

COST SUMMARY WORK

Task description: AM-1 Cost Estimate

Site: Timmath Connell Pit

Permit Action: AM-1

Permit/Job#: M1999050

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 9/17/2024

County: Larimer

Filename: M050-000

User: JR2

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

| Task | Description | Form Used | Fleet Size | Task Hours | Cost |
|--------------------------|---|-----------|------------|--------------|--------------------|
| 001 | Demolition | DEMOLISH | 1 | 10.00 | \$5,352 |
| 002 | Phase 1 - Backfill and Grade | SCRAPER1 | 1 | 228.50 | \$567,311 |
| 003 | Phase 1 - Liner Construction | NA | 1 | 100.00 | \$81,000 |
| 004 | Phase 1 - Cover Clay Liner | SCRAPER1 | 1 | 37.05 | \$91,996 |
| 005 | Phase 1 - Finish Backfill | SCRAPER1 | 1 | 6.52 | \$16,185 |
| 006 | Phase 1 - Revegetation of Affected Area | REVEGE | 1 | 42.00 | \$17,788 |
| 006a | Phase 1 - Reseed Reclamation areas | REVEGE | 1 | 27.65 | \$20,845 |
| 007 | Phase 2 - Reseed Reclamation Area | REVEGE | 1 | 15.00 | \$11,346 |
| 008 | Phase 3 - Backfill and Grade | SCRAPER1 | 1 | 117.34 | \$291,322 |
| 009 | Phase 3 - Finish Backfill | SCRAPER1 | 1 | 8.23 | \$20,444 |
| 010 | Phase 3 - Revegetation | REVEGE | 1 | 14.00 | \$5,929 |
| 011 | Phase 3 - Reseed | REVEGE | 1 | 3.00 | \$2,111 |
| 012 | Scarify Access and Haul Roads | RIPPER | 1 | 3.89 | \$1,346 |
| 013 | Revegetation of Roads | REVEGE | 1 | 3.50 | \$1,482 |
| 014 | Mob/Demob | MOBILIZE | 1 | 5.12 | \$13,515 |
| <u>SUBTOTALS:</u> | | | | 621.8 | \$1,147,972 |

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$23,189

Performance bond: 1.05

Total = \$12,054

Job superintendent: 310.90

Total = \$24,645

Profit: 10.00

Total = \$114,797

TOTAL O & P = \$174,685

CONTRACT AMOUNT (direct + O & P) = \$1,322,657

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

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

Total = \$500

Engineering work and/or contract/bid preparation: 4.25

Total = \$56,213

Reclamation management and/or administration: 5.00

\$66,133

CONTINGENCY: 3.00

Total = \$34,439

TOTAL INDIRECT COST = \$331,970

TOTAL BOND AMOUNT (direct + indirect) = \$1,479,942

DEMOLITION WORK

Task description: Demolition

Site: Timnath Connell Pit

Permit Action: AM-1

Permit/Job#: M1999050

PROJECT IDENTIFICATION

Task #: 001

State: Colorado

Abbreviation: None

Date: 9/25/2024

County: Larimer

Filename: M050-001

User: JR2

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 |
|-------------------------------|------------------|---------------------------|----------|------|-----------|------------|
| Cassion Removal | 2', 18" diameter | USER PROVIDED ITEM | 12.00 | Ea | \$500.00 | \$6,000.00 |

Job Hours: 10.00

Subtotal
(unadjusted): \$6,000.00

Total Cost
(adjusted for location): \$5,352.00

SCRAPER TEAM WORKTask description: **Phase 1 - Backfill and Grade**Site: **Timnath Connell Pit**Permit Action: **AM-1**Permit/Job#: **M1999050****PROJECT IDENTIFICATION**Task #: **002**State: **Colorado**Abbreviation: **None**Date: **9/25/2024**County: **Larimer**Filename: **M050-002**User: **JR2**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift basis: **1 per day**

| Equipment Description | |
|---------------------------------|--------------------------|
| -Scraper: | Cat 631G |
| -Dozer: | Cat D8T - 8SU |
| Support Equipment -Load Area: | NA |
| -Dump Area: | Cat D8T - 8SU |
| Road Maintenance -Motor Grader: | CAT 16M |
| -Water Truck: | Water Tanker, 3,500 Gal. |

