

FINDINGS OF FACT

EXHIBIT A

I. INTRODUCTION

The Environmental Impact Report (EIR) for the Marin Municipal Water District (MMWD) Desalination Project presents an assessment of the potential environmental effects of MMWD's Desalination Project (Project).

These findings, as well as the accompanying statement of overriding considerations in Exhibit B, have been prepared in accordance with the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.) and the CEQA Guidelines (Cal. Code Regs., tit. 14, § 15000 et seq.). MMWD is the lead agency for the environmental review of the Project and has the principal responsibility for its approval.

II. DEFINITIONS AND ACRONYMS

These findings use the same definitions and acronyms set forth in the EIR.

III. PROJECT DESCRIPTION

A. OVERVIEW

The Project is the construction and operation of a 5 million gallon per day (MGD) desalination plant. Certain infrastructure will be oversized so that it could accommodate potential expansion of the plant. In the event MMWD decides to expand the plant, expansion will occur in 5 MGD increments, up to a maximum capacity of 15 MGD – i.e., to 10 MGD, and to 15 MGD. Therefore, two expansion phases of 5 MGD are possible to reach the maximum facility capacity of 15 MGD. The expansion of the plant to a maximum of 15 MGD would occur in potential future phases of the Project, but is not approved at this time. Because the expansion of the plant to 15 MGD may occur in potential future phases of the Project, the EIR analyzed the impacts of a 15 MGD plant and identified mitigation measures associated with such a plant. At a future date, MMWD could determine that expansion phases were necessary if the water supply produced from desalination, in conjunction with MMWD's continued conservation efforts and other water supply enhancements were unable to fulfill MMWD's current or future service commitments.

The desalination plant will take "raw water" or "feed water" from San Rafael Bay and subject it to various forms of treatment to produce drinkable (potable) water. Treatment will involve a "pretreatment" phase to remove solids from the raw water, then desalination using reverse osmosis (RO) technology, followed by "post-treatment" of desalted water to produce drinking water with taste and other characteristics comparable to that presently provided to MMWD customers. The RO process will produce "permeate" or "product water" for drinking, and saline "concentrate" or "brine" that will be discharged back into San Rafael Bay.

The desalination plant will be located on MMWD-owned land on Pelican Way in the City of San Rafael, California. Bay water will be piped from an intake at the end of a rebuilt Marin Rod & Gun Club pier near the Richmond-San Rafael Bridge. Pretreatment of raw water to remove solids will generate sludge. This sludge will be hauled for disposal at the Redwood Landfill in northern Marin County. The desalination process will convert

FINDINGS OF FACT

about half the volume of raw water taken from the Bay into drinking water. The remaining water, or brine, will have a dissolved solids concentration about twice that of the raw water.

The brine will be discharged back to the Bay via an outfall operated by the Central Marin Sanitation Agency (CMSA), which treats municipal and industrial wastewater generated in central Marin County. Blending of brine with CMSA's treated wastewater effluent will reduce the concentration of dissolved salts in the brine prior to its release into San Rafael Bay.

In addition to the desalination plant, in-system improvements will be needed to convey the desalinated water into MMWD's existing distribution system. The 5 MGD facility will require construction of two reaches of pipeline, two pumping stations, and three storage tanks. An additional pipeline reach and pumping station will be constructed if the facility is expanded beyond 5 MGD capacity.

The first pipeline reach will connect the desalination plant to new water storage tanks on San Quentin Ridge. The second reach will connect the San Quentin Ridge tanks to a new storage tank on a ridge between Mill Valley and Corte Madera (the Ridgecrest tank) and then to MMWD's existing pipeline system. If the desalination plant is expanded beyond 5 MGD capacity, a third pipeline reach will be constructed to connect the San Quentin Ridge tanks to existing MMWD distribution facilities in the northern portion of the MMWD service area.

Two new pumping stations will be required to move the desalinated water into the system: one at the Pelican Way desalination plant site, and one along the pipeline connecting the San Quentin Ridge tanks with the Ridgecrest tank. If the desalination plant is expanded beyond 5 MGD capacity, a third pumping station will be constructed between the San Quentin Ridge tanks and the existing Pacheco Ridge tanks which are located at the northern edge of MMWD's service area.

The new tanks will include two 2-million-gallon tanks on San Quentin Ridge and another 2-million-gallon tank on the ridge dividing Mill Valley and Corte Madera east of U.S. Highway 101 (the Ridgecrest tank site).

B. PROJECT OBJECTIVES

The objective of the desalination Project is to provide high-quality, reliable potable water to help balance water supply and demand in MMWD's service area, including during emergencies and drought conditions, in a manner that is cost-effective, protects public health and safety, fulfills MMWD's service commitments, and minimizes environmental and community impacts. Additional information regarding the development of the Project, and MMWD's objectives in approving the Project, is set forth in sections 3.1 and 3.2 of the Final EIR, and in the staff report to the Board presented on February 18, 2009.

C. DISCRETIONARY APPROVALS

FINDINGS OF FACT

Construction and operation of the desalination Project will require permits and approvals from a variety of resource agencies. The environmental permits and approvals that will likely be required include:

- National Pollutant Discharge Elimination System (NPDES) Permit from the San Francisco Bay Regional Water Quality Control Board;
- Section 401 Water Quality Certification from the San Francisco Bay Regional Water Quality Control Board;
- Section 404 Permit from the U.S. Army Corps of Engineers;
- Section 10 permit from the U.S. Army Corps of Engineers;
- Permit from the San Francisco Bay Conservation and Development Commission;
- Permit to Operate from the Bay Area Air Quality Management District;
- Consultation with the U.S. Fish and Wildlife Service and National Oceanic and Atmospheric Administration Fisheries in accordance with Section 7 of the Federal Endangered Species Act;
- Consultation with the California Department of Fish and Game through California Fish and Game Code Section 2081 for state-listed threatened or endangered species;
- Incidental Harassment Authorization (IHA) under the Marine Mammal Protection Act for potential disturbance to marine mammals during pile driving for rebuilding of the Marin Rod & Gun Club pier;
- Encroachment permit from the California Department of Transportation for any work within state right-of-way; and
- Encroachment permit or other agreements from local agencies.

IV. ENVIRONMENTAL REVIEW PROCESS

In accordance with section 15082 of the CEQA Guidelines, MMWD prepared a Notice of Preparation (NOP) in August 2003. The District circulated the NOP to public, local, state, and federal agencies, and other interested parties to solicit comments on the Project. Concerns raised in response to the August 2003 NOP were considered during preparation of the Draft EIR.

The District published the Draft EIR for public, local, state, and federal agencies, and other interested party review on November 19, 2007. The review period ended on March 28, 2008. The review period lasted 130 days, exceeding the public comment period established by the Public Resources Code, § 21091, subd. (a). The CEQA Guidelines

FINDINGS OF FACT

reiterate the statutory requirements. (See CEQA Guidelines, §§ 21091, subd. (d), 15105, subd. (d). MMWD received 752 distinct comments from the public, local, state, and federal agencies, and other interested parties regarding the Draft EIR.

On December 19, 2008, MMWD published the Final EIR for the Project. The Final EIR includes comments received on the Draft EIR, responses to significant environmental issues raised in the comments, and revisions to the text of the Draft EIR. The Final EIR constitutes the EIR for the Project.

On February 4, 2009, the MMWD Board of Directors held a public meeting regarding certification of the EIR. The Board certified the EIR by a vote of 5-0.

V. RECORD OF PROCEEDINGS

In accordance with Public Resources Code Section 21167.6, subdivision (e), the record of proceedings for MMWD's decision on the Project includes the following documents:

- The NOP and all other public notices issued by MMWD in conjunction with the Project;
- The Draft EIR for the Project (November 2007);
- All comments submitted by the public, local, state, and federal agencies, and other interested parties during the comment period on the Draft EIR;
- All comments and correspondence submitted to MMWD with respect to the Project, in addition to timely comments on the Draft EIR;
- The Final EIR for the Project, including comments received on the Draft EIR and responses to those comments, and technical appendices (December 2008);
- Documents cited or referenced in the Draft and Final EIRs;
- The mitigation monitoring and reporting program for the Project;
- All findings and resolutions adopted by the Board of Directors in connection with the Project and all documents cited or referred to therein;
- All reports, studies, memoranda, maps, staff reports, or other planning documents relating to the Project prepared by MMWD, consultants to MMWD, or responsible or trustee agencies with respect to MMWD's compliance with the requirements of CEQA and with respect to MMWD's action on the Project;
- All documents submitted to MMWD by other public agencies or members of the public in connection with the Project, up through the close of the Board of Director's meeting on February 4, 2009;

FINDINGS OF FACT

- Any minutes and/or verbatim transcripts of all information sessions, public meetings, and public hearings held by MMWD in connection with the Project;
- Any documentary or other evidence submitted to MMWD at such information sessions, public meetings and public hearings;
- Any and all resolutions adopted by MMWD regarding the Project, and all staff reports, analyses, and summaries related to the adoption of those resolutions;
- Matters of common knowledge to MMWD, including, but not limited to federal, state, and local laws and regulations;
- Any documents expressly cited in these findings, in addition to those cited above; and
- Any other materials required for the record of proceedings by Public Resources Code section 21167.6, subdivision (e).

The custodian and location of the documents or other material which constitutes the record of proceedings upon which these findings are based is:

Dain Anderson
Marin Municipal Water District
220 Nellen Avenue
Corte Madera, California 94925

VI. FINDINGS REQUIRED UNDER CEQA

Public Resources Code section 21002 provides that “public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would *substantially lessen* the significant environmental effects of such projects[.]” (Emphasis added.) The same statute states that the procedures required by CEQA “are intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will *avoid* or *substantially lessen* such significant effects.” (Emphasis added.) Section 21002 goes on to state that “in the event [that] specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual projects may be approved in spite of one or more significant effects thereof.”

The mandate and principles announced in Public Resources Code section 21002 are implemented, in part, through the requirement that agencies must adopt findings before approving projects for which EIRs are required. (See Pub. Resources Code, § 21081, subd. (a); CEQA Guidelines, § 15091, subd. (a).) For each significant environmental effect identified in an EIR for a proposed project, the approving agency must issue a written finding reaching one or more of three permissible conclusions. The first such finding is that “[c]hanges or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as

FINDINGS OF FACT

identified in the final EIR.” (CEQA Guidelines, § 15091, subd. (a)(1).) The second permissible finding is that “[s]uch changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.” (CEQA Guidelines, § 15091, subd. (a)(2).) The third potential conclusion is that “[s]pecific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.” (CEQA Guidelines, § 15091, subd. (a)(3).) Public Resources Code section 21061.1 defines “feasible” to mean “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social and technological factors.” CEQA Guidelines section 15364 adds another factor: “legal” considerations. (See also *Citizens of Goleta Valley v. Board of Supervisors* (“*Goleta II*”) (1990) 52 Cal.3d 553, 565.)

The concept of “feasibility” also encompasses the question of whether a particular alternative or mitigation measure promotes the underlying goals and objectives of a project. (*City of Del Mar v. City of San Diego* (1982) 133 Cal.App.3d 410, 417.) “[F]easibility’ under CEQA encompasses ‘desirability’ to the extent that desirability is based on a reasonable balancing of the relevant economic, environmental, social, and technological factors.” (*Id.*; see also *Sequoyah Hills Homeowners Assn. v. City of Oakland* (1993) 23 Cal.App.4th 704, 715.)

The CEQA Guidelines do not define the difference between “avoiding” a significant environmental effect and merely “substantially lessening” such an effect. MMWD must therefore glean the meaning of these terms from the other contexts in which the terms are used. Public Resources Code section 21081, on which CEQA Guidelines section 15091 is based, uses the term “mitigate” rather than “substantially lessen.” The CEQA Guidelines therefore equate “mitigating” with “substantially lessening.” Such an understanding of the statutory term is consistent with the policies underlying CEQA, which include the policy that “public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects.” (Pub. Resources Code, § 21002.)

For purposes of these findings, the term “avoid” refers to the effectiveness of one or more mitigation measures to reduce an otherwise significant effect to a less than significant level. In contrast, the term “substantially lessen” refers to the effectiveness of such measure or measures to substantially reduce the severity of a significant effect, but not to reduce that effect to a less than significant level. These interpretations appear to be mandated by the holding in *Laurel Hills Homeowners Association v. City Council* (1978) 83 Cal.App.3d 515, 519-521, in which the Court of Appeal held that an agency had satisfied its obligation to substantially lessen or avoid significant effects by adopting numerous mitigation measures, not all of which rendered the significant impacts in question less than significant.

FINDINGS OF FACT

Although CEQA Guidelines section 15091 requires only that approving agencies specify that a particular significant effect is “avoid[ed] or substantially lessen[ed],” these findings, for purposes of clarity, in each case will specify whether the effect in question has been reduced to a less than significant level, or has simply been substantially lessened but remains significant. Moreover, although section 15091, read literally, does not require findings to address environmental effects that an EIR identifies as merely “potentially significant,” these findings will nevertheless fully account for all such effects identified in the Final EIR.

CEQA requires that the lead agency adopt mitigation measures or alternatives, where feasible, to substantially lessen or avoid significant environmental impacts that would otherwise occur. Project modification or alternatives are not required, however, where such changes are infeasible or where the responsibility for modifying the project lies with some other agency. (CEQA Guidelines, § 15091, subd. (a), (b).)

With respect to a project for which significant impacts are not avoided or substantially lessened, a public agency, after adopting proper findings, may nevertheless approve the project if the agency first adopts a statement of overriding considerations setting forth the specific reasons why the agency found that the project’s “benefits” rendered “acceptable” its “unavoidable adverse environmental effects.” (CEQA Guidelines, §§ 15093, 15043, subd. (b); see also Pub. Resources Code, § 21081, subd. (b).) The California Supreme Court has stated, “[t]he wisdom of approving . . . any development project, a delicate task which requires a balancing of interests, is necessarily left to the sound discretion of the local officials and their constituents who are responsible for such decisions. The law as we interpret and apply it simply requires that those decisions be informed, and therefore balanced.” (*Goleta II, supra*, 52 Cal.3d at p. 576.)

VII. LEGAL EFFECTS OF FINDINGS

These findings constitute the Board’s best efforts to set forth the evidentiary and policy bases for its decision to approve the Project in a manner consistent with the requirements of CEQA. To the extent that these findings conclude that various mitigation measures outlined in the Final EIR are feasible and have not been modified, superseded or withdrawn, MMWD hereby binds itself to implement these measures. These findings, in other words, are not merely informational, but rather constitute a binding set of obligations that will come into effect when the Board of Directors adopts a resolution approving the Project.

The Board notes further that, in certifying the Final EIR on February 4, 2009, the Board directed MMWD staff to modify certain mitigation measures so that they would be more stringent than those set forth in the Final EIR. The Board hereby adopts, and binds MMWD, to carry out these more stringent measures. To the extent there is any ambiguity regarding mitigation measures set forth in the Final EIR, the MMRP, the February 4, 2009, staff report, or these findings, the Board hereby commits MMWD to implement whichever version of the mitigation measure is most stringent.

VIII. MITIGATION MONITORING AND REPORTING PROGRAM

FINDINGS OF FACT

A Mitigation Monitoring and Reporting Program (MMRP) has been prepared for the Project, and is being approved by the Board by the same resolution that has adopted these findings. (See Pub. Resources Code, § 21081.6, subd. (a)(1); CEQA Guidelines, § 15097.) MMWD will use the MMRP to track compliance with Project mitigation measures. The MMRP will remain available for public review during the compliance period. The MMRP is included as Exhibit C to this same resolution.

IX. SIGNIFICANT EFFECTS AND MITIGATION MEASURES

The EIR identified a number of significant environmental effects (or impacts) that the Project will cause. Most of these significant effects can be reduced to a less than significant level through the adoption of feasible mitigation measures. Two effects cannot be avoided by the adoption of feasible mitigation measures or alternatives, and thus will be significant and unavoidable. Both of these significant and unavoidable effects can be lessened by the adoption of feasible mitigation measures. For reasons set forth in Exhibit B, however, the Board of Directors has determined that overriding economic, social, and other considerations outweigh the significant and unavoidable effects of the Project.

The Board of Directors' findings with respect to the Project's significant effects and mitigation measures are set forth in Table 1. The findings set forth in the table are hereby incorporated by reference.

FINDINGS OF FACT

Table 1. Findings and Facts				
Resource Area	Potential Impact	Significance with Mitigation	Mitigation	Findings of Fact
Aesthetics				

FINDINGS OF FACT

Table 1. Findings and Facts			
	<p>4.1-3. Project development would degrade the visual character of San Quentin Ridge but would not degrade the visual character of other project areas.</p>	<p>Significant</p>	<p>Mitigation 4.1-3. During the project design phase, MMWD will work with a landscape architect and the cities of San Rafael and Larkspur to develop a landscaping plan for the San Quentin Ridge tank site to reduce the visual contrast of the tanks on the ridge top. MMWD will implement the landscaping plan during project construction. The landscape plan will identify the location and types of planting (i.e., trees and shrubs) that will soften the visual intrusion of the tanks and identify success metrics such as survival and growth rates for the plantings. MMWD will place story poles at the tank locations upon completion of the site plans.</p>
			<p>Finding. The District Board hereby directs that this mitigation measure be adopted.</p> <p>The Board of Directors finds that changes or alterations have been required in, or incorporated into, the Project that substantially lessen this impact’s significant effects on the environment. Although the visual impact of tanks on San Quentin Ridge from residences to the west of the ridge on Tiburon Boulevard, Bret Harte Road, and Via La Cumbre (overlooking US 101), even with the mitigation measures applied, may not be reduced to a less than significant level. Therefore, the Project’s impact to the visual character of the San Quentin Ridge is considered significant and unavoidable. The Board further finds that relocating the tanks to another site that is less visually sensitive is infeasible due to the limited terrain available on the ridge, and the need to locate the tanks at particular elevations in order to adhere to engineering specifications. The Board further notes that water tanks are a common feature of hills and ridge-tops in Marin County (although, in noting this fact, the Board concurs with the Final EIR’s conclusion with respect to the significance of this impact).</p> <p>Overriding Considerations. The environmental, economic, social and other benefits of the Project override the significant adverse impact of the Project associated with the visual</p>

FINDINGS OF FACT

Table 1. Findings and Facts				
	<p>4.1-4. Project development could create substantial light or glare at the proposed desalination plant site, which could adversely affect daytime or nighttime views in the area.</p>	<p>Less than significant</p>	<p>Mitigation 4.1-4(a). Design of the desalination plant will provide for the use of textured nonreflective exterior surfaces and nonreflective glass.</p> <p>Mitigation 4.1-4(b). All outdoor lighting will utilize directional lighting methods with shielded and cutoff-type light fixtures to minimize glare and upward directed lighting.</p>	<p>Finding. The District Board hereby directs that these mitigation measures be adopted. The implementation of these mitigation measures will reduce the impact to a less-than-significant level. The Board of Directors, therefore, finds that changes or alterations have been required in, or incorporated into, the Project that substantially lessen or avoid this impact's significant effects on the environment.</p> <p>Explanation. The desalination plant will include several buildings, tanks, and piping that could reflect sunlight during the day, which could create glare that will be visible for some distance. This impact could be potentially significant. Mitigation including the use of nonreflective exterior surfaces and glass will reduce this impact to less than significant.</p> <p>The desalination plant will include exterior lighting around the buildings and tanks and in the parking lots. Upward directed lighting and excess site lighting can contribute to atmospheric light pollution that could result in adverse effects such as annoyance, discomfort, loss of visibility, and/or disturbance of nighttime views. This impact will be potentially significant, but will not impact users of Shoreline Park because the park closes to visitor use after sundown. Mitigation including the use of directional lighting methods with shielded light fixtures will reduce this impact to less than significant.</p>

FINDINGS OF FACT

Table 1. Findings and Facts				
Air Quality				

FINDINGS OF FACT

Table 1. Findings and Facts			
	<p>4.2-1. Construction activities would directly emit both fugitive dust and exhaust pollutants from diesel-fueled construction equipment and construction workforce related traffic. In addition, construction activities may cause indirect emissions associated with generation of electricity supplied for construction.</p>	<p>Less than significant</p>	<p>Mitigation 4.2-1(a). Implement Bay Area Air Quality Management District (BAAQMD) Basic Control Measures, as described in the BAAQMD CEQA Guidelines, at all construction sites:</p> <ul style="list-style-type: none"> • Water all active construction areas at least twice daily. • Cover all trucks hauling soil, sand, and other loose materials <i>or</i> require all trucks to maintain at least 2 feet of freeboard. • Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites. • Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites. • Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets. <p>Mitigation 4.2-1(b). Implement BAAQMD Enhanced Control Measures, as described in the BAAQMD CEQA Guidelines, at construction sites greater than 4 acres in area:</p> <ul style="list-style-type: none"> • All Basic Control Measures listed in Mitigation Measure 4.2-1(a). • Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more). • Enclose, cover, water twice daily or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.) • Limit traffic speeds on unpaved
			<p>Finding. The District Board hereby directs that these mitigation measures be adopted. The implementation of these mitigation measures will reduce the impact to a less-than-significant level. The Board of Directors, therefore, finds that changes or alterations have been required in, or incorporated into, the Project that substantially lessen or avoid this impact's significant effects on the environment.</p> <p>Explanation. Construction activities for the desalination plant will include site clearing and grading; installation of underground piping and utilities; civil work, including pile-driving and placement of foundations, walls, roofs; installation of major desalination process components; piping, pump, and electrical installation; testing and commissioning; and finish work such as paving and landscaping.</p> <p>Construction activities for onshore pipelines associated with the desalination plant, including the raw water line to the plant, brine to CMSA, and product water to the proposed pumping stations and the San Quentin Ridge tanks and Ridgecrest tank, will involve clearing and grading, trenching, pipe installation, backfilling and compaction, hydrostatic testing, and cleanup and restoration.</p> <p>Construction activities will emit both fugitive dust (PM₁₀) and exhaust pollutants (NO_x, CO, PM₁₀, SO₂, and ROG) from diesel-fueled construction</p>

FINDINGS OF FACT

Table 1. Findings and Facts				
Biological Resources				
	<p>4.3-2. The project could result in the failure of nesting efforts by protected nesting birds, including raptors such as the white-tailed kite, northern harrier, and loggerhead shrike; California clapper rail that may be present in the Corte Madera Creek area; and nonlisted birds protected by the Migratory Bird Treaty Act.</p>	<p>Less than significant</p>	<p>Mitigation 4.3-2. MMWD would conduct a pre-construction survey of trees and annual grassland on and adjacent to the pipeline route, tank sites and pumping stations during the breeding season not more than 14 days prior to the start of construction of any given segment. The surveys would be conducted by a qualified biologist to determine if any nesting bird would be affected. If an active raptor nest is discovered during pre-construction surveys, work exclusion buffers would be determined in consultation with the California Department of Fish and Game. If non-raptor protected bird species are observed nesting, clearing and construction within 150 feet would be postponed until the nest is vacated and juveniles have fledged, and there is no evidence of second nesting attempts. Nests located near existing roads would not require the 150-foot buffer zone.</p>	<p>Finding. The District Board hereby directs that this mitigation measure be adopted. The implementation of this mitigation measure will reduce the impact to a less-than-significant level. The Board of Directors, therefore, finds that changes or alterations have been required in, or incorporated into, the Project that substantially lessen or avoid this impact's significant effects on the environment.</p> <p>Explanation. Many species of birds could potentially use the on-site habitats for nesting. Tree removal or the development of annual grassland during the breeding season could result in the loss of active nest sites for raptors and common bird species. Biologists did not observe any nesting birds during surveys of the Project area in March and May 2004. Implementation of Mitigation Measure 4.3-2 will reduce this impact to less than significant.</p> <p>During the construction of pipeline Reach 2, bore-and-jack or directional drilling operations near Corte Madera Creek could result in temporary construction noise impacts. This area is currently exposed to vehicle noise from US 101 and Sir Francis Drake Boulevard. Construction activities will be conducted outside of the California clapper rail nesting season to minimize noise impacts to this species.</p>

