

Appendix A1

OPINION OF PROBABLE COST

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| Client: City of Durango |
| Project: Santa Rita WWTP Siting Alternative Investigation |
| Item: New WWTP - Sawmill Road Site |
| Summary - Opinion of Probable Costs |

| | |
|---------------------------|---------------|
| Project No: 358033 | |
| By: MSF | Ckd: RJD |
| Date: 09/28/15 | Date: 10/2/15 |

| Description - Base | Total Project Cost |
|-------------------------------------|---------------------|
| <i>New WWTP - Sawmill Road Site</i> | |
| Santa Rita WWTP Demolition | \$1,560,000 |
| Site/Civil | \$5,730,000 |
| Headworks | \$4,100,000 |
| Primary Clarifiers | \$3,740,000 |
| Secondary Process + Thickening | \$21,800,000 |
| Anaerobic Digestion | \$6,580,000 |
| Dewatering - Fournier Rotary Press | \$3,080,000 |
| Sidestream Treatment | \$1,360,000 |
| Class A Biosolids - Heat Dryer | \$3,660,000 |
| UV Disinfection | \$2,260,000 |
| Chemical Building | \$660,000 |
| Admin/Lab Building | \$6,480,000 |
| FOG/Septage Receiving | \$1,740,000 |
| Odor Control | \$5,810,000 |
| Subtotal | \$68,560,000 |

*AACE Class 2 - Range: -15% to +20%

OPINION OF PROBABLE COST

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|--|
| Client: City of Durango |
| Project: Santa Rita WWTP Siting Alternative Investigation |
| Item: New WWTP - Sawmill Road Site |
| Demolition of Santa Rita WWTP |

| | |
|---------------------------|---------------|
| Project No: 358033 | |
| By: MSF | Ckd: RJD |
| Date: 09/28/15 | Date: 10/2/15 |

| A | B | C | D | E |
|--|-----------------|--------------|------------------|-------------------|
| Description | Quantity | Units | Unit Cost | Total Cost |
| Erosion Control (5%) | 1 | EA | | \$50,000 |
| Sludge Storage | 4,500 | SF | \$10 | \$45,000 |
| Primary Clarifiers | 8,000 | SF | \$10 | \$80,000 |
| Trickling Filter | 12,300 | SF | \$10 | \$123,000 |
| Aeration Basins | 7,500 | SF | \$10 | \$75,000 |
| Secondary Clarifiers | 6,600 | SF | \$10 | \$66,000 |
| RAS/WAS/Blower Building | 5,550 | SF | \$10 | \$56,000 |
| UV Building | 900 | SF | \$10 | \$9,000 |
| Scrubber/Microturbine Building | 1,400 | SF | \$10 | \$14,000 |
| Anaerobic Digester | 1,300 | SF | \$10 | \$13,000 |
| Chlorine Contact Basins | 3,200 | SF | \$10 | \$32,000 |
| Administration Building/Lab | 6,500 | SF | \$10 | \$65,000 |
| Asphalt | 16,000 | SF | \$10 | \$160,000 |
| On-site Grinding of Excess Concrete | 1 | LS | \$25,000 | \$25,000 |
| Site Restoration (Seeding, Mulching, etc.) | 25,000 | SY | \$2 | \$50,000 |
| Subtotal | | | | \$863,000 |

| | | |
|---|-----|--------------------|
| Mobilization/Demobilization | 3% | \$26,000 |
| Contractor's Overhead and Profit/General Conditions | 15% | \$130,000 |
| Bonds & Insurance | 2% | \$18,000 |
| Subtotal | | \$1,037,000 |
| Unaccounted Items | 25% | \$260,000 |
| Total Construction Cost | | \$1,300,000 |

| | | |
|---|-----|--------------------|
| Engineering/Legal/Administration/Land Acquisition | 20% | \$260,000 |
| Total Project Cost | | \$1,560,000 |

ASSUMPTIONS:

- Concrete structures cut 3' below existing grade
- Some concrete rubble buried onsite, excess concrete to be ground on-site and re-used for pipe bedding

OPINION OF PROBABLE COST

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|--|
| Client: City of Durango |
| Project: Santa Rita WWTP Siting Alternative Investigation |
| Item: New WWTP - Sawmill Road Site |
| Site/Civil |

| | |
|---------------------------|---------------|
| Project No: 358033 | |
| By: MSF | Ckd: RJD |
| Date: 09/28/15 | Date: 10/2/15 |

| A | B | C | D | E |
|------------------------------|-----------------|--------------|------------------|--------------------|
| Description | Quantity | Units | Unit Cost | Total Cost |
| Erosion Control (5%) | 1 | EA | | \$135,000 |
| Excavation | 70,000 | CY | \$10 | \$700,000 |
| Backfill and Compaction | 70,000 | CY | \$10 | \$700,000 |
| Demolish Existing Buildings | 2,500 | SY | \$10 | \$25,000 |
| Asphalt | 9,500 | SY | \$25 | \$238,000 |
| Site Piping | 1 | LS | \$700,000 | \$700,000 |
| Emergency Storage Pond Liner | 23,000 | SF | \$5 | \$115,000 |
| Stormwater Detention Pond | 1 | LS | \$100,000 | \$100,000 |
| Site Fencing | 2,600 | LF | \$25 | \$65,000 |
| Discharge Piping | 200 | LF | \$240 | \$48,000 |
| Retaining Wall | 1,000 | LF | \$300 | \$300,000 |
| Landscaping | 1 | LS | \$50,000 | \$50,000 |
| Subtotal | | | | \$3,176,000 |

| | | |
|---|-----|--------------------|
| Mobilization/Demobilization | 3% | \$96,000 |
| Contractor's Overhead and Profit/General Conditions | 15% | \$477,000 |
| Bonds & Insurance | 2% | \$64,000 |
| Subtotal | | \$3,813,000 |
| Unaccounted Items | 25% | \$953,250 |
| Total Construction Cost | | \$4,770,000 |

| | | |
|---|-----|--------------------|
| Engineering/Legal/Administration/Land Acquisition | 20% | \$954,000 |
| Total Project Cost | | \$5,730,000 |

