



UC Solar Power Initiative



Project Overview & Environmental Benefits

- UC entered into a long term Power Purchase Agreements with the 60MW Five Points Park & 20MW Giffen Solar Park both located in Fresno County, CA
- The projects will generate ~200,000MWh/year, enough power for approximately 30,000 homes
- The projects will use high efficiency solar photovoltaic modules mounted onto a single axis tracking system.
- The projects will supply power to UC Direct Access and WAPA served campuses
- Commercial Operation Date: December 2016
- The projects connect directly to the California Independent System Operator (CAISO) controlled transmission system
- UC will manage the power as a registered Electric Service Provider (ESP)
- The UC System will receive all power and environmental benefits including RPS Category 1 Renewable Energy Credits (RECs)
- The clean power generated will avoid approximately 88,000 tons of CO2 annually

Five Points Solar Park

| Site Summary | Location | Site Map |
|---|----------|----------|
| Size: 60 MW _{AC} | | |
| Location: Five Points, Fresno County, CA | | |
| Solar Irradiance: 2,105 kWh/kW/year | | |
| Point of Interconnection: On-Site/NP-15 | | |



Future Site of the 60MW Five Points Solar Park Five Points, CA

Giffen Solar Park

| Site Summary | Location | Site Map |
|--|----------|----------|
| Size: 20 MW _{AC} | | |
| Location: Cantua Creek Fresno County, CA | | |
| Solar Irradiance: 2,097 kWh/kW/year | | |
| Point of Interconnection: Giffen Substation On-Site/NP-15 | | |

