

**RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT**
Riverside, California

MORENO
MASTER DRAINAGE PLAN

ZONE FOUR

Original Plan – September 1980
Revision No. 2 – April 2014

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MORENO MASTER DRAINAGE PLAN

(Revision No. 2)

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SECTION I - PURPOSE

The purpose of this report is to identify the network of drainage facilities needed to alleviate currently known and anticipated drainage problems within the eastern portion of the City of Moreno Valley. A Master Drainage Plan (MDP) was originally adopted for the Moreno watershed in 1980 and was later revised in 1991 due to the development of the watershed at a higher density than anticipated. Since the 1991 revision, the City of Moreno Valley has updated its general plan, approved zone changes, and continued to grow significantly; prompting the District to once again revise the Moreno MDP to address these changes. In addition, this new revision seeks to address changes in regulation that favor the incorporation of flood control facilities which encourage infiltration.

Readers should bear in mind that the drainage network presented herein is conceptual in nature. Simply stated, the MDP provides a conceptual solution that addresses the known and anticipated drainage problems in the Moreno area based on various engineering, environmental, and economic considerations. By no means does the proposed MDP represent the only feasible solution.

The alignment and location of the facilities proposed in this MDP are approximate. Precise locations will be dictated by site specific conditions and other factors existing at the time of detailed design. Similarly, the facility sizing information shown on the enclosed map is preliminary. More detailed analysis performed at the facility design stage will determine the final facility sizing.

SECTION II - SCOPE

Tasks involved in the development of this master plan include:

1. Determination of the points of concentration and quantity of storm water runoff produced at various locations.
2. Determination of the quantity of debris produced by major canyons in the watershed.
3. Determination of the location and size of the proposed drainage facilities.
4. Investigation of alternative routes and conveyance methods as a basis for selecting the most economical, environmental, and soundly engineered plan.
5. Preparation of a drainage facility map.
6. Preparation of preliminary plan and profile sheets.
7. Preparation of individual facility cost estimates.

SECTION III – GENERAL DISCUSSION

The Moreno MDP encompasses a portion of the City of Moreno Valley and surrounding Riverside County lands. The watershed is generally bounded by Lasselle Street on the west, Theodore Street on the east, the Badlands on the north, and the city boundary on the south.

The proposed drainage plan involves the construction of detention basins, debris basins, open channels, and a network of underground storm drains. The drainage system will collect local urban runoff and transport the flows through this developing community to an outlet at the upper terminus of the Kitching Street Channel.

The revision presented here is a re-evaluation and expansion of the 1991 Moreno MDP Revision (Adopted MDP). The proposed plan shall supersede all past plans and reports. The plan presented herein will provide flood protection from the 100-year flood to the community when implemented, serve as a guide for the long term construction scheduling of the primary drainage facilities, and serve the basis for revising the existing Moreno Area Drainage Plan (ADP). The plan will also act as a planning guide for the location and sizing of local drainage facilities to be constructed by developers and others within the area.

SECTION IV – MASTER DRAINAGE PLAN OBJECTIVES

The following objectives were established for the Moreno Master Drainage Plan Revision:

1. Revise the Moreno MDP to provide a drainage plan which supports the existing and proposed land use as set forth in the “Riverside County General Plan” updated in 2008, “City of Moreno Valley General Plan” updated in July 2006, and any proposed amendments thereto.
2. The fully implemented plan should, in conjunction with ultimate street improvements for the area within the boundaries of the Moreno MDP, contain the 100-year frequency flows and alleviate the primary sources of flooding.
3. Identify preferred facility alignments, sizing, and right-of-way required for the future construction of MDP facilities to protect existing and future development.
4. Identify the most economical combination of facilities considering right-of-way acquisition, construction, and maintenance costs.
5. Develop a plan which, when implemented, will result in the elimination of FEMA designated Special Flood Hazard Areas within the boundaries of the Moreno MDP.
6. Revise the Moreno MDP to minimize major diversions and perpetuate the natural drainage pattern of the area to the maximum extent practicable.
7. Where feasible, incorporate facilities which encourage infiltration.
8. Minimize environmental impacts to the maximum extent practicable.

SECTION V – HYDROLOGY

Revision Studies:

This section outlines methodology, assumptions, and rainfall values used for new studies within the drainage area boundary for this MDP revision. The areas restudied were those tributary to Line F north of Cactus Avenue, areas tributary to Quincy Channel (Line G), and areas north of California State Route 60 (SR 60) not tributary to Nason Basin. New studies for the western portion of the plan (west of the Line G system) were not performed during the revision since many of the facilities here have already been constructed and were designed based on the Adopted MDP flow rates and alignments (see Previous Studies section below for additional information).

Two methods were used to develop the hydrology for this MDP revision: the Rational Method and the Synthetic Unit Hydrograph Method. The Rational Method was used to determine the peak discharges (cubic feet per second) generated from smaller watersheds less than 300 to 500 acres in size. For watersheds larger than 500 acres, the Synthetic Unit Hydrograph Method was used. To account for the attenuating effects of channel and basin storage, the Convex Routing Method and Modified Puls Methods were used, respectively. Methodology and supportive data for both the Rational and Synthetic Unit Hydrograph Methods may be found in the *Riverside County Flood Control and Water Conservation District Hydrology Manual*, dated April 1978 (District Hydrology Manual).

Future land use assumptions were based on the following:

- "The City of Moreno Valley General Plan," updated July 2006
- "The Riverside County General Plan," updated December 2008
- Potential changes to areas currently zoned under the "Moreno Highlands Specific Plan," adopted in 1992.

NOAA Atlas 14 Version 4 rainfall values were used in the hydrology calculations performed for this MDP revision. The rainfall frequencies examined were the 2-year (50% annual chance) and the 100-year (1% annual chance) recurrence intervals with 1, 3, 6 and 24 hour durations. The calculated slope of the intensity-duration curve is 0.577. Table 1 highlights the NOAA Atlas 14 Version 4 area weighted point rainfall values used to develop the revision studies:

TABLE 1 – NOAA Atlas 14 Point Rainfall Values

Storm Frequency and Duration	Area Weighted Point Rainfall (Inches)
2 Year – 1 Hour	0.52
2 Year – 3 Hour	0.90
2 Year – 6 Hour	1.29
2 Year – 24 Hour	2.29
100 Year – 1 Hour	1.57
100 Year – 3 Hour	2.42
100 Year – 6 Hour	3.38
100 Year – 24 Hour	6.43

Previous Studies:

Line K System – The flow rates for the Line K system have remained the same as in the Adopted Plan. No changes were proposed to the alignment and no major changes in land use have occurred. Hydrology backup calculations for this line are from studies performed for the Adopted MDP. Line K was sized in these studies using NOAA Atlas 2 rainfall values.

Line H System – Hydrology for this system comes from the approved hydrology study for Tract 31128 and 31129 performed by PHB & Associates, Inc. This study reflects changes to the Adopted MDP alignment. This study uses NOAA Atlas 2 rainfall values.

SECTION VI – EXISTING FACILITIES

In preparing this master drainage plan revision an inventory of known existing facilities was made and is summarized in Table 2. Those facilities serving as part of revised Moreno MDP drainage system are shown on the updated Moreno MDP map.

TABLE 2 – Existing Facilities

Facility	Drawing Number	Maintenance
Line A	4-473	RCFC
Line D	4-1007	RCFC
Line D-5	4-1007	RCFC
Line D-6	4-1007	RCFC
Line F	4-502,4-5271 4-1007, 4-912(Future RCFC)	RCFC
Line F-2	4-491,4-847	RCFC
Line F-3	4-501, 4-506	RCFC
Line F-4	4-501	RCFC
Line F-5	4-570	RCFC
Line F-6	4-528	RCFC
Line F-7	4-501	RCFC
Line F-8	4-509	RCFC
Line F-9	-	MV
Line F-9	4-1007	RCFC
Line F-11	4-847	RCFC
Line F-12	4-847	RCFC
Line F-14	4-719	RCFC
Line G	4-526, 4-886	RCFC
Line G-5 (Auto Mall Dr Lateral)	4-526	MV
Line G-7	4-879	RCFC
Line H-1	4-885	RCFC
Line H-2	4-875	RCFC
Line H-3	-	MV
Line H-6	4-875	RCFC

Facility	Drawing Number	Maintenance
Line H-7	4-867	RCFC
Line H-8	4-875	RCFC
Line H-9	4-834	RCFC
Line I	4-583, 4-647, 4-738, 7-405, 4-904, 4-905	RCFC
Line J	4-858, (4-955 Future RCFC)	RCFC
Line J-2	4-858	RCFC
Line J-3	4-858	RCFC
Line J-4	4-858	RCFC
Line J-5	4-858	MV
Line J-6	4-858	RCFC
Line J-9	4-1027	(Future RCFC)
Line J-10	4-646, 4-647	RCFC
Line K-1	-	MV
Line K-3	-	MV
Moreno Cold Creek SD - Line A	4-929	RCFC

SECTION VII – FACILITY SIZING CRITERIA

Underground Storm Drains

The underground facilities proposed in this MDP are located within existing or assumed future right-of-way, whenever possible, and consists of reinforced concrete pipe (RCP) ranging in size from 27 inches to 108 inches in diameter and reinforced concrete boxes (RCB) ranging in dimensions from 7'W x 7'D to 10'W x 8'D. Underground storm drain facilities were sized based on their full flow capacity.

Open Channels

The open channel facilities proposed are generally located along existing drainage ditches, washes, and where the proposed construction of the channel would have minimal impacts on adjacent properties. The open channels serve as flow conveyors and provide outlets for underground facilities proposed in the plan. Two types of open channels are proposed in this MDP, concrete lined channels and earthen bottomed channels with rock lined side slopes (unlined). The hydraulic sizing of open channels is based on normal depth calculations. The right-of-way requirements for both lined and unlined facilities include the full channel width, maintenance access roads, as well as a 5 foot buffer on either side for anticipated cut and fill. Channels with top widths of less than 20 feet require one 15 foot maintenance access road; where the top width exceeds 20 feet, two maintenance access roads are necessary.

Detention Basins

The detention basins proposed in this MDP are located upstream existing facilities with limited hydraulic capacity (e.g. freeway culverts, Line F). The purpose of the detention basin is to attenuate peak flow rates to match the capacity of downstream existing facilities through the use of temporary detention storage. It should be noted that the detention basins proposed in this plan are sized for the 1% annual chance ("100-year" storm) event. Flows exceeding the design capacity of the basin would pass over an emergency spillway in flow patterns approximating present conditions.

Debris Basins

Debris basins are proposed in watersheds where significant amount of debris would be expected and are

generally located upstream of the proposed facilities to capture the debris before it enters the downstream conveyance system. The proposed debris basins were sized using the Tatum Method by the U.S. Army Corps of Engineers Los Angeles District, dated 1963.

SECTION VIII – PROPOSED IMPROVEMENTS

The improvements proposed in this MDP are shown on the enclosed map found at the back of this report. Supporting data for proposed facilities is available at the Riverside County Flood Control and Water Conservation District's Office.

The design engineer should be aware that a detailed utility search was not completed. This means that, while the major known facilities were considered during the development of this MDP, a more thorough search may reveal additional or newly placed utilities that may necessitate minor alignment and size changes, or utility relocations during final design.

Line A – Line A begins approximately 300 feet west of the intersection of Locust Avenue and Quincy Street as a 4.5 foot deep concrete lined trapezoidal channel with side slopes of 1.5:1 and a base width of 6 feet. The channel extends southerly and connects to an existing section of Line A which continues southerly and southeasterly to a confluence point with the proposed Line A-1 just south of Kalmia Street. At the confluence point Line A transitions into a 8'W x 7'D RCB and continues southerly. The RCB then transitions into a 9'W x 7'D and continues southerly to an outlet into the proposed Sinclair Basin just north of California State Route 60 (SR 60).

Line A-1 – Line A-1 begins at a point approximately 1,315 feet north and 235 feet east of the intersection of Locust Avenue and Quincy Street as a 72-inch RCP. The 72-inch RCP extends westerly to Quincy Street and southerly in Quincy Street. At Kalmia Avenue, the 72-inch RCP transitions into a 78-inch RCP until the confluence with Line A.

Line A-2 – Line A-2 begins approximately 650 feet east of the intersection of Locust Avenue and Quincy Street as a 42-inch RCP. The 42-inch RCP extends westerly until the confluence with the proposed Line A-1.

Line A-3 – Line A-3 begins at the intersection of Edmonson Avenue and Kalmia Avenue as a 42-inch RCP. The 42-inch RCP extends easterly in Kalmia Avenue until the confluence with an existing portion of Line A.

Line A-6 – Line A-6 begins at a point approximately 1,300 feet west and 1,300 feet north of the intersection of Quincy Street and Ironwood Avenue as a 36-inch RCP. The 36-inch RCP extends southerly and transitions into a 42-inch and then a 48-inch RCP. At Hemlock Avenue the 48-inch RCP continues easterly and transitions into a 78-inch RCP, then into a 84-inch RCP, and finally into a 7'W x 7'D RCB until the confluence with Line A.

Line A-7 – The upstream origin of Line A-7 begins approximately 850 feet east of the intersection of Petit Street and Ironwood Avenue as a 42-inch RCP. The 42-inch RCP extends to the westerly until the confluence with line A-6.

Line A-8 – Line A-8 begins approximately at the intersection of Hinson Street and Hemlock Avenue as a 42-inch RCP. The 42-inch RCP extends easterly and transitions into a 54-inch RCP until the confluence with Line A-6.

Line B – Line B begins approximately 1,200 feet southeast of the intersection of Redlands Boulevard and

Highland Boulevard as a 66-inch RCP. The 66-inch RCP extends easterly for 720 feet and then transitions into an 8'W x 7'D RCB following Highland Boulevard southeasterly for 1850 feet. The facility then extends southerly to Ironwood Avenue. From here the facility transitions into an 8'W x 8'D RCB extending easterly for approximately 740 feet before heading southerly for 1,310 feet to the confluence with Line C. At the confluence, the facility transitions into a 10'W x 8'D RCB which continues southerly to an outlet into the proposed Sinclair Basin just North of SR 60.

Line B-1 – Line B-1 begins approximately 730 feet west of the intersection of Theodore Street and Ironwood Avenue along Ironwood Avenue Street as a 78-inch RCP. The 78-inch RCP extends westerly along Ironwood Avenue until the confluence with Line B.

Line B-2 – Line B-2 begins approximately 850 feet west of the intersection of Juniper Avenue and Highland Boulevard as a 54-inch RCP. The 54-inch RCP extends easterly in Juniper Avenue until the confluence with Line B.

Line B-3 – Line B-3 begins approximately 2,110 feet east of the intersection of Redlands Boulevard and Ironwood Avenue as a 42-inch RCP. The 42-inch RCP extends easterly in Ironwood Avenue until the confluence with Line B.

Line C – The upstream origin of Line C begins at the outlet of the proposed Ironwood Debris Basin as a 66-inch RCP. The 66-inch RCP extends southerly in Theodore Street for 930 feet before transitioning into a 78-inch RCP and heading easterly until the confluence with Line B.

Line D-1 – Line D-1 begins approximately 820 feet west of the intersection of Locust Avenue and Redlands Boulevard as a 42-inch RCP. The 42-inch RCP extends easterly in Locust Avenue and transitions into a 48-inch RCP until the confluence with Redlands Boulevard.

Line D-2 – Line D-2 begins approximately 1,750 feet west of the intersection of Kalmia Avenue and Redlands Boulevard as a 42-inch RCP. The 42-inch RCP extends easterly and transitions into a 48-inch RCP, to a 60-inch RCP, and finally to a 66-inch RCP until the confluence with Line D-5.

Line D-3 – Line D-3 begins approximately 1,750 feet west of the intersection of Juniper Avenue and Redlands Boulevard as a 42-inch RCP. The 42-inch RCP extends easterly and transitions into a 48-inch RCP, to a 60-inch RCP, and finally to a 66-inch RCP until the confluence with Line D-5.

Line D-4 – Line D-4 begins approximately 670 feet east of the intersection of Juniper Avenue and Redlands Boulevard as a 42-inch RCP. The 42-inch RCP extends westerly until the confluence with Line D-5.

Line D-5 – Line D-5 begins at the intersection of Locust Avenue and Redlands Boulevard as a 48-inch RCP. The 48-inch RCP extends southerly in Redlands Boulevard, transitioning into a 66-inch RCP until Ironwood Avenue where the 66-inch RCP transitions into a 90-inch RCP and turns easterly for approximately 1,310 feet. At this point the 90-inch RCP turns southerly for 1,300 feet, easterly for 690 feet, and finally southerly for 530 feet to an outlet into the proposed Sinclair Basin just north of SR 60.

Line D-7 – Line D-7 begins approximately 1,750 feet west of the intersection of Ironwood Avenue and Redlands Boulevard as a 36-inch RCP. The 36-inch RCP extends easterly and transitions into a 48-inch RCP, to a 60-inch RCP, and finally to a 66-inch RCP until the confluence with Line D-5.

Line D-8 – The upstream origin of Line D-8 begins at a point approximately 1,300 feet south and 240 feet east of the intersection of Ironwood Avenue and Redlands Boulevard as a 42-inch RCP. From there the 42-inch

RCP extends easterly and transitions into a 54-inch RCP until the confluence with Line D-5.

Line D-9 – Line D-9 begins at a point approximately 1,640 feet east of the intersection of Redlands Boulevard and Ironwood Avenue as a 36-inch RCP. The 36-inch RCP extends westerly until the confluence with Line D-5.

Line E-1 – Line E-1 begins at a point approximately 2,600 feet south of State Route 60 and 250 feet east of Redlands Boulevard as a 36-inch RCP. The 36-inch pipe extends easterly and transitions into a 54-inch RCP and then to a 66-inch RCP until the confluence with Line F.

Line E-2 – Line E-2 begins at a point approximately 2,600 feet south of State Route 60 and 1,750 feet west of the Theodore Street as a 36-inch RCP. The 36-inch RCP extends westerly and transitions into a 54-inch RCP, to a 60-inch RCP, and then finally to a 66-inch RCP until the confluence with Line F.

Line E-3 – Line E-3 begins at a point approximately 250 feet east of the intersection of Redlands Boulevard and Dracaea Avenue as a 42-inch RCP. The 42-inch RCP extends easterly and transitions into a 54-inch RCP, to a 66-inch RCP, and finally into a 72-inch RCP until the confluence with Line F.

Line E-4 – Line E-4 begins at a point approximately 2,000 feet west of the intersection of Theodore Street and Dracaea Avenue as a 48-inch RCP. The 48-inch RCP extends westerly and transitions into a 60-inch RCP and finally to a 66-inch RCP until the confluence with Line F.

Line E-5 – Line E-5 begins at a point approximately 250 feet east of the intersection of Redlands Boulevard and Cottonwood Avenue as a 42-inch RCP. The 42-inch RCP extends easterly and transitions into a 48-inch RCP, to a 66-inch RCP, and finally to a 72-inch RCP until the confluence with Line F.

Line E-6 – Line E-6 begins at a point approximately 1,975 feet west of the intersection of Theodore Street and Cottonwood Avenue as a 48-inch RCP. The 48-inch RCP extends westerly and transitions into a 60-inch RCP and finally into a 66-inch RCP until the confluence with Line F.

Line E-7 – Line E-7 begins at a point approximately 275 feet east of the intersection of Redlands Boulevard and Bay Avenue as a 42-inch RCP. The 42-inch RCP extends easterly and transitions into a 60-inch RCP, to a 66-inch RCP, and finally to a 72-inch RCP until the confluence with Line F.

Line E-8 – Line E-8 begins at a point approximately 1,975 feet west of the intersection of Theodore Street and Bay Avenue as a 48-inch RCP. The 48-inch RCP extends westerly and transitions into a 54-inch RCP and finally into a 66-inch RCP until the confluence with Line F.

Line E-10 – Line E-10 begins at a point approximately 1,975 feet east of the intersection of Merwin Street and Alessandro Boulevard as a 36-inch RCP. The 36-inch RCP transitions into a 54-inch RCP and finally into a 60-inch RCP until the confluence with Line F.

Line F – Line F begins approximately 1,350 feet south of SR 60 and 1,600 feet east of Redlands Boulevard as an earthen bottom trapezoidal channel with rock-lined side slopes. The earthen channel runs southerly to Alessandro Boulevard and southwesterly from below Alessandro Boulevard to Redlands Boulevard where it connects to an existing box culvert in Redlands Boulevard. Typical channel sections in this reach have a depth of 8 feet, base widths of 6 to 38 feet, and side slopes of 2:1. There is another proposed section of Line F which begins approximately 500 feet north of the intersection of Oliver Street and John F. Kennedy Drive running southwesterly for 850 feet before connecting to existing Line F.

Line F-2 – Line F-2 begins at the intersection of Ironwood Ave. and Redlands Boulevard as a 54-inch RCP

and connects to Line F-15. The 54-inch RCP extends southerly to an existing 60-inch Caltrans culvert which extends the pipe to the south side of the State Route 60 Redlands Boulevard off ramp. Line F-2 resumes from the downstream terminus of the existing culvert as a 66-inch RCP which continues southerly transitioning to a 72-inch RCP, to a 78-inch RCP, to a 84-inch RCP, to a 90-inch RCP, to a 96-inch RCP, and finally into a 108-inch RCP until an outlet into the proposed Cactus Basin.

Line F-5 – Line F-5 begins approximately 100 feet south of the intersection of Oliver Street and John F. Kennedy Drive at the downstream terminus of an existing portion of Line F-5 as a double 8'W x 4'D RCB. The RCB extends westerly for 700 feet to the confluence with existing Line F.

Line F-13 – Line F-13 begins at a point approximately 1,330 feet north of the intersection of Moreno Beach Drive and Cactus Boulevard as a 33-inch RCP. The 33-inch RCP extends southerly and transitions into a 39-inch RCP until the confluence with existing Line F-4.

Line F-15 – Line F-15 begins at a point approximately 1,310 feet south and 1,750 feet west of the intersection of Redlands Boulevard and Ironwood Avenue as a 36-inch RCP. The 36-inch RCP extends easterly and transitions into a 48-inch RCP and then to a 54-inch RCP until the confluence with Line F-2 at Redlands Boulevard.

Line F-16 – Line F-16 begins at a point approximately 1,350 feet south of SR 60 and 2,250 feet west of the Redlands Boulevard as a 42-inch RCP. The 42-inch RCP extends easterly and transitions into a 48-inch RCP, to a 54-inch RCP and finally to a 72-inch RCP until the confluence with Line F-2.

Line F-17 – Line F-17 begins at a point approximately 2,630 feet south of SR 60 and 2,250 feet west of the Redlands Boulevard as a 42-inch RCP. From there the 42-inch RCP extends easterly and transitions into a 48-inch RCP, to a 54-inch RCP, and finally to a 60-inch RCP until the confluence with Line F-2.

Line F-18 – Line F-18 begins at a point approximately 1,000 feet east of the intersection of Redlands Boulevard and Alessandro Boulevard as a 48-inch RCP. The 48-inch RCP extends westerly and transitions into a 60-inch RCP until the confluence with Line F-2.

Line F-19 – Line F-19 begins at a point approximately 500 feet east of the intersection of Redlands Boulevard and Brodiaea Avenue as a 60-inch RCP. The 60-inch RCP extends westerly until the confluence with Line F-2.

Line G – Line G begins approximately 850 feet south and 450 feet east of the intersection of Eucalyptus Avenue and Auto Mall Drive as an earthen bottom trapezoidal channel with rock-lined side slopes. The earthen channel runs southeasterly until a confluence with proposed Line G-7, approximately 400 feet north of the intersection of Cottonwood Avenue and Quincy Street. Line G continues southerly, parallel to Quincy Street, until an outlet into existing Line F. Typical channel sections in this reach have depths of 6 to 8 feet, base widths of 6 to 16 feet, and side slopes of 2:1.

Line G-1 – Line G-1 begins at a point approximately 1,200 feet north of SR 60 and 250 feet east of the Moreno Beach Drive as a 42-inch RCP. The 42-inch RCP extends easterly until the confluence with Line G-4.

Line G-2 – Line G-2 begins at the intersection of Hemlock Avenue and Petit Street as a 42-inch RCP. The 42-inch RCP extends westerly and transitions into a 54-inch RCP until the confluence with Line G-4.

Line G-3 – Line G-3 begins at a point approximately 1,975 feet east of Moreno Beach Drive immediately north of SR 60 as a concrete lined rectangular channel. The channel extends westerly until the confluence with

Line G-4. Typical sections for this channel have a depth of 6.5 feet and a base width of 10 feet.

Line G-4 – Line G-4 begins at a point approximately 1,200 feet north of SR 60 and 500 feet east of Moreno Beach Drive as a 54-inch RCP. The 54-inch RCP extends southerly until it transitions and connects with the existing Caltrans culvert crossing under SR 60.

Line G-7 – Line G-7 begins at a point approximately 2,600 feet west of Redlands Boulevard, just south of SR 60, as an earthen bottom trapezoidal channel with rock-lined side slopes. The channel extends southerly until the confluence with Line G approximately 400 feet north of the intersection of Quincy Street and Cottonwood Avenue. Typical sections for this channel have a depth of 5 feet, base widths of 5 feet, and side slopes of 2:1.

Line G-8 – Line G-8 begins at a point approximately 500 feet east of the intersection of Quincy Street and Bay Avenue as a 48-inch RCP. The 48-inch RCP extends westerly until the confluence with Line G.

Line G-9 – Line G-9 begins at a point approximately 1,300 feet east of the intersection of Quincy Street and Alessandro Avenue as a 48-inch RCP. The 48-inch RCP extends westerly and transitions to a 54-inch RCP and then to a 60-inch RCP until the confluence with Line G.

Line G-10 – Line G-10 begins at a point approximately 750 feet east of the intersection of Quincy Street and Brodiaea Avenue as a 48-inch RCP. The 48-inch RCP extends easterly and transitions into a 54-inch RCP until the confluence with Line G.

Line G-11 – Line G-11 begins at a point approximately 1,250 feet east of the intersection of Quincy Street and Cactus Avenue as a 36-inch RCP. From there the 36-inch RCP extends easterly and transitions into a 48-inch RCP and then to a 54-inch RCP until the confluence with Line G.

Line H – Line H begins at the intersection of Mill Creek Road and Dracaea Avenue as a 42-inch RCP. The 42-inch RCP extends southerly to Cottonwood Avenue and then transitions to an 8.25' W x 5' D RCB which extends easterly in Cottonwood Avenue for 610 feet. Here the line runs southerly, transitions to a 75-inch RCP, to a 87-inch RCP, and continues southerly until Alessandro Boulevard. The 87-inch RCP then runs easterly in Alessandro Boulevard to Oliver Street, southerly in Oliver Street to Brodiaea Avenue, transitions to a 90-inch RCP, and continues southerly until the confluence with existing Line H at Cactus Avenue.