FINDINGS OF FACT

Table 1. Findings and Facts			
	<p>4.3-3. The project would result in the conversion of annual grassland to developed habitat and the loss of individual trees, which would result in the loss of general wildlife habitat for resident and migratory species, including foraging and/or nesting habitat for the pallid bat, Townsend's big-eared bat, short-eared owl, loggerhead shrike, northern harrier, white-tailed kite, peregrine falcon, and ferruginous hawk.</p>	<p>Less than significant</p>	<p>Mitigation 4.3-3. Prior to final design and construction of the pipeline, tank, and pumping stations, MMWD would perform a tree survey of the San Quentin Ridge woodland and other wooded areas along pipeline routes. The project design would be modified to avoid trees greater than 6 inches diameter at breast height (DBH), if feasible. If the project cannot avoid a tree greater than 6 inches DBH, the following would apply:</p> <ul style="list-style-type: none"> a. Establishment and maintenance of replacement trees <u>of the same species to those removed</u> at a 2:1 ratio. b. Work with Marin County <u>and/or the City of San Rafael</u> to develop a management plan in accordance with the County <u>and City</u> tree ordinances.
			<p>Finding. The District Board hereby directs that this mitigation measure be adopted. The implementation of this mitigation measure will reduce the impact to a less-than-significant level. The Board of Directors, therefore, finds that changes or alterations have been required in, or incorporated into, the Project that substantially lessen or avoid this impact's significant effects on the environment.</p> <p>Explanation. Trees in the woodland north of the San Quentin Ridge tanks site provide habitat for bats and raptors that are protected under the California Fish and Game Code. The replacement of these trees will continue to provide foraging and/or nesting habitat for these species in the area. The District shall replant the same species as those removed at a ratio of 2:1.</p> <p>The amount of annual grassland permanently removed for the tank sites and pumping stations is minimal (less than 1 acre) compared to the amount of grassland present in the Project area. This loss will not adversely affect any wildlife species that would use the area.</p>

FINDINGS OF FACT

Table 1. Findings and Facts				
	<p>4.3-7. The project could result in the removal of protected trees on an unimproved parcel, trees on an improved parcel, or trees removed as a condition of approval. Each of these categories is recognized as protected under Marin County Ordinance 3342.</p>	<p>Less than significant</p>	<p>Mitigation 4.3-7. Mitigation 4.3-3 outlines mitigation measures in accordance with Marin County Ordinance 3342.</p>	<p>Finding. The District Board hereby directs that this mitigation measure be adopted. The implementation of this mitigation measure will reduce the impact to a less-than-significant level. The Board of Directors, therefore, finds that changes or alterations have been required in, or incorporated into, the Project that substantially lessen or avoid this impact's significant effects on the environment.</p> <p>Explanation. Protected trees are likely to occur on San Quentin Ridge at the tanks and pumping station sites as well as between the San Quentin Ridge tank site and the Jacoby Street Pumping Station. In accordance with Mitigation Measure 4.3-3, MMWD will perform tree surveys, identify tree classifications, and modify Project designs to avoid important trees if feasible. If avoidance is not feasible, implementation of Mitigation Measure 4.3-3 will reduce the removal of these trees to a less-than-significant impact.</p>

FINDINGS OF FACT

Table 1. Findings and Facts				
	<p>4.3-9. Underwater pile-driving noise during reconstruction of the Marine Rod & Gun Club pier could affect fish and marine mammals.</p>	<p>Less than significant</p>	<p>Mitigation 4.3-9(a). The National Oceanographic and Atmospheric Administration’s National Marine Fisheries Service (NOAA Fisheries) would be consulted regarding appropriate measures to mitigate potential effects on fish, including special-status species (chinook salmon, steelhead, and green sturgeon). Such measures normally include specifying allowable seasonal work windows for in-water pile driving and use of physical attenuators such as air bubble curtains. During initial pile-driving efforts, the area around the in-water pile-driving activities will be monitored for signs that fish are being injured.</p> <p>4.3-9(b). For marine mammals, an Incidental Harassment Authorization from NOAA Fisheries may be required for pile-driving activities. Pre-construction surveys will be conducted to determine use of the area by marine mammals before pile driving begins. Marine mammal monitoring will be conducted during construction in conjunction with underwater noise monitoring. The avoidance measures would include the establishment of a “safe zone” based on the initial measurements of where the 160 dB contour occurs. Pile-driving activities will not commence until marine mammals are not sighted within the safety zone for approximately 15 to 30 minutes.</p>	<p>Finding. The District Board hereby directs that these mitigation measures be adopted. The implementation of these mitigation measures will reduce the impact to a less-than-significant level. The Board of Directors, therefore, finds that changes or alterations have been required in, or incorporated into, the Project that substantially lessen or avoid this impact’s significant effects on the environment.</p> <p>Explanation. Offshore construction related to the reconstruction of the Marin Rod & Gun Club pier will entail driving up to 175 concrete piles into the Bay. Construction activity associated with pile driving will result in increased underwater noise and acoustic pressure waves. Underwater noise and acoustic pressure resulting from pile driving could affect aquatic resources by causing behavioral avoidance of the construction area and/or sublethal or lethal effects on sensitive species. Fish mortality resulting from pile driving activities could be considered a significant impact, particularly if the activity results in take of listed species such as winter-run chinook salmon.</p> <p>Fish. The severity of adverse effects on fish (e.g., behavioral avoidance) depends upon a number of factors, including the concentration and location of fish within the area, species-specific differences in sensitivity to acoustic pressures, the depth of water, bottom- and surface-water characteristics, and the type of</p>

FINDINGS OF FACT

Table 1. Findings and Facts				
Cultural Resources				

FINDINGS OF FACT

Table 1. Findings and Facts			
	<p>4.4-1. Construction of the in-system pipelines could cause a substantial adverse change in the significance of known potentially unique archaeological resources as the result of ground disturbance associated with project development.</p>	<p>Less than significant</p>	<p>Mitigation 4.4-1(a). Route the pipeline (Reach 1) along the easternmost edge/curb of the concrete access road adjacent to the mapped location of the intact remnant of CA-MRN-80. This would keep the project out of the demonstrated location of the deposit.</p> <p>4.4-1(b). Require full-time archaeological monitors to be present during the cut and removal of the concrete road within 75 feet in either direction from the plotted location of CA-MRN-80, as well as intermittent monitoring at this location during trenching at the professional discretion of a professional archaeologist. Implement Mitigation 4.4-2(b) and 4.4-2(c) if a discovery occurs.</p> <p>4.4-1(c). Require a full-time archaeological monitor to be present during the removal of the aggregate roadbed (beneath the pavement) within 75 feet in either direction from the plotted location of CA-MRN-86 and CA-MRN-129, as well as intermittent monitoring at this location during trenching activities at the discretion of a professional archaeologist. Implement Mitigation 4.4-2 (b) and 4.4-2(c) if a discovery occurs.</p> <p>4.4-1(d). If ground-disturbing activities are necessary within Caltrans right-of-way, a Cultural Resources Study will be required prior to obtaining an encroachment permit from Caltrans that evaluates the potential for buried unrecorded sites within the area impacted by activities. If an archaeological site is identified within Caltrans right-of-way, the following will be submitted to Caltrans as part of MMWD's application for an encroachment permit: 1) effect evaluation of potential project impacts to the</p>
			<p>Finding. The District Board hereby directs that these mitigation measures be adopted. The implementation of these mitigation measures will reduce the impact to a less-than-significant level. The Board of Directors, therefore, finds that changes or alterations have been required in, or incorporated into, the Project that substantially lessen or avoid this impact's significant effects on the environment.</p> <p>Explanation. While no significant impacts are anticipated as a result of the Project, mitigation measures have been developed to minimize the potential for impacts at several known archaeological sites immediately adjacent to the study area. Mitigation measures set forth in the EIR establish a program of protocols for identification and treatment of archaeological and other cultural resources that may be present within the study area. The archaeological mitigation measures establish variable levels of intensity for Project-associated archaeological work, based on the sensitivity of the presumed setting. To mitigate potential impacts to buried archaeological sites and human remains, the EIR establishes mitigation measures to be implemented based on proximity to known resources, or if resources are encountered. They are intended to mitigate impacts to a less-than-significant level.</p>

FINDINGS OF FACT

Table 1. Findings and Facts			
	<p>4.4-2. Construction activities associated with the project could cause a substantial adverse change in the significance of an unknown unique archaeological resource, as defined in CEQA Guidelines Section 15064.5, as the result of an inadvertent discovery in the course of ground disturbance, associated with project development.</p>	<p>Less than significant</p>	<p>Mitigation 4.4-2(a). Contractor crews will be required to attend an informal training session prior to the start of earth moving, regarding how to recognize archaeological sites and artifacts. Prior to disturbing the soil, contractors will be notified that they are required to watch for potential archaeological sites and artifacts and to notify the MMWD immediately if any are found. In the event of a find, MMWD will implement Mitigation 4.4-2(b), below.</p> <p>Mitigation 4.4-2(b). If an archaeological deposit is encountered, immediately halt all digging within 100 feet of the find, and have a professional qualified archaeologist assess the integrity and significance of the deposit. Further testing to establish the significance of impacts and/or mitigation of significant impacts would be developed in consultation between MMWD and the professional archaeologist.</p> <p>Mitigation 4.4-2(c). In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps would be taken: (1) There will be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until: (a) The coroner of the County must be contacted to determine that no investigation of the cause of death is required; and (b) If the coroner determines the remains to be Native American: (i) The coroner will contact the Native American Heritage Commission within 24 hours. (ii) The Native American Heritage Commission will identify the person or persons it believes to be the most likely descended from the deceased Native</p>
			<p>Finding. The District Board hereby directs that these mitigation measures be adopted. The implementation of these mitigation measures will reduce the impact to a less-than-significant level. The Board of Directors, therefore, finds that changes or alterations have been required in, or incorporated into, the Project that substantially lessen or avoid this impact's significant effects on the environment.</p> <p>Explanation. While no significant impacts are predicted as a result of the Project, mitigation measures have been developed to minimize the potential for impacts at several known archaeological sites immediately adjacent to the study area. Mitigation measures set forth in the EIR establish a program of protocols for identification and treatment of archaeological and other cultural resources that may be present within the Project area. These archaeological mitigation measures establish variable levels of intensity for Project-associated archaeological work, based on the sensitivity of the presumed setting. To mitigate potential impacts to buried archaeological sites and human remains, the EIR establishes mitigation measures to be implemented based on proximity to known resources, or if resources are encountered. They are intended to mitigate impacts to a less-than-significant level.</p>

FINDINGS OF FACT

Table 1. Findings and Facts				
	<p>4.4-3. Construction activities associated with the project could cause a substantial adverse change in the significance of a historic resource (the Northwestern Pacific Railroad Historic District), as defined in CEQA Guidelines Section 15064.5, as the result of ground disturbance associated with project development.</p>	<p>Less than significant</p>	<p>Mitigation 4.4-3. Avoid all direct impacts to the Northwestern Pacific Railroad tracks, berm, or any associated contributing elements. Route the pipeline away from the tracks, and where crossings are necessary, use directional boring under the feature.</p>	<p>Finding. The District Board hereby directs that this mitigation measure be adopted. The implementation of this mitigation measure will reduce the impact to a less-than-significant level. The Board of Directors, therefore, finds that changes or alterations have been required in, or incorporated into, the Project that substantially lessen or avoid this impact's significant effects on the environment.</p> <p>Explanation. The Northwestern Pacific Railroad Historic District is located in the study area, and the pipelines will cross the alignment of the District. The railroad alignment was an important transportation link in the region and contributed to the development of Marin County. The boundary of the Historic District is readily visible and can be avoided by the Project. Where the pipeline needs to parallel the resource, it will be aligned to avoid impacting any of the contributing elements of the Historic District. Where the pipeline must cross, the mitigation requires that the pipe be bored underneath the Historic District to avoid all potential impacts. Through the implementation of Mitigation Measure 4.4-3, there will be a less-than-significant impact to the Northwestern Pacific Railroad Historic District.</p>
<p>Geology, Soils, and Seismicity</p>				

FINDINGS OF FACT

Table 1. Findings and Facts				
	<p>4.5-7. Exposure of native and engineered soils during construction activities could make them particularly prone to erosion due to rainfall runoff (even on gentle and moderate slopes) and stream bank erosion.</p>	<p>Less than significant</p>	<p>Mitigation 4.5-7. Areas of grading and other construction activity should be designed to minimize runoff. The use of temporary controlled drainage measures, including straw rolls, visquene covering and silt fences should minimize erosion and runoff during construction. Properly designed and implemented drainage and revegetation plans would minimize post-construction erosion.</p>	<p>Finding. The District Board hereby directs that this mitigation measure be adopted. The implementation of this mitigation measure will reduce the impact to a less-than-significant level. The Board of Directors, therefore, finds that changes or alterations have been required in, or incorporated into, the Project that substantially lessen or avoid this impact's significant effects on the environment.</p> <p>Explanation. Wind and water are the primary agents of erosion, leading to the weathering and subsequent transportation of rock and soils. Erosion of soils and soft rock along the margins of river channels can be significant due to high-velocity flows.</p> <p>Periods of increased slope runoff during winter rainstorms will increase the potential for soil erosion. With proper drainage management and temporary slope protection, including visquene sheeting, straw rolls and silt fences, the effects of soil erosion during construction can be limited during construction. Post-construction, careful design of slope grading and revegetation can reduce potential erosion to less than significant.</p>
<p>Hazards and Hazardous Materials</p>				

FINDINGS OF FACT

Table 1. Findings and Facts			
	<p>4.6-3. Excavation of soils for construction of project features (e.g., underground pipelines) could potentially cause health hazards to construction workers and the public should contamination be encountered.</p>	<p>Less than significant</p>	<p>Mitigation 4.6-3. During all project excavation activities, the contractor will inspect the exposed soil for visual evidence of contamination, particularly near sites identified during the database search (Table 4.6-1). If visual contamination indicators are observed during excavation or grading activities, all work will stop and an investigation will be designed and performed to verify the presence and extent of contamination at the site. Results will be reviewed and approved by the appropriate County's Environmental Health Division or the Department of Toxic Substances Control prior to construction. The investigation will include collecting samples for laboratory analysis and quantifying contaminant levels within the proposed excavation and surface disturbance areas. Subsurface investigation will determine the appropriate worker protection and the hazardous material handling and disposal procedures appropriate for the subject site. Areas with contaminated soil and groundwater determined to be hazardous waste will be removed by personnel who have been trained through the Occupational Health and Safety Administration -recommended 40-hour safety program (29 Code of Federal Regulations Section 1910.120) with an approved plan for groundwater extractions, soil excavation, control of contaminant releases to the air, and off-site transport or on-site treatment. A health and safety plan, prepared by a qualified and approved industrial hygienist, will be used to protect the general public and all workers in the construction area.</p> <p>In addition, any soils that must be</p>
			<p>Finding. The District Board hereby directs that this mitigation measure be adopted. The implementation of this mitigation measure will reduce the impact to a less-than-significant level. The Board of Directors, therefore, finds that changes or alterations have been required in, or incorporated into, the Project that substantially lessen or avoid this impact's significant effects on the environment.</p> <p>Explanation. Construction near sites that are potentially contaminated increases the risk that workers and the public may be exposed to hazardous materials during excavation and soil handling during Project construction.</p> <p>Subsurface migration of mobile contaminants within groundwater may provide a conduit to Project excavation areas. Shallow groundwater may be encountered at excavations near waterbodies such as unlined canals and drainage ditches. In areas where the water table is below the planned excavation depth of the primary and alternative routes, contaminated groundwater is not expected to impact construction.</p> <p>In addition to the specific sites identified in the environmental databases (Table 4.6-1 of the EIR), it is possible that other sites could be discovered during construction of the pipelines. Soil contamination may be encountered during trench excavation in places where no recorded sites are currently designated or identified. Off-</p>

FINDINGS OF FACT

Table 1. Findings and Facts

Hydrology and Water Quality				
-----------------------------	--	--	--	--

FINDINGS OF FACT

Table 1. Findings and Facts				
	<p>4.7-8. Tsunami- and seiche-generated waves have the potential to inundate the shoreline and damage the desalination facilities.</p>	<p>Less than significant</p>	<p>Mitigation 4.7-8. The impacts of future tsunamis can be lessened or mitigated completely by the application of appropriate engineering design. Detailed hydrodynamic modeling may be necessary for coastal locations in order to determine the likely extent of potential inundation. The behavior of tsunami waves is dependent on local bathymetry. Optimal siting and design of shoreline facilities would lessen the impact of incoming waves. MMWD would design and construct the facility to minimize the risk of damage from a tsunami or seiche-generated wave.</p>	<p>Finding. The District Board hereby directs that this mitigation measure be adopted. The implementation of this mitigation measure will reduce the impact to a less-than-significant level. The Board of Directors, therefore, finds that changes or alterations have been required in, or incorporated into, the Project that substantially lessen or avoid this impact's significant effects on the environment.</p> <p>Explanation. Ritter and Dupre (1972) show that for a tsunami originating outside San Francisco Bay, the amount of inundation based on tsunami run-up decreases to 50 percent of its maximum at the Golden Gate by the time it passes the Bay Bridge to the south and the Richmond–San Rafael Bridge to the north. By the time the tsunami reaches the Carquinez Strait to the north or Alviso in the south, the run-up will only be approximately 10 percent of its maximum at the Golden Gate. This model was used to assess hazards related to tsunamis and seiche in San Francisco Bay.</p> <p>Tsunami-generated waves have the potential to inundate low-lying coastal areas and cause extensive erosion and/or deposition of sediment. Poorly constructed facilities can also be damaged by both the incoming and outgoing waves. As stated above, by the time a tsunami enters the Bay, its impacts will be dramatically reduced compared to a tsunami on the open coast. Therefore, the impact of a tsunami to facilities along the Bay</p>

FINDINGS OF FACT

Table 1. Findings and Facts				
Land Use and Planning				

FINDINGS OF FACT

Table 1. Findings and Facts			
	<p>4.8-1. The proposed Ridgecrest A tank site is not consistent with the land use designation of Open Space at that location.</p>	<p>Less than significant</p>	<p>Mitigation 4.8-1. MMWD will work with the Marin County Open Space District and the Town of Tiburon to identify the location and amount of lands (minimum mitigation ratio of 1:1) that can be purchased or MMWD-owned land that can be traded to offset the loss of this open space land. Preferably the land would be contiguous to other existing open space managed by the Marin County Open Space District and located on the Tiburon Peninsula. MMWD will then execute the agreed-upon exchange.</p> <p>Finding. The District Board hereby directs that this mitigation measure be adopted. The implementation of this mitigation measure will reduce the impact to a less-than-significant level. The Board of Directors, therefore, finds that changes or alterations have been required in, or incorporated into, the Project that substantially lessen or avoid this impact's significant effects on the environment.</p> <p>Explanation. The Project will utilize the existing outfall structure owned and operated by the CMSA. The plant will be located on a parcel owned by MMWD and designated for Light Industrial and Office use. The City of San Rafael Community Development Department has confirmed that the Project will be consistent with the City's designated land use. Similarly, the placement of utility pipelines at the rebuilt Marin Rod & Gun Club pier is a permissible use under the Marine Commercial land use designation, according to the City of San Rafael.</p> <p>The pipeline route will follow existing roadways. After construction, the pipelines will be buried underground. Utility pipelines are consistent with public road land uses.</p> <p>Water storage tanks will be located at San Quentin Ridge and on open space land just outside of Tiburon (Ridgecrest A) (Figures 1-1a and b). These locations were selected because they are best suited for facilitating the distribution of water to MMWD customers. Tank size, site</p>

FINDINGS OF FACT

Table 1. Findings and Facts				
Noise				

FINDINGS OF FACT

Table 1. Findings and Facts		
<p>4.9-3. Project construction would temporarily increase ambient noise levels during the construction period.</p>	<p>Significant</p>	<p>Mitigation 4.9-3(a). Limit construction to daytime hours (8:00 a.m. to 5:00 p.m.) Monday through Friday (except construction of the pipeline across Second Street, which would occur at night to comply with the City of San Rafael’s roadway construction policies, and when the effects of construction on congestion would be minimal). No construction activities within 500 feet of residences should occur on Saturdays, Sundays, or holidays.</p> <p>4.9-3(b). All powered construction equipment will be equipped with intake and exhaust mufflers recommended by the manufacturers thereof.</p> <p>4.9-3(c). Locate all stationary noise-generating construction equipment, such as air compressors and portable power generators, as far as practical from existing noise-sensitive receptors.</p> <p>4.9-3(d). Foundation pile holes should be pre-drilled where possible to reduce the number of impacts required to seat the pile. Consider using multiple pile drivers to reduce the number of days of pile-driving activity. Use of multiple pile drivers would slightly increase noise levels during construction but would reduce the construction duration.</p> <p>4.9-3(e). Notify active land uses within 500 feet of pile driving activities of construction schedule.</p> <p>4.9-3(f). Designate a noise disturbance coordinator who would be responsible for responding to any local complaints about construction noise. The</p>
		<p>Finding. The District Board hereby directs that these mitigation measures be adopted. The Board of Directors finds that changes or alterations have been required in, or incorporated into, the Project that substantially lessen this impact’s significant effects on the environment. Although construction-related noise will be short-term and temporary, construction noise levels will at times exceed the impact significance criteria described in Section 4.9.2.1 of the EIR even with the mitigation measures applied. Therefore, construction-related noise is considered significant and unavoidable.</p> <p>Overriding Considerations. The environmental, economic, social and other benefits of the Project override the significant adverse impact of the Project associated with construction-related noise, as more fully stated in the Statement of Overriding Considerations in Attachment B to these findings.</p> <p>Explanation. It is anticipated that the 5 MGD desalination plant will take approximately 24 months to construct. The highest maximum noise levels generated by the Project construction will be associated with pile driving and will typically range from about 100 to 105 dBA at a distance of 50 feet from the pile driver. Typical noise levels for construction trucks range from 82 to 93 dB at a distance of 50 feet from the source. Earth-moving tractors typically generate noise levels ranging from 76 to 95 dB at a</p>

FINDINGS OF FACT

Table 1. Findings and Facts				
Recreation				
	<p>4.12-3. Implementation of the proposed desalination project would result in a loss of approximately 2 acres of open space land in southern Marin County due to construction of a water storage tank.</p>	<p>Less than significant</p>	<p>Mitigation 4.12-3. As indicated in Mitigation Measure 4.8-1, MMWD will work with the Marin County Open Space District to identify the location and amount of lands (minimum mitigation ratio of 1:1) that can be purchased or MMWD-owned land that can be traded to offset the loss of this open space land. Preferably the land would be contiguous to other existing open space managed by the Marin County Open Space District. MMWD will then execute the agreed-upon exchange.</p>	<p>Finding. The District Board hereby directs that this mitigation measure be adopted. The implementation of this mitigation measure will reduce the impact to a less-than-significant level. The Board of Directors, therefore, finds that changes or alterations have been required in, or incorporated into, the Project that substantially lessen or avoid this impact's significant effects on the environment.</p> <p>Explanation. The Ridgecrest A tank site is located on land in unincorporated Marin County currently owned by the Town of Tiburon. The property is designated for Open Space use in perpetuity. Construction of a water storage tank at this location will remove approximately 2 acres of land from open space use. Purchase or trade of other land to the Marin County Open Space District to compensate for this loss will mitigate this impact to less than significant.</p>
Traffic, Parking and Transportation				

FINDINGS OF FACT

Table 1. Findings and Facts			
	<p>4.13-6. Implementation of the proposed project would conflict with applicable adopted policies, plans, or programs supporting alternative transportation.</p>	<p>Less than significant</p>	<p>Mitigation 4.13-6. MMWD would coordinate at least 30 days in advance with public transit agencies to avoid disruption to transit operations. Public agencies that operate bus routes on the roadways potentially affected by the proposed construction activities would be informed in advance of the pipeline project and the potential impacts at bus stop locations. Alternative pickup/dropoff locations will be determined and signed appropriately.</p> <p>Finding. The District Board hereby directs that this mitigation measure be adopted. The implementation of this mitigation measure will reduce the impact to a less-than-significant level. The Board of Directors, therefore, finds that changes or alterations have been required in, or incorporated into, the Project that substantially lessen or avoid this impact's significant effects on the environment.</p> <p>Explanation. Access to bus stops, sidewalks, and bicycle lanes may be temporarily disrupted during pipeline construction activities. MMWD will ensure that the Project will not conflict with applicable policies, plans, or programs supporting alternative transportation by coordinating with local jurisdictions and public transit agencies and by complying with their appropriate guidelines and rules. Access along all roads will remain throughout construction activities; bus routes will not need to be detoured or temporarily re-routed; and work at any single segment of pipeline will occur, at maximum, for three to four days.</p> <p>Pedestrian and bicycle routes that cross a pipeline alignment and routes that will be parallel to an alignment will be temporarily affected during construction activities. These temporary disruptions, such as closing a sidewalk adjacent to a trench where a pipeline segment will be installed, will occur to reduce hazards to the general public and not compromise public safety. MMWD will</p>

FINDINGS OF FACT

X. FINDINGS AND RECOMMENDATIONS REGARDING THOSE IMPACTS WHICH ARE LESS THAN SIGNIFICANT

Specific impacts within the following categories of environmental effects were found to be less than significant without mitigation as set forth in more detail in the Draft and Final EIR.

