COST SUMMARY WORK

Task description: **Cost Summary**

Site: **CoProp No. 1** Permit Action: New Application Permit/Job#: M2023022

PROJECT IDENTIFICATION

Task#: 000 State: Colorado Abbreviation: None
Date: 8/9/2023 County: Weld Filename: M022-000
User: ERR

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Remove Road Base and Re-grade	LOADER	1	3.81	$478
002	Backfill 2,800 CY of Oversized Material	LOADER	1	16.98	$2,124
003	Replace Topsoil (Processing Area)	LOADER	1	22.48	$2,813
004	Replace Topsoil (Extraction Area)	LOADER	1	56.89	$7,117
005	Revegetate the Site	REVEGE	1	15.00	$16,120
006	20 tons/acre Manure (User Input - $50/acre)	NA	1	10.00	$500
007	Mob/Demob Reclamation Equipment	MOBILIZE	1	4.31	$4,035
			SUBTOTALS:	**129.47**	**$33,187**

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	$670
Performance bond:	1.05	Total =	$348
Job superintendent:	0.00	Total =	$0
Profit:	10.00	Total =	$3,319
		TOTAL O & P =	$4,338
		CONTRACT AMOUNT (direct + O & P) =	$37,525

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	$0	Total =	$0
Engineering work and/or contract/bid preparation:	0.00	Total =	$0
Reclamation management and/or administration:	5.00		$1,876
CONTINGENCY:	0.00	Total =	$0
		TOTAL INDIRECT COST =	$6,214
		TOTAL BOND AMOUNT (direct + indirect) =	**$39,400**

WHEEL LOADER – LOAD AND CARRY WORK

Task description: **Remove Road Base and Re-grade**

Site: **CoProp No. 1** Permit Action: New Application Permit/Job#: M2023022

PROJECT IDENTIFICATION

Task #: 001 State: Colorado Abbreviation: None
Date: 8/9/2023 County: Weld Filename: M022-001
User: ERR

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 950H Horsepower: 197
Attachment 1: ROPS Cab Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$49.32	NA
Operating Cost/Hour:	$39.80	100
Operator Cost/Hour:	$35.97	NA
Total Unit Cost/Hour:	$125.09	
Total Fleet Cost/Hour:	$125.09	

MATERIAL QUANTITIES

Initial volume: 400 CCY Swell factor: 1.120
Loose volume: **448** LCY

Source of estimated volume: Application
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Loader Cycle Time: Unadjusted Basic Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 0.02	0.020	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
	Net Cycle Time Adjustment:	-0.060	minutes
	Adjusted Basic Cycle Time:	0.440	minutes

Rolling Resistance – Road Conditions

Haul: Rutted dirt, little maintenance, no water, 1" tire penetration 4.0
Return: Rutted dirt, little maintenance, no water, 1" tire penetration 4.0

Haul and Return Time

	Length (feet)	Grade Res. (%)	Rolling Res. (%)	Total Res. (%)	Travel Time (minutes)	Source
Haul Route:	700	0.00	4.00	4.00	0.6017	(Cat HB)
Return Route:	700	0.00	4.00	4.00	0.5551	(Cat HB)

Total Travel Time:	1.1569	minutes
Total Cycle Time:	**1.5969**	minutes

Load Bucket Capacity

Rated Capacity:	4.30	LCY (heaped)
Bucket Fill Factor:	0.875	Loose material - 1/2" to 3/4" (85 - 90%) 0.875
Adjusted Capacity:	**3.76**	LCY

Job Condition Correction Factors
Site Altitude: 4750 feet

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

Unadjusted Hourly Unit Production:	141.37	LCY/Hour
Adjusted Hourly Unit Production:	117.34	LCY/Hour
Adjusted Hourly Fleet Production:	**117.34**	LCY/Hour

JOB TIME AND COST

Fleet size:	1	Loader(s)	Total job time:	**3.82**	Hours
Unit cost:	$1.066	/LCY	Total job cost:	**$478**	

WHEEL LOADER – LOAD AND CARRY WORK

Task description: **Backfill 2,800 CY of Oversized Material**

Site: **CoProp No. 1** Permit Action: New Application Permit/Job#: M2023022

PROJECT IDENTIFICATION

Task #: 002 State: Colorado Abbreviation: None
Date: 8/9/2023 County: Weld Filename: M022-002
User: ERR

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 950H Horsepower: 197
Attachment 1: ROPS Cab Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$49.32	NA
Operating Cost/Hour:	$39.80	100
Operator Cost/Hour:	$35.97	NA
Total Unit Cost/Hour:	$125.09	

Total Fleet Cost/Hour: $125.09

MATERIAL QUANTITIES

Initial volume: 2,800 CCY Swell factor: 1.000
Loose volume: **2,800** LCY

Source of estimated volume: Application
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Loader Cycle Time: Unadjusted Basic Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 0.02	0.020	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
	Net Cycle Time Adjustment:	-0.060	minutes
	Adjusted Basic Cycle Time:	0.440	minutes