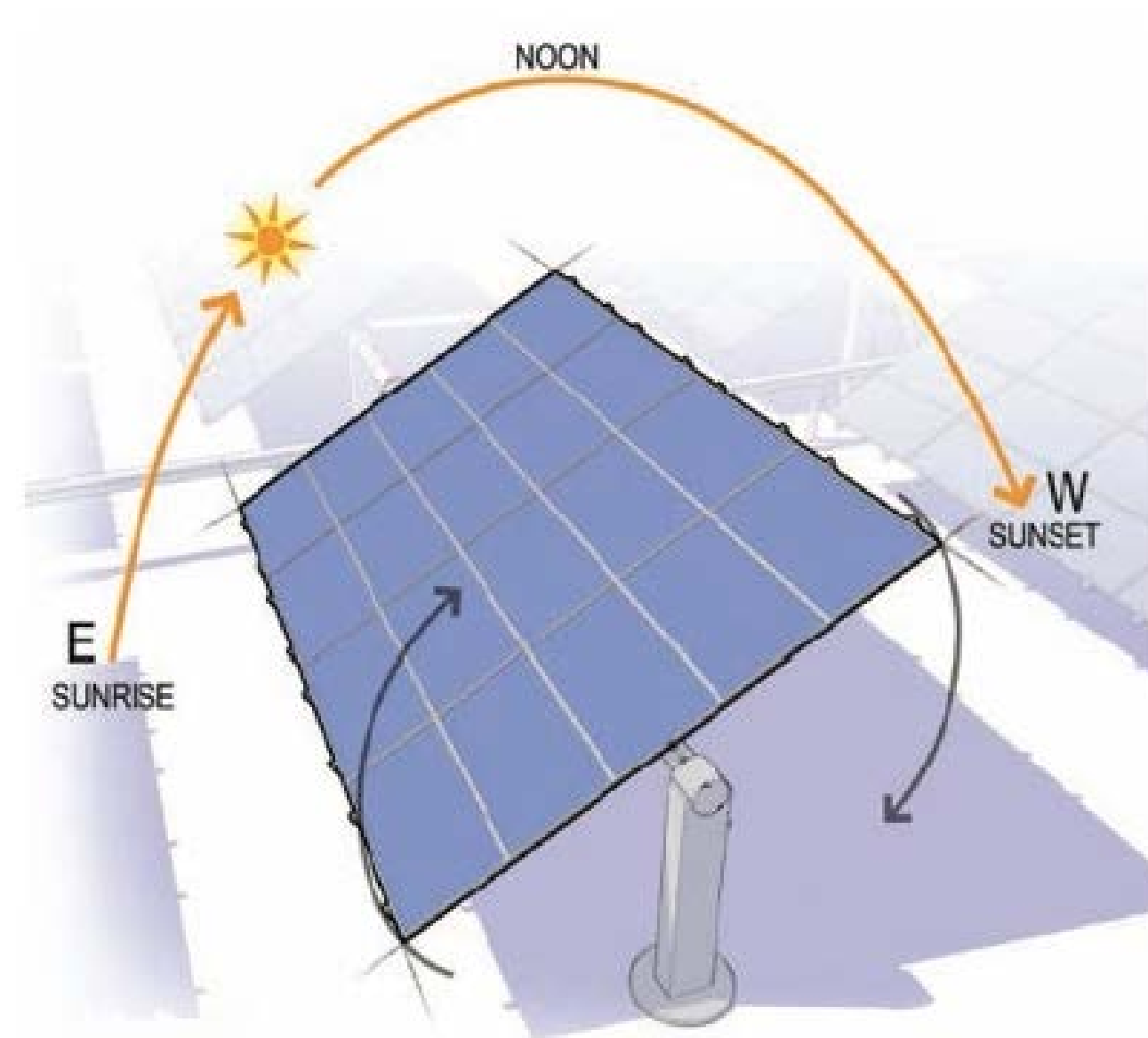


Future site of the 20MW Giffen Solar Park Cantua Creek, CA

