

Project Name: Wild Springs Solar Project
Date: 01/31/2024
WPS Project Number: 0007627.00
By: KDM

| Project Size | 163 Quantity | MW-DC Unit | 128.00 Unit Cost | MW-AC Total Cost | 9/25/2020 Estimated Costs |
|--|-----------------|------------------|---------------------|---------------------|------------------------------|
| Mobilization/Demobilization | 1 | Lump Sum | \$898,000.00 | \$898,000 | \$1,022,000 |
| <i>*the Unit/Total Cost has been revised as it is based on 7% of the current total decommissioning cost</i> | | | | | |
| Permitting | | | | | |
| State Permits | 1 | Lump Sum | \$10,000.00 | \$10,000 | \$10,000 |
| Subtotal Permitting | | | | \$10,000 | \$10,000 |
| <i>*Decommissioning will require a SWPPP and SPCC plan, cost is an estimate of the permit preparation cost.</i> | | | | | |
| Civil Infrastructure | | | | | |
| Removal Gravel Surfacing from Road | 32,744.3 | Cubic Yards (BV) | \$4.84 | \$158,494 | \$187,845 |
| <i>*the Quantity and Total Cost have been lowered due to a decrease in total inverters which led to a decrease in total road lengths built.</i> | | | | | |
| Haul Gravel Removed from Road | 40,930.3 | Cubic Yards (LV) | \$12.19 | \$498,955 | \$770,430 |
| <i>*the Quantity and Total Cost has been lowered due to a decrease in total road lengths and changes in RSMeans values.</i> | | | | | |
| Disposal of Gravel Removal from Road | 53,046.7 | Tons | \$0.00 | \$0 | \$0 |
| <i>*the Quantity and Total Cost have been lowered due to a decrease in total inverters which led to a decrease in total road lengths.</i> | | | | | |
| Grade Road Corridor (Re-spread Topsoil) | 51,567.4 | Linear Feet | \$3.69 | \$189,610 | \$120,905 |
| <i>*the Quantity and Total Cost have been lowered due to changes in RSMeans values and a decrease in total road length built.</i> | | | | | |
| Erosion and Sediment Control for Road Restoration | 38,676.5 | Linear Feet | \$3.48 | \$134,591 | \$151,927 |
| <i>*the Quantity and Total Cost have been lowered due to changes in RSMeans values and a decrease in total road length built.</i> | | | | | |
| Turf Establishment on Removed Road Area | 26.5 | Acres | \$4,250.00 | \$112,434 | \$224,956 |
| <i>*the Quantity and Total Cost have been lowered due to changes in RSMeans values and a decrease in total road length built.</i> | | | | | |
| Removal of Security Fence | 91,787.5 | Linear Feet | \$6.54 | \$600,290 | \$603,254 |
| <i>*the Quantity and Total Cost have been lowered due to changes in RSMeans values.</i> | | | | | |
| Subtotal Civil Infrastructure | | | | \$1,694,374 | \$2,059,316 |
| Civil removal costs are a combination of SDDOT unit costs where applicable, RS Means cost for project zip area and industry standards provided to Westwood. Based on the Landfill, many landfills do not charge for "inert" materials, the gravel can be used for daily cover and other uses at a landfill. | | | | | |
| Structural Infrastructure | | | | | |
| Removal Tracker Steel Foundation Posts | 54,230 | Each | \$17.50 | \$948,944 | \$1,416,268 |
| <i>*the Quantity and Total Cost have been lowered due to changes in RSMeans values and a decrease in the total number of tracker blocks built.</i> | | | | | |
| Haul Tracker Steel Post | 4,338.4 | Tons | \$7.54 | \$32,648 | \$64,813 |
| <i>*the Quantity and Total Cost have been lowered due to the total number of tracker blocks being reduced in the constructed design.</i> | | | | | |
| Removal Drive Motor Posts | 4,563 | Each | \$113.01 | \$515,665 | \$1,114,411 |
| <i>* the Quantity and Total Cost have been lowered due to changes in RSMeans values and a decrease in the total number of tracker blocks built, which reduced the total number of motor posts.</i> | | | | | |
| Haul Drive Motor Posts | 8,675.4 | Ton | \$7.54 | \$65,413 | \$138,882 |
| <i>*the Quantity and Total Cost have been lowered due to a decrease in the total number of tracker blocks in the constructed design.</i> | | | | | |
| Remove and Load Metstation Foundation | 4 | EA | \$917.40 | \$3,670 | \$3,718 |
| <i>*the Quantity and Total Cost have been lowered due to a decrease in the total number of Metstations built.</i> | | | | | |
| Haul Concrete | 58 | Tons | \$16.51 | \$957 | \$1,031 |
| <i>*the Quantity and Total Cost have been lowered due a decrease in the total number of Metstations built.</i> | | | | | |
| Disposal of Concrete from Foundation | 58 | Tons | \$40.25 | \$2,335 | \$2,918 |
| <i>*the Quantity and Total Cost have been lowered due a decrease in the total number of Metstations built.</i> | | | | | |
| Subtotal Structural Infrastructure | | | | \$1,569,631 | \$2,742,040 |
| Steel removal costs were calculated by using information from array manufacturers for installation rates and using the same rates to calculate total days to remove equipment. Hauling calculations are based on the locations of metals recyclers in Rapid City, 26 miles away. Assuming a \$0.29/ton mile rate and \$40.25/ton for tipping fees. | | | | | |

