

## **7. INITIAL STUDY**

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**Alternative Two  
South County Reclamation**

Yes      Maybe      No

**01. Earth**

Will the project result in:

1. Unstable earth conditions or change in geologic substructures?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Dam and reservoir construction would require topographic and hydrologic alterations. Construction and operation of a reservoir with fluctuating water levels could result in reservoir slope instability.

Mitigation for reservoir slope instability could include such measures as slope flattening or buttressing, installation of drainage systems, or reservoir operation controls.

2. Permanently disrupted, displaced, compacted or overcovered soils?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Construction of dams/reservoirs involves the permanent disruption, displacement and compaction of soils. This impact is inherent in dam/reservoir construction.

Discharge or use of reclaimed water for irrigation or augmentation of creek/river flow would not disrupt soils. Installation of pipelines to convey reclaimed water would locally disrupt, displace, compact or overcover soils. Pipeline installation would be conducted in accordance with all applicable building codes, such as those pertaining to trenching and backfilling, which should mitigate potential impacts associated with soil disruption.

3. Substantially and permanently altered topography or ground surface relief features?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Construction of dams/reservoirs involves extensive excavation and earth movement that would permanently alter the topography and ground surface relief at the proposed reservoir site.

4. The destruction, modification or covering of a unique geologic or physical feature?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

It is unknown whether unique geologic or physical features are present at proposed reservoir sites. A site-specific survey should be conducted prior to construction to identify potentially significant unique geologic features and to recommend mitigation measures. Pipeline installation should not result in the destruction of unique geologic features such as caves, fossil locations, or unique mineral resources. Pipeline alignments have not yet been determined, but could be designed to avoid such features which are usually limited in extent. If a unique geologic feature were identified that was too expensive to be avoided, pipeline installation could be accomplished using mitigation (minimizing excavation and documenting resources) to minimize impacts to unique geologic features.

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	Yes	Maybe	No
<b>5. Adverse wind or water-associated erosion?</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p><b>Discussion</b></p> <p>Dam/reservoir construction involves excavation of large volumes of earth material. Exposed soil may be subject to wind or water erosion if adequate erosion control measures are not implemented. Mitigation for wind or water-associated erosion during construction could include sprinkling or wetting for dust control and diversion, collection, and pumping of water to control runoff.</p> <p>Water erosion could result if reclaimed water were improperly applied to agricultural lands.</p>			
<b>6. Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion, which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake?</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p><b>Discussion</b></p> <p>The modification of the channel of a river or stream is an impact inherent to dam/reservoir construction in a natural drainage.</p> <p>Discharge of reclaimed water to the river could affect erosion and sedimentation in the vicinity of the outfall. However, substantial changes in sediment transport in the stream channel would not be expected.</p>			
<b>7. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards?</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p><b>Discussion</b></p> <p>Dam/reservoir construction and operation could result in seismically induced dam failure and subsequent inundation. Mitigation for potential dam failure is achieved through proper engineering design for the reservoir site conditions and hazard potential, and through proper reservoir operation.</p> <p>Additional study required for assessment of hazard potential to people or property would include site reconnaissance and consideration of land use (both present and planned) downstream of the reservoir, relative to the size of the proposed dam.</p>			
<b>8. Any project structure (not pipeline) being located within the Alquist-Priolo Special Studies Zone or within a known active fault zone?</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p><b>Discussion</b></p> <p>The proposed dams or reservoirs are not located in an Alquist-Priolo Special Studies Zone.</p>			
<b>9. Any project structure (not pipeline) being located on soils substrate consisting of material that is subject to liquefaction or other secondary seismic hazards in the event of ground shaking?</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p><b>Discussion</b></p> <p>Seismic ground shaking in the vicinity of a dam or ancillary facilities founded on materials subject to liquefaction or other secondary seismic hazards could impact the integrity of the</p>			

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Yes      Maybe      No

reservoir facility by causing cracking, slumping, or failure. The Sonoma County General Plan indicates areas with high or moderate potential for liquefaction within the proposed reservoir site.

Mitigation for unsuitable foundation materials could include excavation and replacement, treatment in-place, such as densification of loose materials, or modified design to safely accommodate undesirable foundation materials.

Additional study required for assessment of seismic stability of foundation materials would include site specific subsurface investigation, sampling, and testing.

10. Evidence of static hazards which affect structures or public safety, such as landsliding or excessively steep slopes that could result in slope failure?

☐      ☒      ☐

### Discussion

Fluctuating reservoir levels could impact reservoir slope stability. In the event of a large landslide into the reservoir, dam overtopping could occur, and dam safety could be compromised.

The Sonoma County General Plan indicates areas with high or moderate potential for landslides within the reservoir area. Some local shallow slides were evident on steeper slopes during field reconnaissance. Topography of most of the reservoir area is very gentle.

Mitigation for reservoir slope instability could include such measures as slope flattening or buttressing, installation of drainage systems, or reservoir operation controls.

11. Any project structure located on soils that are likely to collapse?

☐      ☒      ☐

### Discussion

Construction of a dam or ancillary facilities on soils subject to collapse could impact the integrity of the structure, and dam safety could be affected. Mitigation for unsuitable foundation materials could include excavation and replacement, treatment in-place, such as prewetting of collapsible soils, or modified design to safely accommodate undesirable foundation materials. Additional study is required to assess the collapse potential of foundation materials and would include site specific subsurface investigation, sampling, and testing.

12. Any project structure located on soils that are characterized by shrink/swell potential that might result in deformation of foundations or damage to structures?

☐      ☒      ☐

### Discussion

Construction of structures on expansive soils with shrink/swell potential could impact the integrity of the structure. Mitigation for unsuitable foundation materials could include excavation and replacement, treatment in-place, such as prewetting of expansive soils before foundation construction, or modified design to safely accommodate undesirable foundation materials. Additional study required for assessment of shrink/swell potential of foundation materials would include site specific subsurface investigation, sampling, and testing.

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South County Reclamation**

Yes      Maybe      No

13. Unstable soils or geologic conditions?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Dam/reservoir construction could result in unstable soil or geologic conditions. However, commonly used engineering and construction methods could be implemented to prevent unstable soil conditions during dam/reservoir construction and operation.

**02. Air Quality**

Will the project result in:

1. A violation of ambient air quality standards?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Dust generated from construction, if uncontrolled, could temporarily violate air quality standards. Expansion of the Laguna Wastewater Treatment Plant (WTP) headworks, and resulting increases in emissions due to greater capacity, could produce long-term, controllable impacts on air quality.

2. The contribution of any criteria pollutants in a non-attainment area?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

PM10 from construction dust and long-term emissions of volatile organic compounds (VOCs) and NOx from headworks expansion may occur.

3. Exposure of sensitive receptors to substantial pollutant concentrations?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Depending on proximity to construction areas (reservoir construction and trucking for pipelines). Receptors near Wastewater Treatment Plant may be impacted by increased Wastewater Treatment Plant emissions when headworks is expanded.

4. A significant health risk above the typically accepted cancer risk of 1 in 1 million?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Expansion of the headworks of the Laguna Wastewater Treatment Plant could have significant air quality impacts. Because the capacity of the Wastewater Treatment Plant would be considerably expanded as a result of this modification to the plant, the plants emissions could be significantly increased. The increases in volatile organic compounds (VOCs), hazardous air pollutants (HAPs), and odor-causing pollutants may have potentially significant impacts which may be mitigated to a level of insignificance.

The resulting emissions have the potential to impact air quality standards, to trigger requirements of risk assessment, and to result in odor complaints. Once the level of plant emissions at the increased capacity are known, efforts to abate these emissions using readily available, but possibly expensive, technology could be evaluated.

Best available control technology for emissions sources and possibly maximum available control technology may be required for control equipment.

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Yes      Maybe      No

5. The creation of objectionable odors?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Expansion of the headworks of the Laguna Wastewater Treatment Plant could have significant air quality impacts. Because the capacity of the Wastewater Treatment Plant would be expanded as a result of this modification to the plant, the plants emissions could be increased. The increases in odor-causing pollutants may have potentially significant impacts which may be mitigated to a level of insignificance.

The resulting emissions have the potential to result in odor complaints. Once the level of plant emissions at the increased capacity are known, efforts to abate these odors using readily available, but possibly expensive, technology could be evaluated.

6. Non-compliance with the Bay Area Air Quality Management District's Rules and Regulations?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Permits to construct the planned modification would be needed from the Bay Area Air Quality Management District (BAAQMD). It is possible that the plant, either now or as a result of the planned expansion, would require a federal operating permit under provisions of the Title V of the 1990 Federal Clean Air Act Amendments. Best available control technology for emissions sources and possibly maximum available control technology may be required for control equipment.

Controls (for construction dust), and for expansion of the Wastewater Treatment Plant, are available to bring potential project non-compliance into compliance.

7. The alteration of air movement, moisture, or temperature, or any change in climate, either locally or regionally?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Reservoirs, ponds and large wetland areas can have a minor, localized influence on humidity. This will have to be evaluated further when specific information regarding sizes of ponds and reservoirs is known.

### 03. Groundwater

Will the project result in:

1. Alteration of the direction or rate of flow of groundwaters?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Groundwater recharge from rivers and stream banks where discharge occurs and from irrigation of agricultural fields could locally affect the direction or rate of groundwater flow but should not have regional groundwater impacts.

Water seeping from the reservoir could percolate into the groundwater. The volume of water and the effects on flow rates and direction have not been determined. It is likely that local groundwater mounding would occur. However, since proposed reservoir sites are located away from large public drinking water well fields, it is unlikely that local groundwater mounding would be associated with significant regional adverse groundwater impacts.

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	Yes	Maybe	No
2. Change in the quantity of groundwaters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Discussion

Dam construction could involve excavation into aquifer material and could require dewatering during construction. Impacts associated with excavation below the groundwater table would be temporary and would not result in permanent changes in the quantity of groundwater.

3. Substantial degradation of groundwater resources or interference with groundwater recharge?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

Storage and reuse of reclaimed water could affect groundwater quality and could locally affect groundwater recharge. Further investigation of the potential impacts of treated wastewater infiltrating into the groundwater would be required. A hydrogeologic study would be needed to determine existing site specific groundwater quality, flow direction, water levels, and the potential effects of reservoir seepage on the groundwater regime.

## 04. Surface Water

Will the project result in:

1. Changes in currents, or the course or direction of water movements, in either marine or fresh waters?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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### Discussion

The alternative does not discharge reclaimed water in a location or quantity that will affect freshwater or marine currents.

2. Changes in absorption rates, drainage patterns, or the rate and amount of surface runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

Additional agricultural irrigation may change existing surface water runoff rates.

3. Alterations to the course or flow of flood waters?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

Storage reservoirs required to support irrigation may reduce peak flood flows resulting from watershed runoff. Analysis of the watershed runoff, reservoir capacity and operation plans will provide information to assess this potential impact.

4. Change in the amount of surface water in any water body?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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### Discussion

Flow augmentation to the Petaluma River and other South County streams will increase the flow, primarily during summer months. The increased flow may provide a benefit to aquatic and riparian habitats.

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	Yes	Maybe	No
5. Exposure of people or property to water related hazards such as flooding or tidal waves?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion**

Insignificant potential for increase in flood hazards.

6. Increased runoff volumes that exceed the capacity of storm drain facilities, cause downstream or off-site drainage problems, or significantly alter inflows to an adjacent wetland to the extent that there is a net degradation of functions and values of aquatic habitat?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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**Discussion**

Insignificant potential for increased runoff volumes.

### 05. Water Conservation

Will the project result in:

1. Substantial reduction in the amount of water otherwise available for public water supplies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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**Discussion**

Water conservation and reuse will increase the amount of water available.

### 06. Water Quality

Will the project result in:

1. Discharge to surface waters, or any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Drainage quality from irrigation areas would need to be evaluated. Evaluation of impacts of discharge rate on receiving water quality is also needed. Key constituents include nitrate, ammonia, metals, disinfection byproducts. Antidegradation analysis also needed. Evaluation of attainment of water quality objectives and other limitations is also needed.

2. Stormwater discharges that exceed established water quality standards, increased erosion and sedimentation, or endanger aquatic habitats?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Irrigation may lead to different agricultural practices, which could increase pollutants in storm runoff. This issue needs to be evaluated.

3. Exceedance or non-attainment of numeric or narrative water quality objectives, criteria or standards?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Irrigation could affect Total Dissolved Solids (TDS) and other constituents in groundwater. Impact on Inland Surface Water Plan objectives for human health and aquatic life needs to be evaluated based on the evaluation of impact of discharge rate on receiving water quality. Key constituents include nitrate, ammonia, metals, disinfection byproducts. Antidegradation analysis also needed.



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Yes      Maybe      No

Technical studies are needed on impact of discharge for flow augmentation. Effluent quality generally meets water quality objectives for aquatic life and human health, although formal evaluation is needed. Reclaimed water put into streams for flow augmentation could affect groundwater quality. This needs to be evaluated to determine if drinking water supplies would be adversely impacted. Irrigation could affect TDS and other constituents in groundwater. Evaluation of these impacts is needed.

Leakage from reservoirs that discharges to surface water could affect surface water quality, and evaluation is needed.

**4. Significant alteration of water quality in an Area of Special Biological Significance, National Marine Sanctuary, or National Wildlife Refuge?**

☐      ☒      ☐

**Discussion**

Evaluation of impacts on the San Pablo Bay National Wildlife Refuge needed. Irrigation could affect Total Dissolved Solids (TDS) and other constituents in groundwater. Evaluation of these impacts is needed.

**5. Degradation of water quality as defined in SWRCB Resolution No. 68-16 and 40 CFR Part 131.12?**

☐      ☒      ☐

**Discussion**

Irrigation could affect Total Dissolved Solids (TDS) and other constituents in groundwater. These impacts need to be studied. Evaluation of impact of discharge on receiving water quality is needed. Key constituents include nitrate, ammonia, metals, disinfection byproducts. Antidegradation analysis is also needed. Technical studies are needed on impact of discharge for flow augmentation. Effluent quality generally meets water quality objectives for aquatic life and human health, although formal evaluation is needed. Drainage quality from irrigation areas would need to be evaluated.

Leakage from reservoirs that discharge to surface water would likely affect surface water quality, and evaluation is needed. If drinking water is degraded by leakage from reservoir, then the amount of water would be effectively reduced, and groundwater quality impacts would need to be addressed.

Technical studies needed to support exception to Basin Plan discharge prohibition is needed for flow augmentation to proceed. Effluent quality generally meets water quality objectives for aquatic life and human health, although formal evaluation needed.

**07. Plant Life**

Will the project result in:

**1. Introduction of new species of plants into an area, or results in a barrier to the normal replenishment of existing species?**

☒      ☐      ☐

**Discussion**

Irrigation of previously unirrigated rangeland will cause a shift in vegetation composition. Flow augmentation can cause an introduction of new species into riparian corridors. If current rangeland or other lands are converted to cropland, new species would be introduced into an area. The presence of new reservoir sites will result in the introduction of new species into an area.

## Alternative Two South County Reclamation

Yes      Maybe      No

**2. Reduction in acreage of any agricultural crop?**

☐      ☒      ☐

**Discussion**

Construction of storage reservoirs may result in a loss of hay, grain crops, or other food or fiber crops that are grown for sale. Agricultural irrigation may shift the type of crops.

### 08. Animal Life

Will the project result in:

**1. Changes to the diversity of species or numbers of any species of animals (bird, land animals including reptiles, fish and shell fish, benthic organisms or insects)?**

☐      ☒      ☐

**Discussion**

Irrigation of existing vineyards would not be expected to change the diversity of species or change the number of any species of animals. Irrigation of open rangeland not currently subject to irrigation or the potential conversion of rangeland to cultivated cropland could result in the loss or alteration of wildlife habitat and a reduction in the numbers and diversity of associated wildlife species. The augmentation of flow in South County creeks could alter associated aquatic and wetland habitats by changing the existing flow regime and potentially degrading water quality. These effects could result in a change in the diversity or number of wildlife species occurring in these habitat types. In addition, construction of a new reservoir (S39 or alternate reservoir sites) could remove existing habitats and reduce the numbers or diversity of wildlife species occurring in these habitats.

**2. Introduction of new species of animals into an area or results in a barrier to the migration, or movement of animals?**

☐      ☒      ☐

**Discussion**

The irrigation of existing agricultural areas and a continued 1% discharge to the Russian River would not be expected to result in the fragmentation or removal of important wildlife migration or travel corridors or result in the introduction of new species of animals into the project area. Irrigation of open rangeland not currently subject to irrigation could result in shifts of vegetative communities and related changes in biota they support. However, construction of a new reservoir (S39 or alternate reservoir sites) could block wildlife migration or travel corridors in the associated drainage, though corridors have not been identified. In addition, creation of new aquatic and wetland habitats at the reservoir construction site could result in the introduction of non-native species of animals into the project area.

**3. The deterioration of existing fish or wildlife habitat?**

☐      ☒      ☐

**Discussion**

The irrigation of existing croplands, vineyards, and irrigated pasture is not expected to reduce habitat diversity or value. Irrigation of open rangeland not currently subject to irrigation or the potential conversion of rangeland to cultivated cropland could result in the loss or degradation of habitat for associated wildlife species. Discharge of treated wastewater into the Petaluma River, San Antonio Creek, and other South County creeks could reduce habitat value by altering existing flows and degrading water quality. Construction of a new reservoir (S39 or alternate reservoir sites) would remove existing wildlife habitats.

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Yes      Maybe      No

4. Blocks or fragments important wildlife migration or travel corridors?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

The irrigation of existing agricultural areas and a continued 1% discharge to the Russian River would not be expected to result in the fragmentation or removal of important wildlife migration or travel corridors or result in the introduction of new species of animals into the project area. However, construction of a new reservoir (S39 or alternate reservoir sites) could block wildlife migration or travel corridors in the associated drainage, though corridors have not been identified. Aseasonal flows created through flow augmentation could block wildlife migration corridors.

5. Substantial loss of habitat diversity or habitat value?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

The irrigation of existing croplands, vineyards, and irrigated pasture is not expected to reduce habitat diversity or value. Irrigation of open rangeland not currently subject to irrigation or the potential conversion of rangeland to cultivated cropland could result in the loss or degradation of habitat for associated wildlife species. Discharge of treated wastewater into the Petaluma River, San Antonio Creek, and other South County creeks could reduce habitat value by altering existing flows and degrading water quality.

6. Bioaccumulation of pollutants to adverse levels in the tissues of wildlife?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

It is unknown if the project would result in the bioaccumulation of pollutants to adverse levels in the tissues of wildlife. Bioaccumulation studies conducted on biota supported by effluent receiving waters could provide insight into this potential impact.

**09. Fisheries**

Will the project result in:

1. A significant reduction in fish or shellfish production, or a change in species diversity?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

If the San Pablo Bay flats are irrigated, drainage may adversely affect fisheries. Study of potential drainage impacts is needed.

Discharge could affect warm water fish in the Laguna de Santa Rosa and anadromous fish that migrate through the Laguna past the discharge. The impact on anadromous fish is currently being studied. The discharge may help support resident warm water fish in the Laguna. Analysis of effluent toxicity data, hydrology data and the native fish abundance is necessary to evaluate this potential.

Study of impacts of discharge on aquatic life is needed. Toxicity studies and evaluations of aquatic life present in the flow augmentation stream would be conducted. Some flow augmentation streams are currently seasonal, and some are historically perennial. The appropriateness of changing such streams to perennial streams with flow augmentation should be considered.

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Yes      Maybe      No

Wetlands siting should avoid locations that affect existing high quality aquatic habitat.

2. Bioaccumulation of pollutants to adverse levels in the tissues of aquatic life?

☐      ☒      ☐

**Discussion**

If the San Pablo Bay flats are irrigated, drainage may adversely affect fisheries. Study of potential drainage impacts and a bioaccumulation study are needed.

3. A significant risk to aquatic life in a National Marine Sanctuary or National Wildlife Refuge?

☐      ☒      ☐

**Discussion**

If the San Pablo Bay flats are irrigated, drainage may adversely affect aquatic life in the San Pablo Bay National Wildlife Refuge. Study of potential drainage impacts is needed.

Streams being considered for flow augmentation are believed to be seasonal and would therefore not host migratory fish. However, streams flow to the estuary which may be affected. Discharge of drainage could affect salinity and aquatic life in the Petaluma River.

**10. Rare, Threatened and Endangered Species**

Will the project result in:

1. The project substantially affects a rare or endangered plant or animal species or the habitat of the species as defined by Section 15380 of the State CEQA Guidelines.

☐      ☒      ☐

**Discussion**

This alternative could adversely affect rare, threatened, and endangered species or their associated habitats by removing existing habitat in areas proposed for reservoir construction. The irrigation of existing croplands in the South County agricultural irrigation areas is not expected to adversely affect a rare, threatened, or endangered species or habitat for these species. However, irrigation of previously non-irrigated rangeland or the potential conversion of rangeland to cultivated cropland could adversely affect special status species by removing habitat, altering seasonal water conditions, and degrading water quality. In addition, agricultural runoff could adversely affect rare, threatened and endangered species that occur in adjacent habitats. Flow augmentation of the Petaluma River and South County creeks could reduce habitat value for rare, threatened and endangered species by altering existing flows and degrading water quality.

**11. Wetlands**

Will the project result in:

1. Actions which are not consistent with Executive Order 11990 - Protection of Wetlands or does not meet NEPA standards.

☐      ☒      ☐

**Discussion**

South County normal volume irrigation of 5,665 acres (east of Rohnert Park, east of Adobe Road, Bayflats and North Petaluma Valley) and low volume irrigation of 2,000 acres (vineyards east of Tolay) could result in impacts to and conversion of freshwater seasonal and riparian wetlands to agricultural use. Irrigation layout could be designed with buffers from existing wetlands to mitigate impacts.

Flow augmentation to streams in the Petaluma River drainage, and irrigation runoff and

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Yes      Maybe      No

drainage (i.e. Bayflats) could potentially alter flows, water levels and salinity in the Petaluma River marshes, including potential conversion of salt marsh to brackish marsh. Flow augmentation and irrigation rates, timing and possibly drainage control facilities may be required to minimize adverse impacts. Flow augmentation would benefit riparian and emergent wetlands.