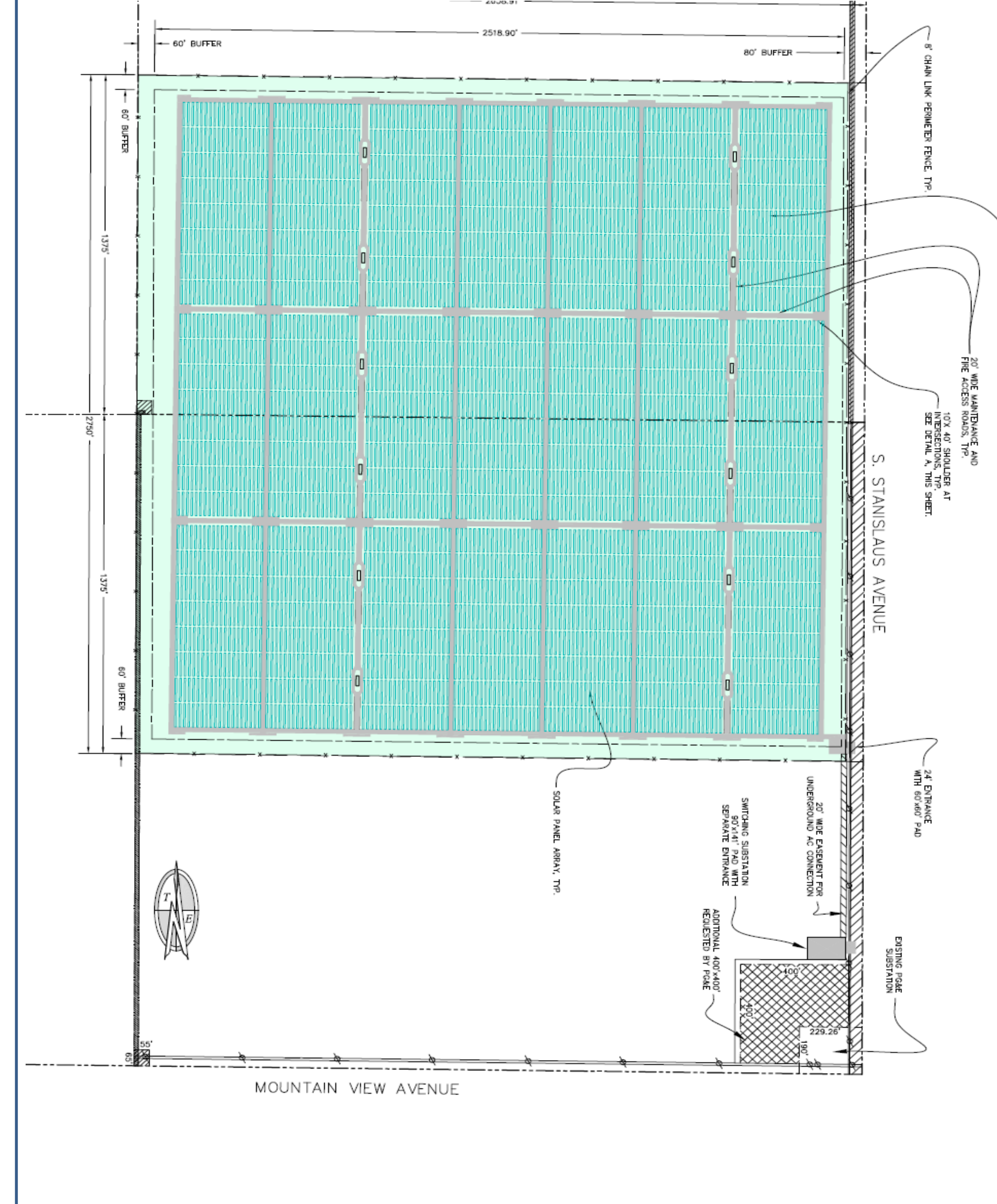
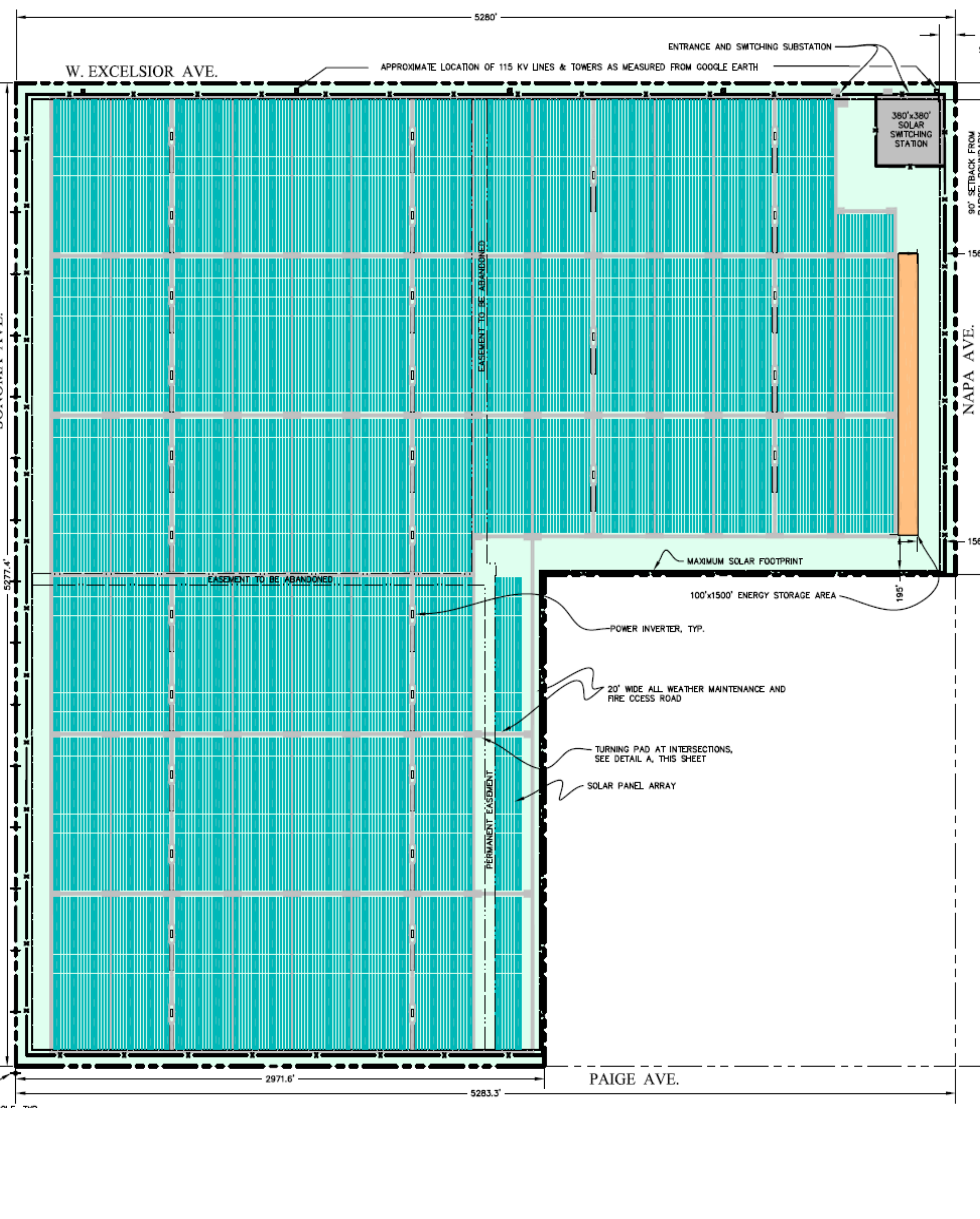
California ISO



