1.0 INTRODUCTION

1.1 Purpose and Scope

The purpose of this Draft Program Environmental Impact Report (PEIR) is to evaluate potential environmental impacts resulting from the implementation of the Lakeland Village Master Drainage Plan (MDP) (Project), which is a "Project" as defined in the California Environmental Quality Act (CEQA) Guidelines Section 15378. The Riverside County Flood Control and Water Conservation District (District) is the lead agency for purposes of this Project and is responsible for preparation of this Draft PEIR. This Draft PEIR is an informational document intended for use by the District, responsible agencies and members of the general public in evaluating the potential environmental effects associated with the Project. This study has been prepared pursuant to CEQA (California Public Resources Code, Sections 21000 et seq.) and the CEQA Guidelines (14 CCR 15000 et seq.).

This Draft PEIR provides a programmatic-level analysis for the Project, as described in Section 3.0 of this Draft PEIR. Pursuant to Section 15168 of the CEQA Guidelines, a programmatic-level environmental analysis will enable the District to examine the overall effects and adopt the Project. Following this approach, when future individual MDP facilities are proposed, the District, or any other jurisdiction having approval related to the MDP facility (i.e., County of Riverside, City of Lake Elsinore, or City of Wildomar), will be required to examine each facility on its own merits and prepare a facility-specific environmental document, such as an initial study (IS) leading to a negative declaration, mitigated negative declaration, supplemental EIR, or subsequent EIR pursuant to Section 15168 of the CEQA Guidelines. As stated in Section 15168(c)(2) of the CEQA Guidelines, if the District, or any other jurisdiction having approval related to the MDP facility, (i.e., County of Riverside, City of Lake Elsinore, or City of Wildomar) finds that pursuant to Section 15162, no new effects could occur or no new mitigation measures would be required, the responsible agency can approve the activity as being within the scope of the Project covered by the PEIR, and no new environmental document would be required. Since many of the MDP facilities may be designed and/or constructed as part of private development projects processed by the County of Riverside, City of Lake Elsinore, or City of Wildomar, the facility-specific analysis may be included as part of the environmental documentation and CEQA process for a development project.

1.2 Compliance with CEQA

1.2.1 Format

Section 1.0 of this Draft PEIR covers the summary requirements of CEQA as required by Section 15123 of the CEQA Guidelines. Sections ES-1.4 and 3.0 also cover the Project description requirements of

CEQA by discussing the Project location, the Project objectives, a general description of the Project's environmental setting, and a statement of document purpose and intended use.

Issues identified in the IS prepared by the District for the Project that were found to have no impact are provided in Appendix A of this document. This Draft PEIR has been formatted to address the issues found to be potentially significant in the IS. For the issue areas found to be potentially significant in the IS, there is a corresponding PEIR section. Each PEIR section includes an existing setting discussion which describes the physical environmental conditions within the drainage boundary of the Project, as they exist at the time the Notice of Preparation (NOP) was prepared (baseline conditions). Section 15125(d) of the CEQA Guidelines requires that an EIR discuss any inconsistencies between the Project and applicable general plans and regional plans, which will be addressed in any applicable section of this PEIR. Each PEIR section also includes an analysis performed to determine the amount and degree of potential impact that is associated with the Project. For all significant direct and indirect environmental impacts, mitigation measures, where feasible, are implemented in order to reduce the impact to a level below significant. Mitigation measures will appear in each applicable PEIR section, as well as in the Executive Summary.

The analysis of impacts and identification of mitigation measures are derived from technical report(s), which are included as technical appendices to this document, and from other informational resources as listed in the references section of this document.

1.2.2 Environmental Procedures

The basic purposes of CEQA are to:

1. Inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities;
2. Identify the ways that environmental damage can be avoided or significantly reduced;
3. Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
4. Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved. (14 CCR 15002).

The EIR process typically consists of three parts: (1) the NOP (including the IS), (2) preparation and circulation of the Draft EIR, and (3) the preparation and certification of the Final EIR. Pursuant to Section 15063 of the CEQA Guidelines, the District prepared an IS (Environmental Checklist) (see Appendix A) for the Project in order to determine whether the Project may have a significant effect on the environment. Prior to the circulation of the NOP and IS, the District held a pre-scoping agency briefing meeting on May 12, 2011, inviting responsible agencies to meet with the District and discuss

concerns over the Project so that those concerns could be addressed in the IS and/or Draft PEIR. The NOP was intended to encourage interagency communication concerning the proposed action and provide sufficient background information about the proposed action so that agencies, organizations, and individuals could respond with specific comments and question on the scope and content of the Draft PEIR. Based upon the findings of fact contained within the NOP/IS, the District concluded that a PEIR should be prepared. The NOP for a PEIR and a description of potential adverse impacts were distributed to the State Clearinghouse, responsible agencies, and other interested parties on or about September 7, 2011. Pursuant to Section 15082 of the CEQA Guidelines, recipients of the NOP were requested to provide responses within 30 days after their receipt of the NOP. During the 30-day public review period of the NOP, the District held a public scoping meeting on September 28, 2011, to gather additional public input on the Project. The District also held a Lakeland Village/Wildomar Project Area Committee Meeting on October 19, 2011. Copies of the NOP (including the IS) and the NOP distribution list are located in Appendix A. All comments received during the NOP public notice period and at the public scoping meeting were considered during the preparation of this Draft PEIR. Written comments received on the NOP are included in Appendix A of this Draft PEIR.

Based on the scope of analysis for this Draft PEIR, including comments received during the NOP public scoping period, the following issues were determined to be potentially significant and are therefore addressed in Section 4.0 to Section 4.11 of this document:

- Aesthetics
- Air quality
- Biological resources
- Cultural resources
- Geology and soils
- Greenhouse gas emissions
- Hazards and hazardous materials
- Hydrology and water quality
- Noise
- Transportation and traffic
- Utilities and service systems.

Other CEQA-mandated environmental topics, such as agricultural and forestry resources, land use and planning, mineral resources, population and housing, public services, and recreation, were not found to be significant based on the results of the IS. These issues are addressed in Section 2.0 of this Draft PEIR.

As the designated lead agency, the District has assumed responsibility for preparing this document. The decision to implement the Project is within the purview of the County's Board of Supervisors, the District's Board of Supervisors, and the Cities of Lake Elsinore and Wildomar Planning Commission and City Council. The District, the County, and the Cities of Lake Elsinore and Wildomar will use the information included in this Draft PEIR to consider potential impacts to the physical environment associated with the Project when making the decision to implement the Project within their respective jurisdictions. As set forth in Section 15021 of the CEQA Guidelines, the District, as lead agency, has the duty to avoid or minimize environmental damage where feasible. Furthermore, Section 15021(d) states:

> CEQA recognizes that in determining whether and how a project should be approved, a public agency has an obligation to balance a variety of public objectives, including economic, environmental, and social factors and in particular the goal of providing a decent home and satisfying living environment for every Californian. An agency shall prepare a statement of overriding considerations as described in Section 15093 to reflect the ultimate balancing of competing public objectives when the agency decides to approve a project that will cause one or more significant effects on the environment (14 CCR 15021(d)).

The County of Riverside, the City of Lake Elsinore, and the City of Wildomar may use this PEIR in their decision making or permit processing for MDP facilities within their respective jurisdictions. In accordance with CEQA, the public agencies will be required to make findings for each environmental impact of the Project that cannot be mitigated to below a level of significance. If the lead agency determines the benefits of the proposed Project outweigh unmitigated, significant environmental effects, the agency will be required to adopt a statement of overriding considerations stating the reasons supporting their action notwithstanding the Project's significant environmental effects.

The Draft PEIR will be made available for review to the public and public agencies for 45 days to provide comments on the "sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the Project might be avoided or mitigated" (14 CCR 15204).

1.2.3 Project Baseline

Existing drainage facilities that currently provide some level of flood protection within the study area are as follows: Lime Street Channel, Ortega Channel Lateral A-1, Ortega Channel, Ortega Channel Lateral A, Ortega Channel Lateral A-1 Debris Basin, Ortega Channel Lateral A-2, Lakeland Village Channel, Churchill Street Drainage Ditch, Stoneman Street Channel, Corydon Channel, Palomar Channel, Ontario Way Storm Drain, Tract 23111 Drainage Ditch, Sedco–Bryant Street Storm Drain Stage 1, and Sedco–Bryant Street Storm Drain and Debris Basin. These drainage facilities constitute the baseline conditions for the project area.

The watersheds in the Lakeland Village area are considered to have high debris production potential and the area has historically experienced excess debris deposition. When fires occur within the steep canyons, vegetation is destroyed, which leaves the soil more susceptible to erosion. During high intensity rainfall events, the debris originating from fires along with eroded sediment is swiftly carried downstream towards Lake Elsinore. As the debris and stormwater runoff drains to Lake Elsinore, debris is deposited in the flatter areas, causing severe property damage. Additionally, the excess debris and sediment that eventually flows into Lake Elsinore may contribute to water quality degradation of the lake.

Debris from the nearby Santa Ana Mountains also creates a major problem for the existing Ortega Channel/Storm Drain. A portion of this facility is constructed on a very mild slope in which the debris and stormwater runoff moves slowly and sediment tends to settle out. As the sediment accumulates inside the storm drain, the blockage reduces the hydraulic capacity of the facility and makes it susceptible to overflow.

Lake Elsinore is currently listed as a 303(d) impaired water body. The Santa Ana Regional Water Quality Control Board has identified nutrients, specifically nitrogen and phosphorous, as the principal cause of impairment in Lake Elsinore. For purposes of the analysis in the Draft PEIR, the existing drainage facilities and setting described above as they exist at the time of the release of the NOP are considered part of the baseline physical condition by which the District determines whether an impact is considered to be significant (14 CCR 15125(a)).

1.2.4 NOP Comment Letters

The public review period for the NOP/IS began on September 7, 2011, and ended on October 6, 2011. A public scoping session was held on September 28, 2011, at the District offices. A Lakeland Village/ Wildomar Project Area Committee Meeting was held on October 19, 2011. The letters from agencies and individuals that commented on the NOP/IS are included in Appendix A.

1.3 References

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

California Public Resources Code, Sections 21000–21177. California Environmental Quality Act (CEQA), as amended.

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2.0 EFFECTS FOUND NOT TO BE SIGNIFICANT

2.1 Effects Found Not to Be Significant during Preparation of the Notice of Preparation

The California Environmental Quality Act (CEQA; California Public Resources Code, Section 21000 et seq.) provides that an environmental impact report (EIR) shall focus on the significant effects on the environment, discussing the effects with emphasis in proportion to their severity and probability of occurrence. Effects dismissed in an initial study (IS) as clearly insignificant and unlikely to occur need not be discussed further in the EIR unless information inconsistent with the finding in the IS is subsequently received.

Section 21100(c) of the California Public Resources Code states that an EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and that these effects, therefore, are not discussed in detail in the EIR. Section 15128 of the CEQA Guidelines adds, "Such a statement may be contained in an attached copy of an IS" (14 CCR 15128).

The IS (Environmental Checklist) prepared and circulated with the Notice of Preparation (NOP) for public review (Appendix A) concluded that the Project would not result in significant impacts to the following areas:

- Agricultural and Forestry Resources
- Land use/Planning
- Mineral Resources
- Population/Housing
- Public Services
- Recreation.

Therefore, as stated in the IS/NOP, these topics are not addressed further in this Draft Program EIR (PEIR).

2.2 Effects Found Not to Be Significant as Part of the PEIR Process

Based on the analysis provided herein, the following areas were found to not have significant impacts:

- Utilities and Service Systems.

Therefore, no mitigation measures are required.

2.3 Effects Found to Be Less Than Significant with Mitigation Measures Incorporated

Based on the analysis provided herein, the following areas were found to have less than significant impacts with the incorporation of mitigation measures:

- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Transportation and Traffic.

Sections 15126, 15126.2, and 15126.4 of the CEQA Guidelines require consideration and discussion of significant environmental effects and mitigation measures proposed to minimize significant effects. All phases of a project must be considered when evaluating its impact on the environment: planning, acquisition, development, and operation (14 CCR 15126) and an EIR shall identify and focus on the significant environmental effects of the proposed project (14 CCR15126.2).

Sections 4.1 through 4.11 of this Draft PEIR address each environmental effect that was determined to be potentially significant during preparation of the NOP prepared for the Project (Appendix A).

As previously identified, utilities and service systems have less than significant adverse environmental effects and do not require mitigation. Biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, and transportation and traffic have potentially significant environmental effects that can be mitigated to below the level of significance. Thus, mitigation is required for these issues.

Please see the following referenced sections of this Draft PEIR for more detailed discussion of each issue area that was found to be less than significant with mitigation incorporated:

- Biological Resources (Section 4.3)
- Cultural Resources (Section 4.4)
- Geology and Soils (Section 4.5)
- Greenhouse Gas Emissions (Section 4.6)
- Hazards and Hazardous Materials (Section 4.7)

- Hydrology and Water Quality (Section 4.8)
- Transportation and Traffic (Section 4.10)
- Utilities and Service Systems (Section 4.11).

2.4 Effects Found to Be Significant Even with Mitigation Measures Incorporated

Based on the analysis provided herein, potential impacts on aesthetics, air quality, and noise were found to be significant and cannot be mitigated to below the level of significance. A Statement of Overriding Considerations will be required for these issue areas.

Aesthetics was found to have a potentially significant impact since there are no feasible mitigation measures that could be implemented. Air quality and noise were found to have potentially significant impacts even after the incorporation of feasible mitigation measures. See the following referenced sections of this Draft PEIR for more detailed discussion:

- Aesthetics (Section 4.1)
- Air Quality (Section 4.2)
- Noise (Section 4.9).

2.5 References

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

California Public Resources Code, Sections 21000–21177. California Environmental Quality Act (CEQA), as amended.

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3.0 PROJECT DESCRIPTION

The Riverside County Flood Control and Water Conservation District (District) proposes to prepare a Program Environmental Impact Report (PEIR) for the implementation of the Lakeland Village Master Drainage Plan (MDP). Implementation of the MDP consists of three separate components: administration of the MDP, future construction of the MDP facilities, and future operations and maintenance of the MDP facilities. Implementation of the MDP is hereinafter referred to as the Project.

3.1 Project Location

The Project is located within Lakeland Village, in the City of Lake Elsinore, City of Wildomar, and unincorporated Riverside County, California (see Figure 3.0-1, Regional Map). The Project area, which encompasses approximately 13 square miles, is generally bounded by Lake Elsinore to the north, the ridgeline of the Santa Ana Mountains to the south, Bryant Street and Sheila Lane to the east, and Riverside Drive to the west (see Figure 3.0-2, Vicinity Map).

The Project may be found within Township 6 South, Ranges 4 and 5 West, Sections 10, 11, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 35, and 36 of the Alberhill, Elsinore, Sitton Peak, and Wildomar 7.5 Series U.S. Geological Survey (USGS) Topographic Quadrangle Maps.

The Project study area encompasses 16 separate watersheds. These watersheds are characteristically steep with high debris production potential. Runoff originating from these watersheds generally flows northeasterly, across Grand Avenue (the community's principal thoroughfare) and into Lake Elsinore. Existing land use within the study area is predominantly residential or vacant open space. The majority of the existing developments are located within the northerly portion of the study area.

3.2 Background and Project Description

Since the 1980s, all flooding concerns and complaints received from Lakeland Village residents have been documented by District staff. Over the years, various concerns and complaints have been received from local residents through phone calls, letters to the District, community meetings, and the District's annual budget hearing process. The concerns discussed below are representative of those concerns expressed by the residents.

Most of the existing properties located in the Lakeland Village area were subdivided as far back as the early 1900s, long before the Subdivision Map Act granted local agencies the authority to regulate and control the design of subdivisions to protect public health and safety. Consequently, most subdivisions within the Lakeland Village community were developed without consideration of the area's significant flood hazards and without adequate flood protection and drainage infrastructure in place.