S39 (Tolay) storage reservoir could result in the long term loss of about 150 acres of historic lake bottom seasonal freshwater wetlands that have been in long term agricultural production, and potentially some hillside seeps, depending on reservoir elevation. Alternate reservoir sites would impact less historic wetland acreage but more existing riparian acreage. Pipeline and road construction could result in filling or alteration of riparian wetlands at stream crossings. Timing, location, construction methods and restoration can minimize impacts.

Wetland restoration/creation is a potential component. Berms placed in existing wetlands would result in some fill and seasonal wetlands may be converted to permanent marsh and riparian wetlands. However, a net benefit in wetlands acreage, function and value would be achieved. Construction methods, monitoring and contingency plans would be required.

2. Actions which are not in compliance with the Clean Water Act Section 404(b)(1) guidelines or does not meet NEPA standards.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

South County normal volume irrigation of 5,665 acres (east of Rohnert Park, east of Adobe Road, Bayflats and North Petaluma Valley) and low volume irrigation of 2,000 acres (vineyards east of Tolay) could result in impacts to and conversion of freshwater seasonal and riparian wetlands to agricultural use. Irrigation layout could be designed with buffers from existing wetlands to mitigate impacts.

Flow augmentation to streams in the Petaluma River drainage, and irrigation runoff and drainage (i.e. Bayflats) could potentially alter flows, water levels and salinity in the Petaluma River marshes, including potential conversion of salt marsh to brackish marsh. Flow augmentation and irrigation rates, timing and possibly drainage control facilities may be required to minimize adverse impacts. Flow augmentation would benefit riparian and emergent wetlands.

S39 (Tolay) storage reservoir could result in the long term loss of about 150 acres of historic lake bottom seasonal freshwater wetlands that have been in long term agricultural production, and potentially some hillside seeps, depending on reservoir elevation. Alternate reservoir sites would impact less historic wetland acreage but more existing riparian acreage. Pipeline and road construction could result in filling or alteration of riparian wetlands at stream crossings. Timing, location, construction methods and restoration can minimize impacts.

Wetland restoration/creation is a potential component. Berms placed in existing wetlands would result in some fill and seasonal wetlands may be converted to permanent marsh and riparian wetlands. However, a net benefit in wetlands acreage, function and value would be achieved. Construction methods, monitoring and contingency plans would be required.

## 12. Noise

Will the project result in:

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Yes      Maybe      No

1. Noise levels which exceed the maximum allowable dB for the project or adjoining areas.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Long-term noise sources may be created by motors and generators associated with pumping treated wastewater to reuse destinations. Short-term noise sources would be created by construction activity. These noise sources may affect the maximum allowable dB for the project area. It is expected that any short-term noise impacts would be mitigated through implementation of conventional construction management practices, such as limiting construction to specific days of the week and limiting hours of operation for each work day. It is expected that any long-term noise impacts would be mitigated as part of the project design.

2. A substantial increase in noise levels in areas of sensitive receptors (i.e. schools, libraries, churches, etc.).

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Long-term noise sources may be created by motors and generators associated with pumping treated wastewater to reuse destinations. Short-term noise sources would be created by construction activity. These noise sources may affect the maximum allowable dB for the project area. It is expected that any short-term noise impacts would be mitigated through implementation of conventional construction management practices, such as limiting construction to specific days of the week and limiting hours of operation for each work day. It is expected that any long-term noise impacts would be mitigated as part of the project design.

3. Land uses which are incompatible compatible with ambient noise level standards.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Due to the potential creation of long-term and short-term noise sources, there may be noise compatibility issues created with development of this alternative. Specific location and project level details will provide the necessary data and information to make this assessment. It is expected that any short-term noise impacts would be mitigated through implementation of conventional construction management practices, such as limiting construction to specific days of the week and limiting hours of operation for each work day. It is expected that any long-term noise impacts would be mitigated as part of the project design.

**13. Light and Glare**

Will the project result in:

Refer to #14, Visual Resources

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

**Discussion**

**14. Visual Resources**

Will the project result in:

## Alternative Two South County Reclamation

Yes      Maybe      No

1. Conflicts with the adopted General Plans or objectives of the appropriate jurisdictions?

☐      ☒      ☐

### Discussion

Reservoir sites to be considered in this alternative have potential for significant impact on visual resources identified in adopted General Plans. The Vast Oak reservoir site (S26) is highly visible from designated scenic corridors along Roberts Road and Pressley Road and would likely be visually obtrusive in these corridors. The reservoir also would significantly alter the visual environment along Copeland Creek, a riparian corridor designated as a scenic resource in Sonoma County General Plan. Also, in this alternative, reservoir site S31 may be visible from a designated scenic corridor along Lakeville Highway, and reservoir sites to be considered in this alternative may visually impact nearby rural residential uses. Additional study will be required to determine specific visual impacts of reservoir construction after project level of detail is developed. Also, pipeline construction may have short-term effects on scenic corridors or other scenic resources.

2. New light and glare.

☐      ☐      ☒

### Discussion

No new external sources of light and glare would be created by this alternative.

3. Result in the obstruction of any scenic vista, or view open to the public, or in the creation of an aesthetically offensive site open to public view?

☐      ☒      ☐

### Discussion

Additional study will be required to determine specific impacts on vistas or views after project level of detail is developed for reservoir sites. The Vast Oak reservoir (S26) could obstruct scenic views from Roberts Road and Pressley Road, both of which are designated scenic corridors, as well as views along Copeland Creek, which is a designated scenic resource. Reservoir S31 may obstruct views and vistas along Lakeville Highway, another designated scenic corridor. Also, pipeline construction may have short-term effects on scenic vistas or sites open to public view.

## 15. Land Use

Will the project result in:

1. A land use which is inconsistent with the land use plan map of an adopted General Plan?

☐      ☐      ☒

### Discussion

This alternative would be consistent with the planned land use patterns in the applicable General Plans.

2. A land use which is inconsistent with the zoning?

☐      ☒      ☐

### Discussion

Data for existing zoning regulations and map designations will be obtained and this alternative needs to be evaluated against that data. However, the existing zoning should be consistent with the adopted General Plans, and if so, the alternative would be consistent with

## Alternative Two South County Reclamation

Yes      Maybe      No

existing zoning.

3. The conversion of ten acres or more of prime agricultural lands or farmland of statewide importance to non-agricultural uses?

☐      ☒      ☐

**Discussion**

The reservoir sites to be considered in this alternative would result in the conversion of agricultural lands. Data on classification of agricultural lands will be obtained and the sites evaluated against that data.

4. The cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 (Williamson Act) for any parcel of 100 acres or more?

☐      ☒      ☐

**Discussion**

The reservoir sites to be considered in this alternative include agricultural lands and may involve land under the Williamson Act contract. Data on Williamson contracts will be obtained and the sites evaluated against that data.

5. The development of an incompatible land use type in an area designated in the MRZ-2 classification according to the Mineral Land Classification of the California Division of Mines & Geology?

☐      ☐      ☒

**Discussion**

This alternative would not affect the use of land in MRZ-2 zones.

6. The introduction of inappropriate uses in a Community Separator as defined in the Sonoma County General Plan?

☐      ☐      ☒

**Discussion**

This alternative would not introduce urban uses within a Community Separator.

7. A long-term jobs/housing ratio or housing type ratio which is inconsistent with an adopted General Plan?

☐      ☐      ☒

**Discussion**

This alternative is consistent with the applicable general plans and would not create any additional employment or housing generating land uses.

8. An increased potential for conflict as a result of incompatible land uses?

☐      ☐      ☒

**Discussion**

The land use of this alternative would be consistent with the planned land use pattern in the vicinity and therefore would not create potential for land use conflicts.

## 16. Natural Resources

Will the project result in:



**Alternative Two**  
**South County Reclamation**

Yes      Maybe      No

Refer to #3, Ground Water, #7, Plant Life and #23, Energy

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

**17. Risk of Upset**

Will the project result in:

1. Exposure of people to hazardous chemicals, radiation, or disease agents.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	-------------------------------------	--------------------------

**Discussion**

The public could be exposed to hazardous chemicals or disease agents contained in reclaimed water during its storage, reuse, or discharge. The proposed alternative would not generate or use radioactive materials. Components of this alternative include an increase in agricultural irrigation over existing conditions, a 1% discharge to the Russian River and a South County storage reservoir. These components may have local effects on surface and groundwater quality that could affect public health via domestic water from wells or by direct contact with water in the Russian River or the storage reservoir.

All reclaimed water will have received tertiary treatment prior to its discharge; however, small amounts of chemicals and biological agents could persist in water after treatment. Additional studies will be conducted to investigate the effects of water quality on human health. A screening evaluation of the hazard associated with identified chemicals and biological agents in tertiary treated wastewater and a review of literature concerning the human health effects of synthetic estrogens and estrogen-like compounds will be performed. Data from these studies will be used to identify the impacts, if any, of reclaimed water discharge to human health.

The public and construction workers could be exposed to hazardous materials and/or wastes during construction of facilities (e.g., pipelines and reservoirs) associated with this project alternative. Hazardous materials (natural or anthropogenic) may be used or encountered during construction activities. Compliance with regulations regarding the safe handling and storage of hazardous materials will minimize exposure to these chemicals. Hazardous wastes could be encountered during construction of components at or nearby existing hazardous waste sites. The potential for these sites to impact this alternative will be discussed in a report that tabulates and maps known, federal and state listed hazardous waste sites.

2. Non-compliance with applicable laws regarding the handling of hazardous materials.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	-------------------------------------	--------------------------

**Discussion**

The use and storage of hazardous materials (e.g., fuels, oils, solvents or paints) may be required during construction of this alternative. Specific materials and quantities are not known at this time; however it is anticipated that all hazardous materials will be handled in compliance with applicable laws.

## Alternative Two South County Reclamation

	Yes	Maybe	No
3. Interference with an emergency response or evacuation plan.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Discussion

During construction activities there could be short-term disruption of roadways. Construction should be coordinated with emergency response agencies to ensure that there are no adverse impacts.

## 18. Population

Will the project result in:

Refer to #19, Socio-Economics

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

### Discussion

## 19. Socio-Economics

Will the project result in:

1. Accommodating development beyond the capacity planned for in the General Plans of the communities in the Service Area.

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	-------------------------------------

### Discussion

The project is sized to the population projections of the subregional entities General Plans. Growth inducing impacts will be limited.

2. Imposition of an onerous financial burden on rate payers as a result of increased demand fees and/or service charges.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

Additional analysis of the share of costs that will be allocated to service charges and the incomes of service area residents will be required to assess this impact. This is a low cost alternative, indicating that associated service charges may be relatively low.

3. Constraints to development of new housing, thereby limiting affordable housing opportunities in the Study Area.

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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### Discussion

The project is sized to the population projections of the subregional entities General Plans. To the degree that the General Plans can meet affordable housing needs, the project will not have an impact.

4. Cause physical division within the Study Area that adversely affects property values or development patterns.

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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### Discussion

Since the transmission pipes are planned to be underground, there will not be a long-term impact. The isolated location of the dam sites also implies that there will not be an impact.

## Alternative Two South County Reclamation

Yes      Maybe      No

5. Impacts to local or regional economies or cause specific industries to no longer be viable.

☐      ☒      ☐

### Discussion

Additional information on the demand fees and service charges associated with the alternative will be required to assess the impact on specific industries. If the costs are significantly higher than neighboring areas, it is possible that water-intensive industries will relocate from the area and new industries with high water needs may be discouraged from locating in the service area. This is a low cost alternative, which implies that the potential for impacts on industry is relatively low.

## 20. Housing

Will the project result in:

Refer to #17, Land Use and #19, Socio-Economics

☐      ☐      ☐

### Discussion

## 21. Transportation/Circulation

Will the project result in:

1. Levels of service to drop to unacceptable levels (below LOS "D") at existing intersection or arterial roadways?

☐      ☒      ☐

### Discussion

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

2. Traffic increases along arterials or at intersections currently operating at unacceptable levels?

☐      ☒      ☐

### Discussion

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

3. Alterations to the existing patterns of circulation which overly restrict the movement of people or goods?

☐      ☒      ☐

### Discussion

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

## Alternative Two South County Reclamation

Yes      Maybe      No

4. Potential increase in traffic hazards to motor vehicles, bicyclists or pedestrians?

☐      ☒      ☐

**Discussion**

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

5. Construction activities resulting in unsafe operating conditions for vehicular traffic?

☐      ☒      ☐

**Discussion**

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

6. Construction activities resulting in substantial delays to vehicular traffic?

☐      ☒      ☐

**Discussion**

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

7. Construction unduly restricting access to properties adjacent to the construction zone?

☐      ☒      ☐

**Discussion**

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

### 22. Public Services/Utilities

Will the project result in:

1. A need for new or altered governmental services or utilities?

☒      ☐      ☐

**Discussion**

This alternative would require additional treatment and storage facilities to ensure that sufficient supply would be available for proposed reuses. The delivery systems, storage facilities and reuse facilities which are necessary for implementation of this alternative would require ongoing maintenance.

### 23. Energy

Will the project result in:

## Alternative Two South County Reclamation

Yes      Maybe      No

**1. Use of substantial amounts of fuel or energy?**

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

The total energy use for this alternative is not known. The following information is needed to determine if this alternative would use substantial amounts of fuel or energy:

- \* Estimates of energy use for this alternative broken down by construction and operation;
- \* List of construction equipment necessary for this alternative; and
- \* List of operational equipment for this alternative and amount of energy uses.

Further analysis will be undertaken based upon more detailed project definition of this alternative.

**2. Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy?**

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Estimates for current energy use at the wastewater treatment plant are needed, in addition to the information required above.

### 24. Utilities and Service Systems

Will the project result in:

Refer to #22, Public Services/Utilities

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

### 25. Human Health

Will the project result in:

Refer to #17, Risk of Upset

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

### 26. Aesthetics

Will the project result in:

Refer to #14, Visual Resources

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

### 27. Recreation

Will the project result in:

**Alternative Two  
South County Reclamation**

Yes      Maybe      No

1. Impact upon the quality or quantity of existing recreational opportunities?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

This alternative could result in the alteration of the quality or quantity of water in area streams, and thereby potentially affect recreation opportunities.

**28. Cultural and Historical Resources**

Will the project result in:

1. An important archeological resource destroyed or disturbed that is included under CEQA, NEPA, or the National Register of Historic Places?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

The project has potential to cause a physical alteration or destruction of a site through ground disturbing activities associated with installation of pipelines used to transport and discharge wastewater. Cultural resources situated along creek banks may also be subject to physical impacts if erosion is increased by flow augmentation; however, if flows do not exceed existing levels, no effect would be anticipated. Because the extent of the impact area for this component has not been specified, impacts to known cultural resources cannot be ascertained. However, given the occurrence of archaeological sites along creeks in the region, there is a possibility that sites occur within impact areas.

The potential presence of cultural resources within the project area needs to be established through a records search at the Northwest Center of the Historical Resources Information System and, if necessary, through a field study of unsurveyed areas which are determined to have a possibility of containing unrecorded resources.

Whenever possible, project components should be modified to avoid impacts to cultural resources. If this is not feasible, all identified cultural resources within the Area of Potential Effect will need to be evaluated for significance. This evaluation should involve a testing program with field investigations. Impacts to sites determined to be significant can be mitigated through a data recovery plan involving archaeological excavations.

2. The alteration of or the destruction of a prehistoric or historic archeological site?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

The project has potential to cause a physical alteration or destruction of a site through ground disturbing activities associated with installation of pipelines used to transport and discharge wastewater. Cultural resources situated along creek banks may also be subject to physical impacts if erosion is increased by flow augmentation; however, if flows do not exceed existing levels, no effect would be anticipated. Because the extent of the impact area for this component has not been specified, impacts to known cultural resources cannot be ascertained. However, given the abundance of archaeological sites in the region, there is a possibility that sites occur within impact areas.

The potential presence of cultural resources within the project area needs to be established through a records search at the Northwest Center of the Historical Resources Information System and, if necessary, through a field study of unsurveyed areas which are determined to

**Alternative Two  
South County Reclamation**

Yes      Maybe      No

have a possibility of containing unrecorded resources.

Whenever possible, project components should be modified to avoid impacts to cultural resources. If this is not feasible, all identified cultural resources within the Area of Potential Effect will need to be evaluated for significance. This evaluation should involve a testing program with field investigations. Impacts to sites determined to be significant can be mitigated through a data recovery plan involving archaeological excavations.

3. The potential to cause a physical change which would affect unique ethnic cultural values?

☐☒☐

**Discussion**

Potential impacts to unique ethnic cultural values within impact areas can not be assessed at this stage in the EIR process.

A study of traditional cultural properties would be required to determine if the proposal has potential to cause a physical change which would affect unique ethnic cultural values within impact areas. The Sacred Lands File kept by the Native American Heritage Commission should be consulted as part of the study.

Mitigative measures in relation to Native American associates properties should be decided upon through an agreement reached through negotiations involving representatives from the appropriate Native American groups; negotiations should be mediated through the Native American Heritage Commission.

4. Restriction of existing religious or sacred uses within the potential impact area?

☐☒☐

**Discussion**

Potential impacts which would restrict existing religious or sacred uses within impact areas can not be assessed at this stage in the EIR process.

A study of traditional cultural properties would be required to determine if the proposal has potential to cause a physical change which would restrict religious or sacred uses within impact areas. The Sacred Lands File kept by the Native American Heritage Commission should be consulted as part of the study.

Mitigative measures in relation to Native American associates properties should be decided upon through an agreement reached through negotiations involving representatives from the appropriate Native American groups; negotiations should be mediated through the Native American Heritage Commission.

**Alternative Three**  
**Community Separator/South County Reclamation**

Yes      Maybe      No

**01. Earth**

Will the project result in:

1. Unstable earth conditions or change in geologic substructures?

	X	
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**Discussion**

Dam and reservoir construction would require topographic and hydrologic alterations. Construction and operation of a reservoir with fluctuating water levels could result in reservoir slope instability.

Mitigation for reservoir slope instability could include such measures as slope flattening or buttressing, installation of drainage systems, or reservoir operation controls.

2. Permanently disrupted, displaced, compacted or overcovered soils?

X		
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**Discussion**

Construction of dams/reservoirs involves the permanent disruption, displacement and compaction of soils. This impact is inherent to dam/reservoir construction.

Construction of infiltration basins and large areas of created wetlands would permanently disrupt, displace, compact or cover soils.

Discharge or use of reclaimed water for irrigation or augmentation of creek/river flow would not disrupt soils. Installation of pipelines to convey reclaimed water would locally disrupt, displace, compact or overcover soils. Pipeline installation would be conducted in accordance with all applicable building codes, such as those pertaining to trenching and backfilling, which should mitigate potential impacts associated with soil disruption.

3. Substantially and permanently altered topography or ground surface relief features?

X		
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**Discussion**

Construction of dams/reservoirs involves extensive excavation and earth movement that would permanently alter topography and ground surface relief at the proposed reservoir site. Construction of wetlands would involve grading over substantial areas. Ponds would likely be created by excavating in areas and using excavated material to build perimeter levees. However, the proposed wetland sites are on generally level areas and topographic alterations would be limited to a total of about ten feet in elevation change.

4. The destruction, modification or covering of a unique geologic or physical feature?

	X	
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**Discussion**

It is unknown whether unique geologic or physical features are present at proposed reservoir sites. A site-specific survey should be conducted prior to construction to identify potentially significant unique geologic features and to recommend mitigation measures. Pipeline installation should not result in the destruction of unique geologic features such as caves, fossil locations, or unique mineral resources. Pipeline alignments have not yet been determined, but could be designed to avoid such features which are usually limited in extent.



**Alternative Three**  
**Community Separator/South County Reclamation**

Yes      Maybe      No

If a unique geologic feature were identified that was too expensive to be avoided, pipeline installation could be accomplished using mitigation (minimizing excavation and documenting resources) to minimize impacts to unique geologic features.

5. Adverse wind or water-associated erosion?

☐      ☒      ☐

**Discussion**

Dam/reservoir construction involves excavation of large volumes of earth material. Exposed soil may be subject to wind or water erosion if adequate erosion control measures are not implemented.

Mitigation for wind or water-associated erosion during construction could include sprinkling or wetting for dust control and diversion, collection, and pumping of water to control runoff. In addition, water erosion could result if reclaimed water were improperly applied to agricultural lands.

Wetland enhancement or creation should not contribute to accelerated wind or water erosion, provided that standard erosion control measures are implemented during construction. One of the goals of stream restoration and habitat creation would be to reduce erosion and sedimentation in the stream and wetland system.

6. Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion, which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake?

☒      ☐      ☐

**Discussion**

The modification of the channel of a river or stream is an impact inherent to dam/reservoir construction in a natural drainage. Large-scale grading and creation of basins for wetlands and groundwater recharge could significantly affect drainage patterns and could result in changes in erosion and depositional patterns in streams.

Excessive runoff from agricultural land could result in erosion and deposition of sediment in nearby water courses. Erosion and sedimentation could be minimized by implementation of proper irrigation methods and implementation of an erosion and sediment control plan.

Discharge of reclaimed water to the river could affect erosion and sedimentation in the vicinity of the outfall. However, substantial changes in sediment transport in the stream channel would not be expected.

7. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards?

☐      ☒      ☐

**Discussion**

Dam/reservoir construction and operation could result in seismically induced dam failure and subsequent inundation. Mitigation for potential dam failure is achieved through proper engineering design for the reservoir site conditions and hazard potential, and through proper reservoir operation. Grazing land and rural communities are located downstream of dam site. These land uses could be at risk in event of dam failure.

**Alternative Three**  
**Community Separator/South County Reclamation**

	Yes	Maybe	No
8. Any project structure (not pipeline) being located within the Alquist-Priolo Special Studies Zone or within a known active fault zone?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion**

The proposed dams or reservoirs are not located in an Alquist-Priolo Special Studies Zone.

9. Any project structure (not pipeline) being located on soils substrate consisting of material that is subject to liquefaction or other secondary seismic hazards in the event of ground shaking?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Seismic ground shaking in the vicinity of a dam or ancillary facilities founded on materials subject to liquefaction or other secondary seismic hazards could impact the integrity of the reservoir facility by causing cracking, slumping, or failure. Mitigation for unsuitable foundation materials could include excavation and replacement, treatment in-place, such as densification of loose materials, or modified design to safely accommodate undesirable foundation materials. Additional study required for assessment of seismic stability of foundation materials would include site specific subsurface investigation, sampling, and testing.

