

DRAFT STAFF REPORT AND
CERTIFIED REGULATORY PROGRAM ENVIRONMENTAL ANALYSIS
RECYCLED WATER WATER RECYCLING POLICY

Purpose of Policy

Using more recycled water is a major part of the state's plan for addressing its limited water supply, which frequently does not meet its existing water demand. This water supply could become even more limited if global warming reduces the reliability of precipitation. The California Water Plan estimates that recycled water use can increase from half of a million acre-feet per year in 2003 to about two million acre-feet per year in 2030. The state needs to encourage the development of recycled water projects in order to address the water demands of its population and industries.

In 1999, the Legislature authorized the establishment of the Recycled Water Task Force (task force). This task force included representatives from water utilities; public interest groups; federal, state, and local government; agency and industry associations; and the University of California. It issued its final report in June 2003. The final report had numerous recommendations for increasing the use of recycled water in the state. One of the recommendations concerned the need to reduce uncertainty regarding regulatory requirements for recycled water use and the need to establish a uniform interpretation of these requirements. To address this need, staff is proposing a statewide ~~Water~~ Recycleding Water Policy (Policy).

Scope of Policy

The proposed Policy concerns development of ~~implementation plans for salt (including nutrient) management planss, use of recycled water- for irrigations projects,~~ groundwater recharge reuse projects, compliance with State Water Resources Control Board (State Water Board) Resolution No. 68-16 (Statement of Policy with Respect to Maintaining High Quality of Waters in California), and ~~financial assurance/liability~~ ongoing responsibility.

The proposed Policy does not address impoundments that store recycled water. Staff has concluded that instead of the State Water Board developing uniform statewide requirements for impoundments, the Regional Water Quality Control Boards (Regional Water Boards) should develop requirements for impoundments on a case-by-case basis.

Although the task force and comment letters ~~received for the March 20, 2007 workshop~~ expressed a need to address incidental runoff of recycled water, the proposed Policy does not do so. Incidental runoff is a federal National Pollutant Discharge Elimination System (NPDES) issue that involves interpretation of federal regulations. —Hence, any policy adopted to address it would also have to be approved by the United States

Environmental Protection Agency. For this reason, staff plans to address incidental runoff in a different process, most likely through the development of a statewide general NPDES permit for discharges of incidental runoff of recycled water.

Mechanisms for Regulating Recycled Water Use

The use of recycled water is regulated by the Regional Water Boards through the issuance of water reclamation requirements and waste discharge requirements. Water reclamation requirements are issued to protect public health and are based on criteria specified in regulations adopted by the California Department of Public Health (CDPH). The Regional Water Boards issue water reclamation requirements after consulting with and receiving recommendations from CDPH or the applicable County Health Department. Water reclamation requirements are usually issued to the producer to ensure that the recycled water has received effective treatment for disinfection and to the user to ensure that recycled water is being applied properly.

Waste discharge requirements are issued to protect the quality of receiving waters, usually the groundwater underling the irrigation site. They are usually issued only to the producer of the recycled water.

Sometimes Regional Water Boards issue master reclamation permits, in lieu of issuing waste discharge requirements and water reclamation requirements. These permits are issued to the producer or distributor of the recycled water. Under a master reclamation permit, the producer or distributor is responsible for regulating the users.

Basin Plans

The proposed Policy requires Regional Water Boards to prepare ~~are implementation plans for salt, including nutrients, management plans, including nitrates,~~ for those groundwater basins: ~~that~~ (1) where water quality objectives for salts are not being met or are violate, or threatened to violate; or, water quality objectives(2) where degradation of water quality from salts is occurring that is inconsistent with State Water Board Resolution No. 68-16.

This is consistent with Water Code section 13242, which requires Water Quality Control Plans (Basin Plans) to include a program of implementation for achieving water quality objectives. These Basin Plans must include, but are not be limited to:

- a) A description of the nature of actions which are necessary to achieve the objectives, including recommendations for appropriate action by any entity, public or private.
- b) A time schedule for the actions to be taken.

- c) A description of the surveillance to be undertaken to determine compliance with the objectives.

Violations of water quality objectives for salts, including nitrates, exist in many groundwater basins in the state. Usually these violations are associated with agricultural operations that use imported water for irrigation. Other major sources of salt include dairies, food processing facilities, wineries, publicly owned treatment works and onsite septic systems. Recycled water is also a source of salt.

Approaches to regulating these sources vary throughout the State. For example, some Regional Water Boards are regulating agricultural operations under their irrigated lands regulatory programs conditional waivers; currently, these programs conditional waivers generally focus on surface water discharges, although one program requires management practices to limit the discharge of nitrate to groundwater. Regional Water Boards have established varying requirements for recycled water used for irrigation. Some have established limitations for salts in recycled water and others have not. Some water recycling irrigation projects have groundwater monitoring requirements, but most do not.

The Basin Plans are generally out of date with respect to control of salts. Although they establish groundwater objectives, they generally ~~they do not describe how these objectives will be achieved.~~ The State Water Board's intent in requiring salt management plans implementation plan development is to encourage Regional Water Boards to define the long-term beneficial uses of their groundwater basins, to evaluate management strategies for protecting these beneficial uses, and to select and implement one of these strategies. Possible solutions may be costly and require funding that is not immediately available. The lack of such funding, however, should not preclude Regional Water Boards from considering management measures or limitations to slow the rate of degradation that may be occurring in a groundwater basin. There is also interest in using groundwater basins in the state for storage and recovery. The use of groundwater basins for storage creates a need to integrate water supply planning with water quality planning.

The Santa Ana Water Board recently amended its Basin Plan to address control of total dissolved solids (TDS) and nitrate. This Basin Plan amendment provided a detailed plan for achieving water quality objectives for these constituents. Therefore, the proposed Policy provides an exemption for the Santa Ana Region.

The proposed Policy requires the salt management plans to be adopted within five years of the Regional Water Board making a finding specified in the proposed Policy, although this deadline may be extended up to five years by the Regional Water Board, if the Regional Water Board finds that significant progress has been achieved but that additional time is necessary for plan adoption. If the Regional Water Board does not implement a salt management plan within the specified time frames, then the proposed Policy requires all discharges of recycled water to meet effluent limits established by the Regional Water Board to ensure the discharges does not cause or contribute to a violations of salt or nutrient water quality objectives.