Within the Lakeland Village area, the Federal Emergency Management Agency (FEMA) has designated and mapped four separate Special Flood Hazard Areas (SFHAs). These SFHAs indicate areas that are especially prone to flood hazards (i.e., subject to a 1% annual chance of being flooded). The SFHAs are located in the general vicinity of Gregory Place, Baldwin Boulevard, Maiden Lane, and Santa Rosa Drive (located in watersheds D, H, L, and M, respectively). There are approximately 210 existing structures located within the SHFAs. These structures are subject to high flood hazards and are typically subject to mandatory purchase of flood insurance under the provisions of the National Flood Insurance Program.

Grand Avenue is the major thoroughfare into and out of Lakeland Village community and provides access to the adjacent cities of Lake Elsinore and Wildomar. Stormwater runoff from each of the 16 watersheds must cross Grand Avenue on its way to Lake Elsinore. In general, Grand Avenue lacks adequate drainage improvements (road culverts) to convey significant stormwater flows. Therefore, vehicular travel along Grand Avenue during storm events is a major concern for the Lakeland Village residents. In a large storm event, Grand Avenue would likely become impassable, rendering the area inaccessible and isolated.

Project Baseline

Existing drainage facilities that currently provide some level of flood protection within the study area are as follows: Lime Street Channel, Ortega Channel Lateral A-1, Ortega Channel, Ortega Channel Lateral A, Ortega Channel Lateral A-1 Debris Basin, Ortega Channel Lateral A-2, Lakeland Village Channel, Churchill Street Drainage Ditch, Stoneman Street Channel, Corydon Channel, Palomar Channel, Ontario Way Storm Drain, Tract 23111 Drainage Ditch, Sedco–Bryant Street Storm Drain Stage 1, and Sedco–Bryant Street Storm Drain and Debris Basin. These facilities constitute the physical baseline condition of the Project area.

The watersheds in the Lakeland Village area are considered to have high debris production potential and the area has historically experienced excess debris deposition. When fires occur within the steep canyons, vegetation is destroyed, which leaves the soil more susceptible to erosion. During high intensity rainfall events, the debris originating from fires along with eroded sediment is swiftly carried downstream towards Lake Elsinore. This combination of debris and stormwater runoff is referred to as "bulked flow" and includes sand, silt, and vegetative debris from the Santa Ana Mountains. As the bulked flow drains to Lake Elsinore, debris is deposited in the flatter areas causing severe property damage. Additionally, the excess debris and sediment that eventually flows into Lake Elsinore may contribute to water quality degradation of the lake.

Debris from the nearby Santa Ana Mountains also creates a major problem for the existing Ortega Channel/Storm Drain. A portion of this facility is constructed on a very mild slope in which the bulked flow moves slowly and sediment tends to settle out. As the sediment accumulates inside the storm drain, the blockage reduces the hydraulic capacity of the facility and makes it susceptible to overflow. To

ensure adequate capacity of the channel at all times, frequent routine maintenance is required, which over time has become costly.

Lastly, Lake Elsinore is currently listed as a 303(d) impaired water body. The Santa Ana Regional Water Quality Control Board (RWQCB) has identified nutrients, specifically nitrogen and phosphorous, as the principal cause of impairment. Very few, if any, of the existing developments within the Lakeland Village area were required to implement water quality best management practices as a condition of their development. Thus, "first flush" events typically collect and carry trash, dirt, and other pollutants directly to the lake. Addressing the area's urban runoff will help to improve the existing water quality of Lake Elsinore. For purposes of the analysis in the Draft PEIR, the existing drainage facilities and setting described above as they exist at the time of the release of the Notice of Preparation (NOP) is considered part of the baseline physical condition by which the District determines whether an impact is considered to be significant (in accordance with Section 15125(a) of the California Environmental Quality Act (CEQA) Guidelines).The CEQA analysis of a master drainage plan is more complex than a typical project because master drainage plans have a variety of purposes that are implemented over time; in fact, some parts of the plan could be implemented many years in the future or not at all, which makes the use of a PEIR for the CEQA analysis appropriate.

Administration of the MDP

The first component of the Project being analyzed in this Draft PEIR consists of the preparation of and, ultimately, the adoption of the Project and its use as a long-range planning document. The MDP will be a guide for the alignment, type, size, and cost of major existing and proposed facilities (MDP facilities) within the watershed to address the current and future drainage needs of Lakeland Village and the surrounding area. The drainage boundary of the Project is drawn to include all of the watershed area that contributes to the drainage problems in the community. The MDP facilities would contain the 100-year flood discharge.

The MDP has a variety of planning uses. The MDP will not only be relied upon by the County of Riverside as it reviews and approves existing and proposed development in the Lakeland Village area, but if adopted, it can be used by the Cities of Wildomar and Lake Elsinore as they review and approve new development. New development may be required to construct MDP facilities or set aside rights–of-way for the future construction of the facilities. The local jurisdictions can also use the MDP to identify MDP facilities and costs for inclusion in capital improvement programs. Finally, the local jurisdictions can use the MDP to aid in long-range planning of other public infrastructure projects like roads or utility pipelines.

Future Construction of the MDP Facilities

The second component of the Project being analyzed in this Draft PEIR is the reasonably foreseeable impacts resulting from construction of the MDP facilities. Table 3.0-1 lists the types of drainage

improvements (i.e., new facilities and upgrades to existing ones) proposed in the MDP and Table 3.0-2 provides a detailed description of each of the individual MDP facilities.

The MDP identifies the approximate location, size, and type of MDP facilities needed to alleviate and control flooding within the Project boundary. The alignments and type of facility depicted in the MDP can change as more detailed information becomes available during the design process. For example, the locations of underground utilities, new development patterns, or the results of subsequent focused biological surveys may necessitate a shift in alignment or change in facility type (i.e., concrete channel to underground pipe). To add to that uncertainty, the construction of the MDP facilities will be completed in discrete phases over a number of decades.

Despite this future environment of uncertainty and change, the Draft PEIR still must identify the general types of construction activities anticipated and their associated impacts. Subsequent CEQA analysis would be required when specific MDP facilities are proposed for construction, but those future construction projects would be able to tier from the PEIR. Actual construction of the MDP facilities may be fulfilled by conditions of approval on development projects or capital improvement projects undertaken by the County of Riverside, the City of Wildomar, the City of Lake Elsinore, or the District.

Future Operations and Maintenance of the MDP Facilities

The final component of the Project to be analyzed in this Draft PEIR is the reasonably foreseeable impact of future operation and maintenance activities. Once a facility is constructed, it will require maintenance in order to retain flood control capacity. Following construction of the future MDP facilities, it is expected that the District will operate and maintain all the MDP storm drains, channels, and basins.

Maintenance of storm drains and concrete channels typically consists of keeping these facilities and their side drains clear of debris and sediment, as well as repairing access roads and fences. On rare occasions, major repairs may be required following damaging storm events. Thus, major grading will not routinely occur while maintaining the underground storm drains and open concrete channels. To maintain the constructed MDP facilities, the District will occasionally use equipment similar to the types used to construct the proposed MDP facilities.

The routine maintenance of the channels and basins will likely require the following activities: the removal of deposition, repair of eroded slopes, and reduction of fire hazard by annual mowing and application of herbicides as well as the maintenance activities described in the previous paragraph. Vegetation must be removed or mowed annually (or as necessary) to provide the designed hydraulic capacity.

Development of the Project Alternatives

In 2010, the District conducted an Environmental Constraints Analysis (ECA; Appendix B to this PEIR) that studied five preliminary scenarios for the Project. The five preliminary scenarios (labeled as

Alternatives 1–5) in the ECA explored the feasibility of debris removal, water quality mitigation, floodplain management, and environmental avoidance. The ECA was prepared to assist the District in identifying key environmental issues so that the District could refine the five preliminary scenarios into three CEQA alternatives for the environmental impact analysis, as discussed in Section 8.0 of this document. Based on the ECA, engineering feasibility, and other Project objectives, the District selected the Project (see Figure 3.0-3a and Figure 3.0-3b, Proposed MDP Facilities, and Tables 3.0-1 and 3.0-2).

Table 3.0-1
Summary of MDP Facilities

Type of Improvement	Facility Name
Upsizing of the existing facilities	• Lakeland Village Channel • Ortega Channel • Lime Street Channel/Line A
New open channels	• Channel A • Line O-10 • Line M • Line L • Lakeland Village Channel
New storm drains	• Line O-10 • Line O-20 • Line N • Lateral N-1 • Line K • Line J • Line I • Line I-1 • Lakeland Village Channel • Line H • Line H-1 • Line H-2 • Line G • Line F • Line F-1 • Line E • Line D • Line C • Line C-1 • Lime Street Channel/Line A
New debris basins	• Line O-10 • Line O-20 • Line N • Line K • Line I • Lakeland Village Channel

Table 3.0-1
Summary of MDP Facilities

Type of Improvement	Facility Name
	• Line F • Ortega Channel • Line A
New water quality basins	• Line NLine I • Line G • Lime Street Channel/Line A • Ortega Channel

Source: See Figure 3.0-3a and Figure 3.0-3b, Proposed MDP Facilities Map.

Table 3.0-2 provides a detailed description of the proposed and existing MDP facilities.

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
A	**Proposed**	Line A Debris Basin	Debris basin	Line A Debris Basin is located at a point approximately 350 ft west of the intersection of Jamieson and Orange Street, just upstream of existing Lime Street Channel, and has a volume of 9.3 ac-ft. and an approximate ROW of 1.5 ac. The debris basin consists of a 36 in low-flow outlet pipe and a spillway structure.	Storage = 9.3 ac-ft Approx. ROW = 1.5 ac		690
		Line A and Lime Street Channel	Floodwalls	Floodwalls ranging in height from 1 to 2 ft would be added to the existing Lime Street Channel. The improved Lime Street Channel will ultimately have a uniform height ranging from 4.5 to 5.5 ft.	Depth = 1 ft	1,631	690
					Depth = 2 ft	773	900
			RCP	The upstream origin of Line A begins as a 72 in RCP at the downstream terminus of existing Lime Street Channel located at the intersection of Hill Street and Laguna Avenue. From there, the 72 in RCP extends northerly in Hill Street until it connects to the existing Lime Street Channel. The 72 in RCP would replace the existing 42 in RCP.	Diameter = 72 in	921	840
		Line A Water Quality	Water Quality Basin	Located at the northwest corner of the intersection of Hill Street and Grand Avenue. The water quality basin would	Storage = 5.5 ac-ft Approx.		

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
		Basin		require a connection to the existing drainage system of the existing tract located at the southwest corner of the intersection of Grand Avenue and Hill Street. The water quality basin has a volume of 5.5 ac-ft and approximate ROW of 3.3 ac.	ROW = 3.3 ac		
	Existing	Line A and Lime Street Storm Drain	Trapezoidal channel	The construction of the Lime Street Channel was completed in 1963. The Lime Street Storm Drain is a concrete trapezoidal channel whose upstream origin is located at a point approximately 350 ft west of the intersection of Jamieson and Orange Street. The channel extends northeasterly toward Laguna Avenue, transitions into a 42 in RCP, then heads northerly toward Lake Elsinore. The channel has a base width of 3 ft, a sideslope of 1:1, and depths ranging from 3.5 ft to 4.5 ft.	Base width = 3 ft Sideslope = 1:1 Depth = 3.5 to 4.5 ft	2,995	Information not available
			RCP		Diameter = 42 in	750	Information not available
B	**Proposed**	Line B (Ortega Channel) Debris Basin	Debris basin	Ortega Channel Debris Basin is located at a point approximately 700 ft south of the intersection of Shoreline and Lighthouse Drive, just upstream of the existing Ortega Channel, and has a volume of 15.7 ac-ft and an approximate ROW of	Storage = 15.7 ac-ft Approx. ROW = 1.6 ac		836

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				1.6 ac. The debris basin has a 36 in low-flow outlet pipe and a spillway structure.			
		Line B (Ortega Channel) Outlet	Floodwall	1 ft floodwalls would be added to the existing Ortega Channel outlet located on the north side of Grand Avenue.	Depth = 1 ft	727	1,400
		Line B Water Quality Basin	Water quality basin	The Line B Water Quality Basin is located at the southeast intersection of Serena Way and Grand Avenue and has an approximate volume of 5.0 ac-ft and an approximate area footprint of 3.2 ac.	Storage = 5.0 ac-ft Approx. ROW = 3.2 ac		
	Existing	Ortega Channel Debris Basin	Debris basin	The Ortega Channel Debris Basin is located south of the southernmost end of Welford Place and is located upstream of existing Ortega Channel Lateral A.	Storage = not available Approx. ROW = 1.4 ac		Information not available
		Ortega Channel	Trapezoidal channel	The construction of Ortega Channel was completed in 1995. Ortega Channel is a concrete trapezoidal channel whose upstream origin is located at a point approximately 800 ft south of the intersection of Shoreline and Lighthouse Drive. The channel extends northerly towards Ortega Highway. At Ortega Highway, the channel transitions into an	Typical base width = 5 ft Typical top width = 17 ft Sideslope = 1.5:1 Depth = 4 ft	1,678	870
			RCP		Diameter = 84 in	815	1,123

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
			RCP	84 in RCP and extends along Ortega Highway for approximately 815 ft. At this point, the 84 in RCP transitions into a 96 in RCP and extends into Lake Terrace Drive for approximately 280 ft. The 96 in RCP then transitions into a 102 in RCP and extends parallel to Lake Terrace Drive for approximately 430 ft. At Grand Avenue, the 102 in RCP transitions into a 10.5 ft wide by 6 ft deep RCB. From there, the concrete trapezoidal channel begins and extends parallel to Serena Way towards Lake Elsinore. The channel has a typical base width of 2 ft and sideslope of 1.5:1.	Diameter = 96 in	280	1,123
			RCP		Diameter = 120 in	430	1,400
			RCB		Width = 10.5 ft Depth = 6 ft	100	1,400
			Trapezoidal Channel		Typical width = 2 ft Typical top width = 17 ft Typical depth = 5 ft Sideslope = 1.5:1	1,355	950
	Existing	Ortega Channel Lateral A	RCP	The construction of Ortega Channel Lateral A was completed in 1992. Ortega Channel Lateral A is an RCP ranging in size from 54 in to 60 in in diameter. The upstream origin is at the existing Ortega Channel Debris Basin outlet and the RCP extends northerly in Welford Place toward Lake Ridge Road. At Lake Ridge Road, the RCP extends easterly in Lake Ridge Road toward Grandview Drive. At Grandview Drive, the RCP extends	Diameter = 54–60 in	1,858	604

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				northerly in Grandview and terminates at its confluence with existing Ortega Channel.			
	Existing	Ortega Channel Lateral A-1	RCP	The construction of Ortega Channel Lateral A-1 was completed in 1992. Ortega Channel Lateral A-1 is a 48 in RCP whose upstream origin is at the intersection of Trabuco Drive and Laguna Avenue. The RCP extends northerly in Laguna Avenue until it terminates at its confluence with existing Ortega Channel Lateral A.	Diameter = 48 in	440	114
	Existing	Ortega Channel Lateral A-2	RCP	The construction of Ortega Channel Lateral A-2 was completed in 1994. The upstream origin of the lateral is near the intersection of Grandview Avenue and Lakeridge Road. From there, the 36 in RCP extends northerly in Grandview until its confluence with the existing Ortega Channel Lateral A.	Diameter = 36 in	140	85
C	**Proposed**	Line C	RCP	The upstream origin of Line C is at the intersection of Windward Way and Grand Avenue as a 48in RCP. From there, the 48 in RCP extends easterly in Grand Avenue, transitions into a 60 in, then a 78 in RCP. Near the intersection of	Diameter = 48 in	903	108
			RCP		Diameter = 60 in	350	264
			RCP		Diameter = 78 in	330	354