1. **Aesthetics.** The following specific impacts were found to be less than significant without mitigation: 4.1-1 and 4.1-2.
2. **Air Quality.** The following specific impacts were found to be less than significant without mitigation: 4.2-2, 4.2-3, and 4.2-4.
3. **Biological Resources.** The following specific impacts were found to be less than significant without mitigation: 4.3-1, 4.3-4, 4.3-5, 4.3-6, 4.3-8, 4.3-10, 4.3-11, 4.3-12, and 4.3-13.
4. **Cultural Resources.** The following specific impact was found to be less than significant without mitigation: 4.4-4.
5. **Geology.** The following specific impacts were found to be less than significant without mitigation: 4.5-1, 4.5-2, 4.5-3, 4.5-4, 4.5-5, and 4.5-6.
6. **Hazards and Hazardous Materials.** The following specific impacts were found to be less than significant without mitigation: 4.6-1, 4.6-2, and 4.6-4.
7. **Hydrology and Water Quality.** The following specific impacts were found to be less than significant without mitigation: 4.7-1, 4.7-2, 4.7-3, 4.7-4, 4.7-5, 4.7-6, 4.7-7, and 4.7-9.
8. **Land Use.** The following specific impacts were found to be less than significant without mitigation: 4.8-2 and 4.8-3.
9. **Noise.** The following specific impacts were found to be less than significant without mitigation: 4.9-1 and 4.9-2.
10. **Population and Housing.** The following specific impacts were found to be less than significant without mitigation: 4.10-1 and 4.10-2.
11. **Public Services and Utilities.** The following specific impacts were found to be less than significant without mitigation: 4.11-1, 4.11-2, 4.11-3, 4.11-4, 4.11-5, and 4.11-6.
12. **Recreation.** The following specific impacts were found to be less than significant without mitigation: 4.12-1, 4.12-2, and 4.12-4.
13. **Traffic, Parking and Transportation.** The following specific impacts were found to be less than significant without mitigation: 4.13-1, 4.13-2, 4.13-3, 4.13-4, and 4.13-5.

XI. GROWTH INDUCEMENT

FINDINGS OF FACT

CEQA requires a discussion of the ways in which a project could be growth inducing. CEQA also requires a discussion of ways in which a project may remove obstacles to growth, as well as ways in which a project may set a precedent for future growth. CEQA Guidelines section 15126.2, subdivision (d), identifies a project as growth inducing if it fosters economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. New employees from commercial and industrial development and new population from residential development represent direct forms of growth. These direct forms of growth have a secondary effect of expanding the size of local markets and inducing additional economic activity in the area. Examples of development that would indirectly facilitate or accommodate growth include the installation of new roadways or the construction or expansion of water delivery/treatment facilities.

The purpose of the Project is to develop a water supply that would enable MMWD to provide drought relief protection and to supply water to the new development that is projected to occur within its service area based on the Association of Bay Area Government's 2020 projections and as planned for by the Marin Countywide Plan. As such, the Project would be growth accommodating. Therefore, the Project would foster economic, population, and housing growth within the MMWD service area. However, other limits on growth exist because most of the cities within MMWD's service area have growth control policies and limited land for development. Furthermore, the growth that the Project would serve is envisioned in the Marin Countywide Plan, (FEIR, p. 7-3.)

Secondary effects of induced growth are evaluated in the Marin Countywide Plan Update Final EIR. According to the EIR, significant and unavoidable impacts associated with buildout of the 2007 Countywide Plan include degradation of levels of service at several intersections and roadway segments; an inconsistency with the BAAQMD CAP; increases in greenhouse gas emissions; increases in construction-related noise; conversion, fragmentation, and obstruction of wildlife habitat and wildlife movement opportunities; exposure of people or structures to geologic hazards; exposure of people and structures to tsunami and seiche hazards; conversion of agricultural lands to nonagricultural uses; impacts to water supply during normal, drought, and multi-drought years; impacts to groundwater supply; inefficient and excessive uses of energy resources; and light pollution. (FEIR, p. 7-5.)

Significant impacts associated with buildout of the Countywide Plan that could be mitigated to less than significant include conflicts in designated land uses; inconsistencies in CAP Transportation Control Measures; changes in water quality and drainage patterns and capacities in drainageways, stormwater systems, and bays; reductions of groundwater recharge; increased exposure of people or structures to flood hazards; loss of populations or essential habitat for special-status species and sensitive natural communities; lack of adequate buffer zone from odors and TACs; increased demands on wastewater treatment; disturbances to historical resources; and changes to the visual character of the community. (FEIR, p. 7-5.)

Provision of water alone will not cause uncontrolled and unplanned growth. (FEIR, p. 7-3.) As discussed, any growth accommodated by the Project would be consistent with the Marin Countywide Plan. The Project was not planned nor is it anticipated to result in excess water supplies that might induce growth beyond the densities included within the Marin Countywide Plan.

FINDINGS OF FACT

XII. SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL EFFECTS

State CEQA Guidelines section 15126.2(c) provides the following direction for the discussion of irreversible changes:

Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

The Project will not result in significant irreversible environmental changes.

Construction and implementation of the Project would commit the plant site and associated off-site features to the uses detailed in the Project Description, thereby limiting the range of other uses that could be implemented on those sites in the foreseeable future. The desalination plant site and surrounding properties are within an area that is designated for industrial and commercial use. These sites, along with most other sites on which other Project features would be built are within developed and urbanized parts of Marin County. As discussed in the Draft and Final EIR, the sites are not viable for agricultural uses and do not contain any significant natural features that should be preserved or conserved for productive or recreational purposes. There are no known significant cultural or historical sites at the locations where development is planned.

The southern tank site (Ridgecrest A) is located on Open Space land. Although it is not currently developed, its designated use is not compatible with the water storage tank. MMWD would mitigate the loss of this property with the purchase or development of another property to be kept in Open Space. Such mitigation would ensure that no net loss of Open Space would result. All other aspects of the Project are consistent with the applicable goals and policies of the Marin Countywide Plan.

Various natural resources, in the form of construction materials and energy resources, would be used in the construction of the Project, but their use is not expected to result in significant long-term shortfalls in the availability of these resources. No new generation facilities would be required. Energy consumed by the Project is not likely to contribute to intermittent statewide energy shortfalls. (FEIR, p. 7-2.)

XIII. CONSISTENCY WITH REGIONAL PLANS

Consistency with regional plans is discussed in Chapter 4.8 of the Draft and Final EIR, and in Appendix G to the Draft EIR. The Project is consistent with the San Francisco Bay Plan. In particular, the Bay Plan states that desalination plants may be located in any area where they do not interfere with and are not incompatible with residential, recreational, or other public uses of the Bay and shoreline provided that any pollution problems resulting from the discharge of large amounts of brine into Bay waters can be precluded. The Project is also generally

FINDINGS OF FACT

consistent with the Marin Countywide Plan, the general plans for the City of San Rafael, the City of Larkspur, and the City of Mill Valley, as well as the general plans for the Town of Corte Madera and the Town of Tiburon. However, the Project may cause short-term and temporary construction related noise impacts that may exceed some applicable noise standards. (FEIR, pp. 4.9-11 to 4.9-14.)

Additionally, the southern tank site (Ridgecrest A) is located on Open Space land; development of the tank site is not compatible with Marin Countywide Plan land use designation for the site. MMWD would mitigate the loss of this property with the purchase or development of another property to be kept in Open Space. Such mitigation would ensure that no net loss of Open Space would result. All other aspects of the Project are consistent with the applicable goals and policies of the Marin Countywide Plan. (FEIR, p. 7-2.)

XIV. MITIGATION MEASURES PROPOSED BY COMMENTERS

In several comments on the Draft EIR, commenters suggested additional mitigation measures and/or modifications to the measures recommended in the Draft EIR. In considering specific recommendations from commenters, MMWD has been cognizant of its legal obligation under CEQA to substantially lessen or avoid significant environmental effects to the extent feasible. MMWD recognizes, moreover, that comments frequently offer thoughtful suggestions regarding how a commenter believes that a particular mitigation measure can be modified, or perhaps changed significantly, in order to more effectively, in the commenter's eyes, reduce the severity of environmental effects. MMWD is also cognizant, however, that the mitigation measures recommended in the Draft EIR represent the professional judgment and long experience of MMWD's expert staff and environmental consultants. MMWD therefore believes that these recommendations should not be lightly altered. Thus, in considering commenters' suggested changes or additions to the mitigation measures as set forth in the Draft EIR, MMWD, in determining whether to accept such suggestions, either in whole or in part, has considered the following factors, among others: (i) whether the suggestion relates to a significant and unavoidable environmental effect of the Project, or instead relates to an effect that can already be mitigated to less than significant levels by proposed mitigation measures in the Draft SEIR; (ii) whether the proposed language represents a clear improvement, from an environmental standpoint, over the draft language that a commenter seeks to replace; (iii) whether the proposed language is sufficiently clear as to be easily understood by those who will implement the mitigation as finally adopted; (iv) whether the language might be too inflexible to allow for pragmatic implementation; (v) whether the suggestions are feasible from an economic, technical, legal, or other standpoint; and (vi) whether the proposal is consistent with the Project objectives.

As is often evident from the specific responses given to specific suggestions, MMWD staff and consultants spent large amounts of time carefully considering and weighing proposed mitigation language, and in many instances adopted much of what a commenter suggested. In some instances, MMWD developed alternative language addressing the same issue that was of concern to a commenter. In no instance, however, did MMWD fail to take seriously a suggestion made by a commenter or fail to appreciate the sincere effort that went into the formulation of suggestions.

FINDINGS OF FACT

With respect to mitigation measures proposed by commenters, the Board adopts the following findings:

- (1) Several commenters proposed that expansion of MMWD's existing system of reservoirs should have been included as an alternative to the Project:
 - (a) MMWD's seven-reservoir water storage system already offers the maximum storage available. MMWD built its last reservoir, Soulajule, in 1979 and enlarged Kent Lake in 1982. These reservoirs are on the two largest watersheds in Marin County: the Lagunitas Creek and Walker Creek watersheds. Reservoir sites within the County have been studied extensively for over 100 years. No other sites in Marin County are suitable for municipal water supply reservoirs. The basis for this conclusion is documented in the October 1975 Report on the Engineering and Economic Feasibility of Various Sites Investigated for the Development of a Natural Water Source Within Marin County (MMWD 1975) and in the Water Supply Master Plan (MMWD 1989). Since those reports were completed, changes in environmental resource requirements have further limited MMWD's ability to expand its reservoir system. The coho salmon, steelhead, and California freshwater shrimp of Marin County are now listed as threatened or endangered species. The Endangered Species Act requires these populations to be protected and restored. Construction of new reservoirs or water diversion works would require the permission of federal and state environmental agencies. It would be difficult, if not impossible, to obtain such permission. Indeed, a current focus of the expansion of critical habitat for these species consists of considering whether to remove existing dams to restore historic spawning beds. For example, one current proposal is to remove a number of hydroelectric facilities from the Klamath River along the California/Oregon border. Against this backdrop, proposals to establish or expand existing reservoirs are considered infeasible, particularly where other water supply options are available.

Also, in 1996, the State Water Resources Control Board (SWRCB) required MMWD to release water to Lagunitas Creek to sustain and restore the fishery there. The releases required by the SWRCB consumed virtually all of the water supply associated with the Kent Lake enlargement project. More recently, a pending State policy mandated by Assembly Bill 2121 (the North Coast Instream Flow Policy) takes the position that Marin County streams are fully appropriated, remaining streamflows are not available for diversion, and no new on-stream reservoirs will be permitted.

Therefore, expansion of MMWD's reservoir system is unlikely to be allowed, and even if such a request were to be granted, the water releases required to support endangered fisheries would consume all of the water supply produced.

Regarding proposals to expand reservoir storage by dredging, during the droughts of the 1970s and 1990s, MMWD evaluated the potential increase in storage capacity that could be gained in the reservoirs by the removal of silt that had accumulated over the years. That review concluded that siltation had been

FINDINGS OF FACT

minimal; therefore, removing silt from the reservoirs would not produce much added capacity. Furthermore, reservoir system yield is based on the storage calculated when the reservoir was constructed or enlarged; the yield does not take into account reduced capacity associated with the subsequent accumulation of silt. Therefore, dredging the reservoirs, even if it were practical, would not increase water supply and would only preserve the existing supply.

Removing enough material from around an existing reservoir to increase storage is also impractical. The length of time that would be required to navigate the federal and state permitting processes, the potential effects to downstream aquatic resources, and the uncertainty of successful permitting make increasing storage at any of the existing reservoirs, either by dredging or by raising dam heights, at best speculative and not achievable within MMWD's required time frame for securing an additional water supply.

Expanded storage at any of MMWD's reservoirs would not be immune from drought, which is one component of the Project objectives as described in Section 3.2 of the EIR. MMWD's reservoirs depend on local rainfall. During periods of drought, MMWD's reservoirs do not fill to capacity. Dredging the reservoirs, and thus potentially increasing or maintaining their capacity, would not augment existing water supplies during periods of drought.

A number of commenters questioned the manner in which MMWD manages water from Soulajule Reservoir. MMWD uses this reservoir as a reserve water supply for MMWD. In a repeat of the drought of record, the reservoir would provide over 4,000 acre-feet of water to MMWD customers and over 5,000 acre-feet of water for the fishery of the Walker Creek basin. This reservoir thus enables MMWD to maintain water and fisheries supplies even during drought years. The reservoir drainage area is quite dry. If MMWD were to pump out this reservoir every year, as has been suggested, then the reservoir would be empty when the next drought occurs. In other words, the reserve supplies afforded by this reservoir would be unavailable during drought years, when such supplies are needed, and the water supply and fishery benefits would be lost.

(2) Several commenters proposed additional water conservation strategies as an alternative to the Project:

- (a) As discussed in Section 6.4.2.1 of the EIR, water conservation has been a priority of MMWD since the early 1970s. These efforts have reduced per capita water use in MMWD's service area to a level more than 15 percent below the peak use figure reached in the late 1980s.

MMWD developed the Water Conservation Master Plan (WCMP) in 2007. In developing this master plan, MMWD contracted with an expert in water conservation programs, Maddaus Water Management, to analyze best management practices and their feasibility and cost for possible implementation in MMWD's service territory. Maddaus Water Management developed four

FINDINGS OF FACT

alternative water conservation programs that could be implemented by MMWD to reduce future water demand. Each of the four alternatives includes selected technical saving and behavior saving conservation measures, which are designed to illustrate an increasing level of water savings for MMWD. Conservation measures considered include 10 Tier One measures, nine Tier Two measures, and 11 New Development measures.

Based on the recommendations from Maddaus Water Management, MMWD developed program alternatives for improvements to its conservation activities. The MMWD conservation programs include an Automated Meter Reading/Advanced Meter Infrastructure and Leak Detection Program, and Conservation Programs 1–3. Table V2-1 on page 2-5 of the Final EIR lists program activities that would be accomplished during implementation.

In June 2007, the MMWD Board of Directors adopted the 2007 WCMP and instructed MMWD staff to implement Program 3 of the plan. Program 3 is the most aggressive and comprehensive of the programs set forth in the WCMP. The Board authorized funding for the WCMP at the maximum level for fiscal year 2008.

As the EIR explains, the desalination Project is designed to augment MMWD's existing supplies to meet existing and anticipated demands. Conservation is one means of meeting those demands. As described in Section 3.4 of the Draft EIR, MMWD is expecting to meet half of the projected supply shortfall in 2025 through implementation of the conservation program described in Section 6.4.2 of the EIR (also known as Program 3 of the 2007 Water Conservation Master Plan). Additional demand reduction beyond the 3,400 acre-feet per year of savings expected from Program 3 will require either additional deployment of water-saving technologies beyond the extensive level planned, or would require implementing other conservation measures that have not been widely demonstrated. Because Program 3 already necessitates the actions of a large number of MMWD customers to be successful, MMWD is taking on a significant level of risk that such actions will result in the anticipated savings. For this reason, additional savings from conservation programs beyond Program 3 are speculative. For this reason, additional conservation programs are not considered to meet the Project objectives.

The Board wishes to emphasize, however, that it remains committed to full implementation of Program 3, and to an overall strategy of "conservation first." The Board also wishes to emphasize that it remains open to additional conservation measures, over and above those included in Program 3. If additional conservation measures are determined to be feasible, then the Board is committed to incorporating them into its existing conservation program.

- (3) Several commenters proposed rainwater catchment systems be implemented to supplement MMWD's water supply:

FINDINGS OF FACT

- (a) Rainwater catchment systems have been used in both urban and rural settings worldwide, including Marin, throughout human history. The design and cost of these systems varies depending on a variety of factors, including amount and frequency of rainfall, total system demand, and availability of alternative water sources. Due to the Mediterranean climate in Marin, where the dry season lasts for 7 to 9 months, a rainwater catchment system would need to be sized according to the desired percentage of seasonal irrigation or potable water demand the system would be expected to supply.

Storage facilities range from inexpensive passive earthforms (rain gardens and drywells) to more expensive surface-installed rain barrels or in-ground cisterns. The average MMWD property owner would be most likely to invest in a system that would store enough rainwater to adequately irrigate landscaping for only part of the dry season. With this approach, many property owners would be able to reduce some portion of their annual demand for irrigation water.

Improving irrigation and landscape water use efficiency is the first step in designing a rainwater catchment system. Because of the costs required to purchase a catchment system, the water demand of the existing or new landscape should be reduced to the greatest possible extent before the system is sized. This includes improving soil tilth, reducing unused lawn areas and other high-water-using plants, removing outdated irrigation sprinklers and replacing them with high efficiency systems, carefully monitoring irrigation applications, and contouring the landscape to capture as much rainfall as possible. Each of these actions reduces the long-term water demand at the property, regardless of the size of the rainwater catchment system.

Due to the topography and soil conditions in the MMWD service area, it is usually most economical to install rainwater catchment systems on the surface rather than as buried cisterns. High-density polyethylene containers (ranging in cost from \$0.50 to \$2.50 per gallon and in size from 55 to 1,000 gallons or larger) are most commonly employed in urban settings as they are lightweight and relatively easy to install. To install a system that would provide enough water to be of any significance in meeting the annual irrigation needs of a typical MMWD customer, the cost of the system would range from \$3,000 to \$5,000, which includes the storage systems, pumps, and backflow protection devices necessary to connect the rainwater collection equipment to a standard sprinkler system. The cost per acre-foot of these systems would be 3 to 4 times that of desalination, making them infeasible compared to other water supply and demand reduction alternatives. As a result, these systems are not considered feasible on a large-enough scale to provide meaningful supplies.

- (4) Several commenters proposed gray water be used to supplement MMWD's water supply:
 - (a) Gray water is untreated, nondisinfected wastewater that has not come into contact with toilet waste. Gray water includes wastewater from residential

FINDINGS OF FACT

showers, bathtubs, bathroom sinks, and washing machines. In 1997, California adopted Appendix G of the Uniform Plumbing Code as the only legal method of installing gray water systems. The code allows gray water to be used only for subsurface irrigation and requires installation of a minileachfield. These and numerous other safeguards have made legal gray water systems prohibitively expensive and impractical. As a result, few legal systems have been built in Marin County or elsewhere in California. Until the State of California and counties and cities change the code requirements for gray water systems, there is little potential for the increased use of these systems.

(5) Several commenters suggested a formal mitigation plan should be developed for energy use of the Project:

- (a) As set forth in Section 15126.4 and Appendix F of the CEQA Guidelines, CEQA promotes the wise and efficient use of energy. The amount of energy that would be used by the desalination plant is not, in itself, a significant impact. The question is whether the energy consumption is necessary and efficient, and whether the generation of energy required by the plant will cause significant environmental impacts.

Based on the planning studies summarized below, MMWD has determined that the Project is a reasonable way of providing high-quality, reliable potable water to help balance water supply and demand in MMWD's service area. Therefore, MMWD believes that the Project is an appropriate use of energy because the plant would provide a reliable supply of water for MMWD customers, particularly during drought conditions. (See FEIR, Master Response EN-1 for further discussion.)

Modern RO technology would also ensure that the energy would be used efficiently. As discussed in Chapter 5.0 of the EIR, the amount of electricity that would be used for the desalination plant depends on the size of the plant and the hydrologic conditions in a given year. It is estimated that the electrical requirements for the Project would range from 10,037,500 kilowatt-hours per year (kWh/yr) for a 5 MGD plant during average conditions to 76,650,000 kWh/yr for a 15 MGD plant during drought conditions. These energy demand estimates include all of the energy required for the Project including water intake, pretreatment, RO, and transmission of the freshwater to MMWD's existing San Quentin Ridge tanks where it would be fed into MMWD's transmission system.

The desalination plant would use the most advanced and efficient RO system technology, including energy recovery devices, high-efficiency pumps, variable-speed drives, and high-efficiency membrane elements. Future repairs, maintenance, and upgrades will be designed to further enhance energy efficiency of the plant.

As discussed in Section 5.2 of the EIR, PG&E delivered 81,626 gigawatt-hours (GWh) of electricity in 2005. Of this total, customers consumed 72,727 GWh, or 89 percent of the total electricity delivered. Therefore, in 2005, PG&E had an

FINDINGS OF FACT

average reserve margin of 11 percent. The highest power demand of the Project would be less than 1 percent of the average reserve margin. The California Energy Commission has estimated that the electricity margins for 2008 are approximately 22 percent for California under average summer weather conditions.

Even under hotter-than-average conditions, the reserve margins are approximately 14 percent. Based on these data, no new power plants would be required to serve the Project even at maximum buildout of 15 MGD. In addition, existing power plants would not need to operate above permitted levels to serve the Project.

In addition, MMWD is committed to expanding its use of renewable energy. At present, MMWD is designing three solar power projects that will produce a total of about 500,000 kWh/yr. Another promising opportunity for the use of renewable energy is through community choice aggregation. Assembly Bill 117 authorizes the formation of community choice aggregators to aggregate the electrical load of interested electricity customers within its boundaries to reduce transaction costs to customers, provide consumer protections, and leverage the negotiation of contracts. Marin County is a participant in the Local Government Commission Community Choice Aggregation Demonstration Project, which was commissioned by the California Energy Commission and the United States Department of Energy to assist local governments in evaluating and implementing Community Choice Aggregation. MMWD has participated in the feasibility studies and business planning associated with the development of the Community Choice Aggregation program in Marin County.

A principal goal of a Marin Power Authority, or Marin Clean Energy, to be implemented under Community Choice Aggregation rules would be to increase the mix of renewable power supplied to Marin County to 50–100 percent. As a customer of Marin Clean Energy, MMWD would be able to select the mix of renewable power that it would need to eliminate any greenhouse gas emissions associated with any increase in energy use associated with a desalination plant. MMWD is also exploring the purchase of green energy credits to offset the use of fossil fueled power for the Project.