Cost Breakdown:**Scraper Work Team****Support Equipment****Maintenance Equipment**

| | Scraper | Dozer | Load Area | Dump Area | Motor Grader | Water Truck |
|------------------------|----------|------------|-----------|-----------|--------------|-------------|
| %Utilization-machine: | 100 | 100 | NA | 100 | 50 | 50 |
| Ownership cost/hour: | \$442.19 | \$173.32 | NA | \$173.32 | \$179.39 | \$17.11 |
| Operating cost/hour: | \$252.89 | \$109.71 | NA | \$109.71 | \$59.82 | \$18.40 |
| %Utilization-ripper: | NA | NA | NA | NA | NA | NA |
| Ripper own. cost/hour: | NA | \$0.00 | NA | \$0.00 | \$0.00 | \$0.00 |
| Ripper op. cost/hour: | NA | \$0.00 | NA | \$0.00 | \$0.00 | \$0.00 |
| Operator cost/hour: | \$57.52 | \$40.04 | NA | \$40.04 | \$56.70 | \$0.00 |
| Unit Subtotals: | \$752.60 | \$323.07 | NA | \$323.07 | \$295.91 | \$35.51 |
| Number of Units: | 2 | 1 | 0 | 1 | 1 | 1 |
| Group Subtotals: | Work: | \$1,828.27 | Support: | \$323.07 | Maint: | \$331.42 |

Total work team cost/hour: **\$2,482.76****MATERIAL QUANTITIES**Initial volume: **214,896**

CCY

Swell factor: **1.125**Loose volume: **241,758**

LCY

Source of estimated volume: **Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

| | | | | |
|-----------------------|--|--------------------|--------------|-----|
| Material weight: | 2,650 lbs/LCY | Struck Volume: | 24.00 | LCY |
| Material description: | Decomposed rock - 25% Rock, 75% Earth | Heaped Volume: | 34.00 | LCY |
| Rated Payload: | 81,600 pounds | Average Volume: | 29.00 | LCY |
| Payload Capacity: | 30.79 LCY | Adjusted Capacity: | 29.00 | LCY |

Cycle Time:Scraper Loading Time: 0.80 MinutesManeuver and Spread Time: 0.70 MinutesJob Condition Correction:

Site Altitude: 4830 feet

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

Travel Time:Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0Haul Route:

| Seg # | Haul Distance (Ft) | Grade (%) | Roll. Res (%) | Total Res (%) | Velocity (fpm) | Travel Time (min) |
|-------|--------------------|-----------|---------------|---------------|----------------|-------------------|
| 1 | 700.00 | 5.00 | 3.00 | 8.00 | 783 | 0.92 |

Haul Time: 0.92 minutesReturn Route:

| Seg # | Haul Distance (Ft) | Grade (%) | Roll. Res (%) | Total Res (%) | Velocity (fpm) | Travel Time (min) |
|-------|--------------------|-----------|---------------|---------------|----------------|-------------------|
| 1 | 700.00 | -5.00 | 3.00 | -2.00 | 2920 | 0.31 |

Return Time: 0.31 minutesTotal Scraper team cycle time: 2.73 minutesAdjusted for job conditions: 529.01 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 1,058.02 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 1,058.02 LCY/HourUnadjusted unit production/hour: 637.36 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 228.50 HoursUnit cost: \$2.347 /LCYTotal job cost: \$567,311

SCRAPER TEAM WORKTask description: **Phase 1 - Cover Clay Liner**Site: **Timnath Connell Pit**Permit Action: **AM-1**Permit/Job#: **M1999050****PROJECT IDENTIFICATION**Task #: **004**State: **Colorado**Abbreviation: **None**Date: **9/25/2024**County: **Larimer**Filename: **M050-004**User: **JR2**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift basis: **1 per day**

| | Equipment Description |
|---------------------------------|--------------------------|
| -Scraper: | Cat 631G |
| -Dozer: | Cat D8T - 8SU |
| Support Equipment -Load Area: | NA |
| -Dump Area: | Cat D8T - 8SU |
| Road Maintenance -Motor Grader: | CAT 16M |
| -Water Truck: | Water Tanker, 3,500 Gal. |

Cost Breakdown:**Scraper Work Team****Support Equipment****Maintenance Equipment**

| | Scraper | Dozer | Load Area | Dump Area | Motor Grader | Water Truck |
|------------------------|----------|------------|-----------|-----------|--------------|-------------|
| %Utilization-machine: | 100 | 100 | NA | 100 | 50 | 50 |
| Ownership cost/hour: | \$442.19 | \$173.32 | NA | \$173.32 | \$179.39 | \$17.11 |
| Operating cost/hour: | \$252.89 | \$109.71 | NA | \$109.71 | \$59.82 | \$18.40 |
| %Utilization-ripper: | NA | NA | NA | NA | NA | NA |
| Ripper own. cost/hour: | NA | \$0.00 | NA | \$0.00 | \$0.00 | \$0.00 |
| Ripper op. cost/hour: | NA | \$0.00 | NA | \$0.00 | \$0.00 | \$0.00 |
| Operator cost/hour: | \$57.52 | \$40.04 | NA | \$40.04 | \$56.70 | \$0.00 |
| Unit Subtotals: | \$752.60 | \$323.07 | NA | \$323.07 | \$295.91 | \$35.51 |
| Number of Units: | 2 | 1 | 0 | 1 | 1 | 1 |
| Group Subtotals: | Work: | \$1,828.27 | Support: | \$323.07 | Maint: | \$331.42 |