Line H-1 – Line H-1 begins at a point approximately 1,020 feet east of the intersection of Moreno Beach Drive and Alessandro Boulevard at the downstream terminus of an existing portion of Line H-1 as a 48-inch RCP. The 48-inch RCP extends westerly and transitions into a 63-inch RCP and then to a 75-inch RCP until the confluence with Line H-2 and H-1a approximately 650 feet east of Pearl Lane.

Line H-1a – Line H-1a begins at a point approximately 370 feet east of the intersection of Pearl Lane and Alessandro Boulevard as a 36-inch RCP. The 36-inch RCP extends easterly for 280 feet until the confluence with Line H-1 and H-2.

Line H-2 – Line H-2 begins at the intersection of Bethany Road and Cottonwood Avenue as a 33-inch RCP. The 33-inch RCP extends southerly and transitions into a 39-inch RCP, to a 42-inch RCP, and finally to a 54-inch RCP until the confluence with Line H-1 at Alessandro Boulevard. Line H-2 then resumes from the confluence with Line H-1 and Line H-1a approximately 650 feet east of Pearl Lane on Alessandro Boulevard as an 84-inch RCP. The 84-inch RCP extends southerly until the confluence with an existing portion of Line H-2 at Brodiaea Avenue.

Line H-3 – Line H-3 begins at the intersection of Moreno Beach Drive and Cottonwood Avenue as a 42-inch RCP. The 42-inch RCP extends southerly and transitions into a 45-inch RCP until the confluence with Line H-1 at Alessandro Boulevard.

Line H-4 – Line H-4 begins at a point approximately 1,550 feet east of the intersection of Nason Street and Bay Avenue as a 30-inch RCP. The 30-inch RCP extends westerly until the confluence with a Line H.

Line H-5 – Line H-5 begins at a point approximately 1,350 feet west of the intersection of Olive Street and Brodiaea Avenue as a 30-inch RCP. The 30-inch RCP extends easterly and transitions into a 33-inch RCP until the confluence with Line H.

Line H-5a – Line H-5a begins at a point approximately 290 feet east of the intersection of Olive Street and Brodiaea Avenue as a 36-inch RCP and extends westerly until the confluence with Line H.

Line H-6 – Line H-6 begins at a point approximately 1,130 feet east of the intersection of Landon Road and Brodiaea Ave as a 36-inch RCP. From there the 36-inch extends westerly until the confluence with the existing portion of Line H-6 approximately 500 feet east of the intersection of Landon Road and Brodiaea Avenue.

Line H-11 – Line H-11 begins at a point approximately 1,050 feet east of the intersection of Mill Creek Road and Dracaea Avenue at the terminus of Cold Creek Court Storm Drain Line A as a 60-inch RCP. The 60-inch RCP extends westerly for approximately 430 feet and then southerly until the confluence with line H at Cottonwood Avenue.

Line J – Line J begins at the intersection of Morrison Street and Dracaea Avenue at the confluence with Line J-1 as a 48-inch RCP. The 48-inch RCP extends southerly until connecting to the existing portion of Line J at the intersection of Morrison Street and Rockport Drive. Line J then resumes at the intersection of Morrison Street and Alessandro Boulevard at the terminus of the existing underground Line J facility as a 78-inch RCP. The 78-inch RCP extends southerly and transitions into a 84-inch RCP until Cactus Avenue where it connects with an existing portion of Line J.

Line J-1 – Line J-1 begins at a point approximately 1400 feet east of the intersection of Morrison Street and Dracaea Avenue as a 27-inch RCP. The 27-inch RCP extends westerly and transitions into a 39-inch RCP until the confluence with Line J at the intersection of Morrison Street and Dracaea Avenue.

Line J-7 – Line J-7 begins at a point approximately 1350 feet south and 810 feet west of the intersection of Morrison Street and Alessandro Boulevard as a 24-inch RCP. The 24-inch RCP extends easterly until the confluence with Line J.

Line J-8 – Line J-8 begins at a point approximately 1350 feet south and 1450 feet east of the intersection of Morrison Street and Alessandro Boulevard as a 39-inch RCP. The 39-inch RCP extends westerly and transitions into a 42-inch RCP until the confluence with Line J.

Line K – Line K begins at the outlet of the proposed Reche Canyon Debris Basin, approximately 1500 feet east and 350 feet north of the intersection of Moreno Beach Drive and Locust Drive, as a concrete lined trapezoidal channel located on the southerly side of Reche Canyon Road. The channel extends southeasterly along Reche Canyon Road and easterly on Locust Avenue until the intersection with Moreno Beach Drive. Typical channel sections for this reach have a depth of 7 feet, base widths of 10 feet, and side slopes of 1.5:1. From the intersection the channel transitions into a 14'W x 7'D RCB for 160 feet as it turns southerly along

Moreno Beach Drive. The 14'W x 7'D RCB then transitions to a 9.5'W x 7'D RCB and continues southerly until a point approximately 300 feet north of Juniper Avenue. At this point Line K extends southeasterly, transitions to an earthen channel with rock-lined side slopes and continues past Ironwood Avenue until an outlet into the existing Nason Basin. Typical channel sections for this reach have a depth of 6 feet, bottom widths of 25 to 30 feet, and side slopes of 2:1.

Line K-1 – Line K-1 begins at the intersection of Locust Avenue and Carrie Lane as a 42-inch RCP. The 42-inch RCP extends southerly to Kalmia Avenue, transitions to a 51-inch RCP as it extends westerly along Kalmia Avenue to Petit Street, and then southerly along Petit Street to the existing portion of Line K-1 approximately 665 feet north of the intersection of Petit Street and Juniper Avenue. Line K-1 then resumes at the downstream terminus of the existing Line K-1 facility at the intersection of Petit Street and Juniper Avenue as a 63-inch RCP. The 63-inch RCP extends southerly to Ironwood Avenue and then transitions to a 90-inch RCP as it extends westerly until the confluence with Line K.

Line K-2 – Line K-2 begins at a point approximately 640 feet east of the intersection of Petit Street and Juniper Avenue as a 33-inch RCP. The 33-inch RCP extends westerly until the confluence with Line K-1.

Line K-4 – Line K-4 begins at a point approximately 240 feet east of the intersection of Carrie Lane and Locust Avenue and extends westerly until the confluence with Line K-1.

Reche Canyon Debris Basin – The Reche Canyon Debris Basin is located at a point approximately 1500 feet east and 350 feet north of the intersection of Locust Avenue and Moreno Beach Drive, just upstream of proposed Line K. The debris basin will require approximately 7.5 acres of right-of-way.

Ironwood Debris Basin – The Ironwood Debris Basin is located just north of the intersection of Theodore Street Ironwood Avenue. The basin will require approximately 2.3 acres of right-of-way.

Quincy Basin – The proposed Quincy Basin is located approximately 2600 feet west of Redlands Boulevard just north of SR 60. The basin has a right-of-way footprint of approximately 22.5 acres, a storage volume of 150 ac-ft, and an embankment height of approximately 12.5 feet. The basin outlet is proposed as one 60-inch RCP which will connect to an existing 60-inch CMP culvert crossing under SR 60.

Cactus Basin – The proposed Cactus Basin is located between Redlands Boulevard and Wilmot Street just north of Cactus Avenue. The basin has a right-of-way footprint of approximately 21.7 acres, a storage volume of 100 ac-ft, and an embankment height of approximately 8 feet. The basin outlet utilizes the existing quadruple 8'W x 6'D RCB culverts under Cactus Avenue.

Sinclair Basin – The proposed Sinclair Basin is located approximately 2600 feet east of Theodore Street just north of SR 60. The basin has a right-of-way footprint of approximately 25 acres, a storage volume of 170 acre-ft, and an embankment height of approximately 12.5 feet. The basin outlet is proposed as two 60-inch RCPs which connect to two existing 72-inch CMP culverts crossing under SR 60.

SECTION IX – ALTERNATIVES

Given that this Master Drainage Plan (MDP) update is essentially a refinement of the adopted Moreno MDP, a relatively narrow range of alternatives was considered. Nonetheless, several alternatives were developed and evaluated against the project objectives established by the District and the City of Moreno Valley. The following section provides a brief summary of each alternative and indicates the preferred alternative. For the full alternative analysis and discussion, see appendix A.

Alternatives Overview

The following paragraphs describe the major components of each alternative developed during the MDP revision. Each description is supplemented with an exhibit in the appendix which displays the layout of facilities and basin locations. It should also be noted that, while the MDP update was being developed, the District and City mutually agreed that the existing Line F-2 storm drain facility, which is currently sized as a 10-year facility, would be reconstructed to provide 100-year flood capacity. Thus, the proposed reconstruction of Line F-2 was assumed to be a part of each alternative considered for the Moreno MDP Revision.

Alternative 1: This alternative consists of the same types of facilities and alignments as in the Adopted MDP. Two detention basins are proposed along the Line F channel alignment: 1) Sinclair Basin just north of SR 60; and 2) Bay Avenue Basin located on the north side of Bay Avenue. In addition, Reche Canyon Debris Basin has been added to capture debris upstream of Line K. It should be noted that, similar to the Adopted MDP, this alternative proposes 1) concrete lining for all channel segments; and 2) makes use of the existing highway drainage culverts located under SR 60. See Exhibit 1 in the appendix for further detail.

Alternative 2a and 2b: The principal difference between these two alternatives and Alternative 1 is the realignment of proposed facilities upstream of SR 60 in an effort to maintain the current natural drainage patterns within the upper watershed. This was accomplished by realigning the mainline facilities, specifically Line A, to convey flows from the foothills southerly to the existing culverts at SR 60 instead of diverting flows into the proposed Sinclair Basin. Both of these alternatives propose Lines F, G, and K as earthen channels with rock-lined side slopes (unlined channels) in place of the concrete lined channels proposed in Alternative 1. Reche Canyon Debris Basin has been included to capture debris upstream of Line K. Alternatives 2a and 2b differ from each other primarily in the size, number, and location of proposed detention basins. See Exhibit 2A and 2B for further detail.

Alternative 3: This alternative retains the major realignment of Line A, as proposed in Alternatives 2a and 2b, but proposes three detention basins downstream of SR 60 in place of the various basins proposed in Alternatives 2a and 2b. This option would require the upsizing the existing highway drainage culverts under SR 60 to convey the 100-year flows to the proposed basin locations. The three detention basins proposed in Alternative 3 are: 1) Brodiaea Basin along Line G just north of Brodiaea Avenue; 2) Fir Basin just south of SR 60 along Line G-7; and 3) Cactus Basin at the downstream end of proposed Line F. This alternative also proposes Lines F, G, and K as earthen channels with rock-lined side slopes in place of the concrete lined channels proposed in Alternative 1. Reche Canyon Debris Basin has been included to capture debris upstream of Line K. See Exhibit 3 for further detail.

Alternative 4 – Preferred Alternative: Similar to Alternatives 2a, 2b and 3, this alternative also calls for the realignment of proposed facilities upstream of SR 60 in an effort to maintain the current natural drainage patterns of the area. Alternative 4 proposes the implementation of three detention basins: 1) Quincy Basin located along Line A just north of the freeway; 2) Sinclair Basin located just north of SR 60 at the upstream end of Line F; and 3) Cactus Basin located at the confluence of Line F and Line F-2 just north of Cactus Avenue. Similar to Alternative 2a, 2b, and 3, this alternative also proposes Lines F, G and K as earthen

channels with rock-lined side slopes in place of the concrete lined channels proposed in Alternative 1. Reche Canyon Debris Basin has been included to capture the expected debris upstream of Line K, as well as Ironwood Debris Basin to capture expected debris upstream of Line C. See Exhibit 4 for further detail.

SECTION X – ESTIMATED COST

A cost summary for the MDP facilities is shown in Table 3. Cost estimates were based on 2013 Planning Unit Cost Sheets and include construction, right-of-way, and 40% for engineering, administration, and environmental mitigation and contingencies.

The costs estimates for the proposed facilities include the cost of manholes, catch basins and pipe installations. Manholes are located as necessary with a maximum spacing of 500 feet. Catch basins are not specifically located but the total number of lineal feet is included in the cost estimate. The cost for the open channel facilities includes the cost of access roads and right-of-way requirements. Channel access roads are assumed to be 15 feet wide and two (2) access roads were included where channel top widths exceed 20 feet. An additional 5 foot buffer has been included on either side of channel access roads for anticipated cut and fill. Detention basin costs include the cost of a 20 foot wide access road around the perimeter.

**TABLE 3
MORENO MASTER DRAINAGE PLAN REVISION 2
COST SUMMARY**

<u>Facility</u>	<u>Construction Cost</u>	<u>Right-of-Way Cost</u>	<u>Total Cost</u>
Line A	\$4,941,000	\$10,000	\$4,951,000
Line A-1	\$2,658,000	-	\$2,658,000
Line A-2	\$302,000	-	\$302,000
Line A-3	\$297,000	-	\$297,000
Line A-6	\$2,366,000	-	\$2,366,000
Line A-7	\$224,000	-	\$224,000
Line A-8	\$447,000	-	\$447,000
Line B	\$7,967,000	-	\$7,967,000
Line B-1	\$1,269,000	-	\$1,269,000
Line B-2	\$482,000	-	\$482,000
Line B-3	\$263,000	-	\$263,000
Line C	\$2,091,000	-	\$2,091,000
Line D-1	\$404,000	-	\$404,000
Line D-2	\$973,000	-	\$973,000
Line D-3	\$973,000	-	\$973,000
Line D-4	\$310,000	-	\$310,000
Line D-5	\$6,014,000	-	\$6,014,000
Line D-7	\$951,000	-	\$951,000

<u>Facility</u>	<u>Construction Cost</u>	<u>Right-of-Way Cost</u>	<u>Total Cost</u>
Line D-8	\$538,000	-	\$538,000
Line D-9	\$145,000	-	\$145,000
Line F	\$13,675,000	\$1,055,000	\$14,730,000
Line F-2	\$8,804,000	-	\$8,804,000
Line F-5	\$1,430,000	-	\$1,430,000
Line F-13	\$613,000	-	\$613,000
Line F-15	\$886,000	-	\$886,000
Line F-16	\$1,401,000	-	\$1,401,000
Line F-17	\$1,149,000	-	\$1,149,000
Line F-18	\$588,000	-	\$588,000
Line F-19	\$347,000	-	\$347,000
Line E-1	\$885,000	-	\$885,000
Line E-2	\$885,000	-	\$885,000
Line E-3	\$1,092,000	-	\$1,092,000
Line E-4	\$801,000	-	\$801,000
Line E-5	\$1,052,000	-	\$1,052,000
Line E-6	\$788,000	-	\$788,000
Line E-7	\$1,109,000	-	\$1,109,000
Line E-8	\$745,000	-	\$745,000
Line E-10	\$624,000	-	\$624,000
Line G	\$10,121,000	\$935,000	\$11,056,000
Line G-1	\$129,000	-	\$129,000
Line G-2	\$431,000	-	\$431,000
Line G-3	\$1,664,000	\$50,000	\$1,714,000
Line G-4	\$617,000	-	\$617,000
Line G-7	\$2,913,000	\$305,000	\$3,218,000
Line G-8	\$264,000	-	\$264,000
Line G-9	\$735,000	-	\$735,000
Line G-10	\$420,000	-	\$420,000
Line G-11	\$647,000	-	\$647,000
Line H	\$7,367,000	-	\$7,367,000
Line H-1	\$1,841,000	-	\$1,841,000
Line H-1a	\$115,000	-	\$115,000
Line H-2	\$2,507,000	-	\$2,507,000
Line H-3	\$1,251,000	-	\$1,251,000
Line H-4	\$177,000	-	\$177,000
Line H-5	\$525,000	-	\$525,000
Line H-5a	\$132,000	-	\$132,000

Facility	Construction Cost	Right-of-Way Cost	Total Cost
Line H-6	\$278,000	-	\$278,000
Line H-11	\$981,000	-	\$981,000
Line J	\$11,776,000	-	\$11,776,000
Line J-1	\$591,000	-	\$591,000
Line J-7	\$258,000	-	\$258,000
Line J-8	\$682,000	-	\$682,000
Line K	\$9,816,000	\$570,000	\$10,386,000
Line K-1	\$4,240,000	-	\$4,240,000
Line K-2	\$283,000	-	\$283,000
Line K-4	\$138,000	-	\$138,000
Cactus Basin	\$5,047,000	\$3,300,000	\$8,347,000
Sinclair Basin	\$6,014,000	\$2,400,000	\$8,414,000
Quincy Basin	\$5,174,000	\$2,150,000	\$7,324,000
Reche Canyon Debris Basin	\$706,000	\$713,000	\$1,419,000
Ironwood Debris Basin	\$197,000	\$219,000	\$416,000
Total	\$148,526,000	\$11,707,000	\$160,233,000

NOTE: Total Costs include 40% for Engineering, Administration, MSHCP Fee and Contingencies.

SECTION XI - CONCLUSIONS

Based on the studies and investigations made for this report, it is concluded that:

1. The Moreno Valley area has experienced serious flooding problems in the past. The fully implemented plan should, in conjunction with ultimate street improvements for the area within the boundaries of the Moreno MDP, contain the 100-year frequency flows and alleviate the primary sources of flooding.
2. The proposed plan addresses the denser development anticipated in the Moreno Valley area and provides network of drainage facilities which, when implemented, will provide adequate flood protection to the community as development continues.
3. The proposed MDP lends itself to a staged construction as funds become available.
4. The total cost of the recommended improvements, including right-of-way, engineering, environmental mitigation, administration, and contingencies is estimated to be \$160,233,000.

SECTION XII - RECOMMENDATIONS

It is recommended that:

1. The Moreno Master Drainage Plan revision, as set forth herein, be adopted by the City of Moreno Valley and the District's Board of Supervisors.
2. The revisions to the Moreno Master Drainage Plan, as set forth herein, replace the Master Drainage Plan adopted in April 1991.
3. The revision to the Moreno Master Drainage Plan, as set forth herein, be used as a guide for all the future developments in the study area and that such developments be required to conform to the Plan insofar as possible.
4. Right-of-way necessary for the implementation of the MDP be protected from encroachment.

APPENDIX A

ALTERNATIVES ANALYSIS

Alternatives Overview

Given that this Master Drainage Plan (MDP) update is essentially a refinement of the adopted Moreno MDP, a relatively narrow range of alternatives was considered. Nonetheless, several alternatives were developed and evaluated against the project objectives established by the District and the City of Moreno Valley. This section provides a brief description of the major components of each alternative and indicates preferred alternative. Each description is supplemented with an exhibit in the appendix which displays the layout of facilities and basin locations.

It should also be noted that, while the MDP update was being developed, the District and City mutually agreed that the existing Line F-2 storm drain facility, which is currently sized as a 10-year facility, would be reconstructed to provide 100-year flood capacity. Thus, the proposed reconstruction of Line F-2 was assumed to be a part of each alternative considered for the Moreno MDP Revision.

Alternative 1: This alternative consists of the same types of facilities and alignments as in the currently adopted Moreno MDP (Adopted MDP). Two detention basins are proposed along the Line F channel alignment: 1) Sinclair Basin just north of California State Route 60 (SR 60); and 2) Bay Avenue Basin located on the north side of Bay Avenue. In addition, Reche Canyon Debris Basin has been added to capture debris upstream of Line K. It should be noted that, similar to the Adopted MDP, this alternative proposes 1) concrete lining for all channel segments; and 2) makes use of the existing highway drainage culverts located under SR 60. See Exhibit 1 in the appendix for further detail.

Alternative 2a and 2b: The principal difference between these two alternatives and Alternative 1 is the realignment of proposed facilities upstream of SR 60 in an effort to maintain the current natural drainage patterns within the upper watershed. This was accomplished by realigning the mainline facilities, specifically Line A, to convey flows from the foothills southerly to the existing culverts at SR 60 instead of diverting flows into the proposed Sinclair Basin. Both of these alternatives propose Lines F, G, and K as earthen channels with rock-lined side slopes (unlined channels) in place of the concrete lined channels proposed in Alternative 1. Reche Canyon Debris Basin has been included to capture debris upstream of Line K. Alternatives 2a and 2b differ from each other primarily in the size, number, and location of proposed detention basins. See Exhibit 2A and 2B for further detail.

Alternative 3: This alternative retains the major realignment of Line A, as proposed in Alternatives 2a and 2b, but proposes three detention basins downstream of SR 60 in place of the various basins proposed in Alternatives 2a and 2b. This option would require the upsizing the existing highway drainage culverts under SR 60 to convey the 100-year flows to the proposed basin locations. The three detention basins proposed in Alternative 3 are: 1) Brodiaea Basin along Line G just north of Brodiaea Avenue; 2) Fir Basin just south of SR 60 along Line G-7; and 3) Cactus Basin at the downstream end of proposed Line F. This alternative also proposes Lines F, G, and K as earthen channels with rock-lined side slopes in place of the concrete lined channels proposed in Alternative 1. Reche Canyon Debris Basin has been included to capture debris upstream of Line K. See Exhibit 3 for further detail.

Alternative 4 – Preferred Alternative: Similar to Alternatives 2a, 2b and 3, this alternative also calls for the realignment of proposed facilities upstream of SR 60 in an effort to maintain the current natural drainage patterns of the area. Alternative 4 proposes the implementation of three detention basins: 1) Quincy Basin located along Line A just north of the freeway; 2) Sinclair Basin located just north of SR 60 at the upstream end of Line F; and 3) Cactus Basin located at the confluence of Line F and Line F-2 just north of Cactus

Avenue. Similar to Alternative 2a, 2b, and 3, this alternative also proposes Lines F, G and K as earthen channels with rock-lined side slopes in place of the concrete lined channels proposed in Alternative 1. Reche Canyon Debris Basin has been included to capture the expected debris upstream of Line K, as well as Ironwood Debris Basin to capture expected debris upstream of Line C. See Exhibit 4 for further detail.

Comparing Alternatives: Total Project Footprint

Given that this MDP update is essentially a refinement of an adopted MDP, a relatively narrow range of alternatives was considered. One way of analyzing the potential for impacts or expected plan benefits is by comparing the overall project footprint of each alternative. In order to do so the following observations and assumptions were made:

- 1) Each of the four conceptual alternatives has the same drainage boundary and provides a similar level of flood protection.
- 2) The overall footprint of proposed lateral facilities is similar between the four alternatives.
- 3) In comparison to concrete lined channels, unlined channels provide greater infiltration potential.
- 4) In comparison to concrete lined channels, unlined channels will have larger footprints.
- 5) The principal difference between the four alternatives is the size, number, and location of proposed detention and debris basins.
- 6) The relative differences in project footprint for the detention and debris basins may be used to develop comparative rankings of the alternatives against the project objectives.

A summary of the approximate total basin footprints is shown in Table 4.

TABLE 4: Alternatives: Basin Footprint Summary

Moreno MDP Revision Alternatives: Approximate Basin Footprint Summary		
Alternative	Proposed Basin	Basin Footprints (Detention and Debris) in acres
1	Sinclair Basin*	28.5
	Bay Basin*	36.8
	Reche Canyon Debris Basin*	10.0
	Total	75.3
2a	Sinclair Basin*	14.0
	Bay Basin*	17.4
	Redlands Basin*	6.0
	Quincy Basin*	13.2
	Brodiaea Basin*	11.3
	Reche Canyon Debris Basin*	10.0
Total	71.9	
2b	Highland Basin*	14.4
	Bay Basin*	30.5
	Ironwood Basin*	13.6
	Eucalyptus Basin*	6.4
	Reche Canyon Debris Basin*	10.0
Total	74.9	
3	Brodiaea Basin*	10.5
	Fir Basin*	28.3
	Cactus Basin*	29.5
	Reche Canyon Debris Basin*	10.0
Total	78.3	
4	Sinclair Basin	25.0
	Cactus Basin	21.7
	Quincy Basin	22.5
	Reche Canyon Debris Basin*	10.0
	Ironwood Debris Basin*	3.1
Total	82.3	
<p><i>*Note: These basin footprint acreages have been adjusted by a factor 1.33 to account for additional right-of-way requirements (e.g., access road right-of-way, embankment slopes, property boundaries, basin grading, existing topography, spillway requirements, etc.) that were included in the more detailed footprint estimations developed for the Alternative 4 detention basins. The factor was based on comparisons of basin modeling methodologies for Alternative 4 and engineering judgment.</i></p>		

Alternative Analysis

A decision matrix was developed in order to evaluate the alternatives against the project objectives established by the District and the City of Moreno Valley. Criteria for the matrix were selected to represent aspects of the project objectives which could be qualitatively evaluated between the alternatives. The matrix is shown in Table 5.

Criteria Descriptions:

- 1) **Provide 100 Year Flood Protection:** This criterion represents the ability of an alternative to provide 100 year flood protection in conjunction with ultimate street improvements.
- 2) **Removal of FEMA mapped Special Flood Hazard Areas:** This criterion represents the ability of an alternative to remove FEMA mapped Special Flood Hazard Areas within the drainage boundary.
- 3) **Potential for Infiltration:** This criterion represents the extent to which an alternative is able to promote infiltration of runoff back into the ground through the presence of basins and earthen bottomed channels.
- 4) **Perpetuating Natural Drainage Course:** This criterion represents the extent to which an alternative reduces the major diversion upstream of SR 60 proposed in the Adopted MDP.
- 5) **Providing Noise Buffer for the Community:** The basins located adjacent to SR 60 have the potential to serve as buffer zones for the noise generated by traffic on SR 60. This criterion represents the extent to which an alternative incorporates this benefit into its proposed basin locations.
- 6) **Minimizing Potential Disturbances (Project Footprint):** Alternatives with larger footprints were viewed as having a higher potential of environmental impacts during construction (e.g. air quality, disturbing natural habitats, cultural resources, etc...). This criterion represents the relative potential for such disturbances based upon a comparison of anticipated project footprints for each alternative.
- 7) **Sediment/Debris Reduction:** This criterion represents how well each alternative achieves the reduction of debris from watersheds with high debris producing potential. The prevention of debris and sediment at its source will remove the need to use bulking factors for design flow rates of downstream facilities and reduce the final size of the mainline facilities as well as improve water quality.
- 8) **Ease of Maintenance:** This criterion represents the relative amount of maintenance which can be expected of each alternative in regards to logistics and routine/non-routine maintenance.

Scoring:

Each alternative was scored against the criteria according to the following schematic:

- Alternatives were compared and assigned a score of 2 if their ability to satisfy a criterion is reasonably comparable to any other alternative.
- Alternatives which satisfy a criterion more than those alternatives assigned a score of 2 were be assigned a score of 3.
- Alternatives which satisfy a criterion less than those alternatives assigned a score of 2 were be assigned a score of 1.
- All criteria was given a weight of 1.
- The total sum of the criteria scores for each alternative represents the overall ability of each alternative to satisfy the objectives of the MDP revision.
- Criteria for “Providing 100-year Flood Protection” and “Removal of FEMA Mapped Special Flood Hazard Areas” were included solely as reminders of key project objectives and were not scored according to the schematic described above.

