

## 7.0 OTHER CEQA CONSIDERATIONS

Section 15126 of the CEQA Guidelines requires that all aspects of a project be considered when evaluating its impact on the environment, including planning, acquisition, development and operation. As part of this analysis, the EIR must identify the following components:

- Significant environmental effects that cannot be avoided if the proposed project is implemented
- Significant irreversible environmental effects that would be involved in the proposed project should it be implemented
- Growth-inducing impacts of the proposed project
- Cumulative impacts of the proposed project
- Effects not found to be significant.

The following is a discussion of each of these components.

### 7.1 SIGNIFICANT AND UNAVOIDABLE ENVIRONMENTAL IMPACTS

This section identifies significant impacts that could not be eliminated or reduced to a less-than-significant level by mitigation measures imposed by MMWD. The final determination of significance of impacts and of the feasibility of mitigation measures will be made by MMWD's Board as part of their certification action for the EIR.

A summary of the Environmental Impacts and Mitigation Measures is presented in Section 2.0 of this EIR. Sections 4.1 through 4.13 provide a comprehensive discussion of the proposed project's environmental effects, including levels of significance before and after mitigation.

The following significant and unavoidable impacts would result from development of the proposed project:

#### Aesthetics

**Impact 4.1-3:** Project development would degrade the visual character of San Quentin Ridge.

#### Noise

**Impact 4.9-3:** Project construction would temporarily increase ambient noise levels during the construction period.

### 7.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL EFFECTS

Section 15126.2(c) of the CEQA Guidelines requires a discussion of any significant irreversible environmental changes that would be caused by the proposed project. Specifically, Section 15126.2(c) states:

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

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environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Generally, a project would result in significant irreversible environmental changes if:

- The primary and secondary impacts would generally commit future generations to similar uses
- The project would involve a large commitment of nonrenewable resources
- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project, or
- The proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy)

Construction and implementation of the proposed desalination project would commit the plant site and associated off-site project 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 sites on which other project features would be built are within developed and urbanized parts of Marin County. 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 proposed 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 proposed 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 proposed 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.

Based on the above, the project would not result in significant irreversible environmental changes.

### 7.3 GROWTH-INDUCING IMPACTS

Section 15126(d) of the CEQA Guidelines require that growth-inducing effects of a proposed project be addressed in an EIR. The CEQA Guidelines state the following:

Discuss ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects that would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may further tax existing community service facilities so consideration must be given to this impact. Also discuss

the characteristics of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

The analysis presented in this section discusses these factors.

Evaluation of growth-inducing effects of the proposed MMWD Desalination Project is based on a qualitative analysis of the indirect effects that could result from use of the water supply within MMWD's service boundary. Information presented in this section is from the Marin Countywide Plan ~~Public Review Draft~~ and the Marin Countywide Plan Update ~~Draft~~ Final EIR. This information was used because it is the most current information available regarding projected growth within Marin County, including MMWD's service area, and the potential environmental effects associated with that growth. The Marin Countywide Plan Update Draft EIR was published in January 2007. Subsequently, a Final EIR was published in June 2007. A second Final EIR, including an amendment to the responses included in the June 2007 document, was published in July 2007. The updated Marin Countywide Plan ~~is scheduled to be~~ was adopted in November 2007, and the Final EIR ~~is scheduled for certification~~ was certified in November 2007. ~~Any substantive changes in either the newly adopted Marin Countywide Plan or the certified Countywide Plan Update Final EIR will be reflected in the Final EIR for this project.~~

This evaluation of potential growth-inducing impacts addresses whether the project would directly or indirectly:

- Foster economic, population, or housing growth;
- Remove obstacles to growth;
- Tax community service facilities; or
- Encourage or facilitate other activities that cause significant environmental effects

The analysis evaluates the potential for growth-inducing effects to result from use of water supplies made available under the proposed desalination project.

### **7.3.1 Potential to Induce Growth**

The purpose of the proposed 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 ABAG's 2020 projections and as planned for by the Marin Countywide Plan ~~Update~~. As such, the proposed project would be growth accommodating. Therefore, the proposed desalination 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. Provision of water alone will not cause uncontrolled and unplanned growth. Furthermore, the growth that the project would serve is envisioned in the Marin Countywide Plan ~~Update~~.

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### 7.3.2 Projected Growth

The MMWD service area is southern and central Marin County and includes the cities of Sausalito, Tiburon, Marin City, Mill Valley, Corte Madera, Larkspur, San Rafael, San Anselmo, Ross and Fairfax and the unincorporated communities of Kentfield, Greenbrae, Sleepy Hollow, Woodacre, San Geronimo, Forest Knolls and Lagunitas (**Figure 3-1**). Growth in Marin, mainly residential in nature, boomed during the period following World War II up through the early 1970s. Growth during the last two decades has averaged less than 1 percent per year, and the Marin County Planning Department indicates that only 4 percent of land within the County remains available for new development.

In its *2005 Urban Water Management Plan* (updated 2007), MMWD estimated that the population within its service area would grow from 190,800 in 2005 to approximately 205,763 in the year 2020 based on ABAG's *Projections 2005*. MMWD also projects that it will serve more than 5,600 new commercial, institutional, industrial, and irrigation accounts by 2020.

The Marin Countywide Plan Update ~~Draft~~ Final EIR estimates that the number of housing units in Marin County will increase from 107,994 in 2005 to 121,847 in 2030, and the amount of nonresidential floor area will increase from 39,210,494 square feet in 2005 to 49,873,083 square feet in 2030. **Table 7-1** shows the projected housing and nonresidential floor area growth by jurisdiction. It should be noted that Novato and much of the unincorporated area of Marin County are not within MMWD's service area.

**Table 7-1**  
**Projected Housing and Nonresidential Floor Area Increase for Marin County**

Jurisdiction	Housing Units <sup>1</sup>		Nonresidential Floor Area <sup>2</sup> (Square Feet)	
	2005	2030	2005	2030
Belvedere	1,027	1,044	95,083	95,083
Corte Madera	3,973	4,468	2,479,896	3,047,969
Fairfax	3,418	3,651	308,165	412,011
Larkspur	6,292	6,583	1,931,448	2,083,404
Mill Valley	6,350	6,847	1,346,390	1,319,370
Novato	21,045	22,185	8,260,250	15,924,611
Ross	861	884	74,029	74,029
San Anselmo	5,362	5,524	841,803	869,466
San Rafael	24,143	29,505	18,089,065	18,786,090
Sausalito	4,195	4,289	2,117,794	2,275,725
Tiburon	4,005	4,153	462,023	543,995
<i>Incorporated Cities and Towns Subtotal</i>	<i>80,671</i>	<i>89,133</i>	<i>36,005,945</i>	<i>45,431,753</i>
Unincorporated Marin County	27,323	32,714	3,204,549	4,441,330
<b>Total</b>	<b>107,994</b>	<b>121,847</b>	<b>39,210,494</b>	<b>49,873,083</b>

**Source:** Marin Countywide Plan Update ~~Draft~~ Final EIR, Exhibit 6.0-1.

<sup>1</sup> Housing units include permanent dwelling units like single-family homes, apartments, and townhouses but excludes group quarters such as dormitories.