10. Evidence of static hazards which affect structures or public safety, such as landsliding or excessively steep slopes that could result in slope failure?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Fluctuating reservoir levels could impact reservoir slope stability. In the event of a large landslide into the reservoir, dam overtopping could occur, and dam safety could be compromised. The Sonoma County General Plan indicates areas with high or moderate potential for landslides within the reservoir area. Some local shallow slides were evident during field reconnaissance. Mitigation for reservoir slope instability could include such measures as slope flattening or buttressing, installation of drainage systems, or reservoir operation controls.

11. Any project structure located on soils that are likely to collapse?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Construction of a dam or ancillary facilities on soils subject to collapse could impact the integrity of the structure, and dam safety could be affected. Mitigation for unsuitable foundation materials could include excavation and replacement, treatment in-place, such as prewetting of collapsible soils, or modified design to safely accommodate undesirable foundation materials. Additional study is required to assess the collapse potential of foundation materials and would include site specific subsurface investigation, sampling, and testing.

12. Any project structure located on soils that are characterized by shrink/swell potential that might result in deformation of foundations or damage to structures?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Construction of structures on expansive soils with shrink/swell potential could impact the integrity of the structure. Mitigation for unsuitable foundation materials could include excavation and replacement, treatment in-place, such as prewetting of expansive soils before foundation construction, or modified design to safely accommodate undesirable foundation

## Alternative Three Community Separator/South County Reclamation

Yes      Maybe      No

materials. Additional study required for assessment of shrink/swell potential of foundation materials would include site specific subsurface investigation, sampling, and testing.

**13. Unstable soils or geologic conditions?**

☐      ☒      ☐

**Discussion**

Dam/reservoir construction could result in unstable soil or geologic conditions. However, commonly used engineering and construction methods could be implemented to mitigate against creating unstable conditions from dam/reservoir construction.

It is not known whether groundwater recharge would be accomplished by infiltration or direct injection. If large-scale grading was required to create infiltration basins, then unstable soil conditions could result.

**02. Air Quality**

Will the project result in:

**1. A violation of ambient air quality standards?**

☐      ☒      ☐

**Discussion**

Dust generated from construction, if uncontrolled, could temporarily violate air quality standards. Expansion of the Laguna Wastewater Treatment Plant (WTP) headworks, and resulting increases in emissions due to greater capacity, could produce long term, controllable impacts air quality.

**2. The contribution of any criteria pollutants in a non-attainment area?**

☐      ☒      ☐

**Discussion**

PM10 from construction dust, and long-term emissions of volatile organic compounds (VOCs) and NOx from headworks expansion may occur.

**3. Exposure of sensitive receptors to substantial pollutant concentrations?**

☐      ☒      ☐

**Discussion**

Depending on proximity to construction areas (reservoir construction and trucking for pipelines). Receptors near Wastewater Treatment Plant may be impacted by increased Wastewater Treatment Plant emissions when headworks is expanded.

**4. A significant health risk above the typically accepted cancer risk of 1 in 1 million?**

☐      ☒      ☐

**Discussion**

Expansion of the headworks of the Laguna Wastewater Treatment Plant could have significant air quality impacts. Because the capacity of the Wastewater Treatment Plant would be considerably expanded as a result of this modification to the plant, the plants emissions could be significantly increased. The increases in volatile organic compounds (VOCs), hazardous air pollutants (HAPs), and odor-causing pollutants may have potentially significant impacts which may be mitigated to a level of insignificance.

The resulting emissions have the potential to impact air quality standards, to trigger

## Alternative Three

### Community Separator/South County Reclamation

Yes      Maybe      No

requirements of risk assessment, and to result in odor complaints. Once the level of plant emissions at the increased capacity are known, efforts to abate these emissions using readily available, but possibly expensive, technology could be evaluated.

Best available control technology for emissions sources and possibly maximum available control technology may be required for control equipment.

**5. The creation of objectionable odors?**

☐      ☒      ☐

**Discussion**

Expansion of the headworks of the Laguna Wastewater Treatment Plant could have significant air quality impacts. Because the capacity of the Wastewater Treatment Plant would be expanded as a result of this modification to the plant, the plants emissions could be increased. The increases in odor-causing pollutants may have potentially significant impacts which may be mitigated to a level of insignificance.

The resulting emissions have the potential to result in odor complaints. Once the level of plant emissions at the increased capacity are known, efforts to abate these odors using readily available, but possibly expensive, technology could be evaluated.

**6. Non-compliance with the Bay Area Air Quality Management District's Rules and Regulations?**

☐      ☒      ☐

**Discussion**

Permits to construct the planned modification would be needed from the Bay Area Air Quality Management District (BAAQMD). It is possible that the plant, either now or as a result of the planned expansion, would require a federal operating permit under provisions of the Title V of the 1990 Federal Clean Air Act Amendments. Best available control technology for emissions sources and possibly maximum available control technology may be required for control equipment.

Mitigation of impacts in order to comply is possible through the use of appropriate air pollution control equipment.

**7. The alteration of air movement, moisture, or temperature, or any change in climate, either locally or regionally?**

☐      ☒      ☐

**Discussion**

Reservoirs, ponds and large wetland areas can have a minor, localized influence on humidity. This will have to be evaluated further when specific information regarding sizes of ponds and reservoirs is known.

**03. Groundwater**

Will the project result in:

**1. Alteration of the direction or rate of flow of groundwaters?**

☒      ☐      ☐

**Discussion**

Injection and extraction of reclaimed water into the aquifer would affect the direction and rate of flow of groundwater. Further studies would be required to determine the magnitude of the effects and the potential impacts on the aquifer impacts and domestic and municipal

**Alternative Three**  
**Community Separator/South County Reclamation**

Yes      Maybe      No

groundwater users.

2. Change in the quantity of groundwaters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?

☒      ☐      ☐

**Discussion**

Injection and extraction of reclaimed water into the aquifer would affect the direction and rate of flow of groundwater. The addition of reclaimed water to the aquifer could result in groundwater mounding and could affect groundwater levels and the relative quantity of surface and groundwater. Further studies would be required to determine the magnitude of the effects and potential impacts.

3. Substantial degradation of groundwater resources or interference with groundwater recharge?

☐      ☒      ☐

**Discussion**

Storage of reclaimed water in the aquifer could result in degradation of groundwater quality and could interfere with groundwater recharge. Further study would be needed to assess the potential impact to groundwater quality and potential chemical precipitation which could clog the aquifer and interfere with groundwater recharge.

Infiltration of treated wastewater from agricultural irrigation, flow augmentation, and storage reservoirs could adversely affect groundwater quality. A hydrogeologic study would be needed to determine existing site specific groundwater quality, flow direction, water levels, and the potential effects on the groundwater regime.

**04. Surface Water**

Will the project result in:

1. Changes in currents, or the course of direction of water movements, in either marine or fresh waters?

☐      ☐      ☒

**Discussion**

This alternative does not discharge reclaimed water in a location or quantity that would affect freshwater or marine currents.

2. Changes in absorption rates, drainage patterns, or the rate and amount of surface runoff?

☐      ☒      ☐

**Discussion**

The extensive use of wetlands may reduce infiltration rates in the wetland area and increase runoff rates.

3. Alterations to the course or flow of flood waters?

☐      ☒      ☐

**Discussion**

Storage reservoirs required to support irrigation may reduce peak flood flows resulting from watershed runoff. Analysis of the watershed runoff rates, reservoir capacity and operation plans will provide information to assess this potential impact.

**Alternative Three**  
**Community Separator/South County Reclamation**

Yes      Maybe      No

4. Change in the amount of surface water in any water body?

X		
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**Discussion**

Discharge to creeks east of Rohnert Park will increase the flow primarily during summer months. The increased flow may provide a benefit to aquatic and riparian habitats.

5. Exposure of people or property to water related hazards such as flooding or tidal waves?

		X
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**Discussion**

Insignificant potential for increased flood hazards.

6. Increased runoff volumes that exceed the capacity of storm drain facilities, cause downstream or off-site drainage problems, or significantly alter inflows to an adjacent wetland to the extent that there is a net degradation of functions and values of aquatic habitat?

		X
--	--	---

**Discussion**

Insignificant potential for increase in runoff volume.

**05. Water Conservation**

Will the project result in:

1. Substantial reduction in the amount of water otherwise available for public water supplies?

		X
--	--	---

**Discussion**

Water conservation and reuse will increase the amount of water available.

**06. Water Quality**

Will the project result in:

1. Discharge to surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity?

X		
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**Discussion**

Drainage quality from irrigation areas would need to be evaluated.

Evaluation of impacts of discharge on receiving water quality needed (Russian River and Petaluma River). Key constituents include nitrate, ammonia, metals, and disinfection byproducts. Antidegradation analysis and evaluation of attainment of water quality objectives and other limitations are also needed.

2. Stormwater discharges that exceed established water quality standards, increased erosion and sedimentation, or endanger aquatic habitats?

	X	
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**Discussion**

Irrigation may lead to different agricultural practices, which could increase pollutants in stormwater runoff (e.g. more animal waste).

**Alternative Three**  
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Yes      Maybe      No

3. Exceedance or non-attainment of numeric or narrative water quality objectives, criteria or standards?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Impact on Inland Surface Water Plan objectives for human health and aquatic life needs to be evaluated based on the evaluation of impact of discharge rate on receiving water quality. Key constituents include nitrate, ammonia, metals, and disinfection by-products. Antidegradation analysis is also needed.

Irrigation could affect Total Dissolved Solids (TDS) and other constituents in groundwater, and evaluation of these impacts need to be studied.

Technical studies are needed on impact of discharge for flow augmentation to proceed. Effluent quality generally meets water quality objectives for aquatic life and human health, although formal evaluation needed.

Reclaimed water put in streams for flow augmentation could affect groundwater quality. This needs to be evaluated to determine if drinking water supplies would be adversely affected.

Leakage from reservoir that discharges to surface water would likely affect surface water quality and evaluation is needed.

4. Significant alteration of water quality in an Area of Special Biological Significance, National Marine Sanctuary, or National Wildlife Refuge?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Drainage quality from irrigation areas would need to be evaluated with respect to potential effects on the San Pablo Bay National Wildlife Refuge.

5. Degradation of water quality as defined in SWRCB Resolution No. 68-16 and 40 CFR Part 131.12?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Groundwater quality would be degraded (nitrate and possibly other constituents) if wastewater of the quality that is currently produced is used for recharge. Evaluation of the need for denitrification and other treatment steps is needed. Detailed evaluation of transport time and distance to drinking water wells needs to be performed for compliance with DHS regulations.

Drainage quality from irrigation areas would need to be evaluated. Irrigation could affect Total Dissolved Solids (TDS) and other constituents in groundwater, and impacts need to be studied. Evaluation of impact of discharge on receiving water quality needed. Key constituents include nitrate, ammonia, metals, and disinfection by-products. Antidegradation analysis is also needed.

This alternative would affect wetland components through regulation of effluent quality. Reclaimed water generally meets the expected effluent limits.

Leakage from reservoirs that discharge to surface water would likely affect surface water

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Yes      Maybe      No

quality and evaluation is needed. If drinking water is degraded by leakage from reservoir, then the amount of water would be effectively reduced, and groundwater quality impacts would need to be addressed.

Technical studies needed to support exception to Basin Plan discharge prohibition is needed for flow augmentation to proceed. Effluent quality generally meets water quality objectives for aquatic life and human health, although formal evaluation needed.

**07. Plant Life**

Will the project result in:

1. Introduction of new species of plants into an area, or results in a barrier to the normal replenishment of existing species?

☒      ☐      ☐

**Discussion**

Irrigation of previously unirrigated rangeland will cause a shift in vegetation composition in these areas. Flow augmentation can cause an introduction of new species into riparian corridors.

2. Reduction in acreage of any agricultural crop?

☐      ☒      ☐

**Discussion**

Construction of storage reservoirs may result in a loss of hay or grain crops that are grown for sale. Agricultural irrigation may shift the type of crops.

**08. Animal Life**

Will the project result in:

1. Changes to the diversity of species or numbers of any species of animals (bird, land animals including reptiles, fish and shell fish, benthic organisms or insects)?

☐      ☒      ☐

**Discussion**

The creation of new wetlands (Santa Rosa Plain) and reservoir construction (S27 or alternate reservoir sites) could remove existing habitats and thus reduce the diversity or numbers of wildlife species that occur in these habitats. However, the creation of wetlands and reservoir construction could also have the effect of increasing species diversity by creating new aquatic and wetlands habitats. Agricultural irrigation of previously non-irrigated rangeland in the East Rohnert Park and Sebastopol agricultural irrigation areas could adversely affect the numbers or diversity of vernal pool wildlife species or species that are ground-nesting or subterranean. The potential conversion of rangeland to cultivated cropland would remove habitat and potentially reduce wildlife species numbers or diversity. Flow augmentation of San Antonio and other South County creeks could reduce wildlife numbers or diversity of species by altering existing flows and degrading water quality.

2. Introduction of new species of animals into an area or results in a barrier to the migration, or movement of animals?

☐      ☒      ☐

**Discussion**

The creation of new aquatic habitats through the Santa Rosa Plain wetlands creation component and the S27 or alternate reservoir sites reservoir construction would create new habitats which could result in the introduction of non-native species of animals into the project area. In addition, a change in the existing water regime of San Antonio and other South County creeks could reduce habitat quality for native wildlife species and create an



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Yes      Maybe      No

altered habitat that is more suitable for utilization by non-native species of animals.  
Migrational corridors may be blocked by reservoir construction drainage, though corridors have not been identified.

3. The deterioration of existing fish or wildlife habitat?

☐      ☒      ☐

**Discussion**

The creation of new wetlands (Santa Rosa Plain) and reservoir construction (S27 or alternate reservoir sites) could result in a loss or reduction of habitat value and function for wildlife species that occur in existing habitats. However, the creation of new aquatic and wetlands habitats could also increase overall habitat diversity in the project area. Agricultural irrigation of previously non-irrigated rangeland or the potential conversion of rangeland to cultivated cropland in Sebastopol and South County agricultural irrigation areas could reduce habitat acreage and diversity for associated wildlife species and/or adversely affect habitat function and value for invertebrate species and for ground-nesting or subterranean species. Flow augmentation of San Antonio and other South County creeks could adversely affect the value and function of associated habitats by altering the existing flow regime and degrading water quality.

4. Blocks or fragments important wildlife migration or travel corridors?

☐      ☒      ☐

**Discussion**

Migrational corridors may be blocked by reservoir construction, though corridors have not been identified.

5. Substantial loss of habitat diversity or habitat value?

☐      ☒      ☐

**Discussion**

The creation of new wetlands and reservoir construction (S27 or alternate reservoir sites) could result in a loss or reduction of habitat value and function for wildlife species that occur in existing habitats. However, the creation of new aquatic and wetlands habitats could also increase overall habitat diversity in the project area. Agricultural irrigation of previously non-irrigated rangeland or the potential conversion of rangeland to cultivated cropland in the Sebastopol and South County agricultural irrigation areas could reduce habitat acreage and diversity for associated wildlife species and adversely affect habitat function. Flow augmentation of San Antonio and other South County creeks could adversely affect the value and function of associated habitats by altering the existing flow regime and degrading water quality.

6. Bioaccumulation of pollutants to adverse levels in the tissues of wildlife?

☐      ☒      ☐

**Discussion**

It is unknown if the alternative would result in the bioaccumulation of pollutants to adverse levels in the tissues of wildlife. Bioaccumulation studies conducted on biota supported by effluent receiving waters could provide insight into this potential impact.

**09. Fisheries**

Will the project result in:

**Alternative Three**  
**Community Separator/South County Reclamation**

Yes      Maybe      No

1. A significant reduction in fish or shellfish production, or a change in species diversity?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Discharge could affect warm water fish in the Laguna de Santa Rosa and anadromous fish that migrate through the Laguna de Santa Rosa past the discharge. The impact on anadromous fish is currently being studied. Surveys are needed to assure that stream is seasonal and does not provide high value habitat for aquatic life.

The discharge may help support resident warm water fish in the Laguna. Analysis of effluent toxicity data, hydrology data and the native fish abundance is necessary to evaluate this potential.

Study of impacts of discharge on aquatic life is needed. Toxicity studies and evaluations of aquatic life present in the flow augmentation stream would be conducted. Some flow augmentation streams are currently seasonal, and some are historically perennial. The appropriateness of changing such streams to perennial streams with flow augmentation should be considered.

Wetlands siting should avoid locations that affect existing high quality aquatic habitat.

2. Bioaccumulation of pollutants to adverse levels in the tissues of aquatic life?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

A bioaccumulation study is needed to verify that adverse bioaccumulation would not occur.

3. A significant risk to aquatic life in a National Marine Sanctuary or National Wildlife Refuge?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Discharge could affect salinity near shore waters of the San Pablo Bay National Wildlife Refuge.

**10. Rare, Threatened and Endangered Species**

Will the project result in:

1. The project substantially affects a rare or endangered plant or animal species or the habitat of the species as defined by Section 15380 of the State CEQA Guidelines.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

The alternative could adversely affect rare, threatened, and endangered species or their habitats by removing existing habitat in areas proposed for new wetlands creation (Santa Rosa Plain) and reservoir construction (S27 or alternate reservoir sites). Flow augmentation of San Antonio and other South County creeks could alter the value and function of associated habitats and adversely effect associated rare, threatened, and endangered species. In addition, the irrigation of previously non-irrigated rangeland or the potential conversion of rangeland to cultivated cropland in the Sebastopol and South County agricultural irrigation areas could adversely affect special status species by removing habitat, altering seasonal water conditions, and degrading water quality.

**11. Wetlands**

Will the project result in:

**Alternative Three**  
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Yes      Maybe      No

1. Actions which are not consistent with Executive Order 11990 - Protection of Wetlands or does not meet NEPA standards.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Agricultural irrigation of 3,500 acres in South County (east of Rohnert Park; North Petaluma Valley; east of Adobe Road; and east of Lakeville Highway) and 1,500 acres in the Sebastopol area could result in impacts to and conversion of vernal pool, seasonal and riparian wetlands to agricultural use. Irrigation layout could include buffers from existing wetlands to mitigate impacts.

Storage reservoir S27 would result in the loss of about 7.5 acres of wetlands, including riparian woodlands. If a site is required for storage or aquifer recharge east of Rohnert Park, existing seasonal or riparian wetlands may be impacted. Alternate reservoir sites would result in similar impacts.

Wetlands restoration and creation (about 500 acres) in the Santa Rosa Plain could require berms being placed in existing wetlands resulting in some fill and seasonal wetlands conversion to permanent marsh and riparian wetlands. However, a net benefit in wetlands acreage, function and value would be achieved. Loss of vernal pool wetlands should be avoided or mitigated. Construction, monitoring and contingency plans would be required.

Flow augmentation to Copeland and other creeks east of Rohnert Park could result in minor fill but result in a net benefit to riparian and emergent wetlands.

Pipeline and road construction could result in filling or alteration of riparian wetlands at stream crossings of tributaries to the Laguna de Santa Rosa and Petaluma River. Time, location, construction methods and restoration could minimize adverse impacts.

2. Actions which are not in compliance with the Clean Water Act Section 404(b)(1) guidelines or does not meet NEPA standards.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Agricultural irrigation of 3,500 acres in South County (east of Rohnert Park; North Petaluma Valley; east of Adobe Road; and east of Lakeville Highway) and 1,500 acres in the Sebastopol area could result in impacts to and conversion of vernal pool, seasonal and riparian wetlands to agricultural use. Irrigation layout could include buffers from existing wetlands to mitigate impacts.

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**Community Separator/South County Reclamation**

Yes      Maybe      No

stream crossings of tributaries to the Laguna de Santa Rosa and Petaluma River. Time, location, construction methods and restoration could minimize adverse impacts.

**12. Noise**

Will the project result in:

1. Noise levels which exceed the maximum allowable dB for the project or adjoining areas.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Long-term noise sources may be created by motors and generators associated with pumping treated wastewater to reuse destinations. Short-term noise sources would be created by construction activity. These noise sources may affect the maximum allowable dB for the project area. It is expected that any short-term noise impacts would be mitigated through implementation of conventional construction management practices, such as limiting construction to specific days of the week and limiting hours of operation for each work day. It is expected that any long-term noise impacts would be mitigated as part of the project design.

2. A substantial increase in noise levels in areas of sensitive receptors (i.e. schools, libraries, churches, etc.).

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Long-term noise sources may be created by motors and generators associated with pumping treated wastewater to reuse destinations. Short-term noise sources would be created by construction activity. These noise sources may affect the maximum allowable dB for the project area. It is expected that any short-term noise impacts would be mitigated through implementation of conventional construction management practices, such as limiting construction to specific days of the week and limiting hours of operation for each work day. It is expected that any long-term noise impacts would be mitigated as part of the project design.

3. Land uses which are incompatible with ambient noise level standards.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Due to the potential creation of long-term and short-term noise sources, there may be noise compatibility issues created with development of this alternative. Specific location and project level details will provide the necessary data and information to make this assessment. It is expected that any short-term noise impacts would be mitigated through implementation of conventional construction management practices, such as limiting construction to specific days of the week and limiting hours of operation for each work day. It is expected that any long-term noise impacts would be mitigated as part of the project design.

**13. Light and Glare**

Will the project result in:

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### Community Separator/South County Reclamation

Yes      Maybe      No

Refer to #14, Visual Resources

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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#### Discussion

#### 14. Visual Resources

Will the project result in:

1. Conflicts with the adopted General Plans or objectives of the appropriate jurisdictions.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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#### Discussion

Reservoir sites to be considered in this alternative have potential for significant impact on visual resources identified in adopted General Plans. The Vast Oak reservoir site (S26) is highly visible from designated scenic corridors along Roberts Road and Pressley Road and would likely be visually obtrusive from these corridors. The reservoir also would significantly alter the visual environment along Copeland Creek, a riparian corridor designated as a scenic resource in Sonoma County General Plan. Also, reservoir sites to be considered in this alternative may visually impact nearby rural residential uses. Additional study will be required to determine specific visual impacts of reservoir construction after project level of detail is developed. Also, pipeline construction may have short-term effects on scenic corridors or other resources.

2. New light and glare.

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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#### Discussion

No new external sources of light and glare would be created by this alternative.