The proposed Policy states that for those groundwater basins where:

a) groundwater meets water quality objectives for salts;

b) groundwater is not being degraded in such a manner that it threatens to violate water quality objectives for salts; and

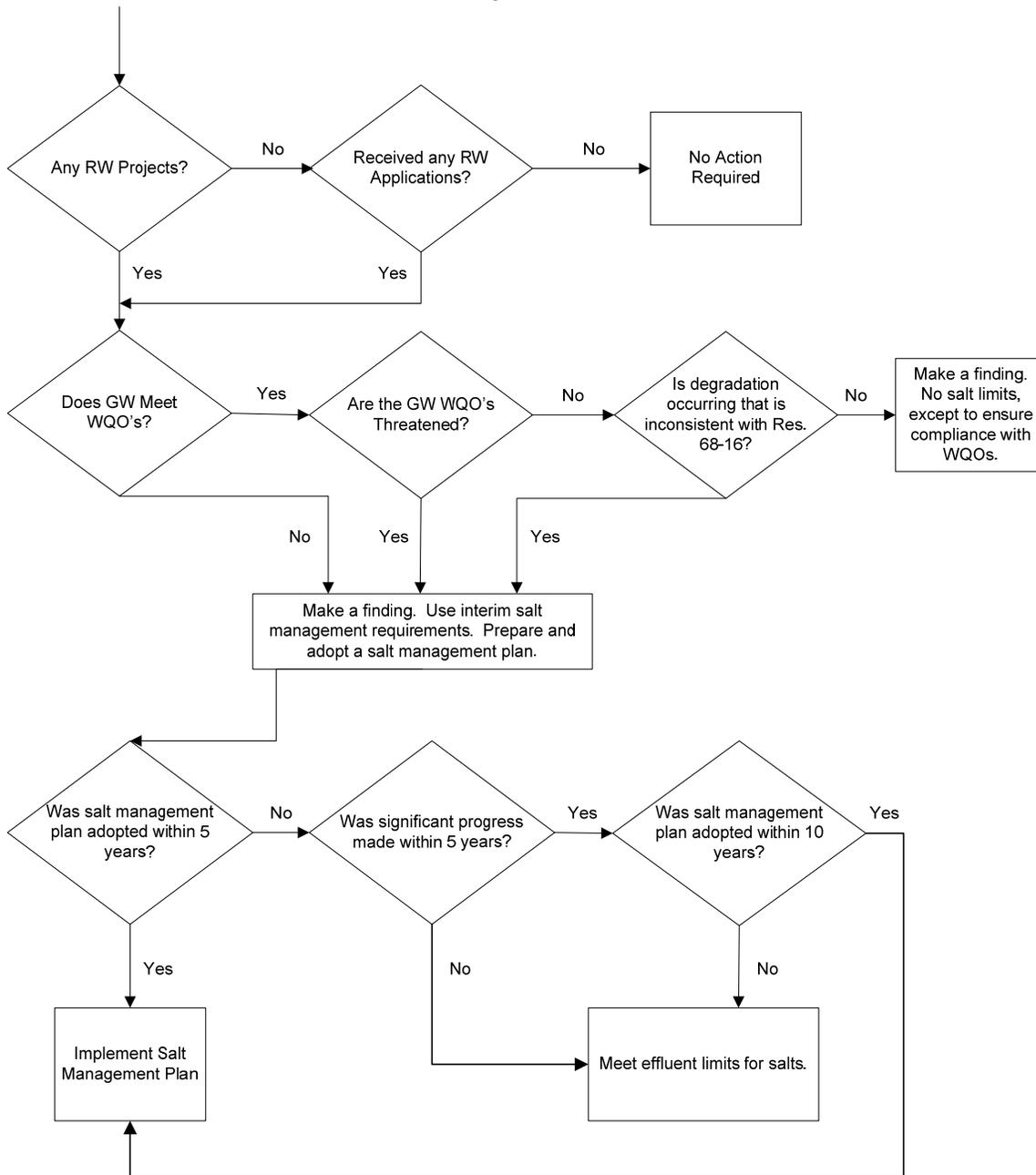
c) all degradation that is occurring is consistent with Resolution No. 68-16;

the Regional Water Boards shall not establish limitations for salts in waste discharge requirements, except as necessary to ensure compliance with water quality objectives.

Figure 1 includes a flowchart that shows the salt management procedures specified in the proposed Policy.

FIGURE 1

Salt Management Flowchart



Use of Recycled Water for Irrigation in California

In many areas, recycled water is used for irrigation in urban and agricultural settings. Urban settings include residences, parks, cemeteries, golf courses, and freeway landscaping. Agricultural settings include fields used to grow a large variety of crops including some edible crops. Irrigation methods vary and include furrow, spray, and drip irrigation methods. About two thirds of water that is recycled in California, or about 330,000 acre-feet per year, is used for irrigation.

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~~Waste discharge requirements are issued to protect the quality of receiving waters, usually the groundwater underling the irrigation site. They are usually issued only to the producer of the recycled water.~~

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Interim Salt Management Requirements for Irrigation Projects

For use of recycled water within those basins where salt management plans are being developed, the proposed Policy establishes five interim requirements that remain in effect while the salt management plans are being developed. These requirements in a summarized form are:

- a) For all recycled water used within a basin, the monthly average total dissolved concentration in the recycled water shall not exceed the monthly average total dissolved concentration of the source water supply, plus 550 mg/l.
- b) For recycled water used for irrigation, nutrient management practices shall be developed and implemented, if the concentration of nitrate in the recycled water exceeds 3 mg/l.
- c) For recycled water used for all irrigation, recycled water shall be applied in an amount that does not exceed the amount needed for the landscape or crops.
- d) For recycled water used for landscape irrigation, the Regional Water Board shall defer groundwater monitoring until the salt management plan has been approved.

unless the Regional Water Board finds that site conditions such as shallow groundwater could cause an increased potential for an adverse effect on public health or surface water quality. Nevertheless, the Regional Water Board may require recycled water dischargers to monitor for salts, if necessary for salt management plan development and if similar informational burdens are imposed on other parties who may be contributing salt loadings to the underlying groundwater.

e) During the time when the salt management plan is being developed, the Regional Water Board shall not require any other salt management measures than those stated in “a” through “d”.

Alternatives for Limitations on Salts

Staff considered alternative interim requirement for the management of salt and nitrate. These alternatives are discussed below.

Salt

The main groundwater quality issue associated with the use of recycled water for irrigation is the accumulation of salt including nitrate in groundwater. When water is used for irrigation, much of the applied water evaporates or transpires through plants. Most of the salt in the applied water is left in the soil. ~~(Plants uptake up some of the salt.)~~—To prevent a build up of salts in soil, which can limit growth and damage plants, salty soils are leached to drive the salt below the root zone. From there, the salt flows to groundwater. In arid climates, which have little winter precipitation to dilute salts, the average concentration of the salt in the percolate can be much higher than that of the applied water. This effect occurs for both surface water and recycled water, although it is generally more pronounced for recycled water, because it generally has a higher concentration of salts than surface water.