<sup>2</sup> Nonresidential floor area refers to the floor area of any nonresidential uses including retail, office, warehouses, hotels, and group quarters.

### 7.3.3 Evaluation of Growth-Inducing Effects

Secondary effects of induced growth are evaluated in the Marin Countywide Plan Update ~~Draft~~ Final EIR. According to the EIR, significant and unavoidable impacts associated with buildout of the ~~Draft 2005-2007 Countywide Plan Update (revised July 23, 2007)~~ 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.

Significant impacts associated with buildout of the Countywide Plan ~~Update~~ 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.

All other impacts identified in the Marin Countywide Plan Update Final EIR associated with buildout of the Countywide Plan were less than significant.

### 7.4 CUMULATIVE IMPACTS

According to the CEQA Guidelines, cumulative impacts are changes in the environment that result from adding the effect of the project to those effects of closely related past, present and probable future projects. As defined in Section 15355 of the CEQA Guidelines, an EIR should not discuss impacts that do not result in part from the project evaluated in the EIR. As such, the discussion in this section focuses specifically on those impacts of the project that would result in cumulative effects, and does not consider cumulative impacts to which the project would not contribute.

The CEQA Guidelines identify two basic methods for establishing the cumulative environment in which the project is to be considered: the use of a list of past, present, and reasonably anticipated future projects; or the use of adopted projections from a general plan or other regional planning document. ~~For this EIR, the plan approach was largely is used for this EIR, and was based on using the updated Marin Countywide Plan (scheduled for adoption adopted in November 2007). In addition to the residential and nonresidential development outlined in the Countywide Plan is provided in Table 7-1.~~ In addition to the Countywide Plan projections, four other projects not addressed in the plan were included in the cumulative impact analysis: ~~the following projects were considered in the cumulative impact analysis.~~

- ~~**San Rafael Rock Quarry Project:** In 2004, the Dutra Group and San Rafael Rock Quarry, Inc. submitted an Amended Reclamation Plan for the San Rafael Rock Quarry to Marin County. The primary purpose of the project is to amend the existing Amended Reclamation Plan to comply with the California Surface Mining and Reclamation Act and Marin County~~

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regulations. Project components include cutting the channel to the Bay and flooding the quarry bowl, creating areas to stockpile overburden and mixing pond finds, and creating surcharge berm, soil cover, and general revegetation. It is anticipated that the quarry would operate for an additional 17 years after approval of the Amended Reclamation Plan. Assuming approval in 2007, the quarry would cease operation in 2024.

- **Marin County Airport at Gness Field Runway Project:** Marin County proposes extending the existing 3,300-foot long runway at Gness Field by 1,100 feet. The proposed improvement would make it safer for small jets to land at Gness Field but would not expand the number of airplanes that are based there nor increase the number of takeoffs and landings.
- **Village at Loch Lomond Marina 9:** A two-phased development of the Loch Lomond Marina in the City of San Rafael is proposed. The proposed mixed-use development would include restoration of the existing marina; conservation of major wetlands; neighborhood commercial uses, office space, and mixed residential units; and recreation uses.

Phase I proposes 39 single-family homes, 29 townhomes, 12,516 square feet of retail commercial, 10,017 square feet of office space, 793 square feet of restaurant space, and recreation areas. Marina uses would remain under Phase 1. However, 13,880 square feet of specialty retail space would be removed.

Phase II proposes eight single-family homes and eight townhomes. The implementation of Phase II, however, is contingent upon the cancellation or non-renewal of the lease of the existing 16,300-square foot grocery store, which expires in 2013. Should the lease be terminated, Phase II would be implemented. If the lease is renewed, the grocery store would continue operating.

- **Redwood Landfill:** Redwood Landfill, Inc. has proposed physical and operational changes to its Redwood Landfill facility in Marin County. The proposed project includes changes to landfill capacity and design, including increasing the landfill's capacity and modifying the landfill's final contours without increasing the maximum height or the existing footprint of the landfill. Changes to waste operations (including changes in the quantity and types of waste received), environmental controls at the landfill, and facilities' administrative infrastructure are also proposed.
- **Marinwood Village Concept Master Plan:** This project would result in the redevelopment of the 5-acre Marinwood Plaza shopping center into a pedestrian-oriented, mixed-use village with a grocery store, ancillary neighborhood-serving retail uses, and both market and affordable housing units. The concept includes a 20,000-square-foot market, up to 12,000 square feet of ancillary neighborhood-serving retail uses, and 100 housing units with at least 50 percent of the units to be affordable. The residential units would range in size from 1,000 to 1,500 square feet in either a townhome configuration or as apartments that are stacked above ground-floor retail uses.
- **Niven Nursery Site Mixed Residential Development.** Larkspur Housing Partners Inc. submitted an application for a mixed residential development of up to 79 residential units, including 14 "cottage" units and a 36-unit senior housing complex at Subarea 3 of the Central Larkspur Specific Plan area, also known as the former Niven Nursery site. The 16.8-acre site is bounded by Doherty Drive and Larkspur Plaza on the north, Larkspur Creek on

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the east and south, and the former railroad right-of-way and Larkspur Plaza on the west. The project application includes a creek restoration/enhancement program for Larkspur Creek.

- **Sausalito Marine Center Improvements.** This project would make improvements to the Sausalito Marine Center, located along the San Francisco Bay. Grant funds will be used for replacing and repairing planking on the floating docks; installing new dock/utility boxes; paving a 40,000-square-foot new parking area and dry storage facility; converting the existing canvas shop into a harbormaster office and maintenance shop; and improving and increasing the existing fixed decking area and warehouse.

The type of project and geographic location were considered to determine that the impacts would accumulate (as different types of projects, or in some instances, even geographically proximate projects, may not result in cumulative impacts). The geographic area considered for each cumulative impact depends upon the impact that is being analyzed. For example, in assessing aesthetic impacts, only development within the vicinity of the project would contribute to a cumulative visual effect. In assessing air quality impacts, on the other hand, all development within the air basin contributes to regional emissions of criteria pollutants, and basin-wide projections of emissions is the best tool for determining the cumulative effect. The discussion reflects the severity of the impacts and their likelihood of occurrence, but in less detail than for the project's impacts.

Several of the potential impacts associated with the proposed desalination project would be construction-related impacts. While they are described in this section as appropriate, it is important to note that other projects being developed in the region are not likely to be constructed simultaneously. As we do not have the construction schedule of other future projects at this time, we have conservatively assumed that some construction impacts could be cumulative.