Rolling Resistance – Road Conditions

Haul: Rutted dirt, little maintenance, no water, 1” tire penetration 4.0
Return: Rutted dirt, little maintenance, no water, 1” tire penetration 4.0

Haul and Return Time

	Length (feet)	Grade Res. (%)	Rolling Res. (%)	Total Res. (%)	Travel Time (minutes)	Source
Haul Route:	500	0.00	4.00	4.00	0.4298	(Cat HB)
Return Route:	500	0.00	4.00	4.00	0.3965	(Cat HB)

Total Travel Time:	0.8263	minutes
Total Cycle Time:	**1.2663**	minutes

Load Bucket Capacity

Rated Capacity:	4.30	LCY (heaped)
Bucket Fill Factor:	0.975	Sand and gravel (95% - 100%) 0.975
Adjusted Capacity:	**4.19**	LCY

Job Condition Correction Factors
Site Altitude: 4750 feet

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

Unadjusted Hourly Unit Production:	198.65	LCY/Hour
Adjusted Hourly Unit Production:	164.88	LCY/Hour
Adjusted Hourly Fleet Production:	**164.88**	LCY/Hour

JOB TIME AND COST

Fleet size:	1	Loader(s)	Total job time:	**16.98**	Hours
Unit cost:	$0.759	/LCY	Total job cost:	**$2,124**	

WHEEL LOADER – LOAD AND CARRY WORK

Task description: **Replace Topsoil (Processing Area)**

Site: **CoProp No. 1** Permit Action: New Application Permit/Job#: M2023022

PROJECT IDENTIFICATION

Task #: 003
Date: 8/9/2023
User: ERR

State: Colorado
County: Weld

Abbreviation: None
Filename: M022-003

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 950H
Attachment 1: ROPS Cab

Horsepower: 197
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$49.32	NA
Operating Cost/Hour:	$39.80	100
Operator Cost/Hour:	$35.97	NA
Total Unit Cost/Hour:	$125.09	

Total Fleet Cost/Hour: $125.09

MATERIAL QUANTITIES

Initial volume: 3,227 CCY Swell factor: 1.429
Loose volume: **4,610** LCY

Source of estimated volume: Application: 12” on 2 acres
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Loader Cycle Time: Unadjusted Basic Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 0.02	0.020	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
	Net Cycle Time Adjustment:	-0.060	minutes
	Adjusted Basic Cycle Time:	0.440	minutes

Rolling Resistance – Road Conditions

Haul: Rutted dirt, little maintenance, no water, 1” tire penetration 4.0
Return: Rutted dirt, little maintenance, no water, 1” tire penetration 4.0

Haul and Return Time

	Length (feet)	Grade Res. (%)	Rolling Res. (%)	Total Res. (%)	Travel Time (minutes)	Source
Haul Route:	350	0.00	4.00	4.00	0.3009	(Cat HB)
Return Route:	350	0.00	4.00	4.00	0.2776	(Cat HB)

Total Travel Time:	0.5784	minutes
Total Cycle Time:	**1.0184**	minutes

Load Bucket Capacity

Rated Capacity:	4.30	LCY (heaped)
Bucket Fill Factor:	0.975	Sand and gravel (95% - 100%) 0.975
Adjusted Capacity:	**4.19**	LCY

Job Condition Correction Factors

Site Altitude: 4750 feet

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

Unadjusted Hourly Unit Production:	247.00	LCY/Hour
Adjusted Hourly Unit Production:	205.01	LCY/Hour
Adjusted Hourly Fleet Production:	**205.01**	LCY/Hour

JOB TIME AND COST

Fleet size:	1	Loader(s)	Total job time:	**22.49**	Hours
Unit cost:	$0.610	/LCY	Total job cost:	**$2,813**	

WHEEL LOADER – LOAD AND CARRY WORK

Task description: **Replace Topsoil (Extraction Area)**

Site: **CoProp No. 1** Permit Action: New Application Permit/Job#: M2023022

PROJECT IDENTIFICATION

Task #: 004 State: Colorado Abbreviation: None
Date: 8/9/2023 County: Weld Filename: M022-004
User: ERR

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 950H Horsepower: 197
Attachment 1: ROPS Cab Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$49.32	NA
Operating Cost/Hour:	$39.80	100
Operator Cost/Hour:	$35.97	NA
Total Unit Cost/Hour:	$125.09	

Total Fleet Cost/Hour: $125.09

MATERIAL QUANTITIES

Initial volume: 5,808 CCY Swell factor: 1.429
Loose volume: **8,297** LCY

Source of estimated volume: Application: 12” on 6 acres (40% reduction for contemp rec)
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Loader Cycle Time: Unadjusted Basic Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 0.02	0.020	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
	Net Cycle Time Adjustment:	-0.060	minutes
	Adjusted Basic Cycle Time:	0.440	minutes

Rolling Resistance – Road Conditions

Haul: Rutted dirt, little maintenance, no water, 1” tire penetration 4.0
Return: Rutted dirt, little maintenance, no water, 1” tire penetration 4.0

