

COST SUMMARY WORK

Task description: Cost Summary

Site: #2 Verhoeff Pit

Permit Action: 2020 Bond

Permit/Job#: M2008013

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 3/17/2020

County: Bent

Filename: M013-000

User: DC1

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Backfill slopes to 3h:1V and level remaining stockpiles.	DOZER	1	3.45	\$1,215
002	Apply 4 inches of Topsoil over 9 acres	DOZER	1	11.96	\$4,210
003	vegetation over 4 acres	REVEGE	1	6.00	\$8,471
004	Mobilization of Vehicles	MOBILIZE	1	3.20	\$2,368
<u>SUBTOTALS:</u>				24.61	\$16,264

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$329

Performance bond: 1.05

Total = \$171

Job superintendent: 13.31

Total = \$926

Profit: 10.00

Total = \$1,626

TOTAL O & P = \$3,051

CONTRACT AMOUNT (direct + O & P) = \$19,315

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): \$500

Total = \$500

Engineering work and/or contract/bid preparation: 4.25

Total = \$821

Reclamation management and/or administration: 5.00

\$966

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$5,338

TOTAL BOND AMOUNT (direct + indirect) = \$21,602

BULLDOZER WORK

Task description: Backfill slopes to 3h:1V and level remaining stockpiles

Site: #2 Verhoeff Pit

Permit Action: 2020 Bond

Permit/Job#: M2008013

PROJECT IDENTIFICATION

Task #: 001

State: Colorado

Abbreviation: None

Date: 3/17/2020

County: Bent

Filename: M013-001

User: DC1

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU

Horsepower: 405

Blade Type: Semi-Universal

Attachment: 3-shank ripper

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$156.88	NA
Operating Cost/Hour:	\$127.87	100
Ripper own. Cost/Hour:	\$15.59	NA
Ripper op. Cost/Hour:	\$10.23	100
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$351.87	
Total Fleet Cost/Hour:	\$351.87	

MATERIAL QUANTITIES

Initial Volume: 1,232

Swell factor: 1.000

Loose volume: 1,232 LCY

Source of estimated volume: Reclaim highwall & stockpiles to a slopes of 3H:1V

Source of estimated swell
factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 150 feet

Unadjusted hourly
production: 910.5 LCY/hr

Materials consistency
description: Compacted fill or embankment 0.9

Average push
gradient: -5 %

Average site altitude: 3,880 feet

Material weight: 3,300 lbs/LCY

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

Job Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3919

Adjusted unit
production: 356.82 LCY/hr

Adjusted fleet
production: **356.82** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.986/LCY

Total job time: **3.45** Hours

Total job cost: **\$1,215**

BULLDOZER WORK

Task description: Apply 4 inches of Topsoil over 9 acres

Site: #2 Verhoeff Pit

Permit Action: 2020 Bond

Permit/Job#: M2008013

PROJECT IDENTIFICATION

Task #: 002

State: Colorado

Abbreviation: None

Date: 3/17/2020

County: Bent

Filename: M013-002

User: DC1

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU

Horsepower: 405

Blade Type: Semi-Universal

Attachment: 3-shank ripper

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$156.88	NA
Operating Cost/Hour:	\$127.87	100
Ripper own. Cost/Hour:	\$15.59	NA
Ripper op. Cost/Hour:	\$10.23	100
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$351.87	
Total Fleet Cost/Hour:	\$351.87	

MATERIAL QUANTITIES

Initial Volume: 4,840

Swell factor: 1.000

Loose volume: **4,840** LCY

Source of estimated volume: 4 Inches of Topsoil over 9 acres of disturbed land

Source of estimated swell
factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 150 feet

Unadjusted hourly
production: 910.5 LCY/hr

Materials consistency
description: Consolidated stockpile 1.0

Average push
gradient: 0 %

Average site altitude: 3,980 feet

Material weight: 2,900 lbs/LCY

Weight description: Decomposed rock - 50% Rock, 50% Earth

Job Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4443

Adjusted unit
production: 404.54 LCY/hr

Adjusted fleet
production: **404.54** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.870/LCY

Total job time: **11.96** Hours

Total job cost: **\$4,210**

REVEGETATION WORK

Task description: Vegetation over 4 acres

Site: #2 Verhoeff Pit

Permit Action: 2020 Bond

Permit/Job#: M2008013

PROJECT IDENTIFICATION

Task #: 003

State: Colorado

Abbreviation: None

Date: 3/17/2020

County: Bent

Filename: M013-003

User: DC1

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
	\$
Total Fertilizer Application Cost/Acre	\$0.00

TILLING

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

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Sand Dropseed	0.20	23.88	\$1.95
Inland Bluegrass - Native	0.60	13.50	\$3.57
Sideoats Grama - Vaughn	2.30	7.55	\$19.26
Western Wheatgrass - Arriba	3.20	8.08	\$20.80
Totals Seed Mix	6.30	53.01	\$45.58

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	\$301.00	\$602.00
Total Mulch Materials Cost/Acre				\$602.00

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$70.17
Total Mulch Application Cost/Acre	\$70.17

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	8.2	Cost /Acre:	\$949.75
Estimated Failure Rate:	30%	Cost /Acre*:	\$277.58
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$7,787.95
Reseeding Job Cost:	\$682.85
Total Job Cost:	\$8,471
Job Hours:	6.00

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: Mobilization of Vehicles

Site: #2 Verhoeff Pit

Permit Action: 2020 Bond

Permit/Job#: M2008013

PROJECT IDENTIFICATION

Task #: 004

State: Colorado

Abbreviation: None

Date: 3/17/2020

County: Bent

Filename: M013-004

User: DC1

Agency or organization name: DRMS

EQUIPMENT TRANSPORT RIG COST

Shift basis: 1 per day

Cost Data Source: CRG Data

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

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

Cost Breakdown:

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	\$17.20	\$29.63	\$38.69
Operating Cost/Hour:	\$26.56	\$47.02	\$55.69
Operator Cost/Hour:	\$23.63	\$23.63	\$23.63
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$67.39	\$123.81	\$141.54

NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D9T - 9SU	66.13	\$172.47	\$141.54	1	\$314.01	\$141.54	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$6.72	\$67.39	2	\$148.22	\$134.78	\$250.00

Subtotals: **\$462.23** **\$276.32** **\$500.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
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Subtotals:	\$0.00	\$0.00
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EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	<u>LAS ANIMAS</u>	
Total one-way travel distance:	<u>15.00</u>	miles
Average Travel Speed:	<u>50.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$2,367.59</u>
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$0.00</u>
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.30	0.30
Return Time (Hours):	0.30	0.30
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.60	0.60

JOB TIME AND COST

Total job time:	<u>3.20</u>	Hours
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Total job cost:	<u>\$2,368</u>
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