Electrical Collection/Transmission System

| | | | | | |
|--|---------|------|------------|--------------------|--------------------|
| Removal of PV Panels | 347,580 | Each | \$13.94 | \$4,843,745 | \$4,726,494 |
| <i>*the Unit Price and Total Cost have been increased due to changes in RSMMeans values.</i> | | | | | |
| Removal of Combiner Boxes | 570.4 | Each | \$60.00 | \$34,223 | \$72,660 |
| <i>*the Quantity and Total Cost have been lowered due to a decrease in the total number of PV Panels built, reducing the number of combiner boxes needed.</i> | | | | | |
| Removal of PCU Station (Inverters/Panelboard/Transformer) | 40 | Each | \$2,334.96 | \$93,398 | \$178,601 |
| <i>*the Quantity and Total Cost have been lowered due to a decrease in the total number of PV Panels and inverters in the constructed design.</i> | | | | | |
| Haul Inverters and Transformers to Recycler | 40 | Each | \$150.80 | \$6,032 | \$13,270 |
| <i>*the Quantity and Total Cost have been lowered due to a decrease in the total number of PV Panels and inverters in the constructed design.</i> | | | | | |
| Removal of Scada Equipment | 1 | Each | \$5,000.00 | \$5,000 | \$5,000 |
| Removal of DC Collector System Cables (copper) | 19,963 | LF | \$0.52 | \$10,415 | \$4,155 |
| <i>*the Quantity, Unit Cost, and Total Cost have been increased due to an increase in panels and inverters for the constructed design as well as changes in RSMMeans values</i> | | | | | |
| Removal of Underground (AC) Medium Voltage System Cables | 4,800 | LF | \$0.57 | \$2,744 | \$124,643 |
| <i>*the Quantity and Total Cost have been decreased due to the AC/MV collection built being buried at least 48" and the assumption that it will be abandoned in place. Service whips and stub up transitions at inverters to be removed.</i> | | | | | |
| Load and Haul Cables for Recycling | 28.4 | Ton | \$7.54 | \$214 | \$2,589 |
| <i>*the Quantity and Total Cost have been lowered due to the total length of cable removed being reduced.</i> | | | | | |
| Removal of Fiber Optic Cable | 1,600 | LF | \$0.16 | \$253 | \$11,359 |
| <i>*the Quantity and Total Cost have been lowered due to the AC/MV collection built being buried at least 48" and the assumption it will be abandoned in place. Service whips and stub up transitions at inverters to be removed.</i> | | | | | |
| Removal of Grounding Wire | 21,563 | LF | \$0.19 | \$4,091 | \$14,970 |
| <i>*the Quantity and Total Cost have been lowered due to the AC/MV collection built being buried at least 48" and assumed to be abandoned in place. Service whips and stub up transitions at inverters to be removed.</i> | | | | | |
| Subtotal Electrical Collection/Transmission System | | | | \$5,000,114 | \$5,153,742 |

Electrical removal costs of PV Panels and Combiner Boxes were based industry standards on installation rates of a three man work crew. PCU Station, MV Equipment and Scada Equipment removal cost are based on removal of equipment, concrete pads, and conduits using a truck mounted crane and contractor provided information on installation rates. Cable to be fully removed, stub up removal at combiner boxes and inverters assumed, standard industry production rates from RS Means. Metal and cable salvage value is based on 75 percent of current scrap metal prices for steel copper, and aluminum. Hauling calculations are based on the locations of metals recyclers in Rapid City, 26 miles away. Resale of PV Panels is based on 85 percent of the price quoted by We Recycle Solar on a recent similar project.