Total work team cost/hour: **\$2,482.76****MATERIAL QUANTITIES**Initial volume: **34,848**

CCY

Swell factor: **1.125**Loose volume: **39,204**

LCY

Source of estimated volume: **Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

| | | | | |
|-----------------------|--|--------------------|--------------|-----|
| Material weight: | 2,650 lbs/LCY | Struck Volume: | 24.00 | LCY |
| Material description: | Decomposed rock - 25% Rock, 75% Earth | Heaped Volume: | 34.00 | LCY |
| Rated Payload: | 81,600 pounds | Average Volume: | 29.00 | LCY |
| Payload Capacity: | 30.79 LCY | Adjusted Capacity: | 29.00 | LCY |

Cycle Time:Scraper Loading Time: 0.80 MinutesManeuver and Spread Time: 0.70 MinutesJob Condition Correction:

Site Altitude: 4830 feet

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

Travel Time:Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0Haul Route:

| Seg # | Haul Distance (Ft) | Grade (%) | Roll. Res (%) | Total Res (%) | Velocity (fpm) | Travel Time (min) |
|-------|--------------------|-----------|---------------|---------------|----------------|-------------------|
| 1 | 700.00 | 5.00 | 3.00 | 8.00 | 783 | 0.92 |

Haul Time: 0.92 minutesReturn Route:

| Seg # | Haul Distance (Ft) | Grade (%) | Roll. Res (%) | Total Res (%) | Velocity (fpm) | Travel Time (min) |
|-------|--------------------|-----------|---------------|---------------|----------------|-------------------|
| 1 | 700.00 | -5.00 | 3.00 | -2.00 | 2920 | 0.31 |

Return Time: 0.31 minutesTotal Scraper team cycle time: 2.73 minutesAdjusted for job conditions: 529.01 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 1,058.02 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 1,058.02 LCY/HourUnadjusted unit production/hour: 637.36 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 37.05 HoursUnit cost: \$2.347 /LCYTotal job cost: \$91,996

SCRAPER TEAM WORKTask description: **Phase 1 - Finish Backfill**Site: **Timnath Connell Pit**Permit Action: **AM-1**Permit/Job#: **M1999050****PROJECT IDENTIFICATION**Task #: **005**State: **Colorado**Abbreviation: **None**Date: **9/25/2024**County: **Larimer**Filename: **M050-005**User: **JR2**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift basis: **1 per day**

| Equipment Description | |
|---------------------------------|--------------------------|
| -Scraper: | Cat 631G |
| -Dozer: | Cat D8T - 8SU |
| Support Equipment -Load Area: | NA |
| -Dump Area: | Cat D8T - 8SU |
| Road Maintenance -Motor Grader: | CAT 16M |
| -Water Truck: | Water Tanker, 3,500 Gal. |

Cost Breakdown:**Scraper Work Team****Support Equipment****Maintenance Equipment**

| | Scraper | Dozer | Load Area | Dump Area | Motor Grader | Water Truck |
|------------------------|----------|------------|-----------|-----------|--------------|-------------|
| %Utilization-machine: | 100 | 100 | NA | 100 | 50 | 50 |
| Ownership cost/hour: | \$442.19 | \$173.32 | NA | \$173.32 | \$179.39 | \$17.11 |
| Operating cost/hour: | \$252.89 | \$109.71 | NA | \$109.71 | \$59.82 | \$18.40 |
| %Utilization-ripper: | NA | NA | NA | NA | NA | NA |
| Ripper own. cost/hour: | NA | \$0.00 | NA | \$0.00 | \$0.00 | \$0.00 |
| Ripper op. cost/hour: | NA | \$0.00 | NA | \$0.00 | \$0.00 | \$0.00 |
| Operator cost/hour: | \$57.52 | \$40.04 | NA | \$40.04 | \$56.70 | \$0.00 |
| Unit Subtotals: | \$752.60 | \$323.07 | NA | \$323.07 | \$295.91 | \$35.51 |
| Number of Units: | 2 | 1 | 0 | 1 | 1 | 1 |
| Group Subtotals: | Work: | \$1,828.27 | Support: | \$323.07 | Maint: | \$331.42 |

Total work team cost/hour: **\$2,482.76****MATERIAL QUANTITIES**Initial volume: **6,131**

CCY

Swell factor: **1.125**Loose volume: **6,897**

LCY

Source of estimated volume: **Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

| | | | | |
|-----------------------|--|--------------------|--------------|-----|
| Material weight: | 2,650 lbs/LCY | Struck Volume: | 24.00 | LCY |
| Material description: | Decomposed rock - 25% Rock, 75% Earth | Heaped Volume: | 34.00 | LCY |
| Rated Payload: | 81,600 pounds | Average Volume: | 29.00 | LCY |
| Payload Capacity: | 30.79 LCY | Adjusted Capacity: | 29.00 | LCY |

Cycle Time:Scraper Loading Time: 0.80 MinutesManeuver and Spread Time: 0.70 MinutesJob Condition Correction:

Site Altitude: 4830 feet

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

Travel Time:Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0Haul Route:

| Seg # | Haul Distance (Ft) | Grade (%) | Roll. Res (%) | Total Res (%) | Velocity (fpm) | Travel Time (min) |
|-------|--------------------|-----------|---------------|---------------|----------------|-------------------|
| 1 | 700.00 | 5.00 | 3.00 | 8.00 | 783 | 0.92 |

Haul Time: 0.92 minutesReturn Route:

| Seg # | Haul Distance (Ft) | Grade (%) | Roll. Res (%) | Total Res (%) | Velocity (fpm) | Travel Time (min) |
|-------|--------------------|-----------|---------------|---------------|----------------|-------------------|
| 1 | 700.00 | -5.00 | 3.00 | -2.00 | 2920 | 0.31 |

Return Time: 0.31 minutesTotal Scraper team cycle time: 2.73 minutesAdjusted for job conditions: 529.01 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 1,058.02 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 1,058.02 LCY/HourUnadjusted unit production/hour: 637.36 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 6.52 HoursUnit cost: \$2.347 /LCYTotal job cost: \$16,185

REVEGETATION WORKTask description: **Phase 1 - Revegetation of Affected Area**Site: **Timnath Connell Pit**Permit Action: **AM-1**Permit/Job#: **M1999050****PROJECT IDENTIFICATION**Task #: **006**State: **Colorado**Abbreviation: **None**Date: **9/25/2024**County: **Larimer**Filename: **M050-006**User: **JR2**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 |
|--|-----------------|
| Disc harrowing, 6" deep (MEANS 32 91 13.23 6100) | \$117.61 |
| Weed control spraying (MEANS 31 31 16.13 3100) | \$338.80 |
| Total Tilling Cost/Acre | \$456.41 |

SEEDING

| Seed Mix | Rate – PLS LBS / Acre | Seeds per SQ. FT | Cost /Acre |
|--------------------------------|--------------------------------|------------------------|----------------|
| Blue Grama - Native | 1.00 | 16.32 | \$21.33 |
| Intermediate Wheatgrass - Rush | 5.00 | 10.67 | \$23.66 |
| Triticale | 1.25 | 0.72 | \$3.13 |
| Totals Seed Mix | 7.25 | 27.71 | \$48.11 |

Application

| Description | Cost /Acre |
|-------------|------------|
|-------------|------------|

| | |
|---|-----------------|
| Drill Seeding (DRMS Survey Cost) | \$236.64 |
| Total Seed Application Cost/Acre | \$236.64 |

MULCHING and MISCELLANEOUS**Materials**

| Description | Units / Acre | Unit | Cost / Unit | Cost /Acre |
|--|-----------------|------|-------------|---------------|
| | | | \$ | \$ |
| Total Mulch Materials Cost/Acre | | | | \$0.00 |

Application

| Description | Cost /Acre |
|--|---------------|
| | \$ |
| Total Mulch Application Cost/Acre | \$0.00 |

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: 24
 Estimated Failure Rate: 0%
 *Selected Replanting Work Items: SEEDING

Cost /Acre: \$741.16
 Cost /Acre*: \$284.75

Initial Job Cost: **\$17,787.84**
 Reseeding Job Cost: **\$0.00**
 Total Job Cost: **\$17,788**
 Job Hours: **42.00**

REVEGETATION WORKTask description: **Phase 2 - Reseed Reclamation Area**Site: **Timnath Connell Pit**Permit Action: **AM-1**Permit/Job#: **M1999050****PROJECT IDENTIFICATION**Task #: **007**State: **Colorado**Abbreviation: **None**Date: **9/25/2024**County: **Larimer**Filename: **M050-007**User: **JR2**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 |
|--|-----------------|
| Disc harrowing, 6" deep (MEANS 32 91 13.23 6100) | \$117.61 |
| Weed control spraying (MEANS 31 31 16.13 3100) | \$338.80 |
| Total Tilling Cost/Acre | \$456.41 |

SEEDING

| Seed Mix | Rate – PLS LBS / Acre | Seeds per SQ. FT | Cost /Acre |
|--------------------------------|--------------------------------|------------------------|----------------|
| Blue Grama - Native | 1.00 | 16.32 | \$21.33 |
| Intermediate Wheatgrass - Rush | 5.00 | 10.67 | \$23.66 |
| Triticale | 1.25 | 0.72 | \$3.13 |
| Totals Seed Mix | 7.25 | 27.71 | \$48.11 |

Application

| Description | Cost /Acre |
|-------------|------------|
|-------------|------------|

| | |
|---|-----------------|
| Drill Seeding (DRMS Survey Cost) | \$236.64 |
| Total Seed Application Cost/Acre | \$236.64 |