Therefore, the Board finds that the Project would not result in a significant energy impact. Because the impact is less than significant, there is no requirement for mitigation measures under CEQA.

(6) Lisa Carboni of the California Department of Transportation (Comment Letter S-1) made the following comments relating to changes or additions to mitigation measures and/or alternatives:

(a) Ms. Carboni stated that the California Department of Transportation would require Cultural Resources Studies be completed prior to issuing encroachment permits.

FINDINGS OF FACT

In response, Mitigation Measure 4.4-1(d) was added to the Final EIR:

If ground-disturbing activities are necessary within Caltrans right-of-way, a Cultural Resources Study will be required prior to obtaining an encroachment permit from Caltrans that evaluates the potential for buried unrecorded sites within the area impacted by activities. If an archaeological site is identified within Caltrans right-of-way, the following will be submitted to Caltrans as part of MMWD's application for an encroachment permit: 1) effect evaluation of potential project impacts to the archeological site; 2) mitigation plan per CEQA Guidelines 15126.4(b) (3) including implementation of Mitigation Measure 4.4-1(b)–(c); and 3) evidence of consultation with the territorial Native American group(s) for the area pursuant to Section 5097 of the California Public Resources Code. Any archaeological site identified will be avoided to the extent feasible. If a historically or culturally significant resource cannot be avoided, MMWD will implement a Data Recovery Plan approved by Caltrans.

(Final EIR, p. 4.4-8.)

(7) Marija Vojkovich of the California Department of Fish and Game (Comment Letter S-2) made the following comments relating to changes or additions to mitigation measures and/or alternatives:

(a) Ms. Vojkovich stated that mitigation should be developed to address the effect of the pier on the growth of native eelgrass.

The new concrete pier would have the same footprint as the existing wooden pier except that the "T" section at the end of the existing pier, which collapsed many years ago, would be rebuilt and decking added. The rebuilt "T" section would be about 160 square feet (0.004 acre). The Project would not have an incremental effect on shading of potential eelgrass habitat, since the shading occurs under the length of the existing pier and would not change as a result of the Project. No eelgrass has been mapped at the tip of the pier near the "T" section (Merkel and Associates 2004), so shading from the additional 160-square-foot section would not affect eelgrass. Because this impact is less than significant without mitigation, no mitigation is necessary.

(b) Ms. Vojkovich suggested additional mitigation measures to address loss of oak and riparian woodland.

The Draft EIR mistakenly identified conversion of oak woodland as a potentially significant impact of the Project. Although individual oak trees exist on the Project site, the plant community of "oak woodland" does not. Section 4.3.2 of the Final EIR has been modified to clarify this issue.

FINDINGS OF FACT

It is anticipated that replacement trees will be planted on-site. Habitat restoration and tree replacement, as well as final mitigation ratios, would be developed in coordination with the resource agencies.

Mitigation Measure 4.3-3 has also been amended:

Prior to final design and construction of the pipeline, tank, and pumping stations, MMWD would perform a tree survey of the San Quentin Ridge woodland and other wooded areas along pipeline routes. The project design would be modified to avoid trees greater than 6 inches diameter at breast height (DBH), if feasible. If the project cannot avoid a tree greater than 6 inches DBH, the following would apply:

- c. Establishment and maintenance of replacement trees of the same species to those removed at a 2:1 ratio.
- d. Work with Marin County and/or the City of San Rafael to develop a management plan in accordance with the County and City tree ordinances.

(8) Gordon Bennett of the Sierra Club (Comment Letter R-4) made the following comments relating to changes or additions to mitigation measures and/or alternatives:

- (a) Mr. Bennett proposed several alternative operation schemes as alternatives to the Project.

The alternative operation schemes proposed in the comment would not meet the needs of the District. There will be little notice of the onset of a drought. A drought is defined as the dry period between the time when MMWD's reservoirs are full on April 1 and the date when the reservoirs are full again. The Mediterranean climate of the service area, where there is little, if any, rainfall during the warm season, makes it difficult to identify the beginning of a severe drought. MMWD would be 8 months into the drought, the normal dry season, before there would be an indication of a problem. Consequently, there will be little notice of the onset of a drought. It will not be possible to obtain and install, and train staff in the use of, new equipment in the time between the onset of a drought and the time when water will be in critically short supply. The alternatives proposed will neither provide the water now needed by the District in normal years nor will it provide water in a timely manner when the next drought occurs.

(9) Nancy Kaufman of the City of Larkspur (Comment Letter L-2) made the following comments relating to changes or additions to mitigation measures and/or alternatives:

- (a) Ms. Kaufman suggested that alternatives to the tank sites should be considered such as burying the tanks or locating them on an alternative site.

FINDINGS OF FACT

Because of the topography of San Quentin Ridge, other tank locations on the ridge would require extensive grading to create a level site large enough for the installation of the tanks. Grading would also be required to construct an access road at other tank locations. It was determined that such extensive new grading would represent a more significant visual impact than the proposed San Quentin Ridge tank site.

Alternative tank sites were considered for the southern Marin tanks as discussed in Section 6.3.7 of the EIR. No alternative tank sites for the San Quentin Ridge tanks were identified due to hydraulic and property ownership considerations. The San Quentin Ridge tanks cannot be buried because the ridge at this location is too narrow to allow construction of both the required water storage and the stable fill that would be required to bury the tanks.

(10) Albert Boro of the City of San Rafael (Comment Letter L-3) made the following comments relating to changes or additions to mitigation measures and/or alternatives:

- (a) Mr. Boro commented that additional mitigation measures, such as different construction measures or locations, should be considered for the San Quentin Ridge tanks.

See the response to Ms. Kaufman's suggestion above (Part 9) as well as the discussion of alternative tank sites included in Section 6.3.7 of the EIR. No feasible alternative construction methods have been identified to further reduce the aesthetic impacts of the tanks.

- (b) Mr. Boro commented that additional consideration of the aesthetic impacts of the San Quentin Ridge tank sites should be conducted to reduce the impact to the extent feasible.

Mitigation Measure 4.1-3 was amended to address this comment:

During the project design phase, MMWD will work with a landscape architect and the cities of San Rafael and Larkspur to develop a landscaping plan for the San Quentin Ridge tank site to reduce the visual contrast of the tanks on the ridge top. MMWD will implement the landscaping plan during project construction. The landscape plan will identify the location and types of planting (i.e., trees and shrubs) that will soften the visual intrusion of the tanks and identify success metrics such as survival and growth rates for the plantings. MMWD will place story poles at the tank locations upon completion of the site plans.

(Final EIR, p. 4.1-10) The Board finds that the existing analysis of the aesthetic impacts of the tank sites is sufficient, and that additional photo-simulations need not be prepared in order to provide substantial evidence in support of the conclusion that this impact would be significant nor are such simulations necessary to reduce the visual contrast of the tanks on the ridge top to the extent feasible in accordance with Mitigation Measure 4.1-3.

FINDINGS OF FACT

- (c) Mr. Boro commented that mitigation should be considered to reduce the impact of the new utility poles, such as the potential to underground the high voltage electrical lines or relocate the poles to a different route.

Replacement of the utility poles will not result in any significant impacts, and mitigation measures are not required. Replacing the existing poles with slightly taller poles in the same location would create a less than significant aesthetic impact and should not have an effect on the City of San Rafael's plan for a bicycle route in this area. Traffic impacts of the pole replacement would be short term and not significant.

Assuming that the timing works out and MMWD can reach a cost-sharing agreement with the City of San Rafael, MMWD will coordinate with the city on the city's plan to underground utilities along this route. Alternative transmission line routes were not analyzed because this is the main transmission line that serves the Project area. If an alternative route is feasible, that route would need to be identified and studied by PG&E.

- (11) Barbara Salzman of the Marin Audubon Society (Comment Letter L-4 and a follow-up letter submitted on January 31, 2009) made the following comments relating to changes or additions to mitigation measures and/or alternatives:

- (a) Ms. Salzman commented that mitigation to address the potential loss of trees should be amended to clarify that any native oaks removed should be replaced with native oaks.

Mitigation Measure 4.3-3 has also been amended to address this concern. See the amended version of Mitigation Measure 4.3-3 included in the response to Ms. Vojkovich's comments above (Part 7).

- (b) Ms. Salzman commented that mitigation measures should be included to address impacts to wetlands. Specifically, she provides that avoidance should be the preferred mitigation and, only if avoidance is impossible, compensatory mitigation should be provided at a 2 to 1 ratio.

As discussed in the EIR, since the potential impact to wetland features is less than significant without mitigation, mitigation measures are not required by CEQA. (See California Public Resources Code Sections 21002, 21081.)

- (c) Ms. Salzman commented that a mitigation measure should provide that, during reconstruction of the Marin Rod & Gun Club pier, blankets should be used to muffle noise and impacts on aquatic life.

As discussed in Section 4.3.2.3 of the EIR, NOAA Fisheries would be consulted in developing appropriate avoidance and minimization measures for use during pile-driving activities. If needed, appropriate sound attenuating methods, such as the use of bubble curtains, would be used to reduce underwater sound levels to minimize effects on fish and marine mammals.

FINDINGS OF FACT

- (d) Ms. Salzman requested that the EIR include additional discussion of alternative energy sources such as landfill gas and solar energy.

See the general response to comments on energy above (Part 5). Further responding to Ms. Salzman's request, the only location in Marin County that has a suitable quantity of landfill gas to generate power is Redwood Landfill in Novato. Redwood Landfill currently is working with the Bay Area Air Quality Management District and other agencies to begin development of a landfill-gas-to-energy project to produce 4 to 5 megawatts of renewable power. Moreover, the other alternative energy options discussed by Ms. Salzman do not, by themselves, "reduce energy use" associated with the Project.

As discussed in Section 6.3.11 of the EIR, directly generating and using renewable energy sources at the desalination plant site, or in the Project vicinity, would not be practical for a variety of reasons. Implementing a combination of a mix of these alternatives likewise would not be cost effective.

- (12) Roger Roberts of the Marin Conservation League (Comment Letter L-5) made the following comments relating to changes or additions to mitigation measures and/or alternatives:

- (a) Mr. Roberts commented that mitigation measures are required to address energy use by the Project including a commitment to operate the plant primarily as a drought protection measure, to implement further conservation, and to use renewable energy and/or develop additional energy conservation projects in the community. Mr. Roberts also suggested that an alternative should include an option where the Project would operate at 20 percent capacity in the summer and fall months during wet and normal years.

The Project would not require mitigation measures or a mitigation monitoring plan under CEQA for energy use, as discussed in Master Response EN-1 in the Final EIR and as discussed above (Part 5).

The projected demand for water by MMWD customers in excess of available supply was used to estimate plant operations in a normal water year. In the event that demand is lower as a result of conservation or future demographic trends, the amount of water processed through the plant would be reduced and the energy demand for the Project would be lower. An alternative requiring the desalination plant to operate at a level that, in conjunction with conservation efforts, was unable to meet future need for water would be inconsistent with the Project objective to help balance water supply and demand to ensure MMWD is able to fulfill its service commitments. Therefore, an alternative requiring the desalination plant to operate at 20 percent capacity in the summer and fall months during wet and normal years was not considered.

MMWD would operate the desalination plant at minimal rates during winter months, only as necessary to protect the facility membranes and other equipment from damage or deterioration. MMWD would operate the plant at

FINDINGS OF FACT

higher rates in summer months and during droughts as necessary to meet water demands. Because of the costs associated with operating the facility, MMWD would minimize operations whenever feasible. MMWD has adopted a commitment to an aggressive water conservation program to minimize water demands that would need to be met by existing and supplemental supplies. Also, as noted in the response to Comment L-4-38 in the Final EIR, MMWD has a plan to offset GHG emissions and, as noted in Section 5.3 of the EIR, has the goal of reducing its overall GHG emissions to 15 percent below the 1990 levels by 2020.

- (b) Mr. Roberts suggests that several other Project alternatives should be considered including: 1) Building a new pipeline to Lake Sonoma; 2) Expanding the existing pipelines in conjunction with the Marin-Sonoma Narrows project; 3) Reducing leakage in the existing system and potentially increasing user conservation through the installation of state of the art water meters; 4) Joining into the Bay Area Regional Desalination Project; 5) Leasing a barge mounted desalination plant for use in drought situations; 6) Use of household cisterns; and use of graywater.

See responses to the general comments made regarding alternatives above (Parts 1-4) as well as Master Response ALT-1 in the Final EIR.

Building a new pipeline to Lake Sonoma has not been evaluated. MMWD already has a contract to receive up to 14,300 AFY from SCWA, but, as described in Section 3.1 of the EIR, capacity issues with transmission facilities and other political, environmental and regulatory factors have limited SCWA's ability to deliver MMWD's entitlement. It is unclear when SCWA will be able to satisfy its obligations to MMWD, and SCWA's water supply would not provide MMWD with a reliable water source during drought conditions. Building a pipeline to Lake Sonoma would not completely address that issue.

Chapter 6.0 of the Final EIR includes the Sonoma-Marin Transmission Line with Conservation Alternative. In this alternative, MMWD would work with North Marin Water District (NMWD) to construct a new water transmission line from Petaluma to Novato. The line would replace and supplement an existing NMWD aqueduct, most of which would be relocated in the proposed expansion of U.S. Highway 101 (US 101). MMWD has an agreement with NMWD to use the existing pipeline for the conveyance of Russian River water that MMWD has purchased from SCWA. The pipeline capacity is inadequate to deliver NMWD's Russian River water entitlement and accommodate MMWD's full entitlement of up to 14,300 AFY. The new pipeline would have a capacity sufficient to enable the delivery of MMWD's entitlement from the Russian River, assuming that existing SCWA facilities can deliver the water. In addition, this alternative would implement the water conservation measures outlined in MMWD's 2007 Water Conservation Master Plan. (See Final EIR, pp. 6-39 to 6-56.)

Reducing leakage in the existing system is an operational issue that is currently being pursued as part of MMWD's ongoing conservation efforts. Addressing

FINDINGS OF FACT

these types of operational issues are effective conservation techniques, and MMWD is aggressively implementing measures in these and other areas to increase water conservation. However, these efforts, as well as expending more resources on conservation, do not guarantee a level of success that would eliminate the projected future water supply deficit that MMWD faces.

The regional desalination project being evaluated by the Contra Costa Water District (CCWD), EBMUD, SFPUC, and Santa Clara Valley Water District (SCVWD) is still at the conceptual stage of development. A proposed site for the project has not been selected, and environmental analysis of the project has not commenced. There is no assurance that the project will be implemented. Therefore, MMWD concluded that this was not a feasible alternative.

A ship-mounted desalination plant for emergency use in Marin is impractical for a number of reasons. First, as discussed in Section 3.1 of the EIR, the need for additional water is not just for droughts and emergencies but also to help address a projected deficit in MMWD's long-term supply. Second, a substantial amount of infrastructure (pier, pipeline, pumping stations, and tanks) would have to be constructed to connect this additional supply into MMWD's existing water distribution system. Third, desalination plants work best when they are designed for the source water that they will desalinate, and it is unlikely that a ship-mounted desalination plant would be tailored to desalinate San Francisco Bay water. Therefore, MMWD does not believe a ship-mounted desalination plant is a feasible alternative.

As discussed in Master Response CON-2 and CON-3 in the Final EIR and as discussed above (Parts 3 & 4), household cisterns and gray water use are not feasible alternatives to the Project.

(13) James R. Raives of the Marin County Department of Parks and Open Space (Comment Letter L-8 and a follow up letter submitted on February 4, 2009) made the following comments relating to changes or additions to mitigation measures and/or alternatives:

- (a) Mr. Raives commented that the Project will result in impacts to open space land within the Tiburon area on land owned by the Town of Tiburon. Mr. Raives, thus, requested that a mitigation measures clarify that new open space land acquired as mitigation should occur on the Tiburon peninsula in the general area of the Project's impact.

Mitigation Measure 4.8-1 has been modified to address this concern. The measure has been modified as follows:

MMWD will work with the Marin County Open Space District and the Town of Tiburon to identify the location and amount of lands (minimum mitigation ratio of 1:1) that can be purchased or MMWD-owned land that can be traded to offset the loss of this open space land. Preferably the land would be contiguous to other existing open space managed by the

FINDINGS OF FACT

Marin County Open Space District and located on the Tiburon Peninsula. MMWD will then execute the agreed-upon exchange.

(Final EIR, p. 4.8-8.)

- (b) In the follow up letter, Mr. Raives commented that the second to last sentence of the amended mitigation measure above should be further amended as follows: “Preferably the land would be contiguous to other existing open space managed by the Marin County Open Space District or the Town of Tiburon and located on the Tiburon Peninsula.”

The Marin County Open Space District manages open space owned by the Town of Tiburon. Therefore, the proposed additional language would be redundant.

- (14) Scott Anderson of the Tiburon Community Development Department (Comment Letter L-8) made the following comments relating to changes or additions to mitigation measures and/or alternatives:

- (a) Mr. Anderson commented that additional alternative locations for the water tanks should be discussed in the EIR.

Please see discussion of Ms. Kaufman’s and Mr. Boro’s comments above (Parts 9 and 10(a)). No feasible alternatives to the southern Marin tank sites exist. The EIR evaluates three alternative tank sites: the Horse Hill site, Chapman site, and Ridgecrest B site (Final EIR, pp. 6-4 to 6-8). The EIR concludes that none of the sites would avoid or lessen potentially significant environmental impacts. Therefore, the sites were not carried forward for further environmental review. (*Ibid.*)

Mr. Anderson suggests that alternative sites should be considered that would not impact land held in public trust as open space. Mitigation Measure 4.8-1 in the EIR requires a minimum of 1:1 replacement of open space that is lost as a result of development of the Ridgecrest A tank site. Implementation of this mitigation measure reduces the potential impact from development of the site to a less-than-significant level (Final EIR, p. 4.8-8). In the almost 40 years MMWD has been studying ways to distribute supplemental water supply to customers, the sites discussed in the EIR have been the sites found to be suitable. While the sites were once privately owned, they are now open space or quasi-open space. MMWD believes that the proposed site would have no visual impacts on surrounding areas, except in the case of hikers who walk to the site. However, in order to use this site, MMWD would have to provide replacement property of equal or greater value as open space.

According to Section 15126.6 of the CEQA Guidelines, the range of potential alternatives to the Project should include those that could feasibly accomplish most of the basic objectives of the Project and could avoid or substantially lessen one or more of the significant effects. None of the alternative southern Marin

FINDINGS OF FACT

tank sites would avoid or substantially lessen any of the impacts identified for the Ridgecrest A tank site. In fact, each of the alternative southern Marin tank sites would potentially have greater impacts than those associated with the Ridgecrest A tank site. These alternative southern Marin tank sites were seriously considered by MMWD and were subjected to the same field studies as the Ridgecrest A tank site.

As discussed in Section 6.3.7 of the EIR, the Horse Hill Fire Road would need to be improved for permanent access to the Horse Hill tank site, which could cause a substantial adverse change in the significance of known potentially unique archaeological resources (CA-MRN-520 and CA-MRN-598), as defined in CEQA Guidelines Section 15064.5. This impact would be potentially significant. All other impacts were found to be similar to those of the proposed tank site at Ridgecrest A. Since no impacts would be reduced and two potentially significant impacts were identified, this alternative tank site was not carried forward for environmental review.

The Chapman Tank site contains a drainage at the beginning of the utility easement just south of Fairview Avenue. The drainage supports wetland vegetation that could potentially be affected by the construction of access to the tank site. An impact to wetland vegetation would be considered potentially significant. All other impacts were found to be similar to those of the proposed tank site at Ridgecrest A. Since no impacts would be reduced and one potentially significant impact was identified, this alternative tank site was not carried forward for environmental review.

The Ridgecrest B tank site is in open grassland in an area that is more visible to the surrounding area than the Ridgecrest A site, since the Ridgecrest A site contains a screen of mature trees to the north and northeast.

All impacts were found to be similar to those of the proposed tank site at Ridgecrest A. Since no impacts would be reduced, this alternative tank site was not carried forward for environmental review. A visual simulation of this site was not prepared since it was not carried forward in the analysis.

- (b) Mr. Anderson commented that replacement open space should be purchased in the Town of Tiburon or on the Tiburon Peninsula.

As discussed in response to Mr. Raives comments above (Part 13), mitigation measure 4.8-1 was amended to incorporate this suggestion. (Final EIR, p. 4.8-8.)

(15) Stone Coxhead (Comment Letter L-8) made the following comments relating to changes or additions to mitigation measures and/or alternatives:

- (a) Mr. Coxhead commented that the EIR should have considered an alternative in which the desalination plant would be located in the McInnis Park area or near Point San Pedro.

FINDINGS OF FACT

No evidence exists to suggest that the water quality in this area of San Rafael Bay is appreciably different than in other portions of San Rafael Bay. Alternative desalination plant sites were considered, as discussed in Section 6.3.5 of the EIR. No significant environmental impacts were identified with the Pelican Way plant site, and MMWD already owns the property. In addition, the desalination plant would be consistent with the City of San Rafael's designated land use for the area (Light Industrial and Office).

(16) John Collette submitted an email including the following changes or additions to mitigation measures and/or alternatives to MMWD on January 23, 2009:

- (a) Mr. Collette comments that the Final EIR does not adequately consider the potential for Alternative 8, the Sonoma-Marin Transmission Line with Conservation, to meet the Project objectives.

Mr. Collette points out that the UWMP projects SCWA's single dry year supply will fall approximately 3% short of demand in 2020 and 15% short of demand in 2030. (UWMP, p. 7-2, Table 7-6.) Therefore, the UWMP does not project that SCWA water supply shortfall will approach a 50% reduction by 2030.

There are a number of reasons, however, why the water supply projections set forth in the UWMP may be overly optimistic. In other words, there several significant issues that the UWMP does not take into account, and these issues may result in larger shortfalls than the 3% to 15% shortfalls projected in the UWMP. Additional information on this issue is set forth in the staff report to the Board for the hearing on February 4, 2009.

These uncertainties and risks support MMWD's conclusion that it would be infeasible to rely on Alternative 8 and additional water deliveries from SCWA to meet future water supply needs during emergencies and drought conditions. The Board finds that the record supports the conclusion contained in the FEIR that Alternative 8 fails to meet all Project objectives because it would not provide a sufficient water supply during emergencies and drought conditions.

In order to avoid any confusion on this issue, and to respond to Mr. Collette's concern, the text of the Final EIR was revised as follows:

Drought Year Reliability. The SCWA 2005 *Urban Water Management Plan* (SCWA 2006) states that drought could reduce the supply available from the Russian River. According to the plan, SCWA has adequate water supply through 2030, except for single dry years starting in 2020. In single dry years starting in 2020, SCWA would work with MMWD and its other contractors to reduce water demand, use emergency local sources, or both. ~~In the event of a 50 percent cutback in SCWA's water supply, deliveries to MMWD could be reduced to 666 AFY (SCWA 2006, Appendix C, Table 2). This would not be sufficient to ensure that supply meets MMWD's drought year demand, one of the project objectives. There is significant uncertainty regarding the extent to which SCWA~~

FINDINGS OF FACT

would have to reduce its deliveries to its contractors, as well as how those deliveries would be allocated among SCWA's contractors. Moreover, a superior court has invalidated the SCWA Urban Water Management Plan on a variety of ground, meaning that the status of the plan is in question. In addition, the water supply and demand forecasts presented in the SCWA *Urban Water Management Plan* do not account for the flow reductions required by the September 2008 Biological Opinion.

(17) Henry Cole, Jr. submitted a letter including the following changes or additions to mitigation measures and/or alternatives to MMWD on February 2, 2009:

- (a) Mr. Cole comments that the EIR should have considered locating the desalination plant on the Tiburon Peninsula.