Single Axis Tracking Example



- Increases system energy production output by approximately 30%
- Generates more power during utility peak load periods, usually afternoons during the summer months
- Maximizes energy production per solar panel resulting in less per-unit installed equipment



- Electric Service Provider (ESP) are a non-utility entity that offers electric service to customers within the service territory of an electric utility
- ESPs are required to register with the California Public Utilities Commission

California RPS Content Categories

| RPS Portfolio Content Categories | Definition | Examples |
|---|--|---|
| Category 1 procurement is: Procurement of Energy and RECs delivered to a California balancing authority (CBA) without substituting electricity from another source. | <ul style="list-style-type: none"> Energy and RECs from an RPS-eligible facility that is directly interconnected to the distribution or transmission grid within a California balancing authority area (CBA); or Energy and RECs from an RPS-eligible facility, that is not directly interconnected to a CBA, but is delivered to a CBA, without substituting electricity from another source; or Energy and RECs physically transferred to a CBA. | <ol style="list-style-type: none"> Wind facilities in Washington state delivers Energy and RECs with firm or non-firm transmission according to an hourly or sub-hourly schedule Biomass facility directly interconnected to CAISO delivers Energy and RECs |
| Category 2 procurement is: Procurement of Energy and RECs that cannot be delivered to a CBA, without substituting electricity from another source. | <ul style="list-style-type: none"> Buyer simultaneously purchases Energy and RECs from an RPS-eligible facility, where the energy must not be already committed to another party, without selling the energy back to the generator; Renewable generation is firm and shaped with substitute electricity that is scheduled into a CBA within the same calendar year as the RPS generation; and Substitute electricity provides incremental electricity to the buyer. | <ol style="list-style-type: none"> Buyer procures Energy and RECs from Wind facilities in Oregon; renewable Energy is firm and shaped by third party; substitute electricity is delivered to buyer; RPS credit equals the volume of RECs generated by wind facility |
| Category 3 procurement is: Procurement of unbundled RECs only, or RECs that do not meet the conditions for Category 1 and 2. | <ul style="list-style-type: none"> Unbundled RECs originally associated with generation from an RPS-eligible facility (i.e., no Energy procurement); Unbundled RECs that do not qualify under the criteria of Category 1 and 2. | <ol style="list-style-type: none"> Buyer procures unbundled RECs from RPS-eligible facility (could be from a wholesale generating facility or a customer-owned facility) A Category 2, firm and shaped transaction, where some of the substitute electricity is not scheduled in the calendar year of the RPS-eligible generation |

Utility Scale Solar Park Operational Diagram

