ATTACHMENT A
PROJECT ISSUE CHECKLIST

PROJECT NAME: Tierra Del Sol Solar Farm				Project Number(s): 3300 12-010	
Specialist Name: Jim Bennett				Project Manager Name: Ashley Gungle	
DPLU (Department of Planning and Land Use) Planning and CEQA Comments					
Item	**No.**	**Subject Area**	**Issue, Revision or Information Required**	**Issue Resolution Summary (Include Conditions)**	**Date Identified**	**Date Resolved**
	1	Groundwater-MAJOR PROJECT ISSUE	Groundwater information received from Dudek in a memorandum dated July 23, 2012 indicates the project will require approximately 550,000 gallons per day of water during a 40 day peak demand period. This would equate to 381 gallons per minute of production if wells were pumped 24 hours a day over a 40 day period. It is unlikely that the existing 7 on-site wells would have combined ability to pump 381 gallons per minute. Off-site water will likely be required to supplement on-site groundwater demand. These offsite source(s) need to be identified now and impacts to groundwater from off-site source(s) need to be evaluated.		8/15/2012	
	2	Groundwater - Well Test Plan	The County Groundwater Geologist has reviewed the Well Test Plan dated July 2012 prepared by Dudek. The plan is accepted with one comment below.	For information purposes only	8/15/2012	
	3	Groundwater - Well Test Plan	Besides the monitoring of on-site wells, It will also be required that ALL property owners located within 1/2-mile radius of the Well B be contacted and asked whether they wish to participate in having any of their wells monitoring during the well testing of Well B. Please send letters to each property owner and include a list of property owners contacted in the groundwater investigation. All groundwter level data collected from each offsite well shall be compiled within the groundwater investigation.		8/15/2012	
	4	Groundwater	Jim Bennett, County Groundwater Geologist, has reviewed the Draft Groundwater Resources Investigation Report, Tierra Del Sol Solar Farm Project, prepared by Dudek dated December 2012. The report is inadequate and requires revisions. Comments are provided as follows.	For information purposes only	3/12/2013	

ATTACHMENT A
PROJECT ISSUE CHECKLIST

	5	Groundwater	Well Interference Analysis, Offsite Well Users: Figure 10 needs to be updated to show the location of all off-site well users. A map showing all confidential well logs that are within the Department of Environmental Health Database will be given to the consultant along with confidential well logs. Figure 10 should be updated to reflect these additional well locations. Also highlight all parcels that have been developed with single-family residences.		3/12/2013	
	6	Groundwater	Sections 2.6 and 2.7: County staff has obtained data from 14 confidential well logs located in the nearby area which will be provided to the consultant. Please include this data in the report to augment the discussion in Sections 2.6 and 2.7. The text should discuss the range of well yields reported in the well logs, the lithology (residuum/bedrock contact), and range of depth of wells. Since this data is confidential, do not correlate the data with the mapped well locations.		3/12/2013	
	7	Groundwater	Section 3.1.2.1 Runoff, Page 3-5: Desert scrub was selected as the groundwater cover which has a CN of 49 for A Soils and CN of 68 for B Soils. Please change the numbers in the report to reflect these values.		3/12/2013	
	8	Groundwater	Section 3.1.2.1 Runoff, Page 3-5: The runoff was changed based on utilizing a PZN adjustment factor. This factor should not be used since the study is looking at long-term runoff rates at a monthly time scale. Adjusting the PZN would not be appropriate for this type of application. Please use the published non-adjusted values.		3/12/2013	

ATTACHMENT A
PROJECT ISSUE CHECKLIST

	9	Groundwater	Section 3.1.2.1 Runoff, Calculation Spreadsheet: Runoff was not correctly calculated in the spreadsheet for lower rainfall events due to an incorrect IF statement utilized. The IF statement that was utilized was IF P>0.5. Please revise and use the following: IF P=0.2S. Additionally, the report on Page 3-5 that average runoff would be 2.4 inches or 21% of precipitation. This is incorrect due to adding the amount of runoff that occurred in each of the three soil type areas analyzed and dividing by the total precipitation that fell. Please re-calculate by looking at each individual sub-watershed that was analyzed and comparing the runoff in that sub-watershed to the total precipation that fell in that sub-watershed. The result will be roughly 1/3 the amount of runoff as compared to what was reported in the study.		3/12/2013	
	10	Groundwater	Section 3.1.2.2 Groundwater Demand: The project construction water demand appears to be 25.7 acre-feet from Well B as indicated in Table 3-3 and the rest of the water would be imported. However, in the footnote of Table 3-3 it indicates that construction water demand requires a one-time extraction of approximately 39 acre-feet. Please fix this discrepancy. Additionally, under Scenario 4, 21 acre-feet of groundwater is included to be exported to Rugged Solar Farm. Since the project already requires imported water to meet its construction needs, County staff requests that exportation of water to other projects not be included. Please remove exportation of groundwater from Well B from the project.		3/12/2013	
	11	Groundwater	Section 3.2.1.1. Well Interference in Fractured Rock: Define in this subsection what the total demand of production from Well B is anticipated to be during the project. It is assumed this would be 25.7 acre-feet during the first 11 months of the project and then 4 acre-feet per year for the life of the project. All well interference analysis will be based on the anticipated groundwater demand from Well B.		3/12/2013	