A two-step approach was used to analyze cumulative impacts. The first step was to determine whether the combined effects from the proposed project and other projects would be cumulatively significant. This was done by adding the project's incremental impact to the anticipated impacts of other projects. Where the combined effect of the projects was determined to result in a significant cumulative effect, the second step was to evaluate whether the proposed project's incremental contribution to the combined significant cumulative impact would be cumulatively considerable as required in Section 15064(h)(1) of the CEQA Guidelines. It should be noted that Section 15064(h)(4) of the CEQA Guidelines states that "[t]he mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable." Therefore, it is not necessarily true that, even where cumulative impacts are significant, any level of incremental contribution must be deemed cumulatively considerable. Conversely, it is not necessarily true that if the project's individual impact is less than significant, its contribution to a significant cumulative impact will not be cumulatively considerable. This conclusion would only be appropriate if the project had no impact and therefore made no contribution to the cumulative impact. An impact that is less than significant when considered individually may still be cumulatively considerable in light of the impact caused by all projects considered in the analysis.

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### 7.4.1 Impact Analysis

#### 7.4.1.1 Aesthetics

~~The proposed desalination project would be constructed in eastern Marin County, which is largely developed. Large buildings already exist within this portion of the project area such as the Home Depot, multistory office buildings, and car dealership buildings. Other projects planned for the City of San Rafael are predominantly commercial and mixed-use in nature. The past, present, and foreseeable future projects in the project area, including the proposed desalination plant, have substantially modified the natural landscape along this portion of the San Francisco Bay shoreline. Linear and geometric shapes of humanmade features now dominate the landscape. This is considered a significant cumulative visual impact. Key project features including the plant facility, intake structure, and outfall would be located in eastern San Rafael, in an area that is designated for industrial and commercial uses. Therefore, these project features would be consistent with the commercial and industrial character of the viewshed encompassing the project site, surrounding land use and blend in with the visual character of the area. Other projects planned for the City of San Rafael are predominantly commercial and mixed-use in nature. While the proposed desalination project would reinforce the humanmade character of the landscape, it would not stand out as a prominent landscape feature because the proportions and visual characteristics (line, form, color, and texture) of project facilities would be consistent with existing and future planned facilities in the viewshed. For this reason, the project's incremental contribution to the visual impact of the viewshed is not considered to be cumulatively considerable. Implementation of the design review processes and policies associated with the design of communities and specific districts presented in the San Rafael General Plan 2020 would reduce the potential impacts of the planned development to less than significant.~~

~~Tanks on the San Quentin Ridge and in southern Marin are likely projected to have individual significant visual impacts, as described in Section 4.1, but would not contribute to any cumulative impacts in the region. No other projects are proposed that would introduce humanmade lines and forms along the ridgelines where these tanks would be constructed. Therefore, there are no cumulative visual impacts in the viewsheds of these project facilities.~~

~~Pumping stations built for the project are both individually and cumulatively would individually have a less-than-significant visual impact because they would blend with the existing landscape and would not be visible from most public views, as they would not significantly degrade the visual character of their respective locations. Commercial and industrial development in the vicinity of the proposed Jacoby Street and Larkspur Landing pumping station sites have resulted in a significant visual change to the natural landscape. The pumping stations would not make a cumulatively considerable contribution to this impact because of their small size relative to other development in the area, their lack of visibility from most of the public, and the fact that they would be painted to blend with the natural landscape.~~

~~Pipelines constructed for the project would be subsurface and not visible shortly after construction. Therefore, they would not cause a long-term visual impact.~~

~~Construction impacts associated with the San Quentin Ridge tanks project facilities and foreseeable future developments would create temporary visual impacts as the construction sites is are prepared and the tanks are erected. However, this the cumulative visual impact is of construction activities is not considered to be significant because it would be temporary, and not~~

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~~likely to contribute to any cumulative impacts as no other large construction projects are planned in the immediate vicinity at that time. Similarly, the construction of the Ridgecrest A tank, reconstruction of the Marin Rod & Gun Club pier, construction of the desalination plant, and construction of the pump stations are not expected to contribute to any potentially significant cumulative impacts. Their individual construction impacts would be short term. There are no scenic highways in the area from which project features or their construction would be visible.~~

~~The proposed project would not contribute to any significant adverse cumulative aesthetic impacts.~~

### 7.4.1.2 Air Quality

As discussed in Section 4.2, the EPA has classified the Bay Area as a moderate nonattainment area for ozone and a maintenance area for carbon monoxide until at least 2008. The CARB has given the area state-level nonattainment status for ozone, PM<sub>10</sub>, and PM<sub>2.5</sub>. Therefore, past, present, and foreseeable future projects in the Bay Area result in a significant cumulative air quality impact for ozone and particulate matter. Operation of the various components of the project – the plant, intake, outfall, tanks, pump stations, and pipelines – would not produce any direct emissions and therefore would not contribute to any this significant cumulative air quality impacts in the region. As discussed in Section 3.4.4, operation and maintenance personnel for the proposed plant would contribute a maximum of nine vehicle trips during peak traffic commute hours. While this would add to the emissions of particulate matter and ozone precursors in the region, the amount of emissions would be so small that the incremental contribution of the project to the regional cumulative air quality impact would not be cumulatively considerable.

Virtually all of the emissions associated with the proposed project would result from the generation of electricity to power the desalination plant. MMWD receives all of its power from PG&E. The daily supply and demand for electrical power within PG&E's service area depends on many factors, the most common of which is weather. During hot summer months, peak electrical demand is typically at its highest. PG&E and other utilities maintain an operating reserve to account for unexpected peak electrical demands such as hot summer days. Dropping below this level of reserve triggers additional purchases of power and calls for demand response and voluntary interruptible programs to reduce load. The California Independent System Operator (California ISO) calls warning stages at 7 percent (Stage 1) and 5 percent (Stage 2). Stage 3 is called when reserves fall to a level between 3 and 1.5 percent, depending on the specific operating conditions (California Energy Commission 2008).

As discussed in Section 5.2, 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 average reserve margin of 11 percent. The highest power demand of the proposed 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 proposed 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. Therefore, the generation of power for the proposed project would not incrementally increase air quality impacts in the San Francisco Bay Area or

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any other airshed containing a fossil-fueled power plant that provides power to PG&E's electrical grid.

Dust would be released during construction activities, increasing concentration of total suspended solids in the proposed project vicinity. Fugitive dust will be controlled by implementing Mitigation Measures 4.2-1(a) and 4.2-1(b). These control measures will reduce the effects associated with the project, thereby reducing the potential for cumulative effects associated with construction. Construction-related emissions are generally short-term in duration but may still cause adverse air quality impacts. PM<sub>10</sub> is the pollutant of greatest concern during construction. Construction equipment also emits carbon monoxide and the precursors to ozone. However, these emissions are included in the emission inventory developed by the BAAQMD that is the basis for regional air quality plans, and are not expected to impede attainment or maintenance of ozone and carbon monoxide standards in the Bay Area (BAAQMD 1999). Therefore, emissions of ozone precursors from project-related construction equipment would not result in a cumulatively considerable contribution to air quality impacts in the Bay Area.

