grama - Vaughn	1.80	5.91	\$15.08
Strawberry Clover (coated)	0.10	0.68	\$0.63

Smooth Brome - Manchar	0.30	1.00	\$1.00
Sheep Fescue - Covar	0.40	6.24	\$2.44
Tall Wheatgrass - Jose	1.10	1.99	\$3.71
Totals Seed Mix	7.30	55.84	\$66.85

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
Herbicide - Curtail @ 4.0 pt/ac	1.00	ACRE	\$7.94	\$7.94
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$421.36	\$842.72
Total Mulch Materials Cost/Acre				\$850.66

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$73.00
Weed spray, truck, non-aquatic area, nox. [DMG]		\$62.72
	Total Mulch Application Cost/Acre	\$135.72

NURSERY STOCK PLANTING

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

	No. of Acres:	8.5	Cost /Acre:	\$1,789.70	
Estimate	ed Failure Rate:	25%	Cost /Acre*:	\$1,789.70	
*Selected Replanti	ng Work Items:	FERTILIZING,TII	LLING,SEEDING,MU		
		LCHING			
Initial Job Cost:	\$15,212.45				
Reseeding Job Cost:	\$3,803.11				
Total Job Cost:	\$19,016				
Job Hours:	5.00				

DEMOLITION WORK

	Task description:	Demo and re	emove concrete	and conveyor		
Site:	Two Rivers Sand, Gra Reservoir Project	vel and	Permit Action:	2023 Application	Permit	/Job#: M2022013
<u>PROJE</u>	CT IDENTIFICATIO	<u>DN</u>				
Task	#: 04A	State:	Colorado		Abbreviation:	None
Dat	te: 2/15/2023	County:	Weld		Filename:	M013-04a
Use	er: RDZ					

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 89.20 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Concrete pads	15x30,15x60,15x25	Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	1,725.00	SF	\$2.30	\$3,962.33
Concrete supports - truck scales	Convert 10 CY (Exh L)	Demo. and on-site disposal in existing pit, 1.5 ft. x 2 ft Max. 10,000 ft. haul	90.00	LF	\$6.89	\$620.10
Concrete supports - temp buildings	Convert 8 CY (Exh L)	Demo. and on-site disposal in existing pit, 1.5 ft. x 2 ft Max. 10,000 ft. haul	72.00	LF	\$6.89	\$496.08
Concrete blocks for conveyor	45 2'x2'x6' blocks	Demo. and on-site disposal in existing pit, 1.5 ft. x 2 ft Max. 10,000 ft. haul	360.00	LF	\$6.89	\$2,480.40
Conveyor - not elevated	3' x6', 1787' long	Conveyor, demolition, off-site disposal in approved landfill, 30 mile haul	16,000.00	CF	\$0.80	\$12,800.00
Conveyor - elevated	3' wide, 375' long	Bridge Demolition - Steel	1,125.00	SF	\$9.57	\$10,766.25
Fuel tanks	6,000 gallons	Comprehensive storage tank removal, non-leaking - 6,000 to 8,000 gal. tank	2.00	EA	\$5,416.35	\$10,832.70

				Total Cost	
		Subtotal		(adjusted for	
Job Hours:	175.00	(unadjusted):	\$41,957.86	location):	\$37,426.41