MULCHING and MISCELLANEOUS**Materials**

| Description | Units / Acre | Unit | Cost / Unit | Cost /Acre |
|---|-----------------|------|-------------|-----------------|
| Hay, delivered {MEANS 31 25 14.16 1200} | 1.00 | TON | \$492.78 | \$492.78 |
| Total Mulch Materials Cost/Acre | | | | \$492.78 |

Application

| Description | Cost /Acre |
|--|----------------|
| Crimping, with tractor {DMG survey data} | \$85.37 |
| Total Mulch Application Cost/Acre | \$85.37 |

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: 8.6 Cost /Acre: \$1,319.31
 Estimated Failure Rate: 0% Cost /Acre*: \$284.75
 *Selected Replanting Work Items: SEEDING

Initial Job Cost: **\$11,346.07**
 Reseeding Job Cost: **\$0.00**
 Total Job Cost: **\$11,346**
 Job Hours: **15.00**

SCRAPER TEAM WORKTask description: **Phase 3 - Backfill and Grade**Site: **Timnath Connell Pit**Permit Action: **AM-1**Permit/Job#: **M1999050****PROJECT IDENTIFICATION**Task #: **008**State: **Colorado**Abbreviation: **None**Date: **9/25/2024**County: **Larimer**Filename: **M050-008**User: **JR2**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift basis: **1 per day**

| Equipment Description | |
|---------------------------------|--------------------------|
| -Scraper: | Cat 631G |
| -Dozer: | Cat D8T - 8SU |
| Support Equipment -Load Area: | NA |
| -Dump Area: | Cat D8T - 8SU |
| Road Maintenance -Motor Grader: | CAT 16M |
| -Water Truck: | Water Tanker, 3,500 Gal. |

Cost Breakdown:

| | Scraper Work Team | | Support Equipment | | Maintenance Equipment | |
|------------------------|-------------------|------------|-------------------|-----------|-----------------------|-------------|
| | Scraper | Dozer | Load Area | Dump Area | Motor Grader | Water Truck |
| %Utilization-machine: | 100 | 100 | NA | 100 | 50 | 50 |
| Ownership cost/hour: | \$442.19 | \$173.32 | NA | \$173.32 | \$179.39 | \$17.11 |
| Operating cost/hour: | \$252.89 | \$109.71 | NA | \$109.71 | \$59.82 | \$18.40 |
| %Utilization-ripper: | NA | NA | NA | NA | NA | NA |
| Ripper own. cost/hour: | NA | \$0.00 | NA | \$0.00 | \$0.00 | \$0.00 |
| Ripper op. cost/hour: | NA | \$0.00 | NA | \$0.00 | \$0.00 | \$0.00 |
| Operator cost/hour: | \$57.52 | \$40.04 | NA | \$40.04 | \$56.70 | \$0.00 |
| Unit Subtotals: | \$752.60 | \$323.07 | NA | \$323.07 | \$295.91 | \$35.51 |
| Number of Units: | 2 | 1 | 0 | 1 | 1 | 1 |
| Group Subtotals: | Work: | \$1,828.27 | Support: | \$323.07 | Maint: | \$331.42 |

Total work team cost/hour: **\$2,482.76****MATERIAL QUANTITIES**Initial volume: **110,352**

CCY

Swell factor: **1.125**Loose volume: **124,146**

LCY

Source of estimated volume: **Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

| | | | | |
|-----------------------|--|--------------------|--------------|-----|
| Material weight: | 2,650 lbs/LCY | Struck Volume: | 24.00 | LCY |
| Material description: | Decomposed rock - 25% Rock, 75% Earth | Heaped Volume: | 34.00 | LCY |
| Rated Payload: | 81,600 pounds | Average Volume: | 29.00 | LCY |
| Payload Capacity: | 30.79 LCY | Adjusted Capacity: | 29.00 | LCY |

Cycle Time:Scraper Loading Time: 0.80 MinutesManeuver and Spread Time: 0.70 MinutesJob Condition Correction:

Site Altitude: 4830 feet

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

Travel Time:Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0Haul Route:

| Seg # | Haul Distance (Ft) | Grade (%) | Roll. Res (%) | Total Res (%) | Velocity (fpm) | Travel Time (min) |
|-------|--------------------|-----------|---------------|---------------|----------------|-------------------|
| 1 | 700.00 | 5.00 | 3.00 | 8.00 | 783 | 0.92 |

Haul Time: 0.92 minutesReturn Route:

| Seg # | Haul Distance (Ft) | Grade (%) | Roll. Res (%) | Total Res (%) | Velocity (fpm) | Travel Time (min) |
|-------|--------------------|-----------|---------------|---------------|----------------|-------------------|
| 1 | 700.00 | -5.00 | 3.00 | -2.00 | 2920 | 0.31 |

Return Time: 0.31 minutesTotal Scraper team cycle time: 2.73 minutesAdjusted for job conditions: 529.01 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 1,058.02 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 1,058.02 LCY/HourUnadjusted unit production/hour: 637.36 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 117.34 HoursUnit cost: \$2.347 /LCYTotal job cost: \$291,322