TABLE 5: Decision Matrix

Name	1) Provide 100 Year Flood Protection	2) Removal of FEMA Mapped Special Flood Hazard Areas	3) Potential for Infiltration	4) Perpetuating the Natural Drainage Course	5) Providing Noise Buffer for the Community	6) Project Footprint (Potential Disturbances)	7) Sediment/Debris Reduction	8) Ease of Maintenance	Totals
Score Range	N/A	N/A	More = 3 Comparable = 2 Less = 1	More = 3 Comparable = 2 Less = 1	More = 3 Comparable = 2 Less = 1	More = 3 Comparable = 2 Less = 1	More = 3 Comparable = 2 Less = 1	More = 3 Comparable = 2 Less = 1	MAX 18
Alternative 1	YES	YES	1	1	2	2	2	3	11
Alternative 2a	YES	YES	2	3	2	3	2	1	13
Alternative 2b	YES	YES	2	2	1	2	2	1	10
Alternative 3	YES	YES	3	2	2	1	2	2	12
Alternative 4*	YES	YES	3	2	3	1	3	2	14

*Alternative 4 was selected as the preferred alternative and has received concurrence from the City of Moreno Valley.

Criteria Scoring Discussion

1) Provide 100 Year Flood Protection:

- Each alternative was developed to provide the same level of flood protection in conjunction with ultimate street improvements.

2) Removal of FEMA mapped Special Flood Hazard Areas:

- Each alternative was developed to reduce flooding and allow the removal FEMA mapped Special Flood Hazard Areas within the drainage boundary.

3) Potential for Infiltration:

- It was assumed that larger basin footprints and earthen channels in lieu of concrete channels would better facilitate the infiltration of runoff.
- Alternatives were scored for this criterion based upon the estimated total basin footprint required for the full implementation of each alternative with the exception of Alternative 1 which automatically received a lower score (see next point for further details).
- Alternative 1, 2a and 2b all have comparable basin footprints; however, Alternative 1 proposes concrete lined channels (as in the Adopted MDP) and Alternatives 2a and 2b propose earthen bottom channels. Alternative 1 therefore has a lower potential for infiltration and received a score of 1. Alternatives 2a and 2b both received a score of 2.
- Alternatives 3 and 4 both received a score of 3 for having larger total basin footprints than Alternative 2a and 2b. Alternatives 3 and 4 also proposed earthen bottom channels.

4) Perpetuating Natural Drainage Course:

- Alternatives 2b, 3, and 4 all include the realignment of facilities to reduce the major Line A diversion proposed in the Adopted MDP; however, all alternatives still include minor diversions primarily related to their proposed Line D alignments. Alternatives 2b, 3 and 4 received a score of 2.
- Alternative 1 received a score of 1 because it would maintain the Line A diversion proposed in the Adopted MDP.
- Alternative 2a received a score of 3 because it most effectively removes the Line A diversion proposed in the Adopted MDP and minimizes diversions within the drainage area better than all other alternatives.

5) Providing Noise Buffer for the Community:

- Alternatives 1, 2a, and 3 received a score of 2 because they all propose one basin to be located immediately adjacent to SR 60 and would provide the community with some buffer from the noise generated by the freeway.
- Alternative 2b received a score of 1 because it proposes no basins immediately next to SR 60 and would not provide any noise buffer.

- Alternative 4 received a score of 3 because it proposes 2 basins to be located immediately next to SR 60 and would provide the most buffer area for the future residential communities.

6) Minimizing Potential Disturbances (Project Footprint):

- Each alternative was scored based upon the relative differences between their anticipated project footprints.
- The relative anticipated project footprints for each alternative were compared using approximate total basin footprint acreages (see previous Comparing Alternatives section).
- The largest difference between the largest and the smallest total basin footprint is approximately 15% (71.9 Ac. vs. 82.3 Ac.).
- Alternative 1, 2a and 2b all have comparable basin footprints; however, Alternative 1 proposes concrete lined channels (as in the Adopted MDP) and Alternatives 2a and 2b propose earthen bottom channels. Alternative 1 therefore has a smaller anticipated project footprint, less potential for environmental impacts during construction, and received a score of 3. Alternatives 2a and 2b both received a score of 2.
- Alternatives 3 and 4 both received a score of 1 for having the largest anticipated project footprints.

7) Sediment/Debris Reduction:

- Alternatives 1, 2a, 2b, and 3 received a score of 2 because they propose Reche Canyon Debris Basin to capture debris and sediment from the watershed with the most debris producing potential.
- Alternative 4 received a score of 3 because it proposes Reche Canyon Debris Basin and Ironwood Debris basin to capture debris from the two watersheds with the most debris producing potential.

8) Ease of Maintenance:

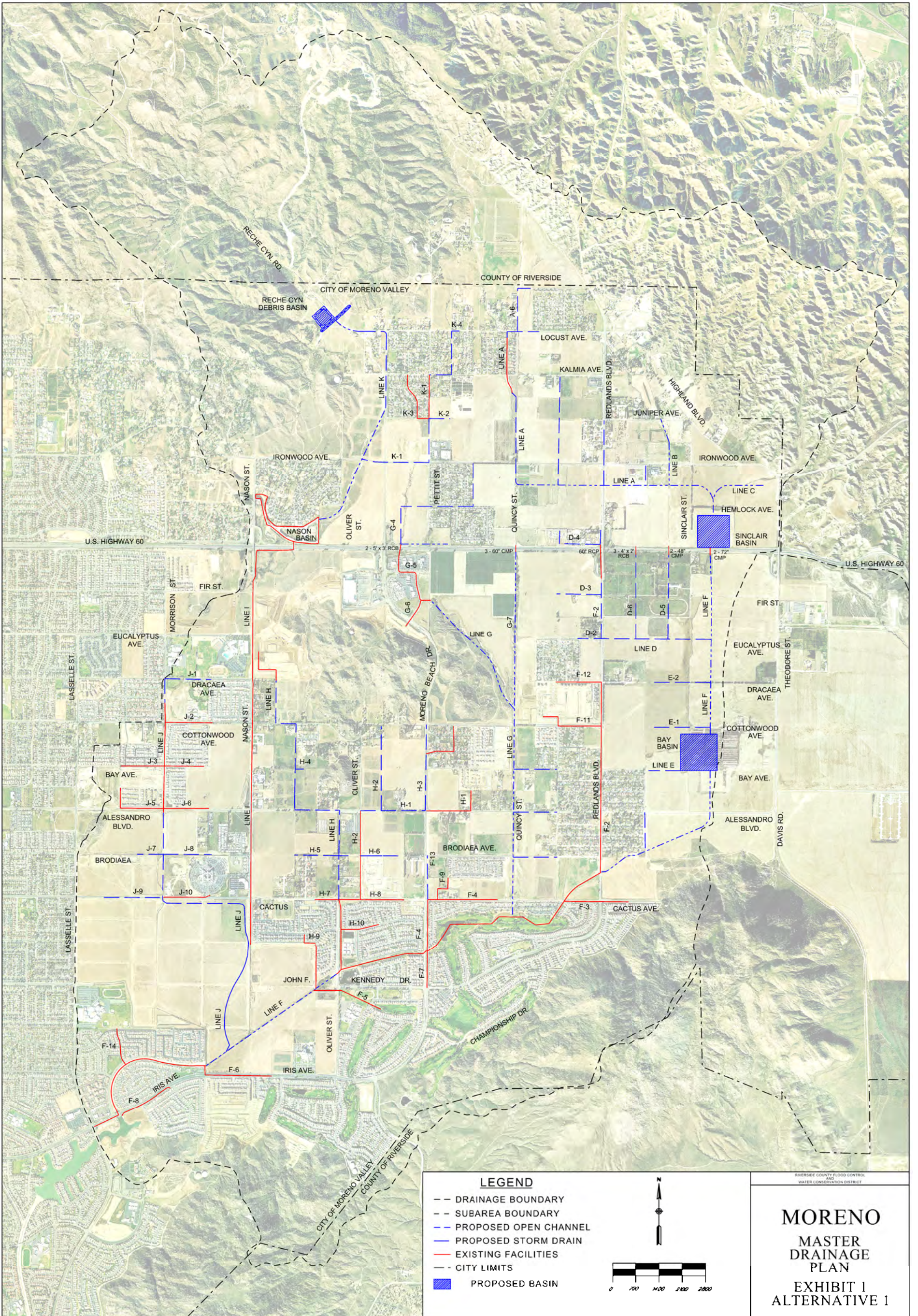
- Detention basins were assumed to require routine maintenance for mowing/weed abatement and erosion control.
- Debris basins were assumed to require routine maintenance for sediment removal from the basins themselves while reducing the amount of sediment deposited in underground facilities.
- Earthen channels were assumed require routine maintenance for mowing/weed abatement.
- The complexity of scheduling for maintenance activities was expected to increase with the number of basins proposed in an alternative.
- Alternative 1 received a score of 3 because it proposed the fewest basins which, when coupled with the proposed concrete lined channels, would require the least amount of routine maintenance of all four alternatives.
- Alternatives 3 and 4 were viewed as comparable and received a score of 2 under this criterion. Alternative 3 proposes 3 detention basins and 1 debris basin while Alternative 4 proposes 3 detention basins and 2 debris basins. While an additional debris basin in Alternative 4 may require additional maintenance on the basin itself it reduces the potential for downstream facilities to clog and require maintenance.

- Alternatives 2a and 2b received scores of 1 for proposing the largest number of basins. Alternative 2a proposes 5 detention basins and 1 debris basin and Alternative 2b proposes 4 detention basins and 1 debris basin.

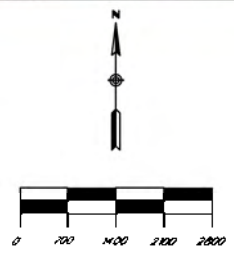
Preferred Alternative

Table 5 shows the completed matrix with the total scores for each alternative. Based upon the evaluation, and as highlighted by the matrix, Alternative 4 best fits the objectives set forth for the project and was selected as the Preferred Alternative. Although the anticipated project footprint for Alternative 4 is slightly larger than the other alternatives, Alternative 4 would provide more opportunities for infiltration of runoff; it would provide a noise buffer for the surrounding community; and would reduce the amount of sediment and debris in the drainage system by capturing it at its source. Alternative 4 was discussed with City of Moreno Valley staff and they provided their concurrence with its selection as the Preferred Alternative.

APPENDIX B

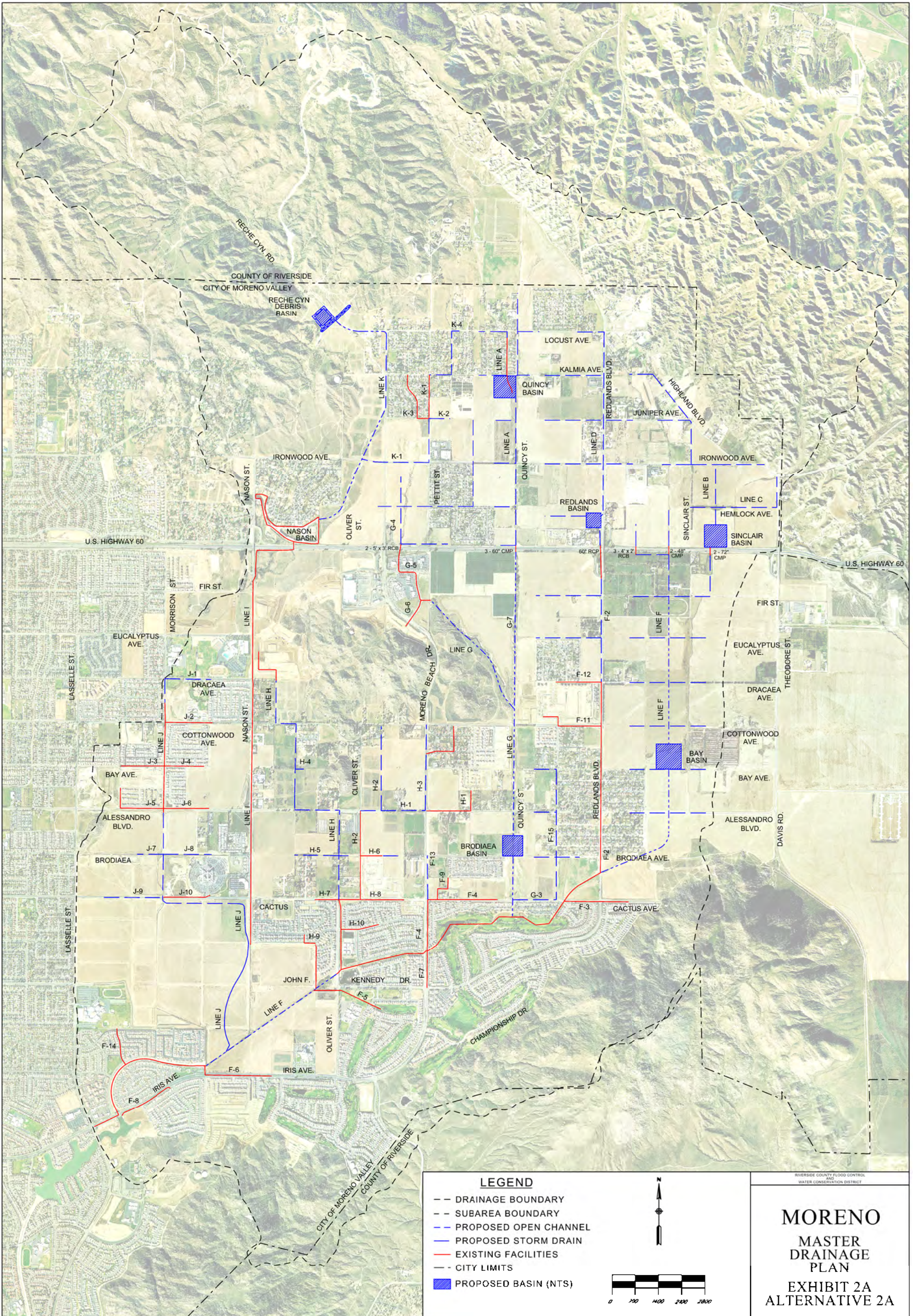


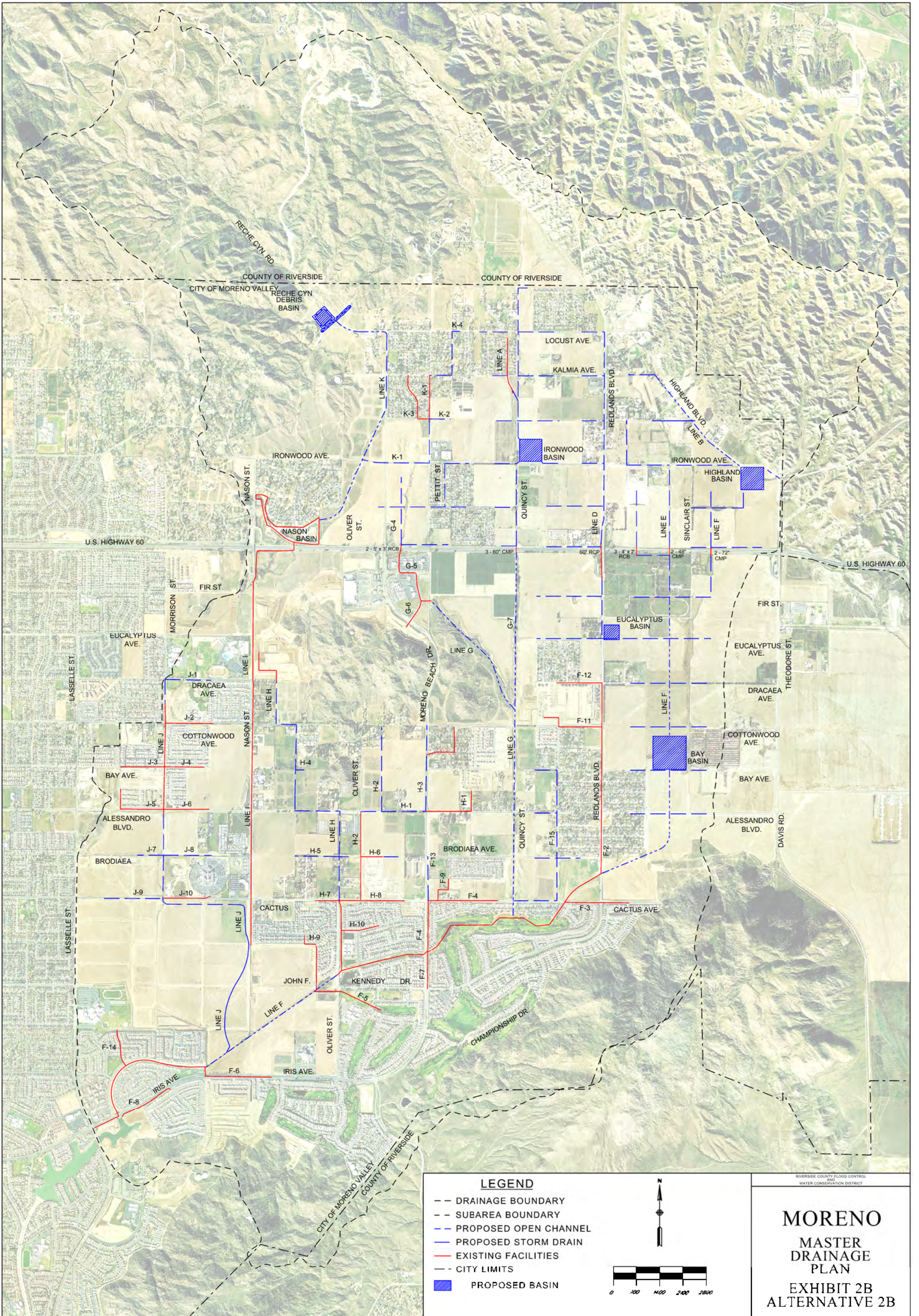
- LEGEND**
- DRAINAGE BOUNDARY
 - SUBAREA BOUNDARY
 - - - PROPOSED OPEN CHANNEL
 - PROPOSED STORM DRAIN
 - EXISTING FACILITIES
 - CITY LIMITS
 - PROPOSED BASIN



RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT

MORENO
MASTER
DRAINAGE
PLAN
EXHIBIT 1
ALTERNATIVE 1





RECHE CYN RD

CITY OF MORENO VALLEY
RECHE CYN DEBRIS BASIN

COUNTY OF RIVERSIDE

LOCUST AVE
KALMIA AVE

IRONWOOD AVE
IRONWOOD BASIN

HIGHLAND BLVD
HIGHLAND BASIN

U.S. HIGHWAY 60

U.S. HIGHWAY 60

MORRISON ST
FIR ST

EUCALYPTUS AVE
DRACAEA AVE

COTTONWOOD AVE
BAY AVE

ALESSANDRO BLVD
BAY BASIN

BRODIAEA
BAY AVE

ALESSANDRO BLVD
DAVIS RD

BRODIAEA
ALESSANDRO BLVD

CACTUS
CACTUS AVE

JOHN F.
KENNEDY DR

OLIVER ST
IRIS AVE

F-14
IRIS AVE

F-8

LINE A

LINE K

LINE G

LINE H

LINE I

LINE J

LINE F

LINE E

LINE D

LINE C

LINE B

LINE A

LINE K

LINE G

LINE H

LINE I

LINE J

LINE F

LINE E

LINE D

LINE C

LINE B

LINE A

LINE K

LINE G

LINE H

LINE I

LINE J

LINE F

LINE E

LINE D

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LINE B

LINE A

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LINE D

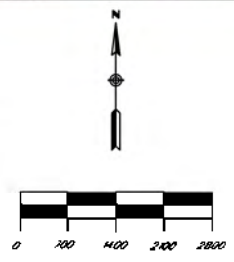
LINE C

LINE B

LINE A

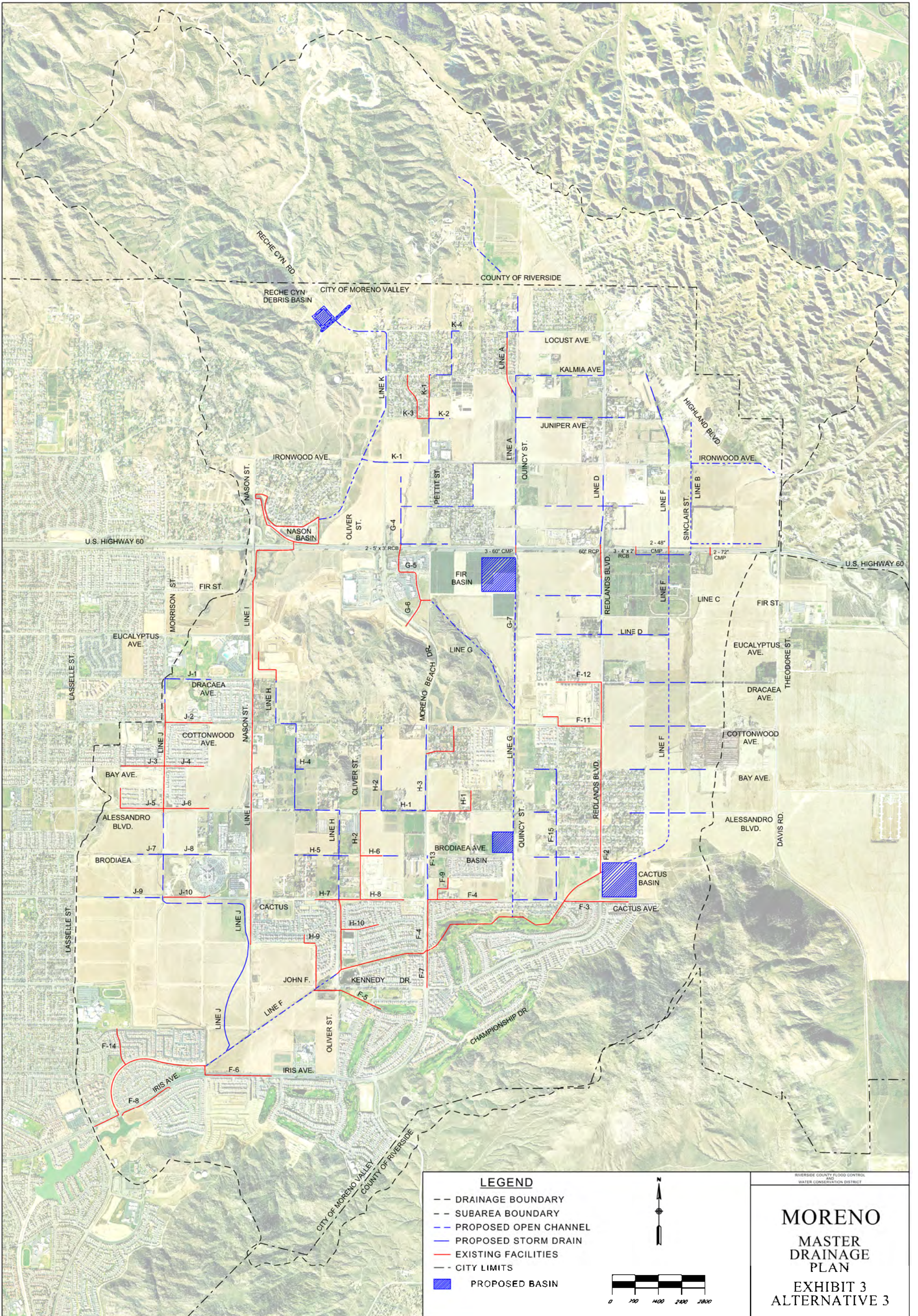
LEGEND

- DRAINAGE BOUNDARY
- SUBAREA BOUNDARY
- PROPOSED OPEN CHANNEL
- PROPOSED STORM DRAIN
- EXISTING FACILITIES
- CITY LIMITS
- PROPOSED BASIN

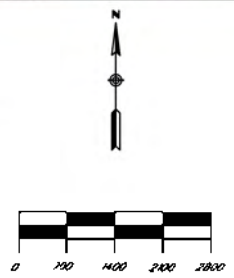


RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT

MORENO
MASTER
DRAINAGE
PLAN
EXHIBIT 2B
ALTERNATIVE 2B

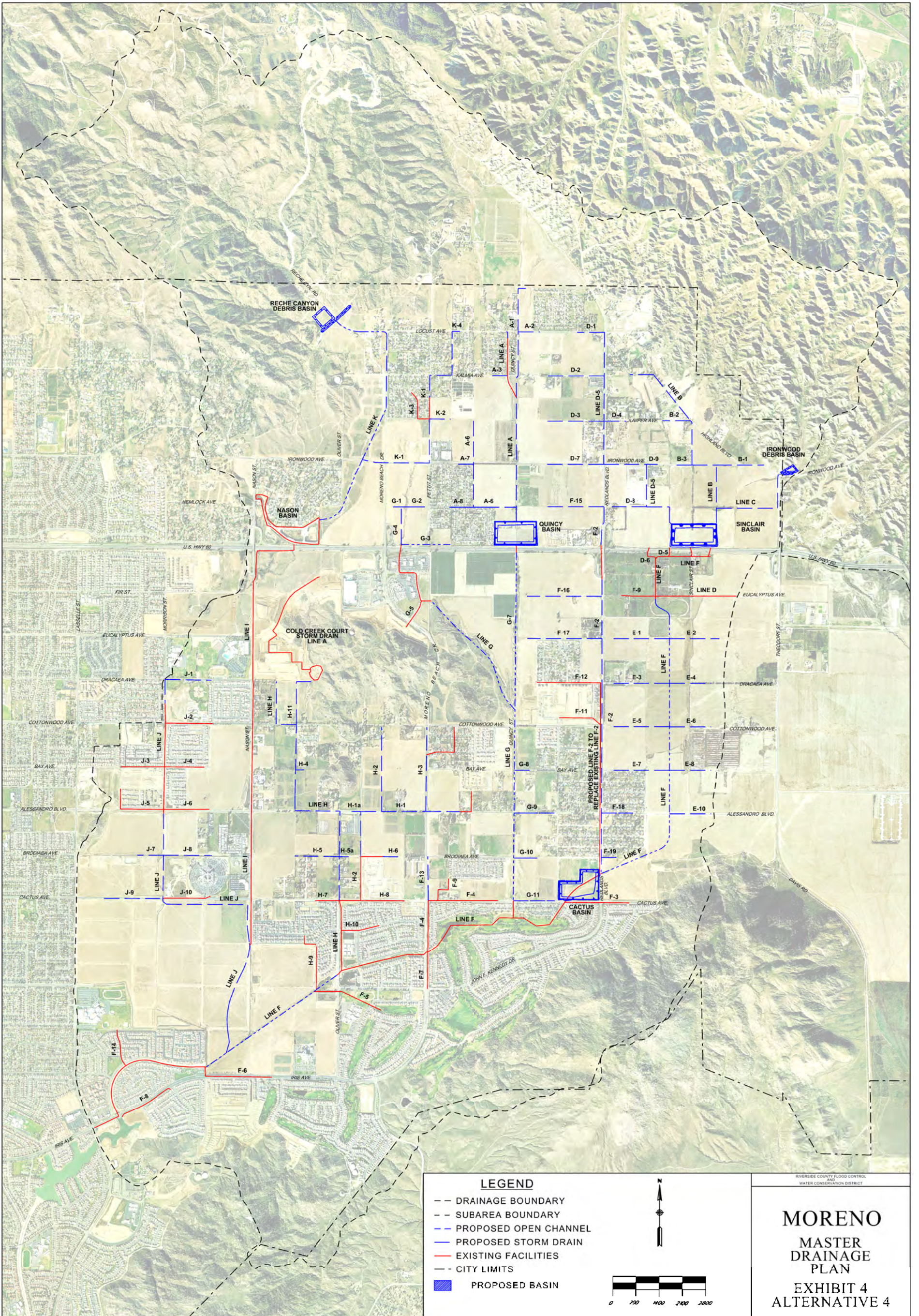


- LEGEND**
- DRAINAGE BOUNDARY
 - SUBAREA BOUNDARY
 - - - PROPOSED OPEN CHANNEL
 - PROPOSED STORM DRAIN
 - EXISTING FACILITIES
 - CITY LIMITS
 - PROPOSED BASIN



RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT

MORENO
MASTER
DRAINAGE
PLAN
EXHIBIT 3
ALTERNATIVE 3



**MORENO MASTER DRAINAGE PLAN
REVISION NO. 2**

**CEQA Findings of Fact and
Statement of Overriding Considerations**

(Resolution No. F2015-11)



March 2015

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SECTION I
INTRODUCTION

A. PROJECT DESCRIPTION

The Riverside County Flood Control and Water Conservation District's (District) Master Drainage Plan (MDP) Revision Project (Project) is a conceptual long-range planning document that addresses the current and future drainage needs of the Moreno watershed. The MDP identifies the alignment, type, size, and cost estimate for the proposed flood control facilities (Facilities). The MDP Facilities along with street improvements would contain the 100-year flood discharge. The MDP proposes the construction of approximately 30 miles of storm drains and channels, and approximately 82 acres of detention and debris basins. The alignments and type of facility depicted in the MDP may change as more detailed information becomes available during the design process for each Facility. The construction of the Project Facilities would be accomplished in discrete phases over a number of decades. The City of Moreno Valley (City) and/or Riverside County would rely upon the MDP as a tool when reviewing new development plans within the Moreno watershed. New development may be required to construct MDP Facilities or set aside right-of-way for future MDP Facilities, or otherwise provide adequate drainage facilities that would attenuate and/or contain flows projected in the MDP. Although many of the MDP Facilities would likely be built by either the City or private developers, it is expected that the District would ultimately operate and maintain the MDP Facilities.