BULLDOZER RIPPING WORK

	Task description:	Rip	processing area	, wash po	ond area				_
Site	Two Rivers Sa Reservoir Proj	,	d Permit	Action:	2023 Application	on	Permit/Job#:	M2022013	
	PROJECT IDE	ENTIFICATI	<u>ION</u>						
	Task #: 05A Date: 2/15 User: RD2	5/2023		Colorado Veld		A	Abbreviation: Filename:	None M013-05a	
	Agency	or organization	name: DRM	S					
	HOURLY EQU	JIPMENT C	OST						
	Basic N	Machine: Ca	t D8T - 8SU			Horsepowe	er:	310	
	Ripper Atta	achment: 1-S	Shank Ripper			Shift Basi	s: 1 p	er day	
						Data Sourc	e: (0	CRG)	
	Cost Breakdown:				1		/		
		Ownership C	ost/Hour:		\$124.85	Utilization % NA	0		
		Operating C			\$97.63	100			
		r Ownership C			\$16.38	NA			
	Rıpp	er Operating C Operator C			\$8.60 \$40.04	100 NA			
		Total Unit C			\$287.50	NA			
		Total Fleet C	ost/Hour:	\$574	4.99				
	MATERIAL Q	UANTITIES	5	Sele	ected estimating	method: A	Area		_
	Alternate Methods	<u>s:</u>							
smic:	NA		Bank V	olume:	NA	BCY		NA	
Area:	21.36	acres	Rip Dep	oth (ft):	1.00	Volume:	34,461	BC	Y or C
		Source of esti	mated quantity:	Exhibi	t C-2				
	HOURLY PRO	DUCTION							
	Seismic:	20011011							
	<u>Seisinie.</u>		Seismic Velocity	/:	NA	feet/	second		
	Area.								
	<u>Area:</u>	Avera	ge Ripping Deptl	n:	3.71	feet/	pass		
			ge Ripping Width		5.56	feet/			
			e Ripping Lengtl		150.00	feet/			
			rage Dozer Speed		88.00		minute		
			e Maneuver Time		0.25		utes/pass		
			ction per unit area	1:	0.588	acre	s/hour		
	Job Condition Con	rrection Factor	<u>s</u>						
	Una	adjusted Hourly	y Unit Production	n:	0.588	Acre	es/hr		
			Site Altitude	e:	4,680	feet			
			Altitude Ad	j:	1.00	(CA	T HB)		
			Job Efficiency		0.83		nift/day)		
			Net Correction	ı:	0.83	mult	iplier		
			Hourly Unit Pro Hourly Fleet Pro		0.49 0.98	Acres/h			
	JOB TIME AN	D COST							
	Fleet size:	2	Grader(s)		Total job time	e:	21.89	Hours	
	Unit cost:	\$589.354	Per acre		Total job cos	t:	\$12,588		

CIRCES Cost Estimating Software

TRUCK/LOADER TEAM WORK

Site:		d, Gravel and ct	Permit A	Action	:2023 Applic	ation	Permit/Job#:	M2022013	
]	PROJECT IDEN	NTIFICATION	1						
	Task #: 05C Date: 2/15/2 User: RDZ	2023		olorado eld	0	Ab	breviation: Filename:	None M013-05c	
	Agency of	organization nat	me: DRMS						_
I	HOURLY EQUI	PMENT COS	Т			Shift has	is: <u>1 per day</u>		
-			<u>+</u>	Fa	uipment Descri		15. <u>1 per auy</u>		
	r	Fruck Loader Tea		Gener	ic 12-18 cy, 6x4				-
	Supr	ort Equipment -I		CAT 9 NA	966H high lift				-
	Subt			NA					-
	Road M	laintenance – Mot		NA	T 1 2 500	A 1			-
		- W :	ater Truck:	Water	Tanker, 3,500	Jal.			-
	Cost Breakdown:		ader Team			Equipment		nance Equip	
		Truck	Loader]	Load Area	Dump Area	Motor Grad	er Water'	Truck
%Util	ization-machine:	100	10	00	NA	NA	N	IA	10
	ership cost/hour:	\$24.21	\$49.		NA	NA			\$14.9
-	erating cost/hour:	\$57.28	\$43.0		NA	NA			\$33.32
	Utilization-riper: r own. cost/hour:	NA NA	\$0.0	0	NA NA	NA NA		IA IA	NA \$0.0
	ber op. cost/hour:	NA NA	\$0.0		NA	NA		IA	\$0.0
	perator cost/hour:	\$24.82	\$35.9		NA	NA		IA	\$0.00
	Unit Subtotals:	\$106.31	\$128.	16	NA	NA	N	IA	\$48.30
l	Number of Units:	2		1	0	0		0	
	Group Subtotals:	Work:	\$340.78		Support:	\$0.00	Main	nt: \$48.30	
-	Fotal work team co	st/hour: <u>\$389.08</u>	8						
]	MATERIAL QU	ANTITIES							
	Initial volume	: 17,230	C	CCY	Swell	factor: 1.000			
	Loose volume	: 17,2	30 L	CY					
		ource of estimated			21.36 acres and	d depth of 6".			_
	Source	e of estimated swo Material Purch		Cat Hai 0.00	ndbook				-
				0.00 0.00					-
1		ΠΙΟΤΙΟΝ							-
,	HOURLY PRC								
	Truck Payload (wei								
-	Material y	weight: <u>1,600</u> ription: Top Se	~i1		Pounds/LCY				

