

CHAPTER 2.0 SUMMARY OF ENVIRONMENTAL EFFECTS

2.1 PROPOSED PROJECT

The Plains Exploration and Production Company (PXP) is proposing development of a water reclamation facility at their Arroyo Grande Oil Field to facilitate continued operations associated with their approved Phase IV Development Plan (Project). The primary purpose of the proposed project is to enhance the recovery of oil reserves via treatment and reuse of excess produced water. Inherent to this enhanced recovery is dewatering the oil-bearing formation by reducing return water flows from the existing oil-water separation process.

The proposed project involves construction of infrastructure for a 20,000 barrel per day water reclamation facility utilizing primarily reverse osmosis (RO) treatment technology, on an approximately 100-foot by 150-foot to 175-foot by 450-foot building pads. Two 210,000-gallon filtered water tanks, a 420,000-gallon Recovery Water Tank, and two 420,000-gallon day tanks would be designed to contain 12 hours of treated water. Additionally, three air stripping towers (air strippers), two heat exchangers and various other tanks and silos would be constructed on an 175-foot by 450-foot building pad. Pipelines, a tempering pond, and an outfall to Pismo Creek would also be constructed for disposal of the treated water. Please see Chapter 3.0 – Project Description for a detailed explanation of project components.

2.2 AREAS OF CONTROVERSY

Section 15132 of the CEQA Guidelines requires the summary section of an EIR to include "Areas of Controversy known to the Lead Agency." Areas of Controversy identified during preparation of the Draft EIR include:

- 1) Potential impacts on biological resources, particularly special-status species such as steelhead;
- 2) Construction will generate construction emissions that contribute to local air quality degradation;
- 3) Air strippers will require mitigation for release of Volatile Organic Compounds (VOCs) per San Luis Obispo Air Pollution Control District (APCD) regulations; and,
- 4) Water Quality in Pismo Creek may be adversely affected by the release of treated water into the hydrologic system. Treated water will be required to meet specific criteria and standards as discuss in Section 5.5 – Hydrology and Water Quality.

2.3 ISSUES TO BE RESOLVED

Section 15123 of the CEQA Guidelines requires the summary section of an EIR to identify any "issues to be resolved including the choice among alternatives and how to mitigate significant effects." Summary of the alternative evaluation is presented below.

2.4 SUMMARY OF ALTERNATIVES ANALYSIS

CEQA does not require that the alternatives analysis evaluate modification of internal components or phases of a proposal. However, the County formulated a number of alternatives that would meet objectives of the project, while minimizing impacts to area resources. Four alternatives are examined in this EIR:

- **Alternative 1:** No Project Alternative
- **Alternative 2:** Reduced Project Alternative
- **Alternative 3:** Fully Mitigated Alternative

These alternatives were formulated by Padre to provide a reasonable range of scenarios that could reduce the level of impact from that anticipated with implementation of the proposed project. Eight other alternatives were analyzed by Padre and Entrix, Inc. to determine the feasibility of each alternative in terms of environmental impacts and the ability to meet project objectives. Each of these proposed and dismissed alternatives are described in greater detail in Section 6.0 - Alternatives Analysis.

The No Project alternative would not involve any new construction, nor introduce any new significant environmental effects. It would allow the existing operations of the Phase IV project to continue as it is currently configured but would not allow any expansion of the Arroyo Grande Oil Field to include water treatment facilities. It would avoid all of the impacts of the proposed project; however, the No Project alternative would not achieve the project objectives.

Alternative 2 consists of a reduced project alternative by proposing construction of a 10,000 barrel per day (1.25 acre feet per day or 420,000 gallons per day) water reclamation facility rather than 20,000 barrel per day facility as in the proposed project. For the purposes of this section, Alternative 2 can also be defined as a “reduced project” in terms of total output of treated water into Pismo Creek and overall area of disturbance. More simply, it is the proposed project as intended for implementation, but reduced in overall size and scope with the intention of reducing project-related impacts. In a conceptual sense, this alternative would minimize the footprint of disturbance and the overall daily output of treated water to Pismo Creek by 50 percent (i.e., 0.65 cfs).

Alternative 3 is the applicant-proposed project, which would be implemented with mitigation measures discussed in Chapter 5.0 in its entirety. Elements of this alternative include construction of a 20,000 BPD water reclamation facility and air strippers, along with construction of other supporting infrastructure for water reclamation. See Chapter 3.0 – Project Description for a detailed listing and discussion of the proposed project elements.

2.5 MITIGATION MONITORING PLAN

Section 21081.6 of the Public Resources Code requires the adoption of a "reporting or monitoring plan" for the changes to the project, which the agency has adopted, or for the mitigation measures adopted as conditions of approval. The Mitigation Monitoring Plan will be prepared in conjunction with the Final EIR.

2.6 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Table 2-1 provides a summary of the level of significance for each impact discussed in this EIR. Project level impacts are categorized as Significant and Unavoidable (Class 1), Significant but Mitigable (Class 2), Less than Significant (Class 3), and Beneficial (Class 4). In addition, instances where project level impacts would contribute to a cumulative regional impact are identified as Significant Cumulative (SC).

Significant Unavoidable (Class 1) impacts are those impacts that would be significant at the project level. The project may propose mitigation, or recommended measures may be identified in the EIR, but despite the implementation of such measures, the impact is suggested to be significant and unavoidable. Mitigation has not been identified that could reduce these impacts to a less than significant level and still achieve the project objectives.

Significant but Mitigable (Class 2) impacts are those impacts that would be significant if allowed to occur as proposed. However, mitigation measures have been recommended that would reduce these impacts to less than significant if implemented. Recommended mitigation measures are not considered part of the project, and consequently the level of impact reflects the significance without implementation of the Recommended Measure(s).

Less than Significant (Class 3) impacts are those impacts that would be less than significant without mitigation or less than significant after the application of Proposed Mitigation. Proposed mitigation includes measures that have been incorporated into project design or that the applicant has agreed to implement as part of the project.

Beneficial Impacts (Class 4) would result in net positive affects to a given resource category.