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
			RCP	Blanche Drive and Grand Avenue, the 78 in RCP transitions into a 90 in RCP and extends northerly towards Lake Elsinore.	Diameter = 90 in	280	522
		Line C-1	RCP	The upstream origin of Line C-1 is near the intersection of Santa Rosa Drive and Grand Avenue as a 48 in RCP. The RCP then extends westerly in Grand Avenue and transitions into a 66 in RCP. Near Blanche Drive, the 66 in RCP transitions into a 78 in RCP and confluences with the proposed Line C.	Diameter = 48 in	433	84
			RCP		Diameter = 66 in	155	90
			RCP		Diameter = 78 in	255	174
D	**Proposed**	Line D	RCP	The upstream origin of Line D is at a point approximately 840 ft south of the southern end of Santa Rosa Drive as a 60 in RCP. From there, the RCP extends northerly toward Santa Rosa Avenue, continues in Santa Rosa Avenue, transitions into a 66 in, 72 in, and 78 in RCP, then a daylight/outlet structure with an approximate length of 105 ft, width of 40 ft, and a maximum depth of 6.5 ft.	Diameter = 60 in	1,313	780
			RCP		Diameter = 66 in	380	780
			RCP		Diameter = 72 in	340	780
			RCP		Diameter = 78 in	140	780
E	**Proposed**	Line E	RCP	The upstream origin of Line E is near the intersection of the future alignment of Union Avenue and Esther Street as a 54 in RCP. From there, the RCP would extend northerly in Esther Street and transition	Diameter = 54 in	904	204
			RCP		Diameter = 72 in	224	336

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				into a 72 in RCP as it continues northerly and parallel to Olive Street towards Lake Elsinore.			
F	**Proposed**	Line F Debris Basin	Debris basin	The Line F Debris Basin is located at a point approximately 1,090 ft southwest of the intersection of Evergreen Street and Union Avenue at the upstream origin of proposed Line F and has a volume of 2.6 ac-ft and approximate ROW of 1.9 ac. The debris basin consists of a 36 in outlet pipe and a spillway structure.	Storage = 2.6 ac-ft Approx. ROW = 1.9 ac		215
		Line F	RCP	The upstream origin of Line F is at a point approximately 1,090 ft southwest of the intersection of Evergreen Street and Union Avenue as a 42 in RCP. From there, the 42 in RCP extends easterly toward a point located approximately 1,000 ft southeast of the intersection of Evergreen Street and Union Avenue. Near this point, the 42 in RCP transitions into a 60 in RCP, a 66 in RCP, and then a daylight/outlet structure with an approximate length of 75 ft, width of 25 ft, and a maximum depth of 4.5 ft as it extends northerly and parallel to Evergreen Street toward Lake Elsinore.	Diameter = 42 in	727	215
			RCP		Diameter = 60 in	1,218	465
			RCP		Diameter = 66 in	377	540

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
		Line F-1	RCP	The upstream origin of Line F-1 is at a point approximately 370 ft southwest of the intersection of Akley and Gillette Street as a 42 in RCP. From there, the 42 in RCP extends northwesterly for approximately 1,040 ft to its point of confluence with the proposed Line F.	Diameter = 42 in	1,037	195
G	**Proposed**	Line G	RCP	The upstream origin of Line G is near the intersection of Deeble Entrance and Grand Avenue as a 54 in RCP. From there, the 54 in RCP transitions into a 66 in RCP and continues westerly along Grand toward Adelfa Street. Near Adelfa Street, the 66 in RCP transitions into a 72 in RCP, then a daylight structure/outlet with an approximate length of 65 ft, width of 15 ft, and maximum depth of 6.5 ft as it continues northeasterly toward Lake Elsinore.	Diameter = 54 in	312	138
			RCP		Diameter = 66 in	180	168
			RCP		Diameter = 66 –in	225	276
			RCP		Diameter = 72 in	330	330
		Line G Water Quality Basin	Water quality basin	A 4.0 ac-ft water quality basin with an approximate ROW of 1.9 ac is proposed at the southwest corner of the intersection of Grand Avenue and Adelfa Street. The water quality basin is located west of an existing development located at the southeast corner of the intersection of	Storage = 4.0 ac-ft Approx. ROW = 1.9 ac		

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				Adelfa Street and Grand Avenue. The water quality basin would require a connection to the existing development drainage system.			
H	**Proposed**	Line H (Adelfa Channel)	RCP	The upstream origin of Line H is at Gillette Street as a 48 in RCP. From there, the 48 in RCP extends easterly towards Zellar Street and then northerly in Zellar Street. At Cottrell Boulevard, the 48 in RCP transitions into a 66 in RCP and extends easterly in Cottrell Boulevard. At Landerville Boulevard, the 66 in RCP transitions into an 84 in RCP and continues easterly in Cottrell Boulevard and then northerly in Blackwell Boulevard toward Lake Elsinore.	Diameter = 48 in	819	375
			RCP		Diameter = 66 in	50	375
			RCP		Diameter = 66 in	791	500
			RCP		Diameter = 84 in	1,924	960
			RCP		Diameter = 84 in	600	1,000
		Line H-1	RCP	The upstream origin of Line H-1 is approximately 127 ft south of Cottrell Boulevard in Adelfa Street. From there, the 42 in RCP extends northerly in Adelfa Street until its confluence with the proposed Line H.	Diameter = 42 in	127	125
		Line H-2	RCP	The upstream origin of Line H-2 is near the intersection of Brand Street and Anthony Ave as a 60 in RCP. From there, the 60 in RCP extends easterly in	Diameter = 60 in	464	460
			RCP		Diameter =	710	460

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				Anthony Avenue and heads northerly in Landerville Boulevard. At Peeler Avenue, the 60 in RCP transitions into a 54 in RCP and continues in Landerville Boulevard until its confluence with the proposed Line H at Cottrell Boulevard.	54 in		
		Lakeland Village Channel Debris/ Attenuation Basin	Debris/ attenuation basin	The debris/attenuation basin is proposed approximately 350 ft south of the southernmost end of Blackwell Boulevard and has a volume of 97 ac-ft and an approximate ROW of 10.8 ac.	Storage = 97 ac-ft Approx. ROW = 10.8 ac		
			Basin outlet		Diameter = 66 in	100	515
		Lakeland Village Channel	Rectangular channel	The upstream origin of the existing Lakeland Village Channel begins near the southernmost end of Blackwell Boulevard at the proposed debris/attenuation basin outlet. From there, the existing channel extends parallel to Baldwin Boulevard along the geographic low until it terminates at Lake Elsinore. The existing Lakeland Village Channel would remain and improvements would be made to the existing undersized culverts at Nelson,	Width = 12 ft Depth = 4 ft	557	515
			Nelson RCB Culvert		Width = 12 ft Depth = 4 ft	65	515
			Hayes RCB Culvert		Width = 12 ft Depth = 4 ft	65	515
			Bobrick RCB Culvert		Width = 12 ft Depth = 4 ft	65	515
			MacKay RCB Culvert		Width = 12 ft Depth = 4 ft	65	515
			Brightman		Width = 12 ft	65	515

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
			RCB Culvert	Hayes, Bobrick, MacKay, Brightman, Sutherland, Raley, and Grand to meet the existing capacity. The existing channel downstream of Grand Avenue would be removed and replaced with a 12 ft wide by 4 ft deep rectangular channel sized to convey 515 cfs.	Depth = 4 ft		
			Sutherland RCB Culvert		Width = 12 ft Depth = 4 ft	65	515
			Raley RCB Culvert		Width = 12 ft Depth = 4 ft	65	515
			Grand RCB Culvert		Width = 12 ft Depth = 4 ft	65	515
			Rectangular channel		Width = 12 ft Depth = 4 ft	614	515
	Existing	Lakeland Village Channel	Rectangular channel	The construction of Lakeland Village Channel was completed in 1955. Lakeland Village Channel is a concrete-bottom rectangular channel with Elmwood fence and rock pill channel walls. The upstream origin is near Nelson Avenue. The channel then extends northerly along existing wash and terminates at Lake Elsinore.	Width = 12 ft Depth = 4 ft	1,850	Information not available
			Rectangular channel		Width = 7 ft Depth = 4.5 ft	600	Information not available
I	**Proposed**	Line I Debris Basin	Debris basin	The Line I Debris Basin is located at a point approximately 265 ft south of Hayes Street and upstream of proposed Line I. The debris basin has a volume of 3.0 ac-ft and an approximate ROW of 0.9 ac. The debris basin consists of a 36 in outlet pipe and a spillway structure.	Storage = 3.0 ac-ft Approx. ROW = 0.9 ac		220

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
		Line I	RCP	The upstream origin of Line I is at a point approximately 265 ft south of Hayes Street as a 36 in RCP. From there, a 36 in RCP extends northerly in Wood Street. At Broomall Avenue, the 36 in RCP transitions into a 48 in RCP and continues in westerly in Broomall Avenue. At Dowman Street, the 48 in RCP transitions into a 72 in RCP and continues northerly in Dowman Street, easterly in Brightman Avenue, and then northerly in Lorimer Street. At Grand Avenue, the 72 in RCP transitions into a 90 in RCP and outlets into Lake Elsinore.	Diameter = 36 in	491	220
			RCP		Diameter = 48 in	429	220
			RCP		Diameter = 72 in	548	490
			RCP		Diameter = 72 in	761	650
			RCP		Diameter = 90 in	490	705
		Line I-1	RCP	The upstream origin of Line I-1 begins near the intersection of Baldwin Boulevard and Brightman Avenue as a 42 in RCP. From there, the 42 in RCP extends easterly in Brightman Avenue and transitions into a 48 in RCP at Churchill Street. The 48 in RCP extends easterly in Brightman Avenue until its confluence with the proposed Line I at Lorimer Street.	Diameter = 42 in	585	60
			RCP		Diameter = 42 in	250	100
			RCP		Diameter = 48 in	240	150
			RCP		Diameter = 48 in	540	185

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
	Existing	Churchill Street Drainage Ditch	Drainage ditch	The upstream origin of the Churchill Street drainage ditch is located at Grand Avenue. From there, a drainage ditch with a base width of 2.5 ft, depth of approximately 3 ft, and sideslope of 1.5:1, located on the west and east sides of Churchill Street, extends northerly toward Lake Elsinore.	Base width = 2.5 ft Approximate depth = 3 ft Sideslope = 1.5:1	609	Information not available
J	**Proposed**	Line J	RCP	The upstream origin of Line J is near the intersection of Brightman Avenue and Benner Street as a 54 in RCP. From there, the 54 in RCP extends westerly in Brightman Avenue toward Turner Street. At Turner Street, the 54 in RCP transitions into a 60 in RCP. The 60 in RCP continues northerly in Turner Street and transitions into a 5 ft wide by 5 ft deep RCB. At Grand Avenue, the RCB transitions into a 7 ft wide by 5 ft deep RCB. The 7 ft wide by 5 ft deep RCB then transitions into a daylight/outlet structure with an approximate length of 350 ft, width of 7 ft, and maximum depth of 5 ft as it extends northerly toward Lake Elsinore.	Diameter = 54 in	556	126
			RCP		Diameter = 60 in	436	228
			RCB		Width = 5 ft Depth = 5 ft	212	228
			RCB		Width = 7 ft Depth = 5 ft	450	336
K		Line K Debris Basin	Debris basin	Line K Debris Basin is located at the southernmost end of Ginger Lane, upstream of the proposed Line K, and	Storage = 7.4 ac-ft Approx.		527

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				has a volume of 7.4 ac-ft and an approximate ROW of 4.8 ac. The debris basin consists of a 36 in outlet pipe and spillway structure.	ROW = 4.8 ac		
	Proposed	Line K	RCP	The upstream origin of Line K is near the southernmost end of Ginger Lane. From there, the 60 in RCP extends northerly in Ginger Lane towards Grand Avenue. At Grand Avenue, the 60 in RCP transitions into a 78 in RCP and extends easterly in Turtle Dove Drive. The 78 in RCP transitions into a 7 ft wide by 5 ft deep RCB, then into a daylight structure/outlet with an approximate length of 200 ft, width of 7 ft, and maximum depth of 5 ft as it continues easterly in Turtle Dove Drive toward Lake Elsinore.	Diameter = 60 in	1,275	527
			RCP		Diameter = 78 in	617	527
			RCB		Width = 7 ft Depth = 5 ft	944	527
		Line K -1	RCP	The upstream origin of Line K-1 begins near the intersection of Kathryn Way and Grand Avenue as a 36 in RCP. The 36 in RCP extends westerly in Grand Avenue and then easterly and parallel to Vail Street. Near Lake Elsinore, the 36 in RCP transitions into a daylight/outlet structure with an approximate length of 265 ft, width of 10 ft and maximum depth of 3 ft.	Diameter = 36 in	1297	63

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
L	**Proposed**	Line L	Rectangular channel	The upstream origin of Line L begins at a point approximately 696 ft south of Grand Avenue. From there, the 6 ft wide by 5 ft deep rectangular channel extends along the geographic low. At Grand Avenue, the open channel transitions into a 7 ft wide by 7 ft deep RCB. The RCB then transitions into a 15 ft wide by 5 ft deep, to a 18 ft wide by 10 ft deep, to a 15 ft wide by 8 ft deep, to a 60 ft wide by 5 ft deep rectangular channel, then a daylight/outlet structure with an approximate length of 180 ft, width of 60 ft, and maximum depth of 5 ft, and outlets into Lake Elsinore.	Width = 6 ft Depth = 5 ft	765	535
			RCB		Width = 7 ft Depth = 7 ft	110	535
			Rectangular channel		Width = 15 ft Depth = 5 ft	1,071	535
			Rectangular channel		Width = 18 ft Depth = 10 ft	323	535
			Rectangular channel		Width = 18 ft Depth = 10 ft	120	1,453
			Rectangular channel		Width = 15 ft Depth = 8 ft	606	1,453
			Rectangular channel		Width = 15 ft Depth = 8 ft	240	1,573
M	**Proposed**	Line M	RCP	The upstream origin of Line M is near the southern end of Koves Road as a 60 in RCP. The 60 in RCP extends northerly in Koves Road and transitions into a 66 in RCP. At Grand Avenue, the 66 in RCP transitions into a 72 in RCP and extends westerly in Grand Avenue towards Gregory Place. At Gregory Place, the 72 in RCP transitions into a 90 in RCP and continues northerly in Gregory Place. At	Diameter = 60 in	1,365	480
			RCP		Diameter = 66 in	832	614
			RCP		Diameter = 72 in	369	653
			RCP		Diameter = 90 in	1,173	710
			RCP		Diameter = 90 in	178	869

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
			Rectangular channel	the geographic low, the 90 in RCP transitions into a 15 ft wide by 8 ft deep and then a 15 ft wide by 10 ft deep rectangular channel and confluences with the proposed Line L.	Width = 15 ft Depth = 8 ft	806	869
			Rectangular channel		Width = 15 ft Depth = 8 ft	264	901
			Rectangular channel		Width = 15 ft Depth = 10 ft	130	901
N	**Proposed**	Line N Debris Basin	Debris basin	Line N Debris Basin is located a point approximately 690 ft south of Morrell Lane, just upstream of the proposed Line N, and has a volume of 9.3 ac-ft and approximate ROW of 2.9 ac. The debris basin consists of a 36 in low-flow outlet pipe and spillway structure.	Storage = 9.3 ac-ft Approx. ROW = 2.9 ac		822
		Line N	RCP	The upstream origin of Line N is at a point approximately 690 ft south of Morrell Lane, just downstream of the proposed Line N debris basin. From there, the 66 in RCP extends northerly towards Morrell Lane. At Morrell Lane, the 66 in RCP transitions into a 90 in RCP and continues northerly in Morrell Lane towards Grand Avenue. At Grand Avenue, the 90 in RCP transitions into a 102 in RCP. The 102 in RCP extends	Diameter = 66 in	614	822
			RCP		Diameter = 90 in	1,316	1,018
			RCP		Diameter = 90 in	1,000	1,050
			RCP		Diameter = 102 in	600	1,066
			RCP		Diameter = 102 in	1,860	1,236