B. LEGAL REQUIREMENTS

Pursuant to §15091 of the State CEQA Guidelines, the District may only approve or carry out a project for which an EIR has been completed that identifies any significant environmental effects if the District makes one or more of the following written finding(s) for each of those significant effects accompanied by a brief explanation of the rationale for each finding:

1. Changes or alterations have been required in, or incorporated into, the project which will avoid or substantially lessen the significant environmental impact as identified in the EIR; or
2. Such changes or alterations are within the responsibility and jurisdiction of a public agency other than the District, and such changes have been adopted by such other agency, or can and should be adopted by such other agency; or
3. Specific economic, social, legal or other considerations make infeasible the mitigation measures or project alternatives identified in the EIR.

Notably, Public Resources Code §21002 requires an agency to "substantially lessen or avoid" significant adverse environmental impacts. Thus, mitigation measures that "substantially lessen" significant environmental impacts, even if not completely avoided, satisfy §21002s mandate. (Laurel Hills Homeowners Association v. City Council (1978) 83 Cal.App.3d 515, 521 ["CEQA does not mandate the choice of the environmentally best feasible project if through the

imposition of feasible mitigation measures alone the appropriate public agency has reduced environmental damage from a project to an acceptable level"]; Las Virgenes Homeowners Federation, Inc. v. County of Los Angeles (1986) 177 Cal. App. 3d 300, 309 ["[t]here is no requirement that adverse impacts of a project be avoided completely or reduced to a level of insignificance . . . if such would render the project unfeasible"].

The Public Resources Code requires that lead agencies adopt feasible mitigation measures or alternatives to substantially lessen or avoid significant environmental impacts. An agency need not, however, adopt infeasible mitigation measures or alternatives. [State CEQA Guidelines §15091(a), (b)]. Public Resources Code §21061.1 defines "feasible" to mean "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors." State CEQA Guidelines §15091 adds "legal" considerations as another indicia of feasibility. [See also Citizens of Goleta Valley v. Board of Supervisors (1990) 52 Cal.3d 553, 565.] Project objectives also inform the determination of "feasibility." [City of Del Mar v. City of San Diego (1982) 133 Cal.App.3d 401, 417.] "[F]easibility' under CEQA encompasses 'desirability' to the extent that desirability is based on a reasonable balancing of the relevant economic, environmental, social, and technological factors." [*Id.*; see also Sequoyah Hills Homeowners Assn. v. City of Oakland (1993) 23 Cal.App.4th 704, 715.]

Environmental impacts that are less than significant do not require the imposition of mitigation measures. [Leonoff v. Monterey County Board of Supervisors (1990) 222 Cal.App.3d 1337, 1347.]

The California Supreme Court has stated, "[t]he wisdom of approving . . . any development project, a delicate task which requires a balancing of interests, is necessarily left to the sound discretion of the local officials and their constituents who are responsible for such decisions. The law as we interpret and apply it simply requires that those decisions be informed, and therefore balanced." [Citizens of Goleta Valley v. Board of Supervisors (1990) 52 Cal.3d 553, 576.] In addition, perfection in a project or a project's environmental alternatives is not required; rather, the requirement is that sufficient information be produced "to permit a reasonable choice of alternatives so far as environmental aspects are concerned." Outside agencies (including courts) are not to "impose unreasonable extremes or to interject [themselves] within the area of discretion as to the choice of the action to be taken." [Residents Ad Hoc Stadium Com. v. Board of Trustees (1979) 89 Cal.App.3d 274, 287.]

C. SUMMARY OF ENVIRONMENTAL FINDINGS

This document contains the findings required under CEQA and the State CEQA Guidelines. Public Resources Code §21081.6 requires the lead agency to prepare and adopt a Mitigation Monitoring and Reporting Program for any project for which mitigation measures have been imposed to assure compliance with the adopted mitigation measures. The Riverside County

Board of Supervisors (Board) adopts a Mitigation Monitoring and Reporting Program (MMRP) for the Project in Resolution F2015-11, and the MMRP is attached hereto as Exhibit "C".

No comments made or any additional information submitted to the District has produced any significant new information requiring recirculation or additional environmental review of the EIR under CEQA because no new significant environmental impacts were identified, no substantial increase in the severity of any environmental impacts would occur, and no feasible mitigation measures or Project alternatives as defined in State CEQA Guidelines §15088.5 were rejected.

As more fully explained below, the Board has determined that based on all of the evidence presented, including, but not limited to: the EIR; written and oral testimony given at meetings and hearings; and submission of comments from the public, organizations, and regulatory agencies; and the responses prepared to the public comments, the following environmental impacts associated with the Project are:

1. No Impact or Less-Than-Significant Impacts that Do Not Require Mitigation

- a. Scenic Vistas
- b. Damage Scenic Resources
- c. Visual Character or Quality of a Site and its Surroundings
- d. New Sources of Light or Glare Adversely Affecting Views
- e. Convert Farmland to Non-Agricultural Use
- f. Conflict with Zoning for Agricultural Use or with a Williamson Act Contract
- g. Loss of Forest Land or Timberland Production
- h. Conflict with or Obstruct Implementation of the Applicable Air Quality Plan
- i. Violate Air Quality Standards During Operation
- j. Violate Air Quality Standards During Construction (CO, SO₂, and PM_{2.5}).
- k. Create Objectionable Odors
- l. Greenhouse Gas Emissions
- m. Conflict with Local Policies or Ordinances Protecting Biological Resources
- n. Disturb Human Remains
- o. Rupture of a Known Earthquake Fault and/or Strong Seismic Ground Shaking
- p. Ground Failure and/or Liquefaction
- q. Landslides or Mudflows
- r. Substantial Soil Erosion and/or Loss of Topsoil
- s. Unstable Geologic Unit or Soils

- t. Expansive Soils
- u. Soils Incapable of Adequately Supporting Structures, Fill or Other Improvements
- v. Routine Transport, Use, or Disposal of Hazardous Materials
- w. Accidental Release of Hazardous Materials
- x. Hazards Within 0.25 Mile of an Existing or Proposed School
- y. Listed Hazardous Materials Site
- z. Hazards within the Vicinity of a Public or Private Airport or Airstrip
- aa. Emergency Response Plan or Emergency Evacuation Plan
- bb. Wildland Fires
- cc. Groundwater Supplies or Groundwater Recharge
- dd. Alter the Existing Drainage Pattern Resulting in Substantial Soil Erosion
- ee. Place Housing Within a 100-Year Flood Hazard Area
- ff. Impeding or Redirecting Flood Flows within a 100-Year Flood Hazard Area
- gg. Impacts Involving the Failure of a Levee or Dam
- hh. Inundation by Seiche, Tsunami or Mudflow
- ii. Physically Divide an Established Community
- jj. Conflict with Applicable Land Use Plan, Policy, or Regulation
- kk. Known Mineral Resources or Mineral Recovery Sites
- ll. Permanent Increase in Ambient Noise Levels
- mm. Public or Private Airport/Airstrip Noise Levels
- nn. Induce Substantial Population Growth
- oo. Displace Existing Housing
- pp. Public Services or Other Public Facilities
- qq. Parks and Other Recreational Facilities
- rr. Conflict with the Performance of the Circulation System
- ss. Conflict with an Adopted Congestion Management Program
- tt. Roadway Hazards due to Design Features
- uu. Emergency Access
- vv. Parking Capacity
- ww. Public Transit, Bicycle, or Pedestrian Facilities
- xx. Utilities and Service Systems

2. Potentially Significant Impacts That Can be Avoided or Reduced to a Less Than Significant Level through Implementation of Mitigation Measures

- a. Violate Any Air Quality Standards or Contribute Substantially to an Existing or Projected Air Quality Violation During Construction (PM10)
- b. Impacts to Special-Status Wildlife Species
- c. Impacts to Sensitive Vegetation Communities Including Riparian Habitat
- d. Impacts to Jurisdictional Local, State or Federal Waters
- e. Interference with the Movement of Native Wildlife through Existing Migratory Corridors
- f. Conflict with Adopted Habitat Conservation Plan, Natural Community Conservation Plan, or Local, Regional , or State Habitat Conservation Plan
- g. Impacts to Historical Resources
- h. Impacts to Archaeological Resources
- i. Impacts to Paleontological Resources
- j. Violate Water Quality Standards or Waste Discharge Requirements
- k. Stormwater Pollutants or Substantial Changes to Water Quality
- l. Substantially Alter Drainage Patterns Resulting in Flooding
- m. Noise Levels in Excess of Established Standards or Substantial Temporary Increases in Ambient Noise Levels
- n. Generation of Ground-Borne Vibration or Ground-Borne Noise Levels

3. Potentially Significant Impacts that Cannot be Avoided or Reduced to a Less-Than-Significant Level (Significant and Unavoidable Impacts)

- a. Violate Any Air Quality Standards or Contribute Substantially to an Existing or Projected Air Quality Violation During Project Construction (NO_x and VOC)
- b. Result in a Cumulatively Considerable Net Increase of Criteria Pollutants for which the Region is Non-Attainment During Project Construction
- c. Expose Sensitive Receptors to Substantial Pollutant Concentrations During Project Construction

SECTION II
FINDINGS REGARDING ENVIRONMENTAL IMPACTS
NOT REQUIRING MITIGATION

Section 15091 of the State CEQA Guidelines does not require specific findings to address environmental effects that an EIR identifies as having "no impact" or a "less than significant" impact. Nevertheless, these findings fully account for all resource areas, including resource areas that were identified in the EIR to have either no impact or a less than significant impact on the environment. The Board hereby finds that the Project would either have no impact or a less-than-significant impact in the following resource areas:

A. AESTHETICS, VISUAL QUALITY, AND LIGHT AND GLARE

1. Adverse Effect on a Scenic Vista: Construction of the Project could have short-term visual impacts from construction equipment and construction activity. However, once constructed the Project will not substantially alter the views of, or views from, the MDP Watershed since the proposed MDP Facilities consist of proposed storm drains, open channels (lined and unlined) and detention basins, all of which will be located below or at ground surface level. The Project does not entail any vertical facilities or structures. Therefore, Project implementation would not obstruct any scenic views and potential impacts to scenic vistas are less than significant, and no mitigation is required. [EIR p. 4-1]

2. Damage Scenic Resources: The Project is not located adjacent to or in the immediate vicinity of any state scenic highways. Further, there are no rock outcroppings, historic structures or other visual resources that may be deemed a scenic resource. The proposed facilities are primarily within or adjacent to road rights-of-way and any impacts during construction to the surface (e.g. vegetation) will be returned to its original condition. Therefore, implementation of the Project will not substantially damage scenic resources and impacts to scenic resources are considered less than significant, and no mitigation is required. [EIR pp. 4-1 through 4-2]

3. Degrade the Existing Visual Character or Quality of the Site and its Surroundings: Exposed surfaces, construction debris, and construction equipment may temporarily affect the aesthetic quality of the area in immediate proximity to the construction. These impacts will be short term and will cease when construction is completed. When construction is completed, the underground storm drains will not be visible. The proposed facilities are primarily within or adjacent to road rights-of-way and any impacts during construction to the surface (e.g. vegetation) will be returned to its original condition. Therefore, the short-term and long-term visual aesthetic impacts are considered to be less than significant, and no mitigation is required. [EIR p. 4-2]

4. New Sources of Light and Glare Adversely Affecting Views: The Project Facilities will not create new or additional light or glare, either during construction or operation and maintenance; therefore, this will not conflict with any day or nighttime views in the Project Watershed. The only lighting that may be expected to be used in connection with the Project would be temporary

lighting used for emergency conditions; however, any such lighting would be directed towards the Project Facilities and not onto adjacent property or into the sky. Therefore, impacts from light and glare will be less than significant and no mitigation is required. [EIR p. 4-2]

B. AGRICULTURE AND FORESTRY RESOURCES

1. Convert Farmland to Non-Agricultural Use: Proposed storm drains are underground facilities, and as such, will not result in a permanent conversion of Important Farmland, as the facility footprint would be returned to its original condition. Construction of the northern portion of Line G-7 (an open channel) and the Quincy Basin will result in a permanent change to approximately six acres of Prime Farmland, which represents approximately 0.36 percent of the Prime Farmland in Moreno Valley. Because: (1) the Moreno Valley General Plan (MVGP) Land Use Plan does not designate any land within Moreno Valley or its sphere for long-term agricultural use; (2) Moreno Valley's zoning ordinance permits agricultural crops as an allowable use in all zoning categories as long as such agricultural activities can be economically conducted; and (3) pressure from existing urban development around the Quincy Basin is present without the proposed revisions to the MDP, the proposed revisions to the MDP will not exacerbate the transition to urban uses. The Moreno Valley General Plan clearly identified the fact that development and economic pressures would result in the conversion of agricultural resources throughout the City. However, as stated, the Project only accounts for a very small portion of that conversion and once constructed, the Project would not create or contribute to any additional pressures on remaining farmland or farming operations. Therefore, potential impacts related to farmland conversion are considered to be less than significant, and no mitigation is required. [EIR pp. 4-2 through 4-4]

2. Conflict with Zoning for Agricultural Use, or a Williamson Act Contract: There are no lands within the MDP Watershed under a Williamson Act contract. The Project does not conflict with existing zoning for agricultural use and will not affect agricultural land subject to a Williamson Act or within an Agricultural Preserve. Once operational, the Project will not impact any ongoing agricultural uses. Therefore, no impacts related to conflicting with agricultural zoning, uses or contracts are anticipated, and no mitigation is required. [EIR p. 4-4]

3. Involve Other Changes in the Environment Leading to the Conversion of Farmland to a Non-Agricultural Use: Construction and operation of the Line G-7 and the Quincy Basin will convert approximately six acres of Prime Farmland to drainage facility uses. This impact to farmland is considered minor. However, once the Project is operational, there will be no impacts to surrounding uses, including ongoing agricultural operations. Furthermore, the Project is not considered growth-inducing. No other changes have been identified that could adversely impact agricultural use; therefore, the impact to agricultural land use is considered to be less than significant, and no mitigation is required. [EIR p. 4-4]

4. Conflict with Zoning of Forest Land, Timberland, or Land Zoned for Timberland Production: There is no forest land, as defined by Public Resources Code §12220(g), within the Moreno watershed. However, portions of MDP Facilities will be constructed within or adjacent

to property zoned for timberland according to Public Resources Code §4526. The areas proposed for channels and basins are not zoned for, nor are they used for, Timberland Production and the Project will not force the adjacent property to be rezoned from timberland. Additionally, once construction is complete, the ground surface for the storm drains will be restored to its existing conditions. No impacts to forest land or timberland would occur, and no mitigation is required. [EIR pp. 4-4 through 4-6]

C. AIR QUALITY

1. Conflict With or Obstruct Implementation of the Applicable Air Quality Plan: The Project is within the South Coast Air Basin (Basin), which is in the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The Air Quality Management Plan (AQMP) for the Basin was established by SCAQMD to set forth a comprehensive program that will lead the Basin into compliance with all federal and state air quality standards. Conformance with the AQMP for any given project is determined by demonstrating that such project is consistent and is in compliance with local land use plans and/or population projections. The MDP Facilities are considered to be compatible with all zoning designations pursuant to §18.2.a.b of Riverside County Ordinance No. 348, which exempts public agency projects from zoning designations and with Title 9 Planning and Zoning of the Moreno Valley Municipal Code, which does not prohibit storm water drainage facilities in any zoning district. Moreover, once operational, air quality emissions would only be limited to occasional maintenance activities. Because implementation of the proposed MDP revisions will not conflict with or obstruct implementation of the AQMP no impact would occur. [EIR p. 4-6]

2. Violate Air Quality Standards During Operation. No long-term air quality impacts will occur because operating and maintaining the MDP Facilities would generate very minor and nominal emissions, as explained fully in the EIR. Typical maintenance operations would be anticipated to last only one day or less, requiring only minor use of construction equipment such as a loader or small tractor. Therefore, the long-term air quality impacts would be less than significant and no mitigation is required. [EIR pp. 5.1-24 through 5.1-31]

3. Violate Air Quality Standards During Construction (CO, SO₂, and PM_{2.5}). At the programmatic level, it is difficult to predict the actual construction timing of each MDP Facility. However the EIR analysis took a conservative approach when developing a "representative project" for modeling the potential criteria pollutant emissions.¹ The EIR analyzed both the local and regional potential air quality impacts applying SCAQMD standards and procedures.

¹ For air quality modeling purposes and analysis in the EIR, a representative project consisting of a 28.5-acre basin, approximately 1,800 linear feet of partially lined trapezoidal channel, and an approximately 1,800 linear foot underground storm drain was modeled as described on page 5.1-26 of the EIR. The representative project modeling assumed that the three components would be constructed sequentially.

The District applied the SCAQMD localized significance threshold (LST) thresholds and modeling methodology to determine whether or not the Project would generate significant adverse localized short-term and long-term air quality impacts. LSTs represent the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area. According to the LST methodology, only on-site emissions need to be analyzed and emissions associated with hauling, vendor trips, and worker trips are mobile source emissions that occur off-site and need not be considered. **Therefore, as analyzed using the SCAQMD LST methodology, the MDP will not result in localized air quality impacts.** [EIR p. 5.1-31]

When applying the SCAQMD regional daily thresholds and modeling methodology (CalEEMod) using the representative project, the results indicate that criteria pollutant emissions for carbon monoxide (CO), sulfur dioxide (SO₂), or particulate matter 2.5 microns or less in diameter (PM_{2.5}), will not exceed the SCAQMD regional daily thresholds. **Therefore, the regional air quality impacts from CO, SO₂, and PM_{2.5} would be less than significant and no mitigation is required for these criteria pollutants.** [EIR p. 5.1-24 through 5.1-31]

The modeling also shows that construction of a storm drain alone (or any activity of similar magnitude) would not exceed any applicable SCAQMD thresholds and would not result in significant air quality impacts during construction [EIR p. 5.1-35]. **Therefore, air quality impacts from construction of a storm drain or (other Facility of similar magnitude) are considered less than significant and no mitigation over and above adherence to SCAQMD regulations and the District's standard regulatory procedures is required.** [EIR pp. 5.1-24 through 5.1-31]

4. Create Objectionable Odors Affecting a Substantial Number of People: The Project presents the potential for generation of objectionable odors in the form of diesel exhaust during construction in the immediate vicinity of the proposed MDP Facilities. However, these odors will be of short-term duration and will not result in permanent impacts to surrounding land uses or sensitive receptors in the MDP Watershed. Impacts regarding objectionable odors would be less than significant and no mitigation is required. [EIR p. 4-6]

5. Generate Greenhouse Gas Emissions: The MDP and its Facilities do not fit into the typical categories provided (industrial, commercial, and residential) in the draft thresholds from the California Air Resources Board (CARB) and SCAQMD. However, the total greenhouse gas (GHG) emissions from the construction of the MDPs representative project is below the lowest SCAQMD recommended screening level of 3,000 metric tons carbon dioxide equivalent (MTCO₂E) per year for commercial projects. Due to the lack of adopted emissions thresholds, the estimated amount of emissions from construction of the MDPs representative project, and negligible operational emissions from infrequent maintenance vehicles that will not result in additional sources of emissions when compared to existing maintenance routines, implementation of the MDP will not generate a significant amount of GHG emissions. Construction of the Project would result in approximately 2,231.36 MTCO₂E, clearly below the

per year screening level provided from the SCAQMD. Amortizing that over the 30-year GHG guidance procedures for construction emissions, the Project would emit only 74.38 MTCO₂E per year based upon the total construction emissions of GHGs. The impact related to greenhouse gas emissions would be less than significant and no mitigation is required. [EIR pp. 5.1-32 through 5.1-34]

6. Conflict with an Applicable Plan, Policy or Regulation Adopted for the Purpose of Reducing Greenhouse Gas Emissions: There are no applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions (i.e., Climate Action Plan) for a linear flood control project such as this. Regardless, emissions are deemed less than significant during construction (74.38 MTCO₂E amortized construction rate) and would effectively become zero aside from occasional maintenance activities once the Project is operational. The Moreno MDP will not obstruct implementation of any plan, policy, or regulation adopted for the purpose of reducing GHG emissions and will be subject to future applicable regulations once adopted. This GHG impact would be less than significant and no mitigation is required. [EIR p. 5.1-34]

D. BIOLOGICAL RESOURCES

1. Conflict with any Local Policies or Ordinances Protecting Biological Resources: The Moreno Valley General Plan contains policies relating to the protection of biological resources and the Moreno Valley Municipal Code includes ordinances to implement such policies. Compliance with the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) will conserve important resources such as mature trees, rock outcroppings, hills, ridges, and other prominent land forms, as open space. The Project proponent for any MDP Facility is required to comply with the goals and policies of the District, the City of Moreno Valley, and Riverside County, relative to the protection of biological resources through compliance with the MSHCP. Therefore, potential impacts related to local biological resources policy would be less than significant and no mitigation is required. [EIR pp. 5.2-24 through 5.2-29]

E. CULTURAL AND PALEONTOLOGICAL RESOURCES

1. Disturb Human Remains: There are no known cemeteries located within the MDP boundary. Due to the previously disturbed condition of most of the MDP Watershed; the discovery of human remains is unlikely. In the unlikely event human remains are uncovered during construction, all activity in the vicinity of the remains shall cease and the contractor shall notify the County Coroner immediately, pursuant to California Health & Safety Code §7050.5 and California Resource Protection Code §5097.98. Therefore, potential impacts to human remains are less than significant and no mitigation is required. [EIR p. 4-7]

F. GEOLOGY AND SOILS

1. Rupture of a Known Earthquake Fault and/or Strong Seismic Ground Shaking: An Alquist-Priolo Earthquake Fault Zone that consists of the Claremont segment of the San Jacinto Fault Zone crosses the northeast portion of the proposed MDP Watershed. Proposed MDP

Facilities that are within the Alquist-Priolo Fault Zone are portions of Line B, B 1, B 2, C, D 1, and D 5 storm drain facilities, and the Ironwood Debris Basin. Additionally, two separate Riverside County faults, the Reche Canyon and Claremont, cross the northern portion of the proposed MDP Watershed. Proposed MDP Facilities that are within the Reche Canyon Fault Zone are portions of Line K, an open channel and storm drain system, and portions of the Reche Canyon Debris Basin. Outside the Alquist-Priolo Fault Zone lies a Claremont Fault Line which crosses portions of Line B, B-3, and C storm drain facilities.