OPINION OF PROBABLE COST

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|--|
| Client: City of Durango |
| Project: Santa Rita WWTP Siting Alternative Investigation |
| Item: New WWTP - Sawmill Road Site |
| Headworks |

| | |
|---------------------------|---------------|
| Project No: 358033 | |
| By: MSF | Ckd: RJD |
| Date: 09/28/15 | Date: 10/2/15 |

| A | B | C | D | E |
|---|-----------------|--------------|------------------|--------------------|
| Description | Quantity | Units | Unit Cost | Total Cost |
| Structural | | | | |
| Headworks Building | 3,500 | SF | \$150 | \$525,000 |
| Building Concrete Slab | 135 | CY | \$650 | \$88,000 |
| Influent Channels | 60 | CY | \$650 | \$39,000 |
| Process | | | | |
| Influent Flume | 1 | EA | \$18,000 | \$18,000 |
| Manual Screen | 1 | EA | \$15,000 | \$15,000 |
| Mechanical Fine Screen (includes washer/compactor, grit chambers, etc.) | 2 | EA | \$140,000 | \$280,000 |
| Grit Pumps | 2 | EA | \$215,000 | \$430,000 |
| Odor Control | 1 | EA | \$84,000 | \$84,000 |
| Sluice Gates | 11 | EA | \$18,000 | \$198,000 |
| Valves for Grit Piping (4") | 12 | EA | \$1,200 | \$15,000 |
| Grit Piping (4") | 250 | LF | \$100 | \$25,000 |
| Electrical | | | | |
| Electrical (20%) | 1 | EA | | \$344,000 |
| HVAC | | | | |
| HVAC (12%) | 1 | EA | | \$207,000 |
| Subtotal | | | | \$2,268,000 |
| | | | | |
| Mobilization/Demobilization | | | 3% | \$69,000 |
| Contractor's Overhead and Profit/General Conditions | | | 15% | \$341,000 |
| Bonds & Insurance | | | 2% | \$46,000 |
| Subtotal | | | | \$2,724,000 |
| Unaccounted Items | | | 25% | \$681,000 |
| Total Construction Cost | | | | \$3,410,000 |
| | | | | |
| Engineering/Legal/Administration/Land Acquisition | | | 20% | \$682,000 |
| Total Project Cost | | | | \$4,100,000 |

OPINION OF PROBABLE COST

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|--|
| Client: City of Durango |
| Project: Santa Rita WWTP Siting Alternative Investigation |
| Item: New WWTP - Sawmill Road Site |
| Primary Clarifiers (2) |

| | |
|---------------------------|---------------|
| Project No: 358033 | |
| By: MSF | Ckd: RJD |
| Date: 09/28/15 | Date: 10/2/15 |

| A | B | C | D | E |
|--|-----------------|--------------|------------------|--------------------|
| Description | Quantity | Units | Unit Cost | Total Cost |
| Structural | | | | |
| Grouting | 71 | CY | \$400 | \$29,000 |
| Concrete | 1,000 | CY | \$650 | \$650,000 |
| Raw Sewage/Sludge Pump Building Concrete | 90 | CY | \$650 | \$59,000 |
| Raw Sewage/Sludge Pump Building | 1,800 | SF | \$150 | \$270,000 |
| Process | | | | |
| Raw Sewage Pumps | 4 | EA | \$35,000 | \$140,000 |
| Clarifier Mechanisms | 2 | EA | \$180,000 | \$360,000 |
| Raw Sludge Pumps | 3 | EA | \$30,000 | \$90,000 |
| Sludge Piping (6") | 150 | LF | \$115 | \$18,000 |
| Valves - 6" Plug | 15 | EA | \$850 | \$13,000 |
| Electrical | | | | |
| Electrical (15%) | 1 | EA | | \$245,000 |
| HVAC | | | | |
| HVAC (12%) | 1 | EA | | \$196,000 |
| Subtotal | | | | \$2,070,000 |

| | | |
|---|-----|--------------------|
| Mobilization/Demobilization | 3% | \$63,000 |
| Contractor's Overhead and Profit/General Conditions | 15% | \$311,000 |
| Bonds & Insurance | 2% | \$42,000 |
| Subtotal | | \$2,486,000 |
| Unaccounted Items | 25% | \$622,000 |
| Total Construction Cost | | \$3,110,000 |

| | | |
|---|-----|--------------------|
| Engineering/Legal/Administration/Land Acquisition | 20% | \$622,000 |
| Total Project Cost | | \$3,740,000 |