PM<sub>10</sub> and PM<sub>2.5</sub> emissions can result from a variety of construction activities, including excavation, grading, demolition, vehicle travel on paved and unpaved surfaces, and vehicle and equipment exhaust. Construction emissions of these particulates can vary greatly depending on the level of activity, the specific operations taking place, the equipment being operated, local soils, weather conditions, and other factors. Despite this variability in emissions, experience has shown that there are a number of feasible control measures that can be reasonably implemented to significantly reduce particulate emissions from construction. The BAAQMD's approach to CEQA analyses of construction impacts is to emphasize implementation of effective and comprehensive control measures rather than detailed quantification of emissions (BAAQMD 1999).

The BAAQMD has identified a set of feasible particulate control measures for construction activities that are provided in the BAAQMD CEQA Guidelines (BAAQMD 1999). If all of the appropriate control measures are implemented on a project, then BAAQMD considers air pollutant emissions from construction activities a less-than-significant impact. These control measures are included as Mitigation Measures 4.2-1(a) and 4.2-1(b) for the project. With the application of these control measures, the BAAQMD can work toward attainment of regional air quality plans. Therefore, the incremental particulate emissions associated with the proposed project would not be considered cumulative considerable.

The proposed project would contribute to regional air quality impacts at a level that is less than significant.

### **Greenhouse Gas Emissions**

Recent scientific evidence strongly suggests that there is a connection between climate change (or global warming) and emissions of greenhouse gases (GHGs). These GHGs, composed primarily of carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxides (NO<sub>x</sub>), and water vapor, are emitted by both natural and human-made sources. However, the increase in human-made GHGs over the past several decades has caused global atmospheric temperatures to rise above historic levels. The sources of human-made GHGs that are of the greatest concern include power plants, industry, agriculture, home heating, open burning, motor vehicles, and other transportation modes that use fossil fuels (i.e., ships, trains, aircraft, and construction vehicles).

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No CEQA thresholds of significance have been established for GHGs. However, in September 2006, California Assembly Bill 32 called for CARB to adopt regulations that would require the reporting and verification of statewide GHG emissions and limit statewide GHG emissions to 1990 levels by 2020.

In 2005, the BAAQMD began a Climate Protection Program with several aims, including assembling a stationary source inventory of GHGs in the Bay Area, a study of GHG control technology, integration of climate change issues into other BAAQMD programs, and active support of climate change programs around the Bay Area. While the BAAQMD is not currently proposing any regulations, its history of leadership suggests that it would be actively involved in any climate change programs or regulations that take effect in the Bay Area. Additionally, in 2002, Marin County officially joined the Cities for Climate Protection, a campaign that requires the county to determine a baseline emissions rate, set a reduction rate, and adopt an action plan for achieving these reductions. An interim plan of voluntary 15 to 20 percent reductions from the 2000 level was adopted, with the ultimate goal of 15 percent reductions from the 1990 level. Proposed reduction measures are categorized by energy use, transportation, waste management, and land use, with energy use measures focused on energy efficiency and green power generation. MMWD has joined as a partner in this program and has committed to reduce its GHG emissions to 15 percent below 1990 levels by 2020.

GHGs from the proposed desalination project would be primarily associated with energy consumption for plant operations. This will result in an increase in the generation of GHGs over existing conditions. Construction activities would also emit GHGs, although these would be short-term and temporary and are not evaluated in this analysis.

As stated above, state law has delegated to CARB the task of implementing a strategy to combat GHG emissions. CARB's response to that duty may include establishing uniform thresholds of significance for GHG emissions caused by local projects. Currently, there does not appear to be consensus in the scientific community as to when and under what circumstances a project's incremental contribution to the global problem of climate change would be considered "cumulatively considerable." Nevertheless, and in light of the emission reductions goals of Assembly Bill 32, it can be argued that implementation of this project may result in a cumulatively considerable contribution to the global problem.

**Methodology.** The proposed project would directly generate minimal GHG emissions. Those emissions would consist of vehicle exhaust generated by the facility's small workforce. The project would indirectly generate a larger volume of GHG emissions associated with the generation of electricity used by the plant.

An inventory of projected annual indirect GHG emissions was calculated in accordance with the California Climate Action Registry General Reporting Protocol, Version 2.2. GHGs included in this inventory include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O). Electricity produced in California using GHG-emitting sources is that produced by burning coal and natural gas. The amount of electricity produced by burning coal and natural gas was identified from California Energy Commission data (California Energy Commission 2006a). Project-related indirect GHG emissions were calculated based on annual estimated electricity demand (kWh). Annual kWh demand was multiplied by emissions factors to produce pounds of emissions, and then pounds of emissions were multiplied by global warming potentials (GWP) to produce amounts of emissions normalized to carbon dioxide equivalents. Annual amounts of carbon

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dioxide equivalents for carbon dioxide, methane, and nitrous oxide were summed to produce the annual indirect GHG emissions from electricity purchases.

The emissions factor for carbon dioxide (878.7 lb CO<sub>2</sub> / MWh) ~~is from~~ was established by the 2004 EPA eGRID CAMX WECC California sub-region, and for methane (0.0067 lb CH<sub>4</sub> / MWh) and nitrous oxide (0.0037 lb N<sub>2</sub>O / MWh) ~~from~~ was established by the California Climate Action Registry California state average (2001–2003) (Table C.2, V 2.2). GWP values of 1 for carbon dioxide, 21 for methane, and 310 for nitrous oxide were provided by the Intergovernmental Panel on Climate Change (IPCC) Third Assessment Report (IPCC 2001).

**Operational GHG Emissions for the Proposed Project.** Table 7-2 presents the estimated GHG emissions generated indirectly from off-site electricity generation to power the proposed desalination plant at three different capacities and six different operating conditions.

**Project-Related GHG Emissions Compared to Worldwide, U.S., and California Emissions.** Table 7-3 presents estimated GHG emissions generated indirectly from off-site electricity used to power the proposed desalination plant and compares them with estimated GHG emissions from California, the United States, and worldwide sources. The results are presented in units of million metric tons per year of CO<sub>2</sub> equivalents (MMTCO<sub>2</sub>Eq). Worldwide GHG emissions were taken from the World Resources Institute's Climate Analysis Indicators Tool version 4 for calendar year 2000 (the latest year for which complete data are available). The United States GHG emissions were taken from Energy Information Administration's Emissions of Greenhouse Gases in the United States 2004. While data for 2005 are available, 2004 data were used because the California data are for 2004. California GHG emissions were taken from the California Energy Commission's Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004 (the latest year for which complete data are available).