SCRAPER TEAM WORKTask description: **Phase 3 - Finish Backfill**Site: **Timnath Connell Pit**Permit Action: **AM-1**Permit/Job#: **M1999050****PROJECT IDENTIFICATION**Task #: **009**State: **Colorado**Abbreviation: **None**Date: **9/25/2024**County: **Larimer**Filename: **M050-009**User: **JR2**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift basis: **1 per day**

| Equipment Description | |
|---------------------------------|--------------------------|
| -Scraper: | Cat 631G |
| -Dozer: | Cat D8T - 8SU |
| Support Equipment -Load Area: | NA |
| -Dump Area: | Cat D8T - 8SU |
| Road Maintenance -Motor Grader: | CAT 16M |
| -Water Truck: | Water Tanker, 3,500 Gal. |

Cost Breakdown:**Scraper Work Team****Support Equipment****Maintenance Equipment**

| | Scraper | Dozer | Load Area | Dump Area | Motor Grader | Water Truck |
|------------------------|----------|------------|-----------|-----------|--------------|-------------|
| %Utilization-machine: | 100 | 100 | NA | 100 | 50 | 50 |
| Ownership cost/hour: | \$442.19 | \$173.32 | NA | \$173.32 | \$179.39 | \$17.11 |
| Operating cost/hour: | \$252.89 | \$109.71 | NA | \$109.71 | \$59.82 | \$18.40 |
| %Utilization-ripper: | NA | NA | NA | NA | NA | NA |
| Ripper own. cost/hour: | NA | \$0.00 | NA | \$0.00 | \$0.00 | \$0.00 |
| Ripper op. cost/hour: | NA | \$0.00 | NA | \$0.00 | \$0.00 | \$0.00 |
| Operator cost/hour: | \$57.52 | \$40.04 | NA | \$40.04 | \$56.70 | \$0.00 |
| Unit Subtotals: | \$752.60 | \$323.07 | NA | \$323.07 | \$295.91 | \$35.51 |
| Number of Units: | 2 | 1 | 0 | 1 | 1 | 1 |
| Group Subtotals: | Work: | \$1,828.27 | Support: | \$323.07 | Maint: | \$331.42 |

Total work team cost/hour: **\$2,482.76****MATERIAL QUANTITIES**Initial volume: **7,744**

CCY

Swell factor: **1.125**Loose volume: **8,712**

LCY

Source of estimated volume: **Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

| | | | | |
|-----------------------|--|--------------------|--------------|-----|
| Material weight: | 2,650 lbs/LCY | Struck Volume: | 24.00 | LCY |
| Material description: | Decomposed rock - 25% Rock, 75% Earth | Heaped Volume: | 34.00 | LCY |
| Rated Payload: | 81,600 pounds | Average Volume: | 29.00 | LCY |
| Payload Capacity: | 30.79 LCY | Adjusted Capacity: | 29.00 | LCY |

Cycle Time:Scraper Loading Time: 0.80 MinutesManeuver and Spread Time: 0.70 MinutesJob Condition Correction:

Site Altitude: 4830 feet

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

Travel Time:Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0Haul Route:

| Seg # | Haul Distance (Ft) | Grade (%) | Roll. Res (%) | Total Res (%) | Velocity (fpm) | Travel Time (min) |
|-------|--------------------|-----------|---------------|---------------|----------------|-------------------|
| 1 | 700.00 | 5.00 | 3.00 | 8.00 | 783 | 0.92 |

Haul Time: 0.92 minutesReturn Route:

| Seg # | Haul Distance (Ft) | Grade (%) | Roll. Res (%) | Total Res (%) | Velocity (fpm) | Travel Time (min) |
|-------|--------------------|-----------|---------------|---------------|----------------|-------------------|
| 1 | 700.00 | -5.00 | 3.00 | -2.00 | 2920 | 0.31 |

Return Time: 0.31 minutesTotal Scraper team cycle time: 2.73 minutesAdjusted for job conditions: 529.01 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 1,058.02 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 1,058.02 LCY/HourUnadjusted unit production/hour: 637.36 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 8.23 HoursUnit cost: \$2.347 /LCYTotal job cost: \$20,444

REVEGETATION WORKTask description: **Phase 3 - Revegetation**Site: **Timnath Connell Pit**Permit Action: **AM-1**Permit/Job#: **M1999050****PROJECT IDENTIFICATION**Task #: **010**State: **Colorado**Abbreviation: **None**Date: **9/25/2024**County: **Larimer**Filename: **M050-010**User: **JR2**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 |
|--|-----------------|
| Disc harrowing, 6" deep (MEANS 32 91 13.23 6100) | \$117.61 |
| Weed control spraying (MEANS 31 31 16.13 3100) | \$338.80 |
| Total Tilling Cost/Acre | \$456.41 |