OPINION OF PROBABLE COST

| |
|--|
| Client: City of Durango |
| Project: Santa Rita WWTP Siting Alternative Investigation |
| Item: New WWTP - Sawmill Road Site |
| Secondary Process + Thickening |

| | |
|---------------------------|---------------|
| Project No: 358033 | |
| By: MSF | Ckd: RJD |
| Date: 09/28/15 | Date: 10/2/15 |

| A | B | C | D | E |
|--|-----------------|--------------|------------------|---------------------|
| Description | Quantity | Units | Unit Cost | Total Cost |
| Structural | | | | |
| BNR Basin Concrete Walls | 1,600 | CY | \$650 | \$1,040,000 |
| BNR Concrete Slab | 2,700 | CY | \$650 | \$1,755,000 |
| RAS/WAS/Blower Building | 4,000 | SF | \$150 | \$600,000 |
| RAS/WAS/Blower Building Slab | 150 | CY | \$650 | \$98,000 |
| Secondary Clarifier Concrete | 540 | CY | \$650 | \$351,000 |
| Secondary Clarifier Slabs | 600 | CY | \$650 | \$390,000 |
| Process | | | | |
| Sluice Gates | 50 | EA | \$12,000 | \$600,000 |
| Valves | 1 | LS | \$420,000 | \$420,000 |
| Piping (air and process) | 1 | LS | \$192,000 | \$192,000 |
| Fine Bubble Diffusers (9" disc) | 1 | LS | \$230,000 | \$230,000 |
| HST Blowers | 1 | LS | \$750,000 | \$750,000 |
| Mixers | 1 | LS | \$415,000 | \$415,000 |
| RAS Pumps (4 duty, 1 stand-by) | 5 | EA | \$50,000 | \$250,000 |
| WAS Pumps (4 duty, 1 stand-by) | 5 | EA | \$15,000 | \$75,000 |
| Internal Recycle Pumps (4 duty, 1 stand-by) | 5 | EA | \$72,000 | \$360,000 |
| Thickening | 3 | EA | \$312,000 | \$936,000 |
| Secondary Clarifier Mechanisms | 4 | EA | \$260,000 | \$1,040,000 |
| Scum Pumps | 2 | EA | \$12,500 | \$25,000 |
| Electrical | | | | |
| Electrical (15%) | 1 | EA | | \$1,430,000 |
| HVAC | | | | |
| HVAC (12%) | 1 | EA | | \$1,144,000 |
| Subtotal | | | | \$12,101,000 |
| Mobilization/Demobilization | | | | |
| | | | 3% | \$364,000 |
| Contractor's Overhead and Profit/General Conditions | | | | |
| | | | 15% | \$1,816,000 |
| Bonds & Insurance | | | | |
| | | | 2% | \$243,000 |
| Subtotal | | | | \$14,524,000 |
| Unaccounted Items | | | | |
| | | | 25% | \$3,631,000 |
| Total Construction Cost | | | | \$18,160,000 |
| Engineering/Legal/Administration/Land Acquisition | | | | |
| | | | 20% | \$3,632,000 |
| Total Project Cost | | | | \$21,800,000 |

OPINION OF PROBABLE COST

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|--|
| Client: City of Durango |
| Project: Santa Rita WWTP Siting Alternative Investigation |
| Item: New WWTP - Sawmill Road Site |
| Anaerobic Digestion (2 Digesters) |

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|---------------------------|---------------|
| Project No: 358033 | |
| By: MSF | Ckd: RJD |
| Date: 09/28/15 | Date: 10/2/15 |

| A | B | C | D | E |
|--|-----------------|--------------|------------------|--------------------|
| Description | Quantity | Units | Unit Cost | Total Cost |
| Structural | | | | |
| Anaerobic Digester Concrete Slabs | 140 | CY | \$650 | \$91,000 |
| Anaerobic Digester Concrete Walls | 325 | CY | \$650 | \$212,000 |
| Scrubber/Microturbine Building | 1,800 | SF | \$150 | \$270,000 |
| Scrubber/Microturbine Building Slab | 70 | CY | \$650 | \$46,000 |
| Process | | | | |
| Digester Covers | 2 | EA | \$155,000 | \$310,000 |
| Mixing System | 2 | LS | \$175,000 | \$350,000 |
| Capstone C65 MicroTurbine w/Heat Exchanger | 2 | LS | \$170,000 | \$340,000 |
| Gas Cleaning System | 2 | LS | \$138,000 | \$276,000 |
| Boiler | 2 | LS | \$43,000 | \$86,000 |
| Flame Arrester | 2 | LS | \$87,000 | \$174,000 |
| Boiler and CHP Safety Equipment | 1 | EA | \$40,000 | \$40,000 |
| Enclosed Burner Train | 1 | EA | \$295,000 | \$295,000 |
| 10 HP Recirculation Pumps | 4 | EA | \$39,000 | \$156,000 |
| Digester Feed Pumps | 3 | EA | \$33,000 | \$99,000 |
| Piping and Valves | 2 | LS | \$65,000 | \$130,000 |
| Electrical | | | | |
| Electrical (15%) | 1 | EA | | \$432,000 |
| HVAC | | | | |
| HVAC (12%) | 1 | EA | | \$345,000 |
| Subtotal | | | | \$3,652,000 |

| | | |
|---|-----|--------------------|
| Mobilization/Demobilization | 3% | \$110,000 |
| Contractor's Overhead and Profit/General Conditions | 15% | \$548,000 |
| Bonds & Insurance | 2% | \$74,000 |
| Subtotal | | \$4,384,000 |
| Unaccounted Items | 25% | \$1,096,000 |
| Total Construction Cost | | \$5,480,000 |

| | | |
|---|-----|--------------------|
| Engineering/Legal/Administration/Land Acquisition | 20% | \$1,096,000 |
| Total Project Cost | | \$6,580,000 |