Nevertheless, as noted in Section 5.3, MMWD will evaluate the use of renewable power supplies to meet the electricity needs for the desalination facility, with a goal of reducing its greenhouse gas emissions 15 percent below 1990 levels by 2020.

Comparisons of estimated GHG emissions generated indirectly from off-site electricity generation as a percent of worldwide, national, and state GHG emissions are provided in Table 7-4. In light of the small increase in GHG emissions associated with the project, the project's contribution to GHG emissions would not have a significant cumulative impact with regard to GHGs be cumulatively considerable.

**Table 7-2**  
**Desalination Project Greenhouse Gas Emissions Estimates**

Project	Electricity (kWh)	Carbon Dioxide (CO <sub>2</sub> )		Methane (CH <sub>4</sub> )				Nitrous Oxide (N <sub>2</sub> O)				Total GHGs (lbs CO <sub>2</sub> e)	Total GHGs (metric tons CO <sub>2</sub> e)
		lb CO <sub>2</sub> / kWh	Total lb CO <sub>2</sub>	lb CH <sub>4</sub> / kWh	Total lb CH <sub>4</sub>	CH <sub>4</sub> GWP	CH <sub>4</sub> – lb CO <sub>2</sub> e	lb N <sub>2</sub> O / kWh	Total lb N <sub>2</sub> O	N <sub>2</sub> O GWP	N <sub>2</sub> O – lb CO <sub>2</sub> e		
5 MGD Average Conditions	10,037,500	0.878707	8,820,021.51	0.0000067	67.25	21	1,412.28	0.0000037	37.14	310	11,513.01	883,2946.8	<b>4,006.6</b>
5 MGD Drought Conditions	25,550,000	0.878707	22,450,963.85	0.0000067	171.19	21	3,594.89	0.0000037	94.54	310	29,305.85	22,483,864.6	<b>10,198.6</b>
10 MGD Average Conditions	18,615,000	0.878707	16,357,130.81	0.0000067	124.72	21	2,619.13	0.0000037	68.88	310	21,351.41	16,381,101.3	<b>7,430.4</b>
10 MGD Drought Conditions	51,100,000	0.878707	44,901,927.70	0.0000067	342.37	21	7,189.77	0.0000037	189.07	310	58,611.70	44,967,729.2	<b>20,397.2</b>
15 MGD Average Conditions	28,470,000	0.878707	25,016,788.29	0.0000067	190.75	21	4,005.73	0.0000037	105.34	310	32,655.09	25,053,449.1	<b>11,364.2</b>
15 MGD Drought Conditions	76,650,000	0.878707	67,352,891.55	0.0000067	513.56	21	10,784.66	0.0000037	283.61	310	87,917.55	67,451,593.8	<b>30,595.9</b>

CO<sub>2</sub> emissions factor = 2004 eGrid CAMX WECC California Subgrid Region

CH<sub>4</sub> and N<sub>2</sub>O emissions factors = California 2001–2003 averages from California Climate Action Registry

**Table 7-3**  
**Comparison of Estimated Project GHG Emissions versus Worldwide, United States, and California Emissions**

	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O
	MMTCO <sub>2</sub> Eq <sup>a</sup>	MMTCO <sub>2</sub> Eq <sup>b</sup>	MMTCO <sub>2</sub> Eq <sup>c</sup>
Worldwide GHG Emissions for calendar year 2000 <sup>1</sup>	32,541.3	5,854.9	3,349.4
United States GHG Emissions for calendar year 2004 <sup>2</sup>	5,973.0	639.5	353.7
California GHG Emissions for calendar year 2004 <sup>3</sup>	334.9	27.9	33.3
Project-Related Emissions:			
5 MGD Average Conditions	0.0040091	0.0000006419	0.0000052
5 MGD Drought Conditions	0.0102049	0.0000016340	0.0000133
10 MGD Average Conditions	0.0074350	0.0000011905	0.0000097
10 MGD Drought Conditions	0.0204099	0.0000032681	0.0000266
15 MGD Average Conditions	0.0113712	0.0000018208	0.0000148
15 MGD Drought Conditions	0.0306149	0.0000049021	0.0000399

**Notes:**

<sup>1</sup>MMTCO<sub>2</sub>Eq means million metric tons per year of CO<sub>2</sub> equivalent, using Global Warming Potential (GWP) values provided by IPCC in its Third Assessment Report (IPCC 2001). The GWP for CO<sub>2</sub> is 1.

<sup>2</sup>The GWP from IPCC 2001 for CH<sub>4</sub> is 23.

<sup>3</sup>The GWP from IPCC 2001 for N<sub>2</sub>O is 296.



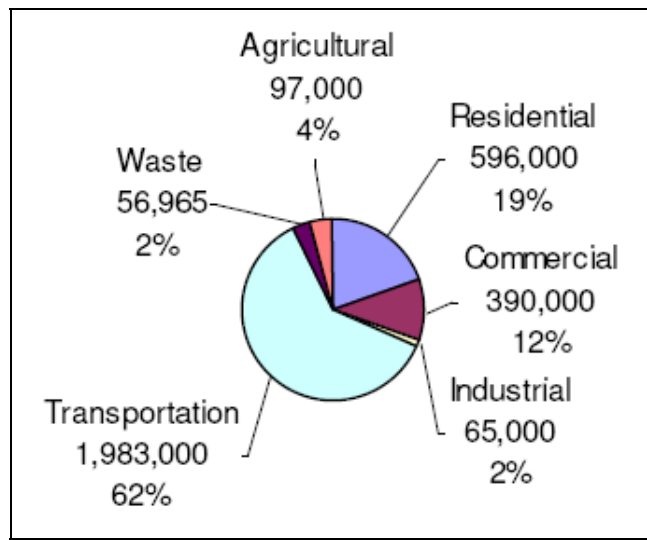
**Table 7-4  
Comparison of Estimated Project GHG Emissions as a Percent of Worldwide,  
United States, and California Emissions**