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**Table 2-1. Summary of Impacts and Mitigation Measures
 PXP Produced Water Reclamation Facility**

Impact		Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
4.0	<i>Land Use Policy Consistency</i>				
LND-1	Physically divide an established community.	3	No mitigation is required.	3	3
LND-2	Compatibility with San Luis Obispo County Land Use Categories	3	No mitigation is required.	3	3
LND-3	Consistency with the County of San Luis Obispo General Plan Land Use Element, San Luis Bay Inland Area Plan.	3	No mitigation is required.	3	3
LND-4	Consistency with the County of San Luis Obispo Land Use Ordinance	3	No mitigation is required.	3	3
LND-5	Consistency with the County of San Luis Obispo Energy Element	3	No mitigation is required.	3	3
LND-6	Consistency with the County of San Luis Obispo Agriculture and Open Space Element	3	No mitigation is required.	3	3
5.1	<i>Issues Previously Addressed</i>				
CUL-1	Standard cultural resources mitigation	2	In the event that unknown cultural remains are encountered anywhere within the project area during construction, activities shall be terminated or redirected to another area until a qualified archaeologist can be retained to evaluate the potential significance of the finds in a Phase 2 archaeological significance investigation or PXP shall have the option to relocate work permanently without need to conduct further studies at that location. Relocation of work and any subsequent archaeological investigation would be done in consultation with the County of San Luis Obispo. If they are significant and cannot be feasibly avoided, then a Phase 3 data recovery mitigation program shall be performed by a qualified archaeologist, and all construction activity within the site and 150-foot buffer area shall be monitored by a qualified archaeologist and Native American monitor. All Phase 3	3	3

Impact		Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
			significance assessments and Phase 3 mitigation activities shall be funded by the applicant.		
PAL-1	Mitigation for paleontological resources mitigation carried over from Phase IV EIR	2	<p>Prior to approval of the project construction, the applicant shall retain a qualified paleontologist to implement the paleontological mitigation monitoring plan developed for the Phase IV EIR that includes the following:</p> <ol style="list-style-type: none"> 1. Prior to construction, the applicant will retain a qualified paleontologist to implement the mitigation plan and maintain professional standards of work; 2. A qualified monitor will perform full-time monitoring of all grading, enlargement of pads and all other open excavation work in native sediments. Monitoring will include inspection of exposed surfaces and microscopic examination of matrix. The monitor will have authority to divert grading away from exposed resources temporarily in order to recover the specimens and contextual data. PXP shall have the option to relocate work permanently without need to conduct further studies at that location. Relocation of work and any subsequent paleontological investigation would be done in consultation with the County of San Luis Obispo. Cooperation and assistance from on-site personnel will greatly assist timely resumption of work in the area of the discovery; 3. If the discovery meets the criteria for a fossil locality, formal locality documentation activities will be performed; 4. If microfossil localities are discovered, locality documentation activities shall include the collection of matrix material for processing. These activities may include use of equipment to excavate fossil-containing soils, and establishment of stockpiles away from the construction area. Testing of stockpiles shall consist of screen washing small samples (200 pounds) to determine if fossils are present. Productive tests shall result in screen washing of additional matrix from the 	3	3

Impact		Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
			stockpiles to a maximum of 6000 pounds per locality; 5. Fossils recovered shall be prepared, identified and cataloged, and donated to an accredited repository approved by the County of San Luis Obispo. Any resources determined not to meet significance criteria shall be offered to local schools for use in educational programs; and, 6. The principal investigator shall prepare monthly progress reports to be filed with the applicant and the County of San Luis Obispo. The principal investigator shall prepare a final report to be filed with the applicant and the County of San Luis Obispo. The report shall include a list of resources recovered; documentation of each site/locality, interpretation of resources recovered and shall include all specialists' reports as appendices.		
NOI-1	Standard noise mitigation measure.	2	No use of heavy equipment or vehicles <u>for the purpose of construction activities</u> shall occur between the hours of 7 p.m. and 7 a.m., <u>to the extent feasible.</u>	3	3
TRA-1	Mitigation for traffic impacts carried over from Phase IV EIR.	2	<ul style="list-style-type: none"> Trucks (delivery, hauling and transportation trucks) should be scheduled outside the a.m. and p.m. peak period (7:00 to 9:00 a.m. and 4:00 to 6:00 p.m.) to the extent feasible (no increase in trucks trips will occur during the a.m. and p.m. peak periods) ; Construction related traffic shall use on-site roads wherever possible; and, Warning signs should be placed on Price Canyon Road prior to construction to notify through traffic of trucks entering and exiting the site. 	<u>3</u>	<u>3</u>

	Impact	Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
5.2	Air Quality				
AQ-1	Construction activity would generate air emissions that may adversely impact local and regional air quality.	2	<p>A. Equipment Emission Control Measures. According to Rule <u>402204</u> of the APCD Handbook of Rules and Regulations, an Authority to Construct permit shall require the use of BACT where emissions of subject air contaminants would be 25 <u>poundstons</u> per <u>dayyear</u> or more (which is applicable to NOx). Prior to construction, a Nitrogen Oxide Emissions Reduction and Monitoring Plan shall be developed using the previously implemented Monitoring Plan for the Phase IV EIR, approved by the County and fully implemented. The Plan shall specify the emissions control measures to be implemented on each emission source, the expected reduction for each criteria pollutant, the period the emissions control measures are to be in place, and a quarterly summary of the emissions reductions. The summary shall include sufficient information for the APCD to verify the emissions reductions have occurred. Potential emission reduction measures shall include a combination of the following:</p> <ul style="list-style-type: none"> • All mobile construction equipment shall use engines certified by the EPA and ARB to meet Tier 2 emission standards as listed in Title 40 Part 89 of the Code of Federal Regulations and employ Currently Verified Technologies per the ARB; • All portable equipment shall be registered under the Statewide Portable Equipment Registration Program and implement all emissions and reporting requirements. <u>If a piece of equipment is 50 horsepower or greater, and is not registered under the ARB state program, it will need an APCD permit;</u> • Installation of diesel reduction catalyst/catalyzed diesel particulate filter system (25 to 40 percent 	2	3

Impact	Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
		<p>NOx reduction); and,</p> <ul style="list-style-type: none"> • Use of PuriNOx fuel by Lubrizol (15 percent NOx reduction). <p>B. Dust Control Measures. Dust generated by construction activities shall be kept to a minimum by full implementation of the following measures.</p> <ul style="list-style-type: none"> • During clearing, grading, earth moving, excavation, or transportation of cut or fill materials, water trucks or sprinkler systems shall be used to prevent dust from leaving the site and to create a crust after each day's activities cease; • During construction, water trucks or sprinkler systems shall be used to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this would include wetting down such areas in the morning and after work is completed for the day. <u>Watering frequency may need to be increased and</u> whenever wind exceeds 15 miles per hour; • Stockpiled earth material shall be sprayed <u>or covered</u> as needed to minimize dust generation; • During construction, the amount of disturbed area shall be minimized, and onsite vehicle speeds should be reduced to 15 mph or less; • <u>Consistent to the County Land Use Ordinance and SWPPP, all E</u>exposed ground areas that are planned to be reworked at dates more than one month after initial grading <u>during the rainy season (i.e., Oct. 15 to April 15)</u> shall be sown with a fast-germinating native grass seed and watered until vegetation is established; • After clearing, grading, earth moving, or excavation is completed, the entire area of disturbed soil shall be treated immediately by watering or revegetating or spreading soil binders to 		