~~Staff considered~~ There are several alternative interim requirements for the regulation of salts in recycled water used for irrigation. These are presented below, along with a brief discussion of their feasibility:

a) Establish recycled water limitations for concentrations of salts that are equivalent to the water quality objectives.

This alternative has the advantage of being easy for Regional Water Boards to implement. ~~No~~ site specific analysis is needed. In most cases, the limit for recycled water would be the same as the limit for wastewater discharged to a percolation pond or a surface water body. Some commenters stated in letters submitted for the March 20, 2007 workshop that their communities' public water supplies ~~does~~ not meet water quality objectives for salts. Hence, some existing water recycling facilities might have to cease operating if this alternative was implemented. Because of evapotranspirative effects, this alternative does not ensure that the quality of the percolate that flows from the surface of a recycled water irrigation site to groundwater complies with water quality objectives.

- b) Establish recycled water limitations for concentrations of salts that ensure that the percolate quality complies with the water quality objective, taking into account the applied recycled water, precipitation, evapotranspiration, and other factors.

This alternative would require a site specific calculation to perform a salt /water balance for an irrigated site. This calculation would often produce a salt limitation that is significantly lower than the water quality objective. Although this method would likely be protective of beneficial uses, it would make many recycled water irrigation projects infeasible, because this method would often generate limitations for concentrations of salts in recycled water that are ~~limitations~~ lower than the concentrations of salts in the public water supply.

- c) Establish no recycled water limitations, but establish groundwater limitations and place monitoring wells around the irrigation site to evaluate compliance.

For this method, monitoring wells would be constructed around the irrigation site, which would be expensive to construct and maintain. If not properly abandoned when the use of recycled water is discontinued, the monitoring wells could become conduits of contaminants from the surface to groundwater. The monitoring data would be difficult to interpret, because the water that percolates from irrigated sites to the groundwater tends to float on top of the native groundwater, until it gradually mixes with it. The monitoring wells, depending on their completion intervals, could pick up the percolating water, the native water, or a mixture of the two.

- d) Establish an effluent limitation based on an allowable increase in salinity from the public water supply to the produced recycled water.

This alternative requires some effort to evaluate the flow-weighted salt concentration of the public water supply for a community. If the community is constantly changing water sources, this could be a challenge. Because the control of salts in the public water supply is not within the control of many recycled water producers, this alternative has the advantage of making the producer only responsible for the salt sources it can potentially regulate, mainly industrial users and residential self-regenerating water softeners. As a consequence of this alternative, some industrial users may have to meet more stringent local limits for salts, and some communities may have to establish programs and ordinances to replace self-regenerating water softeners with water softeners that are generated offsite. Although this alternative could allow the use of recycled water that has higher concentrations of salt than the water quality objectives, the groundwater would not be allowed to exceed water quality objectives. However, this alternative is feasible and, when compared to irrigation with the public water supply, will limit any incremental degradation to a less than significant level.

- e) Establish no effluent limitation if it is shown that assimilative capacity is available in the groundwater basin.

Some organizations have proposed using a basin-wide salt balance method to evaluate whether assimilative capacity for salt is available within a basin. If assimilative capacity is found to be available, then recycled water would be allowed

to be used without limitations on concentrations of salts. The basin-wide salt balance would be conducted by evaluating the amount of precipitation, imported water, recycled water, etc., that reaches groundwater and the concentrations of salt in those sources to determine the average salt concentration of the recharge. If this average salt concentration is lower than the water quality objective, then assimilative capacity is assumed to be available within the groundwater basin. This method models the groundwater basin as a mixed water body and can provide inaccurate results if salt discharges are concentrated in certain portions of the basin. To provide more accurate results, a groundwater simulation model would be needed. With both the simple salt balance model and the simulation model, the results are only as accurate as the inputted data.

f) Provide no direction to the Regional Water Boards.

Under this alternative, the proposed Policy would provide no direction to the Regional Water Boards in regard to regulation of salts. This would not provide a standardization of regulatory requirements, but would give flexibility to the Regional Water Boards to regulate in accordance with site-specific needs.

The recommended alternative is Alternative d. This method will require some recycled water producers to implement management measures to control discharges of salt to sanitary sewer systems. The allowable difference between the public water supply and the produced recycled water is proposed to be 55300 milligrams per liter (mg/l) TDS. This was selected as being a difference that most the majority of recycled water producers can currently meet. Producers that cannot meet the limitation will have to implement control measures.

Alternatives for Managing Nitrate

Nitrate behaves differently than other ions in recycled water such as chloride and, therefore, needs a separate discussion. When recycled water is used for irrigation, the ammonia, nitrite, nitrate, and nitrogen-containing organic compounds in the recycled water go through various transformations:

- a) The ammonia may volatilize and escape into the atmosphere. Alternatively, it may be biologically oxidized to nitrite or taken up by a plant.
- b) The nitrite may be biologically oxidized to nitrate.
- c) The nitrate may be taken up by a plant or microorganism, be converted to nitrous oxide or nitrogen gas through a biological de-nitrification process, or may leach to groundwater.
- d) The organic compounds that contain nitrogen may be broken down by microorganisms in the soil. If the reactions are complete, the primary products are carbon dioxide, water, and nitrate.

It is the leaching process that is a water quality concern. Staff evaluated four alternatives for controlling the leaching of nitrate from recycled water irrigation sites to groundwater. These are:

- a) Require development and implementation of nutrient management practices.

Under this alternative, recycled water users would be required to develop and implement nutrient management practices. To implement these practices, users would have to analyze the nutrient content of soils at their irrigation sites, estimate the nutrient needs of their crops or landscape for each portion of the year, and track the amount of nitrogen applied. Information on nutrient management practices can be found in the California Non-point Source Encyclopedia at <http://www.waterboards.ca.gov/nps/encyclopedia.html>.

- a) Establish nitrate concentration limits for recycled water based on the use of a de-nitrification process.

For this alternative, recycled water, at least for new recycled water irrigation projects, would have to be treated by a nitrification/de-nitrification process and meet an effluent limitation for nitrate that this process is capable of achieving. The removal of nitrogen would provide some water quality benefits. Ponds that store recycled water would not have the potential of discharging nitrate to groundwater at a concentration that exceeds the water quality objective. Because the recycled water would contain little nitrogen, fertilizers would have to be applied to landscapes and crops to provide necessary nutrients. The application of water and nutrients, however, would become separate activities that could be individually controlled. Difficulties associated with this alternative include cost of constructing and operating nitrification/de-nitrification facilities and the complexity of operating them.