	CO <sub>2</sub> (percent)	CH <sub>4</sub> (percent)	N <sub>2</sub> O (percent)
<b>5 MGD Average Conditions – GHG Emissions</b>			
As Percent of Worldwide GHG Emissions	0.0000123200	0.0000000110	0.0000001562
As Percent of United States GHG Emissions	0.0000671204	0.0000001004	0.0000014796
As Percent of California GHG Emissions	0.0011971038	.0000023009	0.0000157153
<b>5 MGD Drought Conditions – GHG Emissions</b>			
As Percent of Worldwide GHG Emissions	0.0000313601	0.0000000279	0.0000003977
As Percent of United States GHG Emissions	0.000170851	0.0000002555	0.0000037661
As Percent of California GHG Emissions	0.0030471734	0.0000058568	0.0000400025
<b>10 MGD Average Conditions – GHG Emissions</b>			
As Percent of Worldwide GHG Emissions	0.0000228481	0.0000000203	0.0000002898
As Percent of United States GHG Emissions	0.0001244778	0.0000000203	0.0000027439
As Percent of California GHG Emissions	0.0022200834	0.0000042671	0.0000291447
<b>10 MGD Drought Conditions – GHG Emissions</b>			
As Percent of Worldwide GHG Emissions	0.0000627202	0.0000000558	0.0000007954
As Percent of United States GHG Emissions	0.0003417038	0.0000005110	0.0000075323
As Percent of California GHG Emission	0.0060943467	0.0000117135	0.0000800051
<b>15 MGD Average Conditions – GHG Emissions</b>			
As Percent of Worldwide GHG Emissions	0.0000349441	0.0000000311	0.0000004432
As Percent of United States GHG Emissions	0.0001903778	0.0000002847	0.0000041966
As Percent of California GHG Emission	0.0033954217	0.0000065261	0.0000445742
<b>15 MGD Drought Conditions – GHG Emission</b>			
As Percent of Worldwide GHG Emissions	0.0000940803	0.0000000837	0.0000011931
As Percent of United States GHG Emissions	0.0005125557	0.0000007666	0.0000112984
As Percent of California GHG Emission	0.0091415201	0.0000175703	0.0001200076

**Project-Related GHG Emissions Compared to Marin County GHG Emissions.** According to the *Marin County Re-inventory of Greenhouse Gas Emissions* (September 2007), total greenhouse gas emissions in Marin County were 3,188,522 tons of CO<sub>2</sub> equivalents in 2005. Although countywide emissions decreased from 2000 to 2005, they increased about 6 percent from 1990 levels. GHG emissions associated with MMWD represent approximately 0.38 percent of countywide emissions.

A breakdown of countywide GHG emissions is shown in **Figure 7-1**. The bulk of these emissions (62 percent) are from the transportation sector, followed by the residential sector (19 percent).

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**Figure 7-1. Marin Countywide GHG Emissions (2005)**

Source: Marin County Community Development Agency 2007, p. 6

The California Department of Finance estimated the Marin County population at 252,988 in 2005, the most recent year for which countywide GHG emissions are available. Therefore, per capita GHG emissions for the County in 2005 were approximately 12.6 tons per year. GHG emissions from the proposed desalination plant would range from approximately 4,000 tons per year (for the 5 MGD plant) to approximately 30,000 tons per year (for the 15 MGD plant), increasing the per capita GHG emissions for Marin County by 0.016 to 0.12 ton/year. This represents a per capita increase of GHG ranging from 0.13 to 0.95 percent. The proposed desalination would not make a cumulatively considerable contribution to the total or per capita GHG emissions in Marin County. This is particularly evident when compared with other GHG sources for the County such as transportation and residential emissions.

### 7.4.1.3 Biological Resources

The 2007 EIR for the Marin Countywide Plan determined that development and land use activities consistent with that plan would result in a significant cumulative impact to wildlife through the reduction of existing natural habitat, habitat fragmentation, and obstruction of wildlife movement opportunities. Proposed project facilities would contribute to the cumulative loss of natural habitat through the construction of the proposed pump stations and tanks and the access road to the San Quentin Ridge tank. These facilities would result in the loss of less than 2 acres of natural habitat. Because these project facilities are widely spaced and each occupies a small area, it is unlikely that they would cause habitat fragmentation or significantly obstruct wildlife movement. The incremental contribution of the project to this significant cumulative impact was judged not to be cumulatively substantial because of the small area that would be impacted.

The cumulative impacts analysis for marine biological resources considers potential cumulative impacts to the Bay source waters that could be influenced by the proposed desalination plant. As

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~~discussed in Section 4.3, the effects of plant operation are not expected to have a significant effect on fish populations in San Francisco Bay. This finding is supported by the results of a year-long larval fish entrainment study (detailed in **Appendix C**). Underwater pile-driving noise during reconstruction of the Marin Rod & Gun Club pier for the proposed project could have a significant impact on fish and marine mammals. No other projects are planned in the area that would involve underwater pile driving; therefore, there would be no cumulative underwater noise impact.~~

~~The brine created by the desalination plant would be discharged with CMSA effluent through the CMSA outfall and diffuser in San Rafael Bay. The cumulative impact of this combined discharge was determined to be less than significant as described in Section 4.3.~~

~~Intake of water from San Rafael Bay would result in the entrainment of fish larvae and other ichthyoplankton. Cumulative effects may arise from other Bay water intakes removing larvae from the same source waters as the proposed desalination plant. The source water extends from the Carquinez Bridge, including San Pablo Bay but not its tributaries, to a line drawn between Keil Cove and Brickyard Cove (see **Appendix C**). Other intakes in these source waters include industrial water intakes such as the Conoco Phillips refinery in Rodeo.~~

~~Insufficient information is available to determine if intake of water from other existing and foreseeable future intakes in San Pablo Bay have resulted in a significant cumulative impact to fish and invertebrate species. However, many stressors have combined to impact fish and invertebrate populations in the Bay including pollutant discharges, introduction of invasive species, and a reduction in the amount of freshwater flowing into the Bay. In combination, these stressors have had a significant cumulative impact on fish and invertebrate populations, and the introduction of a new intake would add to these existing stressors.~~

~~Based on the results of the desalination pilot plant entrainment study, it is judged that the additional stress on fish and invertebrate species populations caused by the desalination plant water intake would not be cumulatively considerable. This is because the amount of larval fish and invertebrates lost as a result of entrainment in the proposed intake would be low relative to the apparent reproductive capabilities of these species in the Bay. For example, Pacific herring are projected to have the largest number of larvae entrained in the desalination plant intake. The proportional entrainment estimate for Pacific herring was approximately 0.06 percent of the available biomass assuming that the plant operated at full capacity, 24 hours per day, seven days per week. This loss is well below both standard fishery management practices of allowing 30 to 40 percent harvest for sustainable harvests of California's marine species, and 10 percent for the San Francisco herring fishery 2005–2006 harvest quota (7.6 percent of the spawning biomass for 2004–2005).~~

~~During the course of the one year entrainment study, from which the potential project impacts were estimated, other intakes in the Bay source waters were also in operation. Thus, the entrainment study results for the proposed project include the ongoing cumulative effects to fish populations from other intakes operating within the source waters. The cumulative effects of the existing intakes along with the incremental effect of the proposed project are not expected to have a significant effect on fish populations in the Bay.~~

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### 7.4.1.4 Cultural Resources

~~Any loss of cultural resources from the combined proposed project facilities and reasonably foreseeable future projects would contribute to cumulatively significant impacts to cultural resources. Cumulative impacts could be reduced to a less than significant level or avoided by Mitigation Measures 4.4-1(a)-(c), 4.4-2(a)-(c), and 4.4-3 along with any mitigation outlined during project specific analysis.~~

~~The cumulative impact to cultural resources would be less than significant. The 2007 EIR for the Marin Countywide Plan determined that development and land use activities consistent with that plan would not result in a cumulative impact to cultural resources. The proposed project was also found not to result in significant impacts to cultural resources with the implementation of proposed mitigation measures. For these reasons, the proposed project would not result in a significant cumulative impact to cultural resources.~~

### 7.4.1.5 Geology

The entire Marin County region is susceptible to impacts from geologic activity. Although geologic hazards can cause damage to substandard construction, new project designs can significantly reduce potential damage. Earthquake-resistant designs employed on new structures minimize the impact to public safety from seismic events to a less-than-significant level.