Impact	Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
		<p>minimize dust generation until the area is paved or otherwise compacted so that dust generation is minimized;</p> <ul style="list-style-type: none"> • Grading and scraping operations shall be suspended when wind speeds exceed 20 mph (one hour average); • Rumble pads (minor road obstructions designed to dislodge accumulated earth material from trucks) with spray washers shall be installed and maintained at all construction entrances; and, • All roadways associated with construction activities should be paved as efficiently as possible. shall be paved or utilize some other technique to control dust (i.e. water or APCD-approved soil stabilizer); and, • <u>The contractor or builder shall designate a person or person to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the APCD prior to land use clearance for map recordation and finished grading of the area.</u> <p>C. Offsite Emissions Mitigations <u>CEQA Off-site Mitigation</u>. Project emissions remaining following implementation of the above mitigation measures shall be offset through contribution to an off-site mitigation fund. The fund is managed by the APCD and used to finance regional emission reduction projects such as bikeways, vehicle scrapping programs, diesel bus conversions, agricultural engine replacements and similar activities. Therefore, project emissions would be offset on a regional basis through PXP-funded off-site projects</p>		

Impact		Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
			that would result in emissions reductions. Based on past experience, the APCD has determined that \$8,500 is required per ton NOx reduced. These funds would be used by the APCD to purchase clean-burning engines and other equipment/facilities that would result in a decrease in emissions in the County. The financial contribution shall be based on offsetting excess emissions (greater than 2.5 tons NOx per quarter) at \$8,500 per ton.		
AQ-2	Diesel fuel combustion associated with project construction activity would generate emissions of toxic air contaminants (TACs).	3	No mitigation is required.	3	3
AQ-3	Fugitive dust generated by construction or relocation/demolition activity may contain asbestos and/or lead and result in exposure of the public to these is TACs. Fugitive dust generated by construction activity may contain asbestos and result in exposure of the public to this TAC.	23	No mitigation is required. <u>A. If utility pipelines are scheduled for removal or relocation, or building(s) are removed or renovated, the project may be subject to various regulatory jurisdictions, including the requirements stipulated in the National Emission Standard for Hazardous Air Pollutants (40CFR61, Subpart M – asbestos NESHAP). These requirements include, but are not limited to: 1) notification requirements to the District, 2) asbestos survey conducted by a Certified Asbestos Inspector, and, 3) applicable removal and disposal requirements of identified ACM. Please contact Tim Fuhs of the Enforcement Division for further information.</u> <u>B. In the event demolition activities are required as part of project construction, approval of a lead work plan shall be prepared and submitted to by the APCD shall required and must be submitted for review and approval ten days prior to the start of demolition. Depending on the lead-removal method, an APCD permit may be required. Proof of APCD approval and/or authorization shall be submitted to the County prior to start of demolition.</u>	3	3

Impact		Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
AQ-4	Operation of the proposed water reclamation facility would increase the number of heavy truck trips to and from the proposed project site.	3	No mitigation is required.	3	3
AQ-5	Operation of the proposed water treatment facility would result in emissions of contaminants into the atmosphere which may result in a health risk to local residents. Operation of the proposed water treatment facility would result in emissions of ROG, ammonia, and other TACs from air strippers.	23	No mitigation is required. A. As part of permitting for the proposed air strippers (New Source Review), the APCD would require PXP to include provisions for meeting the permit requirements concerning sampling and testing protocol for air stripper emissions per Rule 204; and, B. PXP shall apply Toxics BACTs such as carbon canisters or toxics scrubbers, depending on what is reasonably available at the time of permit application. As part of the permit application, PXP shall state what they intend to implement in terms of BACTs to the satisfaction of the APCD.	3	3
AQ-6	Due to the high levels of ammonia emissions (see Table 5.2-4) from the air strippers, the impact of related odors is considered an air quality issue.	2	PXP shall incorporate the issue of ammonia odors into the existing Odor Monitoring and Complaint Response Plan referenced above.	3	3
5.3	Biological Resources				
BIO-1	Construction activities could result in the disturbance of wildlife occupying adjacent habitats.	3	No mitigation is required.	3	3
BIO-2	Construction activities could adversely affect nesting activities of protected migratory birds.	2	Construction operations shall be conducted prior to the initiation of nesting, or after the completion of nesting to avoid any potential impact to migratory birds. Specifically, the following measures should be implemented: A. Construction operations shall be conducted prior to the initiation of nesting, or after the completion of nesting to avoid any potential impact to migratory birds. Therefore, all clearing, grading, and general construction operations should be conducted between the months of August and March. B. If Measure A is infeasible, pre-construction surveys	3	3

Impact	Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
		<p>shall be conducted between February 15 and August 15 to identify potential bird and raptor nesting sites:</p> <ul style="list-style-type: none"> • If active nest sites of common bird species protected under the Migratory Bird Treaty Act (e.g., northern mockingbird, house finch, etc.) are observed within the vicinity of the project site, then the project shall be modified and/or delayed as necessary to avoid direct take of the identified nests, eggs, and/or young; and, • If active nest sites of raptors and/or species of special concern (e.g., golden eagle, northern harrier, horned lark, etc.) are observed within the vicinity of proposed construction operations, then CDFG shall be contacted to establish the appropriate buffer around the nest site. Construction activities in the buffer zone shall be prohibited until the young have fledged the nest. <p>C. The proposed tempering pond shall be designed and constructed with protective netting <u>low permeability material to prevent the growth of vegetation and to discourage the use and potential nesting</u> by waterfowl and other bird species <u>protected under the MBTA. This shall include construction of permanent fencing (i.e., chain-link) around the pond perimeter to prevent debris accumulation and general wildlife use of the structure.</u> In addition, a Tempering Pond Maintenance and Monitoring Plan shall be prepared to ensure that the pond netted areas <u>is inspected and is maintained in perpetuity with the for the life of the Produced Water Reclamation Facility.</u> This shall include provisions for <u>periodic maintenance and monthly</u> monitoring of the netted structure by a <u>qualified biologist/facility staff</u> to ensure <u>that the pond is free of vegetation and miscellaneous debris that may attract no birds and wildlife are trapped and to</u></p>		

Impact		Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
			capture and release any entangled birds as necessary through the life of the project.		
BIO-3	Construction activities could adversely affect special-status plant and terrestrial animal species potentially occurring in the project area.	2, 3	<p>The following mitigation measures are recommended to avoid and/or minimize impacts to special-status species known to occur or with the potential to occur within the proposed building envelope for the water reclamation facility, tempering pond, and associated pipeline routes during construction. This includes protective measures to avoid and/or minimize impacts to Pismo clarkia and Well's manzanita during the construction phase of the project:</p> <p>General Measures:</p> <p>A. All equipment staging areas, construction-crew parking areas, and construction access routes shall be established in previously disturbed or developed areas;</p> <p>B. Exclusionary fencing will be erected at the boundaries of construction areas to avoid equipment and human intrusion into adjacent habitats with emphasis on protection of areas containing special-status species. The exact location of exclusionary fencing for each construction area shall be determined by a County-approved biological monitor. The fencing shall remain in place throughout the construction phase for each individual project component;</p> <p>C. A County-approved biological monitor shall conduct a worker orientation for all construction contractors (site supervisors, equipment operators and laborers) which emphasizes the presence of special-status species within the project site, identification, their habitat requirements, and applicable regulatory policies and provisions regarding their protection, and measures being implemented to avoid and/or minimize impacts;</p> <p>D. If nighttime construction activities are warranted, all</p>	3	3

