

## COST SUMMARY WORK

Task description: Cost Summary – Phase 1

Site: M. Larson Pit #1

Permit Action: RCE\_Phase1

Permit/Job#: M2018006

### PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 5/10/2018

County: Logan

Filename: M006-000

User: JLE

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Backfill/Grade Phase 1 Area	DOZER	1	11.36	\$1,366.00
002	Phase 1, Spread Topsoil	DOZER	2	10.57	\$2,543.00
003	Phase 1, Revegetation	REVEGE	1	2.27	\$2,508.00
004	Mobilization	MOBILIZE	1	4.12	\$5,888.00
<b><u>SUBTOTALS:</u></b>				<b>28.32</b>	<b>\$12,305</b>

### INDIRECT COSTS

#### OVERHEAD AND PROFIT:

Liability insurance: 2.02  
Performance bond: 1.05  
Job superintendent: 14.16  
Profit: 10.00

Total = \$248.56  
Total = \$129.20  
Total = \$1,034.39  
Total = \$1,230.50

TOTAL O & P = \$2,642.65

CONTRACT AMOUNT (direct + O & P) = \$14,947.65

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): 0.00  
Engineering work and/or contract/bid preparation: 0.00  
Reclamation management and/or administration: 5.00

Total = 0.00  
Total = \$0.00  
\$747.38

CONTINGENCY: 0.00

Total = \$0.00

TOTAL INDIRECT COST = \$3,390.03

**TOTAL BOND AMOUNT (direct + indirect) = \$15,695.03**

**Total Required Surety = \$15,700.00**

## BULLDOZER WORK

Task description: Backfill/Grade Phase 1 Area

Site: M. Larson Pit #1

Permit Action: RCE\_Phase1

Permit/Job#: M2018006

### PROJECT IDENTIFICATION

Task #: 001

State: Colorado

Abbreviation: None

Date: 5/10/2018

County: Logan

Filename: NA

User: JLE

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D6T LGP

Horsepower: 200

Blade Type: Straight

Attachment: NA

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$43.25	NA
Operating Cost/Hour:	\$35.17	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.85	NA
Total unit Cost/Hour:	\$120.27	
Total Fleet Cost/Hour:	<b>\$120.27</b>	

### MATERIAL QUANTITIES

Initial Volume: 3,655

Swell factor: 1.000

Loose volume: **3,655** LCY

Source of estimated volume: 1ft x 1762ft x 56 ft

Source of estimated swell  
factor: Cat Handbook

### HOURLY PRODUCTION

Average push distance: 60 feet

Unadjusted hourly  
production: 409.6 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push  
gradient: -30 %

Average site altitude: 4,125 feet

Material weight: 2,100 lbs/LCY

Weight description: Earth - Loam

Job Condition Correction Factor

Source

Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.601	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.095	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7857

Adjusted unit  
production: 321.82 LCY/hr

Adjusted fleet  
production: **321.82** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)

Unit cost: \$0.374/LCY

Total job time: **11.36** Hours

Total job cost: **\$1,366**

## BULLDOZER WORK

Task description: Phase 1, Spread Topsoil

Site: M. Larson Pit #1

Permit Action: RCE\_Phase1

Permit/Job#: M2018006

### PROJECT IDENTIFICATION

Task #: 002

State: Colorado

Abbreviation: None

Date: 5/10/2018

County: Logan

Filename: NA

User: JLE

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D6T LGP

Horsepower: 200

Blade Type: Straight

Attachment: NA

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$43.25	NA
Operating Cost/Hour:	\$35.17	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.85	NA
Total unit Cost/Hour:	\$120.27	
Total Fleet Cost/Hour:	<b>\$240.53</b>	

### MATERIAL QUANTITIES

Initial Volume: 7,784

Swell factor: 1.000

Loose volume: 7,784 LCY

Source of estimated volume: Bank area 98,672 SF, Avg. Soil Depth 2.13 FT

Source of estimated swell  
factor: Cat Handbook

### HOURLY PRODUCTION

Average push distance: 100 feet

Unadjusted hourly  
production: 303.3 LCY/hr

Materials consistency  
description: Partly consolidated stockpile 1.1

Average push  
gradient: -30 %

Average site altitude: 4,125 feet

Material weight: 1,600 lbs/LCY

Weight description: Top Soil

Job Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.100	(CAT HB)
Dozing method:	1.100	(50% SL)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	1.601	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 1.2139