Site Restoration

| | | | | | |
|--|-------|-------|------------|--------------------|--------------------|
| Stabilized Construction Entrance | 8 | Each | \$2,000.00 | \$16,000 | \$22,000 |
| <i>*the Quantity and Total Cost have been lowered due to the total number of entrances being reduced in the constructed Project design</i> | | | | | |
| Permanent Seeding on area within Removed Array | 906.4 | Acres | \$3,872.00 | \$3,509,736 | \$3,763,584 |
| <i>*the Quantity and Total Cost have been decreased due to a decrease in the total disturbed area built.</i> | | | | | |
| Subtotal Site Restoration | | | | \$3,525,736 | \$3,785,584 |

Site restoration costs are based on past solar project experience.

Substation

| | | | | | |
|--|-------|------|-------------|--------------|--------------|
| Drain and Dispose of Transformer Oil | 1 | LS | \$11,000.00 | \$11,000.00 | \$11,000.00 |
| Disassembly and Removal of Transformer(s) | 1 | LS | \$4,500.00 | \$4,500.00 | \$4,500.00 |
| Freight Transformer(s) Offsite | 1 | LS | \$2,500.00 | \$2,500.00 | \$2,500.00 |
| Excavate Around Transformer Foundation(s) | 1 | LS | \$40,000.00 | \$40,000.00 | \$40,000.00 |
| Remove Complete Transformer Foundation(s) | 1 | LS | \$4,900.00 | \$4,900.00 | \$4,900.00 |
| Backfill Excavation Area from Transformer Foundation Removal | 1 | LS | \$55,000.00 | \$55,000.00 | \$55,000.00 |
| Haul scrap reinforcing steel (Transformer Foundation) | 10 | Tons | \$100.00 | \$1,000.00 | \$60.00 |
| <i>*the Quantity, Unit Price, and Total Cost have been increased due to changes concrete recycling costs at the selected recycler and transformers used in constructed design.</i> | | | | | |
| Haul Concrete (Transformer Foundation) | 140 | CY | \$18.00 | \$2,520.00 | \$2,520.00 |
| <i>subtotal - substation transformer removal</i> | | | | \$121,420.00 | \$120,480.00 |
| Demolish Substation Site Improvements (fences, etc) | 1 | LS | \$3,500.00 | \$3,500.00 | \$3,500.00 |
| Demolish Control Building and Foundation | 1 | LS | \$12,000.00 | \$12,000.00 | \$12,000.00 |
| Remove Medium/High Voltage Equipment | 1 | LS | \$3,500.00 | \$3,500.00 | \$3,500.00 |
| Remove Structural Steel Substation Frame | 1 | LS | \$3,500.00 | \$3,500.00 | \$3,500.00 |
| Freight - Demolition Materials, Removed Equipment & Structural Steel Offsite | 1 | LS | \$1,250.00 | \$1,250.00 | \$1,250.00 |
| <i>subtotal - demolition/disposal of imp materials</i> | | | | \$23,750.00 | \$23,750.00 |
| Remove Gravel Surfacing from Substation Site | 6,200 | CY | \$2.84 | \$30,010.00 | \$49,600.00 |
| <i>*the Unit Price and Total Cost have been decreased due to changes in RSMMeans values.</i> | | | | | |
| Disposal of Gravel from Substation Site | 6,200 | CY | \$6.00 | \$37,200.00 | \$37,200.00 |
| Grade Substation Site | 1 | LS | \$25,000.00 | \$25,000.00 | \$25,000.00 |
| Erosion and Sediment Control at Substation Site | 1 | LS | \$12,000.00 | \$12,000.00 | \$12,000.00 |
| Topsoil and Revegetation at Substation Site | 1 | LS | \$16,000.00 | \$16,000.00 | \$16,000.00 |
| <i>subtotal - substation site gravel removal & restoration</i> | | | | \$120,210.00 | \$139,800.00 |