Impact	Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
		<p>equipment lighting shall be shielded away from adjacent wildlife habitat areas and sky, to the extent feasible while still providing safe working conditions for construction personnel, to minimize lighting/glare impacts of wildlife; and,</p> <p>E. Mitigation Measure AQ-1 (a dust control program during the construction phase of the project shall be implemented to minimize dust impacts to adjacent vegetation communities and special-status plant species).</p> <p>Protective Measures for Special-Status Plants:</p> <p>F. Due to the fluctuation in annual plant populations (i.e., Pismo clarkia), spring botanical surveys shall be conducted annually by a County-approved biologist to update the location of special-status plant species populations on project plans until project construction is complete (as illustrated on Figure 5.3-2 and 5.3-3). Annual botanical survey results and documented fluctuations in populations shall be added cumulatively to the project plans (i.e., all newly discovered populations shall be added to existing populations documented in previous years). All mapped populations shall be clearly fenced off with exclusionary fencing prior to construction in those areas. If areas supporting Pismo clarkia and/or other sensitive plant species are determined by the County to be unavoidable then seed shall be collected from selected plants in impact areas and utilized to restore habitat within the pre-designated PXP Open Space Easement on-sitelocated on-site. The designated Open Space Easement is currently being utilized as a receiver site for mitigation plantings from Phase IV expansion operations (i.e., oak tree, Well's manzanita, and Pismo clarkia restoration efforts). The Open Space Easement should be sufficiently sized to handle the additional Pismo clarkia restoration efforts outlined above.</p>		

Impact	Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
		<p><u>However, in the event the existing easement is determined to be insufficiently sized to handle the additional restoration plantings, then an additional Open Space Easement shall be dedicated by PXP for these purposes;</u> and,</p> <p>G. The final project plans shall clearly illustrate the location of Well's manzanita to remain within 25 feet of construction activities. Prior to any construction, grubbing or tree removal, each manzanita within the vicinity of the work areas shall be clearly marked for protection. To further avoid impacts to Well's manzanita located adjacent to proposed pipeline routes and the proposed construction staging area(s), boundaries of all work areas shall be clearly defined and marked with visible flagging and/or orange protective fencing. All construction activities shall remain in existing roadways and pipeline routes. <u>If Well's manzanita is deemed unavoidable during project implementation, then the same measures outlined in BIO-6B of the Phase IV EIR (incorporated here by reference), would be implemented within the designated Open Space Easement to offset manzanita impacts.</u></p> <p>Protective Measures for Special-Status Wildlife:</p> <p>H. A County-approved biologist shall conduct pre-construction surveys to determine presence/absence of California horned lizard within and adjacent to project components containing suitable chaparral and/or scrub habitat (i.e., proposed equipment staging area and pipeline routes). Surveys shall only be required during the active period of California horned lizards (generally April through September). If California horned lizards are identified adjacent to and/or within work areas, then hand rakes or an equivalent shall be utilized by biological monitors to scarify the ground surface and encourage the horned lizards (and other</p>		

Impact	Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
		<p>wildlife) to vacate the immediate area prior to construction. Alternatively, sampling composed of drift fences shall be used to capture horned lizards. As necessary, the County-approved biological monitor shall physically relocate California horned lizards to suitable habitat located outside the construction zone. Exact procedures and protocols for relocation shall be based upon pre-project consultation with CDFG;</p> <p>I. A County-approved biological monitor shall be on-site during all vegetation clearing and shall periodically monitor the project site during construction activities to inspect protective fencing, equipment staging areas, and physically relocate/ remove any special-status wildlife species entering the construction zone (i.e., California horned lizard, etc.). All special-status species shall be relocated to suitable habitat located outside the construction zone by a qualified biologist. Exact procedures and protocols for relocation shall be based upon pre-project consultation with CDFG; and,</p> <p>J. Mitigation Measure BIO-2 (nesting bird surveys shall be conducted between February 15 and August 15 to identify nest sites of special-status bird species including golden eagle, American peregrine falcon, horned lark, northern harrier, and Cooper's hawk).</p>		

Impact		Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
BIO-4	Construction activities could result in direct and indirect impacts to special-status species potentially occurring within the proposed tempering pond and Pismo Creek and associated tributaries.	2, 3	<p>The following mitigation measures are recommended to avoid and/or minimize impacts to special-status species known to occur or with the potential to occur within the Pismo Creek watershed:</p> <p>A. Construction of the proposed tempering pond and outfall at Pismo Creek including clearing and grubbing of vegetation shall be limited to the dry season (i.e., April 15 to Oct. 15);</p> <p>B. The proposed outfall structure shall be designed to minimize impacts to the existing willow scrub habitat of Pismo Creek to the greatest extent feasible. Specifically, this shall include placement of the structure within a pre-disturbed area (i.e., existing rip-rap bank) located downstream of the “Hyla Crossing” near an existing pipe bridge. Additionally, the final design of the outfall shall include a series of 20- to 30-foot long discharge pipes positioned at appropriate intervals along the creek bank to further minimize the footprint of impact to habitat along the creek bank;</p> <p>C. All existing downed woody debris and willow cuttings removed during construction of the outfall shall be placed and/or stockpiled in natural clumps on nearby creek banks to ensure no net loss of habitat for wildlife including special-status species;</p> <p>D. PXP shall prepare and implement a Spill Contingency Plan that includes provisions for avoiding and/or minimizing impacts to Pismo Creek due to spills during construction of the proposed outfall. Specifically, the plan shall include an overview of the secondary containment structures to be installed along the toe of the creek bank to prevent discharge of concrete and gunite into the stream channel during construction operations. Further, the plan shall outline the response equipment that will be on-site during construction and procedures for responding to any inadvertent</p>	3	3