The proposed project facilities and many other foreseeable projects could be constructed through geologic formations susceptible to slope failure and soil compaction as well as on sites with potential shrink-and-swell soils, or that feature soils with high erosion potential. Project-specific geotechnical investigations would be necessary as part of the design process of all of these projects to address these geologic issues and impacts. As such, all future projects, including the proposed desalination plant, would not result in a cumulatively significant increase in risks to public safety and property as a result of geologic hazards ~~facilities throughout the region would be required to use standard engineering practices and meet design standards.~~

~~As a result, the combined cumulative geological impacts in the region would be less than significant.~~

### 7.4.1.6 Hazards and Hazardous Materials

Since the passage of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, and numerous other related federal, state, and local laws, the incidents of improper handling, storage, or disposal of hazardous wastes have been reduced dramatically throughout the United States. While As discussed in Impact 4.6-1, the proposed project, as well as other future commercial and industrial developments in Marin County, would increase use of hazardous materials and generation of hazardous wastes, Most of the potential hazards associated with the increased use of hazardous materials, including hazardous chemicals, would have localized impacts affecting workers who handle the materials or work in the immediate vicinity. Compliance with federal and state regulations minimize the potential for cumulative adverse health effects related to hazardous materials use to a level that is less than significant.

~~Potential environmental concerns associated with increased generation of hazardous waste include adverse health effects resulting from improper handling, storage, or disposal of wastes.~~

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~~Adverse health environmental impacts resulting from increased hazardous waste generation and disposal would be minimized by compliance with existing federal and state regulations.~~

~~Project construction could result in exposure of construction workers to hazardous waste in soil or groundwater. These hazards would have only local impacts and would not contribute to a cumulative impact.~~

~~As such, project development in combination with growth in the region would not significantly increase hazards to the public or the environment associated with the use and transport of hazardous materials and the generation of hazardous wastes.~~

~~The cumulative impact would be less than significant.~~

### **7.4.1.7 Hydrology and Water Quality**

The 2007 EIR for the Marin Countywide Plan determined that development and land use activities consistent with that plan would not result in a cumulative impact to water quality as a result of storm water runoff and soil erosion. The proposed project was also found not to result in significant impacts to water quality from storm water runoff and erosion with the implementation of proposed mitigation measures. For these reasons, storm water runoff and potential erosion associated with the proposed project would not result in a significant cumulative water quality impact.

The brine created by the desalination plant would be discharged with effluent from the CMSA through the CMSA outfall and diffuser in San Rafael Bay. The cumulative impact of this combined discharge was determined to be less than significant as described in Section 4.3.

~~The proposed project, when considered with other projects in the same watershed, would result in increased runoff. Construction of the desalination plant would result in increased erosion from exposed soil areas, which could contribute sediment laden runoff into local drainage courses. Erosion can be destructive to the immediate area, and sedimentation can clog waterways and downstream wetland and lagoon areas. However, it is assumed that new construction associated with other projects would meet federal, state, and local permit requirements in a similar manner as required for the proposed project, and would include mitigation measures.~~

~~In addition, it is important to note that the impact analysis in Section 4.7 is cumulative in nature because it takes into account the combined discharge of the CMSA outfall and the brine discharged from the desalination plant. The intake water from San Rafael Bay includes other elements that are discharged into the Bay from other nearby projects. This water would be pretreated, creating a sludge that would be disposed of at an upland disposal site (Redwood Landfill). Contaminants that adhere to particulates would be removed before the brine is diluted and discharged back to the Bay. As a result, the proposed project creates a net benefit to water quality of the Bay, as it reduces the mass of contaminants over time.~~

~~The potential cumulative impacts to hydrology and water quality are thus considered to be less than significant.~~

### **7.4.1.8 Land Use and Planning**

Marin County Policy CD-5.2 calls for correlating development and infrastructure. Under this policy, new development should occur only when adequate infrastructure, including water

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~~supply, is available. To implement this policy, Marin County plans to work with cities and towns through the proposed City-County Planning Committee to communicate regularly with MMWD and other water service providers regarding development activities, growth projections, and capacity issues. The County also plans to limit development density in areas without water connections. The purpose of the proposed desalination project is to develop a water supply that would help balance supply and demand within the MMWD service area through the year 2020 based on development and growth projections prepared by Marin County and cities and towns in the MMWD service area. Therefore, the proposed project is consistent with County land use plans and policies. The project would not result in a cumulative land use impact. Implementation of the proposed desalination project and the cumulative impacts of other regional growth may result in development and land use planning pressures for other cities and counties in the surrounding region. Municipal planning jurisdictions will review these development pressures and respond individually to ensure that growth is either limited to development anticipated within adopted plans or accommodated within the revision process of a particular plan.~~

~~However, implementation of the proposed project, together with the cumulative impacts of other regional growth, would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project that was adopted to avoid or mitigate an environmental effect.~~

~~The cumulative impact to land use and planning would be less than significant.~~

### 7.4.1.9 *Noise*

~~The only significant cumulative noise impact identified in the 2007 EIR for the Marin Countywide Plan was construction noise. Noise impacts associated with the proposed project would occur primarily during construction and would be short-term in nature. These impacts would be reduced through the implementation of Mitigation Measures 4.9-3(a)-(f); however, they ~~will~~ would remain significant. Even though construction-related noise impacts are considered significant from the project level they are not considered to be significant on a cumulative impact level since they would be short-term, intermittent and occur at different locations at different times. Noise levels generated by operation of the plant and at the two pump stations are listed in Table 4.9-3. These levels are below acceptable standard noise levels for those locations. In each of the locations, traffic is the primary noise source. Furthermore, no developments that would generate significant operational noise have been identified.~~

~~Therefore, the proposed project's contribution to cumulative noise impacts would be less than significant.~~

### 7.4.1.10 *Population and Housing*

~~The Marin Countywide Plan and the general plans of the individual cities within MMWD's service area project and plan for growth through 2020, and have not identified a cumulative population or housing impact. No increase in housing demand is expected to result from the proposed desalination project. Therefore, no cumulative impact on housing is expected as a result of the proposed project and other planned regional development.~~

~~Implementation of the desalination project and other regional development would not create a demand for housing that could not be accommodated by local jurisdictions.~~

No cumulative impact for population and housing would result from this project.