Truck/Loader Worksheet Co	ont'd	Task # 05C			Page 2 of 3	
Payload Capacity:	31.44	LCY				
Truck Bed (volume) Basis:						
Struck Volume:	12.00	LCY				
Heaped Volume:		LCY				
Average Volume:		LCY				
Adjusted Volume: _	18.00	LCY				
Fina	ll Truck Volume	Based on Number of L	oader Passes:	15.75	LCY	
Loading Tool Capacity			Bucl	ket Size Class:	NA	
Rated Capacity:	5.000	LCY (heaped)	Duci		1171	_
Bucket Fill Factor:	1.050	Other - moist loan	n (100-1	10%) 1.050		-
Adjusted Capacity:	5.250	LCY		10/0/ 1.050		_
Job Condition Corrections	<u>s:</u>	Site	Altitude (ft.): 4	<u>4680</u> feet		
	Truck	Loader	Source			
Altitude Adj:	1.000	1.000	(CAT HE	3)		
Job Efficiency:	0.830	0.830	(CAT HE	3)		
Net Correction:	0.830	0.830				
	vs. Job Condition within this Basic - Material Descri	e Rating: NA				
Cycle Time Elements (min.)):					
Load: NA	M	aneuver: NA		Dump: 0.1	.00	
Wheel and Track Loaders	- Unadjusted Ba	sic Loader Cycle Time	(load, dump, r	naneuver):	0.500 minu	utes
Cycle Time Factors				Factor (min.)	Source	
Material:		t - factor not applicable		0.000	(Cat HB)	
Stockpile:		t - factor not applicable		0.000	(Cat HB)	
Truck Ownership:		t - factor not applicable		0.000	(Cat HB)	
Operation: Dump Target:		nt - factor not applicabl t - factor not applicable		0.000 0.000	(Cat HB) (Cat HB)	_
Dump Target.	No adjustition	Net Cycle Time		0.000	minutes	
		Adjusted Loader	-	0.500	minutes	
		Net Load Tim		1.100	minutes	
Truck Cycle Time:						
Truck Exchange Tim	e: 0.50	Minutes	Adjusted	for site altitude:	0.500	Minute
Truck Load Tim	e: 1.100	Minutes	Adjusted	for site altitude:	1.100	Minute
ck Maneuver and Dump Tim	e: 0.90	Minutes	Adjusted	for site altitude:	0.900	Minute
Truck Travel (Haul & Retur maintained 3.0	m) Time:	Road Condition: <u>Fir</u>	m, smooth, rol	ling, dirt/lt. surfa	ced, watered,	

Haul Rou	te:							
Seg #		Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	(Ft)			(%)	(%)	(fpm)	Time (min)	
1	3000.0	00	0.00	3.00	3.00	2824	1.224	
					Haul Time:	1.224	minutes	
Return Ro	oute:							
Seg #		Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	(Ft)			(%)	(%)	(fpm)	Time (min)	
1	3000.0	00	0.00	3.00	3.00	2874	1.079	
					Return Time:	1.079	minutes	
				Total Tru	ck Cycle Time:	4.803	minutes	
Loading Too	ol unit							
Produ		590.63	LCY/Hour		Adjusted for j	ob efficiency:	490.22	LCY/Hour
Truck Unit Produ	iction _	196.75	LCY/Hour		Adjusted for j	ob efficiency:	163.30	_ LCY/Hour
Optimal No. of Tr	ucks:	3	Truck(s)		Selected Num	per of Trucks:	2	Truck(s)
			Adjuste	d hourly truc	k team production	on: 326	.61 LCY/F	Hour
					er team production			
			Adjusted multip	le truck/loade	er team production	on: 326.	.61 LCY/H	Hour
JOB TIM	ME AN	D COST						
Fleet	size:	1	Team(s)	1	Fotal job time:	52.7	5 Hour	rs
Unit	cost:	\$1.191	/LCY	,	Total job cost:	\$20,52	26	