- b) Provide no direction to the Regional Water Boards.

This alternative would provide no direction to the Regional Water Boards for regulating the concentration or application of nitrogen-containing compounds for recycled water irrigation projects. Regional Water Board would evaluate on a case-by-case basis the need to control nitrogen and establish site-specific requirements.

- c) Prohibit the establishment of requirements to control nitrate.

Some interested persons have recommended that nutrient management practices not be required for recycled water irrigation projects, unless these practices are being required for all irrigation sites. They implied that such a requirement would put recycled water at a competitive disadvantage.

Staff recommends Alternative a. This alternative would be economically and technologically feasible and would provide as much protection of water quality as any other method. The proposed Policy, however, will allow, as an option, a water recycler to implement Alternative b, the use of de-nitrification equipment. If so, the total nitrogen limit will be 3 mg/l.

Application Amounts

Another aspect to the proposed Policy is to limit the amount of recycled water applied so that it does not exceed the amount needed for landscapes or crops, taking into account evapotranspirative demand, the distribution uniformity of the irrigation systems, and leaching needed to prevent the buildup of salts in soil. This would prevent recycled water recycling irrigation facilities from being operated in a disposal mode, under which more water is applied than actually needed for the landscape or crops. Operation in such a mode increases the amount of salt that is discharged to groundwater.

Groundwater Monitoring

For the interim period during which salt management plans are being developed, the proposed Policy prohibits only allows the Regional Water Boardss from to requiring groundwater monitoring for recycled water landscape irrigation projects, unless it determines that site conditions such as shallow groundwater could cause an increased potential for the irrigated site to adversely affect public health or surface water quality. Nevertheless, the Regional Water Board may require recycled water dischargers to monitor for salts, if necessary for salt management plan development and if similar informational burdens are imposed on other parties who may be contributing salt loadings to the underlying groundwater. This limitation is being established because:
because:

- a) It is difficult to monitor for groundwater impacts at an landscape irrigation site. Discharges to groundwater from irrigated sites are not point discharges such as discharges from percolation ponds. The recycled water is usually applied over several acres, thereby requiring a monitoring network that covers several acres.
- b) If the groundwater quality at an landscape irrigated site is accurately evaluated, the evaluation would usually show that the upper layer of groundwater has concentrations of salts above water quality objectives, until mixing gradually occurs. These concentrations can be estimated by preparing water and salt balances for the irrigated site.
- e)b) If not properly abandoned when the use of recycled water is discontinued, the monitoring wells could become conduits of contaminants from the surface to groundwater.
- d)c) If not properly constructed, monitoring wells can lead to erroneous information concerning the aquifer's condition.
- e) Constructing such a large monitoring network is expensive. Requiring onethem to be constructed can make the use of recycled water more expensive than using the public water supply water.

However, the The Regional Water Board may use Water Code Section 13267 orders or other appropriate means to issue such requests for information only if they impose costs that bear a reasonable relationship to the need for the information and the benefits to be obtained;

d)

The proposed Policy does not contain this limit groundwater monitoring for irrigation of crops, since the Regional Water Boards regulate this activity through their regulatory program for irrigated agricultural lands.

Compliance with Water Quality Objectives

The proposed Policy has a requirement that recycled water shall not cause or contribute to a violation of a water quality objective. As stated previously, recycled water irrigation sites in arid areas of the state often produce a percolate with a concentration of salts greater than water quality objectives. Whether this affects a beneficial use of groundwater depends on the hydrologic situation. In a large groundwater basin with deep wells, the percolate will mix with other recharge sources, and assuming the other recharge sources are of high quality, the discharge will not cause a violation of a water quality objective at the point of withdrawal. In another situation, ~~an~~ the irrigated ~~site~~ site could be next to a shallow domestic well, and a recycled water irrigation project could potentially cause the groundwater quality at the domestic well to not be in compliance with a water quality objective for a salt. The Regional Water Board should evaluate the potential for recycled water irrigation projects to contaminate shallow wells, before approving the recycled water irrigation project. Under the conditions of the proposed Policy, the recycled water producer or user would be ~~responsible~~ liable for any contamination. Also, the Regional Water Board would be allowed to require groundwater monitoring, since the specific site conditions create a potential health risk, the potential contamination of a residential well with nitrate salts.

Nitrate

~~Nitrate behaves differently than other ions in recycled water such as chloride and therefore needs a separate discussion. When recycled water is used for irrigation, the ammonia, nitrite, nitrate, and organic compounds that contain nitrogen in the recycled water go through various transformations:~~

- ~~a) The ammonia may volatilize and escape into the atmosphere. Alternatively, it may be biologically oxidized to nitrite or taken up by a plant.~~
- ~~b) The nitrite may be biologically oxidized to nitrate.~~
- ~~c) The nitrate may be taken up by a plant or microorganism, be converted to nitrous oxide or nitrogen gas through a biological de-nitrification process, or may leach to groundwater.~~
- ~~d) The organic compounds that contain nitrogen may be broken down by microorganisms in the soil. If the reactions are complete, the primary products are carbon dioxide, water, and nitrate.~~

~~It is the leaching process that is of most water quality concern. Staff evaluated four alternatives for controlling the leaching of nitrate from recycled water irrigation sites to groundwater. These are:~~

- ~~a) Require development and implementation of nutrient management plans.~~

~~— Under this alternative, recycled water users would be required to develop and implement nutrient management plans. To implement these plans, users would~~

have to analyze the nutrient content of soils at their irrigation sites, estimate the nutrient needs of their crops or landscape for each portion of the year, and track the amount of nitrogen applied.

b) Establish nitrate concentration limits for recycled water based on the use of a de-nitrification process.

— For this alternative, recycled water, at least for new recycled water irrigation projects, would have to be treated by a nitrification/de-nitrification process and meet an effluent limitation for nitrate that this process is capable of achieving. The removal of nitrogen would provide some water quality benefits. Ponds that store recycled water would not have the potential of discharging nitrate to groundwater at a concentration that exceeds the water quality objective. Because the recycled water would contain little nitrogen, fertilizers would have to be applied to landscapes and crops to provide necessary nutrients. The application of water and nutrients, however, would become separate activities that could be individually controlled. Difficulties associated with this alternative include cost of constructing and operating nitrification/de-nitrification facilities and the complexity of operating them.

c) Provide no direction to the Regional Water Boards.