3. Obstruction of any scenic vista or view open to the public, or in the creation of an aesthetically offensive site open to the public view.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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#### Discussion

Additional study will be required to determine specific impacts on vistas or views after project level of detail is developed for reservoir sites. The Vast Oak reservoir (S26) could obstruct scenic views from Roberts Road and Pressley Road, both of which are designated scenic corridors, as well as views along Copeland Creek, which is designated as a scenic resource. Also, pipeline construction may have short-term effects on scenic views or sites open to public view.

#### 15. Land Use

Will the project result in:

1. A land use which is inconsistent with the land use plan map of an adopted General Plan?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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#### Discussion

This alternative would be consistent with the planned land use patterns in the applicable General Plans.

## Alternative Three

### Community Separator/South County Reclamation

	Yes	Maybe	No
2. A land use which is inconsistent with the zoning?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Discussion</b>			
Data for existing zoning regulations and map designations will be obtained and this alternative needs to be evaluated against that data. However, the existing zoning should be consistent with the adopted General Plans, and if so, the alternative would be consistent with existing zoning.			
3. The conversion of ten acres or more of prime agricultural lands or farmland of statewide importance to non-agricultural uses?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Discussion</b>			
The reservoir sites and wetland creation sites to be considered in this alternative would result in the conversion of agricultural lands. Data on classification of agricultural lands will be obtained and the sites evaluated against that data.			
4. The cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 (Williamson Act) for any parcel of 100 acres or more?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Discussion</b>			
The reservoir sites and wetland creation sites to be considered in this alternative include agricultural lands and may involve land under a Williamson Act contract. Data on Williamson contracts will be obtained and the sites evaluated against that data.			
5. The development of an incompatible land use type in an area designated in the MRZ-2 classification according to the Mineral Land Classification of the California Division of Mines & Geology?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Discussion</b>			
This alternative would not affect the use of land in MRZ-2 zones.			
6. The introduction of inappropriate uses in a Community Separator as defined in the Sonoma County General Plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Discussion</b>			
This alternative would not introduce urban uses within a Community Separator.			
7. A long-term jobs/housing ratio or housing type ratio which is inconsistent with an adopted General Plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Discussion</b>			
This alternative is consistent with the applicable General Plans and would not create any additional employment or housing generating land uses.			
8. An increased potential for conflict as a result of incompatible land uses?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Discussion</b>			
The land use of this alternative would be consistent with the planned land use pattern in the vicinity and therefore would not create potential for land use conflicts.			

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Yes      Maybe      No

**16. Natural Resources**

Will the project result in:

Refer to #3, Ground Water, #7, Plant Life and #23, Energy

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

**17. Risk of Upset**

Will the project result in:

1. Exposure of people to hazardous chemicals, radiation, or disease agents.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

The public could be exposed to hazardous chemicals or disease agents contained in reclaimed water during its storage, reuse, or discharge. The proposed alternative would not generate or use radioactive materials. Components of this alternative include an increase in urban and agricultural irrigation over existing conditions, a 1% discharge to the Russian River, the creation of wetlands in the Santa Rosa Plain and a two storage reservoirs. These components may have local effects on surface and groundwater quality that could affect public health via domestic water from wells or by direct contact with water in the Russian River or the storage reservoir.

All reclaimed water will have received tertiary treatment prior to its discharge; however, small amounts of chemicals and biological agents could persist in water after treatment. Additional studies will be conducted to investigate the effects of water quality on human health. A screening evaluation of the hazard associated with identified chemical and biological agents in tertiary treated wastewater and a review of literature concerning the human health effects of synthetic estrogens and estrogen-like compounds will be performed. Data from these studies will be used to identify the impacts, if any, of reclaimed water discharge to human health.

The public and construction workers could be exposed to hazardous materials and/or wastes during construction of facilities (e.g., pipelines and reservoirs) associated with this project alternative. Hazardous materials (natural or anthropogenic) may be used or encountered during construction activities. Compliance with regulations regarding the safe handling and storage of hazardous materials will minimize exposure to these chemicals. Hazardous wastes could be encountered during construction of components at or nearby existing hazardous waste sites. The potential for these sites to impact this alternative will be discussed in a report that tabulates and maps known, federal and state listed hazardous waste sites.

2. Non-compliance with applicable laws regarding the handling of hazardous materials.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

The use and storage of hazardous materials (e.g., fuels, oils, solvents or paints) may be required during construction of this alternative. Specific materials and quantities are not known at this time; however it is anticipated that all hazardous materials will be handled in compliance with applicable laws.

## Alternative Three

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Yes      Maybe      No

**3. Interference with an emergency response or evacuation plan.**

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

During construction activities there could be short-term disruption of roadways. Construction should be coordinated with emergency response agencies to ensure that there are no adverse impacts.

**18. Population**

Will the project result in:

**Refer to #19, Socio-Economics**

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

**19. Socio-Economics**

Will the project result in:

**1. Accommodating development beyond the capacity planned for in the General Plans of the communities in the Service Area.**

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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**Discussion**

The project is sized to the population projections of the subregional entities General Plans. Growth inducing impacts will be limited.

**2. Imposition of an onerous financial burden on rate payers as a result of increased demand fees and/or service charges.**

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Additional analysis of the share of costs that will be allocated to service charges and the incomes of service area residents will be required to assess this impact.

**3. Constraints to the development of new housing, thereby limiting the affordable housing opportunities in the Study Area.**

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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**Discussion**

The project is sized to the population projections of the subregional entities General Plans. To the degree that the General Plans can meet affordable housing needs, the project will not have an impact.

**4. Causes physical division within the Study Area that adversely affects property values or development patterns.**

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Since the plan includes the use of wetlands as a community separator, there may be changes to the physical division of property that will affect property values. Additional analysis will be required to evaluate the extent of this impact.



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Yes      Maybe      No

5. Impacts to local or regional economies or cause specific industries to no longer be viable.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Additional information on the demand fees and service charges associated with the alternative will be required to assess the impact on specific industries. If the costs are significantly higher than neighboring areas, it is possible that water-intensive industries will relocate from the area and new industries with high water needs may be discouraged from locating in the service area. This is a low cost alternative, which implies that the potential for impacts on industry is relatively low.

**20. Housing**

Will the project result in:

Refer to #17, Land Use and #19, Socio-Economics

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

**21. Transportation/Circulation**

Will the project result in:

1. Levels of service to drop to unacceptable levels (below LOS "D") at existing intersection or arterial roadways?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

2. Traffic increases along arterials or at intersections currently operating at unacceptable levels?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

3. Alterations to the existing patterns of circulation which overly restrict the movement of people or goods?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

**Alternative Three**  
**Community Separator/South County Reclamation**

Yes      Maybe      No

4. Potential increase in traffic hazards to motor vehicles, bicyclists or pedestrians?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

5. Construction activities resulting in unsafe operating conditions for vehicular traffic?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

6. Construction activities resulting in substantial delays to vehicular traffic?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

7. Construction unduly restricting access to properties adjacent to the construction zone?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

**22. Public Services/Utilities**

Will the project result in:

1. A need for new or altered governmental services or utilities?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

This alternative would require additional treatment and storage facilities to ensure that sufficient supply would be available for proposed reuses. The delivery systems, storage facilities and reuse facilities which are necessary for implementation of this alternative would require ongoing maintenance.

**23. Energy**

Will the project result in:

**Alternative Three**  
**Community Separator/South County Reclamation**

Yes      Maybe      No

**1. Use of substantial amounts of fuel or energy?**

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

The total energy use for this alternative is not known. There is a possibility that substantial amounts of fuel or energy may be used. The following information is needed to determine if this alternative would use substantial amounts of fuel or energy:

- \* Estimates of energy use for this alternative broken down by construction and operation;
- \* List of construction equipment necessary for this alternative; and
- \* List of operational equipment for this alternative and amount of energy uses.

Further analysis will be undertaken based on more detailed project definition of this alternative.

**2. Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy?**

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Estimates for current energy use at the wastewater treatment plant are needed, in addition to the information required above.

**24. Utilities and Service Systems**

Will the project result in:

Refer to #22, Public Service/Utilities

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

**25. Human Health**

Will the project result in:

Refer to #17, Risk of Upset

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

**26. Aesthetics**

Will the project result in:

Refer to #14, Visual Resources

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

**27. Recreation**

Will the project result in:

**Alternative Three**  
**Community Separator/South County Reclamation**

Yes      Maybe      No

1. Impact upon the quality or quantity of existing recreational opportunities?

	X	
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**Discussion**

This alternative could result in the alteration of the quality or quantity of water in area streams, and thereby potentially affect recreational opportunities.

**28. Cultural and Historical Resources**

Will the project result in:

1. An important archeological resource destroyed or disturbed according to CEQA, NEPA, or the National Register of Historic Places?

X		
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**Discussion**

The project has potential to cause a physical alteration or destruction of a site through ground disturbing activities associated with installation of pipelines used to transport and discharge wastewater. Cultural resources situated along creek banks may also be subject to physical impacts if erosion is increased by flow augmentation; however, if flows do not exceed existing levels, no effect would be anticipated. Because the extent of the impact area for this component has not been specified, impacts to known cultural resources cannot be ascertained. However, given the occurrence of archaeological sites along creeks in the region, there is a possibility that sites occur within impact areas.

The potential presence of cultural resources within the project area needs to be established through a records search at the Northwest Center of the Historical Resources Information System and, if necessary, through a field study of unsurveyed areas which are determined to have a possibility of containing unrecorded resources.

Whenever possible, project components should be modified to avoid impacts to cultural resources. If this is not feasible, all identified cultural resources within the Area of Potential Effect will need to be evaluated for significance. This evaluation should involve a testing program with field investigations. Impacts to sites determined to be significant can be mitigated through a data recovery plan involving archaeological excavations.

2. The alteration of or the destruction of a prehistoric or historic archeological site?

X		
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**Discussion**

The project has potential to cause a physical alteration or destruction of a site through ground disturbing activities associated with installation of pipelines used to transport and discharge wastewater. Cultural resources situated along creek banks may also be subject to physical impacts if erosion is increased by flow augmentation; however, if flows do not exceed existing levels, no effect would be anticipated. Because the extent of the impact area for this component has not been specified, impacts to known cultural resources cannot be ascertained. However, given the abundance of archaeological sites in the region, there is a possibility that sites occur within impact areas.

The potential presence of cultural resources within the project area needs to be established through a records search at the Northwest Center of the Historical Resources Information System and, if necessary, through a field study of unsurveyed areas which are determined to

**Alternative Three**  
**Community Separator/South County Reclamation**

Yes      Maybe      No

have a possibility of containing unrecorded resources.

Whenever possible, project components should be modified to avoid impacts to cultural resources. If this is not feasible, all identified cultural resources within the Area of Potential Effect will need to be evaluated for significance. This evaluation should involve a testing program with field investigations. Impacts to sites determined to be significant can be mitigated through a data recovery plan involving archaeological excavations.

3. The potential to cause a physical change which would affect unique ethnic cultural values?

☐☒☐

**Discussion**

Potential impacts to unique ethnic cultural values religious or sacred uses within impact areas can not be assessed at this stage in the EIR process.

A study of traditional cultural properties would be required to determine if the proposal has potential to cause a physical change which would affect unique ethnic cultural values and to restrict religious or sacred uses within impact areas. The Sacred Lands File kept by the Native American Heritage Commission should be consulted as part of the study.

Mitigative measures in relation to Native American associates properties should be decided upon through an agreement reached through negotiations involving representatives from the appropriate Native American groups; negotiations should be mediated through the Native American Heritage Commission.

4. Restriction of existing religious or sacred uses within the potential impact area?

☐☒☐

**Discussion**

Potential impacts to unique ethnic cultural values religious or sacred uses within impact areas can not be assessed at this stage in the EIR process.

A study of traditional cultural properties would be required to determine if the proposal has potential to cause a physical change which would affect unique ethnic cultural values and to restrict religious or sacred uses within impact areas. The Sacred Lands File kept by the Native American Heritage Commission should be consulted as part of the study.

Mitigative measures in relation to Native American associates properties should be decided upon through an agreement reached through negotiations involving representatives from the appropriate Native American groups; negotiations should be mediated through the Native American Heritage Commission.

## Alternative Four West County Reclamation

Yes      Maybe      No

### 01. Earth

Will the project result in:

1. Unstable earth conditions or change in geologic substructures?

☐      ☒      ☐

#### Discussion

Dam/reservoir construction would require topographic and hydrologic alterations. Construction and operation of a reservoir with fluctuating water levels could result in slope instability. Mitigation for reservoir slope stability could include such measures as slope flattening or buttressing, installation of drainage systems, or reservoir operation controls.

2. Permanently disrupted, displaced, compacted or overcovered soils?

☒      ☐      ☐

#### Discussion

Construction of dams/reservoirs involves the permanent disruption, displacement and compaction of soils. This impact is inherent in dam/reservoir construction.

Discharge or use of reclaimed water for irrigation or augmentation of creek/river flow would not disrupt soils. Installation of pipelines to convey reclaimed water would locally disrupt, displace, compact or overcover soils. Pipeline installation would be conducted in accordance with all applicable building codes, such as those pertaining to trenching and backfilling, which should mitigate potential impacts associated with soil disruption.

3. Substantially and permanently altered topography or ground surface relief features?

☒      ☐      ☐

#### Discussion

Construction of dams/reservoirs involves extensive excavation and earth movement that would permanently alter topography and ground surface relief at the proposed reservoir site.

4. The destruction, modification or covering of a unique geologic or physical feature?

☐      ☒      ☐

#### Discussion

It is unknown whether unique geologic or physical features are present at proposed reservoir sites. A site-specific survey should be conducted prior to construction to identify potentially significant unique geologic features and to recommend mitigation measures. Pipeline installation should not result in the destruction of unique geologic features such as caves, fossil locations, or unique mineral resources. Pipeline alignments have not yet been determined, but could be designed to avoid such features which are usually limited in extent. If a unique geologic feature were identified that was too expensive to be avoided, pipeline installation could be accomplished using mitigation (minimizing excavation and documenting resources) to minimize impacts to unique geologic features.

## Alternative Four West County Reclamation

	Yes	Maybe	No
<b>5. Adverse wind or water-associated erosion?</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p><b>Discussion</b></p> <p>Dam/reservoir construction involves excavation of large volumes of earth material. Exposed soil may be subject to wind or water erosion if adequate erosion control measures are not implemented. Mitigation for wind or water-associated erosion during construction could include sprinkling or wetting for dust control and diversion, collection, and pumping of water to control runoff. In addition, water erosion could result if reclaimed water were improperly applied to agricultural lands.</p>			
<b>6. Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion, which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake?</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p><b>Discussion</b></p> <p>The modification of the channel of a river or stream is an impact inherent to dam/reservoir construction in a natural drainage.</p> <p>Excessive runoff from agricultural land could result in erosion and deposition of sediment in nearby water courses. Erosion and sedimentation could be minimized by implementation of proper irrigation methods and implementation of an erosion and sediment control plan.</p> <p>Discharge of reclaimed water to the river in quantities of 20 percent or less of the river flow could affect erosion and sedimentation in the vicinity of the outfall. However, substantial changes in sediment transport in the stream channel would not be expected.</p>			
<b>7. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards?</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p><b>Discussion</b></p> <p>Dam/reservoir construction and operation could result in seismically induced dam failure and subsequent inundation. Mitigation for potential dam failure is achieved through proper engineering design for the reservoir site conditions and hazard potential, and through proper reservoir operation. Grazing lands and structures exist downstream of the dam site. These land uses could be at risk in event of dam failure.</p>			
<b>8. Any project structure (not pipeline) being located within the Alquist-Priolo Special Studies Zone or within a known active fault zone?</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p><b>Discussion</b></p> <p>The proposed dams or reservoirs are not located in an Alquist-Priolo Special Studies Zone.</p>			
<b>9. Any project structure (not pipeline) being located on soils substrate consisting of material that is subject to liquefaction or other secondary seismic hazards in the event of ground shaking?</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p><b>Discussion</b></p> <p>Seismic ground shaking in the vicinity of a dam or ancillary facilities founded on materials subject to liquefaction or other secondary seismic hazards could impact the integrity of the reservoir facility by causing cracking, slumping, or failure. Mitigation for unsuitable foundation materials could include excavation and replacement, treatment in-place, such as</p>			

## Alternative Four West County Reclamation

Yes      Maybe      No

densification of loose materials, or modified design to safely accommodate undesirable foundation materials. Relatively fine-grained surficial materials less subject to liquefaction exist in the reservoir area.

10. Evidence of static hazards which affect structures or public safety, such as landsliding or excessively steep slopes that could result in slope failure?

☐      ☒      ☐

### Discussion

Fluctuating reservoir levels could impact reservoir slope stability. In the event of a large landslide into the reservoir, dam overtopping could occur, and dam safety could be compromised. The Sonoma County General Plan indicates areas with high or moderate potential for landslides within the reservoir area. Some local shallow slides were evident during field reconnaissance.

Mitigation for reservoir slope instability could include such measures as slope flattening or buttressing, installation of drainage systems, or reservoir operation controls.

11. Any project structure located on soils that are likely to collapse?

☐      ☒      ☐

### Discussion

Construction of a dam or ancillary facilities on soils subject to collapse could impact the integrity of the structure, and dam safety could be affected. Mitigation for unsuitable foundation materials could include excavation and replacement, treatment in-place, such as prewetting of collapsible soils, or modified design to safely accommodate undesirable foundation materials. Additional study would be required to assess the collapse potential of foundation materials and would include site specific subsurface investigation, sampling, and testing.

12. Any project structure located on soils that are characterized by shrink/swell potential that might result in deformation of foundations or damage to structures?

☐      ☒      ☐

### Discussion

Construction of structures on expansive soils with shrink/swell potential could impact the integrity of the structure. Mitigation for unsuitable foundation materials could include excavation and replacement, treatment in-place, such as prewetting of expansive soils before foundation construction, or modified design to safely accommodate undesirable foundation materials. Additional study required for assessment of shrink/swell potential of foundation materials would include site specific subsurface investigation, sampling, and testing.

13. Unstable soils or geologic conditions?

☐      ☒      ☐

### Discussion

Dam/reservoir construction could result in unstable soil or geologic conditions. However, commonly used engineering and construction methods could be implemented to prevent unstable soil conditions during dam/reservoir construction and operation.

## 02. Air Quality

Will the project result in:



**Alternative Four  
West County Reclamation**

Yes      Maybe      No

1. A violation of ambient air quality standards?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Dust generated from construction, if uncontrolled, could temporarily violate air quality standards. Expansion of Laguna Wastewater Treatment Plant (WTP) headworks, and resulting increases in emissions due to greater capacity, could produce long-term, controllable impacts on air quality.

2. The contribution of any criteria pollutants in a non-attainment area?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

PM10 from construction dust, and long-term emissions of volatile organic compounds (VOCs) and NOx from headworks expansion may occur.

3. Exposure of sensitive receptors to substantial pollutant concentrations?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Depending on proximity to construction areas (reservoir construction and trucking for pipelines). Receptors near WTP may be impacted by increased WTP emissions when headworks is expanded.

4. A significant health risk above the typically accepted cancer risk of 1 in 1 million?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Expansion of the headworks of the Laguna Wastewater Treatment Plant (WTP) could have significant air quality impacts. Because the capacity of the WTP would be considerably expanded as a result of this modification to the plant, the plants emissions could be significantly increased. The increases in volatile organic compounds (VOCs), hazardous air pollutants (HAPs), and odor-causing pollutants may have potentially significant impacts which may be mitigated to a level of insignificance.

The resulting emissions have the potential to impact air quality standards, to trigger requirements of risk assessment, and to result in odor complaints. Once the level of plant emissions at the increased capacity are known, efforts to abate these emissions using readily available, but possibly expensive, technology could be evaluated.

Best available control technology for emissions sources and possibly maximum available control technology may be required for control equipment.

5. The creation of objectionable odors?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Expansion of the headworks of the Laguna Wastewater Treatment Plant (WTP) could have significant air quality impacts. Because the capacity of the WTP would be considerably expanded as a result of this modification to the plant, the plants emissions could be significantly increased. The increases in odor-causing pollutants may have potentially significant impacts which may be mitigated to a level of insignificance.

## Alternative Four West County Reclamation

Yes      Maybe      No

The resulting emissions have the potential to result in odor complaints. Once the level of plant emissions at the increased capacity are known, efforts to abate these odors using readily available, but possibly expensive, technology could be evaluated.

6. Non-compliance with the Bay Area Air Quality Management District's Rules and Regulations?

☐      ☒      ☐

### Discussion

Permits to construct the planned modification would be needed from the Bay Area Air Quality Management District (BAAQMD). It is possible that the plant, either now or as a result of the planned expansion, would require a federal operating permit under provisions of the Title V of the 1990 Federal Clean Air Act Amendments. Best available control technology for emissions sources and possibly maximum available control technology may be required for control equipment.

Analysis of PM10 and construction equipment exhaust emissions are needed to determine compliance.

7. The alteration of air movement, moisture, or temperature, or any change in climate, either locally or regionally?

☐      ☒      ☐

### Discussion

Reservoirs, ponds and large wetland areas can have a minor, localized influence on humidity. This will have to be evaluated further when specific information regarding sizes of ponds and reservoirs is known.

## 03. Groundwater

Will the project result in:

1. Alteration of the direction or rate of flow of groundwaters?

☐      ☒      ☐

### Discussion

Groundwater recharge from river and stream banks where discharge occurs and from irrigation of agricultural fields could locally affect the direction or rate of groundwater flow but should not have regional groundwater impacts.

Water seeping from the reservoir could percolate into the groundwater. The volume of water and the effects on flow rates and direction have not been determined. It is likely that local groundwater mounding would occur. However, since proposed reservoir sites are located away from large public drinking water well fields, it is unlikely that local groundwater mounding would be associated with significant regional adverse groundwater impacts.

2. Change in the quantity of groundwaters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?

☐      ☒      ☐

### Discussion

Dam construction could involve excavation into aquifer material and could require dewatering during construction. Impacts associated with excavation below the groundwater table would be temporary and would not result in permanent changes in the quantity of groundwater.