BULLDOZER WORK

Reservoir Project	Fravel and	Permit Action:	2023 Application	Permit/Job#:	M2022013
PROJECT IDENTI	FICATION				
Task #: 05D	Sta	te: Colorado		Abbreviation:	None
Date: 2/15/2023				Filename:	M013-05d
User: RDZ		-		-	
Agency or org	anization name:	DRMS			
HOURLY EQUIPM	IENT COST				
	at D8T - 8SU				
1	10				
•1	emi-Universal				
	-shank ripper				
	per day				
Data Source: (0	CRG)				
Cost Breakdown:			1		
			Utilization %		
Ownership Cost/Hour		\$124.85	NA		
Operating Cost/Hour		\$97.63	100 NA		
Ripper own. Cost/Hour Ripper op. Cost/Hour		\$16.38 \$8.60	NA 100		
Operator Cost/Hour		\$40.04	NA		
MATERIAL QUAN	TITIES				
	,230 215				
Looso volumo. 20	024 I CV				
	,934 LCY				
Source of estimated vol	ume: Area	of 21.36 acres.	Depth of 6".		
Source of estimated vol	ume: Area	of 21.36 acres. 1 landbook	Depth of 6".		
Source of estimated vol Source of estimated swe	ume: Area ell factor: Cat H		Depth of 6".		
Source of estimated vol Source of estimated swe	ume: Area ell factor: Cat H		Depth of 6".		
Source of estimated vol Source of estimated swe HOURLY PRODUC Average push distance:	ume: Area ell factor: Cat H CTION 50 feet	landbook	Depth of 6".		
Source of estimated vol Source of estimated swe HOURLY PRODUC Average push distance:	ume: Area ell factor: Cat H CTION 50 feet		Depth of 6".		
Source of estimated vol Source of estimated swo HOURLY PRODUC Average push distance: Unadjusted hourly prod	ume: <u>Area</u> ell factor: <u>Cat H</u> <u>CTION</u> luction: <u>50 feet</u> 1,400.0	landbook			
Source of estimated vol Source of estimated swo HOURLY PRODUC Average push distance: Unadjusted hourly prod Materials consistency d	ume: <u>Area</u> ell factor: <u>Cat H</u> <u>CTION</u> luction: <u>50 feet</u> 1,400.0	landbook LCY/hr			
Source of estimated vol Source of estimated swo HOURLY PRODUC Average push distance: Unadjusted hourly prod Materials consistency d Average push gradient:	ume: <u>Area</u> ell factor: <u>Cat H</u> <u>CTION</u> luction: <u>50 feet</u> 1,400.0 escription: <u>Par</u>	landbook LCY/hr			
Source of estimated vol Source of estimated swo HOURLY PRODUC Average push distance: Unadjusted hourly prod Materials consistency d Average push gradient: Average site altitude:	ume:Areaell factor: $Cat H$ CTION50 feetluction: $1,400.0$ escription:Par0 %4,680 feet	landbook LCY/hr tly consolidated			
Source of estimated vol Source of estimated swo HOURLY PRODUC Average push distance: Unadjusted hourly prod Materials consistency d Average push gradient: Average site altitude:	ume: <u>Area</u> ell factor: <u>Cat H</u> <u>CTION</u> luction: <u>50 feet</u> 1,400.0 escription: <u>Par</u> <u>0 %</u>	landbook LCY/hr tly consolidated			
Source of estimated vol Source of estimated swo HOURLY PRODUC Average push distance: Unadjusted hourly prod Materials consistency d Average push gradient: Average site altitude: Material weight:	ume:Areaell factor: $Cat H$ CTION50 feetluction: $1,400.0$ escription:Par0 %4,680 feet	landbook LCY/hr tly consolidated			
Source of estimated vol Source of estimated swo HOURLY PRODUC Average push distance: Unadjusted hourly prod Materials consistency d Average push gradient: Average site altitude: Material weight: Weight description:	ume: <u>Area</u> ell factor: <u>Cat H</u> <u>CTION</u> luction: <u>1,400.0</u> escription: <u>Par</u> <u>0 %</u> <u>4,680 feet</u> <u>1,600 lbs/LCY</u> <u>Top Soil</u>	landbook LCY/hr tly consolidated			
Source of estimated vol Source of estimated swo HOURLY PRODUC Average push distance: Unadjusted hourly prod Materials consistency d Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction Operato	ume: <u>Area</u> ell factor: <u>Cat H</u> <u>CTION</u> luction: <u>1,400.0</u> escription: <u>Par</u> <u>0 %</u> <u>4,680 feet</u> <u>1,600 lbs/LCY</u> <u>Top Soil</u> on Factor r Skill:	LCY/hr tly consolidated	stockpile 1.1 <u>Source</u> (AVG.)		
Source of estimated vol Source of estimated swo HOURLY PRODUC Average push distance: Unadjusted hourly prod Materials consistency d Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction	ume: <u>Area</u> ell factor: <u>Cat H</u> <u>CTION</u> luction: <u>1,400.0</u> escription: <u>Par</u> <u>0 %</u> <u>4,680 feet</u> <u>1,600 lbs/LCY</u> <u>Top Soil</u> <u>on Factor</u> r Skill: <u></u>	landbook LCY/hr tly consolidated	stockpile 1.1		