At the conceptual planning phase, the Tiburon Peninsula was considered but rejected, due to issues associated with water and power infrastructure, opportunities for brine disposal, and adequacy of potential plant sites. The EIR adequately discusses the site for the desalination plant included in the Project as well as other feasible alternative locations.

(18) Michele Barni submitted a letter including the following changes or additions to mitigation measures and/or alternatives to MMWD on February 4, 2009:

- (a) Ms. Barni expressed concern that measures must be implemented to address potential health risks associated with demineralized water as discussed in the 2005 World Health Organization Report, entitled "Nutrients in Drinking Water."

Post treatment of desalinated water adds minerals that are removed from saltwater, including the minerals discussed in the World Health Organization Report cited by Ms. Barni. After that addition of these minerals, the desalinated water will meet all the mineral content standards outlined in the report.

XV. PROJECT ALTERNATIVES

A. ALTERNATIVES ANALYSIS

Where a significant impact can be substantially lessened (i.e., mitigated to an "acceptable level") solely by the adoption of mitigation measures, the lead agency, in drafting its findings, has no obligation to consider the feasibility of alternatives with respect to that impact, even if the alternative would mitigate the impact to a greater degree than the Project. (Pub. Resources Code, § 21002; *Laurel Hills Homeowners Association, supra*, 83 Cal.App.3d at p. 521; see also *Kings City Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 730-731; *Laurel Heights Improvement Association v. Regents of the University of California* (1988) 47 Cal.3d 376, 400-403.) In short, CEQA requires that the lead agency adopt mitigation measures or alternatives, where feasible, to substantially lessen or avoid significant environmental impacts that would otherwise occur. Project modification or alternatives are not required, however, where such

FINDINGS OF FACT

changes are infeasible or where the responsibility of modifying the project lies with some other agency. (CEQA Guidelines, § 15091, subds. (a), (b).)

The preceding discussion regarding Project impacts reveals that most significant effects identified in the EIR have been substantially lessened, if not fully avoided, by the adoption of feasible mitigation measures. There remain a couple of impacts, however, that were identified as significant and unavoidable and which cannot be substantially lessened.

Thus, as a legal matter, the Board of Directors, in considering alternatives in these findings, need only determine whether any alternatives are environmentally superior with respect to those impacts not mitigated to a less than significant level. If any alternatives are superior with respect to those impacts, the Board of Directors is then required to determine whether the alternatives are feasible. If the Board of Directors determines that no alternative is both feasible and environmentally superior with respect to the unavoidable significant impacts identified in the EIR, then the Board of Directors may approve the Project as mitigated, after adopting a statement of overriding considerations.

The Project will result in the following significant, unavoidable impacts, even with the implementation of all feasible mitigation:

Table 2. Significant Unavoidable Impacts	
Impact	Mitigation Measure
<p>Impact 4.1-3. Project development would degrade the visual character of San Quentin Ridge but would not degrade the visual character of other project areas.</p>	<p>Mitigation 4.1-3. During the project design phase, MMWD will work with a landscape architect and the cities of San Rafael and Larkspur to develop a landscaping plan for the San Quentin Ridge tank site to reduce the visual contrast of the tanks on the ridge top. MMWD will implement the landscaping plan during project construction. The landscape plan will identify the location and types of planting (i.e., trees and shrubs) that will soften the visual intrusion of the tanks and identify success metrics such as survival and growth rates for the plantings. MMWD will place story poles at the tank locations upon completion of the site plans.</p>

FINDINGS OF FACT

Table 2. Significant Unavoidable Impacts	
<p>Impact 4.9-3. Project construction would temporarily increase ambient noise levels during the construction period.</p>	<p>Mitigation 4.9-3(a). Limit construction to daytime hours (8:00 a.m. to 5:00 p.m.) Monday through Friday (except construction of the pipeline across Second Street, which would occur at night to comply with the City of San Rafael’s roadway construction policies, and when the effects of construction on congestion would be minimal). No construction activities within 500 feet of residences should occur on Saturdays, Sundays, or holidays.</p> <p>Mitigation 4.9-3(b). All powered construction equipment will be equipped with intake and exhaust mufflers recommended by the manufacturers thereof.</p> <p>Mitigation 4.9-3(c). Locate all stationary noise-generating construction equipment, such as air compressors and portable power generators, as far as practical from existing noise-sensitive receptors.</p> <p>Mitigation 4.9-3(d). Foundation pile holes should be pre-drilled where possible to reduce the number of impacts required to seat the pile. Consider using multiple pile drivers to reduce the number of days of pile-driving activity. Use of multiple pile drivers would slightly increase noise levels during construction but would reduce the construction duration.</p> <p>Mitigation 4.9-3(e). Notify active land uses within 500 feet of pile driving activities of construction schedule.</p> <p>Mitigation 4.9-3(f). Designate a noise disturbance coordinator who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and would require that reasonable measures warranted to correct the problem be implemented. Conspicuously post the construction schedule and telephone number for the disturbance coordinator at the construction site.</p>

These findings address whether the various alternatives avoid either of the significant unavoidable impacts associated with the Project.

As set forth in the EIR and in section III(B) of these findings, the Project objectives provide a basis for comparing Project alternatives and determining the extent that the objectives would be achieved relative to the Project alternatives.

The Final EIR identified and compared the significant environmental impacts of the Project alternatives listed below. In accordance with the provisions of CEQA Guidelines Section 15126.6, the following Project alternatives were evaluated:

Alternative 1: 10 MGD Expandable Desalination Plant

Alternative 2: Water Conservation

Alternative 3: 5 MGD Non-Expandable Desalination Plant with Conservation

Alternative 4: Alternative Pretreatment Method

Alternative 5: Alternative Desalination Plant Site

Alternative 6: Alternative Intake Structure Site

FINDINGS OF FACT

Alternative 7: No Project

Alternative 8: Sonoma-Marín Water Transmission Line with Conservation

CEQA does not require that all possible alternatives be evaluated, only that “a range of feasible alternatives” be discussed so as to encourage both meaningful public participation and informed decision making. (CEQA Guidelines, § 15126.6, subd. (a).) “The discussion of alternatives need not be exhaustive, and the requirement as to the discussion of alternatives is subject to a construction of reasonableness. The statute does not demand what is not realistically possible given the limitation of time, energy, and funds. ‘Crystal ball’ inquiry is not required.” (Residents Ad Hoc Stadium Committee v. Board of Trustees (1979) 89 Cal.App.3d 274, 286; see also CEQA Guidelines, § 15126.6, subd. (f)(3).) Indeed, as stated by the court in *Village of Laguna Beach, Inc. v. Board of Supervisors* (1982) 134 Cal.App.3d 1022, 1028, although there may be “literally thousands of ‘reasonable alternatives’ to the proposed project . . . ‘the statutory requirements for consideration of alternatives must be judged against a rule of reason.’” (*Ibid.*, quoting *Foundation for San Francisco’s Architectural Heritage v. City and County of San Francisco* (1980) 106 Cal.App.3d 893, 910.) “‘Absolute perfection is not required; what is required is the production of information sufficient to permit a reasonable choice of alternatives so far as environmental aspects are concerned.’” (Id, at p. 1029.) As demonstrated by the following discussion, the requirement has been fulfilled here; the DEIR examined the Project alternatives in detail, exploring their comparative advantages and disadvantages with respect to the Project.

B. ENVIRONMENTALLY SUPERIOR ALTERNATIVE

1. Analysis of the Project’s Ability to Reduce Significant Unavoidable Impacts

As explained above, the Board need only determine whether any alternative is environmentally superior with respect to Project impacts that have not been reduced to a less than significant level. As described in the EIR, the Project will produce two significant and unavoidable impacts in the areas of the aesthetic impact stemming from the San Quentin Ridge tanks and construction noise at the desalination plant site.

Alternative 1: 10 MGD Expandable Desalination Plant

Description. This alternative would be similar to the Project except that it would build a 10 MGD desalination plant that could be expanded to a 15 MGD plant if necessary. All facilities and appurtenant structures (pipelines, tanks, pumps, etc.) would be sized for expansion to a 15 MGD facility, thus eliminating additional construction costs if the plant is expanded in the future. Under this alternative, the Reach 3 pipeline and Jacoby Street Pumping Station would be constructed as a component of the 10 MGD facility. Increased conservation would not be required under this alternative.

Aesthetics. Under this alternative, the desalination plant and the in-system facilities would be constructed to accommodate a desalination system with a maximum capacity of 15 MGD in the event that expansion was necessary. Since the facilities under this alternative would be located at the same locations as under the Project and the size of the facilities would be the same as under the Project, the impacts to aesthetics under this alternative would be identical to those

FINDINGS OF FACT

under the Project. All construction-related impacts to aesthetics would be temporary. The effects of this alternative to scenic vistas and visual resources within a state scenic highway would be similar to the Project, and the impacts would be less than significant. To reduce the levels of the impacts from light and glare at the desalination plant under this alternative to a less-than-significant level, the mitigation measures for the Project would need to be implemented. As with the Project, implementation of this mitigation measure would lessen this impact, but the impact would remain significant after mitigation. As with the Project, this alternative would not result in the degradation of the visual character of other project areas. In summary, this alternative would result in impacts to aesthetics that cannot be fully mitigated to a less-than-significant level.

Air Quality. The effects of construction on air quality would be less than significant with the implementation of the mitigation measures described for the Project. The volume of criteria air pollutants that would result from the burning of fossil fuels to provide electricity for the desalination facilities under this alternative would be higher than under the Project since the facilities would operate at 10 MGD. However, if the Project was expanded beyond 5 MGD, emissions would be identical to this alternative. This impact would be less than significant. Emissions as a result of the maintenance of the desalination facilities, vehicular trips by employees, and material deliveries would be similar to the Project and would be less than significant. This alternative would have a slightly higher global warming potential than the Project since the facility would initially operate at 10 MGD, but if the Project was expanded beyond 5 MGD it would have the same global warming potential as this alternative. In summary, as with the Project, this alternative would result in impacts to air quality that could be fully mitigated to a less-than-significant level.

Noise. This alternative would have the same location and impacts as the Project. As with the Project, the facilities under this alternative would be located in a noise environment that is compatible with its use. Noise levels due to operations of the desalination plant would not exceed the 'normally acceptable' noise level limit of 65 dB for industrial noise sources adjacent to commercial use areas. Therefore, as with the Project, facility operations under this alternative would have a less-than-significant noise impact. The mitigation measures described for the Project to reduce the impact of construction-related noise would also be necessary for this alternative, and this impact would remain significant.

Energy. This alternative would have a slightly higher energy demand than the Project because the facility would initially operate at 10 MGD. (See FEIR, p. 5-2, Table 5-1.)

Conclusion. With the exception of greater air quality impacts and energy use, this alternative would have essentially the same impacts as the Project, although the desalination plant would be built as a 10 MGD facility with the ability to expand to 15 MGD capacity if necessary, and Reach 3 and the Jacoby Street Pumping Station would be constructed at the same time as the 10 MGD facility. This alternative would fully meet the Project objectives.

Alternative 2: Water Conservation

Description. The California Urban Water Conservation Council was created to increase efficient water use statewide through partnerships among urban water agencies, public interest

FINDINGS OF FACT

organizations, and private entities. The Council's goal is to integrate urban water conservation Best Management Practices (BMPs) into the planning and management of California's water resources.

In December 1991, MMWD was one of the original signatories of nearly 100 urban water agencies and environmental groups that signed an MOU committing their support to develop comprehensive water management programs. These programs are based on a set of BMPs for urban water conservation. Since then the Council has grown to over 310 members. Those signing the MOU pledge to develop and implement the following 14 comprehensive conservation BMPs:

1. Water Survey Programs for Single-Family Residential and Multi-Family Residential Customers
2. Residential Plumbing Retrofit
3. System Water Audits, Leak Detection and Repair
4. Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections
5. Large Landscape Conservation Programs and Incentives
6. High-Efficiency Washing Machine Rebate Programs
7. Public Information Programs
8. School Education Programs
9. Conservation Programs for Commercial, Industrial and Institutional Accounts
10. Wholesale Agency Assistance Programs
11. Conservation Pricing Home
12. Conservation Coordinator
13. Water Waste Prohibition
14. Residential Ultra-Low-Flush Toilets Replacement Programs

MMWD implements all but one of the 14 BMPs. Number 10 was eliminated because it applies only to wholesale water agencies.

Water conservation has been a priority of MMWD since the early 1970s. In 1971 MMWD staff went door-to-door distributing low-flow showerheads and toilet displacement bottles to customers. After the 1976–77 drought (the worst in Marin County history), MMWD began a concerted public education effort to encourage ongoing voluntary water conservation. It was one of the first water districts to adopt a tiered rate structure (1984). By 1985 conservation

FINDINGS OF FACT

standards were adopted that limited the amount of landscaping and the type of maintenance and irrigation systems used. The drought of 1987–92 reinforced the concept of conservation as a permanent, ongoing practice. New conservation measures prohibiting water waste were adopted, and a formula for water use by non-residential customers was developed. In 1992 MMWD created a Water Conservation Citizens' Advisory Committee to monitor supply and demand, evaluate existing conservation programs and recommend new ones. MMWD has metered all services and billed customers for units of water used since the district's creation in 1912. Conversions to ultra-low-flush toilets began in 1993 through cash rebates, free toilet giveaway programs, loans and direct installations in schools.

MMWD's concern and diligent conservation planning activity strengthened following the 1987–92 drought. In the years between 1994 and 2001, three key planning documents were completed: the *Water Conservation Baseline Study and Final Report* (DMC 1994) and the *Water Efficiency & Conservation Master Plan* (Barakat and Chamberlin 1994), and the *Marin Municipal Water District Review of Conservation Activities Final Report* (Fiske, Stout and Nelson 2001). Each presented different interpretations of the quantity of water available for conservation in the district. After completion of the Baseline Study, the Master Plan was produced using the estimates from the Baseline Study to develop a targeted set of conservation programs to reclaim a portion of the available water savings in the district. The Board adopted the Water Efficiency and Conservation Master Plan in 1994. It outlined an aggressive multimillion dollar campaign featuring several programs that support the efficient use of water by providing equipment, education and incentives to eliminate water waste. Examples include rebate and retrofit programs such as for the replacement of inefficient washing appliances, and toilet fixtures as well as new technology for irrigation controllers. Other programs include assisting consumers in reducing water-use by identifying inefficiencies such as including leaks and educating them about water conserving equipment and practices.

In June 2007, the MMWD Board of Directors adopted the *2007 Water Conservation Master Plan* with the basic goal of creating a “conservation trail map” for the district. In developing this master plan, MMWD contracted with an expert in water conservation programs, Maddaus Water Management, to analyze best management practices and their feasibility and cost for possible implementation in MMWD's service territory. Maddaus Water Management developed four alternative water conservation programs that could be implemented by MMWD to reduce future water demand. Each of the four alternatives includes selected technical saving and behavior saving conservation measures, which are designed to illustrate an increasing level of water savings for MMWD. Conservation measures considered include 10 Tier One measures, nine Tier Two measures, and 11 New Development measures.

The four alternative conservation measures identified in the Master Plan are discussed from least aggressive (Program A) to most aggressive (Program D):

- Program A – Baseline: Full compliance with current Tier One measures including all California Urban Water Conservation BMPs and three of the Tier Two measures that MMWD is currently running including High Efficiency Toilet Rebates (Tier 2-3), Landscape Rebates (Tier 2-6), and Existing Commercial Urinal Rebates (Tier 2-9).

FINDINGS OF FACT

- Program B: All 30 Tier One, Tier Two, and New Development, with a low market penetration rate goal of 10-20 percent for Tier One and Two measures and a market penetration rate of 100 percent for New Development measures.
- Program C: All 30 Tier One, Tier Two, and New Development, with a medium market penetration rate goal of 20-30 percent for Tier One and Two measures and a market penetration rate of 100 percent for New Development measures.
- Program D: All Tier One, Tier Two, and New Development measures, with a higher market penetration rate goal of 30-50 percent for Tier One and Tier Two measures and a 100 percent penetration rate for New Development measures.

To quantify the combined water savings from each alternative program, Maddaus Water Management conducted a conservation technical analysis for MMWD through the use of the Least Cost Planning Demand Management Decision Support System Model. The end-use model incorporated information from the 2005 MMWD *Urban Water Management Plan* (MMWD 2006a, updated 2007), 2006 Water Management Report (MMWD 2006b), 2000 Census and the 2005 Estimated Census data, and data provided by MMWD staff. The MMWD data included estimates for value of water saved, historical water use, past conservation efforts, and water system facilities. The modeled data were used to estimate water savings that could result from both individual conservation measures and bundles of conservation measures. The model was run with and without the California Plumbing Code, which requires efficient models of fixtures to be installed in new construction after 1992, and as replacement fixtures for existing residential buildings and commercial buildings after 1994 and 1997, respectively. As such, annual water projections without Plumbing Code requirements were developed out to the year 2030 and are as follows: 997 acre-feet for Program A, 2,387 acre-feet for Program B, 2,864 acre-feet for Program C, and 3,501 acre-feet for Program D. Annual water projections with the Plumbing Code requirements over the same time period yielded water savings of 2,881 acre-feet for Program A, 4,261 acre-feet for Program B, 4,748 acre-feet for Program C, and 5,385 acre-feet for Program D.

Based on these recommendations from Maddaus Water Management, MMWD developed program alternatives for improvements to its conservation activities. These programs included a leak detection program, which could generate water savings of between 400 and 800 AFY, depending on the staffing and response level. Three levels of activity in general conservation programs were proposed, as follows:

- Program 1 (comparable to Maddaus Program B described above) would consist of (1) additional investments and program activities that would bring the total conservation program to \$1.8 million per year, and (2) generating projected water demand reductions of 2,400 AFY in 2015 and 3,900 AFY in 2030.
- Program 2 (comparable to Maddaus Program C described above) would consist of (1) additional investments and program activities that would bring the total conservation program to \$2.7 million per year, and (2) generating projected water demand reductions of 2,700 AFY in 2015 and 4,200 AFY in 2030.

FINDINGS OF FACT

- Program 3 (comparable to Maddaus Program D described above) would consist of (1) additional investments and program activities that would bring the total conservation program to \$3.3 million per year, and (2) generating projected water demand reductions of 3,000 AFY in 2015 and 4,600 AFY in 2030.

Discussion. None of the environmental impacts associated with the Project would occur under this alternative because none of the Project elements would be constructed as part of the conservation alternative.

As described in Section 3.1 of the EIR, MMWD is currently operating under a water deficit, and the deficit is projected to grow to 6,700 AFY by 2025. As described in Section 6 of the EIR, with successful implementation of the water conservation measures in MMWD's 2007 Water Conservation Master Plan, water demand could be reduced by up to 3,400 AFY in 2025.

This additional water conservation may reduce but would not eliminate the projected future water supply deficit. Even if the upper range of the estimated savings was met, it would not eliminate the projected deficit. Therefore, this alternative would meet the Project objective of helping to balance the supply and demand for water in MMWD's service territory, but would not completely meet the need for such balance. This alternative would not supplement supply and would rely solely on conservation. As discussed, this would not be sufficient to ensure that supply meets drought-year demand nor would it provide water supply under emergency conditions, one of the Project objectives. Therefore, this alternative only partially meets the Project objectives.

The Board has committed to a "conservation first" strategy. In keeping with this strategy, the Board has already committed to an aggressive program to implement various conservation measures, referred to as "Program 3" measures. The Board remains open to implementing additional measures beyond Program 3, should they appear to be feasible. The Board has directed staff to come forward with such measures as they are proposed.

Alternative 3: 5 MGD Non-Expandable Desalination Plant with Conservation

Description. This alternative involves constructing and operating a 5 MGD desalination plant. All facilities and appurtenant structures (pipelines, tanks, pumps, etc.) would be sized for only a 5 MGD facility. The plant could not be expanded without additional economic and, potentially, environmental impacts. The footprint of the desalination plant and the size of the intake structure and pipelines would be smaller than for the Project. The Jacoby Street Pumping Station and Reach 3 of the in-system pipeline improvements, which would be built as part of the Project if the facility needed to be expanded to 10 MGD capacity, would not be constructed. All other pumping stations, tanks, and pipelines associated with the Project would be constructed.

This alternative is proposed because it would result in initial capital cost savings, compared to sizing some components of the facility for potential expansion to 15 MGD. However, should expansion be necessary, the costs of installing the expanded facilities would likely be significantly greater than the incremental cost of the larger-sized components of the Project. In addition, this alternative would involve some form of increased conservation, as described for Alternative 2, to make up the shortfall of approximately 2,100 AFY of additional water needed to

FINDINGS OF FACT

supply MMWD's estimated future needs during droughts and to meet additional growth projected to occur within the service area.

Aesthetics. Under this alternative, the desalination facilities and the in-system facilities would be constructed to accommodate a desalination system with a maximum capacity of 5 MGD. Since the facilities for this alternative would be in the same locations but slightly smaller than those for the Project, the impacts to aesthetics would be similar to or slightly less than those for the Project. This alternative would avoid the potential aesthetic impacts of the Jacoby Street Pumping Station and Reach 3 of the in-system pipeline improvements, which may need to be built as part of the Project if the desalination plant was expanded to 15 MGD capacity. All construction-related impacts to aesthetics would be temporary. The effects of this alternative on scenic vistas and visual resources within a state scenic highway would be similar to the Project, and the impacts would be less than significant. To reduce the impacts from light and glare at the desalination plant under this alternative to a less-than-significant level, the mitigation measures described for the Project would need to be implemented. To lessen the extent of the impact that would occur to the visual character of San Quentin Ridge as a result of the installation of the water tanks, the mitigation measure described for the Project would need to be implemented. As with the Project, implementation of this mitigation measure would lessen this impact, but the impact would remain significant after mitigation. As with the Project, this alternative would not result in the degradation of the visual character of other project areas. In summary, this alternative would result in impacts to aesthetics that cannot be fully mitigated to a less-than-significant level.

Air Quality. The effects of construction on air quality would be less than significant with the implementation of the mitigation measures described for the Project. The volume of criteria air pollutants that would result from the burning of fossil fuels to provide electricity for the desalination facilities under this alternative would initially be the same as the Project, when both facilities would operate at 5 MGD. This alternative would produce a smaller volume of criteria air pollutants than expanding the Project to 10 or 15 MGD capacity. As with the Project, this impact would be less than significant. Emissions as a result of the maintenance of the desalination facilities and from vehicular trips by employees and material deliveries would be similar to the Project and would be a less-than-significant impact. This alternative would have a lower global warming potential than the Project because, unlike the Project, it could not be expanded if necessary. In summary, this alternative would result in impacts to air quality that would be fully mitigated to a less-than-significant level.

Biological Resources. Impacts to biological resources under this alternative would be similar to those of the Project. This alternative would have the potential to affect fewer trees than the Project because the Jacoby Street Pumping Station would not be constructed. The mitigation measures described for the Project to reduce the potentially significant impacts to nesting birds, wildlife from habitat conversion, trees protected by Marin County ordinances, and fish and marine mammals from pile driving noise would be implemented to result in less-than-significant impacts. Similarly, this alternative would have no impact or a less-than-significant impact on special-status plants; riparian habitats and other sensitive natural communities; wetlands; the movements of fish and wildlife; soft-bottomed Bay habitat; the biological communities surrounding the outfall; and fish larvae, other ichthyoplankton, adult fish, and juvenile fish at the

FINDINGS OF FACT

intake structure. In summary, this alternative would result in impacts to biological resources that can be fully mitigated to a less-than-significant level.

Noise. This alternative would be in the same location as the Project and would have the same impacts. As with the Project, the facilities under this alternative would be located in a noise environment that is compatible with its use, and noise levels due to operations of the desalination plant would not exceed the 'normally acceptable' noise level limit of 65 dB for industrial noise sources adjacent to commercial use areas. Therefore, as with the Project, facility operations under this alternative would have a less-than-significant noise impact. The mitigation measures described for the Project to reduce the impact of construction-related noise would also be necessary for this alternative, and this impact would remain significant.

Energy. The amount of energy required to operate this alternative would be the same as the Project if both facilities operate at 5 MGD. If it was necessary for the 5 MGD facility, in the Project, to be expanded to 15 MGD capacity, this alternative would require less energy than the Project.