## Alternative Four West County Reclamation

	Yes	Maybe	No
<b>3. Substantial degradation of groundwater resources or interference with groundwater recharge?</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Discussion</b> Storage and reuse of reclaimed water could affect groundwater quality and could locally affect groundwater recharge. Further investigation of the potential water quality impacts of treated wastewater into the groundwater would be required. A hydrogeologic study would be needed to determine existing site specific groundwater quality, flow direction, water levels, and the potential affects of reservoir seepage on the groundwater regime.			
<b>04. Surface Water</b> Will the project result in:			
<b>1. Changes in currents, or the course of direction of water movements, in either marine or fresh waters?</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Discussion</b> The alternative does not discharge reclaimed water in a location or quantity that will affect freshwater or marine currents.			
<b>2. Changes in absorption rates, drainage patterns, or the rate and amount of surface runoff?</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Discussion</b> The alternative is not likely to change existing surface water runoff rates.			
<b>3. Alterations to the course or flow of flood waters?</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Discussion</b> Storage reservoirs required to support irrigation may reduce peak flood flows resulting from watershed runoff. Analysis of the watershed runoff, reservoir capacity and operation plans will provide information to assess this potential impact.			
<b>4. Change in the amount of surface water in any water body?</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Discussion</b> The additional volume amount is insignificant compared to the existing volume of water in the surface water body.			
<b>5. Exposure of people or property to water related hazards such as flooding or tidal waves?</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Discussion</b> Insignificant potential for increase in flood hazards.			

## Alternative Four West County Reclamation

	Yes	Maybe	No
6. Increased runoff volumes that exceed the capacity of storm drain facilities, cause downstream or off-site drainage problems, or significantly alter inflows to an adjacent wetland to the extent that there is a net degradation of functions and values of aquatic habitat?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion**

Insignificant potential for increase in runoff volumes.

### 05. Water Conservation

Will the project result in:

1. Substantial reduction in the amount of water otherwise available for public water supplies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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**Discussion**

Water conservation and reuse will increase the amount of water available.

### 06. Water Quality

Will the project result in:

1. Discharge to surface waters, or any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Evaluation of impact of discharge on receiving water quality is needed. Key constituents include nitrate, ammonia, metals, disinfection byproducts. Antidegradation analysis also is needed.

Any leakage from reservoir that discharges to surface water could affect surface water quality and evaluation is needed.

Drainage quality from irrigation areas would need to be evaluated.

2. Stormwater discharges that exceed established water quality standards, increase erosion and sedimentation, or endanger aquatic habitats?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Manure is currently spread on fields in fall, and is transported into streams with rainfall runoff. Irrigation in west county would provide a growing crop to use manure during the summer and would alleviate the current adverse water quality impact of manure management.

3. Exceedance or non-attainment of numeric or narrative water quality objectives, criteria or standards?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Irrigation could affect Total Dissolved Solids (TDS) and other constituents in groundwater and impacts need to be studied.

Potential exceedance of water quality objectives for human health and aquatic life needs to be evaluated based on the evaluation of impact of discharge rate on receiving water quality. Key constituents include nitrate, ammonia, metals, disinfection byproducts. Antidegradation analysis also needed.

**Alternative Four  
West County Reclamation**

Yes      Maybe      No

Any leakage from reservoir that discharges to surface water could affect surface water quality and evaluation is needed.

4. Significant alteration of water quality in an Area of Special Biological Significance, National Marine Sanctuary, or National Wildlife Refuge?

☐      ☒      ☐

**Discussion**

Storage would have no direct effect, although indirect effects are possible.  
Irrigation drainage could flow to the Gulf of Farallones Marine Sanctuary.

5. Degradation of water quality as defined in SWRCB Resolution No. 68-16 and 40 CFR Part 131.12?

☐      ☒      ☐

**Discussion**

Irrigation could affect Total Dissolved Solids (TDS) and other constituents in groundwater, and impacts need to be studied.

Evaluation of impact of discharge on receiving water quality is needed. Key constituents include nitrate, ammonia, metals, disinfection byproducts. Antidegradation analysis is also needed.

Leakage from reservoirs that discharge to surface water would likely affect surface water quality and evaluation is needed. If drinking water is degraded by leakage from reservoirs, then the amount of water would be effectively reduced. Groundwater quality impacts would need to be assessed.

**07. Plant Life**

Will the project result in:

1. Introduction of new species of plants into an area, or results in a barrier to the normal replenishment of existing species?

☒      ☐      ☐

**Discussion**

Irrigation of previously unirrigated rangeland will cause a shift in vegetation composition in these areas. If current rangeland or other lands are converted to cropland new species would be introduced into an area. The presence of new reservoir sites will result in the introduction of new species into an area.

2. Reduction in acreage of any agricultural crop?

☐      ☒      ☐

**Discussion**

Construction of storage reservoirs may result in a loss of hay or grain crops that are grown for sale.

**08. Animal Life**

Will the project result in:

## Alternative Four West County Reclamation

Yes      Maybe      No

1. Changes to the diversity of species or numbers of any species of animals (bird, land animals including reptiles, fish and shell fish, benthic organisms or insects)?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

Irrigation of open rangeland not currently subject to irrigation could result in the flooding of subterranean nests, dens and burrows and thus reduce the diversity or numbers of wildlife species that utilize this habitat type. The potential conversion of rangeland to cultivated cropland could reduce species numbers and diversity by removing wildlife habitat. The creation of a new storage reservoir (S20 or alternate reservoir sites) and wetlands could alter the existing condition of habitats that are subject to inundation or other modifications and displace wildlife populations that occur in these habitats. However, the creation of wetlands could also increase species diversity by creating new aquatic and wetland habitats.

2. Introduction of new species of animals into an area or results in a barrier to the migration, or movement of animals?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

The irrigation of new or existing agricultural lands and a continued 1% discharge to the Russian River would not be expected to result in the fragmentation or removal of important wildlife travel corridors or the introduction of new species of animals into the project area. The creation of a new storage reservoir could create new habitats which could result in the introduction of non-native species of animals into the project area. In addition, migrational or travel corridors may be blocked by reservoir construction at the S20 or alternate reservoir sites, though corridors have not been identified.

3. The deterioration of existing fish or wildlife habitat?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

The irrigation of existing croplands and irrigated pasture is not expected to reduce habitat diversity or value. Irrigation of open rangeland not currently subject to irrigation could adversely affect habitat value for ground-nesting or subterranean wildlife species that utilize this habitat type. In addition, the potential conversion of rangeland to cultivated cropland would remove existing habitat for associated wildlife species. The creation of a new storage reservoir (S20 or alternate reservoir sites) could alter the value and function of habitats subject to inundation or other modifications. However, the creation of new aquatic and wetland habitats could also increase overall habitat diversity in the project area.

4. Blocks or fragments important wildlife migration or travel corridors?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

The irrigation of new or existing agricultural lands and a continued 1% discharge to the Russian River would not be expected to result in the fragmentation or removal of important wildlife migration or travel corridors. Wildlife migration or travel corridors may be blocked by reservoir construction at the S20 or alternate reservoir sites, though corridors have not been identified.

## Alternative Four West County Reclamation

Yes      Maybe      No

**5. Substantial loss of habitat diversity or habitat value?**

☐      ☒      ☐

**Discussion**

The irrigation of existing croplands and irrigated pasture is not expected to reduce habitat diversity or value. Irrigation of open rangeland not currently subject to irrigation could adversely affect habitat value for ground-nesting or subterranean wildlife species that utilize this habitat type. In addition, the potential conversion of rangeland to cultivated cropland would remove existing habitat for associated wildlife species. The creation of a new storage reservoir (S20 or alternate reservoir sites) could alter the value and function of habitats subject to inundation or other modifications. However, the creation of new aquatic and wetland habitats could also increase overall habitat diversity in the project area.

**6. Bioaccumulation of pollutants to adverse levels in the tissues of wildlife?**

☐      ☒      ☐

**Discussion**

It is unknown if the project would result in the bioaccumulation of pollutants to adverse levels in the tissues of wildlife. Bioaccumulation studies conducted on biota supported by effluent receiving waters could provide insight into this potential impact.

**09. Fisheries**

Will the project result in:

**1. A significant reduction in fish or shellfish production, or a change in species diversity?**

☐      ☒      ☐

**Discussion**

Discharge could affect warm water fish in the Laguna de Santa Rosa and anadromous fish that migrate through the Laguna past the discharge. The impact on anadromous fish is currently being studied. The discharge may help support resident warm water fish in the Laguna. Analysis of effluent toxicity data, hydrology data and the native fish abundance is necessary to evaluate this potential.

**2. Bioaccumulation of pollutants to adverse levels in the tissues of aquatic life?**

☐      ☒      ☐

**Discussion**

A bioaccumulation study is needed to verify that adverse bioaccumulation would not occur in the Laguna wetlands or the Russian River.

**3. A significant risk to aquatic life in a National Marine Sanctuary or National Wildlife Refuge?**

☐      ☒      ☐

**Discussion**

The storage reservoir would not pose a direct threat to the Gulf of the Farallones Marine Sanctuary, but there is a risk posed by a catastrophic dam failure. Seepage from the reservoir that is not intercepted and drainage from West County irrigation each potentially could affect the Sanctuary.

**10. Rare, Threatened and Endangered Species**

Will the project result in:

## Alternative Four West County Reclamation

Yes      Maybe      No

1. The project substantially affects a rare or endangered plant or animal species or the habitat of the species as defined by Section 15380 of the State CEQA Guidelines.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

The irrigation of existing croplands is not expected to adversely affect a rare, threatened, and endangered species or habitat for these species. However, the irrigation of previously non-irrigated rangeland or the potential conversion of rangeland to cultivated cropland in the West County and Chileno Valley agricultural irrigation areas could adversely affect special status species by removing habitat, altering seasonal water conditions, and degrading water quality. In addition, agricultural runoff could adversely affect rare, threatened and endangered species that occur in adjacent habitats. Reservoir construction could result in the loss or alteration of habitats subject to inundation or other habitat modifications and could adversely affect special status species that occur in these habitats, although none have been identified for the Two Rock reservoir (S20).

### 11. Wetlands

Will the project result in:

1. Actions which are not consistent with Executive Order 11990 - Protection of Wetlands or does not meet NEPA standards.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

Agricultural irrigation of 5,965 acres in the Americano and Stemple Creek drainages and in Chileno Valley could result in impacts to and further conversion of freshwater seasonal and riparian wetlands to agricultural use. (The Chileno Valley has numerous wetlands and drainages.) Irrigation layout should be designed with buffers from existing wetlands.

Storage reservoir S20 - Two Rock would result in the loss of about 13.7 acres of wetlands including woodland, seasonal freshwater springs, seeps and swales and stock pond impoundments. Alternate reservoir sites would result in similar impacts with a multiple reservoir option resulting in more cumulative impact.

Pipeline and road construction could result in filling or alteration of riparian wetlands at stream crossings in the Laguna de Santa Rosa, Stemple and Americano drainages.

Irrigation runoff and drainage to Americano and Stemple Creeks, (especially in areas with shallow soil depth to bedrock or hardpan), could potentially alter flow, water level, and water quality in wetlands along lower Americano and Stemple Creeks and Esteros Americano and de San Antonio. This could potentially result in salinity changes and conversion of salt marsh to brackish marsh. Irrigation rates, timing and drainage control facilities may be required to minimize adverse impacts.

Wetland restoration/creation along Stemple and Americano Creeks is a potential component which could control irrigation runoff and discharge to the esteros. Berms placed in existing wetlands would result in some fill and seasonal wetlands may be converted to permanent marsh and riparian wetlands. However, a net benefit in wetlands acreage, function and value would result. Construction, monitoring and contingency plans would be required.



## Alternative Four West County Reclamation

Yes      Maybe      No

2. Actions which are not in compliance with the Clean Water Act Section 404(b)(1) guidelines or does not meet NEPA standards.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

Agricultural irrigation of 5,965 acres in the Americano and Stemple Creek drainages and in Chileno Valley could result in impacts to and further conversion of freshwater seasonal and riparian wetlands to agricultural use. (The Chileno Valley has numerous wetlands and drainages.) Irrigation layout should be designed with buffers from existing wetlands.

Storage reservoir S20 - Two Rock would result in the loss of about 13.7 acres of wetlands including woodland, seasonal freshwater springs, seeps and swales and stock pond impoundments. Alternate reservoir sites would result in similar impacts with a multiple reservoir option resulting in more cumulative impact.

Pipeline and road construction could result in filling or alteration of riparian wetlands at stream crossings in the Laguna de Santa Rosa, Stemple and Americano drainages.

Irrigation runoff and drainage to Americano and Stemple Creeks, (especially in areas with shallow soil depth to bedrock or hardpan), could potentially alter flow, water level, and water quality in wetlands along lower Americano and Stemple Creeks and Esteros Americano and de San Antonio. This could potentially result in salinity changes and conversion of salt marsh to brackish marsh. Irrigation rates, timing and drainage control facilities may be required to minimize adverse impacts.

Wetland restoration/creation along Stemple and Americano Creeks is a potential component which could control irrigation runoff and discharge to the esteros. Berms placed in existing wetlands would result in some fill and seasonal wetlands may be converted to permanent marsh and riparian wetlands. However, a net benefit in wetlands acreage, function and value would result. Construction, monitoring and contingency plans would be required.

## 12. Noise

Will the project result in:

1. Noise levels which exceed the maximum allowable dB for the project or adjoining areas.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

Long-term noise sources may be created by motors and generators associated with pumping treated wastewater to reuse destinations. Short-term noise sources would be created by construction activity. These noise sources may affect the maximum allowable dB for the project area. It is expected that any short term noise impacts would be mitigated through implementation of conventional construction management practices, such as limiting construction to specific days of the week and limiting hours of operation for each work day. It is expected that any long-term noise impacts would be mitigated as part of the project design.

2. A substantial increase in noise levels in areas of sensitive receptors (i.e. schools, libraries, churches, etc.).

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

Long-term noise sources may be created by motors and generators associated with pumping treated wastewater to reuse destinations. Short-term noise sources would be created by construction activity. These noise sources may affect the maximum allowable dB for the project area. It is expected that any short term noise impacts would be mitigated through

## Alternative Four West County Reclamation

Yes      Maybe      No

implementation of conventional construction management practices, such as limiting construction to specific days of the week and limiting hours of operation for each work day. It is expected that any long-term noise impacts would be mitigated as part of the project design.

3. Land uses which are incompatible with ambient noise level standards.

☐      ☒      ☐

### Discussion

Due to the potential creation of long-term and short-term noise sources, there may be noise compatibility issues created with development of this alternative. Specific location and project level details will provide the necessary data and information to make this assessment. It is expected that any short-term noise impacts would be mitigated through implementation of conventional construction management practices, such as limiting construction to specific days of the week and limiting hours of operation for each work day. It is expected that any long-term noise impacts would be mitigated as part of the project design.

### 13. Light and Glare

Will the project result in:  
Refer to #14, Visual Resources

☐      ☐      ☐

### Discussion

### 14. Visual Resources

Will the project result in:

1. Conflicts with the adopted General Plans or objectives of the appropriate jurisdictions?

☐      ☒      ☐

### Discussion

Reservoir sites to be considered in this alternative have potential for significant impact on visual resources identified in adopted General Plans. Reservoir sites S12, S21, S23, S40, and S53 are all visible from scenic corridors designated in the Sonoma County General Plan. Reservoirs in these locations would likely be highly visible and visually obtrusive. Also, pipeline construction may have short-term effects on scenic corridors or other scenic resources.

2. New light and glare?

☐      ☐      ☒

### Discussion

No new external sources of light and glare would be created by this alternative.

## Alternative Four West County Reclamation

	Yes	Maybe	No
3. Obstruction of any scenic vista, or view open to the public, or in the creation of an aesthetically offensive site open to public view?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p><b>Discussion</b></p> <p>Additional study will be required to determine impacts on vistas or views after project level of detail is developed for reservoir sites. Reservoirs to be considered in this alternative may affect scenic views along three designated scenic corridors. Also, pipeline construction may have short effects on scenic view or sites open to public.</p>			
<b>15. Land Use</b>			
Will the project result in:			
1. A land use which is inconsistent with the land use plan map of an adopted General Plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p><b>Discussion</b></p> <p>This alternative would be consistent with the planned land use patterns in the applicable General Plans.</p>			
2. A land use which is inconsistent with the zoning?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p><b>Discussion</b></p> <p>Data for existing zoning regulations and map designations will be obtained and this alternative needs to be evaluated against that data. However, the existing zoning should be consistent with the adopted General Plans, and if so, the alternative would be consistent with existing zoning.</p>			
3. The conversion of ten acres or more of prime agricultural lands or farmland of statewide importance to non-agricultural uses?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p><b>Discussion</b></p> <p>The reservoir sites to be considered in this alternative would result in the conversion of agricultural lands. Data on classification of agricultural lands will be obtained and the sites evaluated against that data.</p>			
4. The cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 (Williamson Act) for any parcel of 100 acres or more?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p><b>Discussion</b></p> <p>The reservoir sites to be considered in this alternative include agricultural lands and may involve land under a Williamson Act contract. Data on Williamson contract will be obtained and the sites evaluated against that data.</p>			
5. The development of an incompatible land use type in an area designated in the MRZ-2 classification according to the Mineral Land Classification of the California Division of Mines & Geology?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p><b>Discussion</b></p> <p>This alternative would not affect the use of land in MRZ-2 zones.</p>			

## Alternative Four West County Reclamation

Yes      Maybe      No

6. The introduction of inappropriate uses in a Community Separator as defined in the Sonoma County General Plan?

☐      ☐      ☒

**Discussion**

This alternative would not introduce urban uses within a Community Separator.

7. A long-term jobs/housing ratio or housing type ratio which is inconsistent with an adopted General Plan?

☐      ☐      ☒

**Discussion**

The alternative is consistent with the applicable General Plans and would not create any additional employment or housing generating land uses.

8. An increased potential for conflict as a result of incompatible land uses?

☐      ☐      ☒

**Discussion**

The land use of this alternative would be consistent with the planned land use pattern in the vicinity and therefore would not create potential for land use conflicts.

### 16. Natural Resources

- Will the project result in:  
Refer to #3, Ground Water, #7, Plant Life, and #23, Energy

☐      ☐      ☐

**Discussion**

### 17. Risk of Upset

- Will the project result in:  
1. Exposure of people to hazardous chemicals, radiation, or disease agents.

☐      ☒      ☐

**Discussion**

The public could be exposed to hazardous chemicals or disease agents contained in reclaimed water during its storage, reuse, or discharge. The proposed alternative would not generate or use radioactive materials. Components of this alternative include an increase in agricultural irrigation over existing conditions, a 1% discharge to the Russian River and a West County storage reservoir. These components may have local effects on surface and groundwater quality that could affect public health via domestic water from wells or by direct contact with water in the Russian River or the storage reservoir.

All reclaimed water will have received tertiary treatment prior to its discharge; however, small amounts of chemicals and biological agents could persist in water after treatment. Additional studies will be conducted to investigate the effects of water quality on human health. A screening evaluation of the hazard associated with identified chemical and biological agents in tertiary treated wastewater and a review of literature concerning the human health effects of synthetic estrogens and estrogen-like compounds will be performed. Data from these studies will be used to identify the impacts, if any, of reclaimed water discharge to human health.

## Alternative Four West County Reclamation

Yes      Maybe      No

The public and construction workers could be exposed to hazardous materials and/or wastes during construction of facilities (e.g., pipelines and reservoirs) associated with this project alternative. Hazardous materials (natural or anthropogenic) may be used or encountered during construction activities. Compliance with regulations regarding the safe handling and storage of hazardous materials will minimize exposure to these chemicals. Hazardous wastes could be encountered during construction of components at or nearby existing hazardous waste sites. The potential for these sites to impact this alternative will be discussed in a report that tabulates and maps known, federal and state listed hazardous waste sites.

2. Non-compliance with applicable laws regarding the handling of hazardous materials.

☐      ☐      ☒

### Discussion

The use and storage of hazardous materials (e.g., fuels, oils, solvents or paints) may be required during construction of this alternative. Specific materials and quantities are not known at this time; however, it is anticipated that all hazardous materials will be handled in compliance with applicable laws.

3. The project results in interference with an emergency response or evacuation plan.

☐      ☐      ☒

### Discussion

The alternative would not interfere with emergency response or evacuation plans. During construction activities there could be short-term disruption of roadways. Construction should be coordinated with emergency response agencies to ensure that there are no adverse impacts.

## 18. Population

Will the project result in:  
Refer to #19, Socio-Economics

☐      ☐      ☐

### Discussion

## 19. Socio-Economics

Will the project result in:

1. Accommodating development beyond the capacity planned for in the General Plans of the communities in the Service Area.

☐      ☐      ☒

### Discussion

The project is sized to the population projections of the subregional entities General Plans. Growth inducing impacts will be limited.

2. Imposition of an onerous financial burden on rate payers as a result of increased demand fees and/or service charges.

☐      ☒      ☐

### Discussion

Additional analysis of the share of costs that will be allocated to service charges and the incomes of service area residents will be required to assess this impact. This is a low cost

## Alternative Four West County Reclamation

Yes      Maybe      No

alternative, indicating that associated service charges may be relatively low.

- 3. Constraints to the development of new housing, thereby limiting the affordable housing opportunities in the Study Area.**

☐      ☐      ☒

**Discussion**

The project is sized to the population projections of the subregional entities General Plans. To the degree that the General Plans can meet affordable housing needs, the project will not have an impact.

- 4. Causes physical division within the Study Area that adversely affects property values or development patterns.**

☐      ☐      ☒

**Discussion**

Since the transmission pipes are planned to be underground, there will not be a long-term impact. The isolated location of the dam sites also implies that there will not be an impact.

- 5. Impacts to local or regional economies or cause specific industries to no longer be viable.**

☐      ☒      ☐

**Discussion**

Additional information on the demand fees and service charges associated with the alternative will be required to assess the impact on specific industries. If the costs are significantly higher than neighboring areas, it is possible that water-intensive industries will relocate from the area and new industries with high water needs may be discouraged from locating in the service area. This is a low cost alternative, which implies that the potential for impacts on industry is relatively low.