Impact		Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
			<p>spills within the creek or surrounding areas including miscellaneous fuel and/or lubricant spills from construction equipment and vehicles during operations. Final specifications of the Spill Contingency Plan shall be reviewed and approved by the County and CDFG prior to project implementation;</p> <p>E. All construction activities within a 100-foot buffer of Pismo Creek shall be monitored by a qualified biologist on a full-time basis <u>or at a frequency deemed necessary by a qualified biologist in consultation with the appropriate regulatory agencies</u>. The biological monitor shall be conducted pre-construction surveys for special-status wildlife species (e.g., southwestern pond turtle, two-striped garter snake, Calif. red-legged frog, etc.), maintain protective fencing, inspect equipment staging areas, and, as necessary, physically relocate/remove any special-status wildlife species entering the construction zone; and,</p> <p>F. Mitigation Measures BIO-3A-E (General Protective Measures for Biological Resources); and,</p> <p>G. Mitigation Measure BIO-2 (nesting bird surveys shall be conducted between February 15 and August 15 to identify nest sites of special-status bird species including yellow warbler, southern willow flycatcher, and Cooper's hawk).</p>		
BIO-5	Development of the produced water reclamation facility will result in the removal of up to 26 coast live oak trees and an additional six oak trees could be impacted by proposed activities.	2	<p>The following mitigation measures are recommended to mitigate impacts to oak trees due to project implementation. This includes protective measures to avoid and/or minimize impacts to oak trees designated for long-term preservation:</p> <p>A. Mitigation Measures BIO-3A-E (General Protective Measures for Biological Resources);</p> <p>B. Prior to construction, a Supplemental Habitat Enhancement Plan containing site-specific oak tree</p>	3	3

Impact	Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
		<p>protection and replacement procedures shall be prepared for the project. The Supplemental Habitat Enhancement Plan shall clearly outline the procedures for protecting oak trees to remain in place during construction and provide details for replacing oak trees that are removed at a 4:1 ratio and those impacted at a 2:1 ratio. Final specifications of the Supplemental Habitat Enhancement Plan shall be approved by the County and CDFG prior to construction. At a minimum, the plan shall contain the following provisions:</p> <ul style="list-style-type: none"> • Utilizing the oak tree survey data collected in 2007, final project plans shall clearly illustrate the size and location of all oak trees to be removed as part of the project and all oak trees to remain within 25 feet of construction activities. Prior to any construction, grubbing or tree removal, each mature coast live oak tree within the vicinity of the proposed impact area shall be clearly marked for removal or protection; • Protective fencing shall be installed around each oak tree to remain in place. The fencing shall be installed prior to grubbing/construction and provide protection of the root zone of oak trees (the outer edge of the tree root zone is 1-1/2 times the distance from the trunk to the drip line of the tree); • To further protect oak trees to remain in place, a certified arborist shall be retained by the applicant to perform any necessary trimming of oak tree limbs overhanging equipment access routes. This shall be conducted prior to allowing construction equipment to enter the proposed impact area to avoid and/or minimize the potential for inadvertent damage to oak trees limbs (i.e., equipment, vehicles, etc.); 		

Impact	Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
		<ul style="list-style-type: none"> • Replacement oak trees shall be from vertical tubes or deep, one-gallon container stock. The 1-gallon stock shall be evenly placed within the designated restoration area; • Replanting shall be completed in the fall season upon completion of grading within a given area and by a qualified individual familiar with native vegetation; • Location of newly planted oak trees shall adhere to the following whenever possible: on the north side of and at the canopy/dripline edge of existing mature native trees; north-facing slopes; within drainages swales; where topsoil is present; and if clustered, at least 10' "on-center" separation between each tree. Tree spacing will average approximately 15 feet on-center. Some clustering is acceptable to maintain a more natural appearance; and, • Newly planted trees shall be maintained until successfully established. This shall include protection (e.g., caging, tree shelters) from burrowing and browsing animals (e.g., deer, rodents), regular weeding (minimum of once early fall and once early spring) of at least a 3-foot radius around the plant base and adequate watering (i.e., drip irrigation system). Heavy mulching consisting of local oak leaf litter/mulch so seedlings are exposed to local mycorrhizal fungi to enhance survivability and growth is also recommended. Irrigation shall be slowly terminated over a 3-year period. If possible, planting during the warmest, driest months (June through September) shall be avoided. Replacement oak trees identified as dead and/or diseased during the monitoring period shall be replaced accordingly. <p>C. Mitigation Measure BIO-2 (the tree removals shall be</p>		

Impact		Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
			conducted as to avoid a take of raptors or migratory birds).		
BIO-6	The proposed Produced Water Reclamation Facility will result in the permanent loss and/or long-term degradation and fragmentation of natural habitats, which provide forage, cover, and breeding elements for a wide variety of wildlife species, including several special-status species.	2, 3	<p>The following measures shall be implemented to compensate for the <u>actual</u> permanent loss of vegetation resulting from project implementation and potential long-term degradation of adjacent habitat areas from projected long-term utilization of the site:</p> <p>A. Prior to construction, an area within the previously dedicated PXP Open Space Easement shall be set aside to accommodate the required oak replacement (estimated at 104 total) and Pismo clarkia plantings (BIO-3 and BIO-5). If the available area within the existing open space easement is not sufficient to accommodate all of the required oak tree and Pismo clarkia plantings additional mitigation areas containing suitable habitat shall be identified by the applicant and dedicated as supplemental open space easement areas. These areas should contain a representative mixture of oak woodland and annual grassland with known populations of Pismo clarkia. Final specifications of any additional dedicated easement areas (size and location) shall be reviewed and approved by the County and CDFG prior to construction. In addition, future equipment staging areas, access routes, and additional well pads shall be prohibited in the dedicated easement areas;</p> <p>B. Provision B of Mitigation Measure BIO-5 (Supplemental Habitat Enhancement Plan) shall also contain measures to offset additional impacts to Pismo clarkia and oak woodland within the dedicated easement area. Specifically, the Supplemental Habitat Enhancement Plan shall include species lists, installation and maintenance methods, performance criteria, and monitoring protocols for enhancing existing habitats within the dedicated easement area. At a minimum, the plan shall</p>	3	<u>3</u>

Impact	Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
		<p>contain the following additional provisions:</p> <ul style="list-style-type: none"> • Procedures to further mitigate permanent loss of California live oak woodland by augmenting existing oak woodland habitat within the dedicated easement with a portion of the required 4:1 ratio oak tree plantings; • Planting of Pismo clarkia as required by Mitigation Measure BIO-3 shall occur within selected areas (if loss is deemed unavoidable by the County) of the dedicated easement to augment existing populations, concentrating the majority of seed dispersal along the northeastern perimeter of the existing oak woodland habitat; • Installation of all replacement planting and/or seed dispersal shall be conducted within the appropriate season to promote survivability (i.e., fall/winter). If possible, planting during the warmest, driest months (June through September) shall be avoided; • Shall provide procedures to ensure eradication of exotic plant species (i.e., pampus grass, tree tobacco, etc.) within the dedicated easement. This shall include provisions for controlling the spread of exotic species throughout the project area; and, • Shall provide an implementation schedule which emphasizes initiation of the Habitat Enhancement Plan within the 1st year of improvements authorized under this approval. The schedule shall outline the sequencing of all mitigation planting and timing for long-term monitoring and maintenance of the dedicated open space easement through the life of the project. <p>C. To offset approximately 0.62-acre of state wetland impacts due to construction of the proposed tempering pond, PXP shall either develop a</p>		

