From:	Gungle, Ashley
To:	mlawson@dudek.com; tdriscoll@dudek.com
Cc:	Patrick BROWN (Patrick.BROWN@soitec.com); Asha Bleier (ableier@dudek.com); Bennett, Jim
Subject:	Soitec Groundwater Comments
Date:	Tuesday, August 20, 2013 7:18:27 AM
Attachments:	PDS2012-3910-120005-PDS-PLN-Specialist Checklist-Groundwater_2.xlsx

Megan, Trey,

Please find attached a copy of the groundwater comments for the Soitec project. This includes comments on the DRAFT Update Pine Valley Cumulative Groundwater Study – Pine Valley Municipal Water Company dated July 23, 2013.

Please let me know if a conference call is needed to discuss these comments or feel free to contact myself or Jim Bennett directly to discuss.

Thank you,

Ashley

Ashley Gungle
Land Use/ Environmental Planner

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ATTACHMENT A
PROJECT ISSUE CHECKLIST

PDS (Planning & Development Services) Planning and CEQA Comments					
Item	**No.**	**Subject Area**	**Issue, Revision or Information Required**	**Issue Resolution Summary (Include Conditions)**	**Date Identified**
	1	Groundwater-MAJOR PROJECT ISSUE	The project is relying upon a mix of both on-site groundwater resources and imported groundwater resources to meet its water demand for the four project sites. The EIR does not provide analysis of potential impacts to groundater resources from offsite groundwater sources including Live Oak Springs and Jacumba Community Services District. Pursuant to CEQA, impacts to groundwater resources from using these sources must be evaluated now as part of this EIR. The maximum amount of offsite imported groundwater must be quantitied and impacts from imported groundwater sources must be evaluated as part of the EIR.		5/30/2013
	2	Groundwater	Live Oak Springs, Jacumba Community Services District, or any other offsite groundwater-dependent source, impacts to groundwater resources from using these sources must be evaluated now. A groundwater evaluation must include evaluating short-term and long-term cumulative groundwater impacts through the use of a water balance analysis, potential well yield available, potential offsite well interference, and analysis of potential impacts to groundwater dependent vegetation (if present near the well(s) to be pumped). The evaluation of impacts should be completed using the County's approved Guidelines for Determining Significance and Report Format and Content Requirements which can be found on the World Wide Web at http://www.sdcounty.ca.gov/dplu/docs/GRWTR-Guidelines.pdf (Guidelines) http://www.sdcounty.ca.gov/dplu/docs/GRWTR-Report-Format.pdf (Report Formats). Below is a list of items which must be analyzed in the investigation as described in detail in the Guidelines for Determining Significance and Report Format Guidelines and Content Requirements for Groundwater Resources.		5/30/2013

ATTACHMENT A
PROJECT ISSUE CHECKLIST

	3	Groundwater	1. Water Balance Analysis: Groundwater recharge must be evaluated in two separate analyses for the each offsite area and the basin in which it is located. The tributary watershed to be included in the analysis should be presented in advance for DPLU review. The computer program RECHARG2 or similar and acceptable methodology must be used to calculate groundwater recharge. Estimates of groundwater storage capacity must be estimated for each hydrogeologic unit at the project site and within the project's watershed. Evaluate the long-term groundwater availability for the project's basin which takes into consideration groundwater recharge, estimated groundwater in storage, and groundwater demand under each of the following scenarios: (1) Existing groundwater demand within the basin. (2) Existing groundwater demand plus the Soitec project water demand. if the demand is to be staggered between the projects, include this in the analysis. (3) Existing groundwater demand plus the Soitec project water demand and the water demand of all other reasonably foreseeable projects.		5/30/2013