SEEDING

| Seed Mix | Rate – PLS LBS / Acre | Seeds per SQ. FT | Cost /Acre |
|------------------------|--------------------------------|------------------------|------------|
| | | | \$ |
| Totals Seed Mix | | | \$ |

Application

| Description | Cost /Acre |
|-------------|------------|
| | |

| | |
|---|-----------|
| | \$ |
| Total Seed Application Cost/Acre | \$ |

MULCHING and MISCELLANEOUS**Materials**

| Description | Units / Acre | Unit | Cost / Unit | Cost /Acre |
|--|-----------------|------|-------------|---------------|
| | | | \$ | \$ |
| Total Mulch Materials Cost/Acre | | | | \$0.00 |

Application

| Description | Cost /Acre |
|--|---------------|
| | \$ |
| Total Mulch Application Cost/Acre | \$0.00 |

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: 8
 Estimated Failure Rate: 0%
 *Selected Replanting Work Items: SEEDING

Cost /Acre: \$741.16
 Cost /Acre*: \$284.75

Initial Job Cost: **\$5,929.28**
 Reseeding Job Cost: **\$0.00**
 Total Job Cost: **\$5,929**
 Job Hours: **14.00**

REVEGETATION WORKTask description: **Phase 3 - Reseed**Site: **Timnath Connell Pit**Permit Action: **AM-1**Permit/Job#: **M1999050****PROJECT IDENTIFICATION**Task #: **011**State: **Colorado**Abbreviation: **None**Date: **9/25/2024**County: **Larimer**Filename: **M050-011**User: **JR2**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 |
|--|-----------------|
| Disc harrowing, 6" deep (MEANS 32 91 13.23 6100) | \$117.61 |
| Weed control spraying (MEANS 31 31 16.13 3100) | \$338.80 |
| Total Tilling Cost/Acre | \$456.41 |

SEEDING

| Seed Mix | Rate – PLS LBS / Acre | Seeds per SQ. FT | Cost /Acre |
|--------------------------------|--------------------------------|------------------------|----------------|
| Blue Grama - Native | 1.00 | 16.32 | \$21.33 |
| Intermediate Wheatgrass - Rush | 5.00 | 10.67 | \$23.66 |
| Triticale | 1.25 | 0.72 | \$3.13 |
| Totals Seed Mix | 7.25 | 27.71 | \$48.11 |

Application

| Description | Cost /Acre |
|-------------|------------|
|-------------|------------|

| | |
|---|-----------------|
| Drill Seeding (DRMS Survey Cost) | \$236.64 |
| Total Seed Application Cost/Acre | \$236.64 |

MULCHING and MISCELLANEOUS**Materials**

| Description | Units / Acre | Unit | Cost / Unit | Cost /Acre |
|---|-----------------|------|-------------|-----------------|
| Hay, delivered {MEANS 31 25 14.16 1200} | 1.00 | TON | \$492.78 | \$492.78 |
| Total Mulch Materials Cost/Acre | | | | \$492.78 |

Application

| Description | Cost /Acre |
|--|----------------|
| Crimping, with tractor {DMG survey data} | \$85.37 |
| Total Mulch Application Cost/Acre | \$85.37 |

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: 1.6 Cost /Acre: \$1,319.31
 Estimated Failure Rate: 0% Cost /Acre*: \$284.75
 *Selected Replanting Work Items: SEEDING

Initial Job Cost: **\$2,110.90**
 Reseeding Job Cost: **\$0.00**
 Total Job Cost: **\$2,111**
 Job Hours: **3.00**

BULLDOZER RIPPING WORK

Task description: Scarify Access and Haul Roads

Site: Timnath Connell Pit Permit Action: AM-1 Permit/Job#: M1999050

PROJECT IDENTIFICATION

Task #: 012 State: Colorado Abbreviation: None
Date: 9/25/2024 County: Larimer Filename: M050-012
User: JR2

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU Horsepower: 310
Ripper Attachment: 1-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

| | | Utilization % |
|-----------------------------|-----------------|---------------|
| Ownership Cost/Hour: | \$173.32 | NA |
| Operating Cost/Hour: | \$109.71 | 100 |
| Ripper Ownership Cost/Hour: | \$13.69 | NA |
| Ripper Operating Cost/Hour: | \$9.24 | 100 |
| Operator Cost/Hour: | \$40.04 | NA |
| Total Unit Cost/Hour: | \$346.00 | |
| Total Fleet Cost/Hour: | \$346.00 | |

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 2.00 acres Rip Depth (ft): 2.00 Volume: 6,453 BCY or CCY

Source of estimated quantity: Operator Estimate

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 3.71 feet/pass
Average Ripping Width: 5.56 feet/pass
Average Ripping Length: 250.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.619 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.619 Acres/hr
Site Altitude: 4,830 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.51 Acres/hr
Adjusted Hourly Fleet Production: **0.51** Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **3.89** Hours