Impact	Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
		<p>compensatory wetland mitigation plan which outlines procedures for restoring wetland habitat on-site in-kind (i.e., bulrush-cattail series) or pay an in-lieu fee as directed by the County into a designated wetland restoration fund.</p> <p>D. To avoid further impacts to state-designated wetland habitat areas, the proposed water reclamation facility and tempering pond shall be modified to avoid impacts to the wetland features mapped on Figure 5.3.-3 and discussed in Appendix E - Wetland Assessment. This shall include the following provisions:</p> <ul style="list-style-type: none"> • 10-foot buffer measured outward from the edge of the seasonal wetland swale and riparian woodland (i.e., willows) should be preserved in a natural vegetation state. This includes the seasonal freshwater wetland, riparian woodland, and roadside drainage located along the southeastern corner of the currently proposed water reclamation facility site plan as well as the riparian woodland habitat located along the southeastern corner of the proposed tempering pond. This measure shall not apply to the three man-made storm water conveyance structures/ponds (0.07-acre) located along the southeastern corner of the proposed reclamation facility, and; • Wetlands and setback areas shall be temporarily fenced with silt fencing and other appropriate measures, and orange protective fencing during construction to minimize and/or avoid inadvertent impacts due to temporary construction related erosion and sedimentation. <p>E. To offset approximately 0.01-acre of riparian woodland impacts due to installation of the proposed outfall structure, PXP shall prepare a Compensatory Mitigation Plan which outlines the procedures for restoring willow habitat removed due to project</p>		

Impact		Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
			<p>implementation at a 3:1 ratio with emphasis on habitat enhancement. The plan shall clearly identify planting areas within and adjacent to the proposed impact area in addition to the performance criteria for re-establishing willow habitat within Pismo Creek. The plan shall be approved by the County, CDFG, RWQCB, and Corps prior to project implementation.</p> <p>F. Mitigation Measure AQ-1 (a dust control program during the construction phase of the project shall be implemented to minimize dust impacts to adjacent wetland communities);</p> <p>G. Mitigation Measure HYD-1 (in compliance with the Land Use Ordinance, the applicant will prepare and implement a Sediment and Erosion Control Plan (SECP) which will outline procedures for stabilizing the site and minimizing sedimentation and erosion impacts to adjacent wetland habitat areas);</p>		
BIO-7	Development of the proposed the Produced Water Reclamation Facility could result in the permanent loss of wetlands regulated by the Corps under Section 404 of the Clean Water Act.	2	<p>The following measures shall be implemented to avoid impacts to Pismo Creek tributaries, compensate for the permanent loss of waters of the U.S. resulting from installation of the proposed outfall structure and potential long-term degradation of adjacent federal wetland habitat areas from projected long-term utilization of the site:</p> <p>A. In the event that no pipe racks exist along the existing roadways at tributary crossings and excavation of the roadway base material would require removal and/or replacement of existing road culvert(s), then a jack-and-bore technique would implemented for pipeline installation to ensure that no impacts occur to the subject drainages;</p> <p>B. Mitigation Measure BIO-6 (avoidance and minimization measures for protection of wetland habitat features and development of Compensatory Mitigation Plan for Pismo Creek [BIO-6E]); and,</p> <p>C. The applicant shall obtain a permit from the U.S.</p>	3	3

Impact		Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
			<p>Army Corps of Engineers pursuant to 404 of the Clean Water Act, Water Quality Certification from the Regional Water Quality Control Board pursuant to 401 of Clean Water Act and a Streambed Alteration Agreement or waiver from the California Department of Fish and Game pursuant to Section 1600 et seq. of the California Fish and Game Code for placement of permanent structures along Pismo Creek (i.e., fill activities) including trimming/removal of riparian vegetation. As part of the permitting process, PXP shall be required to provide the Compensatory Mitigation Plan (Mitigation Measure BIO-6E) to the Corps and the RWQCB for review and approval prior to permit issuance. As part of this process, the Corps-agencies may require a higher mitigation ratio and/or include additional performance criteria in the form of special permit conditions. All agency permits and the Final Compensatory Mitigation Plan shall be submitted to the County prior to project implementation issuance of grading permit.</p>		
BIO-8	<p>Operation of the proposed Produced Water Reclamation Facility could result in long-term direct and indirect impacts to special-status species potentially occurring within Pismo Creek and the Pismo Creek Estuary.</p>	2	<p>The following measures shall be implemented to offset potential impacts to special-status species potentially occurring within Pismo Creek and the Pismo Creek Estuary associated due to operation of the proposed Produced Water Reclamation Facility:</p> <p>A. PXP shall obtain appropriate approvals and/or authorizations from the NMFS and USFWS to discharge treated water into Pismo Creek per Section 7 of the ESA. If deemed necessary by NMFS, ¶ this shall include preparation of an Essential Fish Habitat Analysis per the Magnuson-Stevens Fishery Conservation and Management Act. All conditions and/or specified recommendations from these agencies to afford maximum protection of special-status species known to occur in Pismo Creek including temperature requirements (e.g., steelhead, tidewater goby, California red-legged frog) shall be adhered to and</p>	4	4

Impact	Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
		<p>implemented as part of the project. Approvals and/or authorizations from these agencies shall be provided to the County for review prior to project implementation<u>issuance of grading permit</u>;</p> <p>B. Mitigation Measure HYD 4A and 4B (PXP shall obtain an NPDES permit from the RWQCB the requirements of which shall be fully implemented including waste discharge limitations, and monitoring and reporting requirements. <u>During plant operations, the applicant shall report phenol concentrations in effluent samples indicated above the method detection limits but less than quantitation limits. At such a time that laboratory analytical methods allow for lower quantitation limits, the applicant shall report phenol concentrations to the RWQCB to ensure compliance with the RWQCB's water quality standards</u>)During operation, the applicant shall utilize granular activate carbon as a polishing unit to ensure that treated water does not contain phenol or other organic compounds that are present in concentrations in excess of RWQCB water quality standards but less than the contract laboratory's analytical method detection limit);</p> <p>C. Mitigation Measure HYD 5 (water treatment system shall be constructed with sufficient holding capacity to contain water that fails to meet water quality per the NPDES permit or other agency permit conditions so that water not meeting specifications is not released to Pismo Creek);</p> <p>D. To mitigate potentially significant impacts to steelhead and other special-status species due to increased water temperatures within Pismo Creek, PXP shall prepare a Stream Monitoring Plan for the proposed water reclamation facility. The Plan shall be prepared for County and NMFS review and approval prior to project implementation and shall contain at a minimum the following provisions:</p>		