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
			RCB	westerly in Grand Avenue and northerly in Stoneman Street. At approximately 1,859 ft into Stoneman Street, the 90 in RCP transitions into a 12 ft wide by 7 ft deep RCB. From there, the RCB transitions into a 20 ft wide by 7 ft deep open channel, then a daylight/outlet structure with an approximate length of 230 ft, width of 50 ft, and maximum depth of 4 ft as it extends toward Lake Elsinore.	Width = 12 ft Depth = 7 ft	812	1,293
			Rectangular channel		Width = 20 ft Depth = 7 ft	398	1,369
		Lateral N-1	RCP	The upstream origin of Lateral N-1 is at a point approximately 367 ft west of Stoneman Street as a 36 in RCP. From there, the 36 in RCP extends easterly until its confluence with proposed Line N.	Diameter = 36 in	1,152	130
		Line N Water Quality Basin	Water quality basin	Line N Water Quality Basin is located at the southwest corner of the intersection of Palomar and Stoneman Street. The water quality basin has an approximate volume of 5.9 ac-ft and an approximate ROW of 3.7 ac and would require a connection to the drainage system of the tract located west of the proposed water quality basin.	Storage = 5.9 ac-ft Approx. ROW = 3.7 ac		

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
	Existing	Stoneman Street Channel	Trapezoidal channel	The construction of Stoneman Street Channel was completed after 1966. Stoneman Street is a paved trapezoidal channel and has a typical base width of 24 ft and 6:1 sideslopes. The upstream origin begins near Stoneman Street at a point approximately 1,015 ft south of Grand Avenue and extends northerly in Stoneman Street until it terminates approximately 300 ft north of Grand Avenue.	Base width = 24 ft Sideslopes = 6:1	1,011	Information not available
O	**Proposed**	Line O-10 Debris Basin	Debris basin	Line O-10 Debris Basin is located near the intersection of Skylark Drive and Cissna Place, just upstream of the proposed Line O-10 and has a volume of 9.1 ac-ft and an approximate ROW of 1.8 ac. The debris basin consists of a 36 in RCP outlet and spillway structure.	Storage = 9.1 ac-ft Approx. ROW = 1.8 ac		502
		Line O-10	RCP	The upstream origin of Line O-10 is near the intersection of Skylark Drive and Cissna Place as a 66 in RCP. From there, the 66 in RCP extends northerly in Skylark Drive. At Grand Avenue, the 66 in RCP transitions into a 78 in RCP and extends easterly in Grand Avenue. At the geographic low between Gill Lane and Corydon Road, the 78 in RCP transitions	Diameter = 66 in	2134	502
			RCP		Diameter = 78 in	2276	532
			Rectangular channel		Width = 20 ft Depth = 10 ft	1,293	779
			Rectangular channel		Width = 14 ft Depth = 8 ft	30	779

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				into a 20 ft wide by 10 ft deep open channel. Just before the connecting to the existing Palomar Channel, the 20 ft wide by 10 ft deep transitions into a 14 ft by 8 ft deep open channel.			
		Line O-20 Debris Basin	Debris basin	Line O-20 Debris Basin is located at a point approximately 1,060 ft south of Grand Avenue on Borchard Drive, just upstream of the proposed Line O-20, and has a volume of 6.7 ac-ft and an approximate ROW of 2.1 ac.	Storage = 6.7 ac-ft Approximate ROW = 2.1 ac		356
		Line O-20	RCP	The upstream origin of Line O-20 is at a point approximately 1,060 ft south of Grand Avenue on Borchard Drive. From there, the 60 in RCP extends northerly in Borchard Drive. At Grand Avenue, the 60 in RCP transitions into a 72 in RCP, extends westerly in Grand Avenue and connects to the existing 78 in RCP in Ontario Way. The downstream terminus of the existing 78 in RCP transitions into a proposed 7 ft wide by 7 ft deep RCB. The RCB then transitions into a daylight/outlet structure with an approximate length of 300 ft, width of 50 ft, and maximum depth of 5 ft as it outlets into Lake Elsinore.	Diameter = 60 in	1,215	356
			RCP		Diameter = 72 in	592	356

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
	Existing	Corydon Channel	RCB	The construction of Corydon Channel was completed after 2006. Corydon Channel is a rectangular concrete channel with an average width of approximately 28.7 ft and depth of 12.5 ft. The upstream origin begins at Union Street as a double 14 ft wide by 8 ft deep RCB, transitions into a rectangular channel extending parallel to Union Street, transitions into a double 14 ft wide by 8 ft deep RCB and terminates at the confluence with existing Palomar Channel.	Width = 2–14 ft Depth = 8 ft	80	1,174
			Rectangular channel		Typical base width = 28.7 ft Depth = 12.5 ft	317	1,174
			RCB		Width = 2–14 ft Depth = 8 ft	101	1,174
		Palomar Channel	RCB	The construction of Palomar Channel was completed after 2006. Palomar Channel is a stone riprap-lined channel. The upstream origin begins at Corydon Street as a triple 14 ft wide by 4.2 ft deep RCB and transitions into a trapezoidal channel with base width ranging from 22 to 24 ft, top width ranging from 70 to 76 ft, depth ranging from 12 to 13 ft respectively, and sideslope of 2:1. The trapezoidal channel extends northerly along Old Coach Road. At Palomar	Triple width = 14 ft Depth = 4.2 ft	160	1036
			Trapezoidal channel		Base width = 22 ft Top width = 70 ft Depth = 12 ft Sideslope = 2:1	706	2233
					Base width =	1245	2374

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				Street, the trapezoidal channel transitions into a 2–14 ft wide by 8 ft deep RCB.	24 ft Top width = 76 ft Depth = 13 ft Sideslope = 2:1		
			RCB		Double width = 14 ft Depth = 8 ft	95	2374
		78 in RCP in Ontario Way	RCP	Upstream origin begins at Grand Avenue then extends northerly in Ontario Way towards Lake Elsinore for approximately 2,800 ft.	Diameter = 78 in	2,800	516
P	**Proposed**	Channel A	Trapezoidal channel	The upstream origin of Channel A begins at the downstream terminus of Sedco-Bryant Street Storm Drain Stage 1. From there, the 40 ft wide by 6 ft deep trapezoidal channel extends westerly along the geographic low. At Corydon Road, the trapezoidal channel transitions into a 42 ft wide by 6 ft deep RCB. The 42 ft wide by 6 ft deep RCB would replace the existing 42 ft wide by 4 ft deep RCB.	Width = 40 ft Depth = 6 ft Sideslope = 2:1	1,573	1,115
			RCB		Width = 42 ft Depth = 6 ft	60	1,115
	EXISTING	Sedco-Bryant	RCP	The construction of Bryant Street Storm Drain Stage 1 was completed in 2008. The	Diameter = 30 in	2,131	18

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
		Street Storm Drain Stage 1		Bryant Street Storm Drain Stage 1 is a 30 in RCP. The upstream origin begins near Palomar Street. The storm drain then extends southerly in Bryant Street for approximately 1,325 ft then northerly and parallel to Union Street for approximately 810 ft where it terminates at the confluence with proposed Channel A.			
		Sedco-Bryant Street Storm Drain	RCP	The construction of Bryant Street Storm Drain was completed after 2006. Bryant Street Storm Drain is a system of RCPs ranging in size from 42 in to 66 in. The upstream origin is at the existing Bryant Street Debris Basin Outlet located at the southernmost end of Sweet Nectar Road. From there, the storm drain extends northerly in Sweet Nectar Road and continues northerly in Bryant Street to Grand Avenue. The storm drain then travels northerly in Grand Avenue for approximately 1,016 ft, where it terminates.	Diameter = 42 in	1,027	245
			RCP		Diameter = 48 in	860	292
			RCP		Diameter = 54 in	677	304
			RCP		Diameter = 66 in	1,027	313
			Drainage ditch Tract 23111	The upstream origin of the paved ditch begins at the downstream terminus of Sedco-Bryant Street Storm Drain at Grand Avenue. From there, the paved	Typical base width = 4 ft Typical top width = 12 ft	2,667	Information not available

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				ditch extends northerly and parallel to Bryant Street until it confluences with the proposed Channel A and existing Sedco-Bryant Street Storm Drain Stage 1.	Typical depth = 2 ft		
		Sedco-Bryant Street Debris Basin	Debris basin	The construction of Bryant Street Debris Basin was completed after 2005. The Bryant Street Debris Basin is located upstream of the existing Bryant Street Storm Drain at the southernmost end of Sweet Nectar Road and has a volume of 1.2 ac-ft.	Storage = 1.2 ac-ft		245

Source: District 2012.

3.3 Project Objectives

A clear statement of project objectives allows for the analysis of reasonable alternatives to the Project. Reasonable alternatives, both on and off site, must be analyzed per Section 15126.6 of the CEQA Guidelines. Based on the concerns of the Project area, the following Project-specific objectives were developed for the Project:

1. Reduce the level of risk from flooding and debris flows to existing/future development and infrastructure to below the 100-year level.[1]
2. Provide all-weather access along Grand Avenue by conveying 100-year tributary flood flows below the travelled way.
3. Provide a master drainage plan at the lowest construction and right-of-way acquisition cost.
4. Economically manage debris to ensure that the 100-year design capacity is maintained during major storm events.
5. Consider, and where feasible, incorporate regional water quality facilities to mitigate for the impacts from existing development and to improve the water quality of Lake Elsinore.
6. Avoid or minimize the impacts to potentially sensitive areas.

3.4 Other Public Agencies Who May Use This CEQA Document or Issue Permits for Portions of the MDP Facilities

In addition to CEQA compliance, the Project is also being reviewed for the need to obtain permits and approvals under other federal, state, and local laws that may be applicable to the construction and maintenance of the MDP facilities. While these other permits and approvals are independent of the Draft PEIR, they will be coordinated as closely as possible. The following is a list of the permits potentially required for the future construction and maintenance of the MDP facilities.

U.S. Army Corps of Engineers

A Clean Water Act Section 404 permit will be required if the construction or maintenance of the MDP facilities involves the discharge or dredged or fill material within waters of the United States or adjacent wetlands.

[1] The 1% annual chance flood event.

RWQCB, Santa Ana Region

Compliance with the National Pollutant Discharge Elimination System Construction General Permit will be required for grading activities of 1 acre or larger.

If a 404 permit is required, then a Section 401 Water Quality Certification will be required.

A Waste Discharge Permit will be required if ground dewatering is necessary during tunneling activities or if waste is discharged into waters of the state.

California Department of Fish and Wildlife

A Fish and Game Code Section 1600 Streambed Alteration Agreement will be required if jurisdictional streambeds or stream banks will be altered.

California Department of Transportation

Encroachment permits for crossings of State Route 74 will be required. Water Pollution Control Plans will also be required.

County of Riverside

Encroachment permits will be required to construct the MDP facilities within road rights-of-way.

City of Lake Elsinore

Encroachment permits will be required to construct the MDP facilities within road rights-of-way.

City of Wildomar

Encroachment permits will be required to construct the MDP facilities within road rights-of-way.

3.5 References

District (Riverside County Flood Control and Water Conservation District). 2012. Detailed MDP Facilities Description. August 6, 2012.

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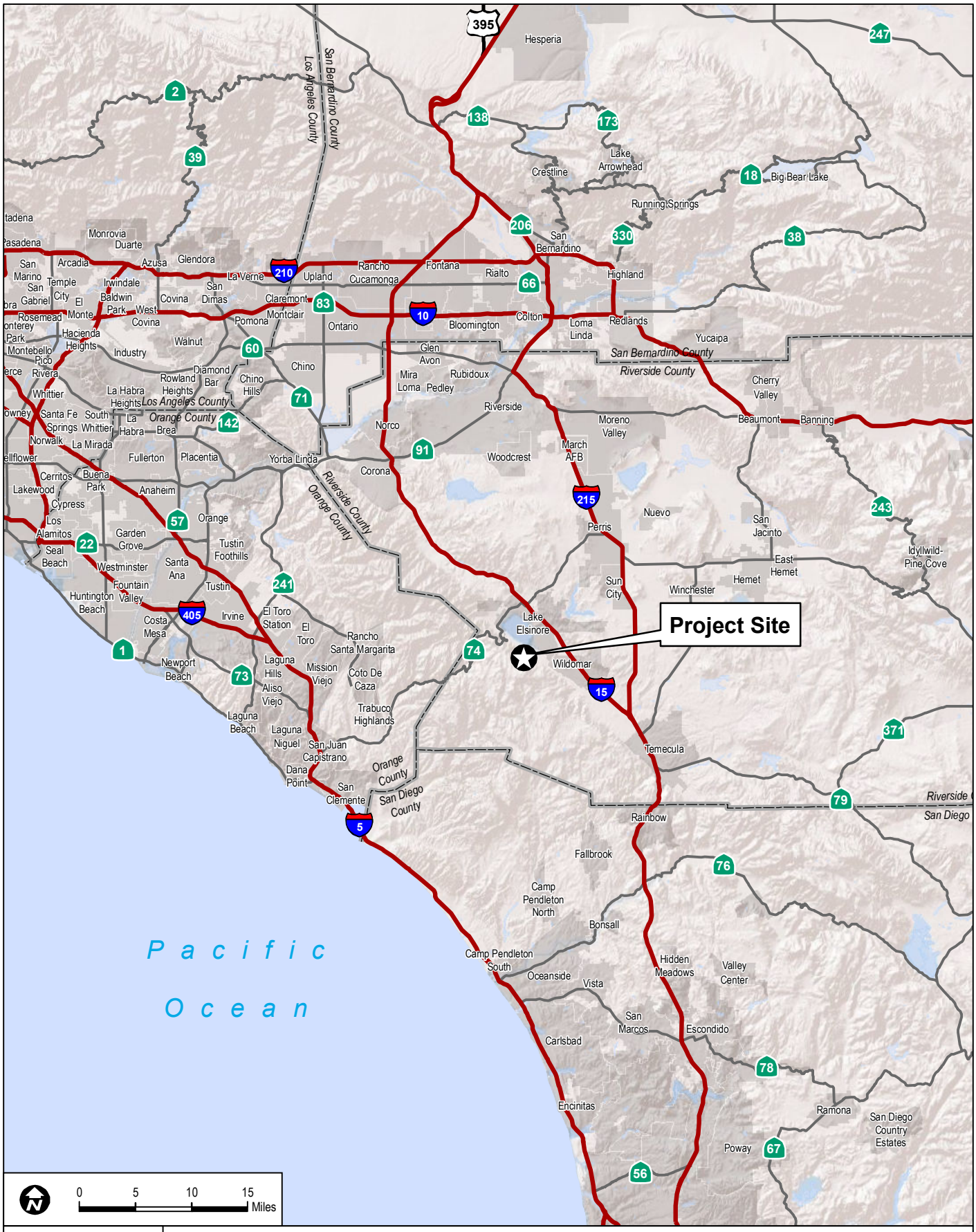

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FIGURE 3.0-1

Regional Map

LAKELAND VILLAGE MDP DRAFT PROGRAM EIR

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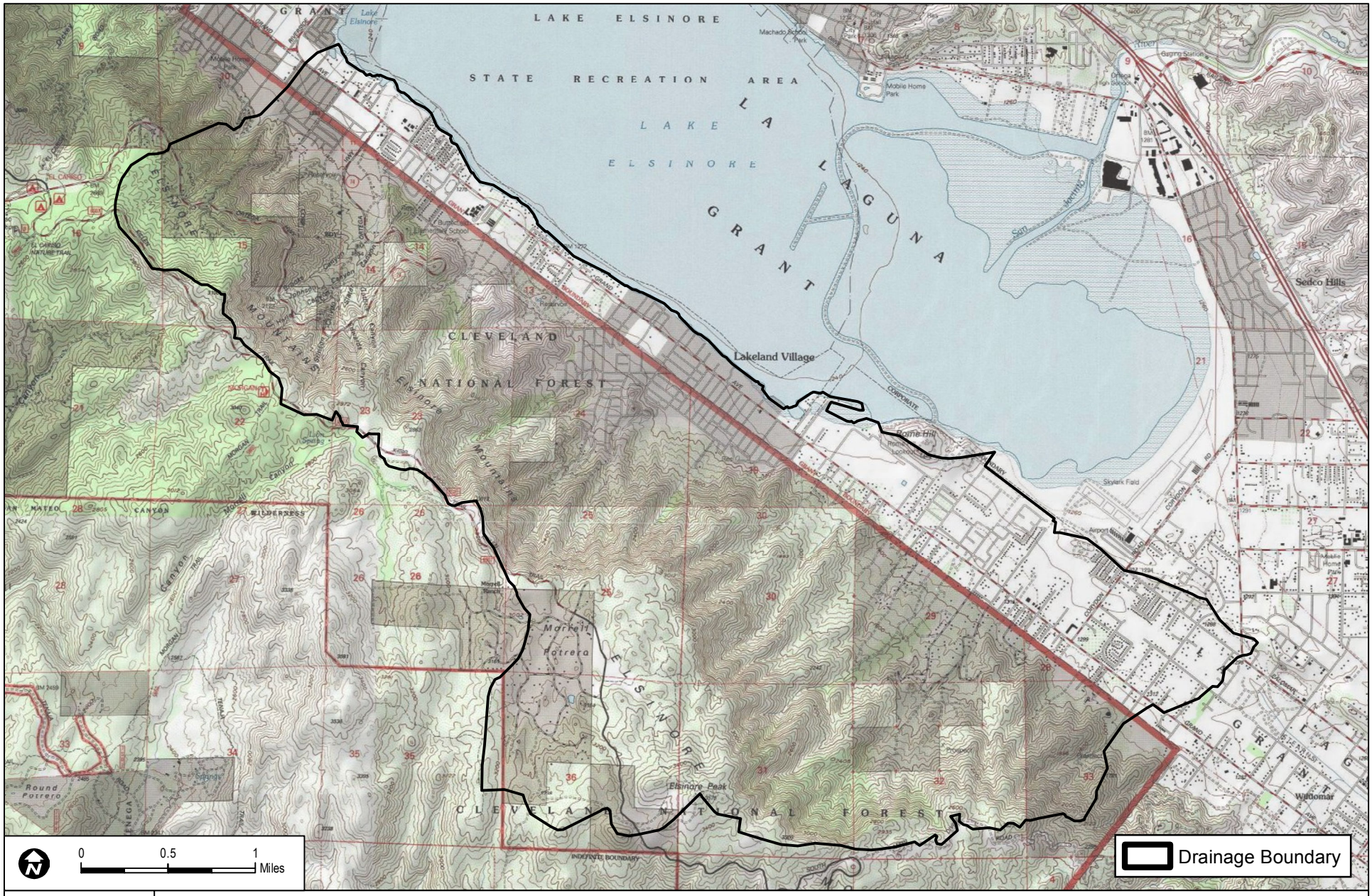

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SOURCE: USGS 7.5-Minute Series Alberhill, Elsinore and Wildomar Quadrangles.