OPINION OF PROBABLE COST

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|--|
| Client: City of Durango |
| Project: Santa Rita WWTP Siting Alternative Investigation |
| Item: New WWTP - Sawmill Road Site |
| Dewatering/Drying |

| | |
|---------------------------|---------------|
| Project No: 358033 | |
| By: MSF | Ckd: RJD |
| Date: 09/28/15 | Date: 10/2/15 |

| A | B | C | D | E |
|--|-----------------|--------------|------------------|--------------------|
| Description | Quantity | Units | Unit Cost | Total Cost |
| Structural | | | | |
| Dewatering/Drying Building | 2,500 | SF | \$150 | \$375,000 |
| Dewatering/Drying Building Slab | 100 | CY | \$650 | \$65,000 |
| Dewatering/Drying Building Second Floor Deck | 50 | CY | \$650 | \$32,500 |
| Process | | | | |
| Fournier Rotary Press | 2 | EA | \$173,000 | \$346,000 |
| Dewatered Solids Hopper | 3 | EA | \$18,000 | \$54,000 |
| Polymer System | 1 | EA | \$32,500 | \$32,500 |
| Solids Access Hatches (4'x6') | 3 | EA | \$105,000 | \$315,000 |
| Valves (4") | 15 | EA | \$1,200 | \$18,000 |
| Piping (4") | 150 | LF | \$100 | \$15,000 |
| Dewatering Feed Pumps | 3 | EA | \$29,000 | \$87,000 |
| Electrical | | | | |
| Electrical (15%) | 1 | EA | | \$201,000 |
| HVAC | | | | |
| HVAC (12%) | 1 | EA | | \$161,000 |
| Subtotal | | | | \$1,702,000 |

| | | |
|---|-----|--------------------|
| Mobilization/Demobilization | 3% | \$52,000 |
| Contractor's Overhead and Profit/General Conditions | 15% | \$256,000 |
| Bonds & Insurance | 2% | \$35,000 |
| Subtotal | | \$2,045,000 |
| Unaccounted Items | 25% | \$512,000 |
| Total Construction Cost | | \$2,560,000 |

| | | |
|---|-----|--------------------|
| Engineering/Legal/Administration/Land Acquisition | 20% | \$512,000 |
| Total Project Cost | | \$3,080,000 |

OPINION OF PROBABLE COST

| |
|--|
| Client: City of Durango |
| Project: Santa Rita WWTP Siting Alternative Investigation |
| Item: New WWTP - Sawmill Road Site |
| Sidestream Treatment |

| | |
|---------------------------|---------------|
| Project No: 358033 | |
| By: MSF | Ckd: RJD |
| Date: 09/28/15 | Date: 10/2/15 |

| A | B | C | D | E |
|---------------------------------|-----------------|--------------|------------------|-------------------|
| Description | Quantity | Units | Unit Cost | Total Cost |
| Structural | | | | |
| Concrete Slab | 100 | CY | \$650 | \$65,000 |
| Concrete Walls | 200 | CY | \$650 | \$130,000 |
| Process | | | | |
| Sluice Gates | 4 | EA | \$12,000 | \$48,000 |
| Valves | 1 | LS | \$72,000 | \$72,000 |
| Piping (Air and Process) | 1 | LS | \$48,000 | \$48,000 |
| Fine Bubble Diffusers (9" Disc) | 1 | LS | \$36,000 | \$36,000 |
| Mixers | 1 | LS | \$46,000 | \$46,000 |
| Internal Recycle Pumps | 3 | EA | \$48,000 | \$144,000 |
| Electrical | | | | |
| Electrical (15%) | 1 | EA | | \$89,000 |
| HVAC | | | | |
| HVAC (12%) | 1 | EA | | \$71,000 |
| Subtotal | | | | \$749,000 |

| | | |
|---|-----|--------------------|
| Mobilization/Demobilization | 3% | \$23,000 |
| Contractor's Overhead and Profit/General Conditions | 15% | \$113,000 |
| Bonds & Insurance | 2% | \$15,000 |
| Subtotal | | \$900,000 |
| Unaccounted Items | 25% | \$225,000 |
| Total Construction Cost | | \$1,130,000 |

| | | |
|---|-----|--------------------|
| Engineering/Legal/Administration/Land Acquisition | 20% | \$226,000 |
| Total Project Cost | | \$1,360,000 |

OPINION OF PROBABLE COST

| |
|--|
| Client: City of Durango |
| Project: Santa Rita WWTP Siting Alternative Investigation |
| Item: New WWTP - Sawmill Road Site |
| Class A Biosolids - Dryer |

| | |
|---------------------------|---------------|
| Project No: 358033 | |
| By: MSF | Ckd: RJD |
| Date: 09/28/15 | Date: 10/2/15 |

| A | B | C | D | E |
|--|-----------------|--------------|------------------|-------------------|
| Description | Quantity | Units | Unit Cost | Total Cost |
| <i>Structural</i> | | | | |
| Structural Costs Included in Dewatering Building | | | | |
| <i>Process</i> | | | | |
| Heat Dryer | 1 | LS | \$1,560,000 | \$1,560,000 |
| Dryer Piping | 1 | LS | \$39,000 | \$39,000 |
| <i>Electrical</i> | | | | |
| Electrical (15%) | 1 | EA | | \$240,000 |
| <i>HVAC</i> | | | | |
| HVAC (12%) | 1 | EA | | \$192,000 |
| <i>Subtotal</i> | | | | \$2,031,000 |

| | | |
|---|-----|--------------------|
| Mobilization/Demobilization | 3% | \$61,000 |
| Contractor's Overhead and Profit/General Conditions | 15% | \$305,000 |
| Bonds & Insurance | 2% | \$41,000 |
| <i>Subtotal</i> | | \$2,438,000 |
| Unaccounted Items | 25% | \$610,000 |
| Total Construction Cost | | \$3,050,000 |

| | | |
|---|-----|--------------------|
| Engineering/Legal/Administration/Land Acquisition | 20% | \$610,000 |
| Total Project Cost | | \$3,660,000 |