— This alternative would provide no direction to the Regional Water Boards for regulating the concentration or application of nitrogen-containing compounds for recycled water irrigation projects. Regional Water Board would evaluate on a case-by-case basis the need to control nitrogen and establish site-specific requirements.

d) Prohibit the establishment of requirements to control nitrate.

— Some interested persons have recommended that nutrient management plans not be required for recycled water irrigation projects, unless these plans are being required for all irrigation sites. They implied that such a requirement would put recycled water at a competitive disadvantage.

Staff recommends Alternative a. This alternative would be economically and technologically feasible and would provide as much protection of water quality as any other method. However, future guidance may be needed on how to prepare a nutrient management plan to implement this alternative.

Narrative Toxicity Objectives

Some Regional Water Boards have basin plans with narrative water quality objectives that apply to toxic constituents. The narrative objectives for each Basin Plan are listed in the following table.

| <u>Basin Plan</u> | <u>Narrative Objective</u> |
|--------------------------|--|
| <u>North Coast</u> | <u>No narrative objectives for toxicity.</u> |
| <u>San Francisco Bay</u> | <u>“All groundwater shall be maintained free of organic and inorganic chemical constituents in amounts that adversely affect beneficial uses.”</u> |

| | |
|--------------------------------|--|
| <u>Central Coast</u> | <u>No narrative objectives for toxicity.</u> |
| <u>Los Angeles</u> | <u>“Groundwaters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.”</u> |
| <u>Sacramento/ San Joaquin</u> | <u>“Groundwaters shall not contain chemical constituents in concentrations that adversely affect beneficial uses.”</u> |
| <u>Tulare</u> | <u>“Groundwaters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses.”</u> |
| <u>Lahontan</u> | <u>“Groundwater shall not contain concentrations of chemical constituents that adversely affect the water for beneficial uses.”</u> |
| <u>Colorado River</u> | <u>No narrative objectives for toxicity.</u> |
| <u>Santa Ana</u> | <u>“All waters of the region shall be maintained free of substances in concentrations which are toxic, or that produce detrimental physiological responses.....”</u> |
| <u>San Diego</u> | <u>“All waters of the region shall be maintained free of substances in concentrations which are toxic, or that produce detrimental physiological responses.....”</u> |

The proposed Policy states that if the California Department of Public Health (CDPH) has developed a maximum contaminant level (MCL) for a constituent or provided a recommendation for a limitation, the Regional Water Board shall establish an effluent limitation that is equivalent to the MCL or the recommendation. If the Department of Public Health has not developed an MCL or provided a recommendation, then the Regional Water Board shall interpret the narrative object to develop an effluent limitation only if:

- a) The constituent is present in the recycled water;
- b) The constituent is likely to be persistent in groundwater in the recharge area;
- c) Adequate information is available to characterize the toxicity of constituent and establish an effluent limitation; and
- d) Approved analytical methods are available to measure the concentration of the constituent.

Groundwater Recharge Reuse Projects

Groundwater recharge reuse projects recharge groundwater with recycled water for later extraction and use for municipal supply. Currently, groundwater recharge reuse projects only exist in southern California. There are two methods of recharge – through percolation ponds (also called spreading basins) and by injection through wells.

Groundwater recharge reuse project proposals are evaluated by CDPH on a case-by-case basis, although CDPH is developing regulations for these projects. After

completing an evaluation, CDPH will issue a recommendation for a project. If the recommendation is to approve, the approval will contain a set of conditions.

After receiving an affirmative recommendation from CDPH, the Regional Water Board prepares an order that contains waste discharge and water reclamation requirements. This order will include the CDPH conditions. Additional requirements may also be established to protect other uses besides municipal usesupply.

The proposed Policy includes two conditions that apply only to groundwater recharge reuse projects. The first allows a Regional Water Board to establish a groundwater limitation in lieu of an effluent limitation, provided the Regional Water Board finds that attenuation of the constituent will occur and that groundwater monitoring will be performed. The second requires the evaluation of a groundwater recharge reuse project's potential to change the geochemical equilibrium of an aquifer and, thereby, degrade the quality of its groundwater. If this potential is found to exist, the proposed Policy requires the establishment of requirements to limit the degradation and prevent violations of water quality objectives

~~For groundwater recharge reuse projects, the proposed Policy does the following:~~

- ~~a) Requires Regional Water Boards to establish effluent limitations at the CDPH maximum contaminant levels (MCL) for drinking water when interpreting a narrative objective for toxicity.~~
- ~~b) Establishes allowable conditions under which a Regional Water Board may interpret a narrative objective to establish an effluent limitation when no MCL has been established for a constituent.~~
- ~~c) Provides procedures for establishing groundwater quality limitations in lieu of effluent limitations.~~
- ~~d) Requires evaluations of the potential for groundwater recharge reuse projects to change the geochemical equilibrium in aquifers.~~
- ~~e) Requires Regional Water Boards to implement CDPH recommendations in water reclamation requirements for groundwater recharge reuse projects and, if necessary, to follow the conflict resolution process described in the 1966 "Memorandum of Agreement between the Department of Health Services and the State Water Resources Control Board on the Use of Reclaimed Water."~~

~~The intent of these requirements is to specify consistent procedures to be used by the Regional Water Boards to establish requirements for groundwater recharge reuse projects.~~

~~Resolution No. 68-16 — Policy with Respect to Maintaining High Quality Water~~

In 1968, the State Water Board adopted Resolution No. 68-16, which is titled "Statement of Policy with Respect to Maintaining High Quality of Waters in California." This is often referred to as being the anti-degradation policy, since part of its purpose is to satisfy Title 40 sSection 131.12 of the Code of Federal Regulations (CFR), which is titled "Antidegradation Policy." This federal regulation requires the states to adopt anti-degradation policies to ensure that ~~any~~ lowering of water quality is allowed only where necessary to accommodate important economic or social development. Resolution No. 68-16 has been found by the State Water Board to ~~also~~ apply to groundwater.

The first two parts of Resolution No. 68-16 states that:

"Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies.

"Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained."

~~Resolution No.~~

~~Resolution No.~~

~~¶~~Two terms in Resolution No. 68-16 have been subject to different interpretations among Regional Water Boards. These are "maximum benefit to the people of the state" and "best practicable treatment or control." The proposed Policy finds that all recycled water projects provide a maximum benefit to the people of the state, provided that they do not cause violations of water quality objectives. In other words, although water recycling projects may cause some lowering of water quality, this benefit is offset by the benefit of using recycled water for additional water supply.