	4	Groundwater	2. Well Testing: All wells that will be utilized from each offsite water source need to be identified, and if aquifer testing has not be conducted must tested as part of the groundwater investigation. Each well must include an evaluation of its long-term capacity and evaluation of potential well interference on other well users and/or groundwater dependent habitat (if any is present within the vicinity of the well). The results from each well test will be used to determine whether adequate water exists within the well analyzed without significant well interference/impacts to habitat. If aquifer testing (at least 24 to 72 hours in length) has never been conducted, a meeting will be required between the applicant's hydrogeologist(s) and the County Groundwater Geologist to discuss the well testing requirements including production rate for each test, step-drawdown and constant rate well test requirements, on-site monitoring wells to be included during the well test, and development of a list of off-site well users to contact to request voluntary monitoring of their wells during the on-site well testing.		5/30/2013
	5	Groundwater	3. Groundwater Report: The report should follow the items outlined in the County Report Formats. The report shall include impacts analysis for 50% Reduction in Storage, long-term well yield, potential offsite well interference, and potential impacts to groundwater dependent vegetation.		5/30/2013

ATTACHMENT A
PROJECT ISSUE CHECKLIST

	6	Groundwater	Tierra Del Sol and Rugged Solar Project, GMMP Proposal Request: For both the Tierra Del Sol and Rugged Solar project, groundwater is being proposed at each site. Please prepare a proposal for the GMMP of the wells to be utilized at each site, the amount of maximum water to be utilized (both short-term and long-term), and the monitoring well network that is proposed to be associated with each well to be utilized. Please also include what monitoring wells will be utillized in which water level thresholds will be established. Include a plan of how the water level thresholds will be determined based on the closest groundwater users near each well to be utlized. Include piezometer(s) for the Rugged Solar project to evaluate water levels in the shallow groundwater adjacent to groundwater dependent habitat near Well 6, 6a, and 6b. This proposal will be reviewed by County staff for its adequacy and additional monitoring wells if needed will be requested.		5/30/2013
	1		The following comments are provided based on a review of the *Groundwater Resources Identification and Allocation Plan* dated March 2013 by Dudek:	N/A	7/18/2013
	2		Section 1.2 Groundwater Supplies: This project is relying upon Padre Dam Municipal Water District as a backup supplier of all of Soitec's projects. Please discuss this in detail in this section and possibly rename this section as "Water Supplies." Imported water should be included as bullet point below the other three bullets.		7/18/2013

	3		Table 1 Description of Projects in the Cumulative Water Demand Scenario: Please update the project schedule as follows: The Tule Wind Project has been delayed by at least a year and has a start date of September 2014. Please check regarding the Shu'luuk Wind timing as it may have been eliminated. The Rough Acres Campground is likely to delayed until January 2015. The LanEast and LanWest projects are unlikely to start in September 2014 as processing the permits has not yet commenced and should be pushed out at least 12 months. The Buckman Springs Borrow Pit is already permitted and has been mining under a new use permit and Reclamation Plan since 2005. Star Ranch should be added to the cumulative projects list as they are continuing to actively process their project and it has not yet been determined whether or not there is adequate water to meet the demand of the project.		7/18/2013
	4		Page 12: Please delete the following statement: *"The regional fracture rock aquifer has appeared to support existing demands, since no major overdraft condition has been identified by the County in its groundwater limitations map."* The County has not monitored the area in question to determine whether or not the aquifer has supported existing demand. Therefore the Groundwater Limitations Map is not relevant to whether or not there is an overdraft condition or water problems in the subject area.		7/18/2013
	5		In Section 5, only include sources of water in which impacts to groundwater resources have been adequately evaluated. Please remove Live Oak Springs and Jacumba Community Services District as potential water sources unless there is groundwater investigation work to support the volume of water that could potentially be used.		7/18/2013

ATTACHMENT A
PROJECT ISSUE CHECKLIST

	6		In Section 5, add Pine Valley Mutual Water Company if you have reached agreement with them as a potential source and have analysis that supports additional water production from this source.		7/18/2013
	7		Table 4: The San Diego Freedom Ranch Expansion will have a maximum production amount of 10 acre-feet per year and is proposed to met entirely by on-site wells. The Major Use Permit modification for the project is still being processed by the County. The Star Ranch project has a demand of 388 acre-feet per year for 453 residential units and other commercial uses on 2,160 acres of land. The demand is proposed to be met entirely by on-site groundwater wells. The project is still being processed in-house. Please update both projects with this new information.		7/18/2013
	8		Table 5: For the Rugged and Tierra Del Sol on-site wells, 205 acre-feet per year and 98.4 acre-feet per year as listed have not been approved as sustainable by the County of San Diego. This number should be conservatively constrained to the amount that is going to be used just for the Rugged project and just for the Tierra Del Sol project and is subject to change per County comments since the investigations will still undergo County review.		7/18/2013
	9		Table 5: For LanWest and LanEast, 80.7 acre-feet per year is speculative since no aquifer testing has been conducted. Without any aquifer testing performed which takes into account well interference including impacts to offsite users and groundwater dependent habitat, perhaps a more conservative approach would be to take the value you have and including perhaps 25% of the value estimated at this point as potentially viable from the sites.		7/18/2013