OPINION OF PROBABLE COST

| |
|--|
| Client: City of Durango |
| Project: Santa Rita WWTP Siting Alternative Investigation |
| Item: New WWTP - Sawmill Road Site |
| UV Disinfection |

| | |
|---------------------------|---------------|
| Project No: 358033 | |
| By: MSF | Ckd: RJD |
| Date: 09/28/15 | Date: 10/2/15 |

| A | B | C | D | E |
|---|-----------------|--------------|------------------|--------------------|
| Description | Quantity | Units | Unit Cost | Total Cost |
| Structural | | | | |
| UV Building | 800 | SF | \$150 | \$120,000 |
| UV Building Slab | 30 | CY | \$650 | \$19,500 |
| UV Concrete Channels | 50 | CY | \$650 | \$32,500 |
| Bridge Crane | 1 | EA | \$50,000 | \$50,000 |
| Process | | | | |
| UV Systems - including weir | 1 | LS | \$670,000 | \$670,000 |
| Sluice Gates | 2 | EA | \$20,000 | \$40,000 |
| Effluent Parshall Flume | 1 | EA | \$20,000 | \$20,000 |
| Onsite reuse system | 1 | LS | \$30,000 | \$30,000 |
| Electrical | | | | |
| Electrical (15%) | 1 | EA | | \$148,000 |
| HVAC | | | | |
| HVAC (12%) | 1 | EA | | \$118,000 |
| Subtotal | | | | \$1,248,000 |
| | | | | |
| Mobilization/Demobilization | | | 3% | \$38,000 |
| Contractor's Overhead and Profit/General Conditions | | | 15% | \$188,000 |
| Bonds & Insurance | | | 2% | \$25,000 |
| Subtotal | | | | \$1,499,000 |
| Unaccounted Items | | | 25% | \$374,750 |
| Total Construction Cost | | | | \$1,880,000 |
| | | | | |
| Engineering/Legal/Administration/Land Acquisition | | | 20% | \$376,000 |
| Total Project Cost | | | | \$2,260,000 |

OPINION OF PROBABLE COST

| |
|--|
| Client: City of Durango |
| Project: Santa Rita WWTP Siting Alternative Investigation |
| Item: <u>New WWTP - Sawmill Road Site</u> |
| <u>UV/Chemical Building</u> |

| | |
|---------------------------|---------------|
| Project No: 358033 | |
| By: MSF | Ckd: RJD |
| Date: 09/28/15 | Date: 10/2/15 |

| A | B | C | D | E |
|---|-----------------|--------------|------------------|-------------------|
| Description | Quantity | Units | Unit Cost | Total Cost |
| <i>Structural</i> | | | | |
| Chem Building | 1,000 | SF | \$150 | \$150,000 |
| Chem Building Slab | 40 | CY | \$650 | \$26,000 |
| <i>Process</i> | | | | |
| Chemical Storage Tanks | 3 | EA | \$20,000 | \$60,000 |
| Chemical Feed Pumps | 3 | EA | \$6,000 | \$18,000 |
| Instrumentation | 1 | LS | \$30,000 | \$30,000 |
| <i>Electrical</i> | | | | |
| Electrical (15%) | 1 | EA | | \$43,000 |
| <i>HVAC</i> | | | | |
| HVAC (12%) | 1 | EA | | \$35,000 |
| <i>Subtotal</i> | | | | \$362,000 |
| Mobilization/Demobilization | | | 3% | \$11,000 |
| Contractor's Overhead and Profit/General Conditions | | | 15% | \$55,000 |
| Bonds & Insurance | | | 2% | \$8,000 |
| <i>Subtotal</i> | | | | \$436,000 |
| Unaccounted Items | | | 25% | \$109,000 |
| <i>Total Construction Cost</i> | | | | \$550,000 |
| Engineering/Legal/Administration/Land Acquisition | | | 20% | \$110,000 |
| <i>Total Project Cost</i> | | | | \$660,000 |

OPINION OF PROBABLE COST

| |
|--|
| Client: City of Durango |
| Project: Santa Rita WWTP Siting Alternative Investigation |
| Item: New WWTP - Sawmill Road Site |
| Admin/Lab Building |

| | |
|---------------------------|---------------|
| Project No: 358033 | |
| By: MSF | Ckd: RJD |
| Date: 09/28/15 | Date: 10/2/15 |

| A | B | C | D | E |
|---------------------------------|-----------------|--------------|------------------|--------------------|
| Description | Quantity | Units | Unit Cost | Total Cost |
| Structural | | | | |
| Admin/Lab Building ¹ | 7,500 | SF | \$300 | \$2,250,000 |
| Admin/Lab Building Slab | 280 | CY | \$650 | \$182,000 |
| Process | | | | |
| Casework/Lab Equipment | 1 | LS | \$400,000 | \$400,000 |
| Electrical | | | | |
| Electrical (15%) | 1 | EA | | \$425,000 |
| HVAC | | | | |
| HVAC (12%) | 1 | EA | | \$340,000 |
| Subtotal | | | | \$3,597,000 |

| | | |
|---|-----|--------------------|
| Mobilization/Demobilization | 3% | \$108,000 |
| Contractor's Overhead and Profit/General Conditions | 15% | \$540,000 |
| Bonds & Insurance | 2% | \$72,000 |
| Subtotal | | \$4,317,000 |
| Unaccounted Items | 25% | \$1,080,000 |
| Total Construction Cost | | \$5,400,000 |

| | | |
|---|-----|--------------------|
| Engineering/Legal/Administration/Land Acquisition | 20% | \$1,080,000 |
| Total Project Cost | | \$6,480,000 |