Haul and Return Time

	Length (feet)	Grade Res. (%)	Rolling Res. (%)	Total Res. (%)	Travel Time (minutes)	Source
Haul Route:	600	0.00	4.00	4.00	0.5158	(Cat HB)
Return Route:	600	0.00	4.00	4.00	0.4758	(Cat HB)

Total Travel Time:	0.9916	minutes
Total Cycle Time:	**1.4316**	minutes

Load Bucket Capacity

Rated Capacity:	4.30	LCY (heaped)
Bucket Fill Factor:	0.975	Sand and gravel (95% - 100%) 0.975
Adjusted Capacity:	**4.19**	LCY

Job Condition Correction Factors
Site Altitude: 4750 feet

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

Unadjusted Hourly Unit Production:	175.71	LCY/Hour
Adjusted Hourly Unit Production:	145.84	LCY/Hour
Adjusted Hourly Fleet Production:	**145.84**	LCY/Hour

JOB TIME AND COST

Fleet size:	1	Loader(s)	Total job time:	**56.89**	Hours
Unit cost:	$0.858	/LCY	Total job cost:	**$7,117**	

REVEGETATION WORK

Task description: **Revegetate the Site**

Site: **CoProp No. 1** Permit Action: New Application Permit/Job#: M2023022

PROJECT IDENTIFICATION

Task#: 005 State: Colorado Abbreviation: None
Date: 8/9/2023 County: Weld Filename: M022-005
User: ERR

Agency or organization name: DRMS

FERTILIZING

Materials

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

Application

Description	Cost/Acre
Manure, tractor spreader (MEANS 32 91 13.23 4450)	$74.49
Total Fertilizer Application Cost/Acre	**$74.49**

TILLING

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

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost/Acre
Indiangrass - Cheyenne	1.50	4.57	$16.95
Blue Grama - Lovington	0.50	8.16	$7.99
Indian Ricegrass - Paloma	1.00	3.24	$11.13
Switchgrass - Pathfinder	0.50	4.47	$6.38
Little Bluestem - Native	0.50	2.98	$6.78
Sideoats Grama - Butte	1.50	4.92	$13.50
Sand Bluestem - Garden Co.	2.00	5.19	$49.05
Coneflower, Prairie	0.30	8.15	$9.90
Thickspike Wheatgrass - Critana	0.30	1.06	$2.06
Prairie Sandreed - Goshen	1.50	9.40	$15.53

Totals Seed Mix	9.60	52.15	**$139.26**

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	$429.79	$859.57
Total Mulch Materials Cost/Acre				**$859.57**

Application

Description	Cost/Acre
Crimping, with tractor {DMG survey data}	$74.46
Total Mulch Application Cost/Acre	**$74.46**

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres: 9.99
Estimated Failure Rate: 25%
*Selected Replanting Work Items: TILLING,SEEDING

Cost /Acre: $1,492.60
Cost /Acre*: $484.08

Initial Job Cost: **$14,911.07**
Reseeding Job Cost: **$1,208.99**
Total Job Cost: **$16,120**
Job Hours: **15.00**

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Mob/Demob Reclamation Equipment**

Site: **CoProp No. 1** Permit Action: New Application Permit/Job#: M2023022

PROJECT IDENTIFICATION

Task #: 007 State: Colorado Abbreviation: None
Date: 8/9/2023 County: Weld Filename: M022-007
User: ERR

Agency or organization name: DRMS

EQUIPMENT TRANSPORT RIG COST

Shift basis: 1 per day
Cost Data Source: CRG Data

Truck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED, 400 HP (2ND HALF, 2006)

Truck Trailer Description: GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT TRAILER (25T, 50T, AND 100T)

Cost Breakdown:

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	$20.26	$36.04	$47.05
Operating Cost/Hour:	$39.51	$76.08	$82.85
Operator Cost/Hour:	$22.52	$22.52	$22.52
Helper Cost/Hour:	$0.00	$23.53	$23.53
Total Unit Cost/Hour:	$82.29	$158.17	$175.95

NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Ownership Cost/hr/unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/fleet	DOT Permit Cost/ fleet
CAT 950H	20.13	$49.32	$82.29	1	$131.61	$82.29	$250.00
Drill/Broadcast Seeder with Tractor	25.00	$6.73	$82.29	2	$178.04	$164.58	$250.00
Power Mulcher (Bowie LD-90)	6.00	$25.94	$82.29	2	$216.46	$164.58	$250.00
				Subtotals:	**$526.11**	**$411.45**	**$750.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/fleet	Return Trip Cost/hr/fleet
Light Duty Pickup, 4x4, 1 T. Crew	$128.47	2	$256.94	$256.94
		Subtotals:	**$256.94**	**$256.94**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	WINDSOR	
Total one-way travel distance:	41.80	miles
Average Travel Speed:	45.00	mph
Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	$3,557.44	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	$477.34	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.93	0.93
Return Time (Hours):	0.93	0.93
Loading Time (Hours):	0.15	NA
Unloading Time (Hours):	0.15	NA
Subtotals:	2.16	1.86

JOB TIME AND COST

Total job time:	**4.32**	Hours
Total job cost:	**$4,035**	