**20. Housing**

Will the project result in:  
Refer to #17, Land Use and #19, Socio-Economics

☐      ☐      ☐

**Discussion**

**21. Transportation/Circulation**

Will the project result in:

- 1. Levels of service to drop to unacceptable levels (below LOS "D") at existing intersection or arterial roadways?**

☐      ☒      ☐

**Discussion**

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

## Alternative Four West County Reclamation

2. Traffic increases along arterials or at intersections currently operating at unacceptable levels?

Yes	Maybe	No
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Discussion

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

3. Alterations to the existing patterns of circulation which overly restrict the movement of people or goods?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

4. Potential increase in traffic hazards to motor vehicles, bicyclists or pedestrians?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

5. Construction activities resulting in unsafe operating conditions for vehicular traffic?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

6. Construction activities resulting in substantial delays to vehicular traffic?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

## Alternative Four West County Reclamation

Yes      Maybe      No

7. Construction unduly restricting access to properties adjacent to the construction zone?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

## 22. Public Services/Utilities

Will the project result in:

1. A need for new or altered governmental services or utilities?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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### Discussion

This alternative would require additional treatment and storage facilities to ensure that sufficient supply would be available for proposed reuses. The delivery systems, storage facilities and reuse facilities which are necessary for implementation of this alternative would require ongoing maintenance.

## 23. Energy

Will the project result in:

1. Use of substantial amounts of fuel or energy?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

The total energy use for this alternative is not known. The following information is needed to determine if this alternative would use substantial amounts of fuel or energy:

- \* Estimates of energy use for this alternative broken down by construction and operation;
- \* List of construction equipment necessary for this alternative; and
- \* List of operational equipment for this alternative and amount of energy uses.

Further analysis will be undertaken based upon more detailed project definition of this alternative.

2. Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

Estimates for current energy use at the wastewater treatment plant are needed, in addition to the information required above.

## 24. Utilities and Service Systems

Will the project result in:

Refer to #22, Public Services/Utilities

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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### Discussion



**Alternative Four  
West County Reclamation**

Yes      Maybe      No

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**25. Human Health**

Will the project result in:  
Refer to #17, Risk of Upset

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

**Discussion**

**26. Aesthetics**

Will the project result in:  
Refer to #14, Visual Resources

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

**Discussion**

**27. Recreation**

Will the project result in:  
1. Impact upon the quality or quantity of existing recreational opportunities?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

This alternative could result in the alteration of the quality or quantity of water in area streams, and thereby potentially affect recreational opportunities.

**28. Cultural and Historical Resources**

Will the project result in:  
1. An important archeological resource destroyed or disturbed that is included under CEQA, NEPA, or the National Register of Historic Places?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

The project has potential to cause a physical alteration or destruction of a site through ground disturbing activities associated with installation of pipelines used to transport and discharge waste water. Cultural resources situated along creek banks may also be subject to physical impacts if erosion is increased by flow augmentation; however, if flows do not exceed existing levels, no effect would be anticipated. Because the extent of the impact area for this component has not been specified, impacts to known cultural resources cannot be ascertained. However, given the occurrence of archaeological sites along creeks in the region, there is a possibility that sites occur within impact areas.

The potential presence of cultural resources within the project area needs to be established through a records search at the Northwest Center of the Historical Resources Information System and, if necessary, through a field study of unsurveyed areas which are determined to have a possibility of containing unrecorded resources.

Whenever possible, project components should be modified to avoid impacts to cultural resources. If this is not feasible, all identified cultural resources within the Area of Potential Effect will need to be evaluated for significance. This evaluation should involve a testing program with field investigations. Impacts to sites determined to be significant can be

## Alternative Four West County Reclamation

Yes      Maybe      No

mitigated through a data recovery plan involving archaeological excavations.

2. The alteration of or the destruction of a prehistoric or historic archeological site?

☒      ☐      ☐

### Discussion

The project has potential to cause a physical alteration or destruction of a site through ground disturbing activities associated with installation of pipelines used to transport and discharge wastewater. Cultural resources situated along creek banks may also be subject to physical impacts if erosion is increased by flow augmentation; however, if flows do not exceed existing levels, no effect would be anticipated. Because the extent of the impact area for this component has not been specified, impacts to known cultural resources cannot be ascertained. However, given the abundance of archaeological sites in the region, there is a possibility that sites occur within impact areas.

The potential presence of cultural resources within the project area needs to be established through a records search at the Northwest Center of the Historical Resources Information System and, if necessary, through a field study of unsurveyed areas which are determined to have a possibility of containing unrecorded resources.

Whenever possible, project components should be modified to avoid impacts to cultural resources. If this is not feasible, all identified cultural resources within the Area of Potential Effect will need to be evaluated for significance. This evaluation should involve a testing program with field investigations. Impacts to sites determined to be significant can be mitigated through a data recovery plan involving archaeological excavations.

3. Potential to cause a physical change which would affect unique ethnic cultural values?

☐      ☒      ☐

### Discussion

Potential impacts to unique ethnic cultural values within impact areas can not be assessed at this stage in the EIR process.

A study of traditional cultural properties would be required to determine if the proposal has potential to cause a physical change which would affect unique ethnic cultural values within impact areas. The Sacred Lands File kept by the Native American Heritage Commission should be consulted as part of the study.

Mitigative measures in relation to Native American associates properties should be decided upon through an agreement reached through negotiations involving representatives from the appropriate Native American groups; negotiations should be mediated through the Native American Heritage Commission.

4. Restriction of existing religious or sacred uses within the potential impact area?

☐      ☒      ☐

### Discussion

Potential impacts to unique ethnic cultural values within impact areas can not be assessed at this stage in the EIR process.

**Alternative Four**  
**West County Reclamation**

**Yes      Maybe      No**

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A study of traditional cultural properties would be required to determine if the proposal has potential to cause a physical change which would affect unique ethnic cultural values within impact areas. The Sacred Lands File kept by the Native American Heritage Commission should be consulted as part of the study.

Mitigative measures in relation to Native American associates properties should be decided upon through an agreement reached through negotiations involving representatives from the appropriate Native American groups; negotiations should be mediated through the Native American Heritage Commission.

## Alternative Five Geysers Discharge

Yes      Maybe      No

### 01. Earth

Will the project result in:

1. Unstable earth conditions or change in geologic substructures?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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#### Discussion

Use of reclaimed water to recharge steam fields at the Geysers would involve pipeline and possible new well construction. Wastewater injection should not create unstable earth conditions or change geologic substructures. Preliminary research has indicated that deep well injection may contribute to increased micro-seismicity. Future studies should evaluate the potential increased risk of seismic activity and related strong ground shaking.

2. Permanently disrupted, displaced, compacted or overcovered soils?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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#### Discussion

Construction of pipelines and wells and ancillary facilities would involve minor grading that could locally disrupt, displace, compact or overcover soils. Any construction would be conducted in accordance with applicable building codes which would mitigate potential geotechnical impacts.

3. Substantially and permanently altered topography or ground surface relief features?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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#### Discussion

Geyser injection would involve temporary topographic alteration within the proposed pipeline alignment. These changes to the ground surface would be repaired and no significant long-term topographic impacts would result.

4. The destruction, modification or covering of a unique geologic or physical feature?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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#### Discussion

It is unknown whether unique geologic or physical features are present at proposed reservoir sites. A site-specific survey should be conducted prior to construction to identify potentially significant unique geologic features and to recommend mitigation measures. Pipeline installation should not result in the destruction of unique geologic features such as caves, fossil locations, or unique mineral resources. Pipeline alignments have not yet been determined, but could be designed to avoid such features which are usually limited in extent. If a unique geologic feature were identified that was too expensive to be avoided, pipeline installation could be accomplished using mitigation (minimizing excavation and documenting resources) to minimize impacts to unique geologic features.

## Alternative Five Geysers Discharge

	Yes	Maybe	No
<b>5. Adverse wind or water-associated erosion?</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p><b>Discussion</b></p> <p>Construction of pipeline and ancillary facilities would involve minor grading. Provided that adequate erosion control measures were implemented, adverse wind or water associated erosion would not occur.</p>			
<b>6. Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion, which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake?</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p><b>Discussion</b></p> <p>Injection of reclaimed water into deep (3,000 to 10,000 feet below the ground surface) aquifers at the Geysers would not affect erosion or sedimentation in rivers, bays, oceans, or lakes.</p>			
<b>7. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards?</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p><b>Discussion</b></p> <p>The potential for deep water injection to trigger seismic activity should be evaluated. Geologic and groundwater data for the proposed injection site and seismic records would need to be reviewed to determine potential hazards related to deep well injection.</p>			
<b>8. Any project structure (not pipeline) being located within the Alquist-Priolo Special Studies Zone or within a known active fault zone?</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p><b>Discussion</b></p> <p>The main element of this alternative is a pipeline that would extend from the treatment plant to the Geysers Discharge points in Northern Sonoma County. Ancillary facilities, which may include pump stations or flow control structures, may be included in the project. Of the three faults within Sonoma County that are zoned for Alquist-Priolo Special Studies (San Andreas, Healdsburg-Rogers Creek, and Maacama faults), it is possible that non-pipeline structures could be sited in the vicinity of the Maacama Fault Alquist-Priolo Zone which terminates in the northern part of Sonoma County near the Geysers. During the design phase of the project, pipelines and structures should be sited to avoid Alquist-Priolo Special Studies Zone.</p>			
<b>9. Any project structure (not pipeline) being located on soils substrate consisting of material that is subject to liquefaction or other secondary seismic hazards in the event of ground shaking?</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p><b>Discussion</b></p> <p>Ancillary facilities, such as pump stations, may be included in this alternative. The location of support facilities has not been determined, but pipeline alignment indicates that structures could be sited in alluvial material of the Santa Rosa Plain or Alexander Valley where high groundwater conditions could present liquefaction hazards. All structures should be designed and built in accordance with applicable building codes for Seismic Zone 4 and for soil conditions present at construction sites.</p>			

## Alternative Five Geysers Discharge

	Yes	Maybe	No
10. Evidence of static hazards which affect structures or public safety, such as landsliding or excessively steep slopes that could result in slope failure?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Discussion**

Pipelines and ancillary facilities may be sited in areas of steep or unstable slopes. Proper design and construction of facilities, in accordance with all applicable building codes should minimize the potential impacts of slope failure and prevent public safety impacts from occurring.

11. Any project structure located on soils that are likely to collapse?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

No structures, other than pipelines are proposed under this alternative. Pipeline alignments may pass through areas of weak soils. However, commonly used engineering techniques would mitigate potential impacts from soil collapse.

12. Any project structure located on soils that are characterized by shrink/swell potential that might result in deformation of foundations or damage to structures?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

No project structures requiring foundations are proposed under this alternative.

13. Unstable soils or geologic conditions?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

The injection of reclaimed water at the Geysers could result in increased seismic activity in the region. The potential for deep water injection to trigger seismic activity should be evaluated.

### 02. Air Quality

Will the project result in:

1. A violation of ambient air quality standards?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Dust generated from construction, if uncontrolled, could temporarily violate air quality standards. Expansion of the Laguna Wastewater Treatment Plant (WTP) headworks, and resulting increases in emissions due to greater capacity, could produce long-term, controllable impacts on air quality.

2. The contribution of any criteria pollutants in a non-attainment area?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

PM10 from construction dust, and long-term emissions of volatile organic compounds (VOCs) and NOx from headworks expansion may occur. Geysers recharge may also result in air quality impacts associated with steam generation.

## Alternative Five Geysers Discharge

Yes      Maybe      No

3. Exposure of sensitive receptors to substantial pollutant concentrations?

☐☒☐

### Discussion

Depending on proximity to construction areas (reservoir construction and trucking for pipelines). Receptors near WTP maybe impacted by increased WTP emissions when headworks is expanded.

4. A significant health risk above the typically accepted cancer risk of 1 in 1 million?

☐☒☐

### Discussion

Expansion of the headworks of the Laguna Wastewater Treatment Plant (WTP) could have significant air quality impacts. Because the capacity of the WTP would be considerably expanded as a result of this modification to the plant, the plants emissions could be significantly increased. The increases in volatile organic compounds (VOCs), hazardous air pollutants (HAPs), and odor-causing pollutants may have potentially significant impacts which may be mitigated to a level of insignificance.

The resulting emissions have the potential to impact air quality standards, to trigger requirements of risk assessment, and to result in odor complaints. Once the level of plant emissions at the increased capacity are known, efforts to abate these emissions using readily available, but possibly expensive, technology could be evaluated.

Best available control technology for emissions sources and possibly maximum available control technology may be required for control equipment.

5. The creation of objectionable odors?

☐☒☐

### Discussion

Expansion of the headworks of the Laguna Wastewater Treatment Plant (WTP) could have significant air quality impacts. Because the capacity of the WTP would be considerably expanded as a result of this modification to the plant, the plants emissions could be significantly increased. The increases in odor-causing pollutants may have potentially significant impacts which may be mitigated to a level of insignificance.

The resulting emissions have the potential to result in odor complaints. Once the level of plant emissions at the increased capacity are known, efforts to abate these odors using readily available, but possibly expensive, technology could be evaluated.

6. Non-compliance with the Bay Area Air Quality Management District's Rules and Regulations?

☐☒☐

### Discussion

Permits to construct the planned modification would be needed from the Bay Area Air Quality Management District (BAAQMD). It is possible that the plant, either now or as a result of the planned expansion, would require a federal operating permit under provisions of the Title V of the 1990 Federal Clean Air Act Amendments. Best available control technology for emissions sources and possibly maximum available control technology may be required for control equipment.

### Alternative Five Geysers Discharge

Yes      Maybe      No

Mitigation of impacts in order to comply is possible through the use of appropriate air pollution control equipment.

7. The alteration of air movement, moisture, or temperature, or any change in climate, either locally or regionally?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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#### Discussion

It is unknown at this time if Geysers discharge could affect the local or regional climate.

### 03. Groundwater

Will the project result in:

1. Alteration of the direction or rate of flow of groundwaters?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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#### Discussion

Injection of wastewater at the Geysers could affect the direction or rate of deep (3,000 to 10,000 feet below the ground surface) groundwater flow. These changes should not affect shallow groundwater aquifers that are used for water supply.

2. Change in the quantity of groundwaters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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#### Discussion

Geysers Injection could change the quantity of groundwater in the deep aquifer and the efficiency of stream production. Changes in the deep aquifer should not affect groundwater levels in shallower aquifers used for water supply.

3. Substantial degradation of groundwater resources or interference with groundwater recharge?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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#### Discussion

Disposal of advanced treated wastewater into the deep aquifer should not have significant adverse impacts on groundwater quality. The quality of the groundwater present in the deep aquifer at the Geysers is considered poor compared to tertiary treated wastewater and should not be substantially degraded by the introduction of reclaimed water provided, injection wells operate properly.

### 04. Surface Water

Will the project result in:

1. Changes in currents, or the course of direction of water movements, in either marine or fresh waters?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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#### Discussion

The alternative does not discharge reclaimed water to any river, stream, or marine water body. However, it would involve the removal of wastewater currently entering the Laguna.



## Alternative Five Geysers Discharge

	Yes	Maybe	No
2. Changes in absorption rates, drainage patterns, or the rate and amount of surface runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Discussion

The alternative is not likely to change existing surface water runoff rates.

3. Alterations to the course or flow of flood waters?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

The alternative has no effect on surface water runoff quantity or flow direction. However, it could remove discharge currently entering the Laguna.

4. Change in the amount of surface water in any water body?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

If reclaimed water replaces existing surface water diversions, the amount of surface water remaining in the streams that now supply the Geysers project will increase.

5. Exposure of people or property to water related hazards such as flooding or tidal waves?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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### Discussion

Insignificant potential for increase in flood hazards.

6. Increased runoff volumes that exceed the capacity of storm drain facilities, cause downstream or off-site drainage problems, or significantly alter inflows to an adjacent wetland to the extent that there is a net degradation of functions and values of aquatic habitat?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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### Discussion

Insignificant potential for increased runoff volumes.

## 05. Water Conservation

Will the project result in:

1. Substantial reduction in the amount of water otherwise available for public water supplies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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### Discussion

Water conservation and reuse will increase the amount of water otherwise available.

## 06. Water Quality

Will the project result in:

## Alternative Five Geysers Discharge

1. Discharge to surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity?

Yes	Maybe	No
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Discussion**

This alternative does not involve discharge to or alteration of surface water. However, it could involve removing the existing discharge from the Laguna.

2. Stormwater discharges that exceed established water quality standards, increase erosion and sedimentation, or endanger aquatic habitats?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Pipeline construction could affect quantity and quality of stormwater discharge.

3. Exceedance or non-attainment of numeric or narrative water quality objectives, criteria or standards?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Pipeline construction could affect streams.

4. Significant alteration of water quality in an Area of Special Biological Significance, National Marine Sanctuary, or National Wildlife Refuge?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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**Discussion**

This alternative does not affect any Area of Special Biological Significance, National Marine Sanctuary or National Wildlife Refuge.

5. Degradation of water quality as defined in SWRCB Resolution No. 68-16 and 40 CFR Part 131.12?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Geysers injection needs to be evaluated for impacts on groundwater quality.

### 07. Plant Life

Will the project result in:

1. Introduction of new species of plants into an area, or results in a barrier to the normal replenishment of existing species?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

No long-term effects on vegetation are expected.

2. Reduction in acreage of any agricultural crop?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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**Discussion**

The Geysers discharge is not expected to result in any loss of agricultural crops.

### 08. Animal Life

Will the project result in:

## Alternative Five Geysers Discharge

	Yes	Maybe	No
1. Changes to the diversity of species or numbers of any species of animals (bird, land animals including reptiles, fish and shell fish, benthic organisms or insects)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Discussion

The release of treated wastewater to the Geysers could alter existing water quality and thus reduce the diversity and numbers of wildlife species that occur in associated aquatic and wetland habitats.

2. Introduction of new species of animals into an area or results in a barrier to the migration, or movement of animals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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### Discussion

This alternative would not be expected to result in the fragmentation or removal of important wildlife travel corridors or the introduction of non-native species of animals into the project area.

3. The deterioration of existing fish or wildlife habitat?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

The discharge of treated wastewater to the Geysers could alter existing habitat value and function by altering water quality.

4. Blocks or fragments important wildlife migration or travel corridors?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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### Discussion

This alternative would not be expected to result in the fragmentation or removal of important wildlife migration or travel corridors.

5. Substantial loss of habitat diversity or habitat value?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

The discharge of treated wastewater to the Geysers could alter existing habitat value and function by altering water quality.

6. Bioaccumulation of pollutants to adverse levels in the tissues of wildlife?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

It is unknown if this alternative would result in the bioaccumulation of pollutants to adverse levels in the tissues of wildlife.

## 09. Fisheries

Will the project result in:

1. A significant reduction in fish or shellfish production, or a change in species diversity?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

Removal of discharge to Laguna de Santa Rosa or the release of treated wastewater to the Geysers may reduce production or diversity.

## Alternative Five Geysers Discharge

Yes      Maybe      No

2. Bioaccumulation of pollutants to adverse levels in the tissues of aquatic life?

☐      ☒      ☐

**Discussion**

It is unknown if this alternative would create bioaccumulation of pollutants in the tissues of aquatic life.

3. A significant risk to aquatic life in a National Marine Sanctuary or National Wildlife Refuge?

☐      ☐      ☒

**Discussion**

This alternative would not pose a significant risk to aquatic life in the Gulf of the Farallones Marine Sanctuary or the San Pablo Bay National Wildlife Reserve.

### 10. Rare, Threatened and Endangered Spe

Will the project result in:

1. The project substantially affects a rare or endangered plant or animal species or the habitat of the species as defined by Section 15380 of the State CEQA Guidelines.

☐      ☒      ☐

**Discussion**

The construction of facilities including pipelines and the discharge of treated wastewater to the Geysers could adversely affect the value and function of surrounding habitats and rare, threatened and endangered species they may support.

### 11. Wetlands

Will the project result in:

1. Actions which are not consistent with Executive Order 11990 - Protection of Wetlands or does not meet NEPA standards.

☐      ☐      ☒

**Discussion**

Geyser discharge does not have storage, irrigation or wetland creation components. Therefore, potential wetlands impacts are largely avoided. Minor impacts from pipeline crossings can be avoided or minimized with route selection, timing, construction methods and restoration.

2. Actions which are not in compliance with the Clean Water Act Section 404(b)(1) guidelines or does not meet NEPA standards.

☐      ☐      ☒

**Discussion**

Geyser discharge does not have storage, irrigation or wetland creation components. Therefore, potential wetlands impacts are largely avoided. Minor impacts from pipeline crossings can be avoided or minimized with route selection, timing, construction methods and restoration.

### 12. Noise

Will the project result in:

## Alternative Five Geysers Discharge

Yes      Maybe      No

1. Noise levels which exceed the maximum allowable dB for the project or adjoining areas.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

Long-term noise sources may be created by motors and generators associated with pumping treated wastewater to discharge points. Short-term noise sources would be created by construction activity. These noise sources may affect the maximum allowable dB for the project area. It is expected that any short term noise impacts would be mitigated through implementation of conventional construction management practices, such as limiting construction to specific days of the week and limiting hours of operation for each work day. It is expected that any long-term noise impacts would be mitigated as part of the project design.

2. A substantial increase in noise levels in areas of sensitive receptors (i.e. schools, libraries, churches, etc.).

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

Long-term noise sources may be created by motors and generators associated with pumping treated wastewater to discharge points. Short-term noise sources would be created by construction activity. These noise sources may affect the maximum allowable dB for the project area. It is expected that any short term noise impacts would be mitigated through implementation of conventional construction management practices, such as limiting construction to specific days of the week and limiting hours of operation for each work day. It is expected that any long-term noise impacts would be mitigated as part of the project design.

3. Land uses which are incompatible with ambient noise level standards.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

Due to the potential creation of long-term and short-term noise sources, there may be noise compatibility issues created with development of this alternative. Specific location and project level details will provide the necessary data and information to make this assessment. It is expected that any short term noise impacts would be mitigated through implementation of conventional construction management practices, such as limiting construction to specific days of the week and limiting hours of operation for each work day. It is expected that any long-term noise impacts would be mitigated as part of the project design.

## 13. Light and Glare

Will the project result in:

Refer to #14, Visual Resources

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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### Discussion

## 14. Visual Resources

Will the project result in:

## Alternative Five Geysers Discharge

	Yes	Maybe	No
1. Conflicts with the adopted General Plans or objectives of the appropriate jurisdictions.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Discussion

Pipeline construction may have short-term effects on scenic corridors or other scenic resources designated in the Sonoma County General Plan, or plans of their jurisdictions.

2. New light and glare.

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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### Discussion

No new external sources of light and glare would be created by this alternative.