ATTACHMENT A
PROJECT ISSUE CHECKLIST

	10		Table 5: For Jewell Valley it is speculative that water from this ranch could be utilized. Please remove from the report unless a Major Use Permit is applied for a Groundwater Extractive Operation. For Ewiiaapaayp Reservation, use of their wells is also speculative unless an agreement with the Ewiiaapaayp Reservation is reached to utilize the water. Please provide additional information that substantiates that water from this Indian Reservation is possible. Additionally, the aquifer testing was incomplete to bear out the amounts listed. If this source is to be left in the report, I would conservatively assume 25% of the value reported as potentially viable from each well.		7/18/2013
	11		Table 5: Jacumba Community Services District and Live Oak Springs Water Company should be removed unless impacts to groundwater resources have been adequately evaluated and submitted for County review.		7/18/2013

ATTACHMENT A
PROJECT ISSUE CHECKLIST

	1	Groundwater - Major Project Issue	Jim Bennett, County Groundwater Geologist, has reviewed the letter DRAFT Update Pine Valley Cumulative Groundwater Study – Pine Valley Municipal Water Company dated July 23, 2013 by Dudek & Associates. The report does not adequately assess potential impacts to groundwater resources in Pine Valley. The report's conclusion on adequate groundwater being available is based solely on comparing the potential pumping of 38 acre-feet of additional water to the water balance analysis that was produced by the County for the Pine North basin. This is only a cumulative impacts analysis and does not consider direct impacts from pumping. The production capacity of Well 5 was not analyzed, and direct impacts analysis was not performed for pumping at 38 acre-feet in 4 months. Additionally, trends in PVMWC water demand as documented within the letter report do not take into consideration the uptick in production in 2013 back to historically average rates of production. The following comments are provided for your consideration:	For information only	8/9/2013

ATTACHMENT A
PROJECT ISSUE CHECKLIST

	2	Groundwater - Major Project Issue	The PVMWC has an obligation to serve its 675 residential well users and 20 commercial entities before considering using excess water for entities outside of their community. The PVMWC must be prepared for the case of going into another extended drought period such as occurred from 1998 to 2004. During that time period, peak drawdown in the pumping wells increased each summer through the drought. Well 1 was pumped dry and utilization of several other wells were required to produce the water needed for ongoing production. Therefore, pumping groundwater at rates higher than historic baseline conditions is not recommended to ensure the water company can withstand the next drought period. As outlined in the next comment, while there was opportunity in 2010 and 2011 to provide additional groundwater to outside entities and to remain within historical baseline pumping conditions, it is unlikely that this will occur in 2014 when this project will require the water. Therefore, it is recommended that this project look for imported water sources at other locations. Any pumping of groundwater above historic average groundwater conditions would require additional groundwater investigation to evaluate these additional impacts to the PVMWC well system as well as other groundwater dependent well users in this basin. This would be similar to the construction demand analysis performed for Tierra Del Sol and Rugged Solar projects. There are groundwater dependent users in both basins that share this resource with the PVMWC including a domestic well user within 615 feet of Well 5.		