FIGURE 3.0-2

Vicinity Map

LAKELAND VILLAGE MDP DRAFT PROGRAM EIR

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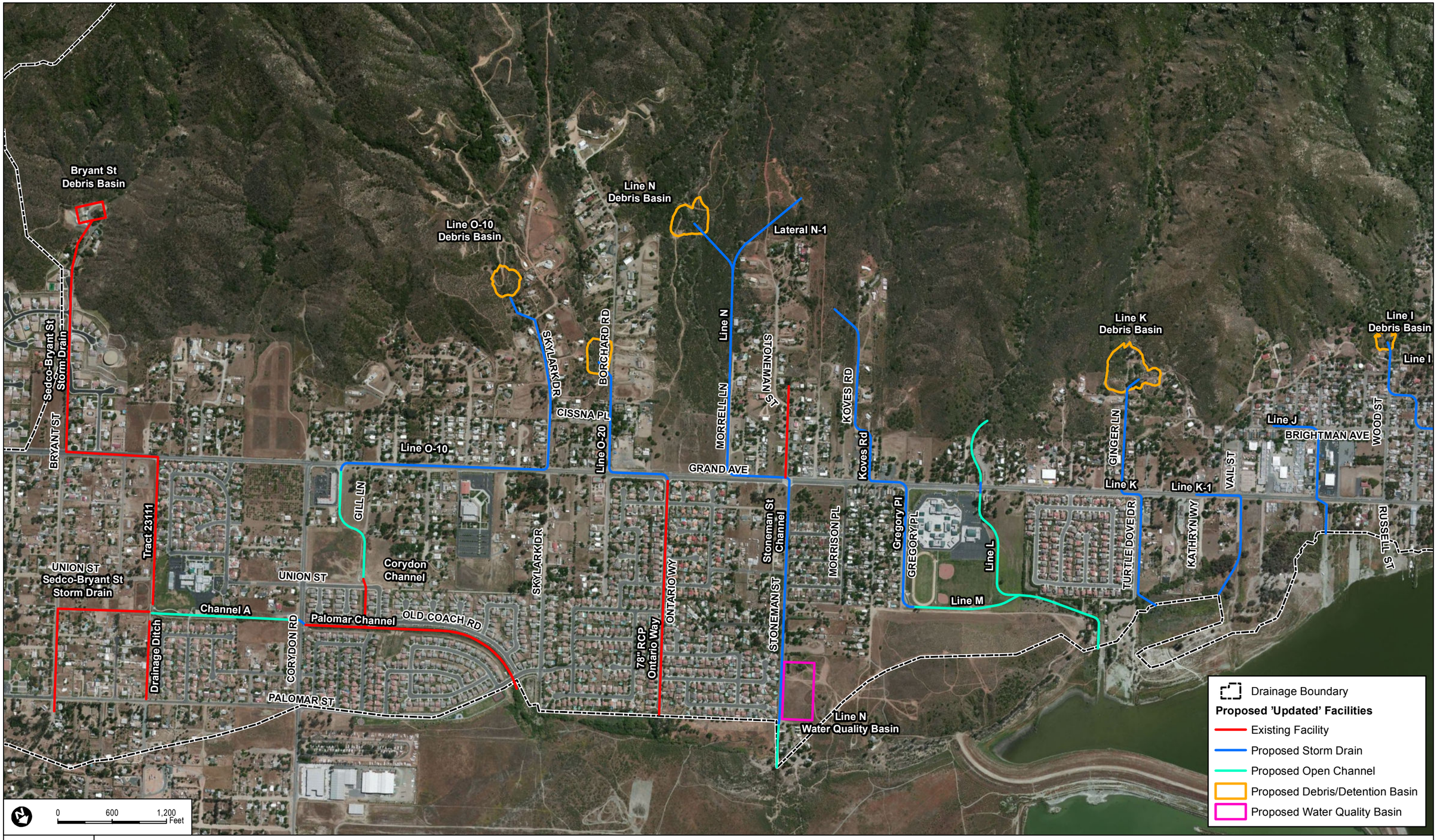

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SOURCE: Riverside County Flood Control and Water Conservation District 2012; County of Riverside MSHCP; Bing Maps

FIGURE 3.0-3a

Proposed MDP Facilities (Left)

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SOURCE: Riverside County Flood Control and Water Conservation District 2012; County of Riverside MSHCP; Bing Maps

FIGURE 3.0-3b

Proposed MDP Facilities (Right)

LAKELAND VILLAGE MDP DRAFT PROGRAM EIR

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4.0 ANALYSIS OF ENVIRONMENTAL ISSUES

The purpose of this Draft Program Environmental Impact Report (PEIR) is to evaluate the potential environmental effects of the proposed Project. The Riverside County Flood Control and Water Conservation District (District) circulated a Notice of Preparation (NOP) for which the public review period ended October 6, 2011. The NOP was transmitted to the State Clearinghouse, responsible agencies, and other affected agencies to solicit issues and concerns related to the Project. The NOP, Initial Study, and comment letters are contained in Appendix A of this Draft PEIR.

Sections 4.1 through 4.11 of the Draft PEIR examine the potential environmental impacts associated with implementation of the proposed Project and focus on the following issues:

- Aesthetics
- Air quality
- Biological resources
- Cultural resources
- Geology and soils
- Greenhouse gas emissions
- Hazards and hazardous materials
- Hydrology and water quality
- Noise
- Transportation and traffic
- Utilities and service systems.

The impact analyses of these environmental issues are discussed in Sections 4.1 through 4.11 of the Draft PEIR.

Technical Studies

Technical studies in the areas of geology and soils were produced providing technical analyses that were used in this Draft PEIR. This document is identified in the discussion for the individual environmental issue, and included as technical appendix (Appendix D) attached to the Draft PEIR.

Environmental Constraints Analysis

In 2010, the District conducted an Environmental Constraints Analysis (ECA) which studied five preliminary scenarios for the Project. Five preliminary scenarios, labeled as Alternatives 1–5, in the ECA

explored the feasibility of debris removal, water quality mitigation, floodplain management and environmental avoidance. The ECA (Appendix B) was prepared to assist the District in identifying key environmental issues so that the District could refine the five preliminary scenarios into three CEQA alternatives for the environmental impact analysis as discussed in Section 8.0 of this document. Based on the ECA, engineering feasibility, and other Project objectives, the District selected the proposed Project (see Figure ES-3a and Figure ES-3b, Proposed MDP Facilities, and Tables ES-1 and ES-2).

Analysis Format

The Draft PEIR assesses how the Project would impact these issue areas. Each environmental issue addressed in this Draft PEIR is presented in terms of the following subsections:

- **Setting and Project Baseline:** Provides information describing the existing setting on or surrounding the Project boundary which may be subject to change as a result of the implementation of the Project. This setting describes the conditions that existed when the NOP was sent to responsible agencies and the State Clearinghouse, and is considered the baseline physical condition.
- **Related Regulations:** Provides a discussion of the applicable regulations with respect to each environmental issue.
- **Comments Received in Response to the Notice of Preparation:** Identifies those parties responding to the NOP and provides a summary of their comments.
- **Significance Threshold Criteria:** Provides criteria for determining the significance of the Project impacts for each environmental issue.
- **Environmental Impacts Before Mitigation:** Provides a discussion of the characteristics of the Project that may have an effect on the environment; analyzes the nature and extent to which the Project is expected to change the existing environment, and whether or not the Project impacts meet or exceed the levels of significance thresholds.
- **Mitigation Measures:** Identifies mitigation measures to reduce significant adverse impacts to the extent feasible.
- **Summary of Environmental Effects After Mitigation Measures Are Implemented:** Provides a discussion of significant adverse environmental impacts that cannot be feasibly mitigated or avoided, significant adverse environmental impacts that can be feasibly mitigated or avoided, adverse environmental impacts that are not significant, and beneficial impacts.

4.1 Aesthetics

The focus of the following discussion and analysis, based on the initial study (IS), public scoping session, and comments received during the Notice of Preparation (NOP) public comment period, is related to the Project's potential impacts to a scenic vista and potential impacts to substantially degrade the existing visual character or quality of the site and its surroundings from implementation of the Project. Potential impacts from the Project on potential damage of scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway; and creation of a new source of substantial light or glare, which would adversely affect day or nighttime views in the area, were found to be less than significant or have no impact in the IS for the Project and are therefore not further discussed in the Draft Program Environmental Impact Report (PEIR) (see Appendix A).

4.1.1 Setting and Project Baseline

The Project is located in the City of Lake Elsinore and City of Wildomar and within the Elsinore Area Plan in unincorporated areas of Riverside County. The Project area, which encompasses approximately 13 square miles, is generally bounded by Lake Elsinore to the north, the ridgeline of the Santa Ana Mountains to the south, Bryant Street and Sheila Lane to the east, and Riverside Drive to the west (see Section 3.0, Project Description, Figure 3.0-2, Vicinity Map). Immediate views within the Project boundary include residential, commercial, agriculture, open space, vacant uses, Lake Elsinore, and the Santa Ana Mountains.

The Santa Ana Mountains are the main source of vistas/scenic resources in the Project area. Views of properties in the Lakeland Village area also can have views down towards Lake Elsinore. The hills and ridgelines that surround the Project boundary provide scenic vistas to residents from where they can experience long-distance views of natural terrain. Vista points can be found throughout the area, as viewed from both urban areas toward the lake and hills and from wilderness areas toward the urbanized areas. The existing MDP facilities are located within existing street rights-of-way and most of the MDP facilities are underground. Proposed MDP facilities include basins, some of which will be located up in the canyons of the Project boundary and could block or hinder views of the Santa Ana Mountains.

Landscaping around each of the MDP facilities is not proposed as part of the Project, but will be addressed on a project level when each improvement goes forward. As such, landscaping is not addressed in this Draft PEIR but will be addressed as needed on future project-level decisions.

4.1.2 Related Regulations

State

The California Department of Transportation (Caltrans) California Scenic Highway Program defines a State Scenic Highway as any freeway, highway, road, or other public right-of-way that traverses an area

of exceptional scenic quality. The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or are currently designated. These highways are identified in Section 263 of the Streets and Highways Code.

State Route 74 (SR 74) is an eligible State Scenic Highway (Caltrans 2011) and runs from southern Mojave Desert to oak and pine forests of San Bernardino National Forest. SR 74 offers views of the San Jacinto Valley and peaks of the San Jacinto Mountains (Caltrans 2011). SR 74 traverses the westerly portion of the Project boundary. However, the Project IS found that potential impacts related to potential damage of scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway, would be less than significant; therefore, these impact issues are not discussed further in this Draft PEIR (see Appendix A).

Local

County of Riverside General Plan

The Land Use and Multipurpose Open Space Elements of the Riverside County General Plan (GP) (County of Riverside 2003a, 2003b) provide policies to address effects of prospective development on aesthetics. The following policies are applicable to the Project:

Land Use Element

LU 13.1 Preserve and protect outstanding scenic vistas and visual features for the enjoyment of the traveling public.

LU 13.3 Ensure that the design and appearance of new landscaping, structures, equipment, signs, or grading within Designated and Eligible State and County scenic highway corridors are compatible with the surrounding scenic setting or environment.

LU 13.8 Avoid the blocking of public views by solid walls.

Multipurpose Open Space Element

OS 21.1 Identify and conserve the skylines, view corridors, and outstanding scenic vistas within Riverside County.

OS 22.5 Utilize contour grading and slope rounding to gradually transition graded road slopes into a natural configuration consistent with the topography of the areas within scenic highway corridors.

City of Wildomar General Plan

The City of Wildomar has incorporated Riverside County's GP. Therefore, the above policies related to the Riverside County GP also apply to the City of Wildomar.

City of Lake Elsinore General Plan

The land use, open space, and aesthetics section of the City of Lake Elsinore GP (City of Lake Elsinore 2011a) provides goals and policies to address the effects of prospective development on aesthetics. The following policies are applicable to the Project:

- Chapter 2.0 – Community Form (Section 2.3 – Land Use)
    - Policy 3.1 – Upon availability of appropriate funding the City shall establish hillside grading standards that address unique natural features and encourage the sensitive treatment of hillsides in the site design and architecture of new construction.
- Chapter 4.0 – Resource Protection and Preservation (Section 4.3 – Open Space)
    - Policy 3.4 – Preserve the City's visual character, in particular the surrounding hillsides, which topographically define the lake region.
- Chapter 4.0 – Resource Protection and Preservation (Section 4.8 – Aesthetics)
    - Policy 13.3 – Require grading plans for any hillside development to include specifications for revegetation and new planting to minimize hillside scarring.

City of Lake Elsinore Municipal Code – Title 17 (Zoning Code)

The City of Lake Elsinore's Zoning Code (Title 17 of the Lake Elsinore Municipal Code) regulates the character and use of property throughout the various zones in the city. In addition to the standards set forth for each district, the zoning code designates overlay zones for specific purposes. Overlay zones that affect aesthetic and visual qualities includes the Scenic Overlay Zone (Chapter 17.16), which is intended for use in areas of high scenic value to preserve and enhance these values and to assure exclusion of incompatible uses.

The purpose of this Scenic Overlay District is to implement the policies of the General Plan Environmental Resources Management Element by preserving a sense of open space and important scenic and visual resources identified by the community (City of Lake Elsinore Zoning Code, Chapter 17.16).

The Scenic Overlay District is designated as S, and indicates areas where the additional requirements, limitations, and standards contained in this section shall apply. In any "S" district, where the Scenic Overlay District applies, the City of Lake Elsinore is to implement standards for projects. The standards from the Scenic Overlay District that could apply to the Project are as follows:

D. Utilities. Where practical, all new utilities, including the linkage between main line and structures, shall be underground.

E. Grading.

1. Siting and location of roads, buildings and other structures shall be engineered to minimize grading and to retain existing landforms and characteristics in a natural state;
2. Where natural grade and cut and fill slopes meet, there shall be a gradual transition from the graded slope to the natural configuration consistent with the topography within the area.