3. Obstruction of any scenic vista or view open to the public, or in the creation of an aesthetically offensive site open to the public view.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

Pipeline construction may have short-term effect on scenic vistas and other views or sites open to public view.

## 15. Land Use

Will the project result in:

1. A land use which is inconsistent with the land use plan map of an adopted General Plan?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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### Discussion

This alternative would not affect the existing or planned land use patterns, and therefore is considered to be consistent with the applicable General Plans.

2. A land use which is inconsistent with the zoning?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

Data for existing zoning regulations and map designations will be obtained and the alternative needs to be evaluated against that data. However, the existing zoning should be consistent with the adopted General Plans, and if so, the alternative would be consistent with existing zoning.

3. The conversion of ten acres or more of prime agricultural lands or farmland of statewide importance to non-agricultural uses?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

Construction of pipelines in this alternative may affect agricultural lands. Data on classification of agricultural lands will be obtained and the routes evaluated against that data.

4. The cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 (Williamson Act) for any parcel of 100 acres or more?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

The reservoir sites to be considered in this alternative include agricultural lands and may involve land under a Williamson Act contract. Data on Williamson contract will be obtained

## Alternative Five Geysers Discharge

Yes      Maybe      No

and sites evaluated against that data.

5. The development of an incompatible land use type in an area designated in the MRZ-2 classification according to the Mineral Land Classification of the California Division of Mines & Geology?

☐      ☐      ☒

**Discussion**

The alternative would not affect the use of land in MRZ-2 zones.

6. The introduction of inappropriate uses in a Community Separator as defined in the Sonoma County General Plan?

☐      ☐      ☒

**Discussion**

The alternative would not introduce an urban use of land in a Community Separator.

7. A long-term jobs/housing ratio or housing type ratio which is inconsistent with an adopted General Plan?

☐      ☐      ☒

**Discussion**

The alternative would not create any new employment or housing creating land uses.

8. An increased potential for conflict as a result of incompatible land uses?

☐      ☐      ☒

**Discussion**

The land use of components in this alternative would be compatible with the planned land use pattern in the vicinity and therefore would not create potential for land use conflicts.

### 16. Natural Resources

Will the project result in:

Refer to #3, Ground Water, #7, Plant Life, and #23, Energy

☐      ☐      ☐

**Discussion**

### 17. Risk of Upset

Will the project result in:

1. Exposure of people to hazardous chemicals, radiation, or disease agents.

☐      ☒      ☐

**Discussion**

The public could be exposed to hazardous chemicals or disease agents contained in reclaimed water following discharge to the Geysers. The project would not generate or use radioactive materials. There is a very low probability that discharge to the Geysers could affect local groundwater used for domestic water supplies.

## Alternative Five Geysers Discharge

Yes      Maybe      No

All reclaimed water will have received tertiary treatment prior to its discharge; however, small amounts of chemicals and biological agents could persist in water after treatment. Additional studies will be conducted to investigate the effects of water quality on human health. A screening evaluation of the hazard associated with identified chemical and biological agents in tertiary treated wastewater and a review of literature concerning the human health effects of synthetic estrogens and estrogen-like compounds will be performed. Data from these studies will be used to identify the impacts, if any, of reclaimed water discharge to human health.

The public and construction workers could be exposed to hazardous materials and/or wastes during construction of facilities (e.g., pipelines) associated with this project alternative. Hazardous materials (natural or anthropogenic) may be used or encountered during construction activities. Compliance with regulations regarding the safe handling and storage of hazardous materials will minimize exposure to these chemicals. Hazardous wastes could be encountered during construction of components at or near existing hazardous waste sites. The potential for these sites to impact this alternative will be discussed in a report that tabulates and maps known, federal and state listed hazardous waste sites.

2. Non-compliance with applicable laws regarding the handling of hazardous materials.

☐      ☒      ☐

### Discussion

The use and storage of hazardous materials (e.g., fuels, oils, solvents or paints) may be required during construction and operation of this alternative. Specific materials and quantities are not known at this time; however it is anticipated that all hazardous materials will be handled in compliance with applicable laws.

3. The project results in interference with an emergency response or evacuation plan.

☐      ☒      ☐

### Discussion

During construction activities there could be short-term disruption of roadways. Construction should be coordinated with emergency response agencies to ensure that there are no adverse impacts.

## 18. Population

Will the project result in:

Refer to #19, Socio-Economics

☐      ☐      ☐

### Discussion

## 19. Socio-Economics

Will the project result in:

1. Accommodating development beyond the capacity planned for in the General Plans of the communities in the Service Area.

☐      ☒      ☐

### Discussion

Even though the project is sized to the population projections of the subregional entities General Plans, the ability to expand the output of the Geysers may introduce potential growth



## Alternative Five Geysers Discharge

Yes      Maybe      No

inducing impacts. Additional analysis will be required to identify any constraints that may limit the expansion of output beyond 12,300 MG (Million Gallons) per year.

2. Imposition of an onerous financial burden on rate payers as a result of increased demand fees and/or service charges.

☐      ☒      ☐

**Discussion**

Additional analysis of the share of costs that will be allocated to service charges and the incomes of service area residents will be required to assess this impact.

3. Constraints to the development of new housing, thereby limiting the affordable housing opportunities in the Study Area.

☐      ☐      ☒

**Discussion**

The project is sized to the population projections of the subregional entities General Plans. To the degree that the General Plans can meet affordable housing needs, the project will not have an impact.

4. Causes physical division within the Study Area that adversely affects property values or development patterns.

☐      ☐      ☒

**Discussion**

Since the transmission pipes are planned to be underground, there will not be a long-term impact.

5. Impacts to local or regional economies or cause specific industries to no longer be viable.

☐      ☒      ☐

**Discussion**

Additional information on the demand fees and service charges associated with the alternative will be required to assess the impact on specific industries. If the costs are significantly higher than neighboring areas, it is possible that water-intensive industries will relocate from the area and new industries with high water needs may be discouraged from locating in the service area. This is a medium cost alternative, which implies that the potential for impacts on industry is moderate.

### 20. Housing

Will the project result in:

Refer to #17, Land Use and #19, Socio-Economics

☐      ☐      ☐

**Discussion**

### 21. Transportation/Circulation

Will the project result in:

## Alternative Five Geysers Discharge

Yes      Maybe      No

1. Levels of service to drop to unacceptable levels (below LOS "D") at existing intersection or arterial roadways?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

2. Traffic increases along arterials or at intersections currently operating at unacceptable levels?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

3. Alterations to the existing patterns of circulation which overly restrict the movement of people or goods?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

4. Potential increase in traffic hazards to motor vehicles, bicyclists or pedestrians?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

5. Construction activities resulting in unsafe operating conditions for vehicular traffic?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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### Discussion

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

## Alternative Five Geysers Discharge

Yes      Maybe      No

6. Construction activities resulting in substantial delays to vehicular traffic?

☐      ☒      ☐

### Discussion

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

7. Construction unduly restricting access to properties adjacent to the construction zone?

☐      ☒      ☐

### Discussion

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

## 22. Public Services/Utilities

Will the project result in:

1. A need for new or altered governmental services or utilities?

☐      ☒      ☐

### Discussion

The Geysers Recharge alternative would require additional treatment facilities, however, it would not require new storage facilities. The delivery systems and reuse facilities located at the Geysers which are necessary for implementation of this alternative would require ongoing maintenance.

## 23. Energy

Will the project result in:

1. Use of substantial amounts of fuel or energy?

☐      ☒      ☐

### Discussion

The total energy use for this alternative is not known. The following information is needed to determine if this alternative would use substantial amounts of fuel or energy:

- \* Estimates of energy use for this alternative broken down by construction and operation;
- \* List of construction equipment necessary for this alternative; and
- \* List of operational equipment for this alternative and amount of energy uses.

Further analysis will be undertaken based upon more detailed project definition of this alternative.

2. Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy?

☐      ☒      ☐

### Discussion

Estimates for current energy use at the wastewater treatment plant are needed, in addition to the information required above.

**Alternative Five  
Geysers Discharge**

Yes      Maybe      No

**24. Utilities and Service Systems**

Will the project result in:

Refer to #22, Public Services/Utilities

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

**25. Human Health**

Will the project result in:

Refer to # 17, Risk of Upset

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

**26. Aesthetics**

Will the project result in:

Refer to #14, Visual Resources

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

**27. Recreation**

Will the project result in:

1. Impact upon the quality or quantity of existing recreational opportunities?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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**Discussion**

This alternative would not impact recreational opportunities.

**28. Cultural and Historical Resources**

Will the project result in:

1. An important archeological resource destroyed or disturbed according to CEQA, NEPA, or the National Register of Historic Places?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

The project has potential to cause a physical alteration or destruction of a site through ground disturbing activities associated with: Construction of transmission line to the Geysers. While portions of impact areas were subject to previous cultural resource surveys, unsurveyed portions remain. The following resources have been identified within or adjacent to impact areas: ten prehistoric sites, three historic sites, and one prehistoric/historic site.

## Alternative Five Geysers Discharge

Yes      Maybe      No

The presence of known cultural resources within and adjacent to the project area indicate a high possibility of similar resources in unsurveyed areas. Therefore, it will be necessary to survey previously unsurveyed areas. Impact areas for urban irrigation need to be specified in order to fully evaluate potential impacts.

Whenever possible, project alternatives should be modified to avoid impacts to cultural resources. If this is not feasible, all identified cultural resources within impact areas will need to be evaluated for significance. This evaluation should consist of a testing program involving field investigations. Impacts to sites determined to be significant can be mitigated through a data recovery plan involving archaeological excavations.

2. The alteration of or the destruction of a prehistoric or historic archeological site?

☐☒☐

### Discussion

The project has potential to cause a physical alteration or destruction of a site through ground disturbing activities associated with: Construction of transmission line to the Geysers.

While portions of impact areas were subject to previous cultural resource surveys, unsurveyed portions remain and the following resources have been identified within or adjacent to impact areas: ten prehistoric sites, three historic sites, and one prehistoric/historic site.

The presence of known cultural resources within and adjacent to the project area indicate a high possibility of similar resources in unsurveyed areas. Therefore, it will be necessary to survey previously unsurveyed areas. Impact areas for urban irrigation need to be specified in order to fully evaluate potential impacts.

Whenever possible, project alternatives should be modified to avoid impacts to cultural resources. If this is not feasible, all identified cultural resources within impact areas will need to be evaluated for significance. This evaluation should consist of a testing program involving field investigations. Impacts to sites determined to be significant can be mitigated through a data recovery plan involving archaeological excavations.

3. Potential to cause a physical change which would affect unique ethnic cultural values?

☐☒☐

### Discussion

Potential impacts to unique ethnic cultural values religious or sacred uses within impact areas can not be assessed at this stage in the EIR process.

A study of traditional cultural properties would be required to determine if the proposal has potential to cause a physical change which would affect unique ethnic cultural values and to restrict religious or sacred uses within impact areas. The Sacred Lands File kept by the Native American Heritage Commission should be consulted as part of the study.

Mitigative measures in relation to Native American associates properties should be decided upon through an agreement reached through negotiations involving representatives from the appropriate Native American groups; negotiations should be mediated through the Native American Heritage Commission.

**Alternative Five**  
**Geysers Discharge**

Yes      Maybe      No

- 
4. Restriction of existing religious or sacred uses within the potential impact area?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Potential impacts to unique ethnic cultural values religious or sacred uses within impact areas can not be assessed at this stage in the EIR process.

A study of traditional cultural properties would be required to determine if the proposal has potential to cause a physical change which would affect unique ethnic cultural values and to restrict religious or sacred uses within impact areas. The Sacred Lands File kept by the Native American Heritage Commission should be consulted as part of the study.

Mitigative measures in relation to Native American associates properties should be decided upon through an agreement reached through negotiations involving representatives from the appropriate Native American groups; negotiations should be mediated through the Native American Heritage Commission.



**Alternative Six**  
**20% Maximum Russian River Discharge**

Yes      Maybe      No

**01. Earth**

Will the project result in:

1. Unstable earth conditions or change in geologic substructures?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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**Discussion**

Construction of rapid infiltration (RI) basins would not create unstable earth conditions. Construction of RI basins would require grading and dike construction. Any construction would be conducted in accordance with applicable building codes which would mitigate potential impacts and avoid creating unstable earth conditions.

2. Permanently disrupted, displaced, compacted or overcovered soils?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Construction of rapid infiltration basins would involve extensive excavation, grading, and levee construction which would permanently disrupt, displace, compact, or overcover soils.

3. Substantially and permanently altered topography or ground surface relief features?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Construction of rapid infiltration basins would involve extensive grading and excavation that would permanently alter topography and ground surface relief. Rapid infiltration basins would include low levees with basins no more than ten feet in depth.

4. The destruction, modification or covering of a unique geologic or physical feature?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	-------------------------------------	--------------------------

**Discussion**

It is not known whether unique geologic features are present at the proposed rapid infiltration (RI) site. Aggregate reserve of local or state-wide importance are located in the vicinity of the proposed site and may be affected by the construction of RI basins. It is unknown whether unique geologic or physical features are present at proposed reservoir sites. A site-specific survey should be conducted prior to construction to identify potentially significant unique geologic features and to recommend mitigation measures. Pipeline installation should not result in the destruction of unique geologic features such as caves, fossil locations, or unique mineral resources. Pipeline alignments have not yet been determined, but could be designed to avoid such features which are usually limited in extent. If a unique geologic feature were identified that was too expensive to be avoided, pipeline installation could be accomplished using mitigation (minimizing excavation and documenting resources) to minimize impacts to unique geologic features.

5. Adverse wind or water-associated erosion?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Construction of RI basins could involve minor grading. Provided that adequate erosion control measures were implemented, adverse wind or water-associated erosion would not occur.



**Alternative Six**  
**20% Maximum Russian River Discharge**

	Yes	Maybe	No
6. Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion, which may modify the channel of a river or stream or the bed of the ocean or any bay,	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Discussion</b> Construction of rapid infiltration basins or elevated river terraces should/would not affect erosion or sedimentation in rivers, bays, oceans, or lakes.  Discharge of reclaimed water to the river in quantities of 20 percent or less of the river flow could affect erosion and sedimentation in the vicinity of the outfall. However, substantial changes in sediment transport in the stream channel would not be expected.			
7. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Discussion</b> River discharge and rapid infiltration should not expose people or property to geologic hazards. Unlike dams/reservoirs, rapid infiltration basins are excavated into the ground (gravel terraces) and generally are surrounded by low-lying levees. The proposed RI site is located in the 100-year flood-plain, refer to hydrology impacts for a discussion of flooding.			
8. Any project structure (not pipeline) being located within the Alquist-Priolo Special Studies Zone or within a known active fault zone?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Discussion</b> The proposed rapid infiltration basins are not located within an Alquist-Priolo Special Studies Zone.			
9. Any project structure (not pipeline) being located on soils substrate consisting of material that is subject to liquefaction or other secondary seismic hazards in the event of ground	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Discussion</b> The proposed rapid infiltration site is located in an area with high to moderate potential for liquefaction. Dikes and levees for RI basins should be properly designed to prevent failure during an earthquake.			
10. Evidence of static hazards which affect structures or public safety, such as landsliding or excessively steep slopes that could result in slope failure?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Discussion</b> Construction of RI basins could involve excavation, levee construction, and pipe installation. These activities, if properly conducted in accordance with applicable building codes would not create unstable slopes or affect structures or public safety.			
11. Any project structure located on soils that are likely to collapse?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Discussion</b> Construction of rapid infiltration basins would include building of levees, ponds and pipelines. Construction would be conducted in accordance with applicable building codes which would mitigate potential impacts from weak soils.			

**Alternative Six**  
**20% Maximum Russian River Discharge**

	Yes	Maybe	No
<b>12. Any project structure located on soils that are characterized by shrink/swell potential that might result in deformation of foundations or damage to structures?</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Discussion</b> Areas that could feasibly be used for RI contain soils composed primarily of sand and gravel. These soils do not generally present hazards from expansive clays.			
<b>13. Unstable soils or geologic conditions?</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Discussion</b> Construction of RI basins could involve excavation, levee construction, and pipe installation. Any construction would be conducted in accordance with applicable building codes which would mitigate potential impacts and avoid creating unstable soil conditions.			
<b>02. Air Quality</b>			
Will the project result in:			
<b>1. A violation of ambient air quality standards?</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Discussion</b> Construction impacts would vary with the point of discharge. Dust generated from construction, if uncontrolled, could temporarily violate air quality standards. Expansion of Laguna Wastewater Treatment Plant (WTP) headworks, and resulting increases in emissions due to greater capacity, could produce long term, controllable impacts on air quality.			
<b>2. The contribution of any criteria pollutants in a non-attainment area?</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Discussion</b> PM10 from construction dust, and long-term emissions of volatile organic compounds (VOCs) and NOx from headworks expansion may occur.			
<b>3. Exposure of sensitive receptors to substantial pollutant concentrations?</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Discussion</b> Depending on proximity to construction areas (reservoir construction and trucking for pipelines). Receptors near the Laguna Wastewater Treatment Plant (WTP) may be impacted by increased WTP emissions when headworks is expanded.			
<b>4. A significant health risk above the typically accepted cancer risk of 1 in 1 million?</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Discussion</b> Expansion of the headworks of the Laguna Wastewater Treatment Plant (WTP) could have significant air quality impacts. Because the capacity of the WTP would be considerably expanded as a result of this modification to the plant, the plants emissions could be significantly increased. The increases in volatile organic compounds (VOCs), hazardous air pollutants (HAPs), and odor-causing pollutants may have potentially significant impacts which may be mitigated to a level of insignificance.			

**Alternative Six**  
**20% Maximum Russian River Discharge**

Yes      Maybe      No

The resulting emissions have the potential to impact air quality standards, to trigger requirements of risk assessment, and to result in odor complaints. Once the level of plant emissions at the increased capacity are known, efforts to abate these emissions using readily available, but possibly expensive, technology could be evaluated.

Best available control technology for emissions sources and possibly maximum available control technology may be required for control equipment.

**5. The creation of objectionable odors?**

☐      ☒      ☐

**Discussion**

Expansion of the headworks of the Laguna Wastewater Treatment Plant (WTP) could have significant air quality impacts. Because the capacity of the WTP would be considerably expanded as a result of this modification to the plant, the plants emissions could be significantly increased. The increases in odor-causing pollutants may have potentially significant impacts which may be mitigated to a level of insignificance.

The resulting emissions have the potential to result in odor complaints. Once the level of plant emissions at the increased capacity are known, efforts to abate these odors using readily available, but possibly expensive, technology could be evaluated.

**6. Non-compliance with the Bay Area Air Quality Management District's Rules and Regulations?**

☐      ☒      ☐

**Discussion**

Permits to construct the planned modification would be needed from the Bay Area Air Quality Management District (BAAQMD). It is possible that the plant, either now or as a result of the planned expansion, would require a federal operating permit under provisions of the Title V of the 1990 Federal Clean Air Act Amendments. Best available control technology for emissions sources and possibly maximum available control technology may be required for control equipment.

Mitigation of impacts in order to comply is possible through the use of appropriate air pollution control equipment.

**7. The alteration of air movement, moisture, or temperature, or any change in climate, either locally or regionally?**

☐      ☒      ☐

**Discussion**

Further evaluation needed to determine if alternative could affect local and/or regional climate.

**03. Groundwater**

Will the project result in:

**1. Alteration of the direction or rate of flow of groundwaters?**

☐      ☒      ☐

**Discussion**

Rapid infiltration would locally affect the flow of groundwater because water would flow through the (RI) basins into the groundwater. Modeling of the proposed rapid infiltration

**Alternative Six**  
**20% Maximum Russian River Discharge**

Yes      Maybe      No

would be required to assess the impacts on groundwater gradients and flow directions and potential impacts to nearby domestic and municipal wells.

2. Change in the quantity of groundwaters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Dam or levee construction for (RI) basins could involve excavation into aquifer material and could require dewatering during construction. All impacts associated with excavation below the groundwater table would be temporary and would not result in permanent changes in the quantity of groundwater.

3. Substantial degradation of groundwater resources or interference with groundwater recharge?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Rapid infiltration could introduce reclaimed water into the groundwater and indirectly into surface water ways. Adequate residence times and infiltration rates would need to be maintained at the rapid infiltration facility to prevent adverse water quality impacts.

Further investigation of the impacts of rapid infiltration of treated wastewater on groundwater quality would be required. A hydrogeologic study would be needed to determine existing site specific groundwater quality, flow direction, water levels, and the potential affects of seepage from rapid infiltration ponds on the groundwater regime.

Russian River discharge could affect surface water quality and indirectly groundwater quality. However, the major portion of the discharge would flow through the River and to the ocean, since discharge could only occur during the winter (when groundwater is generally not being recharged by the River). River water that flowed into the groundwater would filter through the aquifer material, and significant degradation of groundwater resources should not result.

**04. Surface Water**

Will the project result in:

1. Changes in currents, or the course of direction of water movements, in either marine or fresh waters?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Reclaimed water will be discharged to the river. A diffuser system could be designed to minimize the possibility of changes in currents or direction of water movements.

2. Changes in absorption rates, drainage patterns, or the rate and amount of surface runoff?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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**Discussion**

The alternative is not likely to change existing surface water runoff rates.

**Alternative Six**  
**20% Maximum Russian River Discharge**

Yes      Maybe      No

**3. Alterations to the course or flow of flood waters?**

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	-------------------------------------	--------------------------

**Discussion**

Reclaimed water will be discharged to the river. A diffuser system could be designed to minimize the possibility of changes in currents or direction of water movements. During peak flood flows, reclaimed water will be released to the river at a rate much less than 20% of the peak river flow because of limitations in the hydraulic capacity of the discharge system. Therefore, impacts on the course or flow of flood waters is not expected.

**4. Change in the amount of surface water in any water body?**

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

The direct discharge or rapid infiltration of water could affect the flow in the Russian River. The magnitude of the effect will depend on the rate of discharge or infiltration and the normal flow in the river at the time of discharge. A hydraulic analysis is needed to understand the rate of infiltration and the flow path of the water after it infiltrates. Potential impacts could be mitigated by locating the infiltration basin in an area where the flow of water is in a direction or at a rate that does not create an impact. The operation of the basins could also be controlled to minimize impacts during months of the year when the river flow is low.