Because the Project does not contain structures that would be inhabited by humans it will not expose persons directly to substantial adverse effects from ground shaking. Detention basin failure, as a result of ground shaking, could indirectly expose humans and structures to adverse effects such as flooding, if it were to occur during periods of high water in the basins. However, the probability is low due to the short duration of flood water storage within the basins (less than 72 hours) and the absence of large embankments to store large enough quantities of water to cause flooding. Furthermore, the proposed MDP Facilities will be designed and constructed to withstand expected ground shaking levels and potential soil instability. Therefore, potential impacts due to seismic hazards would be less than significant and no mitigation is required. [EIR p. 4-7]

2. Adverse Effects of Seismic-Related Ground Failure and/or Liquefaction: Portions within the MDP Watershed are underlain with young alluvial fan deposits that lie within a moderate liquefaction hazard zone. The Project Facilities, which do not include habitable structures, will be designed and constructed to withstand expected ground failure, including liquefaction. The District's routine inspection and maintenance activities will ensure that the local Project Facilities are repaired if damage does occur during a seismic-related ground failure, including liquefaction. Therefore, potential impacts related to ground failure or liquefaction would be less than significant and no mitigation is required. [EIR p. 4-8]

3. Adverse Effects due to Landslides: The Project site is relatively flat, with an elevation ranging of approximately 1,500 feet to 2,400 feet above mean sea level. The Project is not located on a hillside and will be installed at or below the ground surface. The two proposed debris basins will entrap mud, rocks, and sediments within the Moreno MDP that may flow from the canyons. The Project does not provide habitable structures. Potential impacts due to landslides or mudflows would be less than significant and no mitigation is required. [EIR p. 4-8]

4. Result in Substantial Changes in Topography, Soil Erosion or Loss of Topsoil: The MDP Facilities are generally located at or below ground surface and would not entail substantial changes in topography or create unstable soil conditions. The primary components of the Project will reduce erosion. Short-term loss of top soil during construction due to runoff and erosion will be minimized through compliance with the National Pollutant Discharge Elimination System (NPDES) general construction permit, which requires that a Storm Water Pollution Prevention Plan (SWPPP) be prepared before and implemented during construction activities. Impacts

related to erosion and sedimentation would be less than significant and no mitigation is required. [EIR p. 4-8]

5. Be Located on a Geologic Unit of Soil that is Unstable: The Project Facilities are mostly underlain by young and old alluvial deposits, which can be unstable. Therefore, the proposed MDP Facilities will be designed and constructed to withstand lateral spreading, subsidence, collapsible soils, and any other potential soil instability. Therefore, potential impacts due to unstable soils would be less than significant and no mitigation is required. [EIR pp. 4-9 through 4-10]

6. Be Located on Expansive Soils: Expansive soils may be encountered within the young and old alluvial deposits. The proposed MDP Facilities will be designed and constructed to withstand expansive soil and potential soil instability. The Project Facilities, which do not include habitable structures, will be designed and constructed to withstand expected ground failure, including impacts related to expansive soils. Therefore, potential impacts due to expansive soils are considered less than significant and no mitigation is required. [EIR p. 4-10]

7. Have Soils Incapable of Adequately Supporting Structures, Fill or Other Improvements: The proposed MDP Facilities consist of detention basins, debris basins, soft- and hard-bottomed channels, and underground storm drains. The proposed MDP Facilities do not include any other structures, fill, or other improvements that would require supporting soils. No impacts related to inadequate soils are anticipated and no mitigation is required. [EIR p. 4-10]

G. HAZARDS AND HAZARDOUS MATERIALS

1. Create a Significant Hazard to the Public through the Routine Transport of Hazardous Materials: During construction and future maintenance, some potential hazardous materials such as fuel, herbicides and pesticides will be used in accordance with standard safety measures and regulations. Such measures and regulations are under the jurisdiction of numerous federal, state, and local agencies. While no impacts related to contaminated soils or the transportation of contaminated soils are anticipated, if such soils were located during the course of construction, all standard hazardous material remediation and removal procedures would be adhered to. Potential impacts related to hazardous materials would be less than significant and no mitigation is required. [EIR pp. 4-10 through 4-11]

2. Create a Significant Hazard to the Public due to Accidental Release of Hazardous Materials: Hazardous materials such as fuel, herbicides and pesticides will be used in accordance with federal and state level standard safety measures and regulations during construction and maintenance of the MDP Facilities. Further, any accidental spills or release of hazardous materials will be remediated as required by federal, state, and local polices and requirements. Potential impacts related to the accidental release of hazardous materials would be less than significant and no mitigation is required [EIR p. 4-11]

3. Hazardous Emissions, Materials, Substances, or Waste within 0.25 Mile of an Existing or Proposed School: The MDP Watershed is within Moreno Valley Unified School District and

Val Verde Unified School District. Because of the size of the MDP Watershed, Project Facilities will be within one-quarter mile of five existing schools. Hazardous materials such as fuel, herbicides and pesticides will be used in accordance with federal and state level standard safety measures and regulations during construction and maintenance of the MDP Facilities. Since hazardous materials will be handled in accordance with applicable regulations, potential impacts from hazardous emissions, materials, and wastes would be less than significant and no mitigation is required. [EIR p. 4-11]

4. Be Located on a Listed Hazardous Materials Site: According to the environmental regulatory database search that was performed, none of the Project Facilities pass through a known contaminated site that would create a significant hazard to the public or the environment. Therefore, there would not be a significant hazard to the public or environment due to known hazardous materials sites. No adverse impacts related to hazardous material sites are anticipated and no mitigation is required. [EIR pp. 4-11 through 4-14]

5. Hazards within the Vicinity of a Public or Private Airport or Airstrip: The closest public or private airport to the Project site is March Joint Air Reserve Base which is located approximately 2.5 miles west of the Project site. The Moreno watershed is not within an airport influence area boundary. Therefore, the Project would not result in a safety hazard for people working within the MDP boundary. The Project will not create any hazards to public or private airports or interfere with any operating aircraft. No adverse airport or airstrip impacts are anticipated and no mitigation is required. [EIR pp. 4-14 through 4-15]

6. Impair Implementation of or Physically Interfere with an Adopted Emergency Response Plan or Emergency Evacuation Plan: The Emergency Management Office within the Moreno Valley Fire Department prepares the Emergency Operations Plan (EOP) and uses the Standardized Emergency Management System when responding to emergencies. Implementation of the Project will not reconfigure current roadways that would result in inadequate emergency access. Construction of certain Project Facilities may require temporary closure of a travel lane; however, access will be maintained throughout the construction activities. Furthermore, a traffic control plan will be prepared when needed, which will provide provisions for emergency access at all times. Therefore, the Project will not impair or physically interfere with an adopted emergency response plan or emergency evacuation plan. Impacts to emergency response would be less than significant and no mitigation is required. [EIR p. 4-15]

7. Expose People or Structures to Adverse Effects Involving Wildland Fires: Reche Canyon Debris Basin and Line K will be in a very high fire risk area and Ironwood Debris Basin in a substantial fire risk area. However, the Project is primarily within urbanized areas and will not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. Once operational, the Project will not substantially contribute to any heightened fire risks. Additionally, the Moreno MDP Facilities transport flood waters and will be impervious to damage from wildland fires. Impacts would be less than significant and no mitigation is required. [EIR p. 4-15]

H. HYDROLOGY AND WATER QUALITY

1. Deplete Groundwater Supplies or Interfere with Groundwater Recharge:

Implementation of the MDP does not involve the extraction of groundwater, nor will it create a substantial addition of impervious surfaces such that existing areas of groundwater recharge are altered. The MDP proposes three detention basins: Sinclair Basin, Cactus Basin, and Quincy Basin and two debris basins: Reche Canyon Debris Basin and Ironwood Debris Basin, which will provide opportunity for additional regional groundwater recharge as storm water flows are conveyed through the MDP Facilities. While recharge and infiltration is an incidental benefit of the Project's basins, the analysis determined that based upon the hydrological soil groups, the basins have the potential for 95 to 336 acre-feet per day of basin recharge. Furthermore, portions of the channels bottoms are earthen, also contributing to groundwater recharge. Therefore, impacts to groundwater supplies and groundwater recharge would be less than significant and no mitigation is required. [EIR pp. 5.4-24 through 5.4-26]

2. Alter the Existing Drainage Pattern Resulting in Substantial Soil Erosion: The Project proposes two debris basins that will entrap mud, rocks, and sediments within the Moreno MDP. This will allow only relatively desilted water to continue downstream within the Moreno MDP. The Project has the potential to result in the short-term loss of top soil during construction due to runoff and soil erosion, which will be minimized through compliance with the NPDES General Construction Permit and implementation of a SWPPP during construction activities. The SWPPP will incorporate applicable BMPs to minimize the loss of topsoil or substantial erosion. Impacts would be less than significant and no mitigation is required. [EIR pp. 4-15 through 4-16]

3. Place Housing Within a 100-Year Flood Hazard Area: The Project would not involve the construction of any housing. Therefore, there will be no impact related to the placement of housing within a 100-year flood hazard area and no mitigation is required. [EIR p. 4-16]

4. Place Structures Within a 100-Year Flood Hazard Area which would Impede or Redirect Flood Flows: Portions of the MDP will be constructed within mapped 100-year flood hazard areas. However, the purpose of the MDP is to contain the 100-year storm flows, and all individual MDP Facilities will be designed accordingly. The MDP Facilities will re-direct sheet flows across the Moreno watershed into basins, open channels, and underground storm drains; and convey these flows towards the San Jacinto River. When completed, the MDP Facilities, along with planned street improvements, will provide 100-year protection and will substantially reduce any major flood hazards within the MDP boundary. Potential impacts related to 100-year flood events would be less than significant and no mitigation is required. [EIR p. 5.4-28]

5. Expose People or Structures to Adverse Impacts Involving the Failure of a Levee or Dam: Dam inundation is a potential flood hazard within portions of the Moreno Valley planning area. This condition is based on the assumption of instantaneous failure of a dam with the reservoir at or near its full capacity. Two locations of concern are Poorman Reservoir (Pigeon Pass Reservoir) and Lake Perris. Failure of the dam at Poorman Reservoir could result in extensive flooding downstream. However, the reservoir does not retain water throughout the year

and the risk of flooding due to dam failure is limited to the period during and immediately after major storms. Failure of the dam at Lake Perris would only affect a very small area south of Nandina Avenue along the Perris Valley Storm Drain and the Mystic Lake area in the southeast corner of the planning area. Both of these locations are outside of the Moreno watershed. Additionally, the Project will not include habitable structures and will not be generating housing or commercial operations that would increase population within any inundation areas. [EIR p. 4-16]

The primary purpose of the Project is to control flooding associated with storm water runoff within the MDP Watershed. The proposed basins are expected to be primarily constructed below the existing ground surface. When embankments are required, they will be designed and constructed in accordance with standard engineering and seismic criteria to minimize the risk of failures. The Project does not include construction of a levee or dam. Standard inspection and maintenance activities will ensure that any damaged facilities are repaired. The proposed basins would mostly be incised, with a maximum embankment height of approximately six feet, and would only impound floodwaters temporarily during large and infrequent storm events. Floodwaters in contact with that portion of the basin embankment would have a maximum drawdown time of approximately 24-hours. Thus, the likelihood of flooding due to a failure from an earthquake while the basins contain storm water is remote, since the bulk of storm water would be below ground level. Potential impacts to people or structures from flooding as a result of a levee or dam failure are less than significant and no mitigation is required. [EIR p. 4-16]

6. Inundation by Seiche, Tsunami, or Mudflow: The Project is not located within an area that would be subjected to seiche, tsunami, or mudflow. The basins will be designed and constructed to remain stable during storm events. Potential impacts from seiche, tsunami, or mudflow are less than significant and no mitigation is required. [EIR p. 4-17]

I. LAND USE AND PLANNING

1. Physically Divide an Established Community: Underground storm drains by their very nature, do not divide communities. While open channels can minimally divide communities, crossings for traffic, pedestrians, and wildlife will be provided to retain the connections from one side of the channel to the other. Furthermore, unlike a freeway or other similar infrastructure, the scale of the MDP Facilities is not such that it would create physical barriers within the established communities. For these reasons, no impacts related to dividing the community are anticipated and no mitigation is required. [EIR p. 4-17]

2. Conflict with Applicable Land Use Plan, Policy, or Regulation: Construction and operation of the MDP Facilities would not affect the surrounding land use designations or other policies or regulations. In addition, Riverside County Ordinance No. 348, §18.2a(b), exempts public agency projects, such as this Project, from County zoning regulations and the Moreno Valley Municipal Code does not prohibit infrastructure in any zoning district. No other plans or policies are applicable. As such, the Project would not conflict with any land use plans, policies,

or regulations. No impacts related to land use are anticipated and no mitigation is required. [EIR p. 4-17]

J. MINERAL RESOURCES

1. Impact Known Mineral Resources or Mineral Recovery Sites: The MDP Watershed is located within an area designated as Mineral Resource Zone-3 (MRZ-3), as determined by the State Mining and Geology Board. This mineral resource zone includes areas where the available geologic information indicates that mineral deposits exist, or are likely to exist; however, the significance of the deposit is undetermined. According to the Moreno Valley General Plan, the planning area does not have significant mineral resources. The Project Facilities are primarily within the road rights-of-way located at or below ground surface and will not preclude significant areas from being mined, if resources occur. The Project will not impact or interfere with any ongoing or potential future mining operations or recovery sites. No impacts related to known mineral resources are anticipated and no mitigation is required. [EIR p. 4-18]

K. NOISE

1. Permanent Increase in Ambient Noise Levels Above Existing Levels: Permanent noise impacts are typically associated with project operation. However, in this case Project operation is limited to maintaining MDP Facilities, which typically includes infrequent activities such as weed abatement and sediment removal. Therefore, maintenance of the MDP Facilities will be infrequent and short-term in nature and would not permanently increase noise levels in the MDP Watershed. Permanent noise impacts would be less than significant and no mitigation is required. [EIR p. 4 -18]

2. Public or Private Airport or Airstrip Noise Levels: The MDP Watershed is not located within the vicinity (or within two miles) of a public airport or public use airport and lies outside of the airport influence area boundary. The Project will not involve placing people in a noisy environment near an airport or private airstrip, as the Project does not include the construction of homes, businesses, or other habitable structures. No impacts from public or private airports or airstrips are anticipated and no mitigation is required. [EIR p. 4-18]

L. POPULATION AND HOUSING

1. Directly or Indirectly Induce Substantial Population Growth: Implementation of the Project would not directly induce substantial population growth, as it does not include the construction of homes or businesses. A project could indirectly induce growth by removing barriers to growth, by creating a condition that attracts additional population or new economic activity, or by providing a catalyst for future unrelated growth in an area. While a project may have a potential to induce growth, it does not automatically result in growth. Growth can only happen through capital investment in new economic opportunities by the public or private sectors. The land use policies established by Moreno Valley will regulate growth in the MDP watershed. Implementation of the MVGP land use policies and proposed developments will increase the need for storm drainage facilities and infrastructure contained in the Project, and

MDP Facilities would generally be funded and constructed as new developments occur or would be constructed to protect existing residents and businesses from current flood conditions. Therefore, potential indirect impacts to population growth within the Moreno watershed are considered less than significant and no mitigation is required. [EIR pp. 4-18 through 4-19; 6-10]

2. Displace Existing Housing: The Project does not propose the displacement of any persons or housing units and would not require construction of new housing. No impacts to existing housing or the displacement of people are anticipated and no mitigation is required. [EIR p. 4-19]

M. PUBLIC SERVICES

1. New or Physically Alter Fire Protection Facilities: The nature of this Project generally does not require fire protection and will not necessitate the construction of new facilities or increase the demand on fire services. No impacts to fire department facilities are anticipated and no mitigation is required. [EIR p. 4-20]

2. New or Physically Alter Police Protection Facilities: The nature of this Project generally does not require police protection and will not necessitate the construction of new facilities or increase the demand on police protection services. No impacts to police department facilities are anticipated and no mitigation is required. [EIR p. 4-20]

3. New or Physically Alter School Facilities: The nature of this Project generally does not require school services and will not necessitate the construction of new facilities or increase the demand on schools. No impacts to schools or educational services are anticipated and no mitigation is required. [EIR p. 4-20]

4. New or Physically Alter Park Facilities: The nature of this Project generally does not require park services and will not necessitate the construction of new facilities or increase the demand on park services. Proposed MDP Facilities are within one-quarter mile of five parks; however, MDP facilities are not proposed to cross or traverse any parks and would not lead to any direct or indirect physical impacts to new or existing parks or parkland. No impacts to existing park facilities are anticipated and no mitigation is required. [EIR p. 4-20]

5. New or Physically Alter Other Public Facilities: There are no other public facilities that would be adversely impacted by the Project. No impacts to other public facilities are anticipated and no mitigation is required. [EIR p. 4-20]

N. PARKS AND RECREATION

1. Increased Use of Existing Parks: The Project does not involve new housing or employment opportunities that would directly generate users which would result in an increased use of existing parks or recreational facilities. During construction, given the nature of the Project, employment would likely come from the existing community or region. No impacts to existing parks or recreational facilities are anticipated and no mitigation is required. [EIR p. 4-21]

2. Construction or Expansion of New Recreational Facilities: The Project does not include recreational facilities or involve the construction of housing or creation of employment opportunities that would directly generate users that would result in a need for construction or expansion of recreational facilities. No impacts to parks or recreational facilities are anticipated and no mitigation is required. [EIR p. 4-21]

O. TRANSPORTATION AND TRAFFIC

1. Conflict with an Adopted Plan, Ordinance or Policy Establishing Measures of Effectiveness for the Performance of the Circulation System: The Project is not a traffic-generating use. Temporary truck traffic will be incrementally increased on area roadways during the construction period of each MDP Facility. However the Facilities are expected to be constructed incrementally over many years, thereby avoiding a substantial effect traffic and the circulation system. Nonetheless, as a standard operating procedure the District collaborates with local jurisdictions to prepare construction traffic control plans (TCP) as needed. The TCP details and coordinates traffic movement through a project area, which minimizes adverse traffic impacts during construction. TCPs provide routing to any private property that may be temporarily affected by the Project, and provide for maintaining emergency access at all times. Ongoing maintenance will involve infrequent visits to the site, likely utilizing a light truck; however, this will not contribute to any significant increase in traffic on area roadways or affect mass transit and non-motorized methods of travel. Therefore, with respect to a Project-specific exceedance of an established level of service, less than significant impacts are expected. Impacts would be less than significant and no mitigation is required. [EIR p. 4-21]

2. Conflict with an Adopted Congestion Management Program: The City of Moreno Valley complies with the 2010 Congestion Management Program that has been put in place by the Riverside County Transportation Commission. Lines G-3, G-4, and F-2 are planned to be constructed near a CMP designated State Highway facility; however, this will not affect traffic along the highway. There are no Project components that would cause a substantial permanent increase in traffic. There will be a temporary increase in trips associated with construction of the Project Facilities. Nonetheless, as a standard operating procedure the District collaborates with local jurisdictions to prepare construction traffic control plans (TCP) as needed. The TCP details and coordinates traffic movement through a project area, which minimizes adverse traffic impacts during construction. TCPs provide routing to any private property that may be temporarily affected by the Project, and provide for maintaining emergency access at all times

Once the facilities are operational, no traffic-related impacts would be anticipated as there will be only a minor increase in trips associated with ongoing maintenance of the Project Facilities. Therefore, with respect to a Project-specific exceedance, either individually or cumulatively, of an established level of service standard, less than significant impacts are expected. Additionally, for the same reasons, the Project will not conflict with the CMP, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways will occur as a result of

the Project. Impacts related to the CMP would be less than significant and no mitigation is required. [EIR pp. 4-21 through 4-22]

3. Substantially Increase Hazards Due Design Features: The Project would not alter existing roadway design features or introduce new hazards to design features since the Project does not propose any new roadways. The Project is not proposing any incompatible elements to area roadways. No roadway hazard impacts are anticipated and no mitigation is required. [EIR p. 4-22]

4. Result in Inadequate Emergency Access: Construction of the Project will not result in inadequate emergency access. Construction of certain Project Facilities may require temporary closure of a travel lane; however, access will be maintained throughout the construction activities. As a standard operating procedure the District collaborates with local jurisdictions to prepare construction traffic control plans (TCP) as needed. The TCP details and coordinates traffic movement through a project area, which minimizes adverse traffic impacts during construction. TCPs provide routing to any private property that may be temporarily affected by the Project, and provide for maintaining emergency access at all times. Once the facilities are operational, no traffic-related impacts would be anticipated. Impacts to emergency response and access would be less than significant and no mitigation is required. [EIR p. 4-22]

5. Result in Inadequate Parking: Adequate construction parking will be provided through construction staging areas to accommodate employee and construction vehicles. Once construction is completed the Project does not require parking. No parking impacts are anticipated and no mitigation is required. [EIR p. 4-22]

6. Conflict with Adopted Policies, Plans, or Programs Regarding Public Transit, Bicycle, or Pedestrian Facilities or Other Alternative Transportation: The Project will not reconfigure roadways or alternative transportation services. Project Facilities are within 100 feet of four Riverside Transit Agency (RTA) bus routes, Route 20, 35, 41, and 210. If construction of Project Facilities requires temporary closure of a traffic lane, road access would be maintained or a detour provided. If access to a RTA bus route will be affected, then the party constructing the facility (e.g., District, Moreno Valley, and/or private developer) would be required to coordinate with RTA in advance to maintain service in the area. Impacts to public transit are considered less than significant and no mitigation is required. [EIR pp. 4-22 through 4-23]

P. UTILITIES AND SERVICE SYSTEMS

1. New or Expanded Electricity Facilities: The nature of this Project generally does not require nor impact electricity services and will not necessitate the construction of new facilities or increase the demand for electricity services. Therefore, no impacts to electricity facilities are anticipated and no mitigation is required. [EIR p. 4-23]

2. New or Expanded Natural Gas Facilities: The nature of this Project generally does not require nor impact natural gas services and will not necessitate the construction of new facilities

or increase the demand for natural gas services. Therefore, no impacts to natural gas facilities are anticipated and no mitigation is required. [EIR p. 4-23]

3. New or Expanded Communication System Facilities: The nature of this Project generally does not require communication system services, will not impact existing communication systems services, and will not necessitate the construction of new facilities or increase the demand for communication system services. Therefore, no impacts to communications systems are anticipated and no mitigation is required. [EIR p. 4-23]

4. New or Expanded Street Lighting: The nature of the Project generally does not require street lighting services and will not necessitate the construction of new facilities or increase the demand for street lighting services. No impacts to street lighting are anticipated and no mitigation is required. [EIR p. 4-23]

5. New or Expanded Public Facilities: There are no other public facilities that would be adversely impacted by implementation of the Project. No impacts to public facilities are anticipated and no mitigation is required. [EIR p. 4-23]

6. New Storm Drainage Facilities: The Project itself is the incremental construction of new stormwater drainage facilities and the expansion of existing facilities. The Project is intended to meet an existing need of enhanced stormwater and flood management for an area that routinely exhibits significant flooding during rain events. Therefore the Project will not adversely impact the capacity of stormwater drainage facilities; it will improve the capacity to convey stormwater. Impacts on stormwater drainage facilities is considered less than significant and no mitigation is required. [EIR pp. 4-23 through 4-24]

7. Sufficient Water Supplies: The Project does not involve activities that will require new or expanded permanent water supplies. Construction of the Project Facilities will necessitate short-term water use in order to provide for dust control but the Project overall is not anticipated to require large amounts of water or unduly impact water supplies. No long-term water use is anticipated for Project operations. Impacts on water supplies would be less than significant and no mitigation is required. [EIR p. 4-24]

8. Adequate Wastewater Treatment Capacity: The Project would not generate wastewater or impact wastewater facilities. Therefore, no new wastewater facilities are required. No impacts related to wastewater are anticipated and no mitigation is required. [EIR p. 24]

9. Landfill Capacity: The Project would not generate solid waste that would require landfill service on a long-term basis. Construction waste will be limited to debris generated by construction plus minimal debris created during maintenance of Project Facilities. The Project will attempt to balance any cut and fill onsite as much as possible. However, local landfills that have sufficient capacity to accept construction materials include the Riverside County Waste Management Department's Badlands Landfill, located approximately 1.5 miles north of State Route 60 near Ironwood Avenue and Theodore Street. Other County landfills in the area such as

El Sobrante and Lambs Canyon Landfill can also serve the Project. Impacts related to solid waste disposal and landfills would be less than significant and no mitigation is required. [EIR p. 4-24]

10. Solid Waste Regulations: The Project will not generate large quantities of solid waste on a long-term basis. The disposal of construction waste will comply with all federal, state, and local status and regulations related to solid waste. Impacts to solid waste would be less than significant and no mitigation is required. [EIR p. 4-24]

SECTION III
FINDINGS REGARDING ENVIRONMENTAL IMPACTS
MITIGATED TO A LEVEL OF LESS THAN SIGNIFICANT

The Board finds that the following environmental impacts identified in the EIR are potentially significant but can be mitigated to a less than significant level. The use of an EIR allows the lead agency to consider a broad range of program-wide Mitigation Measures at an early time when the agency has greater flexibility to manage and resolve basic problems or cumulative impacts [State CEQA Guidelines §15168(b)(4)]. The potentially significant impacts and the broad range of Mitigation Measures which would reduce potential to a less than significant level are analyzed in full in the EIR and are summarized as follows:

A. AIR QUALITY

AQ IMPACT 1: Violate Air Quality Standards During Construction (PM₁₀). No long-term air quality impacts will occur because operating and maintaining the MDP Facilities would generate very minor and nominal emissions, as explained fully in the EIR. [EIR pp. 5.1-24 through 5.1-31]

The District applied the SCAQMD localized significance threshold (LST) and modeling methodology to determine whether or not the Project would generate significant adverse localized air quality impacts. LSTs represent the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area. As analyzed using the SCAQMD LST methodology, the MDP will not result in any localized air quality impacts. [EIR p. 5.1-31]

However, when applying the SCAQMD regional daily thresholds and modeling methodology (CalEEMod), the analysis indicates that short-term impacts from fugitive dust emissions (PM₁₀) related to construction are potentially significant

The Project is required to comply with existing SCAQMD rules for the reduction of fugitive dust emissions. SCAQMD Rule 403 establishes fugitive dust management. Compliance with this Rule 403 is achieved through application of standard best management practices in construction and operation activities, such as application of water or chemical stabilizers to disturbed soils, managing haul road dust by application of water, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 mph, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 miles per hour and establishing a permanent, and stabilizing ground cover on finished sites.

The modeling (CalEEMod) indicates that compliance with SCAQMD Rule 403 and implementation of Mitigation Measures MM AIR 1 through MM AIR 4 in the MMRP would reduce temporary PM₁₀ regional air quality impacts below established thresholds. Therefore the impact from PM₁₀ would be less than significant with mitigation.

Finding: With compliance with SCAQMD Rule 403 and implementation of Mitigation Measures MM AIR 1 through MM AIR 4, potential impacts from PM₁₀ would be below established regional thresholds, based on SCAQMD recommended modeling (CalEEMod). These Mitigation Measures reflect changes or alterations that the District has required, or incorporated into, the Project that would avoid or substantially lessen the potentially significant impact as identified in the EIR. [State CEQA Guidelines §15091(a)(1)]. The impact from PM₁₀ would be less than significant with mitigation.

Mitigation Measures: Air Quality Mitigation Measures are in the EIR pages 5.1-35 and 5.1-36. Mitigation Measures MM AIR 1 through MM AIR 4 shown below and in the attached MMRP [Exhibit "C"] would reduce temporary PM₁₀ air quality impacts below established thresholds and are shown below:

Mitigation Measure MM AIR 1 states:

For channel and basin Facilities, during construction, ozone precursor emissions from all vehicles and construction equipment shall be controlled by maintaining equipment engines in good condition, in proper tune per manufacturers' specifications. Equipment maintenance records and equipment design specification data sheets shall be kept on site during construction. Compliance with this measure shall be subject to periodic inspections by the Lead Agency or by means of another form of documentation as approved by the Lead Agency (i.e., Moreno Valley, Riverside County, or District).

Timing/Implementation: Prior to the initiation of construction

*Enforcement/Monitoring: Applicable Lead Agency
(District, Moreno Valley, or Riverside County)*

Mitigation Measure MM AIR 2 states:

For channel and basin Facilities, to reduce construction vehicle (truck) idling while waiting to enter/exit the site, prior to issuance of grading permits, the contractor shall submit a traffic control plan that will describe in detail, safe detours to prevent traffic congestion to the best of the project's ability, and provide temporary traffic control measures during construction activities that will ensure smooth traffic flows. Pursuant to CCR Title 13 §2449(d)(3), construction equipment and truck idling times shall be prohibited in excess of five minutes on site. To reduce traffic congestion, and therefore NO_x, the plan shall include, as necessary, appropriate, and practicable, the following: dedicated turn lanes for movement of construction trucks and equipment on and off site, scheduling of construction activities that affect traffic flow on the arterial system to off-peak hours, rerouting of construction trucks away from congested streets or sensitive receptors, and/or signal synchronization to improve traffic flow. This measure applies to all projects, unless the Lead Agency determines that a traffic control plan is not warranted or feasible due to no impact on local roadways.