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Adjusted unit production:	1,240.68 LCY/hr
Adjusted fleet production:	2481.36 LCY/hr

Fleet size:	2 Dozer(s)
Unit cost:	\$0.232/LCY

Total job time:	8.44 Hours
Total job cost:	\$4,851

REVEGETATION WORK

Т	Task description: Seed pro		ocessing	area and wa	sh pond area			
Site:	Two Rive Reservoir	ers Sand, Gra Project	avel and	Per	mit Action:	2023 Application	Permit/Jol	o#: <u>M2022013</u>
<u>PF</u>	ROJECT	IDENTIFI	<u>CATION</u>					
<u>PF</u>	ROJECT Task #:	IDENTIFI 05E	CATION	State:	Colorado		Abbreviation:	None
<u>PF</u>				State: County:	Colorado Weld		Abbreviation: Filename:	None M013-05e

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	200.00	pound	\$0.38	\$76.00
			Total Fertilizer Materials Cost/Acre	\$76.00

Application

Description		Cost /Acre \$39.64
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$39.64
	Total Fertilizer Application Cost/Acre	\$39.64

TILLING

Description		Cost /Acre
Chisel plowing {DMG}		\$98.43
Weed control spraying (MEANS 31 31 16.13 3100)		\$290.40
	Total Tilling Cost/Acre	\$388.83

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alkali Sacaton	0.10	3.90	\$2.85
Blue Grama - Lovington	0.20	3.26	\$3.20
Indian Ricegrass - Paloma	1.90	6.15	\$21.14
Switchgrass - Pathfinder	0.90	8.04	\$11.48
Sand Dropseed	0.10	11.94	\$0.98
Kentucky Bluegrass - Ginger	0.10	4.94	\$0.32
Little Bluestem - Pastura	0.30	1.79	\$4.04
Sideoats Grama - Vaughn	1.80	5.91	\$15.08
Strawberry Clover (coated)	0.10	0.68	\$0.63

Smooth Brome - Manchar	0.30	1.00	\$1.00
Sheep Fescue - Covar	0.40	6.24	\$2.44
Tall Wheatgrass - Jose	1.10	1.99	\$3.71
Totals Seed Mix	7.30	55.84	\$66.85