**5. Exposure of people or property to water related hazards such as flooding or tidal waves?**

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Reclaimed water will be discharged to the river. A diffuser system could be designed to minimize the possibility of changes in currents or direction of water movements. During peak flood flows, reclaimed water will be released to the river at a rate much less than 20% of the peak river flow because of limitations in the hydraulic capacity of the discharge system. Therefore, impacts on the course or flow of flood waters are not expected and exposure of people or property to increased flood hazards is not expected.

**6. Increased runoff volumes that exceed the capacity of storm drain facilities, cause downstream or off-site drainage problems, or significantly alter inflows to an adjacent wetland**

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

The basins will not change the amount of natural runoff, but depending on the flow path of the infiltrated water, impacts could occur to wetlands or existing storm drainage facilities. A hydraulic analysis is needed to understand the rate of infiltration and the flow path of the water after it infiltrates. Potential impacts could be mitigated by locating the infiltration basin in an area where the flow of water is in a direction of or at a rate that does not create an impact. The operation of the basins could also be controlled to minimize impacts during months of the year when the river flow is low.

**05. Water Conservation**

Will the project result in:

**Alternative Six**  
**20% Maximum Russian River Discharge**

Yes      Maybe      No

1. Substantial reduction in the amount of water otherwise available for public water supplies?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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**Discussion**

Water conservation and reuse will increase the amount of water available.

**06. Water Quality**

Will the project result in:

1. Discharge to surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity?

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Evaluation of impact of discharge rate on receiving water quality is needed. Key constituents include nitrate, ammonia, metals, and disinfection by-products. Antidegradation analysis is also needed. Evaluation of attainment of ISWP water quality objectives and other limitations are also needed.

2. Stormwater discharges that exceed established water quality standards, increase erosion and sedimentation, or endanger aquatic habitats?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Pipeline construction could affect quantity and quality of stormwater discharge.

3. Exceedance or non-attainment of numeric or narrative water quality objectives, criteria or standards?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Potential exceedance of water quality objectives for human health and aquatic life needs to be evaluated based on the evaluation of impact of discharge on receiving water quality. Key constituents include nitrate, ammonia, metals, disinfection by-products. Antidegradation analysis is also needed.

4. Significant alteration of water quality in an Area of Special Biological Significance, National Marine Sanctuary, or National Wildlife Refuge?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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**Discussion**

This alternative does not affect any ASBS, NMS or NWR.

5. Degradation of water quality as defined in SWRCB Resolution No. 68-16 and 40 CFR Part 131.12?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Evaluation of impact of discharge on receiving water quality is needed. Key constituents include nitrate, ammonia, metals, and disinfection by-products. Antidegradation analysis is also needed.

**07. Plant Life**

Will the project result in:

## Alternative Six 20% Maximum Russian River Discharge

	Yes	Maybe	No
1. Introduction of new species of plants into an area, or results in a barrier to the normal replenishment of existing species?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p><b>Discussion</b></p> <p>No long-term effects on vegetation are expected.</p>			
2. Reduction in acreage of any agricultural crop?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p><b>Discussion</b></p> <p>No effects on agricultural crops are expected.</p>			
<b>08. Animal Life</b>			
Will the project result in:			
1. Changes to the diversity of species or numbers of any species of animals (bird, land animals including reptiles, fish and shell fish, benthic organisms or insects)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p><b>Discussion</b></p> <p>The construction of new rapid infiltration basins would alter the existing condition of habitats subject to inundation or other habitat modifications and thus reduce the diversity or numbers of wildlife species that occur in these habitats. The discharge of treated wastewater to the Russian River or the Laguna de Santa Rosa could degrade water quality and thus reduce the diversity and numbers of wildlife species that occur in associated aquatic and wetland habitats.</p>			
2. Introduction of new species of animals into an area or results in a barrier to the migration, or movement of animals?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p><b>Discussion</b></p> <p>This alternative would not be expected to result in the fragmentation or removal of important wildlife migration or travel corridors.</p>			
3. The deterioration of existing fish or wildlife habitat?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p><b>Discussion</b></p> <p>Wastewater discharges to the Russian River could reduce habitat value and function by degrading water quality.</p>			
4. Blocks or fragments important wildlife migration or travel corridors?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p><b>Discussion</b></p> <p>This alternative would not be expected to result in the fragmentation or removal of important wildlife migration or travel corridors.</p>			

**Alternative Six**  
**20% Maximum Russian River Discharge**

Yes      Maybe      No

**5. Substantial loss of habitat diversity or habitat value?**

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	-------------------------------------	--------------------------

**Discussion**

Wastewater discharges to the Russian River could reduce habitat value and function by degrading water quality.

**6. Bioaccumulation of pollutants to adverse levels in the tissues of wildlife?**

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

It is unknown if the project would result in the bioaccumulation of pollutants to adverse levels in the tissues of wildlife.

**09. Fisheries**

Will the project result in:

**1. A significant reduction in fish or shellfish production, or a change in species diversity?**

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Discharge could affect warm water fish in Laguna de Santa Rosa and anadromous fish that migrate through the Laguna past the discharge. The impact on anadromous fish is currently being studied. Removal of Laguna discharge could affect production or diversity. Impacts on fish productions are currently being evaluated.

**2. Bioaccumulation of pollutants to adverse levels in the tissues of aquatic life?**

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	-------------------------------------	--------------------------

**Discussion**

A bioaccumulation study is needed for the Laguna de Santa Rosa and the Russian River.

**3. A significant risk to aquatic life in a National Marine Sanctuary or National Wildlife Refuge?**

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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**Discussion**

This alternative would not pose a significant risk to aquatic life in the Gulf of Farallones Marine Sanctuary or the San Pablo Bay National Wildlife Refuge.

**10. Rare, Threatened and Endangered Species**

Will the project result in:

**1. The project substantially affects a rare or endangered plant or animal species or the habitat of the species as defined by Section 15380 of the State CEQA Guidelines.**

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

A 20% discharge of treated wastewater to the Russian River or Laguna de Santa Rosa may adversely affect habitats and associated special status species by altering seasonal water conditions and degrading water quality.



**Alternative Six**  
**20% Maximum Russian River Discharge**

Yes      Maybe      No

**11. Wetlands**

Will the project result in:

1. **Actions which are not consistent with Executive Order 11990 - Protection of Wetlands or does not meet NEPA standards.**

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Creation of wetlands in the Laguna de Santa Rosa could result in placement of structures and fill in existing wetlands and conversion fill in existing wetlands. There is also the possibility that conversion of disturbed, lower-value typically seasonal wetlands to freshwater marshes and historic riparian woodlands may occur. However, such action could result in a net gain in wetlands area and functional value.

2. **Actions which are not in compliance with the Clean Water Act Section 404(b)(1) guidelines or does not meet NEPA standards.**

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Creation of wetlands in the Laguna de Santa Rosa could result in placement of structures and fill in existing wetlands and conversion fill in existing wetlands. There is also the possibility that conversion of disturbed, lower-value typically seasonal wetlands to freshwater marshes and historic riparian woodlands may occur. However, such action could result in a net gain in wetlands area and functional value.

**12. Noise**

Will the project result in:

1. **Noise levels which exceed the maximum allowable dB for the project or adjoining areas.**

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Long-term noise sources may be created by motors and generators associated with pumping treated wastewater to discharge points. Short-term noise sources would be created by construction activity. These noise sources may affect the maximum allowable dB for the project area. It is expected that any short term noise impacts would be mitigated through implementation of conventional construction management practices, such as limiting construction to specific days of the week and limiting hours of operation for each work day. It is expected that any long-term noise impacts would be mitigated as part of the project design.

2. **A substantial increase in noise levels in areas of sensitive receptors (i.e. schools, libraries, churches, etc.).**

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Long-term noise sources may be created by motors and generators associated with pumping treated wastewater to discharge points. Short-term noise sources would be created by construction activity. These noise sources may affect the maximum allowable dB for the project area. It is expected that any short term noise impacts would be mitigated through implementation of conventional construction management practices, such as limiting construction to specific days of the week and limiting hours of operation for each work day. It is expected that any long-term noise impacts would be mitigated as part of the project design.

**Alternative Six**  
**20% Maximum Russian River Discharge**

Yes      Maybe      No

3. Land uses which are incompatible with ambient noise level standards.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

Due to the potential creation of long-term and short-term noise sources, there may be noise compatibility issues created with development of this alternative. Specific location and project level details will provide the necessary data and information to make this assessment. It is expected that any short term noise impacts would be mitigated through implementation of conventional construction management practices, such as limiting construction to specific days of the week and limiting hours of operation for each work day. It is expected that any long-term noise impacts would be mitigated as part of the project design.

**13. Light and Glare**

Will the project result in:

Refer to #14, Visual Resources

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

**14. Visual Resources**

Will the project result in:

1. Conflicts with the adopted General Plans or objectives of the appropriate jurisdictions.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	-------------------------------------	--------------------------

**Discussion**

The construction and operation of rapid infiltration areas may affect scenic resources along the Russian River addressed in the Sonoma County General Plan, but specific location and project level design of these facilities are necessary to determine visual impacts. Otherwise, this alternative would not affect the external visual environment and would be visually unobtrusive. Also, pipeline construction may have short-term effects on scenic corridors or other scenic resources.

2. New light and glare.

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	-------------------------------------

**Discussion**

No new external sources of light and glare would be created by this alternative.

3. Obstruction of any scenic vista or view open to the public, or in the creation of an aesthetically offensive site open to the public view.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	-------------------------------------	--------------------------

**Discussion**

The rapid infiltration areas along the Russian River may affect vistas or views open to the public, but specific location and project level design of these facilities are necessary to determine visual impacts. Also, pipeline construction may have short-term effects on scenic views or sites open to public view.

## Alternative Six

### 20% Maximum Russian River Discharge

Yes      Maybe      No

#### 15. Land Use

Will the project result in:

1. A land use which is inconsistent with the land use plan map of an adopted General Plan?

☐      ☐      ☒

##### Discussion

This alternative would be consistent with the planned land use patterns in the applicable General Plans.

2. A land use which is inconsistent with the zoning?

☐      ☒      ☐

##### Discussion

Data for existing zoning regulations and map designations will be obtained and this alternative needs to be evaluated against that data. However, the existing zoning should be consistent with the adopted General Plans, and if so, the alternative would be consistent with existing zoning.

3. The conversion of ten acres or more of prime agricultural lands or farmland of statewide importance to non-agricultural uses?

☐      ☒      ☐

##### Discussion

The rapid infiltration areas in this alternative would result in the conversion of agricultural lands. Data on classification of agricultural lands will be obtained and the sites evaluated against that data.

4. The cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 (Williamson Act) for any parcel of 100 acres or more?

☐      ☒      ☐

##### Discussion

The rapid infiltration areas to be considered in this alternative include agricultural lands and may involve land under a Williamson Act contract. Data on Williamson contract will be obtained and the sites evaluated against that data.

5. The development of an incompatible land use type in an area designated in the MRZ-2 classification according to the Mineral Land Classification of the California Division of Mines

☐      ☐      ☒

##### Discussion

This alternative would not affect the use of land in MRZ-2 zones.

6. The introduction of inappropriate uses in a Community Separator as defined in the Sonoma County General Plan?

☐      ☐      ☒

##### Discussion

This alternative would not introduce urban uses within a Community Separator.

**Alternative Six**  
**20% Maximum Russian River Discharge**

Yes      Maybe      No

7. A long-term jobs/housing ratio or housing type ratio which is inconsistent with an adopted General Plan?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	-------------------------------------

**Discussion**

The alternative is consistent with the applicable General Plans and would not create any additional employment or housing generating land uses.

8. An increased potential for conflict as a result of incompatible land uses?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	-------------------------------------	--------------------------

**Discussion**

The land use of components in this alternative would be generally consistent with the planned land use pattern in the vicinity. Further evaluation of localized effects from the construction of rapid infiltration basins would be required based upon project level of design.

**16. Natural Resources**

Will the project result in:

Refer to #3, Ground Water, #7, Plant Life, and #23, Energy

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

**17. Risk of Upset**

Will the project result in:

1. Exposure of people to hazardous chemicals, radiation, or disease agents.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	-------------------------------------	--------------------------

**Discussion**

The public could be exposed to hazardous chemicals or disease agents contained in reclaimed water following discharge to the Russian River. The project would not generate or use radioactive materials. Components of this alternative include at least three options (Rapid Infiltration, Laguna Discharge, and Direct Russian River Discharge) for discharge at a rate of 20% of maximum river flow. These discharges may have local effects on surface and groundwater quality that could affect public health via domestic water from wells or direct contact with water in the Russian River.

All reclaimed water will have received tertiary treatment prior to its reuse, storage, and discharge; however, small amounts of chemicals and biological agents could persist in water after treatment. Additional studies will be conducted to investigate the effects of water quality on human health. A screening evaluation of the hazard associated with identified chemicals and biological agents in tertiary treated wastewater and a review of literature concerning the human health effects of synthetic estrogens and estrogen-like compounds will be performed. Data from these studies will be used to identify the impacts, if any, of reclaimed water discharge to human health.

The public and construction workers could be exposed to hazardous materials and/or wastes during construction of facilities (e.g., pipelines) associated with this project alternative. Hazardous materials (natural or anthropogenic) may be used or encountered during construction activities. Compliance with regulations regarding the safe handling and storage

## Alternative Six

### 20% Maximum Russian River Discharge

Yes      Maybe      No

of hazardous materials will minimize exposure to these chemicals. Hazardous wastes could be encountered during construction of components at or near existing hazardous waste sites. The potential for these sites to impact this alternative will be discussed in a report that tabulates and maps known, federal and state listed hazardous waste sites.

2. Non-compliance with applicable laws regarding the handling of hazardous materials.

☐      ☒      ☐

#### Discussion

The use and storage of hazardous materials (e.g., fuels, oils, solvents or paints) may be required during construction and operation of this alternative. Specific materials and quantities are not known at this time; however it is anticipated that all hazardous materials will be handled in compliance with applicable laws.

3. The project results in interference with an emergency response or evacuation plan.

☐      ☒      ☐

#### Discussion

During construction activities there could be short-term disruption of roadways. Construction should be coordinated with emergency response agencies to ensure that there are no adverse impacts.

### 18. Population

Will the project result in:

Refer to #19, Socio-Economics

☐      ☐      ☐

#### Discussion

### 19. Socio-Economics

Will the project result in:

1. Accommodating development beyond the capacity planned for in the General Plans of the communities in the Service Area.

☐      ☐      ☒

#### Discussion

The project is sized to the population projections of the subregional entities General Plans. Growth inducing impacts will be limited.

2. Imposition of an onerous financial burden on rate payers as a result of increased demand fees and/or service charges.

☐      ☒      ☐

#### Discussion

Additional analysis of the share of costs that will be allocated to service charges and the incomes of service area residents will be required to assess this impact.

## Alternative Six

### 20% Maximum Russian River Discharge

Yes      Maybe      No

3. Constraints to the development of new housing, thereby limiting the affordable housing opportunities in the Study Area?

☐      ☐      ☒

**Discussion**

The project is sized to the population projections of the subregional entities General Plans. To the degree that the General Plans can meet affordable housing needs, the project will not have an impact.

4. Causes physical division within the Study Area that adversely affects property values or development patterns.

☐      ☐      ☒

**Discussion**

Since the transmission pipes are planned to be underground, there will not be a long-term impact.

5. Impacts to local or regional economies or cause specific industries to no longer be viable.

☐      ☒      ☐

**Discussion**

Additional information on the demand fees and service charges associated with the alternative will be required to assess the impact on specific industries. If the costs are significantly higher than neighboring areas, it is possible that water-intensive industries will relocate from the area and new industries with high water needs may be discouraged from locating in the service area.

## 20. Housing

Will the project result in:

Refer to #17, Land Use and #19, Socio-Economics

☐      ☐      ☐

**Discussion**

## 21. Transportation/Circulation

Will the project result in:

1. Levels of service to drop to unacceptable levels (below LOS "D") at existing intersection or arterial roadways?

☐      ☒      ☐

**Discussion**

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

**Alternative Six**  
**20% Maximum Russian River Discharge**

	Yes	Maybe	No
2. Traffic increases along arterials or at intersections currently operating at unacceptable levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Discussion**

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

3. Alterations to the existing patterns of circulation which overly restrict the movement of people or goods?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

4. Potential increase in traffic hazards to motor vehicles, bicyclists or pedestrians?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

5. Construction activities resulting in unsafe operating conditions for vehicular traffic?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

6. Construction activities resulting in substantial delays to vehicular traffic?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion**

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

## Alternative Six

### 20% Maximum Russian River Discharge

Yes      Maybe      No

7. Construction unduly restricting access to properties adjacent to the construction zone?

☐      ☒      ☐

**Discussion**

If this alternative requires road closures to install new pipeline, to retrofit old equipment, or to construct new bridges or levees, there is the potential for an impact during the construction period based on this criterion. Additional analysis and specific definition of each component, will allow the level of disruption to traffic that would be caused by the alternative to be determined.

## 22. Public Services/Utilities

Will the project result in:

1. A need for new or altered governmental services or utilities?

☐      ☒      ☐

**Discussion**

This alternative may require additional delivery systems. The delivery systems which are necessary for implementation of this alternative would require ongoing maintenance.

## 23. Energy

Will the project result in:

1. Use of substantial amounts of fuel or energy?

☐      ☒      ☐

**Discussion**

The total energy use for this alternative is not known. The following information is needed to determine if this alternative would use substantial amounts of fuel or energy:

- \* Estimates of energy use for this alternative broken down by construction and operation;
- \* List of construction equipment necessary for this alternative; and
- \* List of operational equipment for this alternative and amount of energy uses.

Further analysis will be undertaken based upon more detailed project definition of this alternative. Energy for pumping water to the Geysers would be considerable, but the water would be used to generate energy.

2. Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy?

☐      ☒      ☐

**Discussion**

Estimates for current energy use at the wastewater treatment plant are needed, in addition to the information required above.

## 24. Utilities and Service Systems

Will the project result in:

Refer to #22, Public Services/Utilities

☐      ☐      ☐

**Discussion**



**Alternative Six**  
**20% Maximum Russian River Discharge**

Yes      Maybe      No

**25. Human Health**

Will the project result in:

Refer to #17, Risk of Upset

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**Discussion**

**26. Aesthetics**

Will the project result in:

Refer to #14, Visual Resources

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**Discussion**

**27. Recreation**

Will the project result in:

1. Impact upon the quality or quantity of existing recreational opportunities?

	X	
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**Discussion**

This alternative could result in the alteration of the quality or quantity of water in area streams, and thereby potentially affect recreational opportunities.

**28. Cultural and Historical Resources**

Will the project result in:

1. An important archeological resource destroyed or disturbed according to CEQA, NEPA, or the National Register of Historic Places?

X		
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**Discussion**

The project has potential to cause a physical alteration or destruction of a site through ground disturbing activities associated with installation of pipelines used to transport and discharge waste water. Cultural resources situated along creek banks may also be subject to physical impacts if erosion is increased by flow augmentation; however, if flows do not exceed existing levels, no effect would be anticipated. Because the extent of the impact area for this component has not been specified, impacts to known cultural resources cannot be ascertained. However, given the occurrence of archaeological sites along creeks in the region, there is a possibility that sites occur within impact areas.

The potential presence of cultural resources within the project area needs to be established through a records search at the Northwest Center of the Historical Resources Information System and, if necessary, through a field study of unsurveyed areas which are determined to have a possibility of containing unrecorded resources.

Whenever possible, project components should be modified to avoid impacts to cultural resources. If this is not feasible, all identified cultural resources within the Area of Potential

**Alternative Six**  
**20% Maximum Russian River Discharge**

Yes      Maybe      No

Effect will need to be evaluated for significance. This evaluation should involve a testing program with field investigations. Impacts to sites determined to be significant can be mitigated through a data recovery plan involving archaeological excavations.

2. The alteration of or the destruction of a prehistoric or historic archeological site?

☒      ☐      ☐

**Discussion**

The project has potential to cause a physical alteration or destruction of a site through ground disturbing activities associated with installation of pipelines used to transport and discharge wastewater. Cultural resources situated along creek banks may also be subject to physical impacts if erosion is increased by flow augmentation; however, if flows do not exceed existing levels, no effect would be anticipated. Because the extent of the impact area for this component has not been specified, impacts to known cultural resources cannot be ascertained. However, given the abundance of archaeological sites in the region, there is a possibility that sites occur within impact areas.

The potential presence of cultural resources within the project area needs to be established through a records search at the Northwest Center of the Historical Resources Information System and, if necessary, through a field study of unsurveyed areas which are determined to have a possibility of containing unrecorded resources.

Whenever possible, project components should be modified to avoid impacts to cultural resources. If this is not feasible, all identified cultural resources within the Area of Potential Effect will need to be evaluated for significance. This evaluation should involve a testing program with field investigations. Impacts to sites determined to be significant can be mitigated through a data recovery plan involving archaeological excavations.

3. The potential to cause a physical change which would affect unique ethnic cultural values?

☐      ☒      ☐

**Discussion**

Potential impacts to unique ethnic cultural values religious or sacred uses within impact areas can not be assessed at this stage in the EIR process.

A study of traditional cultural properties would be required to determine if the proposal has potential to cause a physical change which would affect unique ethnic cultural values and to restrict religious or sacred uses within impact areas. The Sacred Lands File kept by the Native American Heritage Commission should be consulted as part of the study.

Mitigative measures in relation to Native American associates properties should be decided upon through an agreement reached through negotiations involving representatives from the appropriate Native American groups; negotiations should be mediated through the Native American Heritage Commission.

**Alternative Six**  
**20% Maximum Russian River Discharge**

Yes      Maybe      No

4. Restriction of existing religious or sacred uses within the potential impact area?

☐☒☐

**Discussion**

Potential impacts to unique ethnic cultural values religious or sacred uses within impact areas can not be assessed at this stage in the EIR process.

A study of traditional cultural properties would be required to determine if the proposal has potential to cause a physical change which would affect unique ethnic cultural values and to restrict religious or sacred uses within impact areas. The Sacred Lands File kept by the Native American Heritage Commission should be consulted as part of the study.

Mitigative measures in relation to Native American associates properties should be decided upon through an agreement reached through negotiations involving representatives from the appropriate Native American groups; negotiations should be mediated through the Native American Heritage Commission.

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