ATTACHMENT A
PROJECT ISSUE CHECKLIST

	13	Groundwater	Section 3.2.2.3. Well Test Analysis, Significance of Impacts Prior to Mitigation, First Paragraph: A five-year projection of drawdown using the straight line method is the incorrect method to use to evaluate potential well interference impacts on off-site wells. Revise this analysis to evaluate potential well interference impacts on the closest offsite well using the Cooper-Jacob approximation of the Theis non-equilibrium flow equation. Utilize anticipated groundwater demand during the construction period as the first analysis and then a second analysis considering pumping for 5 years at the anticipated ongoing rate of demand. Include distances ranging from 50 feet to 5,280 feet (1-mile) in a Table to summarize potential well interference impacts. The pumping during the construction phase should realistically consider whether the well will be pumped 24 hours a day or whether it will be pumped at higher rates for shorter periods each day. A worst-case scenario of how pumping will occur should be evaluated.		3/12/2013	
	14	Groundwater	Section 3.2.2.3. Well Test Analysis, Significance of Impacts Prior to Mitigation, First Paragraph: The first paragraph should be revised to summarize the significance of impacts from the construction phase of groundwater pumping and then the ongoing water use based on well interference calculations.		3/12/2013	

ATTACHMENT A
PROJECT ISSUE CHECKLIST

	15	Groundwater	Section 3.2.2.3. Well Test Analysis, Significance of Impacts Prior to Mitigation, Hydraulic Isolation: Fractured rock aquifer systems are complicated and very difficult to adequately characterize. The spacing, orientation, and interconnectivity of fractures are complex and difficult to thoroughly analyze even with a robust groundwater monitoring network. The pathways of fractured zones at Well B are undefined and may result in potential impacts to nearby wells. Additionally, the well test conducted was for only 72 hours where impacts to wells at the distances monitored for the majority of the wells would be expected to be negligible given the time and the amount of water pumped. Substantial additional characterization of the fractured rock system would be required before the conclusion of hydraulic isolation could be made likely far beyond the scope of a project of this magnitude. Please remove the statement that the project well production will not exceed the County threshold of significance based on hydraulic isolation.		3/12/2013	
	16	Groundwater	Section 5.2. Well Interference, Summary of Project Impacts and Mitigation: The fact that there was not drawdown in the monitoring wells during well testing is not a standard the County employs to indicate whether there will be well interference on off-site wells. This would have potentially catostrophic consequences if used as a standard given the nature of fractured rock aquifers. Rather, drawdown calculations as requested above are the standard. Please revise this section along with any mitigation measures necessary.		3/12/2013	

ATTACHMENT A
PROJECT ISSUE CHECKLIST

	17	Groundwater	Section 5.5 Mitigation Measures: Based on revised well interference analysis, it will be necessary to develop a maximum amount of groundwater that can be safely pumped during the construction phase without resulting in significant well interference impacts on the closest well user to Well B. Additionally, a maximum amount of groundwater will also be established for the ongoing water use needed. A monitoring well network will be required to be setup with maximum drawdown thresholds to ensure impacts to offsite wells remain less than significant. Ongoing monitoring of well RM-1 which is located in the Coast Live Woodland will be required during the construction phase of pumping to evaluate potential impacts to the shallow groundwater system beneath the Coast Live Oak Woodland habitat. After the groundwater investigation is revised with the above changes requested and reviewed by County staff, a meeting will be setup to discuss the details of this plan and any additional wells needed to be installed for monitoring.		3/12/2013	
	18	Groundwater	Imported Groundwater: Once the groundwater investigation is revised and the amount of water to be produced from Well B is finalized, the amount of water to be imported to the site will be known. Prior to public review, the project will be required to have identified all offsite water sources to provide the imported water to the site. If the water sources are from groundwater dependent entities, a groundwater investigation will be required to evaluate potential groundwater impacts from any of these entities which must be reviewed and approved prior to the project going out for public review.		3/12/2013	