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
Herbicide - Curtail @ 4.0 pt/ac	1.00	ACRE	\$7.94	\$7.94
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$421.36	\$842.72
Total Mulch Materials Cost/Acre				\$850.66

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$73.00
Weed spray, truck, non-aquatic area, nox. [DMG]		\$62.72
	Total Mulch Application Cost/Acre	\$135.72

NURSERY STOCK PLANTING

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

	No. of Acres:	21.36	Cost /Acre:	\$1,789.70
Estimate	ed Failure Rate:	25%	Cost /Acre*:	\$1,789.70
*Selected Replanti	ng Work Items:	FERTILIZING,T	ILLING,SEEDING,MU	
		LCHING		
Initial Job Cost:	\$38,227.99			
Reseeding Job Cost:	\$9,557.00			
Total Job Cost:	\$47,785			
Job Hours:	11.00			

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Т	ask description:	Mot	oilization and D	emob.						
e: _	Two Rivers San Reservoir Proje		d Permit	Action:	2023	Applicatio	<u>n</u>]	Permit/Job#	#: <u>M</u> 2	2022013
PF	ROJECT IDEN	FIFICATI	<u>ON</u>							
	Task #: 06A Date: 2/15/2 User: RDZ	2023		olorado /eld				eviation: lename:	None M013	-06a
	Agency or	organization	name: DRMS	5						
EC	QUIPMENT TR	ANSPORT	T RIG COST							
						(Shift ba Cost Data Sour		per day RG Dat	
	Truck 7	Tractor Descr	iption: GENI	ERIC ON	-HIGHV		JCK TRACTO	, ,	IESEL	POWERED,
Co	Truck ⁷ st Breakdown:	Frailer Descr	iption: C	JENERIC		ING GOO	(2ND HALF, SENECK, DF (25T, 50T, AN	ROP DECK	EQUI	PMENT
	Available Rig Cap	pacities	0-25 Tons	26-50	Tons	51+	- Tons			
	Ownership C		\$15.25		3.06		37.58			
	Operating C		\$25.26	\$30).83	\$5	51.41			
	Operator C		\$27.71	\$27	7.71	\$2	27.71			
		Cost/Hour:	\$0.00	\$20).22	\$2	20.22			
	Total Unit C	Cost/Hour:	\$68.22	\$10	1.82	\$1	36.92			
<u>N(</u>	ON ROADABL	E EQUIPM	IENT:							
N	Machine	Weight/	Owner ship	Haul F	Rig	Fleet	Haul Trip	Return T	rip	DOT Permit
	Description	Unit	Cost/hr/ unit	Cost/h		Size	Cost/hr/	Cost/hr/		Cost/ fleet
	E	(TONS)		t			fleet			
C	Cat D8T - 8SU	52.21	\$141.23	\$136.9	2	2	\$556.30	\$273.84		\$250.00
(CAT 966H high	25.80	\$49.15	\$68.22		1	\$117.37	\$68.22		\$250.00

ROADABLE EQUIPMEN	<u>NT:</u>			
Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Generic 12-18 cy, 6x4	\$106.31	2	\$212.62	\$212.62
Water Tanker, 3,500 Gal.	\$48.30	1	\$48.30	\$48.30
		Subtotals:	\$260.92	\$260.92

\$68.22

\$68.22

2

1

\$357.36

\$74.47

Subtotals: \$1,105.50

\$136.44

\$546.72

\$68.22

\$500.00

\$250.00

\$1,250.00

lift

CAT 815F

Seeder with Tractor

Drill/Broadcast

22.88

25.00

\$110.46

\$6.25

CIRCES Cost Estimating Software

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region: Total one-way travel distance: Average Travel Speed:	GREELEY 5.00 40.00	miles mph
Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	\$2,913.06	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	\$65.23	

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):	0.00	NA
Unloading Time (Hours):	0.00	NA
Subtotals:	0.25	0.25

JOB TIME AND COST

Total job time: 0.50 Hours

Total job cost: \$2,978