### **7.4.1.11 Public Services and Utilities**

~~The proposed project would increase the demand for electric and natural gas utility services. Other anticipated projects would be required to provide for adequate utility service before their approval, and it is not expected that these projects would require more utility service than could be provided with existing generation capacity. The proposed project would not contribute to the increase in demand for any other public services or utilities.~~

~~Therefore, the cumulative impact to public services and utilities is anticipated to be less than significant. The 2007 EIR for the Marin Countywide Plan indicates that building construction and retrofit consistent with the plan could result in a significant cumulative impact resulting from inefficient and excessive use of energy resources. As discussed in Chapter 5, the proposed project would increase MMWD's portion of electricity consumption in Marin County from 1.8 to up to 7.2 percent of the County's total electricity consumption.~~

~~The proposed project is designed to be energy efficient. Removal of salt from San Francisco Bay water requires approximately 75 percent of the energy that would be used for the proposed desalination project. The balance of the energy would be for the same treatment and transmission steps that MMWD uses for all of its other water sources.~~

~~As discussed in Chapter 3.0 of the EIR, the proposed project would use reverse osmosis (RO) technology to remove salt from the Bay water. In RO, feedwater is pumped at high pressure through permeable membranes, separating salts from the water. Generating the necessary high pressure uses a large amount of energy. However, technological advancements in RO have reduced the energy demand to a level that desalination has become a practical way of producing freshwater. These advances include new membrane materials that operate at lower pressures and the recovery of over 90 percent of the pressure energy in the brine waste stream created by the RO process that is then used to pressurize the feedwater. In 1980, it took approximately 10,000 kilowatt hours (kWh) to generate an acre-foot of freshwater (325,851 gallons) using RO. The energy requirement for the proposed project is approximately 3,600 kWh per acre-foot of freshwater.~~

~~The increased energy use resulting from the desalination project was not judged to be cumulatively considerable. The average MMWD household uses 270 gallons/day of water. At 3,600 kWh/acre-foot of water, the desalination plant would require approximately 3 kWh/day of power to produce and distribute 270 gallons/day of water. This is less than half of the energy used by a typical household refrigerator in a day (7.5 kWh/day). The cumulative effects of the proposed project's energy demand on PG&E's system are discussed in Section 7.4.1.2.~~

### **7.4.1.12 Recreation**

~~The proposed desalination plant site is located approximately 500 feet west of Shoreline Park which contains a segment of the Bay Trail, a recreational resource in eastern San Rafael. While the plant would be visible from the Bay Trail, the plant is consistent with the character of the surrounding area and its land use designation. The quality of the recreational resource would not be comprised, and there would be no significant cumulative effect to recreation at this site.~~

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~~The Ridgecrest A tank would be located on land that is designated for Open Space use. While it is not a developed recreational site, it may be used for occasional recreational purposes. However, as stated in Mitigation Measure 4.8 1, MMWD would offset this loss of open space land by purchasing other land or enhancing MMWD owned land. Enhancing existing Open Space land may provide additional recreational resources to local communities.~~

~~Construction associated with the proposed project could temporarily disrupt the use of adjacent or nearby recreational facilities. This could effectively decrease the availability or value of some recreational opportunities, albeit temporarily. In addition, the temporary disruption of access to or use of recreational facilities during construction of proposed activities could temporarily shift demand to other facilities in the vicinity. As described in Section 4.12, the proposed desalination project would incorporate Mitigation Measures 4.2 1(a) and (b) and 4.9 3(a) (f) to reduce temporary impacts to a less than significant level. In order to obtain permits and approvals, other projects being developed in the vicinity of the affected recreational facilities would also have to implement similar standards. As a result, no significant cumulative effect to recreational facilities would occur.~~

~~Project construction would not directly affect or alter any recreational facility on a long term basis. The cumulative impact to recreational resources would be less than significant. The 2007 EIR for the Marin Countywide Plan determined that development and land use activities consistent with that plan would not result in significant cumulative recreation impacts.~~

### **7.4.1.13 Traffic, Parking, and Transportation**

~~The 2007 EIR for the Marin Countywide Plan determined that development and land use activities consistent with that plan would result in a significant cumulative increase in vehicle miles traveled in Marin County. This would result in unacceptable levels of service on many roadways in the County. Construction and operation of the proposed project would contribute to this increase in traffic. activities associated with the proposed project facilities would contribute to an overall increase in traffic volumes on the existing and planned roadway network on a localized and temporary basis only. By coordinating with local transit authorities in advance, these construction-related impacts can be minimized. Following construction, the proposed project would not contribute to cumulative regional traffic and transportation impacts associated with other projects in the region.~~

~~As a result, the cumulative impact to traffic, parking, and transportation would be less than significant. The incremental increase in traffic associated with project construction is not judged to be cumulatively considerable because it would be short-term and intermittent. As indicated in Chapter 3, traffic associated with operations would result in a maximum of ~~four~~ nine additional vehicle trips during peak traffic hours. For a 5 MGD capacity desalination facility, the disposal of sludge and other wastes generated from the facility operations would result in an average of one truck trip every six days during summer months and two truck trips every three days during winter months. At 10 MGD capacity, waste disposal would result in one truck trip every three days during summer months and two truck trips every three days during winter months. At 15 MGD capacity, waste disposal would result in one truck trip every two days during summer months and three truck trips every two days during winter months. All truck trips would be to the Redwood Landfill in Novato. This incremental increase in traffic is not cumulatively considerable.~~

### **7.5 EFFECTS NOT FOUND TO BE SIGNIFICANT**

Section 15128 of the CEQA Guidelines requires an EIR to contain a statement briefly indicating the reasons that various potentially significant effects of a project were not discussed in detail in the EIR. This EIR contains an analysis of the potentially significant environmental effects associated with the proposed project.

The following issues are addressed in this document: aesthetics; air quality; biological resources; cultural resources; geology, soils, and seismicity; hazards and hazardous materials; hydrology and water quality; land use and planning; noise; population and housing; recreation; and traffic, circulation, and parking. In addition, each resource section also identifies potential effects of the proposed project that were determined not to be significant. Section 2.0 contains a summary of all impacts identified through the analysis in this EIR.

Impacts to agricultural resources were not included in the EIR because the areas in the project vicinity that would be subject to project impacts are mostly developed urban and suburban portions of central and southern Marin County, except for some open space areas. No portions of the study area are in agricultural use or designated by appropriate land use plans for agricultural use. According to the Division of Land Resource Protection, Farmland Mapping and Monitoring Program, there are no prime farmlands, unique farmlands, or farmlands of statewide importance within the project area. No lands are zoned for agricultural use or are under Williamson Act contracts within the project area.