| | Quantity | Unit | Unit Cost | Total Cost | |
|--|----------|---------------|-------------|---------------------------|------------------------|
| Project Management | | | | | |
| Project Manager | 25 | weeks | \$3,729.00 | \$93,225.00 | \$95,000.00 |
| <i>*the Unit Price and Total Cost have been decreased due to changes in RSMMeans values.</i> | | | | | |
| Superintendent | 50 | weeks | \$3,525.00 | \$176,250.00 | \$176,250.00 |
| Field Engineer | 100 | weeks | \$3,269.00 | \$326,900.00 | \$232,500.00 |
| <i>*the Unit Price and Total Cost have been increased due to changes in RSMMeans values.</i> | | | | | |
| Clerk | 50 | weeks | \$750.00 | \$37,500.00 | \$37,500.00 |
| <i>subtotal -Project Management</i> | | | | \$633,875.00 | \$541,250.00 |
| Salvage | | | | | |
| Fencing | 458.9 | Tons | \$243.75 | \$111,866 | \$72,600 |
| <i>*the Total Cost has changed due to changes in quantities in the constructed design and increased scrap prices on scrapmonster.com</i> | | | | | |
| Steel Posts | 4,338.4 | Tons | \$243.75 | \$1,057,485 | \$1,418,340 |
| <i>*the Total Cost has changed due to changes in quantities in the constructed design and increased scrap prices on scrapmonster.com</i> | | | | | |
| Module Racking | 8,675.4 | Tons | \$243.75 | \$2,114,630 | \$3,039,135 |
| <i>*the Total Cost has changed due to changes in quantities in the constructed design and increased scrap prices on scrapmonster.com</i> | | | | | |
| PV Modules | 330,201 | EA (5% loss) | \$23.87 | \$7,881,898 | \$8,878,539 |
| <i>*the Quantity and Total Cost have been lowered due to the total number of PV Panels being reduced in the constructed Project design.</i> | | | | | |
| Inverters and Transformers | 411,832 | Pounds | \$0.36 | \$148,260 | \$97,680 |
| <i>*the Total Cost has changed due to an increase in inverter model weight and therefore copper quantity in the constructed design</i> | | | | | |
| Scada Equipment | 1 | Each | \$1,000.00 | \$1,000 | \$1,000 |
| DC Collection Lines | 37,929.7 | LBS (5% loss) | \$0.74 | \$28,068 | \$8,755 |
| <i>*the Total Cost has changed due to changes in quantities in the constructed DC being above ground and therefore will be fully removed and increased scrap prices on scrapmonster.com.</i> | | | | | |
| AC Collection Lines | 11,400 | LBS (5% loss) | \$0.24 | \$2,765 | \$122,629 |
| <i>*the Total Cost has changed due to changes in quantities in the constructed design and increased scrap prices on scrapmonster.com. AC/MV collection was buried at least 48" and is assumed to be abandoned in place. Service whips and stub up transitions at inverters to be removed.</i> | | | | | |
| Grounding Wire | 4,711.5 | Pounds | \$3.13 | \$14,735 | \$37,308 |
| <i>*the Total Cost has changed due to changes in quantities in the constructed design and increased scrap prices on scrapmonster.com. AC/MV collection was buried at least 48" and is assumed to be abandoned in place. Service whips and stub up transitions at inverters to be removed.</i> | | | | | |
| Substation Transformer Oil | 1 | LS | \$3,500.00 | \$3,500 | \$3,500 |
| Substation Transformers | 1 | LS | \$37,800.00 | \$37,800 | \$33,300 |
| <i>*the Total Cost has increased due to changes in estimated scrap prices from scrapmonster.com</i> | | | | | |
| Scrap reinforcing steel from Substation Transformer Foundation | 10 | Tons | \$80.00 | \$800.00 | \$480.00 |
| <i>*the Quantity and Total Cost have been increased due to changes in the transformers and foundations used in constructed design.</i> | | | | | |
| Substation Demolition Materials, Removed Equipment and Structural Steel | 1 | LS | \$1,750.00 | \$1,750.00 | \$1,750.00 |
| Salvage values are a combination of the following factors; current market metal salvage prices, current secondary market for solar panel module recycling, discussions with national companies that specialize in recycling and reselling electrical transformers and inverters, and the assumption that care is taken to prevent any damage or breakage of equipment. | | | | | |
| Construction Subtotal | | | | \$13,587,110 | \$15,597,961 |
| Contingency | | | | \$1,903,367 | \$2,158,425 |
| 15% of construction total (minus Mobilization/Demobilization/Permitting) based on previous project estimations. | | | | | |
| County Administration Costs (2.5%) | | | | \$387,261.91 | \$439,123.15 |
| | | | | Construction Total | \$15,877,738.51 |
| Subtotal Salvage | | | | \$11,404,556 | \$13,715,017 |
| Total Demolition Minus Salvage | | | | \$4,473,183 | \$4,480,492 |

Notes:

1. Prices used in analysis are estimated based on research of current average costs and salvage values.
2. Prices provided are estimates and may fluctuate over the life of the project.
3. Contractor means and methods may vary and price will be affected by these.