Solar Resources Mapping

To help the Administration understand the potential for solar power development, and to help solar power developers identify appropriate sites in the future, the Planning Office used a Geographic Information System (GIS) to conduct a constraints and resources analysis. This entailed the creation of a series of maps that are described below:

Map 1 shows solar resources throughout out the County, rated by kilowatt-hours per square meter per day.

Map 2 identifies cities, public parks, and lakes that were removed from the study area.

Map 3 identifies areas with slopes over 5% and areas with prime farmland that were removed from the study area.

Map 4 shows the remaining study area after removal of the selected areas highlighted in Maps 2 & 3. These areas thus do not have prime farmland constraints or steeper slopes and are suitable for commercial solar development within unincorporated areas.

Map 5 shows ranked wildlife habitat within the remaining study area based on mapping created for the Santa Clara Valley Habitat Conservation Plan. Land within the study area is ranked in order of species diversity (total number of special status plant and wildlife species that could occur onsite).

Map 6 shows solar potential within the remaining study area, ranked similar to mapping done for Map 1.

Map 7 shows a ranked value of properties in the study area of solar potential versus species diversity, on a scale of 0 to 19. Those areas with the highest solar potential and lowest species diversity are ranked the highest (19).

Map 8 shows select areas of the county with the highest ranking (per Map 7) compared with the existing general plan designations and zoning districts in these areas.

Note: Two crucial factors have not yet been included in this mapping analysis – grid infrastructure and parcel size. Nearby substations or high voltage lines are necessary for solar power development, while smaller parcel sizes increase complexity in the purchase or lease of land for such projects. It is possible to analyze these features through additional mapping and other analysis to further identify the most feasible sites in Santa Clara County for solar power development.