F. Vegetation.

1. Landscape plans shall attempt to incorporate existing on-site trees and shrubbery into the landscaping scheme;
2. Landscape areas shall have irrigation facilities where necessary to maintain plant materials. The use of automatic watering systems will be considered;
3. Erosion retardant vegetation should be utilized on all cut and fill slopes. Such vegetation should be compatible with the surrounding natural vegetation;
4. Native fire-resistant plant material should be utilized along firebreak areas or near structures sited in a rural environment;
5. Tree species to be planted within a given corridor should be consistent with other tree species within the area (City of Lake Elsinore Zoning Code, Chapter 17.16).

4.1.3 Comments Received in Response to the Notice of Preparation

Comment letters related to aesthetics were received from Linda Ridenour (dated October 11, 2011) in response to the NOP. The contents of these letters are included in Appendix A.

4.1.4 Significance Threshold Criteria

The District has not established local CEQA significance thresholds as described in Section 15064.7 of the CEQA Guidelines. The NOP for the PEIR included the IS (Environmental Checklist) to show the areas being analyzed in the PEIR; refer to Appendix A of this PEIR. Accordingly, and based on the IS, the Project would have a significant impact on Aesthetics if the Project would:

- Have a substantial adverse effect on a scenic vista.
- Substantially degrade the existing visual character or quality of the site and its surroundings.

Potential impacts related to potential damage of scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway, were found to be less than significant in the IS/NOP prepared for the Project (Appendix A). Additionally, the Project would not require any lighting and therefore would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area, as identified in the IS for the Project. Therefore, these impact issues are not further discussed in this Draft PEIR (see Appendix A).

4.1.5 Environmental Impacts Before Mitigation

The following analysis is programmatic, since there are no specific MDP facilities being proposed for disturbance or construction by approval of this PEIR and specific design of the MDP facilities, including the debris basins (which would have the most visual impacts of the MDP facilities), has not been completed to date. The following is an analysis of the potential visual impacts, and how future MDP facilities will be analyzed in light of what is presented below. The District will use the following analysis and mitigation measures, if applicable, in guiding their future study and analysis.

Would the Project have a substantial adverse effect on a scenic vista?

Scenic resources in the Project area include Lake Elsinore and the Santa Ana Mountains. To assess potential impacts to these scenic resources, a visual assessment, including visual simulations, was conducted.

Several of the MDP facilities have the potential to impact scenic vistas, namely the debris basins. The majority of the proposed underground storm drainages will be located within existing street rights-of-way and developed/disturbed areas and not in areas that are the focus of the scenic resources in the area (see Section 3.0, Project Description, Figure 3.0-3a and Figure 3.0-3b, Proposed MDP Facilities). The proposed debris basin embankments are expected to range in height from 10 feet to 36 feet and at these heights could impact scenic views of the Santa Ana Mountains and surrounding areas. Therefore, the following discussion is focused on the debris basins and how those may or may not affect the scenic vistas of the Santa Ana Mountains.

The visual assessment consisted of identifying accessible vantage points from which the MDP facilities would be visible. Views from the closest residential areas or the scenic highway were considered sensitive. Photographs were taken from the vantage points to document the setting and scenic features. After establishing the primary vantage points of scenic resources within the area, and individual MDP facility sites within those vantage points, a photographic inventory of each view area was completed to determine the visual resources and visual setting of each individual MDP facility area. Visual resources were identified through the potential presence of scenic features and view sensitivity. Sensitive views were identified based on public vantage points, such as public roadways, or views of basin embankments from nearby residential areas.

Based on the elevation, embankment height, visibility, proximity to residences and views from SR 74, and public concerns, it was determined that five proposed MDP facilities could potentially impact scenic vistas. Visual simulations of each of the following MDP facilities were conducted from several vantage points:

- Line A Debris Basin
- Line B Water Quality Basin
- Line B Debris Basin
- Lakeland Village Debris/Attenuation Basin
- Line I Debris Basin.

All photo locations are shown in Figure 4.1-1, Simulation Photo Key Map (Views 1–10).

Line A Debris Basin – Figures 4.1-2 and 4.1-3 (Views 1 and 2)

The Line A Debris Basin is proposed approximately 350 feet west of the intersection of Jamieson Street and Orange Street, upstream of the existing Lime Street Channel and has a volume of 9.3 acre-feet and an area footprint of 1.5 acres. The embankment height of the Line A Debris Basin is planned to be approximately 20 feet. Figures 4.1-2 and 4.1-3 (Views 1 and 2) provide simulated views of the proposed Line A Debris Basin looking southwesterly from nearby residential areas near the intersection of Mountain View Avenue and Jamieson Street (Figure 4.1-2, View 1), and at the dead end of Jamieson Street and the existing Lime Street Channel (Figure 4.1-3, View 2). As shown in Figures 4.1-2 and 4.1-3 (Views 1 and 2), the proposed basin would be located at the base of the Santa Ana Mountains in both views. As shown, some trees and bushes would be removed, and some of the view of the base of the Santa Ana Mountains may be blocked with the construction of the debris basin. But, the majority of the view of the Santa Ana Mountains would still be visible from these residential areas with the construction of the Line A Debris Basin.

Line B Water Quality Basin – Figures 4.1-4 and 4.1-5 (Views 3 and 4)

The Line B Water Quality (WQ) Basin is proposed at the southeast intersection of Serena Way and Grand Avenue and has an approximate volume of 5.0 acre-feet and an approximate area footprint of 3.2 acres. Figures 4.1-4 and 4.1-5 (Views 3 and 4) provide simulated views of the proposed Line B WQ Basin from two vantage points. Figure 4.1-4 (View 3) shows the basin looking easterly from the residence located at 33063 Macy Street and Figure 4.1-5 (View 4) shows the basin looking south from the intersection of Grand Avenue and Serena Way. As shown in Figures 4.1-4 and 4.1-5 (Views 3 and 4), the proposed Line B WQ basin would be visible from the surrounding streets and nearby residences,

but would not block views of any scenic resources, including the Santa Ana Mountains to the west and southwest, and would look very similar to the existing condition on the site.

Line B (Ortega Channel) Debris Basin – Figures 4.1-6 and 4.1-7 (Views 5 and 6)

The Line B Debris Basin is proposed at a point approximately 700 feet south of the intersection of Shoreline and Lighthouse Drive, upstream of the existing Ortega Channel, and has a volume of 15.7 acre-feet and an area footprint of 1.6 acres. The height of the embankment for the Line B Debris Basin is planned to be approximately 27 feet. Figures 4.1-6 and 4.1-7 (Views 5 and 6) provide simulated views of the proposed Line B Debris Basin from two vantage points. Figure 4.1-6 (View 5) shows the site looking southeasterly from Ortega Highway, near the back of a two-story residence. As shown in Figure 4.1-6 (View 5), the proposed debris basin would be visible from the highway and nearby residences, but would not block views of any scenic resources, including the Santa Ana Mountains. Additionally, some of the trees in front of the basin from Figure 4.1-6 (View 5) would remain, thereby screening some of the basin view. Figure 4.1-7 (View 6) shows the site looking southerly from the side of the residence located at 15101 Lighthouse Drive. As shown in Figure 4.1-7 (View 6), the proposed debris basin would be visible from nearby residences. Some trees and bushes would be removed, and some of the view of the base of the Santa Ana Mountains may be blocked with the construction of the debris basin. However, the majority of the view of the Santa Ana Mountains would still be visible from these residential areas with the construction of the basin, and the basin would blend in with the views of the surrounding mountain and terrain.

Lakeland Village Debris/Attenuation Basin – Figures 4.1-8 and 4.1-9 (Views 7 and 8)

The Lakeland Village Debris/Attenuation Basin is proposed approximately 350 feet south of the southernmost end of Blackwell Boulevard and has a volume of 97 acre-feet and an area footprint of 10.8 acres. The embankment height proposed for the Lakeland Village Debris Basin will be approximately 58 feet. As shown in Figures 4.1-8 and 4.1-9 (Views 7 and 8), the simulated views of the proposed Lakeland Village Debris/Attenuation Basin from two vantage points, the proposed debris/attenuation basin does alter the views of the surrounding hills. Figure 4.1-8 (View 7) depicts the site looking southeasterly from an open area near Bodkin Avenue and Mitchell Drive. As shown on Figure 4.1-8 (View 7), the proposed Lakeland Village Debris/Attenuation Basin would remove trees and bushes and would recontour the base of the mountain. Figure 4.1-9 (View 8) depicts the site looking southwesterly from the back of the residences off Nelson Avenue. As shown on Figure 4.1-9 (View 8), the proposed debris basin would be visible from this location as it would be 58 feet high. The vegetation on the slopes of the basin would help blend the new slopes with the surrounding terrain and is intended to make the finished condition with the basin look similar to the topography already present in this area.

Line I Debris Basin – Figures 4.1-10 and 4.1-11 (Views 9 and 10)

The Line I Debris Basin is proposed at a point approximately 265 feet south of Hayes Street and upstream of the proposed Line I facility. The debris basin has a volume of 3.0 acre-feet and an area footprint of 0.9 acre. The embankment height for the Line I Debris Basin is planned to be approximately 24 feet. Figures 4.1-10 and 4.1-11 (Views 9 and 10) provide simulated views of the proposed Line I Debris Basin from two vantage points near residential areas. Figure 4.1-10 (View 9) shows the site looking southerly from Wood Street and Figure 4.1-11 (View 10) shows the site looking southerly from Ballard Avenue. As shown in Figure 4.1-10 (View 9), the proposed debris basin is visible below the hills of the Santa Ana Mountains and to the back of the residence, but does not block views of the mountains. Figure 4.1-11 (View 10) shows that the proposed debris basin is visible below the hills of the Santa Ana Mountains and behind the residences in the photo view. The debris basin would be visible from nearby residences and would look similar to the existing terrain.

As described above, the proposed basins will alter the existing scenic conditions that residents in the immediate areas currently experience. Although most of the proposed basins and their embankments will be contoured and landscaped to blend in with the natural scenery as much as possible, they do still provide a change from the natural scenic condition that could be considered significant to some residents. Therefore, since views and vistas are subjective, and since this Project will alter some views, impacts related to view and vistas are considered **significant**.

Would the Project substantially degrade the existing visual character or quality of the site and its surroundings?

Currently, the MDP facility sites are undeveloped and either disturbed or undisturbed. Residential views near some of the basins include the Santa Ana Mountains and Lake Elsinore. During construction, exposed surfaces, construction debris, and construction equipment may temporarily affect the aesthetic quality of the immediate area. Overall, the proposed MDP open channels, debris basins on the hillsides, and water quality basins may be visible and could have a substantial adverse effect on a scenic vista. Buildout of the basins would remove some trees and bushes, along with changing the views of the hills at the bottom of the Santa Ana Mountains, which are currently viewed by residences. Views of Lake Elsinore would not be blocked with the construction of these basins as depicted on Figures 4.1-1 through 4.1-11 (Views 1–10). However, any future construction impacts will be short term and will cease upon construction completion. The construction-related aesthetic impacts would therefore be temporary and are considered to be expected in a developed area such as Lakeland Village.

When construction is complete, the underground MDP facilities will not be visible. However, open channels, debris basins located on the hillsides, and water quality basins will be visible to the public and nearby property owners. As shown in Figures 4.1-2 through 4.1-11 (Views 1-10), the proposed features

would be located on vacant disturbed or undisturbed land, and would, from most vantage points, be hidden by natural and man-made features of the natural and built environment. However, as discussed above, although the basins are being designed to be contoured and landscaped to blend into the existing surroundings as much as possible, the visual character of the surroundings will be affected by the Project. Therefore, the temporary (i.e., construction) and permanent impacts to changes in the visual character of the MDP facilities and their surroundings are considered **significant**.

4.1.6 Mitigation Measures

Impacts related to scenic vistas and visual character have been found to be significant since aesthetic values are subjective, and once built, some of the aboveground facilities such as the debris and water quality basins would change the natural scenic conditions. There are no feasible mitigation measures that could be implemented to reduce or minimize these impacts to scenic resources from the basins. The Project already includes landscaping as part of project design for the basins so that the MDP facilities blend into the surroundings as much as possible. The other MDP facilities either are aboveground or will be at grade level (i.e., the open channels), so those MDP facilities would not affect views. Given that the basins themselves are the reason for the visual impact, no mitigation is proposed, and a Statement of Overriding Considerations will be required for this impact.

4.1.7 Summary of Environmental Effects After Mitigation Measures Are Implemented

No feasible mitigation measures can be implemented that would change the visual impacts of the basins; therefore, impacts are considered significant.

4.1.8 References

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County of Riverside. 2003b. *Riverside County General Plan.* Chapter 5, Multipurpose Open Space Element. Accessed September 10, 2011. http://www.rctlma.org/genplan/content/gp/chapter05.html.

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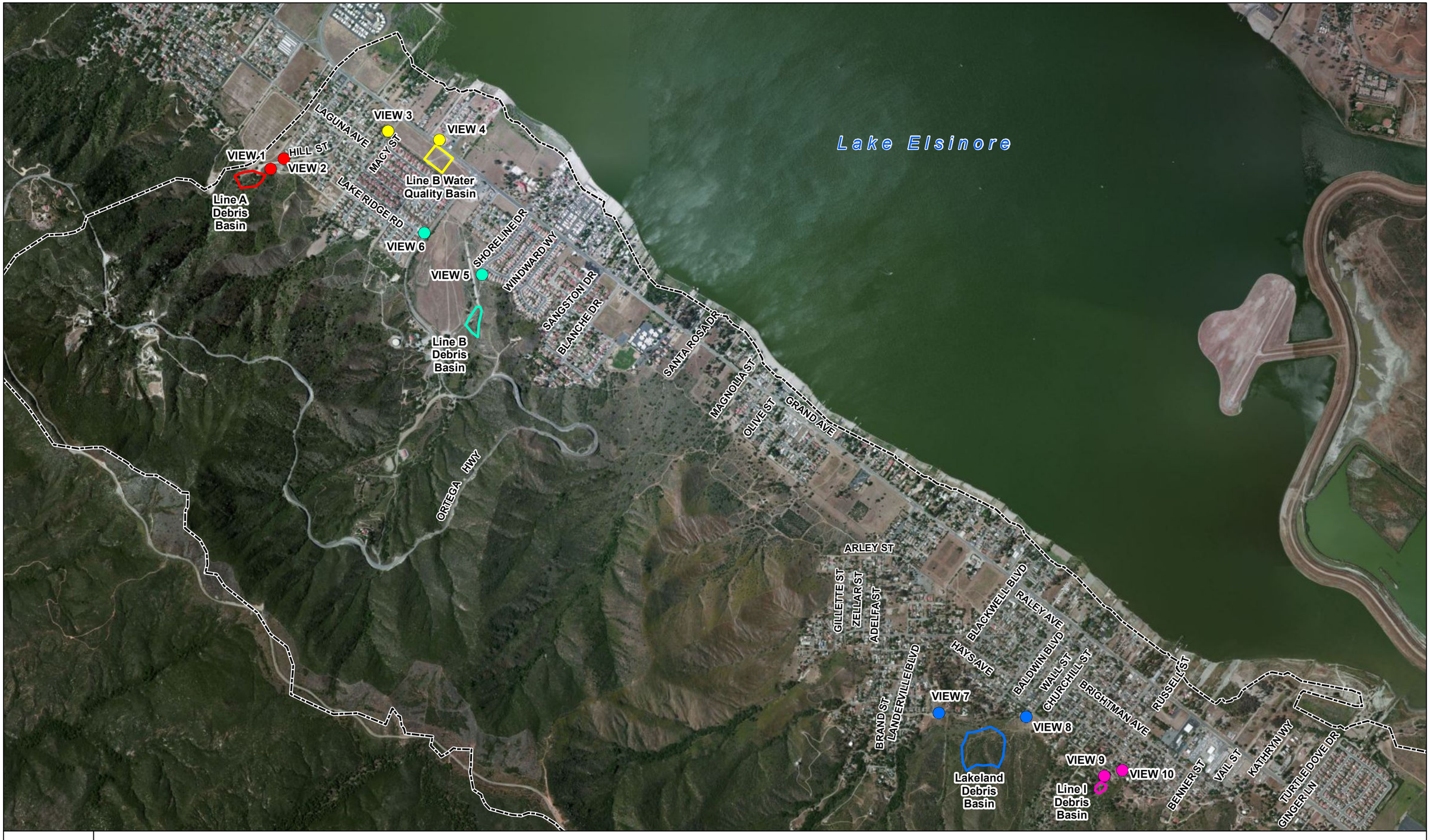

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FIGURE 4.1-1

Simulation Photo Key Map

LAKELAND VILLAGE MDP DRAFT PROGRAM EIR

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ABOVE: Existing View

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FIGURE 4.1-2

View 1 - Line A Debris Basin

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FIGURE 4.1-3

View 2 - Line A Debris Basin

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FIGURE 4.1-4

View 3 - Line B Water Quality Basin

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FIGURE 4.1-5

View 4 - Line B Water Quality Basin

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FIGURE 4.1-6

View 5 - Line B Debris Basin

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FIGURE 4.1-7

View 6 - Line B Debris Basin

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FIGURE 4.1-8

View 7 - Lakeland Village Debris Basin

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FIGURE 4.1-9

View 8 - Lakeland Village Debris Basin

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BELOW: Simulated View

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FIGURE 4.1-10

View 9 - Line I Debris Basin

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ABOVE: Existing View

BELOW: Simulated View

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FIGURE 4.1-11

View 10 - Line I Debris Basin

LAKELAND VILLAGE MDP DRAFT PROGRAM EIR

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4.2 Air Quality

The focus of the following discussion and analysis, based on the initial study (IS), public scoping session, and comments received during the Notice of Preparation (NOP) public comment period, is related to the Project's potential to exceed air quality standards or contribute to an existing or projected air quality exceedance, potential to result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard, and potential to expose sensitive receptors to substantial pollutant concentrations. This section discusses and analyzes the Project's short-term construction impacts to air quality that would potentially occur as a result of construction of the Master Drainage Plan (MDP) facilities. Operational (long-term) impacts from the Project associated with maintenance of the MDP facilities are addressed qualitatively. Potentially significant impacts identified in the IS for the Project are evaluated for their significance based on the South Coast Air Quality Management District's (SCAQMD's) enumerated air quality thresholds.