The proposed Policy would establish uniform statewide requirements for recycled water irrigation projects and finds that these are consistent with best practicable treatment or control. These requirements are during the interim period while Regional Water Boards are developing salt management plans for their affected groundwater basins.:

- ~~a) The development and implementation of a nutrient management plan.~~
- ~~b) Compliance with the California Code of Regulations, Title 22, Division 4, Chapter 3, Recycling Criteria.~~
- ~~c) The recycled water to be applied in an amount that does not exceed the amount needed for the landscape or crops.~~
- ~~—The monthly average TDS concentration in the recycled water to not exceed the monthly average TDS concentration of the source water supply, plus 300 mg/l.~~

Compliance with the CFRs, Title 40, Part 122, NPDES;
The use of recycled water to not cause or contribute to violations of water quality objectives.

For groundwater recharge reuse projects, the proposed Policy establishes several requirements and also finds that that compliance with these requirements meets the requirement to implement best practicable treatment or control.

The proposed Policy states that recycled water use is in compliance with Resolution No. 68-16 provided the requirements in the proposed Policy are met. Although irrigation with recycled water for irrigation may cause some degradation of groundwater quality, it provides the benefit of additional water supply. This benefit is considered to be a maximum benefit, until the Regional Water Boards evaluate salt management strategies as part of the salt management plan adoption process.

Ongoing Responsibility~~Financial Assurance/Liability~~

The proposed Policy addresses ongoing responsibility~~liability~~ and financial assurance. For ongoing responsibility~~liability~~, the proposed Policy states that compliance with the proposed Policy does not exempt a discharger from responsibility~~liability~~ for contamination of groundwater.

Coordination with CDPH

The Regional Water Boards, CDPH and County Health Departments have responsibilities for regulating recycled water. CDPH is responsible for adopting water recycling criteria. CDPH and the County Health Departments provide recommendations to the Regional Water Boards for water reclamation requirements that the Regional Water Boards prepare. The Regional Water Boards are responsible for preparing waste discharge and water reclamation requirements. Both the Regional Water Boards and the County Health Departments may inspect water recycling operations.

Because of these joint responsibilities, coordination among the agencies is necessary. In 1996, the State Water Board and the Department of Health Services signed a memorandum of agreement that specifies respective responsibilities and procedures for regulation of recycled water. The MOA includes procedures for resolving conflicts among the agencies.

In situations where a Regional Water Board staff disagrees with a recommendation provided by CDPH or the County Health Department on a water recycling project, the proposed Policy requires Regional Water Board staffs to follow the conflict resolution procedures specified in the MOA.

Resolution No. 77-1

The State Water Board adopted Resolution No. 77-1 in 1977. The resolution is titled "Policy with Respect to Water Reclamation in California". Resolution No. 77-1 established several principles regarding recycled water. These principles in summarized form are:

a) The State and Regional Water Boards shall encourage and consider or recommend for funding water recycling projects that:

1) beneficially use wastewater that would otherwise be discharged to marine or brackish waters or evaporation ponds;

2) replace or supplement the use of fresh water or better quality water; or

3) preserve, restore, or enhance instream beneficial uses.

b) The State and Regional Water Boards shall (1) encourage water recycling in water-short areas of the state, (2) encourage water conservation measures, and (3) encourage other agencies to assist in implementing the policy (Resolution No. 77-1).

c) the State and Regional Water Boards recognize the need to protect public health and the environment in the implementation of water recycling projects.

Resolution No. 77-1 also includes the approval of several documents to help implement the resolution.

The intent of the proposed Policy is to build upon the principles established in Resolution No. 77-1. If there are any conflicts, however, the proposed Policy supersedes the language in Resolution No. 77-1.

~~The proposed Policy authorizes Regional Water Boards to require owners of groundwater recharge reuse projects to pass a financial means test or otherwise provide financial assurances of their ability to bear liability, as is currently required for landfills. This would be an option that a Regional Water Board could employ in cases where a groundwater recharge reuse project could potentially affect the water supplies of another agency or person.~~

Environmental Checklist

1. AESTHETICS. Would the project:

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Have a substantial adverse effect on a scenic vista? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Substantially degrade the existing visual character or quality of the site and its surroundings? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

- a. The proposed Policy may encourage the development of more recycled water use projects. A new recycled water use project may improve or adversely affect a scenic vista. Any project with the potential to affect aesthetics would be subject to CEQA on an individual case-by-case basis, and potential impacts to scenic vistas would be evaluated at that time.
- b. Recycled water may be used for landscape irrigation, including irrigation of landscape within a state scenic highway. Irrigation of a salt-sensitive tree with certain recycled water could damage the tree. This potential should be evaluated before initiating the irrigation. The potential impact to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway is less than significant.
- c. A recycled water project subject to the proposed Policy could affect the existing visual character or quality of a site and its surroundings. Any potential effect would be subject to CEQA on an individual case-by-case basis, and potential impacts to scenic vistas would be evaluated at that time.
- d. The increased use of recycled water will not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

2. AGRICULTURAL RESOURCES. In determining whether impacts to agricultural resources are significant environmental impacts, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping & Monitoring Program of the California Resources Agency, to non-agricultural uses? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

a. The proposed policy will not convert farmland to non-agricultural uses.

b. The proposed Policy is not expected to conflict with existing zoning for agricultural use or a Williamson Act contract.

c. If not properly managed, salts in recycled water could cause a loss of soil productivity. Consequently, a grower may take agricultural land out of production and sell it for conversion to a non-agricultural use. It is expected, however, that growers will properly manage soil salinity and that this impact will be less than significant.

3. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Conflict with or obstruct implementation of the applicable air quality plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Expose sensitive receptors to substantial pollutant concentrations? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Create objectionable odors affecting a substantial number of people? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Staff is not aware of any situations where implementation of the proposed Policy would directly impact air quality. Our lack of awareness, however, does not preclude the possibility of air quality impacts caused by construction activities (e.g., construction of more or improved wastewater treatment infrastructure) in response to this proposed Policy. Any future activity would be subject to CEQA on an individual

case-by-case basis, and potential impacts to air quality would be evaluated at that time.

4. BIOLOGICAL RESOURCES. Would the project:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the DFG or USFWS? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Have a substantial adverse effect on federally-protected wetlands as defined by Section 404 of the federal Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption or other means? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory corridors, or impede the use of native wildlife nursery sites? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

a.-c. Direct environmental effects from the use of recycled water, in accordance with the proposed Policy, on sensitive species, sensitive natural communities, and wetlands would be less than significant.