Impact	Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
		<ul style="list-style-type: none"> • Identification of permanent temperature monitoring stations within Pismo Creek both upstream and immediately downstream of the proposed discharge location. The upstream location shall be utilized to determine baseline stream temperature conditions of Pismo Creek; • The monitoring stations shall consist of HOBO continuous temperature recorders or an equivalent to allow automatic stream temperature measurements at approximate 2-hour intervals; • DO levels shall also be monitored at the designated stations on a periodic basis (to be defined in the Plan) utilizing appropriate water quality sampling equipment. If deemed necessary, additional features shall be installed to the treatment system and/or along the splash pad to increase oxygenation of the discharge water; • The Plan shall identify the procedures and schedule for stream temperature data collection and reporting requirements which will be utilized to determine the maximum discharge water temperature from the water reclamation facility to ensure compliance with the RWQCB Basin Plan <u>and NMFS</u> requirements throughout the life of the project (i.e., at no time shall the temperature of receiving waters be increased by more than 5°F). This shall include modifying water temperatures accordingly throughout the year to coincide with seasonal fluctuations of Pismo Creek with a maximum discharge temperature not to exceed 20°C (68°F); and, • The Plan shall include maintenance and inspection procedures to ensure that the temperature monitoring stations are periodically serviced and/or replaced, as necessary 		

Impact	Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
		<p>throughout the life of the project. This shall include inspections after significant storm events to ensure that the stations are not dislodged and/or damaged by storm flows and debris; <u>and,</u></p> <ul style="list-style-type: none"> • The Plan shall include a reporting schedule that provides quarterly monitoring reports to the County and the RWQCB. The Plan shall also contain provisions for the immediate reporting of upset conditions to the County and RWQCB. <p>E. To mitigate potentially significant impacts to steelhead due to stranding during periodic maintenance events, emergency shut-downs, and transfer of water to adjacent landowners, PXP shall prepare a Steelhead Stranding Plan for the proposed water reclamation facility. <u>Per NMFS requirements, the Plan shall clearly outline a series of steelhead stranding avoidance measures that shall be adhered to for the life of the facility.</u> The Plan shall be prepared for County and NMFS for review and approval prior to project implementation and shall contain at a minimum the following provisions:</p> <ul style="list-style-type: none"> • An analysis of the expected flow fluctuations of Pismo Creek in conjunction with the Water Reclamation Facility; • Development and implementation of a steelhead monitoring program with emphasis on habitat areas downstream of the facility to provide <u>“real time”baseline</u> estimates of steelhead populations within the vicinity of the facility <u>and periodically thereafter as deemed necessary by the NMFS;</u> • Identification of all factors affecting steelhead stranding potential including but not limited to changes in wetted width with modifications in stream flows and stranding potential in side channels; 		

Impact		Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
			<ul style="list-style-type: none"> • Recommendations for appropriate ramping rates to ensure that the water discharge rate is decreased slowly over a long-duration to prevent to the extent feasible steelhead stranding with emphasis on fry and juveniles; • Monitoring program during <u>extended</u> temporary shut-downs and emergencies which outlines procedures for qualified biologists to monitor pools and stream channels downstream of the facility and relocate stranded steelhead to suitable habitat areas. Information on relocation sites and estimated steelhead mortalities shall be provided to NMFS and the County in comprehensive monitoring reports; and, • <u>To mitigate potential impacts to steelhead due to stranding and/or relocation through the life of the project (i.e., worst case scenario), the Plan shall include several mitigation options such as implementation of creek habitat restoration projects within the PXP facility and/or Pp</u>provisions for monetary compensation to fund high priority projects identified within the Pismo Creek Watershed Plan <u>and adjacent watersheds. Mitigation options, if required, would be commensurate to the level of impact (i.e., installation of a series of root wads to enhance steelhead production). Maximum monetary compensation amounts shall be provided in the Plan and agreed upon by all parties prior to Plan approval</u>to mitigate potential impacts to steelhead mortalities due to stranding and/or relocation through the life of the project. 		
BIO-9	Termination of the PXP Arroyo Grande oil field and eventual decommissioning of the proposed Produced Water Reclamation Facility could result in significant impacts to steelhead populations potentially occurring within Pismo Creek.	2	The following measures shall be implemented to offset potential impacts to steelhead populations established within Pismo Creek due to decommissioning of the Produced Water Reclamation Facility:	3	3

Impact	Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
		<p>A. Prior <u>At the time PXP determines</u> to decommissioning of the Produced Water Reclamation Facility, PXP shall <u>be required to</u> obtain formal approval and/or authorization from the County and NMFS. As part of the decommissioning request, PXP shall conduct a complete assessment of all baseline parameters for the existing steelhead population and their associated habitat within Pismo Creek. This shall include a detailed summary of the annual steelhead monitoring data required as part of BIO-8E and development of a Habitat Suitability Index (HIS) for the lower 4 miles of Pismo Creek which would be potentially impacted by removal of the artificial water supply from the creek system;</p> <p>B. In the event it is determined <u>by NMFS and the County</u> after review of the data that removal of the facility would result in a significant impact to the existing Pismo Creek steelhead population, then PXP shall submit a Pismo Creek <u>Steelhead</u> Habitat Mitigation Plan (Plan) to the County and NMFS for review and approval prior to approval of facility decommissioning. The Plan shall be prepared in accordance with the most current California salmonid habitat restoration techniques and identify a series of creek habitat restoration projects that will be completed by PXP over a specified time period to enhance the existing breeding and over-summering habitat within Pismo Creek (i.e., creation of pools, etc.) <u>and/or an adjacent watershed, such as Arroyo Grande Creek</u>. The Plan shall focus on restoration of the portion of Pismo Creek located within the PXP Arroyo Grande oil field <u>or within a comparable section of Arroyo Grande Creek and include, as necessary, including</u> replacement of any dilapidated road crossings and associated culverts that may be acting as fish barriers. <u>Again, mitigation options, if required, would be commensurate to the level of impact. Alternatively, As necessary,</u> the Plan shall</p>		

Impact		Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
			also can include provisions for monetary compensation to fund high priority projects identified within other portions of the Pismo Creek and/or Arroyo Grande Watershed Plans . Maximum monetary compensation amounts shall be provided in the Plan and agreed upon by all parties prior to Plan approval. Monetary compensation can be provided as mitigation anytime prior to decommissioning of the facility at the discretion of PXP.		
5.4	Geology/Soils				
GEO-1	Construction of the proposed project may result in a substantial, or potentially substantial, adverse change in the physical condition of the land.	3	No mitigation required.	3	3
GEO-2	Construction of new graded pads and proposed detention pond modifications could result in unstable slopes prone to failure during a seismic event.	2	The applicant shall provide the County with a geotechnical engineering report prepared and certified by a State of California licensed geotechnical engineer which addresses slope stability, landslides, liquefaction, settlement, seismic hazards, and expansive soils at the area of proposed facilities. The applicant shall implement the recommendations contained in the geotechnical engineer's report in preparation of grading plans and during construction.	3	3
GEO-3	The treatment and discharge of produced water could result in decreased oil production due to the loss of reservoir pressures.	3	No mitigation is required.	3	3
GEO-4	The removal of water from the oil reservoir could result in land subsidence within the oil field area.	3	No mitigation is required.	3	3
5.5	Hydrology and Water Quality				
HYD-1	Construction of the proposed project could result in short-term increases in erosion and sedimentation resulting from earth-moving operations and exposed soils.	2	A. In compliance with the Land Use Ordinance, the applicant will prepare and implement a Sediment and Erosion Control Plan (SECP) for the proposed project. The SECP will include: <ul style="list-style-type: none"> Slope surface stabilization measures, such as temporary mulching, seeding, and other suitable 	3	3