Timing/Implementation: Prior to the initiation of construction

Enforcement/Monitoring: Applicable Lead Agency (District, Moreno Valley, or Riverside County)

Mitigation Measure MM AIR 3 states:

For channel and basin Facilities, to minimize impacts related to particulate matter (PM₁₀ and PM_{2.5}) generation from construction activities, consistent with SCAQMD Rule 403, it is required that fugitive dust generated by grading and construction activities be kept to a minimum with a goal of retaining dust on the site. The contractor shall be required to comply with the applicable provisions of SCAQMD Rule 403 and implement appropriate fugitive dust control measures that may include watering, stabilized construction access to reduce tracking of mud or dirt onto public roads, covering trucks hauling loose materials off-site², and street sweeping.

Timing/Implementation: Prior to the initiation of construction

*Enforcement/Monitoring: Applicable Lead Agency
(District, Moreno Valley, or Riverside County)*

Mitigation Measure MM AIR 4 states:

For channel and basin Facilities, to reduce construction vehicle emissions contractor specification packages for Facility construction phases shall require construction equipment to meet EPA standards according to the following, unless a Facility (or Facilities)-specific air quality analysis is conducted at the time are actually designed and proposed for construction that determines impacts would be less than significant by adhering to the most current federal, state and local regulations (e.g., SCAQMD), and the District's standard regulatory practices:

- The contracting company's fleet of off-road diesel-powered construction equipment greater than 100 horsepower shall meet Tier 3 off-road emissions standards or better.
- Any emissions control device used by the contractor shall achieve Level 3 emissions reductions of no less than 85 percent for particulate matter, as specified by CARB regulations.
- A copy of the fleet's tier compliance documentation, and CARB or AQMD operating permit shall be available to the Lead Agency for such Facility (i.e., Moreno Valley, Riverside County, or District) at the time of mobilization of each applicable unit of equipment.

² Covering trucks hauling loose materials achieves a 91 percent reduction in PM-10 per SCAQMD Mitigation Measures and Control Efficiencies for Fugitive Dust – Table XI-A: Construction & Demolition, available at http://www.aqmd.gov/ceqa/handbook/mitigation/fugitive/MM_fugitive.html.

Timing/Implementation: Prior to the initiation of construction

Enforcement/Monitoring: Applicable Lead Agency

(District, Moreno Valley, or Riverside County)

Rationale: Implementation of Mitigation Measures MM AIR 1 through MM AIR 4 shown above and in the MMRP would reduce temporary PM10 air quality impacts below established thresholds by requiring that construction equipment meets the EPA standards and is properly maintained; and implementing SCAQMD Rule 403 and standard fugitive dust control BMPs. Compliance with these Mitigation Measures would prevent significant amounts of particulate matter related to the construction of the Project. Therefore direct, indirect, and cumulative impacts from PM10 would be less than significant with mitigation. [EIR pp. 5.1-35 and 5.1-36]

B. BIOLOGICAL RESOURCES

BIO IMPACT 1: Adverse Effect on Sensitive or Special-Status Species. Biological resources were evaluated at a programmatic level for the proposed Moreno MDP Revision. Therefore, in order to determine Facility-specific impacts, pursuant to mitigation measure MM BIO 1, prior to construction of any individual MDP Facility, a general biological resources assessment shall be conducted. The assessments shall include recommendations for subsequent surveys and mitigation measures, if needed. Facility-specific assessments may be included as part of larger development projects, however the analysis is subject to approval by Moreno Valley and the District. [EIR p. 5.2-24]

Burrowing Owl: All or portions of the following MDP Facilities are located within the burrowing owl survey area: Lines A, A-1, A-2, A-3, A-6, B, B-1, B-2, B-3, C, D-1, D-2, D-3, D-5, D-7, D-8, E-1 through E-8, E-10, F, F-2, F-13, F-15, F-16, F-17, G, G-1 through G-4, G-6 through G-11, H, H-1a, H-3 through H-6, H-11, J, J-1, J-7, J-8, K, K-1, K-2, the northwest portion of the Cactus Basin, and all of the Ironwood Debris Basin, Quincy Basin, Reche Canyon Debris Basin, and Sinclair Basin. Clearing and grading activities related to Project construction can disturb suitable habitat and or cause the direct removal of this species. [EIR p. 5.2-25]

Riparian Birds: The MSHCP vegetation mapping identifies riparian scrub habitat in association with a drainage feature corresponding to proposed MDP Lines A-1 and A-4. Riparian vegetation is associated with other drainage features within the Project area, including existing drainages associated with the following proposed MDP Lines F, G, and K. The full extent of riparian habitat within the Moreno MDP Watershed must be determined through individual Facility-specific studies. Clearing and grading activities related to Project construction could disturb riparian habitat and or cause the direct removal of riparian birds. [EIR pp. 5.2-25 through 5.2-26]

Listed Fairy Shrimp: Clearing and grading activities related to Project construction could disturb habitat that supports Riverside fairy shrimp, vernal pool fairy shrimp, and Santa Rosa fairy shrimp. [EIR p. 5.2-26]

Los Angeles Pocket Mouse (LAPM): A portion of MDP Line F, prior to its connection with the proposed Cactus Basin (immediately east of Redlands Boulevard) is located within the MSHCP

mammal survey area for the LAPM. Clearing and grading activities related to Project construction could disturb LAPM habitat. [EIR p. 5.2-26 through 5.2-27]

Stephen's Kangaroo Rat (SKR): Portions of the Moreno MDP Watershed contain habitat suitable to support SKR, including the grassland areas, and to some extent the agricultural areas. Therefore, implementation of the Moreno MDP will result in the potential loss of habitat for SKR. [EIR p. 5.2-27]

Raptor Foraging Habitat: Special-status and common raptors known or with a potential to forage within the MDP Watershed include, but are not limited to: red-tailed hawk, red-shouldered hawk, ferruginous hawk, Swainson's hawk, northern harrier, golden eagle, white-tailed kite, Cooper's hawk, sharp-shinned hawk, American kestrel, merlin, prairie falcon, and peregrine falcon. The majority of the Moreno MDP Watershed includes at least moderate quality foraging habitat for the various raptor species, including the agricultural areas, grassland areas, and to a lesser extent the developed areas. Clearing and grading activities related to Project construction could disturb raptor foraging habitat. [EIR p. 5.2-27]

Finding: Compliance with the MSHCP, the SKR HCP, and the Mitigation Measures MM BIO 1 through MM BIO 8 outlined below and in the MMRP would reduce the Project's impacts to sensitive and special-status species to a less-than-significant level. The Mitigation Measures reflect changes or alterations that the County has required, or incorporated into, the Project that would avoid or substantially lessen the potentially significant impact as identified in the EIR. [State CEQA Guidelines §15091(a)(1)] The Project is in compliance with local, state, and federal laws, including the MSHCP and CEQA, and potential impacts related to biological resources are considered less than significant with mitigation. [EIR p. 5-2-36]

Mitigation Measures: Biological Resources Mitigation Measures are in the EIR pages 5.2-32 through 5.2-35. Implementation of Mitigation Measures MM BIO 1 through MM BIO 8 shown below and in the MMRP (Exhibit "C") would reduce this impact to a less than significant level.

Mitigation Measure MM BIO 1 states:

Prior to construction of any individual MDP Facility, a Facility-specific general biological resources assessment shall be conducted by a qualified biologist. The general biological resource assessments shall include project location, project description, regulatory context, methods for field surveys including weather, dates, and time of surveys, an identification of: sensitive plant or animal species that occur or may occur on site, other protected natural resources including sensitive vegetation communities, streams, rivers, vernal pools, and wetlands. The assessments shall include recommendations for subsequent surveys and mitigation measures, if needed. Since the Project is located within the Western Riverside County MSHCP Plan Area, the general biological assessments shall also include a MSHCP Consistency Analysis and Findings pursuant to Sections 6.1.2, 6.1.3, 6.1.4, and 6.3.2 of the MSHCP. For MDP Facilities located within a Criteria Cell, the assessments may be included as part of the Joint Project Review application. If an MDP Facility is being constructed as part of a private development project, the general

biological resource assessment prepared for the development project may be utilized, at the discretion of Moreno Valley and the District, in lieu of preparing a separate document specifically for the MDP Facility.

Timing/Implementation: Prior to the initiation of construction

*Enforcement/Monitoring: Applicable Lead Agency (District,
Moreno Valley, or Riverside County)*

Mitigation Measure MM BIO 2 states:

In order to avoid impacts to burrowing owls and to comply with the MSHCP, burrowing owl habitat assessments for individual MDP Facilities will be conducted by a qualified biologist following the MSHCP Burrowing Owl Survey Instructions. The burrowing owl habitat assessment may be conducted as part of the general biological resources assessment in MM BIO 1. If the result of the habitat assessment indicates that suitable habitat is present, including suitable burrows, focused burrowing owl surveys shall be conducted for those areas with suitable habitat pursuant to Step II, Part B of the MSHCP Survey Instructions. If owls are found in the impact area of an MDP Facility, Species Objective 5 from the MSHCP shall be implemented. If avoidance is not feasible, then individual projects will require the approval of a Determination of Biologically Equivalent or Superior Preservation (DBESP) pursuant to the requirements of Section 6.3.2 of the MSHCP including appropriate mitigation, i.e., on-site or off-site enhancement, restoration, establishment (creation), preservation, relocation and/or payment into habitat mitigation banks or in lieu fee programs, or a combination of one or more of these options.

Timing/Implementation: Prior to the initiation of construction

*Enforcement/Monitoring: Applicable Lead Agency (District,
Moreno Valley, or Riverside County)*

Mitigation Measure MM BIO 3 states:

All future MDP facilities within the mapped survey area for Burrowing owls shall have a qualified biologist conduct a pre-construction survey for resident burrowing owls within 30 days prior to commencement of grading and construction activities. If ground-disturbing activities in these areas are delayed or suspended for more than 30 days after the pre-construction survey, the area shall be resurveyed for owls. Take of active nests shall be avoided. The pre-construction survey and any relocation activity will be conducted following accepted protocols and in coordination with the Regional Conservation Authority (RCA), California Department of Fish and Wildlife (CDFW), and U.S. Fish and Wildlife Service.

Timing/Implementation: Prior to the initiation of construction

*Enforcement/Monitoring: Applicable Lead Agency (District,
Moreno Valley, or Riverside County)*

Mitigation Measure MM BIO 4 states:

Construction of each future MDP Facility shall be compliant with Section 6.1.2 of the MSHCP. In conjunction with a delineation of jurisdictional waters (see MM BIO 8), MSHCP riparian/riverine areas and vernal pools will be mapped for individual projects. This mapping may be conducted as part of the general biological resources assessment in MM BIO 1. For areas not excluded as artificially created, the MSHCP requires 100 percent avoidance of riparian/riverine areas. If feasible, individual Facilities will avoid all MSHCP riparian/riverine areas and vernal pools mapped within such Facilities' footprint. If avoidance is not feasible, then individual MDP Facilities will require the approval of a DBESP including appropriate mitigation, i.e., on-site or off-site enhancement, restoration, establishment (creation), preservation, payment into habitat mitigation banks or in lieu fee programs, or a combination of one or more of these options, to offset the loss of functions and values as they pertain to the MSHCP.

Timing/Implementation: Prior to the initiation of construction

Enforcement/Monitoring: Applicable Lead Agency (District, Moreno Valley, or Riverside County)

Mitigation Measure MM BIO 5 states:

Within areas of suitable riparian habitat, a qualified biologist shall conduct protocol presence/absence surveys for the least Bell's vireo following USFWS protocols. If least Bell's vireos are detected, then 90 percent of the occupied portions of the property that provide for long-term conservation value for the vireo shall be conserved in a manner consistent with conservation of the vireo, if feasible. If conservation is infeasible, then the loss of habitat must be mitigated for and approved through DBESP analyses, which must be submitted to the USFWS and CDFW for a 60-day review period.

Timing/Implementation: Prior to the initiation of construction

Enforcement/Monitoring: Applicable Lead Agency (District, Moreno Valley, or Riverside County)

Mitigation Measure MM BIO 6 states:

A qualified biologist will assess individual project sites for habitat with the potential to support listed fairy shrimp, defined as vernal pools, stock ponds, ephemeral ponds, or other human-modified depressions. This assessment may be conducted as part of the general biological resources assessment in MM BIO 1. If potentially suitable habitat is identified, a qualified biologist will conduct presence/absence surveys for listed fairy shrimp following accepted protocols.

For areas not excluded as artificially created, the MSHCP requires 100 percent avoidance of vernal pools and listed fairy shrimp habitat. If listed fairy shrimp are detected and avoidance is not feasible, then (1) long-term conservation shall be implemented pursuant to Appendix E of the

MSHCP if feasible; or (2) the loss of habitat must be mitigated for and approved through DBESP analyses, which must be submitted to the USFWS and CDFW for a 60-day review period.

Timing/Implementation: Prior to the initiation of construction

*Enforcement/Monitoring: Applicable Lead Agency (District,
Moreno Valley, or Riverside County)*

Mitigation Measure MM BIO 7 states:

A qualified biologist will conduct a habitat assessment for individual projects located within the MSHCP Los Angeles pocket mouse survey area. This assessment may be conducted as part of the general biological resources assessment in MM BIO 1. If suitable habitat is present, the biologist will conduct a presence/absence trapping study.

If a Los Angeles pocket mouse (LAPM) is detected, then 90 percent of those portions of the Facility footprint that provide for long-term conservation value for LAPM shall be avoided until it is demonstrated that the MSHCP conservation goals for LAPM have been met. If avoidance is not feasible the loss of habitat must be mitigated for and approved through a Determination of Biologically Equivalent or Superior Preservation (DBESP) pursuant to the requirements of Section 6.3.2 of the MSHCP including appropriate mitigation, i.e., on-site or off-site enhancement, restoration, establishment (creation), preservation, relocation and/or payment into habitat mitigation banks or in lieu fee programs, or a combination of one or more of these options. DBESP analyses must be submitted to the USFWS and CDFW for a 60-day review period.

Timing/Implementation: Prior to the initiation of construction

*Enforcement/Monitoring: Applicable Lead Agency (District,
Moreno Valley, or Riverside County)*

Mitigation Measure MM BIO 8 states:

Prior to construction, individual projects shall obtain the necessary authorizations from the regulatory agencies for proposed impacts to jurisdictional waters. Project-specific delineations may be required to determine the limits of the U.S. Army Corps of Engineers (ACOE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) jurisdiction. These delineations may be conducted as part of the general biological resources assessment in MM BIO 1. Impacts to jurisdictional waters will require authorization by the corresponding regulatory agency. Authorizations may include, but are not limited to, a Section 404 permit from the ACOE, a Section 401 Water Quality Certification from the RWQCB, and a Section 1602 Streambed Alteration Agreement from CDFW.

Project-specific impacts to jurisdictional waters shall be mitigated at the Facility level through the permitting process in a manner approved by the ACOE, CDFW, and the RWQCB, where applicable.

Timing/Implementation: Prior to the initiation of construction

Enforcement/Monitoring: Applicable Lead Agency (District, Moreno Valley, or Riverside County)

Rationale: Implementation of Mitigation Measure MM BIO 1 requires that prior to construction of a specific MDP Facility, a Facility-specific biological resources assessment shall be conducted by a qualified biologist to determine what, if any, biological resources may be impacted. New mitigation or conditions substantially different than those described in the EIR, may trigger subsequent CEQA documentation. Due to the fluid nature of biological resources and related regulations, each Facility will be evaluated on a case-by-case basis at the time a project is proposed. As a Lead or Responsible Agency for District Facilities and storm drain connections, the District retains the discretion to utilize a CEQA document prepared for a private development project, if the document adequately addresses the impacts of the MDP Facilities. Mitigation measures MM BIO 2 through MM BIO 8 require focused surveys, replacement of lost habitat, and seasonal avoidance of vegetation removal in compliance with the MSHCP. Therefore, potential direct, indirect, and cumulative impacts to special status species would be considered less than significant with mitigation. [EIR pp. 5.2-32 through 5.2-35]

BIO IMPACT 2: Adversely Affect Sensitive Vegetation Communities Including Riparian Habitat. The MSHCP recognizes a number of different riparian categories, including riparian forest, riparian scrub, southern willow scrub, mule fat scrub, southern cottonwood/willow riparian and southern sycamore/alder riparian. Other riparian categories are represented by a substantial component of invasive species, including giant reed and tamarisk. MSHCP vegetation mapping identifies riparian scrub habitat in association with Lines A-1 and A-4. Several riparian categories appear to be associated with existing drainages associated with the Lines F, G, and K. Because the extent of riparian habitat is inadequately mapped within the MDP watershed and biological resources have been evaluated at a program level, Facility-specific mapping to ascertain which areas and Facilities may contain riparian habitat is required per the MSHCP (see MM BIO 4). [EIR p. 5.2-28]

Construction of MDP Facilities has the potential to impact waters subject to the jurisdictions of: (i) the ACOE pursuant to Section 404 of the CWA; (ii) the RWQCB pursuant to Section 401 of CWA; and/or (iii) CDFW pursuant to Section 1602 of the California Fish and Game Code. Features with the potential for jurisdiction were mapped (see EIR Figure 5.2-2 – Potential Jurisdictional Features Map), including agricultural ditches and other roadside ditches, etc.; however a comprehensive, wetland/waters delineation was not conducted. Facility-specific jurisdictional delineations, as required by mitigation measure MM BIO 8 will be conducted to determine whether features within the construction footprint of the MDP Facilities will be subject to the jurisdictions of the ACOE, RWQCB, and/or CDFW. Prior to the construction of any MDP Facility that would impact jurisdictional waters, authorization to construct would be obtained by the corresponding regulatory agency. Authorizations may include, but are not limited to, a Section 404 permit from the RWQCB, a Section 401 Water Quality Certification

from the RWQCB, and a Section 1602 Streambed Alteration Agreement from CDFW. [EIR p. 5.2-28 and 5.2-29, 5.2-34 and 5.2-35]

Finding: Mitigation Measures MM BIO 4 and MM BIO 8, outlined below and included in the MMRP would reduce the Project's potential impact to riparian habitat or other sensitive natural communities to less than significant. The Mitigation Measures reflect changes or alterations that the County has required, or incorporated into, the Project that would avoid or substantially lessen the potentially significant impact as identified in the EIR. [State CEQA Guidelines §15091(a)(1)]

Mitigation Measures: Biological Resources Mitigation Measures are in the EIR pages 5.2-32 through 5.2-35. Implementation of Mitigation Measures MM BIO 4 and MM BIO 8 in the MMRP would reduce this impact to a less-than-significant level.

Mitigation Measure MM BIO 4 states:

Construction of each future MDP Facility shall be compliant with Section 6.1.2 of the MSHCP. In conjunction with a delineation of jurisdictional waters (see MM BIO 8), MSHCP riparian/riverine areas and vernal pools will be mapped for individual projects. This mapping may be conducted as part of the general biological resources assessment in MM BIO 1. For areas not excluded as artificially created, the MSHCP requires 100 percent avoidance of riparian/riverine areas. If feasible, individual Facilities will avoid all MSHCP riparian/riverine areas and vernal pools mapped within such Facilities' footprint. If avoidance is not feasible, then individual MDP Facilities will require the approval of a DBESP including appropriate mitigation, i.e., on-site or off-site enhancement, restoration, establishment (creation), preservation, payment into habitat mitigation banks or in lieu fee programs, or a combination of one or more of these options, to offset the loss of functions and values as they pertain to the MSHCP.

Timing/Implementation: Prior to the initiation of construction

Enforcement/Monitoring: Applicable Lead Agency (District, Moreno Valley, or Riverside County)

Mitigation Measure MM BIO 8 states:

Prior to construction, individual projects shall obtain the necessary authorizations from the regulatory agencies for proposed impacts to jurisdictional waters. Project-specific delineations may be required to determine the limits of the U.S. Army Corps of Engineers (ACOE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) jurisdiction. These delineations may be conducted as part of the general biological resources assessment in MM BIO 1. Impacts to jurisdictional waters will require authorization by the corresponding regulatory agency. Authorizations may include, but are not limited to, a Section 404 permit from the ACOE, a Section 401 Water Quality Certification from the RWQCB, and a Section 1602 Streambed Alteration Agreement from CDFW.

Project-specific impacts to jurisdictional waters shall be mitigated at the Facility level through the permitting process in a manner approved by the ACOE, CDFW, and the RWQCB, where applicable.

Timing/Implementation: Prior to the initiation of construction

Enforcement/Monitoring: Applicable Lead Agency (District, Moreno Valley, or Riverside County)

Rationale: Implementation of Mitigation Measures MM BIO 4 and MM BIO 8 would reduce potential impacts to riparian habitat or other sensitive natural communities to less than significant by requiring that the construction of each MDP facility be in compliance with Section 6.1.2 of the MSHCP and prior to construction individual projects shall obtain necessary authorizations from applicable regulatory agencies for proposed impacts to jurisdictional waters. Therefore, potential direct, indirect and cumulative impacts would be considered less than significant with mitigation. [EIR pp. 5.2-35 through 5.2-36]

BIO IMPACT 3: Interference with the Movement of Native Wildlife Species Through Existing Migratory Corridors. According to the MSHCP, there are no special linkage corridors within the Moreno watershed. There are no recognized wildlife nursery sites within the Moreno watershed. Portions of the proposed MDP Facilities contain trees, shrubs, and herbaceous vegetation with the potential to support nesting birds protected by the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code. Construction of Facilities identified in the MDP will result in removing vegetation (i.e., trees, shrubs, and ground cover) suitable for nesting migratory birds. [EIR p. 5.2-29]

Finding: Mitigation Measure MM BIO 9 outlined below would reduce the Project's potential indirect impacts to migratory birds to less than significant. This Mitigation Measure reflects changes or alterations that the District has required, or incorporated into, the Project that would avoid or substantially lessen the potentially significant impact as identified in the EIR. [State CEQA Guidelines §15091(a)(1)]

Mitigation Measure: Biological Resources Mitigation Measures are in the EIR pages 5.2-32 through 5.2-35. Implementation of Mitigation Measure MM BIO 9 in the MMRP would reduce this impact to a less-than-significant level.

Mitigation Measure MM BIO 9 states:

In order to comply with the MBTA and/or California Fish and Game Code, site-preparation activities (removal of trees and vegetation) shall be avoided, to the greatest extent possible, during the native and migratory bird species nesting season (generally February 1 through August 31).

If vegetation must be removed during the nesting season, a qualified biologist shall conduct a nesting bird survey of potentially suitable nesting vegetation prior to disturbance. Surveys shall be conducted no more than thirty (30) days prior to scheduled removals, and repeated if

necessary. If active nests are identified, the biologist will recommend buffers around the vegetation containing the active nests. The vegetation containing the active nest shall not be removed, and no grading shall occur within the established buffer, until a qualified biologist has determined that the nest is no longer active (i.e., the juveniles are surviving independent from the nest). If clearing is not conducted within thirty (30) days of a negative survey, the nesting survey must be repeated to confirm the absence of nesting birds.

Timing/Implementation: Prior to the initiation of construction

Enforcement/Monitoring: Applicable Lead Agency (District, Moreno Valley, or Riverside County)

Rationale: Implementation of Mitigation Measure MM BIO 9 would reduce the Project's indirect and direct impact to migratory birds to less than significant by avoiding the removal of trees and vegetation to the greatest extent possible during native and migratory bird species nesting season and requiring a nesting bird survey of potentially suitable nesting vegetation prior to removals during the nesting season. If vegetation must be removed during the nesting season, and active nests are present, the establishment of buffers and monitoring by qualified biologist will ensure that construction activities will not interfere with nesting birds in compliance with the MBTA and/or California Fish and Wildlife Code. Therefore the direct, indirect and cumulative impacts would be considered less than significant with mitigation. [EIR p. 5.2-35]

BIO IMPACT 4: Conflict with Adopted Habitat Conservation plan, Natural Community Plan, or Other Approved Conservation Plan. The Moreno MDP is located within the boundaries of the MSHCP, the purpose of which is to conserve habitat for selected species throughout western Riverside County. None of the proposed MDP Facilities are located within the MSHCP Criteria Area; thus, none of the potential footprints of the MDP Facilities are targeted for conservation. The conceptual location of two proposed MDP Facilities, Lines A and J-9 coincide with Public/Quasi-Public (PQP) Lands. However, the proposed activities in these areas are not expected to adversely affect conservation values of PQP Lands. In addition to Criteria Cell requirements, the MSHCP requires consistency with Sections 6.1.2 (Protection of Species within Riparian/Riverine Areas and Vernal Pools); 6.1.3 (Protection of Narrow Endemic Plant Species); 6.1.4 (Urban and Wildlands Interface); 6.3.2 (Additional Survey Needs and Procedures); Appendix C (Standard Best Management Practices); and 7.5.3 (Construction Guidelines). [EIR p. 5.2-30]

Implementation of portions of the Moreno MDP will result in impacts to MSHCP riverine features, including riparian habitat. Mitigation measure MM BIO 4, which requires mapping of riparian/riverine areas and vernal pools, and avoidance of these features or 100 percent habitat replacement if avoidance is infeasible, incorporates the requirements of Section 6.1.2. [EIR p. 5.2-30]

Section 6.1.3 of the MSHCP requires site-specific focused surveys for narrow endemic plant species where appropriate or suitable habitat is present within the NEPSSA. The proposed Moreno MDP Facilities do not occur within the NEPSSA. [EIR p. 5.2-31]

Section 6.1.4 of the MSHCP addresses indirect effects associated with locating projects in proximity to the MSHCP Conservation Area, including effects associated with drainage, toxics, lighting, noise, and invasive species. The proposed MDP Facilities do not occur adjacent to the MSHCP Conservation Area, and therefore are not expected to result in any direct or indirect impacts that would adversely affect wildlife resources within the Conservation Area. [EIR p. 5.2-31]

Section 6.3.2 of the MSHCP requires habitat assessments and focused surveys (within suitable habitat) for the burrowing owl for projects within the burrowing owl survey area. The majority of the proposed Moreno MDP Facilities are within the burrowing owl survey area. Thus, a habitat assessment and focused survey (if suitable habitat is present) are required for individual projects located within the Burrowing Owl Survey Area. [EIR p. 5.2-30]

A portion of Line F occurs within the MSHCP survey area for LAPM and even though the area has been subject to past disturbance, there is some potential for LAPM to be present. Mitigation measure MM BIO 7, which requires an LAPM habitat assessment for Facilities within the MSHCP LAPM survey area and a presence/absence trapping study in the event suitable habitat is present satisfies the requirements of Section 6.3.2. [EIR p. 5.2-30]

Section 7.5 of the MSHCP sets forth Guidelines for Facilities Within the Criteria Area and PQP Lands. Section 7.5.1 outlines guidelines for planned roadways that are Covered Activities within the Criteria Area and PQP Lands and Section 7.5.2 outlines design guidelines for roads with the potential to result in impediments to wildlife movement. The guidelines in Sections 7.5.1 and 7.5.2 apply to projects involving the construction of roads and do not apply to the Moreno MDP. [EIR p. 5.2-31 through 5.2-32]

Construction of the Moreno MDP Facilities within PQP Lands, i.e., Lines A and J-9, is subject to the construction guidelines in Section 7.5.3. Because the MDP Facilities will comply with NPDES regulations and will implement mitigation measure MM BIO 8, the Moreno MDP will comply with the requirements of the MSHCP and is, therefore, consistent with Section 7 with mitigation. [EIR p. 5.2-31 through 5.2-32]

The Moreno MDP is located within the boundary of the SKR HCP and contains habitat that could support SKR, including the grassland areas, and to some extent the agricultural areas. All of the proposed Moreno MDP Facilities occur within the SKR fee assessment area, but outside of the existing SKR reserves and areas additionally targeted for SKR conservation. Moreno MDP Facilities or portions of the Moreno MDP Facilities, constructed by the District, Moreno Valley, or Riverside County are exempt from payment of the SKR fee; however each public agency must contribute mitigation via the MSHCP. Any Moreno MDP Facilities, or portions of the Facilities, constructed as part of a private development project are required to pay the SKR HCP/MSHCP

mitigation fee to receive coverage. Therefore, no requirements under the SKR HCP other than payment of the SKR HCP mitigation fee is required. [EIR p. 5.2-32]

The Project is not located within any other adopted HCP or NCCP. [EIR p. 5.2-32]

Finding: Mitigation Measures MM BIO 1 through MM BIO 8 outlined below would reduce to a less-than-significant level the Project's potential impact to conflict with the provisions of an adopted HCP, NCCP, or other approved local regional, or state HCP. The Mitigation Measures reflect changes or alterations that the District has required, or incorporated into, the Project that would avoid or substantially lessen the potentially significant impact as identified in the EIR. [State CEQA Guidelines §15091(a)(1)] Therefore the direct, indirect and cumulative impacts would be considered less than significant with mitigation.