Use of recycled water could increase incidental irrigation runoff, soil salinity, and saturate soils. This may impact adjacent natural habitat and potentially sensitive species and plants. This impact from the use of recycled water, however, would not significantly exceed current baseline levels using community water sources, since salinity levels would be controlled, and drainage channels are generally effective at capturing most run-off. Any discharge to surface waters would be regulated so as to comply with water quality objectives.

There may be indirect environmental effects from the use of recycled water on sensitive natural communities and wetlands ~~hydrologically~~ hydrohydraulically connected to groundwater that may be affected by recycled water constituents, including salts. This may also impact sensitive animal species using these communities. The proposed Policy, however, includes ~~the following waste discharge and water reclamation~~ the interim requirements presented in the box below that would ensure that impacts to groundwater would be less than significant for recycled water irrigation projects individually and cumulatively. The proposed Policy also

does not authorize any discharge of recycled water that would cause or contribute to a violation of a water quality objective.:

INTERIM WASTE DISCHARGE AND WATER RECLAMATION REQUIREMENTS

1. For all recycled water projects within the basin, the monthly average TDS concentration in the recycled water shall not exceed the monthly average TDS concentration of the source water supply, plus 550 mg/l. The monthly average TDS concentration of the source water supply shall be the flow-weighted monthly average TDS concentration of the public water supply of the service area that generates sewage from which the recycled water is produced;

2. For all irrigation projects in which the concentration of total nitrogen in the recycled water is more than three mg/l, the Regional Water Board shall require the development and implementation of nutrient management measures;

~~(a)3. For all irrigation projects, the recycled water shall be applied in an amount that does not exceed the amount needed for vegetation or crops, taking into account evapotranspirative demand, the distribution uniformity of the irrigation system, and leaching needed to prevent the buildup of salts in soil;~~ ~~the development and implementation of a nutrient management plan;~~

~~(b)compliance with the California Code of Regulations, Title 22, Division 4, Chapter 3, Recycling Criteria;~~

~~(c)the recycled water to be applied in an amount that does not exceed the amount needed for the landscape or crops, taking into account evapotranspirative demand, the distribution uniformity of the irrigation system, and leaching needed to prevent the buildup of salts in soil;~~

~~(d)the monthly average TDS concentration in the recycled water to not exceed the monthly average TDS concentration of the source water supply, plus 300 milligrams/liter. The monthly average TDS concentration of the source water supply shall be the flow weighted monthly average TDS concentration of the municipal water supply of the service area that generates sewage from which the recycled water is produced;~~

~~(e)compliance with the federal Code of Regulations, Title 40, Part 122, National Pollutant Discharge Elimination System; and~~

~~(f)the use of recycled water to not cause or contribute to violations of water quality objectives.~~

d. A recycled water irrigation site could be proposed to be located within a migratory corridor. Any such proposal, however, would be subject to local CEQA review.

e. No impact. Recycled water projects implemented in accordance with the proposed Policy would not conflict with local policies or ordinances.

f. No impact. The proposed Policy does not conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or any other local, regional, or state habitat conservation plan.

5. CULTURAL RESOURCES. Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Disturb any human remains, including those interred outside of formal cemeteries? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Staff is not aware of any cultural resources that would be affected by the proposed Policy. Our lack of awareness, however, does not preclude the possibility that cultural resources could be impacted by construction activities in response to this proposed Policy. Any future construction would be subject to CEQA on an individual case-by-case basis, and potential impacts to cultural resources would be evaluated at that time.

Issues (and Supporting Information Sources):

| | | | |
|--------------------------------------|---|------------------------------------|--------------|
| Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|--------------------------------------|---|------------------------------------|--------------|

6. GEOLOGY and SOILS. Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: | | | | |
| i) Rupture of a known earthquake fault, as delineated in the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines & Geology Special Publication 42. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| ii) Strong seismic ground shaking? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iii) Seismic-related ground failure, including liquefaction? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iv) Landslides? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Result in substantial soil erosion or the loss of topsoil? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Be located on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternate wastewater disposal systems where sewers are not available for the disposal of wastewater? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Staff is not aware of any geologic or soils conditions that could be affected by the proposed Policy. Our lack of awareness, however, does not preclude the possibility of geologic or soils conditions that could be impacted by construction activities in response to the proposed Policy. Any future activity would be subject to CEQA on an individual case-by-case basis, and potential impacts to geology and soils would be evaluated at that time.

7. HAZARDS and HAZARDOUS MATERIALS. Would the project:

| | | | | |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or to the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

A consequence of adoption of the proposed Policy may be the construction of more recycled water treatment facilities. These additional facilities may use chlorine gas or sodium hypochlorite for disinfection. Both of these materials are hazardous. Use of these materials, however, is subject to hazardous material regulations and inspection by local regulatory agencies. Any construction of a recycled water treatment facility will be subject to local CEQA review. This impact is not expected to be significant.

8. HYDROLOGY and WATER QUALITY. Would the project:

| | | | | |
|---|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| a) Violate any water quality standards or waste discharge requirements? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Substantially alter the existing drainage pattern of the site, including through alteration of the course of a stream or river, or substantially increase the rate or volume of surface runoff in a manner that would: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| i) result in flooding on- or off-site | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| ii) create or contribute runoff water that would exceed the capacity of existing or planned stormwater discharge | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| iii) provide substantial additional sources of polluted runoff | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| iv) result in substantial erosion or siltation on-or off-site? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Otherwise substantially degrade water quality? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e) Place housing or other structures which would impede or re-direct flood flows within a 100-yr. flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Would the change in the water volume and/or the pattern of seasonal flows in the affected watercourse result in: | | | | |
| i) a significant cumulative reduction in the water supply downstream of the diversion? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| ii) a significant reduction in water supply, either on an annual or seasonal basis, to senior water right holders downstream of the diversion? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| iii) a significant reduction in the available aquatic habitat or riparian habitat for native species of plants and animals? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| iv) a significant change in seasonal water temperatures due to changes in the patterns of water flow in the stream? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| v) a substantial increase or threat from invasive, non-native plants and wildlife | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Place within a 100-year flood hazard area structures which would impede or redirect flood flows? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) Be subject to inundation by seiche, tsunamis, or mudflow? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

- a. The proposed Policy prohibits recycled water users or producers from violating water quality objectives.