ATTACHMENT A
PROJECT ISSUE CHECKLIST

	3	Groundwater	**Water Demand for PVMWC:** County staff advised you in May 2013 that PVWMC may be pumping at rates substantially below their historical average rates and therefore may have the ability to provide excess water to you for your project. In review of the information provided, the below average use of water in Pine Valley occurred between 2010 to 2012 and pumping has increased to historical average rates again for 2013. In 2012, the amount of groundwater used was 248.1 acre-feet and looking at the first five months of use in 2013 indicates that this year's pumping is approximately 10% higher than last year. At a 10% increase, it can be projected that 273 acre-feet of pumping for 2013 will occur. It would be reasonable to assume that pumping in 2014 will continue at 2013 rates and could even possibly continue to increase as it has in the past. Based on a discussion with PVMWC personnel, the decreased pumping from 2010 to 2012 was likely due to the temporary downturn in the economy. Given that the economic conditions have improved, pumping in the Pine Valley area for the foreseeable future would likely fall within historical range of pumping that occurred before the economic downturn.		8/9/2013
	4	Groundwater	**2000 to 2012 Average Water Demand:** The 2011 dataset in the letter report has an error in it as it shows no groundwater pumping from Sep-Dec. Pumping of wells occurred through this time period as indicated by pumping water levels being recorded by PVMWC during this time period. With pumping being included for these four months (based on the trend of pumping as compared to the prior year), 2011 was estimated to have had about 221 acre-feet of production (compared to the reported 153.9 acre-feet in the report). This changes the 12 year annual average to 270 acre-feet between 2000 and 2012 (compared to the reported 265 acre-feet in the report).		

ATTACHMENT A
PROJECT ISSUE CHECKLIST

	5	Groundwater	**Proposal to utilize 38 acre-feet from Well 5 in four months:** When the Soitec EIR was reviewed, the County provided comments on the elements to be included in a groundwater investigation for offsite water uses. This was to include evaluation of production capacities of any well to be utilized and development of well interference calculations for pumping at the proposed project's rate of production. This was not included in this letter report. Based on the production capacity of Well 5, it is not possible to utilize 38 acre-feet of groundwater from this well without drawing down water levels to the pump intake (pumping the well dry). In the highest four months of production for this well in 2004 water levels were 14 feet above the intake after producing 11 acre-feet of water. Additionally, the highest annual use of this well was 21.3 acre-feet in 2004. Therefore, more than one well would be required to pump groundwater for this proposal.		8/9/2013
	6	Groundwater	**Groundwater Condition for PVMWC Water Use:** The project could be conditioned to allow the use of groundwater from PVMWC if the last 12 month period does not exceed historical baseline conditions (currently this would be considered to be 270 acre-feet on an annual basis). This would allow for pumping up to the baseline condition as determined by the County Groundwater Geologist provided there are no known or suspect local groundwater conditions that would limit the availability of groundwater to the community at the time the project would request utilizing water from PVMWC. Given the fact that pumping in 2013 is projected to be 273 acre-feet, it is likely that the PVMWC will continue to pump groundwater into 2014 at or above this level. Therefore, there would be no water available for this project to obtain.		8/9/2013

SUBMITTAL REQUIREMENTS FOR SCOPING/ITERATION LETTER		
Date Requested	**Name of Study**	**Number of Copies Required**
	Revised Groundwater Investigation Report	Planner (1); Groundwater Geologist (1)
	Revised Well Test Report	Planner (1); Groundwater Geologist (1)
	Revised Groundwater Information	Planner (1); Groundwater Geologist (1)

	Scoping	Well Test Plan
Date Submitted:		
Date of Study:		
Name of Specialist Reviewing:		
Date of Site Visit (if applicable)		
Enter balance of PDS account (check KIVA financial resp. screen): *If funds are not adequate to complete your review, stop review and email project manager asking how to proceed*		
MOU Required and Submitted? (Yes, No, or N/A) (required if project scoped on or after July 1, 2006)		
Consultant on applicable list? enter "yes", "no" or "N/A"		
Does study comply with applicable Guideline for Determining Significance and Report Format and Content Requirement? (Yes, No, or N/A) *Required if project was scoped after approval of the relevant Guideline*		
Make KIVA entry made in the "comment" field. Enter either "Incomplete","Accepted" or "Accepted with Minor Revisions"		
If study accepted, have you completed Initial Study Responses and provided Project Manager with Conditions and/or Mitigation Measures? w		
Completed Consultant Evaluation Form and emailed to Don Kraft? Always fill out form if Guidelines not followed, for notable poor performance, and when review is accepted.		

First Iteration	Second Iteration	Third Iteration	Fourth Iteration	Fifth Iteration