Notes:

1 - Admin building to be LEED certified

OPINION OF PROBABLE COST

| |
|--|
| Client: City of Durango |
| Project: Santa Rita WWTP Siting Alternative Investigation |
| Item: New WWTP - Sawmill Road Site |
| FOG and Septage Receiving |

| | |
|---------------------------|---------------|
| Project No: 358033 | |
| By: MSF | Ckd: RJD |
| Date: 09/28/15 | Date: 10/2/15 |

| A | B | C | D | E |
|--------------------------------|-----------------|--------------|------------------|-------------------|
| Description | Quantity | Units | Unit Cost | Total Cost |
| Structural | | | | |
| FOG/Septage Receiving Building | 1,500 | SF | \$150 | \$225,000 |
| Building Concrete Slab | 50 | CY | \$650 | \$33,000 |
| Septage Storage | 15 | CY | \$650 | \$10,000 |
| FOG Storage | 15 | CY | \$650 | \$10,000 |
| Process | | | | |
| Septage Receiving Equipment | 1 | LS | \$168,000 | \$168,000 |
| FOG Station | 1 | LS | \$132,000 | \$132,000 |
| Piping | 1 | LS | \$45,500 | \$46,000 |
| Mixers | 2 | EA | \$15,000 | \$30,000 |
| Pumps | 4 | EA | \$18,000 | \$72,000 |
| Electrical | | | | |
| Electrical (20%) | 1 | EA | | \$146,000 |
| HVAC | | | | |
| HVAC (12%) | 1 | EA | | \$88,000 |
| Subtotal | | | | \$960,000 |

| | | |
|---|-----|--------------------|
| Mobilization/Demobilization | 3% | \$29,000 |
| Contractor's Overhead and Profit/General Conditions | 15% | \$144,000 |
| Bonds & Insurance | 2% | \$20,000 |
| Subtotal | | \$1,153,000 |
| Unaccounted Items | 25% | \$289,000 |
| Total Construction Cost | | \$1,450,000 |

| | | |
|---|-----|--------------------|
| Engineering/Legal/Administration/Land Acquisition | 20% | \$290,000 |
| Total Project Cost | | \$1,740,000 |

OPINION OF PROBABLE COST

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|--|
| Client: City of Durango |
| Project: Santa Rita WWTP Siting Alternative Investigation |
| Item: New WWTP - Sawmill Road Site |
| Odor Control |

| | |
|---------------------------|---------------|
| Project No: 358033 | |
| By: MSF | Ckd: RJD |
| Date: 09/28/15 | Date: 10/2/15 |

| A | B | C | D | E |
|--|-----------------|--------------|------------------|--------------------|
| Description | Quantity | Units | Unit Cost | Total Cost |
| Structural | | | | |
| Reinforced Concrete Containment Vessels (2 units) | 200 | CY | \$650 | \$130,000 |
| Containment Vessel Coating | 2 | LS | \$10,000 | \$20,000 |
| Process | | | | |
| Equipment (blowers, filter media, irrigation, air distribution piping, etc.) | 2 | LS | \$300,000 | \$600,000 |
| Piping | 200 | LF | \$85 | \$17,000 |
| Valves and Fittings | 2 | LS | \$25,000 | \$50,000 |
| 3/4" Irrigation Line | 200 | LF | \$10 | \$2,000 |
| 4" Drain Line Piping | 300 | LF | \$20 | \$6,000 |
| Covers Primary Clarifiers | 1 | LS | \$400,000 | \$400,000 |
| Covers BNR | 1 | LS | \$1,000,000 | \$1,000,000 |
| Covers Sidestream Treatment | 1 | LS | \$150,000 | \$150,000 |
| Headworks (included with Headworks cost) | 0 | LS | \$0 | \$0 |
| Thickening Odor Piping | 150 | LF | \$85 | \$12,800 |
| Electrical | | | | |
| Electrical (15%) | 1 | EA | | \$359,000 |
| HVAC | | | | |
| HVAC (20%) | 1 | EA | | \$478,000 |
| Subtotal | | | | \$3,225,000 |
| Mobilization/Demobilization | | | 3% | \$97,000 |
| Contractor's Overhead and Profit/General Conditions | | | 15% | \$484,000 |
| Bonds & Insurance | | | 2% | \$65,000 |
| Subtotal | | | | \$3,871,000 |
| Unaccounted Items | | | 25% | \$968,000 |
| Total Construction Cost | | | | \$4,840,000 |
| Engineering/Legal/Administration/Land Acquisition | | | 20% | \$968,000 |
| Total Project Cost | | | | \$5,810,000 |