Conclusion. This alternative would have the same significant and unavoidable noise and aesthetic impacts as the Project. With respect to air quality, energy, and biological resources, this alternative would have fewer impacts, or a reduced level of impacts, compared with the Project due to the reduced size and capacity of the desalination plant. It would fully meet the Project objectives.

Alternative 4: Alternative Pretreatment Method

Description. This alternative would contain all of the same elements of the Project but would use a conventional pretreatment system for the feedwater instead of MF/UF pretreatment. For an RO desalination plant, feedwater must be pretreated to remove the suspended solids before the water goes to the RO membranes. The MMWD pilot program tested both MF/UF and conventional pretreatment systems in parallel to determine which process is best suited for pretreatment of northern San Francisco Bay water. This alternative evaluates conventional pretreatment as a pretreatment process.

The facilities necessary for conventional pretreatment require more area and a stronger building foundation than the facilities required for MF/UF pretreatment. The conventional system produces approximately 50 percent more solids in the dry season and 12 percent more solids in the wet season than the MF/UF system. With conventional pretreatment, more chemicals must be added to the feedwater than with MF/UF pretreatment. In particular, a coagulant aid polymer is used to improve filtered water quality.

The major power use for the conventional pretreatment includes continuous rapid mix and flocculation mixing, backwash pumps, and airwash blowers. Overall, a conventional pretreatment system requires more energy than an MF/UF pretreatment system.

Aesthetics. Under this alternative, the desalination plant would occupy a larger footprint than under the Project. More elements of the facility would be located outdoors, instead of housed in a building. The desalination plant facility under this alternative would have a different visual character than under the Project. Since the location of the site would be the same as for the

FINDINGS OF FACT

Project, the difference in the visual character of the desalination plant facility would have the same impacts to aesthetics. Because the desalination plant would be at the same location as the Project, impacts to scenic vistas and state scenic highway would be the same and would be less than significant. All construction-related impacts to aesthetics would be temporary. All mitigation measures described for the Project to reduce impacts to aesthetics would need to be implemented for this alternative. The impact that would result from the installation of water tanks on San Quentin Ridge would still be significant after the incorporation of mitigation.

Cultural Resources. This alternative would result in the same impacts to cultural resources as the Project. This alternative would result in a slightly larger footprint at the plant site. A records search and reconnaissance survey of the site identified no cultural resources. The mitigation measures described for the Project to reduce the potentially significant impacts to known archaeological resources, unknown archaeological resources, and known historic resources to a less-than-significant level would also be necessary for the construction of this alternative. As with the Project, no impact is expected to paleontological resources.

Hazards and Hazardous Materials. This alternative would have the same impacts related to hazards and hazardous materials as the Project. MMWD would comply with all applicable federal, state, and local laws and regulations related to the use, and storage of hazardous materials. The potential impacts that could result from encountering contamination during soil excavation for this alternative would be reduced to a less-than-significant level by implementing the mitigation measures described for the Project.

Hydrology and Water Quality. This alternative would use more chemicals than the MF/UF pretreatment under the Project. Therefore, more chemicals could be discharged to the Bay and could impact Bay water quality. The wastes exposed to the sanitary sewer system for treatment and Bay disposal would not exceed discharge requirements under this alternative. As with the Project, construction activities associated with implementation of this alternative would not produce substantial loads of sediment or other pollutants in storm water runoff that could degrade receiving water quality. Disturbance of bottom sediments due to replacement of the Marin Rod & Gun Club pier may temporarily increase turbidity. Earthwork at the site would affect the site's hydrology, but the impact would not be considerably greater than for the Project. Therefore, as with the Project, impacts to hydrology and water quality resulting from this alternative could be mitigated to a less-than-significant level.

Noise. This alternative would be in the same location as the Project and would have similar impacts. As with the Project, the facilities under this alternative would be located in a noise environment that is compatible with its use. Noise levels due to operations of the desalination plant would not exceed the 'normally acceptable' noise level limit of 65 dB for industrial noise sources adjacent to commercial use areas. This alternative would include the use of airwash blowers in the pretreatment process. The use of these blowers would not result in a substantial difference in noise than the use of air-scour blowers, which would be used in the pretreatment process of the Project. Therefore, as with the Project, the operations of the facilities under this alternative would have a less-than-significant impact to noise. This alternative would require more extensive earthwork and construction to accommodate the larger and heavier structures associated with the conventional pretreatment system. Implementation of the mitigation measures described for the Project would reduce the level of construction noise impacts for this

FINDINGS OF FACT

alternative; however, they would still remain significant. The additional construction-related noise impacts would be the only difference in noise impacts under this alternative compared to the Project.

Recreation. Recreation impacts related to this alternative would be similar to those of the Project. Under this alternative the desalination facility would occupy a larger footprint than under the Project, and many more elements of the facility would be located outdoors instead of housed in a building. The desalination plant for this alternative would have a slightly different visual character than for the Project but would still fit in with the general commercial and light industrial visual character of the area. As with the Project, the change in the visual resources would have a less-than-significant impact on users of the Bay Trail. Noise generated as a result of the operations of the plant facility under this alternative would not be substantially different than under the Project and would have a less-than-significant impact on users of the Bay Trail. The mitigation measure described for the Project to offset the loss of recreational open space would have to be implemented for this alternative. Construction activities would create a temporary but less-than-significant disruption in recreation uses in the Project area. With the incorporation of the mitigation measure described above, impacts to recreation under this alternative would be less than significant.

Transportation and Traffic. The effects of this alternative on transportation and traffic would be similar to those of the Project. Since more chemicals would be required for feedwater pretreatment under this alternative, more traffic would be associated with transporting chemicals than with the Project. This alternative would also require more solids removal trucks since more solids are generated by the conventional pretreatment system than the MF/UF pretreatment system under the Project. However, the traffic resulting from this alternative pretreatment system would not be substantially greater than the proposed pretreatment. As with the Project, air traffic patterns would not be affected by this alternative. This alternative would also have a less-than-significant impact on alternative transportation programs after implementation of the mitigation measure described for the Project.

Energy. The amount of energy required to operate this alternative would be slightly greater than for the Project, since a conventional pretreatment system requires more energy than an MF/UF pretreatment system.

Conclusion. Compared to the Project pretreatment method, this alternative would have increased aesthetic, cultural resource, hazard and hazardous materials, hydrology and water quality, noise, recreation, and transportation and traffic impacts, as well as increased energy use impacts. As with the Project, with the exception of noise and aesthetic impacts, all impacts of this alternative could be reduced to a less-than-significant level after mitigation. This alternative would accomplish the Project objectives.

Alternative 5: Alternative Desalination Plant Site

Description. This alternative would contain the same elements of the Project except that the desalination plant would be constructed at the San Quentin Ridge site rather than the Pelican Way site Figure 6-1 of the EIR. The San Quentin Ridge site is at the eastern end of San Quentin Ridge on the extreme northeastern corner of the San Quentin Prison property. The site is

FINDINGS OF FACT

almost level along the ridgeline, contains heavy clay soil, and is covered primarily by sparse annual grassland. Low-profile hillsides at the site are covered mostly with grasses and some trees. A Department of Corrections Water tank is nearby and the Richmond–San Rafael Bridge is in the background. The site is in a prominent position above San Quentin Prison near the western end of the Richmond–San Rafael Bridge and draws focus from many viewpoints. Facilities constructed at this site would be highly visible to vehicles traveling west on the Richmond–San Rafael Bridge, passengers on the Larkspur ferry, and other boaters. Access to the site would be off of Main Street to San Quentin Prison, where it would turn north before the entrance to the prison and wind up the hillside to the top of the ridge.

Aesthetics. This alternative would result in more severe impacts to aesthetics than the Project. The installation of both a water tank and the desalination plant on San Quentin Ridge would result in the degradation of the visual character of the currently undeveloped ridge. Incorporation of mitigation measures such as landscaping plans would reduce the severity of this impact, but even after mitigation the impact would remain significant to residences with views of the ridgeline. Since this alternative would place more facilities on the ridgeline than the Project, this impact would be more severe than under the Project. Light and glare from the desalination plant proposed under this alternative would be visible during the daytime and nighttime from locations in Marin County and the San Francisco Bay and would be a potentially significant impact. The incorporation of mitigation measures to reduce the effects of daytime glare and nighttime lighting, such as those described for the Project, would reduce the severity of this impact. However, the impact would remain significant to nearby sensitive viewers such as residences on the Tiburon peninsula. All construction-related impacts to aesthetics would be temporary and would not result in significant impacts. The effects of this alternative on scenic vistas and visual resources within a state scenic highway would be similar to the Project (less than significant). In summary, this alternative would result in impacts to aesthetics that cannot be fully mitigated to a less-than-significant level and would have more severe impacts to aesthetics than the Project.

Biological Resources. The nature and level of impacts to biological resources from this alternative would be similar to the Project. The vegetation at the San Quentin Ridge plant site is primarily non-native annual grassland with scattered California poppies, common lupine, and common upland gumplant as well as filarees, bromes, and other non-native species. The pipeline alignments of the intake pipe and the pipeline between the plant site and the San Quentin tank under this alternative would be different than under the Project. The mitigation measures described for the Project to reduce the potentially significant impacts to nesting birds, other wildlife as a result of habitat conversion, trees protected by Marin County ordinances, and fish and marine mammals as a result of pile driving noise would be necessary for this alternative to result in less-than-significant impacts to biological resources. Some of these mitigation measures may require more widespread implementation under this alternative than under the Project. For example, the construction of the plant site and pipeline alignment between the plant site and the San Quentin tank may result in more tree removal than under the Project, which would require more trees to be replanted, per the 2:1 replacement ratio established in Mitigation Measure 4.3-3. As with the Project, this alternative would have no impact or a less-than-significant impact on special-status plants; riparian habitats and other sensitive natural communities; wetlands; the movements of fish and wildlife; soft-bottomed Bay habitat; the biological communities surrounding the outfall; and fish larvae, other

FINDINGS OF FACT

ichthyoplankton, adult fish, and juvenile fish at the intake structure. In summary, this alternative would result in impacts to biological resources that can be fully mitigated to a less-than-significant level.

Cultural Resources. This alternative would have a similar footprint and similar impacts to the Project. However, the desalination plant would be in a different location. There is one previously recorded archaeological site within one mile of this alternative plant site. The site and access road was previously surveyed for cultural resources, and no cultural resources were identified within the plant site itself. The mitigation measures described for the Project to reduce the potentially significant impacts to known archaeological resources, unknown archaeological resources, and known historic resources would be necessary for this alternative to result in less-than-significant impacts to cultural resources. As with the Project, no impact is expected to paleontological resources.

Geology and Soils. Because the facilities under this alternative would be designed and constructed to withstand the local geologic conditions, impacts to geology, soils, and seismicity under this alternative would be similar to the Project. The San Quentin Ridge site is underlain by mélangé of the Franciscan Assemblage, which comprises the bedrock in the Project region. Since the site is underlain by bedrock, seismic shaking would be less severe than at the Project site, which is underlain by Bay fill. Melange of the Franciscan Assemblage commonly is highly sheared, potentially providing planes of weakness along which slope failures may develop in overly steep cutslopes. Construction of the desalination facility at this site would require less foundation work for seismic stability but would require more work for slope stability than at the Project site. All but the intake pipeline and the pipeline between the desalination plant and the San Quentin Ridge tank would be located in the same areas as with the Project under this alternative. All of the facilities would be designed and constructed to adhere to the current building codes. Therefore, impacts due to surface fault rupture; exposure to ground shaking; construction on liquefiable, subsiding, and expansive soils; and slope movement would all be less than significant. The mitigation measure described for the Project to reduce the potentially significant impacts from construction-related erosion would be necessary for this alternative to result in a less-than-significant impact to soil erosion.

Land Use and Planning. All but the intake pipeline and the pipeline between the desalination plant and the San Quentin Ridge tank would be located in the same areas as with the Project under this alternative. All of the facilities would be designed and constructed to adhere to the current building codes. The mitigation measure described for the Project to reduce the potentially significant impact of being inconsistent with the land use designation at the Ridgecrest A tank site would also be necessary for this alternative. As with the Project, the potential for limiting emergency vehicle access during construction activities would result in a less-than-significant impact. The part of San Quentin Ridge where the plant site would be constructed is on land owned by the State of California Department of Corrections. According to the 2007 Marin Countywide Plan, the Project site is designated for continued use as a state prison. Constructing a desalination facility on this land would be considered an incompatible land use. This impact could be mitigated by purchasing the property and rezoning it for public facility use. This impact after mitigation would be less than significant

FINDINGS OF FACT

Noise. The San Quentin Ridge site is northeast of San Quentin Prison and near the San Quentin Village residential community. Exhibit 30 of the San Rafael General Plan establishes Land Use Compatibility Standards for New Development as a guide for evaluating noise impacts. In residential areas, the land use is considered 'normally acceptable' if the noise levels are below L_{dn} of 60 dB. The projected noise level at the site boundary would be L_{dn} of 50 dB, which is far below the 60 dB standard. Therefore, although this Project site is closer to residential uses than the Project's Pelican Way site, noise from plant operations at this site would be less than significant. The Project operations for the in-system improvements and the facilities at the Marin Rod & Gun Club for this alternative would be the same as for the Project. As with the Project, these facilities would be located in a noise environment that is compatible with their use, and noise levels due to facility operations would not exceed the 'normally acceptable' noise level limit of 65 dB for industrial noise sources adjacent to commercial use areas. Therefore, as with the Project, the operations of these facilities under this alternative would have a less-than-significant impact to noise. The mitigation measures described for the Project to reduce the impact of construction-related noise would also be necessary for this alternative, and construction-related noise impacts would remain significant. The noise associated with construction of a desalination plant at this site would be less than at the Project site since no pile driving would be necessary.

Public Services and Utilities. Public services and utilities impacts under this alternative would be similar to the Project. The effects of this alternative on law enforcement and fire department facilities would be the same as the Project and would be less than significant. As with the Project, MMWD would ensure that the facilities under this alternative would be designed to have adequate storm water drainage capacities, which would result in an expansion and creation of storm water drainage system at the plant site. This system would tie into an existing nearby storm sewer main. As with the Project, this alternative would result in less-than-significant impacts to public services and utilities related to an increase in use of wastewater treatment conveyance pipelines, an increase in the volume of municipal solid waste requiring disposal, and an expansion of the area's electrical system. The San Quentin Ridge site is located near existing PG&E power transmission facilities and relatively close to MMWD water transmission facilities. The expansion of the public utility systems would be larger under this alternative, due to the distance between the plant site and existing utilities, but this expansion would not result in substantial environmental effects.

Recreation. The extent of recreation impacts under this alternative would be slightly lower with this alternative than with the Project, since this alternative site would not be visible or audible to users of the Bay Trail. The mitigation measure described for the Project to offset the loss of recreational open space would be necessary under this alternative, and construction activities would create a temporary but less-than-significant disruption in recreation uses in the Project area. With the incorporation of the mitigation measure described above, impacts to recreation under this alternative would be less than significant.

Conclusion. Compared to the Project, this alternative would reduce impacts to geology and soils, recreation, and construction-related noise. It would increase aesthetics, biological and cultural resources, land use, and public services and utilities impacts, but, as with the Project, with the exception of the aesthetic impact of the Ridgecrest A tank site these impacts would all

FINDINGS OF FACT

be less than significant after mitigation. This alternative would accomplish the Project objectives.

Alternative 6: Alternative Intake Structure Site

Description. This alternative would contain all of the same elements as the Project except for the intake structure. Instead of reconstructing the Marin Rod & Gun Club pier and constructing the intake structure on the pier, this alternative would bury the intake pipeline in the Bay mud somewhere in San Rafael Bay offshore of the Pelican Way plant site (Figure 6-1 of the EIR). With this alternative, the intake pipeline would be placed just beneath the Bay floor with nominal cover, and the intake screens and intake header would be supported with several piles at the intake location. The intake screens would be marked with a navigational marker. The intake pump station would be located on-shore and fed by gravity. Because there is no need for a pier, the intake could extend out from the Pelican Way site, eliminating the source water pipeline to the desalination plant.

Aesthetics. This alternative would require a structure to house the on-shore pump stations, which would not be necessary under the Project. This pump station would result in minimal change to the visual character of the area. The impacts to aesthetics under this alternative would not differ from those of the Project. All construction-related impacts to aesthetics would be temporary. Impacts to scenic vistas and visual resources within a state scenic highway would be similar to the Project and the impacts would be less than significant. The installation of the water tanks on San Quentin Ridge would result in the degradation of the visual character of the currently undeveloped ridge. This change in the visual character would be the same as under the Project. Incorporating a landscaping plan as a mitigation measure, as described under the Project, would lessen the extent of this impact, but the impact would still be significant. As with the Project, this alternative would not result in the degradation of the visual character of other project areas. Light and glare from the proposed desalination plant would result in daytime and nighttime impacts. With the incorporation of the mitigation measures described for the Project, this impact would be reduced to less than significant. In summary, this alternative would result in impacts to aesthetics that cannot be fully mitigated to a less-than-significant level.

Air Quality. Air quality impacts under this alternative would be similar to those of the Project. Although this alternative would require less construction since the existing pier would not need to be demolished and rebuilt and no pile driving would be required to construct the intake structure. However, other fossil fuel-driven equipment and vessels would be required. Construction impacts of this alternative would be similar to the Project and would be less than significant with the implementation of the mitigation measures described under the Project. The electricity needed to operate the desalination facilities under this alternative would be the same as under the Project and would be a less-than-significant impact. Emissions as a result of the maintenance of the desalination facilities, vehicular trips by employees, and material deliveries would be similar to the Project and would be a less-than-significant impact. This alternative would have the same global warming potential as the Project and would represent an insignificant increase in Marin's contribution to climate change. In summary, this alternative would result in impacts to air quality that can be fully mitigated to a less-than-significant level.

FINDINGS OF FACT

Biological Resources. This alternative would result in similar impacts to upland biological resources as the Project. The mitigation measures described for the Project to reduce the potentially significant impacts to nesting birds, other wildlife as a result of habitat conversion, and trees protected by Marin County ordinances to a less-than-significant level would be necessary for this alternative. Similarly, this alternative would have no impact or a less-than-significant impact on special-status plants; riparian habitats and other sensitive natural communities; the movements of fish and wildlife; the biological communities surrounding the outfall; and fish larvae, other ichthyoplankton, adult fish, and juvenile fish at the intake structure.

Burying the intake pipe in Bay mud with the intake structure supported on piles would result in different impacts to marine biological resources than under the Project. The construction activities related to burying the intake pipe in the Bay mud would affect the benthic soft-bottomed habitat and benthic organisms, potentially resulting in the loss or displacement of most, if not all, of the organisms in the immediate footprint of the construction area. Some organisms immediately adjacent to the installation may be also be lost due to smothering or burial from sediments resuspended in the water column during the installation. Following sediment-disturbing activities, disturbed areas are usually recolonized quickly by benthic organisms (Newell et al. 1998). The species that recolonize first are usually characterized by rapid growth and reproduction rates. Marine benthic invertebrates often colonize disturbed sedimentary habitats via pelagic larvae that settle from the water column. Crustaceans, such as amphipods that are abundant in the Bay, brood young to much more advanced stages than pelagic larvae, releasing what are essentially miniature adults into the sediment, and can rapidly colonize adjacent disturbed areas. Studies have indicated that even relatively large areas disturbed by dredging activities are usually recolonized within 1 month to 1 year, with original levels of biomass and abundance developing within a few months to between 1 and 3 years (MMS 1999; Newell et al. 1998). Areas disturbed as a result of this alternative may be expected to begin to develop benthic assemblages shortly after the hydroplow moves through a given area, and could be mostly recovered in terms of biomass and abundance a few months to a year later. As with the Project, the installation of the intake and the supporting piles would result in a permanent loss of a small amount of benthic soft-bottomed Bay mud habitat. Because of the small area that would be disturbed by construction and permanent impacts and the likelihood for rapid recovery and recolonization by benthic organisms, the disturbance to bottom habitat is considered adverse, but less than significant.

Parts of the Bay mud where the intake pipeline would be buried may be tidal flats, which the USACE considers special aquatic sites. In addition, the installation of the intake pipe may occur in other wetlands under the jurisdiction of the USACE. As described above, the installation of the pipe in Bay mud would have a temporary impact on this biological resource and would result in a less-than-significant impact. Though wetland delineations have not been conducted at any potential pipeline locations for this alternative, this alternative would result in a potentially significant impact to this resource if wetlands would be affected. As a mitigation measure to reduce this potential effect and to comply with Section 404 of the CWA, areas to be affected would be delineated for wetlands and the permit to be obtained from the USACE would address the dredging and filling of these wetlands. In the process of obtaining this permit, proper mitigation would be determined and implemented to minimize the impacts to wetlands. With the implementation of this process and the measures that would be stipulated by the USACE, the potentially significant impacts to wetlands would be mitigated to a less-than-significant level.

FINDINGS OF FACT

This alternative would result in a fewer number of piles to be driven into the bay than under the Project. The effects to marine biological resources from noise generated from pile driving would be less under this alternative than under the Project. The mitigation measures described for the Project to reduce the potentially significant impacts fish and marine mammals as a result of pile driving noise would be necessary for this alternative to result in less-than-significant impacts to these resources.

Cultural Resources. This alternative would result in similar impacts to cultural resources as the Project. Recorded site data indicates prehistoric archaeological sites have been identified in the vicinity of Point San Pedro. According to State Lands Commission records, the wreck of the Oseola is located "Ashore at Point San Quentin." The zone north of the Marin Rod & Gun Club to a point just west of the Marin Islands is largely recent fill and/or Bay mud, which would be the area that the intake pipe would be constructed under this alternative. This zone is unlikely to contain significant in situ cultural resources. No known cultural resources exist in the vicinity of the alternate intake location. The mitigation measures described for the Project to reduce the potentially significant impacts to known archaeological resources, unknown archaeological resources, and known historic resources would be necessary for the construction of this alternative to result in less-than-significant impacts to cultural resources. As with the Project, no impact is expected to paleontological resources.

Geology and Soils. The intake pipeline would be constructed and submerged along the bottom of the Bay floor. The intake screens and intake header would be supported with several piles at the intake location. Impacts related to geology and soils would be similar to the Project. This alternative intake structure would be designed and constructed to withstand local geologic conditions. Because the facilities would be located in the same general areas as under the Project and the facilities would be designed and constructed to adhere to the current building codes, impacts due to surface fault rupture; exposure to ground shaking; construction on liquefiable, subsiding, and expansive soils; and slope movement would all be less than significant. The mitigation measure described for the Project to reduce the potentially significant impacts from construction-related erosion to a less-than-significant level would be necessary for this alternative.

Hydrology and Water Quality. Impacts to hydrology and water quality would be primarily associated with temporary increase in turbidity within the area of the intake pipeline associated with construction and burial activities. Due to the length of the pipeline, a large amount of Bay mud sediments could potentially be agitated. However, compared to the demolition activities of the Project, this impact would not be considerably different from the Project. All other hydrology and water quality impacts associated with this alternative would be the same as under the Project.

Land Use and Planning. Many components of this alternative would occur at the same location as with the Project and would have the same impacts as the Project. The mitigation measure described for the Project to reduce the potentially significant impact of not being consistent with the land use designation at the Ridgecrest A tank site to a less-than-significant level would be necessary for this alternative. As with the Project, the potential of limiting emergency vehicle access during construction activities would result in a less-than-significant impact. While this alternative would minimize fill in the Bay, construction of a new intake

FINDINGS OF FACT

structure would require the placement of some new additional fill in the Bay and may conflict with BCDC's goal of introducing no new fill in the Bay, resulting in a potentially significant impact. This impact could be mitigated through negotiation with BCDC to include restoration of another part of the Bay to offset this new fill or the creation of increased public access to the Bay. The impact after mitigation would be less than significant.