Potential impacts from the Project on inconsistency with the applicable air quality plan and potential odors generated during construction were found to be less than significant in the IS for the Project and are therefore not further discussed in the Draft Program Environmental Impact Report (PEIR) (see Appendix A). Mitigation measures required to reduce impacts are recommended as appropriate.

Potential Project-generated emissions were estimated using the California Emissions Estimator Model (CalEEMod), Version 2011.1.1, available online (http://www.caleemod.com). Model results are included in this Draft PEIR as Appendix C.

4.2.1 Setting and Project Baseline

4.2.1.1 Physical Setting

The Project area is located within the South Coast Air Basin (SCAB), which includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, and is within the jurisdictional boundaries of the SCAQMD. Air quality within the Project boundary is not only affected by various emission sources (e.g., mobile, industry), but it is also affected by atmospheric conditions such as wind speed, wind direction, temperature, and rainfall. The SCAB's combination of topography, low mean mixing height, abundant sunshine, and emissions from one of the largest urban areas in the United States have historically resulted in some of the worst air pollution in the nation.

Although the SCAB has a semiarid climate, air near the surface is generally moist because of the presence of a shallow marine layer. With very low average wind speeds, there is a limited capacity to disperse air contaminants horizontally. The dominant daily wind pattern is an onshore 8–12 mile per hour (mph) daytime breeze and an offshore 3–5 mph nighttime breeze. The typical wind flow pattern fluctuates only with occasional winter storms, or strong northeasterly Santa Ana winds from the mountains and deserts

northeast of the SCAB. Summer wind flow patterns represent worst-case conditions, as this is the period of higher temperatures and more sunlight, which results in ozone (O_3) formation.

The Lakeland Village area's climate is similar to that of Lake Elsinore, which is characterized by relatively low rainfall, with warm summers and mild winters. Average temperatures range from a high of 100 degrees Fahrenheit (°F) in August to a low of 40°F in December. Annual precipitation averages about 12 inches, falling mostly from December through March (City-Data.com 2011).

During spring and early summer, air pollution produced during any one day is typically blown out of the SCAB through mountain passes or lifted by warm, vertical currents adjacent to mountain slopes. The vertical dispersion of air pollutants in the SCAB is limited by temperature inversions in the atmosphere close to the Earth's surface. The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly onshore into Riverside and San Bernardino Counties. In the winter, the greatest pollution problems are carbon monoxide (CO), particulate matter, and nitrogen dioxide (NO_2) because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and oxides of nitrogen (NOx) to form photochemical smog.

4.2.1.2 Pollutants and Effects

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Criteria air pollutants include the following: O_3, NO_2, CO, sulfur dioxide (SO_2), particulate matter with an aerodynamic diameter less than or equal to 10 microns in size (PM_{10}), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns in size ($PM_{2.5}$), and lead. These pollutants, as well as toxic air contaminants (TACs), are discussed below.[1] In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Ozone. O_3 is a strong smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O_3 precursors, such as hydrocarbons and NO_x. These precursors are mainly NO_x and

[1] The following descriptions of health effects for each of the criteria air pollutants associated with project construction and operations are based on the U.S. Environmental Protection Agency "Six Common Air Pollutants" (EPA 2013a) and the CARB "Glossary of Air Pollutant Terms" (CARB 2012) published information.

volatile organic compounds (VOCs; also referred to as reactive organic compounds or gases). The maximum effects of precursor emissions on O_3 concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O_3 formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O_3 exists in the upper atmosphere ozone layer (stratospheric ozone) as well as at the Earth's surface in the troposphere (ozone). O_3 in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. This health problem is particularly acute in sensitive receptors such as the sick, the elderly, and young children.

Nitrogen Dioxide. NO_2 is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO), which is a colorless, odorless gas. NO_x, which is formed from fuel combustion under high temperature or pressure, play a major role, together with VOCs, in the atmospheric reactions that produce O_3.. In addition, NO_x is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emissions sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers. NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections.

Carbon Monoxide. CO is a colorless and odorless gas formed by the incomplete combustion of hydrocarbon, or fossil, fuels. It is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas such as the Project area, automobile exhaust accounts for the majority of CO emissions. CO is a non-reactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions, primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, a typical situation at dusk in urban areas between November and February. The highest levels of CO typically occur during the colder months of the year when inversion conditions are more frequent. In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, thus reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions.

Sulfur Dioxide. SO_2 is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. Main sources of SO_2 are coal and oil used in power plants and industries; as such, the highest levels of SO_2 are generally found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels. SO_2 is an irritant gas that attacks the throat

and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. When combined with fine particulate matter ($PM_{2.5}$), SO_2 can injure lung tissue and reduce visibility and the level of sunlight. It can also yellow plant leaves and erode iron and steel.

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. Fine particulate matter, or $PM_{2.5}$, is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., from motor vehicles, power generation, and industrial facilities), residential fireplaces, and wood stoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x, and VOCs. Inhalable particulate matter, or PM_{10}, is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning, industrial sources, and windblown dust from open lands; and atmospheric chemical and photochemical reactions.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the bloodstream, causing damage elsewhere in the body. Additionally, these substances can transport absorbed gases, such as chlorides or ammonium, into the lungs, also causing injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissue. Suspended particulates also damage and discolor surfaces on which they settle, as well as producing haze and reducing regional visibility.

People with influenza and chronic respiratory and cardiovascular diseases, as well as the elderly, may suffer worsening illness and premature death due to breathing these fine particles. People with bronchitis can expect aggravated symptoms from breathing in fine particles. Children may experience decline in lung function due to breathing in PM_{10} and $PM_{2.5}$. Other groups considered sensitive are smokers and people who cannot breathe well through their noses, as well as exercising athletes because many breathe through their mouths.

Lead. Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, and other old coatings; ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phaseout of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phaseout of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities have become lead-emission sources of greater concern. Prolonged exposure to

atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth. Accordingly, children are highly susceptible to the effects of lead.

Toxic Air Contaminants. A substance is considered toxic if it has the potential to cause adverse health effects in humans. A toxic substance released into the air is considered a TAC. TACs are identified by federal and state agencies based on a review of available scientific evidence. In the State of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics "Hot Spots" Information and Assessment Act, Assembly Bill 2588, was enacted by the legislature in 1987 to address public concern over the release of TACs into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emission sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years.

Significant sources of TACs in the environment include industrial processes, such as petroleum refining, chemical manufacturing, electric utilities, metal mining/refining, and chrome plating; commercial operations, such as gasoline stations, dry cleaners, and buildings with boilers and/or emergency generators; and transportation activities, particularly diesel-powered vehicles, including trains, buses, and trucks. The California Air Resources Board (CARB) has determined that the 10 compounds that pose the greatest known health risk in California, based primarily on ambient air quality data, are benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter.

4.2.1.3 Air Quality Standards and Attainment Status

South Coast Air Basin Attainment Designation

An area is designated in attainment when it is in compliance with the National Ambient Air Quality Standards (NAAQS) and/or California Ambient Air Quality Standards (CAAQS). These standards are set by the U.S. Environmental Protection Agency (EPA) or CARB for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare. The attainment classifications for criteria pollutants are outlined in Table 4.2-1, SCAB Attainment Classification.

Table 4.2-1
SCAB Attainment Classification

Pollutant	Averaging Time	State Designation/Classification[a]	National Designation/Classification[b]
O_3	1 hour 8 hours	Nonattainment Nonattainment	— Nonattainment (extreme)
NO_2	1 hour Annual arithmetic mean	Nonattainment	Unclassifiable/attainment
CO	1 hour 8 hours	Attainment	Attainment (maintenance)
SO_2	1 hour 24 hours Annual arithmetic mean	Attainment	Unclassifiable
PM_{10}	24 hours Annual arithmetic mean	Nonattainment	Attainment (maintenance)
$PM_{2.5}$	24 hours Annual arithmetic mean	Nonattainment	Nonattainment
Lead (Pb)	Quarter	—	Unclassifiable/attainment
	3-month average	—	Unclassifiable/attainment
	30-day average	Attainment	—
Sulfates (SO_4)	24 hours	Attainment	—
Hydrogen sulfide (H_2S)	1 hour	Unclassified	—
Vinyl chloride[c]	24 hours	Unclassified	—
Visibility-reducing particles	8 hours (10:00 a.m.–6:00 p.m.)	Unclassified	—

[a] Source is CARB 2013a.
[b] Source is EPA 2013b.
[c] CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined.

Ambient Air Quality

The SCAQMD maintains ambient air quality monitoring stations throughout the SCAB. The closest ambient air quality monitoring station to the Project site is the Lake Elsinore station, located at 506 West Flint Street, which measures O_3, PM_{10}, NO_2, and CO. While the Lake Elsinore station monitors $PM_{2.5}$ for compliance with the annual CAAQS, it does not monitor for compliance with the 24-hour NAAQS using the federal monitoring method; thus, it does not provide a complete summary for this pollutant. For SO_2 and $PM_{2.5}$, values from the next closest Riverside County monitoring station, located in Rubidoux, were used in this analysis. The most recent background ambient air quality data from 2008 to 2011 are presented in Table 4.2-2, Ambient Air Quality Data. The number of days exceeding the NAAQS and CAAQS is shown in Table 4.2-3, Frequency of Air Quality Standard Violations.

Table 4.2-2
Ambient Air Quality Data (parts per million unless otherwise indicated)

Pollutant	Averaging Time	2008	2009	2010	2011	Most Stringent Ambient Air Quality Standard	Monitoring Station
O_3	8-hour	0.118	0.105	0.091	0.106	0.070	Lake Elsinore
	1-hour	0.139	0.128	0.107	0.133	0.09	
PM_{10}	Annual	39.6 µg/m^3	28.0 µg/m^3	23.7 µg/m^3	24.7 µg/m^3	20 µg/m^3	Lake Elsinore
	24-hour	125.4 µg/m^3	75.2 µg/m^3	54.4 µg/m^3	99.8 µg/m^3	50 µg/m^3	
$PM_{2.5}$	Annual	n/a	17.1µg/m^3	13.9 µg/m^3	13.5 µg/m^3	12 µg/m^3	Riverside-Rubidoux
	24-hour	57.6 µg/m^3	62.0 µg/m^3	46.5 µg/m^3	60.8 µg/m^3	35 µg/m^3	
NO_2	Annual	0.013	0.013	0.010	0.010	0.030	Lake Elsinore
	1-hour	0.055	0.055	0.051	0.050	0.18	
CO	8-hour	0.84	0.73	0.67	0.67	9.0	Lake Elsinore
	1-hour[a]	1	1	1	3	20	
SO_2	Annual	0.000	0.001	0.001	0.000	0.030	Riverside-Rubidoux
	24-hour	0.003	0.003	0.005	0.001	0.040	

Source: CARB 2011.
Notes: Lake Elsinore Monitoring Station: 506 West Flint Street, Lake Elsinore;
Riverside-Rubidoux Monitoring Station: 5888 Mission Boulevard, Rubidoux.
µg/m^3 = micrograms per cubic meter; n/a = insufficient data available to determine the value.
[a] Data were taken from EPA AirData (EPA 2011).

Table 4.2-3
Frequency of Air Quality Standard Violations

Monitoring Site	Year	Number of Days Exceeding Standard					
		State 1-Hour O_3	*State 8-Hour O_3*	*National 8-Hour O_3*	*State 24-Hour PM_{10}*[a]	*National 24-Hour PM_{10}*[a]	*National 24-Hour $PM_{2.5}$*
Lake Elsinore	2008	49	91	69	n/a	0	
	2009	24	65	35	n/a	0	
	2010	15	40	24	n/a	0	
	2011	19	45	28	n/a	0	
Riverside-Rubidoux	2008						15
	2009						15
	2010						4
	2011						5

Source: CARB 2011.
Note: Exceedances of federal and state standards are only shown for ozone and particulate matter. All other criteria pollutants did not exceed either federal or state standards during the years shown.
[a] PM_{10} levels have exceeded the state ambient air quality standards; however, the number of days exceeding these standards has not been reported by CARB.
n/a = Insufficient data available to determine the value.

As Table 4.2-2 demonstrates, air quality within the project region is in compliance with both CAAQS and NAAQS for NO_2, CO, and SO_2. Federal and state 1-hour and 8-hour O_3 standards were, however, exceeded during each of the last 4 years, as shown in Table 4.2-3. The PM_{10} levels monitored at the Lake Elsinore air monitoring station exceeded the state annual and 24-hour standards during each of the 4 years reported. The $PM_{2.5}$ levels at the Riverside-Rubidoux exceeded the state annual standard in 2009, 2010, and 2011 and the federal 24-hour standard in each of the 4 years reported.

4.2.2 Related Regulations

Federal

The federal Clean Air Act, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The EPA is responsible for implementing most aspects of the Clean Air Act, which include NAAQS for major air pollutants, hazardous air pollutant standards, approval of state attainment plans, motor vehicle emission standards, stationary source emission standards and permits, acid rain control measures, stratospheric O_3 protection, and enforcement provisions. NAAQS are established for criteria pollutants under the Clean Air Act, which are O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead.

The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation; these NAAQS may not be exceeded more than once a year, except annual standards, which may never be exceeded. The Clean Air Act requires the EPA to reassess the NAAQS at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a State Implementation Plan that demonstrates how those areas will attain the standards within mandated time frames.

State

CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for ensuring implementation of the California Clean Air Act of 1988, responding to the federal Clean Air Act, and regulating emissions from motor vehicles and consumer products. CARB has established CAAQS, which are generally more restrictive than the NAAQS, consistent with the Clean Air Act, which requires state regulations to be at least as restrictive as the federal requirements. The CAAQS describe adverse conditions; that is, pollution levels must be below these standards before a basin can attain the standard. Air quality is considered in "attainment" if pollutant levels are continuously below the CAAQS and violate the standards no more than once each year. The NAAQS and CAAQS are presented in Table 4.2-4, Ambient Air Quality Standards.