Unit cost: \$672.986 Per acre Total job cost: **\$1,346**

REVEGETATION WORKTask description: **Revegetation of Roads**Site: **Timnath Connell Pit**Permit Action: **AM-1**Permit/Job#: **M1999050****PROJECT IDENTIFICATION**Task #: **013**State: **Colorado**Abbreviation: **None**Date: **9/25/2024**County: **Larimer**Filename: **M050-013**User: **JR2**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 |
|--|-----------------|
| Disc harrowing, 6" deep (MEANS 32 91 13.23 6100) | \$117.61 |
| Weed control spraying (MEANS 31 31 16.13 3100) | \$338.80 |
| Total Tilling Cost/Acre | \$456.41 |

SEEDING

| Seed Mix | Rate – PLS LBS / Acre | Seeds per SQ. FT | Cost /Acre |
|--------------------------------|--------------------------------|------------------------|----------------|
| Blue Grama - Native | 1.00 | 16.32 | \$21.33 |
| Intermediate Wheatgrass - Rush | 5.00 | 10.67 | \$23.66 |
| Triticale | 1.25 | 0.72 | \$3.13 |
| Totals Seed Mix | 7.25 | 27.71 | \$48.11 |

Application

| Description | Cost /Acre |
|-------------|------------|
|-------------|------------|

| | |
|---|-----------------|
| Drill Seeding (DRMS Survey Cost) | \$236.64 |
| Total Seed Application Cost/Acre | \$236.64 |

MULCHING and MISCELLANEOUS**Materials**

| Description | Units / Acre | Unit | Cost / Unit | Cost /Acre |
|--|-----------------|------|-------------|---------------|
| | | | \$ | \$ |
| Total Mulch Materials Cost/Acre | | | | \$0.00 |

Application

| Description | Cost /Acre |
|--|---------------|
| | \$ |
| Total Mulch Application Cost/Acre | \$0.00 |

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: 2
 Estimated Failure Rate: 0%
 *Selected Replanting Work Items: SEEDING

Cost /Acre: \$741.16
 Cost /Acre*: \$284.75

Initial Job Cost: **\$1,482.32**
 Reseeding Job Cost: **\$0.00**
 Total Job Cost: **\$1,482**
 Job Hours: **3.50**

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mob/Demob**Site: **Timnath Connell Pit**Permit Action: **AM-1**Permit/Job#: **M1999050****PROJECT IDENTIFICATION**Task #: **014**State: **Colorado**Abbreviation: **None**Date: **9/25/2024**County: **Larimer**Filename: **M050-014**User: **JR2**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: | \$10.44 | \$22.18 | \$23.94 |
| Operating Cost/Hour: | \$26.48 | \$54.55 | \$55.65 |
| Operator Cost/Hour: | \$22.52 | \$22.52 | \$22.52 |
| Helper Cost/Hour: | \$0.00 | \$23.53 | \$23.53 |
| Total Unit Cost/Hour: | \$59.44 | \$122.78 | \$125.64 |

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 |
|-------------------------------------|---------------------------|-----------------------------|--------------------------|---------------|--------------------------------|-------------------------------|---------------------------|
| Drill/Broadcast Seeder with Tractor | 25.00 | \$41.02 | \$59.44 | 1 | \$100.46 | \$59.44 | \$250.00 |
| Power Mulcher (Bowie LD-90) | 6.00 | \$27.21 | \$59.44 | 1 | \$86.65 | \$59.44 | \$250.00 |
| Cat D8T - 8SU | 53.08 | \$187.85 | \$125.64 | 2 | \$626.98 | \$251.28 | \$250.00 |
| CAT 16M | 28.73 | \$179.39 | \$122.78 | 1 | \$302.17 | \$122.78 | \$250.00 |
| Cat 631G | 52.50 | \$442.19 | \$125.64 | 2 | \$1,135.66 | \$251.28 | \$250.00 |

Subtotals: **\$2,251.92** **\$744.22** **\$1,250.00****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. | \$53.90 | 1 | \$53.90 | \$53.90 |
| Light Duty Pickup, 4x4, 1 T. Crew | \$24.60 | 1 | \$24.60 | \$24.60 |

Subtotals: **\$78.50** **\$78.50**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region: FORT COLLINS
 Total one-way travel distance: 9.00 miles
 Average Travel Speed: 50.00 mph

Total Non-Roadable Mob/Demob Cost * \$13,487.06
 ** two round trips with haul rig:
 Total Roadable Mob/Demob Cost ** \$28.26
 ** one round trip, no haul rig:

Transportation Cycle Time:

| | Non-Roadable Equipment | Roadable Equipment |
|-------------------------|------------------------|--------------------|
| Haul Time (Hours): | 0.18 | 0.18 |
| Return Time (Hours): | 0.18 | 0.18 |
| Loading Time (Hours): | 1.10 | NA |
| Unloading Time (Hours): | 1.10 | NA |
| Subtotals: | 2.56 | 0.36 |

JOB TIME AND COST

Total job time: 5.12 Hours

Total job cost: \$13,515