Noise. This alternative would occur at the same location as the Project, with the exception of the location of the intake structure, and would have similar noise impacts to the Project. As with the Project, the facilities under this alternative would be located in a noise environment that is compatible with its use and noise levels due to operations of the desalination plant would not exceed the 'normally acceptable' noise level limit of 65 dB for industrial noise sources adjacent to commercial use areas. Therefore, as with the Project, the operations of the facilities under this alternative would have a less-than-significant impact to noise. The mitigation measures described for the Project to reduce the level of impact for construction-related noise would be necessary for this alternative, but the impact would remain significant. Noise impacts associated with the construction of this alternative would be less than the Project since no demolition and less pile driving would be required to construct this alternative. This would be the only difference in noise impacts under this alternative when compared to the Project.

Transportation and Traffic. Construction-related traffic associated with demolition of the Marin Rod & Gun Club pier and construction of the new pier would be avoided, but would also be balanced by construction-related traffic associated with construction of the alternative intake pipeline. Because the intake pump station would be on-shore, the pumps and electrical equipment could be maintained without traveling to the end of a pier. This alternative would require periodic maintenance of the intake system by divers from a boat or barge. However, existing marine traffic would not be substantially hindered by the additional maintenance-related traffic. Overall, impacts related to transportation and traffic would be similar to those under the Project. As with the Project, air traffic patterns would not be affected by this alternative. This alternative would also have a less-than-significant impact on alternative transportation programs after implementation of the mitigation measure described for the Project.

Conclusion. Compared to the Project, this alternative would reduce construction-related noise impacts and could potentially increase biological resources and land use planning impacts. As with the Project, with the exception of noise and aesthetic impacts, all impacts of this alternative could be reduced to a less-than-significant level. This alternative would accomplish the Project objectives.

Alternative 7: No Project

As required by the CEQA Guidelines, alternatives analysis includes consideration of a No Project Alternative. In this alternative, MMWD would take no actions to increase its water supply nor would it implement new water conservation programs beyond the initiatives now in place. The district's water supply would continue to be inadequate in drought situations. The MMWD goal of limiting episodes of water rationing to a frequency of no more than 1 year in 10 and at a mandatory water use reduction of no more than 25 percent from normal year levels would be unattainable. At some point, the frequency and depth of required water rationing would become so onerous that MMWD would have to place restrictions on the number of new water services

FINDINGS OF FACT

and would have to seek modification to the normal year instream flow requirements contained in its water rights, to reserve available water in its local water supply facilities for existing customers and the local fisheries in times of drought.

Conclusion. Under the No Project Alternative, the significant aesthetic impacts associated with constructing the San Quentin Ridge tanks would not occur. Also, the significant impacts associated with construction noise would not occur. The No Project Alternative would not meet the Project objectives.

Alternative 8: Sonoma-Marin Water Transmission Line with Conservation

Description. As currently conceived, the primary physical component of this alternative would be a pipeline from the Sonoma County Water Agency's Kastania tank just south of Petaluma to an existing MMWD pipeline near San Marin Drive in Novato. The Kastania tank is located on a hillside 1,300 feet west of the north end of Kastania Road, at an elevation of 195 feet. Its capacity is 12 million gallons, with a full operating water surface elevation of 235 feet. The pipeline would end at the northern terminus of MMWD's Novato Bypass, a 36-inch outside diameter transmission line between San Marin Drive in Novato and State Highway 37 at its interchange with US 101.

The MSN Project may not require relocation of the entire existing NMWD pipeline. For purposes of this analysis, it is assumed that the pipeline would be replaced from Redwood Landfill in Novato northward to Kastania tank in Petaluma, and a parallel pipeline would be constructed south of Redwood Landfill to the MMWD Novato Bypass. Where the pipeline would replace the existing NMWD pipeline, its diameter would be 48 inches. In areas where the MSN Project would not disturb the existing NMWD pipeline, it would be 30 to 36 inches in diameter. The pipeline would generally parallel US 101. To avoid multiple crossings of US 101 and gas, power, and telephone utilities, the pipeline would be placed immediately west of these facilities. The pipeline would require a cathodic protection system and inspection and maintenance facilities. The pipeline would be installed primarily within rural areas, existing roadways or roadway shoulders, or under roadways and drainages (MMWD 2001). Whenever possible, existing roads or rights-of-way would be used for construction access.

Construction of the pipeline would last approximately 18 to 24 months. Open-trench construction would proceed at an approximate average rate of 300 linear feet per day. Bore-and-jack construction typically lasts 3 weeks at individual locations (MMWD 2001).

Certain existing and proposed infrastructure components considered in the 1991 EIR would no longer be needed under this alternative. The existing Kastania Pumping Station would no longer be needed because the new pipeline would use gravity flow for water transmission.

In addition, the San Quentin Ridge tanks and the Ridgecrest A tank required for the Project would not be needed for water storage, since storage requirements could be accommodated by existing MMWD and SCWA facilities. Finally, the Marin Rod & Gun Club pier would not need to be rebuilt.

Aesthetics. The southern end of the pipeline would be in the City of Novato, near the intersection of San Marin Drive and Redwood Boulevard. Novato has both urban and open

FINDINGS OF FACT

space visual elements, with high wooded slopes that enclose the urbanized portions of Novato Valley on three sides to elevations of over 1,558 feet at Burdell Mountain. The landscape includes low-rise suburban development on the valley floor and lower slopes of the Novato Valley, whose visual intactness is enhanced by a nearly continuous tree canopy that provides a visually unifying natural character to views (Caltrans 2007).

North of Novato, the pipeline corridor is largely undeveloped and scenically intact. The slopes of Burdell Mountain, including Olompali State Historic Park and extensive oak woodland and grassland, dominate views to the west. North of Olompali State Historic Park, the landscape is also characterized by high visual quality, comprising predominantly rolling foothills with intact oak woodland/grassland, punctuated by vivid corridors of tall riparian vegetation, notably at San Antonio Creek (Caltrans 2007). Along US 101, surrounding views are of grassy fields and low rolling hillsides with some tree cover at ridge lines, around farms and residences, and at the roadside. The segment of US 101 in the area potentially affected by this alternative is not designated as a California Scenic Highway.

According to the 1991 EIR, visual impacts from pipeline construction would be temporary. Most of the pipeline would be buried in the grassy hillside in the area where it connects to the Kastania Tank. Trenched areas would be revegetated and tree removal would be avoided. At Kastania Creek and San Antonio Creek, the pipeline would be installed by tunneling under the streambeds. Impacts are considered adverse but not significant (MMWD 1991).

The 2001 EIR Addendum identified topographic constraints at an unnamed tributary to San Antonio Creek that render bore-and-jack or microtunneling infeasible (MMWD 2001). If the final pipeline route crosses this area, the pipeline would be designed to span the tributary without abutments. Approximately 50 to 60 feet of the pipeline would be located above grade, and the top of the pipeline would be at an elevation at or near the elevation of US 101 in the vicinity. Existing views of the area from southbound US 101 are of vegetation, primarily an understory of blackberry bushes, along the tributary and the foothill behind it. During and immediately following construction, portions of the pipeline segment would be visible to southbound traffic on US 101. However, the pipeline would be constructed to maximize vegetative screening and painted in earthtone colors to blend with its surroundings. It is anticipated that the blackberry understory would naturally revegetate the area affected by construction, providing adequate screening for the pipeline. The pipeline would not create a strong visual contrast with the existing viewshed, and views of the span from vehicles on US 101 would be fleeting.

Construction-related impacts to aesthetics would be temporary and would not result in significant impacts. This alternative would result in less severe impacts to aesthetics than the Project.

Air Quality. Pipeline construction activities would include site clearing and grading; excavation, and installation of the underground pipe. Construction activities would emit both fugitive dust (PM₁₀) and exhaust pollutants (NO_x, CO, PM₁₀, SO₂, and ROG) from diesel-fueled construction equipment. As estimated in the 1991 Water Supply Project EIR (MMWD 1991), pipeline construction would involve excavation of 56,000 cubic yards of material over a 24-month period. Assuming that each truck hauling material to the Redwood Landfill would carry 15 cubic yards, 3,733 truck trips would be generated, emitting an estimated 407.6 lbs of CO,

FINDINGS OF FACT

156.7 lbs of total organic gases, and 955.6 lbs of NO_x during the 24-month construction period. (MMWD 1991.) These construction activities and the associated air quality impacts would be temporary. Emissions would vary from day to day depending on the level of activity, the specific operations, and the prevailing weather.

The BAAQMD CEQA Guidelines (BAAQMD 1999) do not provide a numerical threshold of significance for these emissions, nor is quantification of such emissions required. A number of feasible control measures can be implemented to significantly reduce fugitive dust emissions from construction. Additional measures can reduce exhaust pollutants from construction equipment. According to BAAQMD guidelines, implementation of Mitigation 4.2-1(a) and (b) in Section 4.2.2.2 of the EIR is considered sufficient to mitigate construction-related air quality impacts to a less-than-significant level.

Operation of the pipeline would not have any direct emitting sources, with the exception of some vehicular traffic for employees and maintenance. Minor amounts of vehicular traffic emissions would be associated with this alternative, as employees travel to and along the pipeline site for maintenance activities, which would be intermittent and of short duration. These emissions are expected to be small, would be well below BAAQMD significance thresholds, and are considered less than significant.

Pipeline operation would not expose members of the public to objectionable odors. Diesel-fueled equipment would be used during construction, but odors associated with diesel fuel would only be present temporarily. This impact would be less than significant.

The existing Kastania Pumping Station would no longer be needed because the new pipeline would use gravity flow for water transmission. Elimination of the pumping station would save up to 1,200,000 kWh/yr of electricity and eliminate the 300 tons/yr of GHG emissions associated with generating that energy.

As with the Project, this alternative would result in impacts to air quality that would be fully mitigated to a less-than-significant level.

Biological Resources. Except for the urbanized section of Novato at the southern limits of this alternative, most of the area potentially affected by this alternative is rural. The west side of US 101 has rolling hills dominated by oak woodlands (Caltrans 2007).

Natural Communities

Bay-oak woodland and scattered oak savannah are dominant tree communities in the area potentially affected by this alternative. The western side of US 101 along the southern and central portion of the pipeline route is fairly flat immediately adjacent to the roadway. Toward the west, the landscape rises along the east-facing slope of Mount Burdell. The sloped face of Mount Burdell, which includes Olompali State Historical Park, is dominated by bay-oak woodland. The most common species in this area include California bay (*Umbellularia californica*), valley oak (*Quercus lobata*), coast live oak (*Quercus agrifolia*), and blue oak (*Quercus douglasii*). The northern section of the alignment for this alternative consists of rolling hills and scattered oaks (Caltrans 2007).

FINDINGS OF FACT

San Antonio Creek flows east at the border of Marin and Sonoma Counties, draining into the tidally influenced Petaluma River. Habitat types in this segment of the pipeline route include bay-oak woodlands, grasslands, alkali meadows, tidal saltmarshes, agricultural pastures (e.g., cattle fields, equestrian stables), and ruderal habitat associated with roadsides (Caltrans 2007).

Tree removal would be avoided to the greatest extent possible, and removal of trees over 6 inches DBH would be kept to a minimum. Some large oak and bay trees would have to be removed for pipeline construction and would be mitigated by replanting (MMWD 1991). Specific mitigation ratios and measures would have to be determined in coordination with the affected jurisdictions. The resulting impact would be less than significant.

The 2001 Water Supply Project EIR Addendum identified several areas of native perennial grasslands in the pipeline alignment. These areas contain a high density of purple needlegrass (*Nasella pulchra*) and other native perennial grasses within the more common nonnative grassland. Perennial grasslands are considered a sensitive plant community. Any perennial grasslands disturbed during construction would be revegetated using native seeds following construction (MMWD 2001).

No special-status plant species have been identified in the Project area (MMWD 2001; Caltrans 2007). Measures would be taken during construction to prevent the spread of invasive species.

Terrestrial Species

Construction could result in habitat disturbance to a small number of common species. Resident populations of small mammals, reptiles and amphibians, insects, and most birds would be generally expected to adapt to construction-related disturbance (MMWD 1991). Pipeline construction could result in the disturbance of nesting efforts by protected birds, including raptors such as the white-tailed kite, northern harrier, loggerhead shrike, and non-listed birds protected by the Migratory Bird Treaty Act.

Pre-construction surveys of trees and annual grassland on and adjacent to the pipeline route would be conducted during the breeding season (approximately February 15 to August 15) not more than 14 days before the start of construction. If an active raptor nest is discovered during pre-construction surveys, work exclusion buffers would be determined in consultation with CDFG. If non-raptor protected bird species are observed nesting, clearing and construction within 150 feet (or as recommended by CDFG and/or USFWS) would be postponed until the nest is vacated and juveniles have fledged (as determined by a biologist), and there is no evidence of second nesting attempts. Nests located near existing roads would not require the 150-foot buffer zone.

San Antonio Creek is a well-established creek containing high-quality seasonal rearing habitat for Central California Coast steelhead (*Oncorhynchus mykiss*) and chinook salmon (*Oncorhynchus tshawytscha*), both federally listed as threatened species. Measures to avoid or minimize impacts to steelhead and chinook salmon were outlined in MMWD's 1991 Water Supply Project EIR and the 2001 Water Supply Project EIR Addendum. These measures include conducting pipeline construction during the dry season, spanning drainages when possible, and using bore-and-jack or directional drilling methods. Appropriate permits would be obtained, and restoration of riparian habitat, as needed, would be done in consultation with the

FINDINGS OF FACT

appropriate resource agencies. Residual impacts to these species are expected to be less than significant.

The MSN Project Draft EIS/EIR states that California red-legged frog (*Rana aurora draytonii*) has the potential to occur in the MSN project footprint. Construction of the Sonoma-Marín pipeline could have the potential to impact this species, which is federally listed as threatened and a state species of special concern. California red-legged frogs are found mainly in wetlands and streams in coastal drainages. Several wetland areas and streams could be affected by the pipeline installation, depending on the final pipeline route. However, preliminary surveys by Caltrans (2007) for the MSN project suggested that suitable habitat for the species may not be present. The pipeline route would need to be surveyed for suitable habitat once the alignment is determined, and an incidental take permit from the USFWS may be required. No critical habitat units are present along the general pipeline route. Any take of California red-legged frogs would be considered significant.

MMWD's 1991 EIR and 2001 EIR Addendum contained avoidance and minimization measures that would reduce or eliminate take of the California red-legged frog, if present. These measures include avoidance of wetland and riparian areas if possible, and the use of bore-and-jack or directional drilling methods for installing the pipeline under streams. In addition, construction monitoring would be conducted by a qualified biologist with an appropriate permit to remove adult California redlegged frogs or tadpoles and relocate them to suitable locations outside of the construction area. The residual impact to this species is expected to be less than significant.

Wetlands and Other Waters

The pipeline alignment crosses a number of potentially jurisdictional wetlands. The most significant biotic feature is the San Antonio Creek corridor near the Sonoma-Marín County line, which supports a community of willows (*Salix*), ash (*Fraxinus*), blackberry (*rubus*), and other associated riparian plants.

Other jurisdictional features include narrow ephemeral creek channels, most of which support minor oak (*Quercus agrifolia*) woodland vegetation and have channels less than 10 feet wide; and small seasonally wet swales, which support only common and primarily nonnative herbaceous vegetation. The pipeline route could also pass through a number of roadside ditches, but these are primarily constructed features designed to remove runoff from US 101 embankments and do not qualify as jurisdictional wetlands (MMWD 1991).

Permits could be required from the California Department of Fish and Game (1602 Streambed Alteration Agreement) and USACE (Section 404 Nationwide Permit #14 or #25), depending on whether or how the alternative affects any jurisdictional water bodies or drainages. Impacts to wetlands and other waters of the U.S. would be considered significant but could potentially be avoided or minimized through pipeline route planning and/or the use of bore-and-jack or directional drilling to install the pipeline at wetland and stream crossings.

Summary

FINDINGS OF FACT

This alternative would have biological impacts that differ from the Project. For example, this alternative would not result in entrainment of fish eggs or larvae from the Bay but may result in greater loss of oak woodland. For purposes of this analysis, impacts are assumed to be less than significant with mitigation, but the pipeline route would require further analysis once the alignment has been determined to enable adequate CEQA evaluation.

Cultural Resources. The entire Sonoma-Marin Transmission Line alignment was surveyed on foot for the 1991 Water Supply Project EIR (MMWD 1991). The EIR determined that construction of the proposed pipeline alignment east of US 101 could affect buried material associated with two previously recorded archaeological sites, a potentially significant impact (MMWD 1991).

In 1995, on the recommendation of the California Department of Parks and Recreation (California State Parks), MMWD began a three-phase cultural resource study to determine the cultural sensitivity of a proposed western alignment through Olompali State Historic Park that would avoid the impact. Phase II of the study (Hines 1996) identified cultural material dating to the Middle Archaic period (6000 to 3000 BC) within the proposed western alignment and a previously disturbed human burial near Burdell Creek. The Phase II investigation indicated that prehistoric cultural material is present along the entire area of potential excavation between Burdell Creek and an unnamed drainage 1,150 feet north of Burdell Creek. The investigation also concluded that the cultural material found in the area potentially affected by this alternative appears to be contiguous with CA-MRN-193, a Late Horizon village site with a historic ranch complex that is listed on the National Register of Historic Places. Two other recorded sites, CA-MRN-507 and CA-MRN-526, are also in the vicinity of the western pipeline alignment. The Caltrans MSN Project Draft EIS/EIR found that CA-MRN-526 is “clearly eligible” for listing in the NRHP, having demonstrated an expected ability to provide significant information about the past, thus meeting the criteria set forth at 36 CFR 60.4d. The State Historic Preservation Officer concurred with this eligibility finding (Caltrans 2007).

California State Parks agreed to MMWD’s request to obtain an easement for an alignment west of US 101 through Olompali State Historic Park if certain conditions were met. The conditions included implementation of a data recovery program, funded by MMWD, microtunneling of the pipeline under the identified burial, and bore-and-jack installation in the vicinity of Burdell Creek. As part of the data recovery program, mechanical excavations would be monitored by an archaeologist and a Native American observer, and excavations would be halted if human burials or intact features are encountered. These measures would reduce potential impacts to cultural resources to a less-than-significant level.

Neither the 1991 Water Supply Project EIR nor the 2001 Water Supply Project EIR Addendum identified any built environment resources that would be affected by pipeline construction. According to the Sonoma-Marin Area Rail Transit (SMART) Project Final EIR (June 2006), a section of the Northwestern Pacific Railroad from Novato north to Petaluma (Haystack Mile Post 36.7 to Burdell Mile Post 31.3) appears eligible for the NRHP. Portions of the pipeline may parallel or cross the Northwestern Pacific Railroad tracks in the southern end of pipeline route. In addition, the entire Olompali State

FINDINGS OF FACT

Historic Park is listed in the NRHP. The park has several historic buildings, including the Camilo Ynitia adobe, a California Historical Landmark.

The mitigation measures described for the Project to reduce the potentially significant impacts to known and unknown archaeological resources would be necessary for this alternative to result in less-than-significant impacts to cultural resources. The mitigation measures would also be necessary if the pipeline route is determined to affect any historic resources. As with the Project, no impact is expected to paleontological resources.

Geology and Soils. Most of the pipeline route is underlain by metamorphic rock of the Franciscan assemblage, which commonly decomposes to expansive clay soils. The alignment crosses or traverses alluvial deposits that are inferred to contain potentially significant percentages of expansive clay (MMWD 1991). Expansive soils would be removed and replaced with nonexpansive, engineered fill prior to construction. Impacts from expansive soils would be less than significant.

Liquefaction potential in the vicinity of this alternative varies from very low to very high. An area of high liquefaction potential exists just south of the Novato end of the pipeline route, from Rowland Boulevard to Atherton Avenue; another exists around San Antonio Creek to the southern Kastania Road intersection (Caltrans 2007). A program of site-specific exploratory borings and accompanying laboratory testing would be conducted to delineate any potentially liquefiable materials in the pipeline route. Potentially liquefiable deposits would either be removed or engineered (dewatered, or densified) to reduce their liquefaction potential. Impacts from pipeline construction on potentially liquefiable soils would be less than significant.

The pipeline route is in the vicinity of three active faults: the Rodgers Creek Fault (0.6 mile), the Hayward Fault (7.5 miles), and the San Andreas Fault (11.6 miles) (Caltrans 2007). The pipeline would cross the Burdell Mountain fault, a Quaternary-mapped fault, north of Novato in the vicinity of Gness Field airport (MMWD 1991). The Burdell Mountain fault is considered potentially active, with an estimated MCE of M 6 (MMWD 1991). Potentially active faults in the northern section of the alignment near Petaluma include the Tolay, Bennett Valley, Bloomfield, and Americano Creek faults. Because no parts of the pipeline alignment are included in Alquist-Priolo zoning, however, the potential for surface faulting is negligible. The pipeline would be designed and constructed at a minimum to the seismic design requirements for ground shaking specified in the Uniform Building Code for seismic zone 4. Impacts from strong ground shaking would be less than significant.

Erodible soils and slope instability have been observed in the segment of the Caltrans MSN Project that the pipeline route would cross (Caltrans 2007). The mitigation measures described for the Project to reduce potentially significant impacts from slope movement and construction-related erosion (Mitigations 4.5-6 and 4.5-7 in Section 4.5.2.3) would have to be implemented for this alternative. As with the Project, geology and soil impacts could be fully mitigated to a less-than-significant level.

Hazards and Hazardous Materials. The Caltrans MSN Project hazardous materials assessment reviewed a 1-mile-wide corridor using the EDR DataMap Environmental Atlas in addition to consulting Caltrans and regulatory agency files and aerial photographs. The MSN Project Draft EIS/EIR identified as many as 71 known or suspected areas of contamination

FINDINGS OF FACT

within or adjacent to the MSN Project footprint (Caltrans 2007). The Draft EIS/EIR identified certain areas as having a high or medium risk for either hazardous materials or probability that contamination could affect construction activities. Two of those areas have the potential to be in the vicinity of pipeline construction:

- *Silveira A & L Trust/Dairy Ranch, Redwood Highway South, City of Novato.* Based on available information, USTs were used to store leaded gasoline, unleaded gasoline, and diesel at the site. The status of the three recorded USTs at the site is not known; however, no leaks have been reported. Confined animal operations for the dairy are potential sources of contamination in groundwater, particularly nitrates and salts.
- Gas N Shop, 4418 Redwood Highway South at the intersection of US 101 and Kastania Road, City of Petaluma. Records indicate that the aquifer beneath the site has been contaminated with MTBE. Site investigation reports indicate that the groundwater level is approximately 8 feet below the existing ground surface. This groundwater flows eastward underneath US 101. The groundwater beneath this site, and beneath US 101, is contaminated with benzene and MTBE.

Excavation for pipeline construction could expose contaminated soils and/or groundwater, which can pose a potential impact to human health if not properly managed. Mitigation 4.6-3 in the EIR for the Project would need to be implemented to reduce this impact to less than significant.

Asbestos, mercury-laden mine tailings, and aurally deposited lead could be encountered during trenching and other construction activities. Sediment in San Antonio Creek could contain naturally occurring asbestos, as portions of the watershed include ultramafic rock formations (Caltrans 2007). Areas of Marin County also contain naturally occurring cinnabar ore, which when processed produces mercury in a liquid form. Mine tailings from former mines in the area may have been used as fill material for the original US 101 embankments (Caltrans 2007) and elsewhere in the pipeline vicinity. Near the pipeline route at US 101 just south of San Antonio Creek, there is a geologic formation similar to areas of Marin that were historically mined for cinnabar ore (Caltrans 2007).

Depending on the distance between the pipeline route and US 101, soils encountered during construction could contain aurally deposited lead from the historic use of leaded gasoline. The highest lead concentrations are typically found at the ground surface adjacent to major roadways and decrease to naturally occurring levels at depths of approximately 2 to 3 feet below ground surface. When the pipeline route is determined, a program of soil testing would be needed to determine whether asbestos, mercury-laden mine tailings, or aurally deposited lead are present. Soils that exceed regulatory limits would have to be characterized as a California hazardous waste and disposed of at an appropriate landfill.