Sawmill Road Conveyance Alternative - Detail Costs

Alignment S1

| Item No. | Description | Quantity | Unit | Unit Cost | Total |
|----------|--|----------|------|-----------|-------------|
| 1 | Tie-in to existing sewer main with a 7-ft I.D. manhole | 1 | EA | 15,000 | 15,000 |
| 2 | Furnish and install equipment necessary to temporarily bypass sanitary sewer flows as necessary to install 7-ft I.D. manhole to allow for redirection of flows from existing WWTP via new sewer pipelines. (assumes 3 full days of by-passing) | 1 | LS | 25,000 | 25,000 |
| 3 | Furnish and install 30" I.D. sewer PVC Pipe - PS46-ASTM-F649 buried depths between 5 & 10-ft with 3/4" crushed rock, backfill, complete in place | 3,501 | LF | 200 | 700,200 |
| 4 | Furnish and install 30" I.D. sewer PVC Pipe - PS46-ASTM-F649 buried depths between 10 & 15-ft with 3/4" crushed rock, backfill, complete in place | 1,996 | LF | 220 | 439,120 |
| 5 | Furnish and install 30" I.D. sewer PVC Pipe - PS46-ASTM-F649 buried depths between 15 & 20-ft with 3/4" crushed rock, backfill, complete in place | 60 | LF | 280 | 16,800 |
| 6 | Furnish and install 6-foot diameter standard manhole w/ epoxy lining & locking cover including all related appurtenances, complete in place. Buried depths between 5 & 10-ft | 8 | EA | 7,500 | 60,000 |
| 7 | Furnish and install 6-foot diameter standard manhole w/ epoxy lining & locking cover including all related appurtenances, complete in place. Buried depths between 10 & 15-ft | 9 | EA | 12,500 | 112,500 |
| 8 | Furnish and install 6-foot diameter standard manhole w/ epoxy lining & locking cover including all related appurtenances, complete in place. Buried depths between 15 & 20-ft | 1 | EA | 12,501 | 12,501 |
| 9 | Bore Pit (10-ft x 30-ft) @ SE corner of Santa Rita Park | 1 | EA | 8,000 | 8,000 |
| 10 | Bore Pit (10-ft x 30-ft) @ SE corner of Cundiff Park | 1 | EA | 8,000 | 8,000 |
| 11 | Install bore for 42-inch sanitary sewer at Hwy 50 (Santa Rita park bridge). The bore shall include 60-inch steel casing w/ 42-inch PVC PS46-ASTM-F649 pipe. The bore shall also include casing spacers, and related appurtenances (including restrained joints throughout casings and one pipe length past the casings), complete in place. | 283 | LF | 1,500 | 424,500 |
| 12 | Install sewer vault 12-ft x 15-ft for inverted siphon (1 pair at the SE of Santa Rita Park, Just east of HWY 50 and the other pair at the SE corner of Cundiff Park) | 4 | EA | 50,000 | 200,000 |
| 13 | Install Dual 12-inch C905 DR 18 pressure pipeline (green) and 24-inch C905 DR 25 pressure pipeline (green) under Las Animas River with concrete encasement, backfill, thrust blocks and all associated items including joint restraint, epoxy coated mechanical bends and river diversion (160-ft wide river bed), dewatering, complete in place. Pipelines' separation at 3-ft off outside wall to outside wall) (SE of Santa Rita Park, Just east of HWY 50) | 475 | LF | 900 | 427,500 |
| 14 | Install Dual 12-inch C905 DR 18 pressure pipeline (green) and 24-inch C905 DR 25 pressure pipeline (green) under Las Animas River with concrete encasement, backfill, thrust blocks and all associated items including joint restraint, epoxy coated mechanical bends and river diversion (180-ft wide river bed), dewatering, complete in place. Pipelines' separation at 3-ft off outside wall to outside wall) (SE of Cundiff park Park) | 334 | LF | 900 | 300,600 |
| 15 | Furnish and install 42-inch PVC PS46-ASTM-F649 pipe buried depths between 10 & 15-ft with 3/4" crushed rock, backfill, complete in place | 326 | LF | 400 | 130,400 |
| 16 | Remove existing irrigated turf grass and replace with like-kind turf grass sod including sub grade preparation and irrigation lines repairs, complete in place. | 3,200 | SY | 20 | 64,000 |
| 17 | Remove and replace trees within Santa Rita park | 5 | EA | 2,500 | 12,500 |
| 18 | Remove and replace existing 10-ft wide concrete sidewalk | 4,955 | LF | 90 | 445,950 |
| 19 | Saw cut and remove existing asphalt and replace with asphalt patch including sub grade preparation. Asphalt shall be to existing depth plus 1-inch. Bottom lifts to be 3/4-inch mix asphalt. Top 2-inches to be 1/2-inch mix asphalt. (assumes 12-inch asphalt depth) | 642 | SY | 145 | 93,090 |
| 20 | Saw cut, remove and replace existing concrete 6-inch vertical curb and 2-foot gutter | 80 | LF | 45 | 3,600 |
| 21 | Seeding & mulching (native grasses) | 6 | AC | 2,500 | 15,000 |
| 22 | Import 1 1/2" crushed rock for backfill material for trench under La postsa Rd. Installed & compacted in place | 19,250 | CY | 20 | 385,000 |
| 23 | Export excess material | 19,250 | CY | 20 | 385,000 |
| 24 | Trench Dewatering - excavation depth grater than 20-ft | 386 | LF | 6 | 2,316 |
| 25 | Utility Pothole | 60 | EA | 300 | 18,000 |
| 26 | Erosion Control BMP's | 8,400 | LF | 20 | 168,000 |
| 27 | Staging Areas: 1) at BMX track and 2) at Santa RitaPark | 4 | AC | 2,500 | 10,000 |
| 28 | Contingency for unaccounted items (15%) | 1 | LS | 672,387 | 672,387 |
| 29 | Engineering (20%) | 1 | LS | 896,515 | 896,515 |
| | | | | | \$6,051,479 |