Mitigation Measures: Biological Resources Mitigation Measures are in the EIR pages 5.2-32 through 5.2-35. Implementation of Mitigation Measures MM BIO 1 through MM BIO 8 in the MMRP would reduce this impact to a less-than-significant level.

See MM BIO 1 in Section III(B) BIO IMPACT 1 of these Findings or the attached MMRP

See MM BIO 2 in Section III(B) BIO IMPACT 1 of these Findings or the attached MMRP

See MM BIO 3 in Section III(B) BIO IMPACT 1 of these Findings or the attached MMRP

See MM BIO 4 in Section III(B) BIO IMPACT 1 of these Findings or the attached MMRP

See MM BIO 5 in Section III(B) BIO IMPACT 1 of these Findings or the attached MMRP

See MM BIO 6 in Section III(B) BIO IMPACT 1 of these Findings or the attached MMRP

See MM BIO 7 in Section III(B) BIO IMPACT 1 of these Findings or the attached MMRP

See MM BIO 8 in Section III(B) BIO IMPACT 1 of these Findings or the attached MMRP

See MM BIO 9 in Section III(B) BIO IMPACT 3 of these Findings or the attached MMRP

Rationale: All future MDP Facilities must comply with the MSHCP; and are also required to obtain applicable permits from ACOE, RWQCB, and CDFW for jurisdictional resources. In addition, with implementation of Mitigation Measures MM BIO 1 through MM BIO 8, direct, indirect and cumulative potential adverse impacts associated with special-status species, both plant and wildlife, riparian habitat, wetlands, wildlife movement, local policies, and approved habitat conservation plans will be mitigated to less than significant. Implementation of mitigation measure MM BIO 1 will ensure that prior to construction of a specific MDP Facility, a Facility-specific biological resources assessment shall be conducted by a qualified biologist to determine what, if any, biological resources may be impacted. New mitigation or conditions substantially different than those described herein, may trigger subsequent CEQA documentation. Due to the fluid nature of biological resources and related regulations, each Facility will be evaluated on a case-by-case basis at the time a project is proposed. As a Lead or Responsible Agency for District Facilities and storm drain connections, the District retains the discretion to utilize a CEQA document prepared for a private development project, if the document adequately addresses the impacts of the MDP Facilities. Implementation of mitigation

measures MM BIO 2 through MM BIO 9 will require focused surveys, replacement of lost habitat, and seasonal avoidance of vegetation removal and/or nesting bird surveys as required by the MSHCP, MBTA, and California Department of Fish and Game Code. Therefore potential direct, indirect and cumulative impacts would be considered less than significant with mitigation.

C. CULTURAL AND PALEONTOLOGICAL RESOURCES

CR IMPACT 1: Create Substantial Adverse Change in the Significance of Historic Resources. Two historic period sites, designated Site 33-015796 and Site 33-016655, were recorded near the intersection of State Route 60 and Redlands Boulevard in proximity to the proposed MDP Facilities. However, none of the recorded facilities associated with Site 33-015796, were found to exist during the field survey. Additionally, the field survey confirmed that Site 33-016655 is now mostly occupied with warehouses and the rest of the Site 33-016655 has been disturbed and none of the recorded buildings, structures, or features still remain. Nevertheless, the Project is conceptual in nature and the location and type of Facility may change as more detailed information becomes available during the final design process, which may cause impacts. [EIR p. 5.3-9]

Finding: Mitigation Measures MM CR 1 outlined below would reduce to a less-than-significant level the Project's potential impact to historic resources. The Mitigation Measure reflect changes or alterations that the District has required, or incorporated into, the Project that would avoid or substantially lessen the potentially significant impact as identified in the EIR. [State CEQA Guidelines §15091(a)(1)] Therefore potential direct, indirect and cumulative impacts would be considered less than significant with mitigation.

Mitigation Measure: Cultural Resources Mitigation Measures are in the EIR pages 5.3-12 through 5.3-14. Implementation of Mitigation Measure MM CR 1 would reduce this impact to a less-than-significant level.

Mitigation Measure MM CR 1 states:

At the project level, prior to the issuance of a grading permit or Notice to Proceed with construction of any MDP Facility, the applicable Lead Agency (the District, Riverside County, or City of Moreno Valley) shall evaluate each proposed MDP Facility for potential impacts to cultural resources. The Lead Agency shall consider applicable data and analysis, such as the *Phase I Archaeological Assessment, Moreno Master Drainage Plan Revision, City of Moreno Valley, Riverside County, California* (CRM TECH, January 31, 2012), *Map of Soboba Band of Luiseño Indians Potentially Sensitive Areas* dated September 10, 2014, the City of Moreno Valley General Plan, and other relevant record searches, technical studies, and evidence provided by local Tribes. If needed, the Lead Agency shall require additional CEQA analysis to evaluate potential impacts to cultural resources.

Timing/Implementation: Prior to the initiation of construction

Enforcement/Monitoring: Applicable Lead Agency (District, Moreno Valley, or Riverside County)

Rationale: Although the *Phase I Archaeological Assessment* did not identify any cultural resources along the Project alignment, little of any features remain of the two identified historic period sites, and no impacts to historic resources are expected, as a safeguard, the Project included Mitigation Measures MM CR 1. Implementation of MM CR 1 would reduce the Project's impact to historic and archaeological resources to less than significant by evaluating each MDP Facility for the presence of historic and archaeological resources and mitigating at the project level prior to construction. [EIR p. 5.3-14]

CR IMPACT 2: Create Substantial Adverse Change in the Significance of Archaeological Resources. Based on the results of the records searches and field surveys, no archaeological resources were identified within or adjacent to proposed MDP Facilities. Due to the disturbed nature of the Project site from previous construction activities, impacts to archaeological resources are not anticipated. However, Project construction could potentially result in an accidental discovery of an archaeological resource. [EIR p. 5.3-9 through 5.3-10]

Finding: Mitigation Measures MM CR 1 through MM CR 3 outlined below would reduce to a less-than-significant level the Project's impact to archaeological resources. The Mitigation Measures reflects changes or alterations that concern property outside the jurisdiction of the County, and avoid or substantially lessen the potentially significant impact as identified in the EIR. [State CEQA Guidelines §15091(a)(2)] Therefore potential direct, indirect and cumulative impacts would be considered less than significant with mitigation.

Mitigation Measures: Cultural Resources Mitigation Measures are in the EIR pages 5.3-12 through 5.3-14. Implementation of Mitigation Measures MM CR 1 through MM CR 3 in the MMRP would reduce this impact to a less-than-significant level.

Mitigation Measure MM CR 1 states:

See Section III(C) CR IMPACT 1 of these Findings or the attached MMRP

Mitigation Measure MM CR 2 states:

Should any cultural and/or archaeological resources be discovered during construction of any proposed MDP Facility, construction activities in the vicinity of the discovery shall immediately halt and construction shall be moved to other parts of the subject MDP Facility footprint. A qualified archaeologist shall be retained by the proponent (or designee) of such MDP Facility to determine the significance of the resource(s). If the find is determined to be a historical or unique archaeological resource, as defined in § 15064.5 of the California Code of Regulations (*State CEQA Guidelines*), avoidance or other appropriate measures as recommended by the archaeologist shall be implemented. Any artifacts collected or recovered shall be cleaned, identified, catalogued, analyzed, and prepared for curation at an appropriate repository with permanent retrievable storage to allow for additional research in the future. Site records or site record updates (as appropriate) shall be prepared and submitted to the Eastern Information

Center as a permanent record of the discovery. Treatment and disposition of any discoveries will be determined on a case-by-case basis, in consultation with the Soboba Band of Luiseño Indians.

Timing/Implementation: Prior to the initiation of construction

Enforcement/Monitoring: Applicable Lead Agency (District, Moreno Valley, or Riverside County)

Mitigation Measure MM CR 3 states:

If the Facility-specific assessment required by MM CR 1 determines there is a moderate to high potential for archaeological and/or cultural resources to occur along the alignment or area of disturbance, then prior to the issuance of a grading permit, or Notice to Proceed with construction of that proposed MDP Facility, the proponent for that Facility shall notify the Soboba Band of Luiseño Indians to discuss if a monitor is needed to oversee excavation and/or ground disturbing construction activities. With written permission from the Lead Agency (i.e., District, City of Moreno Valley, or Riverside County), tribal monitors may be allowed to monitor grading, excavation, and ground disturbing activities associated with that MDP Facility, including further surveys. Any costs associated with the tribal monitoring shall be the responsibility of the monitoring Tribe, unless an executed agreement between the Tribe and project proponent provides other payment arrangements.

Timing/Implementation: Prior to the initiation of construction

Enforcement/Monitoring: Applicable Lead Agency (District, Moreno Valley, or Riverside County)

Rationale: Impacts related to historic and archaeological resources were found to be less than significant within or adjacent to proposed MDP Facilities. However, because the locations of the proposed MDP Facilities are conceptual at this time and may change as more detailed information becomes available Mitigation Measure MM CR 1 requires a Facility-specific evaluation of potential historic and archaeological resources, if warranted. Mitigation Measure MM CR 2 includes provisions for the accidental discovery of archaeological resources. Because the MDP Facilities are located within a tribal Traditional Use Area for the Soboba Band of Luiseño Indians, Mitigation Measure MM CR 3 requires the proponent for any specific proposed Moreno MDP Facility to notify local Soboba Band of Luiseño Indians prior to ground-disturbing activities to discuss if a monitor is needed to oversee excavation and/or ground disturbing construction activities. MM CR 3 also makes a provision for tribal monitors to be present (at the tribe's sole expense) during grading, excavation, and other ground-disturbing activities if MM CR 1 determines a potential for archaeological and/or cultural resources to occur along the alignment or area of disturbance. [EIR p. 5.3-14]

CR IMPACT 3: Directly or Indirectly Destroy a Unique Paleontological Resource or Site.

Ground-disturbing activities resulting from construction of the Project could damage or destroy previously undocumented unique fossils, if located within the footprint of proposed MDP Facilities. The Project determined that no paleontological localities were found within the MDP

Watershed or within a one-mile radius of the MDP boundary. However, based upon similar sediments of the soils to other areas where such resources have been found, mitigation was incorporated into the EIR to ensure impacts remained less than significant. Note that the paleontological evaluation determined that much of the surface soils have already been disturbed by past grading activities and is therefore unlikely to find potential resources; nonetheless, subsurface soils may still contain potential resources. [EIR pp. 5.3-11 through 5.3-12]

Finding: Mitigation Measures MM CR 4 through MM CR 7 outlined below would reduce to a less-than-significant level the Project's potential impact to paleontological resources. The Mitigation Measures reflect changes or alterations that the County has required, or incorporated into, the Project that would avoid or substantially lessen the potentially significant impact as identified in the EIR. [State CEQA Guidelines §15091(a)(1)] Therefore potential direct, indirect and cumulative impacts would be considered less than significant with mitigation.

Mitigation Measures: Cultural Resources Mitigation Measures are in the EIR pages 5.3-12 through 5.3-14. Implementation of Mitigation Measures MM CR 4 through MM CR 7 in the MMRP would reduce this impact to a less-than-significant level.

Mitigation Measure MM CR 4 states:

Before the issuance of a Notice to Proceed with construction of any proposed MDP Facility, the proponent of the specific MDP Facility shall either:

- a) Establish to the satisfaction of the Lead Agency for the specific MDP Facility (i.e., the District, Moreno Valley, or Riverside County), that no excavation or earth-moving activities shall take place within soils that are identified as Pleistocene-age or older alluvium; or
- b) Retain the services of a qualified paleontologist to review construction and grading plans and develop a paleontological monitoring plan, if necessary. Any monitoring shall be restricted to undisturbed older alluvium, which might be present below the surface. To avoid construction delays, the monitor shall be prepared to quickly salvage fossils, as they are unearthed. The monitor shall remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates. The monitor shall have the authority to temporarily halt or divert grading equipment to allow for the removal of abundant or large specimens. If the paleontologist determines that monitoring is not necessary, the paleontologist shall prepare a memo documenting such to the satisfaction of the Lead Agency.

Timing/Implementation: Prior to the initiation of construction

Enforcement/Monitoring: Applicable Lead Agency (District, Moreno Valley, or Riverside County)

Mitigation Measure MM CR 5 states:

A qualified paleontologist shall be retained to evaluate any recovered paleontological specimens. If the qualified paleontologist deems recovered resources as rare, substantial, or otherwise, unique, the resources shall be prepared and stabilized for formal identification and permanent preservation.

Timing/Implementation: Prior to the initiation of construction

Enforcement/Monitoring: Applicable Lead Agency (District, Moreno Valley, or Riverside County)

Mitigation Measure MM CR 6 states:

Identification and curation of recovered paleontological specimens into an established accredited museum repository with permanent retrievable paleontological storage shall be required for recovered resources identified by the qualified paleontologist (retained via MM CR 5) as rare, substantial, or otherwise, unique.

Timing/Implementation: Prior to the initiation of construction

Enforcement/Monitoring: Applicable Lead Agency (District, Moreno Valley, or Riverside County)

Mitigation Measure MM CR 7 states:

Preparation of a report of findings with an appended itemized inventory of paleontological specimens shall be required. The submittal of the report to the applicable Lead Agency (i.e., District, Moreno Valley, Riverside County) and the curation of specimens identified by the qualified paleontologist (retained via MM CR 5) as rare, substantial, or otherwise, unique into an established, accredited museum repository would signify the completion of the mitigation program.

Timing/Implementation: Prior to the initiation of construction

Enforcement/Monitoring: Applicable Lead Agency (District, Moreno Valley, or Riverside County)

Rationale: Implementation of Mitigation Measures MM CR 4 through MM CR 7 would reduce the Project's potential impact to paleontological resource to less than significant by identifying specific measures that will be taken if certain soil types are present that support paleontological resources; and creating provisions for any rare, substantial, or otherwise, unique paleontological specimens that may be unearthed during construction activities. [EIR p. 5.3-13]

D. HYDROLOGY AND WATER QUALITY

HYDRO IMPACT 1: Violate Water Quality Standards or Waste Discharge Requirements.

Construction of the Project may result in the discharge of sediment and other construction by-products, which will be minimized by compliance with the Clean Water Act's National Pollutant Discharge Elimination System (NPDES). Pursuant to the NPDES, a Storm Water Pollution Prevention Plan (SWPPP) shall be prepared prior to construction activities for sites with a disturbance area of one acre or more. No SWPPP is required for Facilities with a disturbance of

less than one acre. However, in the unlikely event that a Facility-specific Project entails less than one acre of disturbance and does not require preparation of a SWPPP, Mitigation Measure MM HYD 1 will be implemented, which requires the preparation of an erosion control plan to identify necessary erosion control best management practices (BMPs). MDP Facilities will convey storm water emanating from residential, commercial, industrial and construction areas, and there is potential for pollutants to be conveyed and discharged into the San Jacinto River, Canyon Lake, Lake Elsinore and ultimately the Santa Ana River. The Project will not create substantial impervious surfaces in the Project area that may contribute to additional runoff and any future development of MDP facilities would be required to comply with NPDES MS4 permit requirements as well as HYD 1. [EIR pp. 5.4-21 through 5.4-23]

Finding: Compliance with the Clean Water Act and Mitigation Measure MM HYD 1 outlined below would reduce to a less-than-significant level the Project's potential impact to water quality. The Mitigation Measures reflects changes or alterations that the County has required, or incorporated into, the Project that would avoid or substantially lessen the potentially significant impact as identified in the EIR. [State CEQA Guidelines §15091(a)(1)]

Mitigation Measure: Hydrology and Water Quality Mitigation Measures are in the EIR on page 5.4-28. Implementation of Mitigation Measure MM HYD 1 in the MMRP would reduce this impact to a less-than-significant level.

Mitigation Measure MM HYD 1 states:

Prior to the construction of any Moreno MDP Facility that does not require preparation of a site-specific SWPPP, an erosion control plan shall be prepared that identifies erosion control BMPs, such as soils binders, mulching, permanent seeding, sodding, or other BMPs which will provide adequate protection against wind and water erosion. The erosion control plan may be prepared by the Construction Contractor or designee. The erosion control plan shall be retained at the construction site and available for inspection upon request.

Timing/Implementation: Prior to the initiation of construction

Enforcement/Monitoring: Applicable Lead Agency (District, Moreno Valley, or Riverside County)

Rationale: Compliance with the Clean Water Act NPDES and implementation of Mitigation Measure MM HYD 1 would reduce the Project's potential impact associated with violating water quality standards or waste discharge requirements to less than significant by requiring the use of comprehensive stormwater pollution and erosion control BMPs to prevent construction-related pollutants from contacting stormwater. [EIR p. 5.4-30]

HYDRO IMPACT 2: Result in Substantial Discharges of Stormwater Pollutants or Substantial Changes to Surface Water Quality. Pollutants of Concern from existing and future development within the Moreno watershed (i.e., sediment/turbidity; nutrients; organic compounds; trash and debris; oxygen demanding substances; bacteria and viruses; oil and grease;

pesticides; and metals) could potentially reduce the quality of receiving water bodies. All future site-specific Projects within the boundary of the Moreno MDP must comply with the provisions of the Clean Water Act; the requirements of the NPDES General Construction Permit; and implement treatment control, site design, and source control BMPs, which would reduce the pollutant load into receiving water bodies. Following construction of a private site-specific projects that include MDP Facilities, the preparation and approval of a site-specific WQMP will be required to identify BMPs that ensure water quality of downstream receiving waters are not degraded. [EIR pp. 5.4-23 through 5.4-24]

Finding: Compliance with the Clean Water Act NPDES and implementation of Mitigation Measure MM HYD 1 outlined below would reduce to a less-than-significant level the Project's impact associated with water quality standards and waste discharge requirements. The Mitigation Measure reflects changes or alterations that the County has required, or incorporated into, the Project that would avoid or substantially lessen the potentially significant impact as identified in the EIR. [State CEQA Guidelines §15091(a)(1)]

Mitigation Measure: Hydrology and Water Quality Mitigation Measures are in the EIR on page 5.4-28. Implementation of Mitigation Measure MM HYD 1 in the MMRP would reduce this impact to a less-than-significant level.

See Section III(D) HYDRO IMPACT 1 of these Findings or the attached MMRP

Rationale: Standard regulatory procedures such as compliance with the Clean Water Act NPDES and implementation Mitigation Measure MM HYD 1 would reduce the Project's potential impact associated with violating water quality standards or waste discharge requirements to less than significant by requiring the use of comprehensive stormwater pollution and erosion control BMPs for the Project to prevent all construction pollutants from contacting stormwater. [EIR p. 5.4-30]

HYDRO IMPACT 3: Substantially Alter the Existing Drainage Patterns Resulting in Flooding. The primary purpose of the Project is to control flooding associated with runoff within the MDP watershed and the Project itself is the incremental construction of new stormwater drainage facilities and the expansion of existing facilities. Construction of the MDP Facilities are intended to provide flood protection for existing and proposed development set forth in the Moreno Valley General Plan, and will alter the existing drainage pattern by constructing a drainage system that will divert, redirect, and concentrate storm flows and runoff into facilities with capacity to safely accommodate such flows, including storm water peak discharges. Some of the MDP Facilities will drain/connect to existing downstream drainage systems. The Project will not generate runoff water that would exceed existing or planned stormwater drainage systems, it will actually collect and manage runoff and minimize overflow of existing and proposed MDP Facilities. [EIR p. 4-16] Although the MDP Facilities themselves essentially function as mitigation measures for flooding within the MDP boundary, the individual MDP Facilities will be constructed by either a public agency or private developer over time as

development within the Moreno watershed takes place. In addition, some of the MDP Facilities may never be realized. Thus, there exists the possibility that the cohesion of the MDP Facilities' design may be fractured, and that an MDP Facility will not operate as intended due to the lack of a connection with an adequate outlet, which may result in unforeseen flooding. However, Mitigation Measure MM HYD 2 applies to all MDP Facilities and requires that each Facility will be designed to convey flows to an adequate outlet system. Therefore, the potential impacts on drainage patterns and flooding and would be less than significant with mitigation. [EIR pp. 5.4-26 through 5.4-27]

Finding: Mitigation Measure MM HYD 2 outlined below would reduce to a less-than-significant level the Project's potential impacts on drainage patterns and flooding. The Mitigation Measure reflects changes or alterations that the County has required, or incorporated into, the Project that would avoid or substantially lessen the potentially significant impact as identified in the EIR. [State CEQA Guidelines §15091(a)(1)]

Mitigation Measure: Hydrology and Water Quality Mitigation Measures are in the EIR on page 5.4-28. Implementation of Mitigation Measures MM HYD 2 in the MMRP would reduce this impact to a less-than-significant level.

Mitigation Measure MM HYD 2 states:

Prior to approval of any Moreno MDP Facility, the design and plans shall demonstrate storm flows and runoff from that specific Facility will be conveyed to an adequate outlet system to the satisfaction of the Riverside County Flood Control and Water Conservation District. As feasible, development of the MDP Facilities shall occur in appropriate phases as to ensure conveyance of storm flows and runoff will have adequate outlets.

Timing/Implementation: Prior to approval of construction of an MDP Facility

Enforcement/Monitoring: Appropriate Lead Agency

(District, Moreno Valley, Riverside County)

Rationale: Implementation of Mitigation Measure MM HYD 2 would reduce the Project's potential impact associated with flooding due to inadequate downstream facilities by demonstrating to the satisfaction of the District that each the potential future Facilities will discharge to an adequate outlet system. The incorporation of HYD 2 will therefore ensure that even if the overall system develops over time or never fully develops, future facilities will control any outlet flows in an appropriate manner and would not contribute to any unintended flooding or other potential storm water impacts. [EIR p. 5.4-30]

E. NOISE

NOISE IMPACT 1: Noise Levels in Excess of Established Standards or Substantial Temporary Increases in Ambient Noise. Noise associated with the equipment anticipated to be used to construct MDP Facilities may exceed the maximum noise levels for residential and commercial land uses. [EIR p 5.5-9 through 5.5-11]

Findings: Mitigation Measures MM NOI 1 through MM NOI 3 outlined below would reduce the Project's potential impact associated with exposing persons to or generating noise levels in excess of established standards and temporary increases in ambient noise to less than significant.

Mitigation Measures: Implementation of Mitigation Measures MM NOI 1 through MM NOI 3 and MM AIR 2 in the MMRP would reduce this impact to a less-than-significant level. Noise Mitigation Measures are in the EIR on pages 5.5-12 through 5.5-14; whereas the applicable Air Quality Mitigation Measure (MM AIR 2) is on EIR page 5.1-35.

Mitigation Measure MM NOI 1 states:

To minimize the construction noise exposure and prevent construction-related noise from disturbing sensitive receivers within close proximity to the Project, construction of the MDP Facilities shall be in compliance with (a) Moreno Valley Municipal Code Section 8.21.050(O), which limits grading activities to the hours of 7:00 a.m. to 6:00 p.m. Monday through Friday, and from 8:00 a.m. to 4:00 p.m. on weekends and holidays and Moreno Valley Municipal Code Section 11.80.030(D)(7), which limits other construction activities, as well as operational and maintenance activities, to the hours of 7:00 a.m. to 8:00 p.m. on weekdays and 7:00 a.m. to 8:00 p.m. on weekends and holidays. These time limits do not apply to emergency maintenance.

Timing/Implementation: During Construction

Enforcement/Monitoring: Appropriate Lead Agency (District, Moreno Valley, Riverside County)

Mitigation Measure MM NOI 2 states:

To minimize noise impacts resulting from poorly tuned or improperly modified vehicles and construction equipment, all vehicles and construction equipment shall maintain equipment engines in good condition and in proper tune per manufacturer's specifications to the satisfaction of the District or Moreno Valley, as appropriate. Equipment maintenance records and equipment design specification data sheets shall be available for review upon request.

Timing/Implementation: Prior to the initiation of construction

*Enforcement/Monitoring: Applicable Lead Agency
(District, Moreno Valley, or Riverside County)*

Mitigation Measure MM NOI 3 states:

To inform potential sensitive receivers of the pending construction of an MDP Facility or Facilities, the proponent of any MDP Facility that is not constructed as part of a private development project, shall give written notification to all property addresses, as shown on the latest Riverside County Assessors' roll within 200 feet of the construction footprint no less than 7 days prior to the start of construction. The written notification shall include a tentative construction schedule and contact information for use by the public if specific noise issues arise.

Timing/Implementation: Prior to the initiation of construction

*Enforcement/Monitoring: Applicable Lead Agency (District,
Moreno Valley, or Riverside County)*

Mitigation Measure MM AIR 2 states:

For channel and basin Facilities, to reduce construction vehicle (truck) idling while waiting to enter/exit the site, prior to issuance of grading permits, the contractor shall submit a traffic control plan that will describe in detail, safe detours to prevent traffic congestion to the best of the project's ability, and provide temporary traffic control measures during construction activities that will ensure smooth traffic flows. Pursuant to CCR Title 13 §2449(d)(3), construction equipment and truck idling times shall be prohibited in excess of five minutes on site. To reduce traffic congestion, and therefore NO_x, the plan shall include, as necessary, appropriate, and practicable, the following: dedicated turn lanes for movement of construction trucks and equipment on and off site, scheduling of construction activities that affect traffic flow on the arterial system to off-peak hours, rerouting of construction trucks away from congested streets or sensitive receptors, and/or signal synchronization to improve traffic flow. This measure applies to all projects, unless the Lead Agency determines that a traffic control plan is not warranted or feasible due to no impact on local roadways.