Adjusted unit  
production: 368.18 LCY/hr

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Adjusted fleet  
production: **736.36** LCY/hr

**JOB TIME AND COST**

Fleet size: 2 Dozer(s)

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Unit cost: \$0.327/LCY

Total job time: **10.57** Hours

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Total job cost: **\$2,543**

## REVEGETATION WORK

Task description: Phase 1, Revegetation

Site: M. Larson Pit #1

Permit Action: RCE\_Phase1

Permit/Job#: M2018006

### PROJECT IDENTIFICATION

Task #: 003

State: Colorado

Abbreviation: None

Date: 5/10/2018

County: Logan

Filename: NA

User: JLE

Agency or organization name: DRMS

### FERTILIZING

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$0.00</b>

#### Application

Description	Cost /Acre
	\$
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$0.00</b>

### TILLING

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

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indiangrass - Cheyenne	1.02	3.11	\$17.54
Switchgrass - Blackwell	1.60	14.29	\$15.33
Big Bluestem - Native	1.09	3.25	\$11.17
Blue Grama - Native	0.38	6.20	\$5.51
Little Bluestem - Native	0.34	2.03	\$5.36
Sideoats Grama - Vaughn	0.91	2.99	\$9.10
Western Wheatgrass - Native	1.60	4.04	\$11.20
<b>Totals Seed Mix</b>	<b>6.94</b>	<b>35.91</b>	<b>\$75.21</b>

#### Application

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

## **MULCHING and MISCELLANEOUS**

### **Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	1.25	TON	\$261.00	\$326.25
<b>Total Mulch Materials Cost/Acre</b>				<b>\$326.25</b>

### **Application**

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

## **NURSERY STOCK PLANTING**

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

## **JOB TIME AND COST**

No. of Acres:	2.27	Cost /Acre:	\$905.09
Estimated Failure Rate:	25%	Cost /Acre*:	\$798.80
*Selected Replanting Work Items:	SEEDING,MULCHING		

Initial Job Cost:	<b>\$2,054.55</b>
Reseeding Job Cost:	<b>\$453.32</b>
Total Job Cost:	<b>\$2,508</b>
Job Hours:	<b>2.27</b>

## EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Mobilization**

Site: **M. Larson Pit #1**

Permit Action: **RCE\_Phase1**

Permit/Job#: **M2018006**

### PROJECT IDENTIFICATION

Task #: **004**

State: **Colorado**

Abbreviation: **None**

Date: **5/10/2018**

County: **Logan**

Filename: **M006-004**

User: **JLE**

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:	\$16.63	\$18.37	\$22.33
Operating Cost/Hour:	\$44.38	\$46.13	\$50.07
Operator Cost/Hour:	\$27.66	\$27.66	\$27.66
Helper Cost/Hour:	\$0.00	\$25.39	\$25.39
Total Unit Cost/Hour:	\$88.67	\$117.55	\$125.45

### NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D6T LGP	26.87	\$43.25	\$117.55	2	\$321.60	\$235.10	\$500.00
Drill/Broadcast Seeder with Tractor	25.00	\$12.22	\$88.67	2	\$201.78	\$177.34	\$500.00
Power Mulcher (Bowie LD-90)	6.00	\$7.03	\$88.67	2	\$191.40	\$177.34	\$500.00

Subtotals: **\$714.78** **\$589.78** **\$1,500.00**

### ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Fuel Tanker, 4x2, 170 HP	\$44.01	1	\$44.01	\$44.01
Light Duty Pickup, 4x4, 3/4 T.	\$40.24	1	\$40.24	\$40.24

Subtotals: **\$84.25** **\$84.25**



**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:	<u>STERLING</u>	
Total one-way travel distance:	<u>35.00</u>	miles
Average Travel Speed:	<u>50.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$5,769.89</u>
'* two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$117.95</u>
** one round trip, no haul rig:	

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.70	0.70
Return Time (Hours):	0.70	0.70
Loading Time (Hours):	0.33	NA
Unloading Time (Hours):	0.33	NA
Subtotals:	2.06	1.40

**JOB TIME AND COST**

Total job time:	<u>4.12</u>	Hours
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Total job cost:	<u>\$5,888</u>
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