Impact	Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
		<p>stabilization measures to protect exposed erodible areas during construction, and installation of earthen or paved interceptors and diversion at the top of cut of fill slopes where there is a potential for erosive surface runoff;</p> <ul style="list-style-type: none"> • Erosion and sedimentation control devices, such as energy absorbing structures or devices, will be used, as necessary, to reduce the velocity of runoff water to prevent polluting sedimentation discharges; • Installation of mechanical and/or vegetative final erosion control measures within 30 days after completion of grading; • Confining land clearing and grading operations to the period between April 15 and October 15 to avoid the rainy season <u>consistent with the County Land Use Ordinance and SWPPP requirements</u>; • Minimizing the land area disturbed and the period of exposure to the shortest feasible time; • The SECP will be prepared in accordance with the Land Use Ordinance; and, • Install long-term drainage devices at new/modified pads, including headwalls, basins, culverts with down-drains and energy dissipating devices (riprap or diffusers). <p>B. In compliance with Section 23.05.020 - Grading, the applicant will prepare a grading plan for the project.</p> <p>C. PXP will comply with the requirements under a general stormwater construction permit. Such requirements will include preparation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP shall include provisions for the installation and maintenance of Best Management Practices to reduce the potential for erosion of disturbed soils at</p>		

Impact		Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
			the Project site.		
HYD-2	Discharge of treated water to Pismo Creek would affect stream geomorphology due to higher dry-season flows.	3	No mitigation is required.	3	3
HYD-3	Groundwater quality may be impacted by the project.	4	With either disposal method, the treatment and re-use or discharge of produced water would have a beneficial impact on the shallow alluvial aquifer along Pismo Creek down-stream of the oil field. This is considered a beneficial impact.	4	4
HYD-4	The proposed project could result in water discharges that may result in exceedences of the water quality objectives of the Central Coast Water Quality Control Plan or the California Toxics Rule.	2	<p>A. Prior to operation, the applicant shall obtain an NPDES permit from the RWQCB. The requirements of the Permit shall be fully implemented including waste discharge limitations, and monitoring and reporting requirements.</p> <p>B. During plant operations, the applicant shall report phenol concentrations in effluent samples indicated above the method detection limits but less than quantitation limits. At such a time that laboratory analytical methods allow for lower quantitation limits, the applicant shall report phenol concentrations to the RWQCB to ensure compliance with the RWQCB's water quality standards. During operation, the applicant shall utilize granular activate carbon as a polishing unit to ensure that treated water does not contain phenol or other organic compounds that are present in concentrations in excess of RWQCB water quality standards but less than the contract laboratory's analytical method detection limit. The need for GAC treatment may be eliminated by the County in consultation with the RWQCB, CDFG, and NMFS, at such a time that analytical laboratory method limits can detect organic compounds at or below the RWQCB water quality standards.</p>	3	3

Impact		Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
HYD-5	An upset condition at the water treatment facility could result in the release of water not meeting water quality standards into Pismo Creek.	2	The proposed water treatment system shall be constructed with sufficient holding capacity to contain water that fails to meet water quality per the NPDES permit or other agency permit conditions so that water not meeting specifications is not released to Pismo Creek.	3	3
5.6	Hazards				
HAZ-1	The construction of the proposed water treatment facilities would include the use of containing hazardous chemicals which could potentially impact the project site, Price Canyon Road, and potentially Pismo Creek if ruptured during an upset condition.	2	Prior to system start-up, the applicant shall submit an amended Hazardous Materials Business Plan to the San Luis Obispo Division of Environmental Health for review and approval.	3	3
HAZ-2	Petroleum hydrocarbon-containing soil may be encountered during project construction activities.	2	A. PXP shall complete an environmental site assessment of areas to be utilized for the proposed project to determine whether the project site has been impacted with petroleum or hazardous substances. The site assessment work plan shall be prepared by a registered professional and submitted to the County of San Luis Obispo Division of Environmental Health (SLODEH) for review and approval prior to implementation. The site assessment activities shall include the advancement of drill holes and collection of soil and, if contamination is present, groundwater samples for chemical analyses. A site assessment report shall be submitted to SLODEH for review and approval. If necessary, a corrective action plan shall be submitted to SLODEH for the proper management of contaminated soil and groundwater that may be disturbed as part of the proposed project grading activities. Corrective actions shall be completed at the project site to the satisfaction of SLODEH prior to implementation of the proposed grading activities. Corrective actions, other than compliance with the RWQCB's beneficial reuse provisions for crude oil-containing soil excavated during the course of project construction activities, shall not be required	3	3

Impact		Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
			<p>for naturally-occurring petroleum hydrocarbon containing soils present at the project site.</p> <p>B. Should hydrocarbon contaminated soil be encountered during construction activities, the APCD must be notified as soon as possible and no later than 48 hours after affected material is discovered to determine if an APCD Permit will be required. In addition, the following measures shall be implemented immediately after contaminated soil is discovered:</p> <ul style="list-style-type: none"> • Covers on storage piles shall be maintained in place at all times in areas not actively involved in soil addition or removal; • Contaminated soil shall be covered with at least six inches of packed uncontaminated soil or other TPH -non-permeable barrier such as plastic tarp. No headspace shall be allowed where vapors could accumulate; • Covered piles shall be designed in such a way to eliminate erosion due to wind or water. No openings in the covers are permitted; • During soil excavation, odors shall not be evident to such a degree as to cause a public nuisance; and, • Clean soil must be segregated from contaminated soil. <p>Crude oil-containing soil excavated during the course of project construction activities shall be handled and reused on-site in accordance with the RWQCB's Beneficial Reuse Order #R3-2005-005. The notification and permitting determination requirements shall be directed to Karen Brooks of the APCD Enforcement Division at (805) 781-5912.</p>		
HAZ-3	Location of the project within a high fire hazard could result in additional fire risk for the project area.	2	A. The applicant shall produce CALFIRE/County Fire a Fire Hydrant System plan for approval prior to	3	3

Impact		Impact Category Before Mitigation	Mitigation Measures	Impact Category After Mitigation	Cumulative Impact
			<p>construction. This plan shall be implemented before construction commences.</p> <p>B. PXP shall submit a vegetation management plan to CALFIRE/County Fire for approval prior to issuance of construction permits. This will identify measures to minimize the risk of wildfires due to operation of existing and proposed new pipelines and powerlines. It will also make recommendations for protection of such facilities from a wildfire.</p>		

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