Sawmill Road Conveyance Alternative - Detail Costs

Alternative Alignment S1

| Item No. | Description | Quantity | Unit | Unit Cost | Total |
|----------|--|----------|------|-----------|-------------|
| 1 | Tie-in to existing sewer main with a 7-ft I.D. manhole | 1 | EA | 15,000 | 15,000 |
| 2 | Furnish and install equipment necessary to temporarily bypass sanitary sewer flows as necessary to install 7-ft I.D. manhole to allow for redirection of flows from existing WWTP via new sewer pipelines. (assumes 3 full days of by-passing) | 1 | LS | 25,000 | 25,000 |
| 3 | Furnish and install 30" I.D. sewer PVC Pipe - PS46-ASTM-F649 buried depths between 5 & 10-ft with 3/4" crushed rock, backfill, complete in place | 3,501 | LF | 200 | 700,200 |
| 4 | Furnish and install 30" I.D. sewer PVC Pipe - PS46-ASTM-F649 buried depths between 10 & 15-ft with 3/4" crushed rock, backfill, complete in place | 2,509 | LF | 220 | 551,980 |
| 5 | Furnish and install 30" I.D. sewer PVC Pipe - PS46-ASTM-F649 buried depths between 15 & 20-ft with 3/4" crushed rock, backfill, complete in place | 160 | LF | 280 | 44,800 |
| 6 | Furnish and install 6-foot diameter standard manhole w/ epoxy lining & locking cover including all related appurtenances, complete in place. Buried depths between 5 & 10-ft | 8 | EA | 7,500 | 60,000 |
| 7 | Furnish and install 6-foot diameter standard manhole w/ epoxy lining & locking cover including all related appurtenances, complete in place. Buried depths between 10 & 15-ft | 11 | EA | 12,500 | 137,500 |
| 8 | Furnish and install 6-foot diameter standard manhole w/ epoxy lining & locking cover including all related appurtenances, complete in place. Buried depths between 15 & 20-ft | 2 | EA | 12,501 | 25,002 |
| 9 | Bore Pit (10-ft x 30-ft) @ SE corner of Santa Rita Park | 1 | EA | 8,000 | 8,000 |
| 10 | Bore Pit (10-ft x 30-ft) @ SE corner of Cundiff Park | 1 | EA | 8,000 | 8,000 |
| 11 | Install bore for 42-inch sanitary sewer at Hwy 50 (Santa Rita park bridge). The bore shall include 60-inch steel casing w/ 42-inch PVC PS46-ASTM-F649 pipe. The bore shall also include casing spacers, and related appurtenances (including restrained joints throughout casings and one pipe length past the casings), complete in place. | 283 | LF | 1,500 | 424,500 |
| 12 | Install sewer vault 12-ft x 15-ft for inverted siphon (1 pair at the SE of Santa Rita Park, Just east of HWY 50 and the other pair at the SE corner of Cundiff Park) | 4 | EA | 50,000 | 200,000 |
| 13 | Install Dual 12-inch C905 DR 18 pressure pipeline (green) and 24-inch C905 DR 25 pressure pipeline (green) under Las Animas River with concrete encasement, backfill, thrust blocks and all associated items including joint restraint, epoxy coated mechanical bends and river diversion (160-ft wide river bed), dewatering, complete in place. Pipelines' separation at 3-ft off outside wall to outside wall) (SE of Santa Rita Park, Just east of HWY 50) | 475 | LF | 900 | 427,500 |
| 14 | Install Dual 12-inch C905 DR 18 pressure pipeline (green) and 24-inch C905 DR 25 pressure pipeline (green) under Las Animas River with concrete encasement, backfill, thrust blocks and all associated items including joint restraint, epoxy coated mechanical bends and river diversion (180-ft wide river bed), dewatering, complete in place. Pipelines' separation at 3-ft off outside wall to outside wall) (SE of Cundiff park Park) | 288 | LF | 900 | 259,200 |
| 15 | Furnish and install 42-inch PVC PS46-ASTM-F649 pipe buried depths between 15 & 20-ft with 3/4" crushed rock, backfill, complete in place | 210 | LF | 420 | 88,200 |
| 16 | Remove existing irrigated turf grass and replace with like-kind turf grass sod including sub grade preparation and irrigation lines repairs, complete in place. | 3,200 | SY | 20 | 64,000 |
| 17 | Remove and replace trees within Santa Rita park | 5 | EA | 2,500 | 12,500 |
| 18 | Remove and replace existing 10-ft wide concrete sidewalk | 5,083 | LF | 90 | 457,470 |
| 19 | Saw cut and remove existing asphalt and replace with asphalt patch including sub grade preparation. Asphalt shall be to existing depth plus 1-inch. Bottom lifts to be 3/4-inch mix asphalt. Top 2-inches to be 1/2-inch mix asphalt. (assumes 12-inch asphalt depth) | 642 | SY | 145 | 93,090 |
| 20 | Saw cut, remove and replace existing concrete 6-inch vertical curb and 2-foot gutter | 80 | LF | 45 | 3,600 |
| 21 | Seeding & mulching (native grasses) | 6 | AC | 2,500 | 15,000 |
| 22 | Import 1 1/2" crushed rock for backfill material for trench under La postsa Rd. Installed & compacted in place | 20,200 | CY | 20 | 404,000 |
| 23 | Export excess material | 20,200 | CY | 20 | 404,000 |
| 24 | Trench Dewatering - excavation depth grater than 20-ft | 370 | LF | 6 | 2,220 |
| 25 | Utility Pothole | 60 | EA | 300 | 18,000 |
| 26 | Erosion Control BMP's | 8,400 | LF | 20 | 168,000 |
| 27 | Staging Areas: 1) at BMX track and 2) at Santa RitaPark | 4 | AC | 2,500 | 10,000 |
| 28 | Contingency for unaccounted items (15%) | 1 | LS | 694,014 | 694,014 |
| 29 | Engineering (20%) | 1 | LS | 925,352 | 925,352 |
| | | | | | \$6,246,129 |