

Greenfield design documents to develop a solar project

Request for Quote (RFQ)	Stakeholder: Sustainability and Energy Solutions Project Name: New Mexico Community Solar Program and/or other future solar projects Project Manager: Elias Montoya/Esmeralda Viramontes/Lizeth Arredondo Schedule: May 11 2023/ end date June 3 2023 Payment Terms: Payment upon milestone deliverables Site: Stanton
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Scope of Work PV

- 1.1.1 Contractor shall provide submittals to Owner. Engineering submittals shall be provided at intervals sufficient for Owner to review and comment on design decisions and/or as provided in the Agreement. Submittal milestones include:
- 1.1.1.1 30% Design Documents
 - 1.1.1.2 60% Design Documents
 - 1.1.1.3 90% Design Documents
 - 1.1.1.4 Issued For Construction (IFC) Design Documents
 - 1.1.1.5 As-Built Design Documents
- 1.1.2 Contractor shall assist Owner on preparing and submitting the appropriate documentation, information, analysis, drawings, etc. necessary for a complete interconnection application with the utility.
- 1.1.3 Contractor shall complete the final detailed engineering drawing package (IFC Design) required for all construction permits within sixty (60) days following the Limited Notice to Proceed Date.
- 1.1.4 All vendor documents received by Contractor shall be always maintained by Contractor and available to Owner.
- 1.1.5 Contractor shall make all engineering documentation available in PDF format.
- 1.1.6 Contractor shall make all drawings available in DWG format.

30% Design Documents	Design Documents intended to represent a preliminary design package. Many of the design submittals may be preliminary or conceptual in nature, without having all exact details defined. 30% Design Documents shall be provided as a single comprehensive submittal. To the extent possible, all PDF's shall be combined into a single file. 30% Design Documents shall include (at minimum): Design Basis: <ul style="list-style-type: none"> - Design criteria for each engineering discipline - Contractor's equipment and system designation methods General arrangement drawing include, at a minimum: <ul style="list-style-type: none"> - PV arrays - Preliminary inverters and transformer locations and ratings
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	<ul style="list-style-type: none"> - Medium voltage switchgear location and ratings - Point of interconnection - Fencing - Staging and laydown areas - Site access roads and adjacent public roads - Interior service roads - Any on-site buildings - Surrounding objects that will shade the array at any time of the year (trees, buildings, power lines, etc.) <p>Electrical Package:</p> <ul style="list-style-type: none"> - Schematics and single line drawings detailing: AC collection system, - Point of interconnection and location of revenue meter identified; - Determination of modules / string sizing; - Datasheets for major equipment; quantities and configurations, - Power block layouts - Preliminary load flow study showing reactive power capability to support inverter quantity.
60% Design Documents	<p>Design Documents intended to represent a reasonably complete design package. Many of the design submittals may be preliminary or conceptual in nature, without having all exact details defined. 60% Design Documents shall be provided as a single comprehensive submittal. To the extent possible, all PDF's shall be combined into a single file. 60% Design Documents shall include (at minimum):</p> <p>An updated version of 30% Design with revisions and additional detail where applicable, including:</p> <p>Design Basis:</p> <ul style="list-style-type: none"> - Design criteria for each engineering discipline - Contractor's equipment and system designation methods <p>General arrangement drawing:</p> <ul style="list-style-type: none"> - Foundations - Tracker details such as motors, controllers, sensors and communication equipment (if applicable) - Meteorological station, sensors, and Data Acquisition System locations - Drainage and storm water improvements; - Power Block groupings - Combiner Box locations and string assignments <p>Electrical Package</p> <ul style="list-style-type: none"> - MV collection system design, trenching details and MV cable schedule - DC collection system design, trenching details and dc cable schedule - Low voltage dc and ac and medium voltage ac cable runs (specifying conduit, messenger and/or direct buried) - Schematics and single line drawings detailing: ac and dc collection systems, - Draft Grounding Study - Draft Short Circuit Study - Draft Insulation Coordination Study - Draft Cable Thermal Ampacity study for ac, dc and joint trenches - Updated Load Flow Study

	<ul style="list-style-type: none"> - Draft Harmonics study (if applicable) - Electrical details and supporting documentation for: site lighting, auxiliary and backup power, MET station, power plant controller (including network diagram), DAS/SCADA and communications systems, - Conductor and equipment size needed for interconnection (conductors, switches, breaker(s), etc.); - Wire management and BOS details - Equipment pad integration details - Signage and Markings Drawings - Datasheet and quantities for combiner boxes (and/or harness assemblies/dc disconnects) - Draft Bill of Materials <p>Structural Package:</p> <ul style="list-style-type: none"> - Mounting system datasheet - Calculations in accordance with Section Error! Reference source not found.. - Mounting configurations for all equipment - Foundation designs for all equipment pads and mounting structures, etc. - Corrosion analysis - Pile foundations test plan, pile load test results and pile design report. <p>Civil Package:</p> <ul style="list-style-type: none"> - Geotechnical Report - Hydrology Report - Detailed Site layout with topographic detail, grading plan, final top of pile elevations to establish PV table height, height and distance from array of any object that will shade array, internal roads, storm water management plan, etc. in accordance with the Contractor-supplied Geotechnical Report and Hydrology Report.
90% Design Documents	<p>Design Documents intended to represent a nearly complete design package for final approvals prior to being issued for permit approval. The 90% Design Documents shall be provided as a single comprehensive submittal. 90% Design Documents shall include (at minimum):</p> <ul style="list-style-type: none"> - An updated version of the 60% Design Documents with revisions and additional detail where applicable. - Final electrical studies - Shall include equipment ratings for all power systems equipment, bus work, enclosures, protective devices, etc. - Draft Arc flash study and associated safety plan documentation. Lock-out-tag-out (LOTO) report to support dc and ac arc flash study. - Include all detailed information required to obtain all necessary construction permits from the AHJ
IFC Design Documents	<p>Design Documents intended to provide all required information for Subcontractors to construct the Project. IFC Design Documents shall be provided as a single comprehensive submittal. IFC Design Documents shall include, at minimum, complete and fully detailed submittals (all applicable drawings and calculations) for the following:</p> <ul style="list-style-type: none"> - An updated version of the 90% Design Documents with revisions and additional detail where applicable. - Shall include all completed test results such as pile uplift and lateral resistance testing - Shall address any responses/comments from the AHJ - Final electrical studies - Final arc-flash study and accompanying safety and LOTO documentation stamped by licensed engineer.

	- Electrical, civil and structural drawings and studies must be stamped by licensed engineers
As-Built Design Documents	Design Documents intended to reflect design changes after the release of the IFC Design Documents and to document the design of the as-constructed facility.