Table 4.2-4
Ambient Air Quality Standards

Pollutant	Average Time	California Standards[a]	National Standards[b]	
		Concentration[c]	*Primary*[c,d]	*Secondary*[c,e]
O_3	1 hour	0.09 ppm (180 μg/m^3)	—	Same as primary standard
	8 hours	0.070 ppm (137 μg/m^3)	0.075 ppm (147 μg/m^3)	
CO	8 hours	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	None
	1 hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	
NO_2	Annual arithmetic mean	0.030 ppm (57 μg/m^3)	0.053 ppm (100 μg/m^3)	Same as primary standard
	1 hour	0.18 ppm (339 μg/m^3)	0.100 ppm (188 μg/m^3)	
SO_2	1 hour	0.25 ppm (655 μg/m^3)	0.075 ppm (196 μg/m^3)	—
	3 hours	—	—	0.5 ppm (1300 μg/m^3)
	24 hours	0.04 ppm (105 μg/m^3)	0.14 ppm (for certain areas)[f]	—
	Annual	—	0.030 ppm (for certain areas)[f]	—
PM_{10}	24 hours	50 μg/m^3	150 μg/m^3	Same as primary standard
	Annual arithmetic mean	20 μg/m^3	—	
$PM_{2.5}$	24 hours	No separate state standard	35 μg/m^3	Same as primary standard
	Annual arithmetic mean	12 μg/m^3	12.0 μg/m^3	15.0 μg/m^3
Lead[g]	30-day average	1.5 μg/m^3	—	—
	Calendar quarter	—	1.5 μg/m^3 (for certain areas)[7]	Same as primary standard
	Rolling 3-month average	—	0.15 μg/m^3	
Hydrogen sulfide	1-hour	0.03 ppm (42 μg/m^3)	—	—
Vinyl chloride[g]	24-hour	0.01 ppm (26 μg/m^3)	—	—
Sulfates	24-hour	25 μg/m^3	—	—
Visibility reducing particles	8-hour (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70%	—	—

Source: CARB 2013b.
ppm= parts per million by volume; μg/m^3 = micrograms per cubic meter; mg/m^3= milligrams per cubic meter

[a] California standards for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, suspended particulate matter—PM_{10}, $PM_{2.5}$, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] National standards (other than O_3, NO_2, SO_2, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For $PM_{2.5}$, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[e] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[f] On 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[g] CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Local

The SCAQMD is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in the SCAB, where the Project boundary is located. The SCAQMD operates monitoring stations in the SCAB, develops rules and regulations for stationary sources and equipment, prepares emissions inventory and air quality management planning documents, and conducts source testing and inspections. The SCAQMD's Air Quality Management Plans (AQMPs) include control measures and strategies to be implemented to attain state and federal ambient air quality standards in the SCAB. The SCAQMD then implements these control measures as regulations to control or reduce criteria pollutant emissions from stationary sources or equipment.

The SCAQMD Governing Board adopted the 2003 AQMP on August 1, 2003. The 2003 AQMP updates the attainment demonstration for the federal standards for O_3 and PM_{10}, replaces the 1997 attainment demonstration for the federal CO standard, provides a basis for a maintenance plan for CO for the future, and updates the maintenance plan for the federal NO_2 standard that the SCAB has met since 1992. On March 10, 2009, the EPA issued a final rule partially approving and partially disapproving the 2003 AQMP. On February 2, 2011, the U.S. Court of Appeals for the Ninth Circuit ruled that the EPA's partial approval was arbitrary and capricious. The court further ruled that the EPA should have ordered California to submit a revised attainment plan for the SCAB after it disapproved the 2003 AQMP and that the EPA should have required transportation control measures. The SCAQMD Governing Board adopted the 2007 AQMP on June 1, 2007. The 2007 AQMP includes the same updates as the 2003 AQMP and incorporates significant new scientific data, primarily in the form of updated emissions

inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. As part of the 2007 AQMP, the SCAQMD requested that the EPA "bump up" the O_3 nonattainment status from severe to extreme to allow additional time for the SCAB to achieve attainment with the federal standard. The additional time would provide for implementation of state and federal measures that apply to sources over which the SCAQMD does not have control. The 2007 AQMP had been approved by CARB; however, on November 22, 2010, the EPA issued a proposed rule to approve in part and disapprove in part the portions related to attainment of the federal $PM_{2.5}$ standard. The EPA, however, approved the redesignation of the SCAB to an extreme O_3 nonattainment area, effective as of June 4, 2010. Subsequently, on December 15, 2011, the EPA released a final rule approving the air quality plan for the SCAB demonstrating attainment with the 1997 8-hour O_3 standard by June 15, 2024. Final action will become effective 60 days after publication in the Federal Register.

Emissions that would result from mobile, stationary, and area sources during construction and operation of the MDP facilities are subject to the rules and regulations of the SCAQMD. The applicable SCAQMD rules may include the following:

Rule 403 (Fugitive Dust): This rule requires fugitive dust sources to implement best available control measures for all sources, and all forms of visible particulate matter are prohibited from crossing any property line. SCAQMD Rule 403 is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust.

Rule 431.2 (Sulfur Content of Liquid Fuels): The purpose of this rule is to limit the sulfur content in diesel and other liquid fuels for the purpose of both reducing the formation of SO_x and particulates during combustion and to enable the use of add-on control devices for diesel-fueled internal combustion engines. The rule applies to all refiners, importers, and other fuel suppliers such as distributors, marketers, and retailers, as well as to users of diesel, low-sulfur diesel, and other liquid fuels for stationary source applications in the SCAQMD. The rule also affects diesel fuel supplied for mobile source applications.

4.2.3 Comments Received in Response to the Notice of Preparation

A comment letter was received from the SCAQMD dated October 3, 2011, in response to the NOP. The contents of this letter are included in Appendix A.

4.2.4 Significance Threshold Criteria

The District has not established local CEQA significance thresholds as described in Section 15064.7 of the CEQA Guidelines. The NOP for the PEIR included the IS (Environmental Checklist) to show the areas being analyzed in the PEIR; refer to Appendix A of this PEIR. Accordingly, and based on the IS, the Project would have a significant impact on air quality if the Project would:

- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

- Result in cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors to substantial pollutant concentrations.

In addition, Appendix G of the CEQA Guidelines indicates that where available, the significance criteria established by the applicable AQMD or pollution control district may be relied upon to determine if the proposed project would have a significant impact on air quality. The SCAQMD CEQA Air Quality Handbook (SCAQMD 1993) set forth quantitative emission significance thresholds below which a project would not have a significant impact on ambient air quality; the most recent SCAQMD significance thresholds were updated in March 2011 (SCAQMD 2011). Project-related air quality impacts estimated in this environmental analysis would be considered significant if any of the applicable significance thresholds presented in Table 4.2-5, SCAQMD Air Quality Significance Thresholds, are exceeded. Only those thresholds related to potentially significant construction impacts are identified in Table 4.2-5; long-term, operational impacts resulting from maintenance of the MDP facilities are addressed qualitatively because the Project would not result in a substantial increase in routine, daily operation and maintenance activities of District flood control facilities.

A project would result in a substantial contribution to an existing air quality violation of the NAAQS or CAAQS for O_3 (see Table 4.2-4), which is a nonattainment pollutant, if the Project's construction or operational emissions would exceed the SCAQMD VOC or NO_x thresholds shown in Table 4.2-5. These emission-based thresholds for O_3 precursors are intended to serve as a surrogate for an "ozone significance threshold" (i.e., the potential for adverse O_3 impacts to occur) because O_3 itself is not emitted directly (see discussion of O_3 and its sources above), and the effects of an individual project's emissions of O_3 precursors (VOC and NO_x) on O_3 levels in ambient air cannot be determined through air quality models or other quantitative methods.

Table 4.2-5
SCAQMD Air Quality Significance Thresholds

Criteria Pollutants Mass Daily Thresholds	
Pollutant	*Construction*
NO_x	100 lb/day
VOC	75 lb/day
PM_{10}	150 lb/day
$PM_{2.5}$	55 lb/day
SO_x	150 lb/day
CO	550 lb/day
Lead[a]	3 lb/day

Table 4.2-5
SCAQMD Air Quality Significance Thresholds

Criteria Pollutants Mass Daily Thresholds	
Pollutant	*Construction*
Ambient Air Quality for Criteria Pollutants[b]	
NO_2 1-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state)
PM_{10} 24-hour average	10.4 μg/m^3 (construction)[c]
$PM_{2.5}$ 24-hour average	10.4 μg/m^3 (construction)[c]
CO 1-hour average CO 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)

Source: SCAQMD 2011.
lb/day = pounds per day; ppm = parts per million; μg/m^3 = micrograms per cubic meter
[a] Ambient air quality threshold based on SCAQMD Rule 403.
[b] Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.
[c] Ambient air quality threshold based on SCAQMD Rule 403.

In addition to the above-listed emission-based thresholds, SCAQMD also recommends the evaluation of localized air quality impacts to sensitive receptors in the immediate vicinity of the Project as a result of construction activities. The significance thresholds for NO_2 and CO represent the allowable increase in concentrations above background levels in the vicinity of a project that would not cause or contribute to an exceedance of the relevant ambient air quality standards, while the threshold for PM_{10} represents compliance with Rule 403 (Fugitive Dust). The significance threshold for $PM_{2.5}$ is intended to ensure that construction emissions do not contribute substantially to existing exceedances of the $PM_{2.5}$ ambient air quality standards. For project sites of 5 acres or less, the SCAQMD's *Final Localized Significance Threshold Methodology* (LST Methodology; SCAQMD 2008) includes "lookup tables" that can be used to determine the maximum allowable daily emissions that would satisfy the localized significance criteria (i.e., the emissions would not cause an exceedance of the applicable concentration limits for NO_2, CO, PM_{10}, and $PM_{2.5}$) without performing project-specific dispersion modeling. The allowable emission rates depend on the following parameters:

a. Source–Receptor Area in which the project is located

b. Size of the project site

c. Distance between the project site and the nearest sensitive receptor (e.g., residences, schools, hospitals).

The Project boundary is located in Source–Receptor Area 25 (Lake Elsinore). Construction of the MDP facilities could take place relatively close to sensitive receptors including residences and schools. Sufficient

detail is not currently available for all proposed development, as detailed design plans have not been prepared and MDP facilities are analyzed at the program level in this Draft PEIR. The values from the SCAQMD lookup tables for Source–Receptor Area 25 for a 1-acre improvement site and the closest distances of 25 meters are shown in Table 4.2-6. While the actual construction area may be larger than 1 acre, using the smaller area results in a more conservative analysis because the localized significance thresholds (LSTs) for a 1-acre site are lower. The proximity of the nearest off-site sensitive receptors to the proposed MDP facility improvements differs for each improvement; however, residences are potentially located as close as 25 meters to the proposed MDP facilities, which is also the closest distance provided in the lookup tables in the SCAQMD LST Methodology.

Table 4.2-6
Localized Significance Thresholds for Source-Receptor Area 25

Pollutant	Thresholds (pounds/day)
NO_2	162
CO	661
PM_{10}	4
$PM_{2.5}$	3

Source: SCAQMD 2008, Appendix C. Localized significance thresholds are shown for a 1-acre project site corresponding to a distance to a sensitive receptor of 25 meters.

4.2.5 Environmental Impacts Before Mitigation

Would the Project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Reasonably Foreseeable Future Construction Emissions

The vast majority of the air pollutants would be generated during the future construction phases of the Project. Construction of the MDP facilities would result in a temporary addition of pollutants to the local air basin caused by soil disturbance, dust emissions, and combustion pollutants from on-site construction equipment, as well as from personal vehicles, vendor trucks (e.g., concrete trucks), and off-site trucks hauling construction materials. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and, for dust, the prevailing weather conditions. Fugitive dust emissions would primarily result from grading and site preparation activities. NO_x and CO emissions would primarily result from the use of construction equipment and motor vehicles.

The Project consists of multiple drainage infrastructure improvements required to alleviate and control flooding within the Project boundary. Types of improvements proposed to meet the goals of the Project include upsizing of existing facilities and construction of concrete-lined rectangular channels, storm drains, debris basins, and water quality basins. Proposed MDP facilities are listed in Section 3.0, Project Description, Table 3.0-1.

Although the Project identifies the approximate location, size, and type of necessary facilities, the alignments and type of facilities proposed would potentially change during the design process, which would take place at some time in the future. Accordingly, because this is a PEIR, construction timing and overall phasing sequence is currently unknown; however, it is anticipated that construction would occur over several years. Due to funding availability, construction could potentially occur intermittently over the next 10 to 50 years. Potential air quality impacts would depend upon the types and lengths of MDP facilities constructed and on the timing of multiple projects located in the same vicinity. By the nature of a PEIR, project components have yet to be designed; thus, construction specifics are currently unknown.

A representative project was identified to analyze potential impacts associated with implementation of future MDP facilities under the Project. The representative project was developed consistent with maximum funding that the District may have available for construction of MDP facilities to conservatively estimate potential construction-related emissions and associated impacts. This representative-project analysis assumes a construction scenario, which includes anticipated phasing, construction equipment, area disturbed during grading activities, and export of excavated material. The representative project consists of excavation; backfill and/or compaction during construction of a storm drain, concrete-lined rectangular channel, debris basin, and water quality basin; and paving construction activities. Construction scenario assumptions were based on anticipated construction of and along Line N and Lateral N-1, which includes the Line N Debris Basin and Line N Water Quality (WQ) Basin (see Table 3.0-2, Detailed Project Description). The evaluation of Line N and Lateral N-1 facilities were chosen as a representation of a typical MDP facility project, and the analysis is intended to represent a maximum scenario associated with Project construction. Therefore, while actual construction could differ from the scenario analyzed in this PEIR, the modeled analysis for Line N and Lateral N-1 facilities and estimated maximum daily emissions included herein would represent a conservative assessment of air quality impacts associated with anticipated Project construction.

Emissions from the construction of the representative project were estimated using the SCAQMD's CalEEMod, version 2011.1.1. For the purposes of modeling, it was assumed that construction of the representative project would start on April 1, 2013, and would end on December 5, 2013, lasting approximately 9 months. Although project construction may not start in spring 2013, assuming construction would occur in 2013 represents a conservative estimate of emissions, as vehicle and equipment emissions generally decrease over time. Modeled construction for Line N and Lateral N-1 facilities would consist of the following phases, which are assumed to be constructed sequentially for purposes of this analysis:

- Storm drain installation (2.1 acres)
    - Excavation – 11 weeks
    - Concrete for reinforced concrete box (RCB) installation – 3 days
    - Backfill – 11 weeks

- Paving – 2 weeks (1.82 acres)
- Concrete rectangular channel (0.64 acres)
    - Excavation – 0.5 week
    - Concrete for channel installation – 3 days
    - Backfill/compaction – 0.5 week
- Debris basin (2.9 acres)
    - Excavation – 3.5 weeks
    - Backfill/compaction – 5 weeks
- Water quality basin (3.7 acres)
    - Excavation – 2 weeks.

The Project envisions construction of 21 new storm drains, five new concrete-lined rectangular channels, nine new debris basins, and four new water quality basins, in addition to the upsizing of existing facilities. Construction would likely occur over several years and could occur intermittently over the next 10 to 50 years depending on availability of funds. Accordingly, potential air quality emissions associated with buildout of all MDP facilities in reality would not occur entirely within 1 year.

Nevertheless, a 9-month construction schedule was assumed for the modeling of the representative project of Line N and Lateral N-1 facilities. The equipment mix anticipated for Project construction activity associated with the representative project was based on the District's input and typical construction practices, and is described in Appendix C. The equipment mix is meant to represent a reasonably conservative estimate of construction activity. For the analysis, it was generally assumed that heavy construction equipment would be operating at the site for approximately 8 hours per day, 5 days per week (22 days per month). To account for dust control measures in the calculations, it was assumed that the active sites would be watered at least three times daily, resulting in an approximately 61% reduction in dust generation to comply with Rule 403 (Fugitive Dust).

Estimated maximum daily construction emissions are presented in Table 4.2-7. Detailed model results and additional details of the construction schedule are included in Appendix C.