Also, as discussed in the earlier section, the proposed Policy has several other requirements for recycled water producer procedures and users to protect water quality. These requirements may not by themselves ensure that water that percolates from the surface of a recycled water irrigation site to groundwater will have a concentration of salt that is lower than the water quality objective. Hence, to achieve compliance with the water quality objective in groundwater as required by the proposed Policy, the percolating water would mix with higher quality groundwater to ensure that the discharge will not cause a violation of a groundwater quality objective. Under the proposed Policy, the Regional Water Board would deny issuance of waste discharge requirements for recycled water that exceeds the relevant water quality objectives, if the existing groundwater does not meet water quality objectives and no assimilative capacity is available. These requirements provide adequate mitigation to ensure compliance with water quality objectives.

- b. If the proposed Policy results in an increased use of recycled water, this use may be a substitute for groundwater use. Hence, the proposed Policy may help prevent the reduction of groundwater supplies. Groundwater recharge reuse projects directly augment groundwater supplies.
- c. It is possible that a golf course whose construction is facilitated by the availability of recycled water could alter drainage patterns, although because turf is relatively permeable, it is unlikely that this type of facility would greatly increase runoff from the previous condition. Such a facility would be evaluated under CEQA at the time it is proposed. Hence, this potential impact is less than significant.
- d. Groundwater recharge reuse projects could potentially degrade groundwater quality, but any degradation would not be substantial because these projects must be reviewed and approved by CDPH, which evaluates the safety of drinking water supplied by these projects. The proposed Policy requires CDPH recommendations to be incorporated into waste discharge/water reclamation requirements for groundwater recharge reuse projects. This requirement will provide adequate mitigation to ensure that any degradation is less than significant.
- e. No likely impact.
- f. It is possible that the proposed Policy could encourage an agency to reduce the volume of wastewater it discharges to a stream, and to increase the volume of water it recycles. This could affect downstream water users and the aquatic community in the stream. Before an agency can do this, however, it must obtain authorization to do so from the State Water Board, Division of Water Rights. This authorization is required to contain conditions established to protect downstream

beneficial uses.

- g. No impact.
- h. No impact.
- i. No impact.

9. LAND USE AND PLANNING. Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Physically divide an established community? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

- a. The proposed Policy has no potential to physically divide an established community.
- b. The proposed Policy does not conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.
- c. The proposed Policy will not result in conflict with any applicable habitat conservation plan or natural community conservation plan.

10. MINERAL RESOURCES. Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Staff is not aware of any mineral resources that could be affected by the proposed Policy. Our lack of awareness, however, does not preclude the possibility of mineral resources that could be impacted by construction activities in response to this proposed Policy. Any future activity would be subject to CEQA on an individual case-by-case basis, and potential impacts to mineral resources would be evaluated at that time.

11. NOISE. Would the project result in:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

| Issues (and Supporting Information Sources): | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|--|--------------------------------|--|------------------------------|-------------------------------------|
| c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing in or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) For a project within the vicinity of a private airstrip, would the project expose people residing in or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Staff does not expect the proposed Policy to affect exposure of persons to ~~or generation of~~ noise levels in excess of standards established in the local general plan, a noise ordinance or, or an applicable standards of other agencies. The proposed Policy is not expected to~~or otherwise~~ create adverse noisy conditions.

12. POPULATION AND HOUSING. Would the project:

| | | | | |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Induce substantial population growth in an area either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

- a. An effect of the proposed policy may be the production of more recycled water to address the state's limited water supply, which does not always meet existing demand. Some communities have limited water resources and must have additional water resources to allow substantial population growth. Using recycled water can be a strategy to obtain the additional water resources necessary for growth. This strategy, however, has been used without the presence of a water recycling policy. Although the proposed Policy will standardize recycled water use requirements, it is not expected that the increase in recycled water use will result in growth substantially beyond what would occur in the absence of the proposed Policy. Any new development will be subject to local CEQA review.
- b. The proposed Policy will not displace substantial numbers of existing residences.
- c. The proposed Policy will not displace substantial numbers of people.

13. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service rations, response times or other performance objectives for any of the public services:

- | | | | | |
|-----------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Fire protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Police protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Schools? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Parks? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Other public facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Staff is not aware of any public services that could be affected by the proposed Policy. Our lack of awareness, however, does not preclude the possibility of public services that could be impacted by construction activities in response to this proposed Policy. Any future activity would be subject to CEQA on an individual case-by-case basis, and potential impacts to public services would be evaluated at that time.

14. RECREATION. Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Staff is not aware of any recreational uses that could be affected by the proposed Policy. Our lack of awareness, however, does not preclude the possibility of recreational uses that could be impacted by construction activities in response to the proposed Policy. Any future activity would be subject to CEQA on an individual case-by-case basis, and potential impacts to recreational resources would be evaluated at that time.

15. TRANSPORTATION / CIRCULATION. Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (<i>i.e.</i> , result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Exceed, either individually or cumulatively, a level-of-service standard established by the county congestion management agency for designated roads or highways? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Substantially increase hazards due to a design feature (<i>e.g.</i> , sharp curves or dangerous intersections) or incompatible uses (<i>e.g.</i> , farm equipment)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

| Issues (and Supporting Information Sources): | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|--|--------------------------------|--|------------------------------|-------------------------------------|
| e) Result in inadequate emergency access? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Result in inadequate parking capacity? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Conflict with adopted policies supporting alternative transportation (e.g., bus turnouts, bicycle racks)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Staff is not aware of any potential transportation uses or circulation patterns that could be affected by the proposed Policy. Our lack of awareness, however, does not preclude the possibility of transportation uses or circulation patterns that could be impacted by construction activities in response to the proposed Policy. Any future activity would be subject to CEQA on an individual case-by-case basis, and potential impacts to transportation/circulation would be evaluated at that time.

16. UTILITIES AND SERVICE SYSTEMS. Would the project:

| | | | | |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Comply with federal, state, and local statutes and regulations related to solid waste? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Staff is not aware of any ~~potential~~ utilities and service systems that potentially could be affected by the proposed Policy.

b. The proposed Policy may facilitate an increased use of recycled water that could result in construction of more wastewater conveyance and treatment facilities. Any future construction would be subject to CEQA on an individual case-by-case basis, and potential impacts to utilities and service systems would be evaluated at that time.

c. It is unlikely that implementation of the proposed Policy would create a need for significant construction of additional storm water drainage facilities. Any additional drainage, for example, for an expanded wastewater treatment plant, would be less than significant.

Issues (and Supporting Information Sources):

| Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|--------------------------------|--|------------------------------|-----------|
|--------------------------------|--|------------------------------|-----------|

17. MANDATORY FINDINGS OF SIGNIFICANCE.

- | | | | | |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|
| a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

- a. Please reference discussion in 8.a (HYDROLOGY and WATER QUALITY).
- b. Same.
- c. Same.