The pipeline vicinity would have the potential to be subject to wildland fires; however, a fire is unlikely to damage the pipeline. As with the Project, hazards and hazardous materials impacts could be fully mitigated to a less-than-significant level.

FINDINGS OF FACT

Hydrology and Water Quality. The pipeline route spans the San Antonio Creek and Novato Creek watersheds and the Novato Valley groundwater basin (Marin County Community Development Agency 2005). According to the Natural Resources Conservation Service, several locations in the vicinity potentially affected by this alternative have relatively shallow groundwater (less than 6 feet below the surface), resulting in water-saturated zones (Caltrans 2007). Pipeline construction would have minimal effect on the overall direction or rate of ground water flow toward San Pablo Bay and would not affect recharge rates.

The area potentially affected by this alternative drains toward San Pablo Bay to the southeast. San Antonio Creek, the main surface water body in the area near this alternative, flows east into the Petaluma River, which continues southeast in San Pablo Bay. FEMA Flood Insurance Rate maps indicate that 100-year floodplains exist in three locations in the area affected by this alternative (Caltrans 2007):

- Near the northwest quadrant of San Marin Drive and Redwood Boulevard in Novato;
- Just west of US 101 north of Olompali State Historic Park; and
- Along San Antonio Creek.

This alternative would not affect drainage patterns, increase flood hazards, or impact the FEMA mapped 100-year floodplain. The Basin Plan (RWQCB 2007) identifies beneficial uses for San Antonio Creek (existing: cold and warm freshwater habitat, fish migration, and wildlife habitat; potential: fish spawning as well as water contact and nonwater contact recreation). San Antonio Creek is a Section 303(d) “impaired” water body. Runoff and discharges from storm sewers are the principal contributors to water quality problems in San Antonio Creek (Caltrans 2007). The primary potential for water quality impact from this alternative would be soil erosion or suspended solids being introduced into waterways due to construction activities.

In most locations, stream crossings of the pipeline would be undertaken using tunneling techniques, which are not expected to result in impacts to hydrology or water quality (MMWD 1991). At the western alignment through Olompali State Historic Park, the pipeline would be installed using bore-and-jack methods. Implementation of the revised design to span the San Antonio Creek tributary (described under “Aesthetics” above) would accomplish the same performance standard of avoiding stream impacts. Design of the span would include appropriate setbacks of 15 feet from the channel for daylight and reentry points control measures (MMWD 2001). Soil runoff into streams during construction would be minimized through erosion control measures (MMWD 1991). As with the Project, hydrology and water quality impacts could be fully mitigated to a less-than-significant level.

Land Use and Planning. The pipeline would generally parallel the west side of US 101, passing primarily through agricultural land uses. Other existing land uses in the study area consist of commercial (in the northwest quadrant of the San Marin Drive/US 101 intersection), industrial (in the vicinity of the Birkenstock warehouse), parks (Olompali State Historic Park), and open space (just north of Olompali State Historic Park) (Caltrans 2007). In the City of Novato, the pipeline vicinity is zoned as Planned District. In Marin County north of Novato, the pipeline vicinity is zoned as Agriculture/AG1 (1 unit per 31–60 acres) or Open Space. From the Marin/Sonoma County line to the northern pipeline terminus at the Kastania tank, the pipeline

FINDINGS OF FACT

vicinity is zoned primarily as Land Extensive Agriculture or Rural Residential, except for two parcels near Kastania Road at US 101 zoned as Limited Commercial (an existing gas station) and Diverse Agriculture.

The alignment would pass through areas governed by the City of Novato General Plan, the Marin Countywide Plan, the Sonoma County General Plan, and the Petaluma General Plan. A relocated water pipeline is consistent with general plan goals to ensure that adequate water supply is available to accommodate planned growth and projected needs (City of Novato PF Objective 3 and PF Program 4.3, Marin Countywide Plan Goal PFS-1, Sonoma County General Plan Goal PF-1, and Petaluma General Plan Goal 8-G-1). The Natural Systems and Agricultural Element of the Marin Countywide Plan sets policies that protect wetland conservation areas and stream conservation areas. Pipeline design and construction would have to comply with setback requirements and other minimization and avoidance policies set by Marin and Sonoma counties. The alternative would not conflict with a habitat conservation plan or natural community conservation plan.

The pipeline would replace an existing NMWD pipeline and would not provide new water service outside of an existing sphere of influence or urban service area. Construction and operation of the pipeline would not physically divide a community.

According to the California Department of Conservation Farmland Mapping and Monitoring Program, no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance exists in the pipeline vicinity on the west side of US 101 (California Department of Conservation Protection 2006a,b). Therefore, the construction and operation of the pipeline would not result in the conversion of any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural uses.

The pipeline alignment has the potential to cross three parcels under Williamson Act contracts (APN 019-290-001, 125-130-024, and 125-160-015) (Caltrans 2007). Underground utility line construction does not conflict with Williamson Act policies in the Marin Countywide Plan or Sonoma County General Plan. Neither the construction nor operation of the pipeline would constrain current agricultural uses. This is a less-than-significant impact.

The area adjoining the west side of US 101 between the northern and southern pipeline limits is shown as either grazing land or Farmland of Local Importance (land that is not irrigated but is, or has the potential to be, cultivated) (California Department of Conservation Protection 2006a,b). Construction activities in agricultural land would temporarily remove from production an approximately 40-foot-wide segment along the corridor affected by this alternative and could result in temporary loss of farming income. Mitigation in the form of fair compensation for loss of income from cultivation of land temporarily taken out of production would be required to render this impact less than significant.

Although this alternative would have impacts on agricultural and grazing land that would not occur with the desalination Project, the Sonoma-Marin Transmission Line would not conflict with existing zoning for agricultural use or result in the permanent conversion of farmland to nonagricultural use. Therefore, as with the Project, land use and planning impacts could be fully mitigated to a less-than-significant level.

FINDINGS OF FACT

Noise. Existing land uses in the study area consist of commercial (in the northwest quadrant of the San Marin Drive/US 101 intersection), industrial (in the vicinity of the Birkenstock warehouse in Novato), parks (Olompali State Historic Park), open space (just north of Olompali State Historic Park), and agriculture (the rest of the alignment) (Caltrans 2007).

The pipeline route would extend through four jurisdictions, beginning with the southern terminus in the City of Novato, continuing through unincorporated Marin and Sonoma counties, and ending at the Kastania Tank in the City of Petaluma. Relevant plans and ordinances are listed below.

- Noise and land use compatibility standards from the Novato General Plan establish 65 dBA Ldn as the maximum *normally acceptable* noise level for parks/open space and 70 dBA Ldn for commercial areas, industrial, and agricultural land uses. The plan establishes 80 dBA Ldn as the maximum *conditionally acceptable* noise level for parks and commercial areas and 85 dBA Ldn for industrial and agricultural land uses. Novato Municipal Code Section 19.22.070 exempts authorized construction activities between 7:00 a.m. and 6:00 p.m. on weekdays, and between 10:00 a.m. and 5:00 p.m. on Saturdays, but notes that such activities being performed through the discretionary land use permit process may be subject to specific noise conditions of approval and/or mitigation measures that are more restrictive.
- Marin Countywide Plan noise standards are described in Section 4.9.1.3 of the EIR.
- The Sonoma County General Plan establishes noise level performance standards based on the cumulative duration of the noise event in any 1-hour period. Duration categories range from less than 1 minute (at which 70 dBA maximum is allowed) to 30–60 minutes (at which the maximum is 50 dBA). Maximum noise levels are 5 dBA lower for each category between 10 PM and 7 AM.
- The City of Petaluma General Plan establishes noise and land use compatibility standards of 75 dBA Ldn as the maximum *normally acceptable* noise level and 80 dBA Ldn as the maximum *conditionally acceptable* for industrial and agriculture land uses. The city's noise ordinance (Municipal Code Section 22-301; City of Petaluma 1997) prohibits the operation of motorized construction equipment and certain other equipment before 7 a.m. or after 10 p.m. on weekdays, unless exempted by permit. The noise ordinance also sets maximum exterior noise exposure limits based on cumulative periods (over 1, 5, and 15 minutes) per hour.

Construction activities would be limited to weekday, daylight hours (MMWD 1991). No noise-sensitive land uses such as hospitals, convalescent homes, schools, or libraries are located near the pipeline alignment or its terminus in the City of Novato (General Plan SF Map 6; Caltrans 2007). Likely receptors who would be affected by pipeline construction include workers at the commercial and industrial sites in Novato, visitors to Olompali State Historic Park and the open space to the north, and residents and workers at the agricultural properties along the west side of US 101.

FINDINGS OF FACT

Construction would take approximately 24 months, the same as for the Project. Short-term noise increases would occur during delivery of construction equipment, pipe, and construction materials; in construction staging areas near receptors; and during pipeline construction. The intensity of potential noise impacts would depend upon the proximity of the receptor to the area under construction, the number and type of construction equipment operating each day, and the length of time each piece of equipment would be in use. Construction noise for this alternative would likely be similar to that of the Project, except no pile driving is expected to be required. Therefore, maximum noise levels from construction equipment would range from approximately 76 to 90 dB at a distance of 50 feet from the source. Construction-generated noise levels drop off at a rate of about 6 dBA per doubling of distance between the source and receptor. Shielding by buildings or terrain often results in much lower construction noise levels at distant receptors. As stated in Section 4.9.2.1 of the EIR, when construction activities are predicted to generate noise levels greater than 60 dBA $L_{eq}(hr)$, exceed ambient noise levels by 5 dBA or more, and cause prolonged interference with normal activities in noise-sensitive areas, the impact would be considered significant.

Because the exact pipeline route has not been determined, the distance between the construction locations and nearby receptors cannot be calculated; therefore, it is not known whether construction noise would have a significant impact. It is assumed that mitigation measures for the Project (Mitigation 4.9-3(a)–(c) and (f)) would have to be implemented for this alternative. Construction-related noise associated with pipeline construction would be short-term and temporary. With implementation of Mitigation Measure 4.9-3(a)–(c) and (f), construction-related noise would be considered less than significant.

The only noise impacts that would result from operation of the pipeline would be related to routine pipeline maintenance, including periodic checks of the cathodic protection system, visual surveillance of the corridor where accessible for leaks, testing of the blowoff valves, and occasional internal inspections. These activities would generate sporadic, short-term sources of noise, a less-than-significant impact unless the noise exceeds an applicable city or county limit.

Construction noise from trenching and grading could disrupt use of agricultural land for grazing and horse rearing, and cattle and horses may need to be temporarily relocated during periods of nearby construction (MMWD 1991). Noise impacts of this alternative are assumed to be less than significant with mitigation, but the pipeline route would require further analysis after the precise alignment of the pipeline was determined.

Population and Housing. The pipeline alternative is not expected to increase population or housing demand in the study area. The construction workforce (60 at peak) would have an insignificant and temporary increase on employment (MMWD 1991). Neither of the alignment changes considered in the 2001 Water Supply Project EIR Addendum—the western pipeline route through Olompali State Historic Park and the span section across the San Antonio Creek tributary—would have any effect on population and housing (MMWD 2001). Pipeline construction would not displace housing or businesses.

Because this alternative would replace an existing pipeline, it would not directly induce population growth by providing infrastructure in an area that was not previously served. However, assuming SCWA is able to deliver MMWD's full entitlement, the increased capacity of

FINDINGS OF FACT

the pipeline would enable MMWD to receive more water. The Sonoma-Marin pipeline would therefore indirectly contribute to growth in the MMWD service area. As with the Project, the growth is consistent with local and regional planning and would be a less than significant impact.

Public Services and Utilities. No police stations, fire stations, schools, libraries, hospitals, or community centers exist on the west side of US 101 in the vicinity of the pipeline alignment (Caltrans 2007). The nearest airport is Gness Field in Novato, on the east side of US 101.

Police protection and traffic enforcement in the study area are provided by the Marin County Sheriff's Office, Sonoma County Sheriff's Department, California Highway Patrol, and the police departments of the cities of Novato and Petaluma. Fire protection and emergency medical rescue services for the study area are provided by the Marin County Fire Department; the Marin County Sheriff's Office, Office of Emergency Services; Sonoma County Department of Emergency Services; and the fire departments of the cities of Novato and Petaluma. Novato Community Hospital (180 Rowland Way in Novato) is approximately 1.5 miles south of the southern pipeline terminus. The Petaluma Valley Hospital (110 Lynch Creek Way in Petaluma) is approximately 3 miles north of the northern pipeline terminus.

The North Marin Water District provides water services to approximately 56,000 people living in the City of Novato and surrounding areas. Wastewater collection, treatment, and disposal services are provided by the Novato Sanitary District. The Novato Sanitary District also is responsible for refuse disposal, recycling, and green waste collection through its franchise collector, Novato Disposal Service. Telecommunication service providers in the area potentially affected by this alternative include SBC/AT&T and Verizon. Natural gas and electric service is provided to the area potentially affected by this alternative by PG&E (Caltrans 2007).

The Sonoma-Marin pipeline would not require provision of new or altered law enforcement or fire department facilities, storm water drainage facilities, or electrical energy facilities. No new or expanded wastewater treatment facilities would be required to accommodate the increased water deliveries.

The 1991 Water Supply Project EIR estimated that pipeline excavation and construction would require the disposal of 56,000 cubic yards of material over a 24-month period. Construction spoils would be transported to Redwood Landfill in Novato (MMWD 1991). As stated in the discussion of Impact 4.11-5 (Section 4.11.2.3) of the EIR, Redwood Landfill has an estimated remaining capacity of 12.2 million cubic yards. No solid waste would be generated during pipeline operation (MMWD 1991). This alternative would not exceed the capacity of Redwood Landfill. If contaminated soils or groundwater are encountered during construction, they would be removed and disposed of at an appropriate facility, as discussed above under "Hazards and Hazardous Materials." The alternative would not conflict with applicable federal, state, or local statutes or regulations related to solid waste. As with the Project, public services and utilities impacts could be fully mitigated to a less-than-significant level.

Recreation. Three recreational facilities exist on the west side of US 101 near the general pipeline vicinity: the Mount Burdell Open Space Preserve, Olompali State Historic Park, and the Petaluma Golf and Country Club. Pipeline construction would not take place in the Mount Burdell Open Space Preserve, which borders the northwest part of the City of Novato and is

FINDINGS OF FACT

approximately 0.5 mile from US 101 at its westernmost point, or the Petaluma Golf and Country Club, which is in the southern part of Petaluma approximately 1 mile northwest of the Kastania Tank. Noise and visual disturbance from pipeline construction is not expected to affect visitors to these facilities.

Managed by California State Parks, the 700-acre Olompali State Historic Park has multiple uses including recreation, education, and preservation uses (Caltrans 2007). A western pipeline alignment through Olompali State Historic Park would result in short-term disruption during construction. Depending on where construction takes place, park visitors would see and hear construction activities, which could affect their visitation experience. During construction, the work area would be fenced to prevent recreational users from entering the construction area. This would result in a short-term restriction on recreational use in the area, a less-than-significant impact. Short-term recreational impacts could result from operation and maintenance activities if major maintenance work, such as pipeline repairs, was required. Long-term operations of the pipeline in this location would not conflict with operation of or access to the park, which is currently traversed by the existing NMWD pipeline.

This alternative would not increase the use of other recreational facilities such that deterioration would occur or require new facilities that might have adverse environmental effects. As with the Project, recreation impacts could be fully mitigated to a less-than-significant level.

Transportation and Traffic. The transportation corridor that would be affected by this alternative parallels the west side of US 101 between approximately the San Marin Drive/Redwood Boulevard intersection in Novato and the northern terminus of Kastania Road in Petaluma. Within the corridor, Golden Gate Transit provides fixed-route bus service along US 101 and San Marin Drive. No other transit agencies such as Sonoma County Transit currently provide bus service in the study area for this alternative.

The proposed Sonoma-Marin Area Rail Transit (SMART) Project would provide passenger rail service from Cloverdale in Sonoma County to Larkspur in Marin County. The SMART District has completed preliminary engineering and CEQA review and is currently analyzing potential environmental effects pursuant to NEPA. The southern terminus of the SMART corridor would be on the east side of US 101. Just north of the Novato Community Hospital, the rail line would pass under US 101 at the Franklin Overhead and transition to the west side of US 101. It would remain on the west side until just north of the US 101 interchange at San Marin Drive/Atherton Avenue, where it would switch back to the east side of US 101 at the North Novato Overhead (Caltrans 2007). The SMART corridor would remain east of US 101 northward to the Sonoma-Marin pipeline terminus at the Kastania Tank.

The SMART Project would also construct a bicycle/pedestrian pathway generally within or adjacent to the rail corridor. The proposed bicycle/pedestrian pathway includes a combination of Class 1 (separated trail for bicyclists and pedestrians) and Class 2 (striped bicycle lane) facilities (Caltrans 2007).

Depending on the location of the pipeline route, access to bus stops, sidewalks, and bicycle lanes may be temporarily disrupted during construction. If so, the mitigation described for Impact 4.13-6 in Section 4.13.2.2 of the EIR would have to be implemented to reduce this to a

FINDINGS OF FACT

less-than-significant impact. If the pipeline route crosses the SMART rail line, it would be installed using directional boring, resulting in a less-than-significant impact.

A Caltrans Park and Ride Lot is located at Atherton Avenue on the east side of US 101 (adjacent to the northbound on-ramp) in Novato. The lot includes 29 parking spaces and bike racks and is served by Golden Gate Transit (Caltrans 2007). Construction and operation of the Sonoma-Marín pipeline is not expected to affect parking capacity at this lot or elsewhere in the study corridor. The pipeline alignment would roughly parallel the west side of US 101. Local roadways in the pipeline vicinity include:

- Redwood Boulevard, which parallels US 101 to the west and terminates approximately 0.5 mile south of Olompali State Historic Park
- San Marin Drive, which becomes Atherton Avenue on the east side of Redwood Boulevard
- South San Antonio Road, which begins at US 101 and continues northwest for approximately 0.6 mile and ends at San Antonio Road near the Marin-Sonoma County line
- San Antonio Road, an east-west connector between US 101 and Point Reyes-Petaluma Road to the east
- Gunn Drive, on the west side of US 101 approximately 1 mile north of the Marin-Sonoma County line
- Kastania Road, on the west side of US 101 approximately 2 miles north of the Marin-Sonoma County line

Like the Project, this alternative would be more likely to affect transportation facilities during construction than during operations because pipeline operation and maintenance would only require a minimal amount of surface road activity. In most areas, the pipeline construction right-of-way would be approximately 40 feet wide. The exact pipeline route has not yet been defined but is expected to cross at least some of the local roads listed above. The pipeline would be installed under street crossings using trenching techniques (MMWD 1991). Where trenching would take place, traffic flow would be maintained by keeping at least one lane open. Lane closures could affect levels of service on busy roads such as San Marin Drive. Impacts would be mitigated to the extent possible by limiting the area of trenching and by completing construction in these areas as quickly as possible. To reduce disruption, construction would be coordinated with the affected public works departments to time activities in congested areas so as to avoid peak traffic periods. The pipeline is not planned to cross US 101, so no impacts to US 101 are expected.

According to the 1991 Water Supply Project EIR, approximately 60 construction workers would be employed over a period of 24 months to build the pipeline, resulting in approximately 60 additional vehicles per day on US 101. In addition, one truck trip per day would be needed to transport construction spoils to Redwood Landfill. The additional traffic would not significantly affect the level of service of US 101 or other roadways in the area.

FINDINGS OF FACT

As with the Project, construction activities at roadways have the potential to cause temporary delays for emergency vehicles that need to access those roadways. The measures described in the discussion under Impact 4.13-4 in Section 4.13.2.2 in the EIR would have to be implemented for this alternative.

This alternative would not result in increased hazards due to design features or during construction activities. As with the Project, encroachment permits would be obtained from the jurisdictions where the work is to be performed. The encroachment permits would contain conditions that must be followed during pipeline construction in the public right-of-way. Conditions could include temporary speed limit restrictions, use of flaggers, warning signs, lights, barricades, and cones. Traffic safety control measures would be implemented in accordance with the Work Area Traffic Control Handbook (American Public Works Association 2006). As with the Project, transportation and traffic impacts could be fully mitigated to a less-than-significant level.

Energy. Water produced and distributed from the desalination plant would require 10 kWh/1,000 gallons on average and 14 kWh/1,000 gallons in droughts. Under this alternative, the Kastania Pumping Station would no longer be needed because the new pipeline would use gravity flow for water transmission. Elimination of the pumping station would lower transmission energy use to approximately 3.1 kWh/1,000 gallons.

Conclusion. For the purposes of this alternative, it is assumed that MMWD will be able to work with NMWD to construct a larger pipeline to replace the existing pipeline that will be relocated by the MSN Project. NMWD would own and operate the relocated pipeline. No specific pipeline route has been identified, and the exact route may not be determined until the MSN Project proceeds to the final design stage. It is assumed that the pipeline route falls within the general environmental study areas of the Caltrans MSN Project, the 1991 Water Supply Project EIR (MMWD 1991), and the 2001 Water Supply Project EIR Addendum (MMWD 2001). The MSN Project Draft EIS/EIR states that the Project will require utility relocations and notes no environmental impacts associated with those relocations. If any portions of the ultimate pipeline route fall outside of the study areas included in the 1991 Water Supply Project EIR (MMWD 1991), the 2001 Water Supply Project EIR Addendum (MMWD 2001), and the MSN Project Draft EIS/EIR, additional environmental review to satisfy CEQA requirements would be required.

Further environmental review may also be required because lack of a defined pipeline route precludes a detailed analysis of impacts to resources such as oak woodlands, jurisdictional wetlands, and noise receptors. It should also be noted that MMWD does not currently receive its full contracted entitlement amount of Russian River water from SCWA. SCWA may have reallocated some or all of that portion of MMWD's contracted entitlement to other water customers. Therefore, uncertainty exists regarding the ability of this alternative to fully meet the Project objectives.

The Sonoma-Marin Transmission Line with Conservation Alternative would have no significant impacts that cannot be effectively mitigated. The alternative would have less-than-significant impacts on agricultural and grazing land. No impacts on agricultural and grazing land would occur with the Project. Other impacts would be less severe than those for the Project, and this

FINDINGS OF FACT

alternative would avoid the Project's significant residual impacts to aesthetics and noise. If MMWD is able to work with NMWD to construct a larger pipeline to replace the existing pipeline and the constraints discussed in Section 6.4.8.3 of the EIR do not prevent SCWA from providing MMWD with reliable deliveries of at least 8,500 AFY of Russian River water per year, this alternative would fully meet Project objectives.

2. Basis for Identifying Environmentally Superior Alternatives

The Final EIR identifies Alternative 2 (Water Conservation) as the environmentally superior alternative. It would have the fewest environmental impacts compared to the Project and would have no significant and unavoidable effects. Also, it could potentially have environmental benefits. However, while Alternative 2 would meet the Project objectives of helping to balance the supply and demand for water in MMWD's service territory, it would not completely address MMWD's water supply needs. Additionally, water conservation would not meet the Project objective of providing water supply in drought and emergency situations.

With regard to reducing the two significant and unavoidable impacts associated with the Project, only Alternative 2 (Water Conservation) and Alternative 8 (Sonoma-Marín Transmission Line with Conservation Alternative) would reduce those two impacts to less than significant or to no impact. However, as noted, Alternative 2 would not fully meet the Project objectives. Alternative 8 could meet the Project objectives; however, the uncertainty of guaranteed supplies from SCWA leaves a potentially significant uncertainty.

Due to the uncertainties surrounding Alternative 8, of the alternatives considered in the EIR, only those that include construction of a desalination plant with conservation (Alternatives 1, 3, 4, 5, and 6) would fully meet the Project objectives. Alternatives 5 and 6 would have reduced noise impacts as compared to the Project, although the construction related noise impact and San Quentin Ridge tanks aesthetic impacts would remain significant and unavoidable under each of the alternatives that include construction of a desalination plant.