Timing/Implementation: Prior to the initiation of construction

*Enforcement/Monitoring: Applicable Lead Agency (District,
Moreno Valley, or Riverside County)*

Rationale: Implementation of MM NOI 1 through MM NOI 3 and MM Air 2 would reduce the Projects potential impacts associated with exposing persons to or generating noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. The mitigation measures will require compliance with Moreno Valley Municipal Code Section 8.21.050(O) which limits grading activities to specific hours of operations during the week and weekend when most individuals are working away from home; requiring properly tuned construction equipment that helps reduce noise impacts from construction equipment; informing potential sensitive receivers of pending construction; and limiting equipment idling time that further reduces potential short-term impacts during construction. Based upon the nature of the construction of these types of facilities, any noise impacts tend to be infrequent and of limited duration. [EIR pp. 5.5-4 through 5.5-14]

NOISE IMPACT 2: Generation of Excessive Ground-Borne Vibration or Ground-Borne Noise Levels. Construction of the MDP Facilities will entail the use of construction equipment such as excavators and scrapers. Vibration impacts from the Project are expected to remain within levels perceived as "barely perceptible" at a distance of 50 feet from the equipment. However, at a distance of 25 feet the estimated vibration is expected to be "Distinctly Perceptible" to humans although it is not anticipated to achieve the level of "Strongly Perceptible/Begins to Annoy." [EIR pp. 5.5-11 through 5.5-12]

Findings: Mitigation Measures MM NOI 1 through MM NOI 3 and MM AIR 2 would reduce to less than significant the Project's impacts associated with exposing persons to or generating excessive ground-borne vibration or ground borne noise.

Mitigation Measures: Implementation of Mitigation Measures MM NOI 1 through MM NOI 3 and MM AIR 2 in the MMRP would reduce this impact to a less-than-significant level.

See MM NOI 1 in Section III(E) NOISE IMPACT 1 of the Findings or the attached MMRP

See MM NOI 2 in Section III(E) NOISE IMPACT 1 of the Findings or the attached MMRP

See MM NOI 3 in Section III(E) NOISE IMPACT 1 of the Findings or the attached MMRP

See MM AIR 2 in Section III(A) NOISE IMPACT 1 of the Findings or the attached MMRP

Rationale: Implementation of MM NOI 1 through MM NOI 3 and MM Air 2 would reduce the Projects potential temporary impacts associated with exposing persons to or generating excessive ground-borne vibration or ground borne noise levels to the maximum extent practicable by maintaining equipment, limiting idling, and limiting construction to hours in order to limit sensitive receptor's exposure to construction-related vibration. In particular, MM NOI 1 which limits the timing of construction to specific days and times would ensure that impacts during construction where a sensitive receptor may be impacted at under 50 feet from the construction equipment would be unlikely. Therefore, potential noise and vibration impacts would be less than significant with mitigation. [EIR pp. 5.5-4 through 5.5-14]

SECTION IV
FINDINGS REGARDING
SIGNIFICANT AND UNAVOIDABLE IMPACTS

The use of an EIR allows the lead agency to consider a broad range of program-wide Mitigation Measures at an early time when the agency has greater flexibility to manage and resolve basic problems or cumulative impacts [State CEQA Guidelines Section 15168(b)(4)]. Notwithstanding the existing regulations, Standard Conditions that the County imposes on development/construction projects within the County, the specific Project Design Features discussed in the EIR for the Project, and the Mitigation Measures set forth in the MMRP for the Project, the impacts discussed herein Section IV cannot be fully mitigated to a less-than-significant level, and are therefore considered significant and unavoidable even with mitigation. For each impact that is determined to be significant and unavoidable, a Statement of Overriding Considerations has been prepared for that impact and is detailed in Section VIII of these Findings and is also included in Resolution F2015-11.

A. AIR QUALITY

AQ IMPACT 2: Violate Air Quality Standards (NO_x and VOC), Based on the SCAQMD Regional Daily Thresholds for Construction. No long-term air quality impacts will occur because operating and maintaining the MDP Facilities would generate very minor and nominal emissions, as explained fully in the EIR. [EIR pp. 5.1-24 through 5.1-31]

At the programmatic level, it is difficult to predict the actual construction timing of each MDP Facility. However the EIR analysis took a conservative approach when developing a "representative project" to model the potential criteria pollutant emissions.³ The EIR analyzed both the local and regional potential air quality impacts applying SCAQMD standards and procedures.

The District applied the SCAQMD localized significance threshold (LST) thresholds and modeling methodology to determine whether or not the Project would generate significant adverse localized short-term and long-term air quality impacts. LSTs represent the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area. According to the LST methodology, only on-site emissions need to be analyzed and emissions associated with hauling, vendor trips, and worker trips are mobile source emissions that occur off-site and need not be considered. Therefore, as analyzed using the SCAQMD LST methodology, the MDP will not result in localized air quality impacts. [EIR p. 5.1-31]

³ For air quality modeling purposes and analysis in the EIR, a representative project consisting of a 28.5-acre basin, approximately 1,800 linear feet of partially lined trapezoidal channel, and an approximately 1,800 linear foot underground storm drain was modeled as described on page 5.1-26 of the EIR. The representative project modeling assumed that the three components would be constructed sequentially.

However, when applying the SCAQMD regional daily thresholds and modeling methodology (CalEEMod) using the representative project, the analysis indicates that construction would result in significant and unavoidable short-term exhaust emissions (NO_x) generated by construction-related vehicles, even with mitigation. [EIR p. 5.1-37]

The main source of NO_x and VOC emissions are from on-road vehicle exhaust from soil hauling and construction equipment. Therefore, the primary factor that will determine whether or not an individual MDP Facility will exceed the SCAQMD regional daily thresholds for criteria pollutant emissions is generally limited to the larger Facilities that would require substantial soil export. Therefore there are potential construction scenarios that could generate significant and unavoidable impacts to NO_x and VOCs. For example, the EIR analysis shows that if basin excavation and channel excavation occur at the same time, NO_x and VOC may exceed SCAQMD regional daily thresholds. Therefore, MDP emissions may exceed SCAQMD regional daily thresholds so the regional air quality impacts from NO_x and VOC would be considered significant and unavoidable, despite the incorporation of all feasible mitigation. [EIR p. 5.1-24 through 5.1-27]

As discussed in Section II(C)(3) above, it is important to distinguish that storm drain installation alone (or any activity of similar magnitude) would not exceed any applicable SCAQMD thresholds and would not result in significant air quality impacts during construction. [EIR pp. 5.1-24 through 5.1-31]

In summary, implementation of Mitigation Measures MM AIR 1 through MM AIR 4 would reduce potential short-term construction impacts from CO, SO₂, PM_{2.5}, and PM₁₀; however, estimated short-term emissions from construction of the MDP Facilities may exceed applicable SCAQMD regional thresholds for NO_x and VOC, despite the implementation of feasible mitigation. Therefore, the temporary regional impacts to air quality from construction of the MDP are considered significant and unavoidable even with mitigation. [EIR p. 5.1-31]

Finding: The Board finds that daily NO_x emissions associated with construction of the representative project are not expected to be mitigated to a less than significant level with implementation of feasible mitigation measures. However, if basin excavation (grading) and channel excavation occur at the same time, or two other MDP Projects requiring substantial soil excavation and export occur concurrently, VOC emissions may also be significant and unavoidable despite the incorporation of all feasible mitigation. [State CEQA Guidelines §15091(a)(3)] Consequently, a Statement of Overriding Considerations for temporary air quality impacts would be necessary should the Board wish to approve the Project. [State CEQA Guidelines §15093] **Therefore, the regional air quality construction impacts are considered significant and unavoidable even with mitigation.**

Mitigation Measures: Air Quality Mitigation Measures are in the EIR pages 5.1-35 and 5.1-36. Implementation of Mitigation Measures MM AIR 1 through MM AIR 4 in the MMRP would reduce temporary air quality impacts, but not below established thresholds of significance.

See MM AIR 1 in Section III(A) AQ IMPACT 1 of these Findings or the attached MMRP

See MM AIR 2 in Section III(A) AQ IMPACT 1 of these Findings or the attached MMRP

See MM AIR 3 in Section III(A) AQ IMPACT 1 of these Findings or the attached MMRP

See MM AIR 4 in Section III(A) AQ IMPACT 1 of these Findings or the attached MMRP

Rationale: At the programmatic level, it is difficult to predict the actual construction timing of each MDP Facility. However the EIR analysis took a conservative approach when developing a "representative project" to model the potential criteria pollutant emissions. The EIR analyzed both the local and regional potential air quality impacts applying SCAQMD standards and procedures.

As analyzed using the SCAQMD localized significance threshold methodology, the MDP will not result in air quality impacts. [EIR p. 5.1-31] However, when applying the SCAQMD regional daily thresholds and modeling methodology (CalEEMod), NO_x and VOC may exceed SCAQMD regional daily thresholds. [EIR p. 5.1-37]

The main source of NO_x and VOC emissions are from on-road vehicle exhaust from soil hauling and construction equipment. Therefore, the primary factor that will determine whether or not an individual MDP Facility will exceed the SCAQMD regional daily thresholds for criteria pollutant emissions is generally limited to the larger Facilities that would require substantial soil export. [EIR p. 5.1-27]

Although implementation and construction of many of the Project Facilities are not expected to exceed the SCAQMD regional daily thresholds and many of the air quality impacts can be mitigated to less than significant, construction of some MDP Facilities may still exceed the regional thresholds for NO_x and VOC. Mitigation Measures MM AIR 1 through MM AIR 4 represents the best available and feasible measures to implement during the incremental construction of Project Facilities. No feasible mitigation or revisions to the Project are available to reduce this impact to a less-than-significant level. Because NO_x and VOC may exceed regional thresholds, the potential air quality impacts and would be considered significant and unavoidable, despite implementation of all feasible mitigation. [EIR pp. 5.1-27, 5.1-31, 5.1-36, 5.1-37, and 6-10]

AQ IMPACT 3: Result in a Cumulatively Considerable Net Increase of Any Criteria Pollutant for which the Project Region is Non-Attainment (Including Emissions which Exceed Thresholds for Ozone Precursors). The portion of the South Coast Air Basin within which the Project is located is designated as a non-attainment area for NO₂/NO_x under state standards, and for ozone, PM₁₀, and PM_{2.5} under both state and federal standards. The MDP is considered to have a cumulatively considerable net increase on ozone precursors (NO_x and VOC) which are non-attainment in the region under both state and federal standards. Therefore, despite the incorporation of all feasible mitigation, the Project's contribution to cumulative construction-related air quality impacts would be cumulatively considerable. [EIR pp. 5.1-31 through 5.1-32, and 5.1-36]

Finding: The Board finds that although the MDP is in conformance with the AQMP, the short-term incremental contribution to criteria pollutant emissions from construction may result in impacts to ozone precursors (VOC and NO_x), despite the incorporation of all feasible mitigation. **Therefore, the cumulatively considerable net increase to ozone precursors is considered significant and unavoidable, despite the incorporation of all feasible mitigation.**

Mitigation Measures: Air Quality Mitigation Measures are in the EIR pages 5.1-35 and 5.1-36. Implementation of Mitigation Measures MM AIR 1 through MM AIR 4 in the MMRP would reduce this cumulatively considerable impact, but not below established thresholds of significance.

See MM AIR 1 in Section IV(A) AQ IMPACT 1 of these Findings or the attached MMRP

See MM AIR 2 in Section IV(A) AQ IMPACT 1 of these Findings or the attached MMRP.

See MM AIR 3 in Section IV(A) AQ IMPACT 1 of these Findings or the attached MMRP.

See MM AIR 4 in Section IV(A) AQ IMPACT 1 of these Findings or the attached MMRP.

Rationale: Even with implementation of Mitigation Measures MM AIR 1 through MM AIR 4, which represents the best emissions and dust control measures that would be feasible to implement during Project construction, emissions may exceed SCAQMD thresholds for ozone precursors (VOC and NO_x). No feasible mitigation or revisions to the Project are available to reduce this impact to a less-than-significant level. SCAQMD daily thresholds may be exceeded and this impact would be considered significant and unavoidable. [EIR pp. 5.1-31, 5.1-36 through 5.1-37, and 6-10]

AQ IMPACT 4: Expose Sensitive Receptors to Substantial Pollutant Concentrations. The closest sensitive receptors are residents immediately adjacent to many of the MDP Facilities. During construction, emissions of NO_x and VOC may exceed the SCAQMD recommended daily regional thresholds. Therefore, despite all feasible mitigation, this impact would remain significant and unavoidable even with mitigation. [EIR p. 5.1-32]

Finding: The Board finds that although the proposed MDP is in conformance with the AQMP, and although some projects are not expected to exceed the SCAQMD regional daily thresholds and many of the air quality impacts can be mitigated to less than significant, under certain construction circumstances, construction of some MDP Facilities may still exceed the regional thresholds for NO_x and VOC. **Therefore, to be conservative, it is assumed that the emissions to sensitive receptors would be significant and unavoidable, despite the incorporation of all feasible mitigation.**

Mitigation Measures: Air Quality Mitigation Measures are in the EIR pages 5.1-35 and 5.1-36. Implementation of Mitigation Measures MM AIR 1 through MM AIR 4 in the MMRP would reduce this impact, but not below established thresholds of significance.

See MM AIR 1 in Section V(A) AQ IMPACT 1 of these Findings or the attached MMRP

See MM AIR 2 in Section V(A) AQ IMPACT 1 of these Findings or the attached MMRP.

See MM AIR 3 in Section V(A) AQ IMPACT 1 of these Findings or the attached MMRP.

See MM AIR 4 in Section V(A) AQ IMPACT 1 of these Findings or the attached MMRP.

Rationale: Even with implementation of Mitigation Measures MM AIR 1 through MM AIR 4, which represents the best emissions and dust control measures that would be feasible to implement during Project construction, NO_x and VOC emissions may exceed SCAQMD daily regional thresholds and therefore, the potential impact to sensitive receptors would be considered significant and unavoidable. [EIR p. 5.1-32, 6-10]

SECTION V
FINDINGS REGARDING
CUMULATIVE ENVIRONMENTAL IMPACTS

Pursuant to §15130(a) of the State CEQA Guidelines, cumulative impacts of a project shall be discussed when they are "cumulatively considerable," as defined in §15065(a)(3) of the State CEQA Guidelines. Cumulatively considerable "means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." [State CEQA Guidelines §15065(a)(3)]

Each topical environmental analysis, Sections 4.0 through 5.5, and Section 6.1 of the EIR assesses cumulative impacts for the applicable environmental issue, and does so to a degree that reflects each impact's severity and likelihood of occurrence. Notwithstanding the existing regulations, other project design features discussed in the EIR, and the Mitigation Measures set forth in the MMRP for the Project, some of the Project's cumulative impacts discussed in Section V cannot be fully mitigated to a less-than-significant level. For each impact that is determined to be significant and unavoidable, a Statement of Overriding Considerations has been prepared for that impact and is set forth in Section IX below.

A. NO CONTRIBUTION TO A CUMULATIVE IMPACT

As described above in Sections II and III of these Findings and as detailed in the EIR Sections 4.0 through 6.5, the Project would not contribute to cumulative impacts and there would be no impact or a less than significant impact with respect to the following resources, and no mitigation is required.

1. No Impact or Less-Than-Significant Impacts that Do Not Require Mitigation:

- a. Scenic Vistas [Section II(A)(1)]
- b. Scenic Resources [Section II(A)]
- c. Visual Character or Quality of a Site and its Surroundings [Section II(A)(3)]
- d. Light or Glare Adversely Affecting Views [Section II(A)(4)]
- e. Conversion of Farmland to Non-Agricultural Use [Sections II(B)(1) and (3)]
- f. Conflict with Zoning for Agricultural Use or with a Williamson Act Contract [Section II(B)(2)]
- g. Loss of Forest Land or Timberland Production [Section II(B)(3) and(4)]
- h. Conflict with or Obstruct Implementation of the Applicable Air Quality Plan [Section II(C)(1)]
- i. Violate Air Quality Standards During Operation [Section II(C)(2)]

- j. Violate Air Quality Standards During Construction (CO, SO₂, and PM_{2.5}) [Section II(C)(3)]
- k. Create Objectionable Odors [Section II(C)(3)]
- l. Greenhouse Gas Emissions [Section II(C)(4) and (5)]
- m. Conflict with Local Policies or Ordinances Protecting Biological Resources [Section II(D)(1)]
- n. Disturb Human Remains [Section II(E)(1)]
- o. Rupture of a Known Earthquake Fault and/or Strong Seismic Ground Shaking [Section II(F)(1)]
- p. Ground Failure and/or Liquefaction [Section II(F)(2)]
- q. Landslides or Mudflows [Section II(F)(3)]
- r. Substantial Soil Erosion and/or Loss of Topsoil [Section II(F)(4)]
- s. Unstable Geologic Unit or Soils [Section II(F)(5)]
- t. Expansive Soils [Section II(F)(6)]
- u. Soils Incapable of Supporting Structures, Fill or Other Improvements [Section II(F)(7)]
- v. Routine Transport, Use, Or Disposal of Hazardous Materials [Section II(G)(1)]
- w. Accidental Release of Hazardous Materials [Section II(G)(2)]
- x. Hazards Within 0.25 Mile of an Existing or Proposed School [Section II(G)(3)]
- y. Listed Hazardous Materials Sites [Section II(G)(4)]
- z. Public and Private Airport/Airstrip Hazards [Section II(G)(5)]
- aa. Emergency Response Plan or Emergency Evacuation Plan [Section II(G)(6)]
- bb. Wildland Fires [Section II(G)(7)]
- cc. Groundwater Supplies or Groundwater Recharge [Section II(H)(1)]
- dd. Alter Existing Drainage Pattern Resulting in Substantial Soil Erosion [Section II(H)(2)]
- ee. Place Housing Within a 100-Year Flood Hazard Area [Section II(H)(4)]
- ff. Impeding or Redirecting Flood Flows within a 100-Year Flood Hazard Area [Section II(H)(5)]
- gg. Failure of a Levee or Dam [Section II(H)(6)]
- hh. Inundation by Seiche, Tsunami or Mudflow [Section II(H)(7)]
- ii. Physically Divide an Established Community [Section II(I)(1)]
- jj. Conflict with Applicable Land Use Plan, Policy, or Regulation [Section II(I)(2)]

- kk. Known Mineral Resources or Mineral Recovery Sites [Section II(J)(1)]
- ll. Permanent Increase in Ambient Noise Levels [Section II(K)(1)]
- mm. Public or Private Airport/Airstrip Noise [Section II(K)(2) and (3)]
- nn. Induce Substantial Population Growth [Section II(L)(1)]
- oo. Displace Existing Housing [Section II(L)(2)]
- pp. Public Services or Other Public Facilities [Section II(M)(1) through (5)]
- qq. Parks and Other Recreational Facilities [Section II(N)(1)]
- rr. Conflict with the Performance of the Circulation System [Section II(O)(1)]
- ss. Conflict with an Adopted Congestion Management Program [Section II(O)(2)]
- tt. Roadway Hazards due to Design Features [Section II(O)(3)]
- uu. Emergency Access [Section II(O)(4)]
- vv. Parking Capacity [Section II(O)(5)]
- ww. Public Transit, Bicycle, or Pedestrian Facilities [Section II(O)(6)]
- xx. Utilities and Service Systems [Sections II(P)(1) through (10)]

B. CONTRIBUTIONS TO CUMULATIVE IMPACTS NOT REQUIRING MITIGATION OR THAT CUMULATIVE IMPACTS THAT CAN BE MITIGATED TO A LESS-THAN-SIGNIFICANT LEVEL

As outlined above in Section II(A) through (P) and Sections III(A) through (E) of these Findings, the majority of impacts would not be cumulatively considerable and were found to be either less than significant or less than significant with mitigation. Only impacts related to air quality do not fall under this category [significant and unavoidable air quality impacts are discussed in these findings below in Section C and in detail in Section IV and are further supported in Section 5.1 of the EIR and in the Air Quality Analysis Report (Appendix "B" to the EIR)].

Project impacts related to aesthetics, agriculture, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use, mineral resources, noise, population and housing, public services, parks and recreation, transportation and traffic, and utilities and service systems were found to be either less than significant or less than significant with mitigation and the cumulative impacts would not be cumulatively considerable. Each of these impact areas are fully analyzed in the EIR and supporting documents. A detailed cumulative impact analysis is contained in Section 6 of the EIR. [EIR Section 5.1 through 5.5 and Section 6.1]

C. CUMULATIVELY CONSIDERABLE CONTRIBUTIONS TO POTENTIALLY SIGNIFICANT CUMULATIVE IMPACTS THAT CANNOT BE MITIGATED TO A LESS-THAN-SIGNIFICANT LEVEL

As detailed above in Section V(A), (B), and (C) of these Findings, the Project may generate construction emissions (NO_x and VOC) that exceed SCAQMD thresholds after mitigation, which is considered to contribute to a cumulatively considerable impact to air quality. The Project will cause a cumulatively considerable net increase on ozone precursors (NO_x and VOC) and may impact sensitive receptors. These impacts would remain significant and unavoidable, despite implementation of Mitigation Measures MM AIR 1 through MM AIR 4, [EIR pp. 5.1-31 through 5.1-38, 6-2 through 6-3]

SECTION VI
FINDINGS REGARDING
GROWTH-INDUCING IMPACTS

Pursuant to §15126(d) and §15126.2(d) of the State CEQA Guidelines, this Section is provided to examine ways in which the Project could foster economic or population growth or the construction of additional development, either directly or indirectly, in the surrounding environment.

Growth-inducing effects are not necessarily beneficial, detrimental, or of little significance to the environment. This issue is presented to provide additional information on ways in which this Project could contribute to significant changes in the environment beyond the direct consequences of implementing the Project.

The District finds that the Project would not induce growth because the Project will revise the existing MDP to readdress current and future drainage needs of the eastern Moreno Valley area in response to growth planned for by the *Moreno Valley General Plan*. The Moreno Valley area has, in large part, been developing at a faster rate than anticipated in the 1991 Moreno MDP. The MDP Revision includes open channels, detention basins, debris basins, and subterranean storm drains, and is designed to function in conjunction with street improvements to contain the 100-year flood discharge. Full implementation of the MDP will occur over time and some of the MDP Facilities may not ever be realized. [EIR pp. 6-10 through 6-11]

The MDP boundary is located in an area that is quickly urbanizing with residential, commercial, and light industrial uses. The Project in and of itself, will not generate an increased demand on infrastructure or utilities, but instead, is a revision of planned flood control infrastructure that will be integrated with future development and build out of the Moreno Valley General Plan. For this reason, implementation of the MDP will not directly or indirectly induce population growth or remove obstacles to population growth; it is in response to existing and projected population growth. Operation of the MDP will not generate new employment opportunities as it is expected existing District personnel will address maintenance issues as they arise over the lifespan of the MDP Facilities. At most, construction of each MDP Facility may result in temporary construction employment opportunities. However, given the nature of the work and the availability of labor in Riverside County, it is reasonable to assume that the construction of a new MDP Facility will be completed by companies already in business and doing business in the area and will not result in an indirect population growth. Thus, implementation of the MDP will not result in any significant growth inducing impacts. [EIR pp. 6-10 through 6-11]

SECTION VII
FINDINGS REGARDING
PROJECT ALTERNATIVES

A. BACKGROUND:

Section 15126.6 of the State CEQA Guidelines requires EIRs to consider and discuss alternatives to a Project.

Subsection 15126.6(a) states:

An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation. An EIR is not required to consider alternatives that are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.

Subsection 15126.6(b) states the purpose of the alternatives analysis:

Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.

Subsection 15126.6(c) describes the selection process for developing a range of reasonable alternatives:

The range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination. Additional information explaining the choice of alternatives may be included in the administrative record. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of

the basic Project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts.

The range of alternatives required is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. Alternatives are limited to ones that would avoid or substantially lessen any of the significant effects of the proposed project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project.

However, when significant impacts can be mitigated by the adoption of mitigation measures, the lead agency has no obligation to consider the feasibility of alternatives with respect to that impact in its findings, even if the alternative would mitigate the impact to a greater degree than the proposed project. [Public Resources Code §21002; Kings County Farm Bureau v. City of Hanford (1990) 221 Cal.App.3d 692, 730-731; Laurel Heights Improvement Association v. Regents of the University of California (1988) 47 Cal.3d 376, 400-403; Laurel Hills Homeowners Association v. City Council (1978) 83 Cal.App.3d 515, 521].

In preparing the proposed Moreno MDP Revision, a number of alternatives were developed and studied for their hydraulic and economic feasibility. However, due to the limited project boundary; the constraints of existing development; and the necessity of connecting to an existing flood control system, it is reasonable that the range of alternatives considered is relatively narrow. The MDP focuses on areas tributary to Line F north of Cactus Avenue; areas tributary to Quincy Channel (Line G); and those areas north of State Route 60 not tributary to the Nason Basin because many of the facilities in the other portion of the Moreno watershed have already been constructed and/or designed. [EIR pp. 7-4 through 7-5]

The Project proposes facilities based on updated land use patterns, updated rainfall data, and expected debris flow in the northern parts of the Moreno watershed. The MDP Revision also focuses on providing opportunities for infiltration by incorporating earthen channels (with rock-lined side slopes) in the various MDP Alternatives; perpetuating the natural drainage pattern within the watershed; and minimizing the need for right of way acquisition by proposing most facilities as underground systems within existing and future street rights of way, where feasible. Finally, in developing the Alternatives, the District and the City of Moreno Valley mutually agreed that the existing Line F-2 Storm Drain, which is currently sized for 10-year storm events, should be reconstructed to provide 100-year flood capacity. [EIR p. 7-4]

The objectives for the Project [EIR pp. 3-33 through 3-34, 7-1] are as follows:

1. Revise the Moreno MDP to provide a drainage plan which supports the existing and proposed land use as set forth in the "Riverside County General Plan" updated in 2008, "City of Moreno Valley General Plan" updated in July 2006, and any proposed amendments thereto.

2. The fully implemented plan should, in conjunction with ultimate street improvements for the area within the boundaries of the Moreno MDP, contain the 100-year frequency flows and alleviate the primary sources of flooding.
3. Identify preferred facility alignments, sizing, and right-of-way required for the future construction of MDP facilities to protect existing and future development.
4. Identify the most economical combination of facilities considering right-of-way acquisition, construction, and maintenance costs.
5. Develop a plan which, when implemented, will result in the elimination of FEMA designated Special Flood Hazard Areas within the boundaries of the Moreno MDP.
6. Revise the Moreno MDP to minimize major diversions and perpetuate the natural drainage pattern of the area to the maximum extent practicable.
7. Where feasible, incorporate facilities which encourage infiltration.
8. Minimize environmental impacts to the maximum extent practicable.

B. IMPACTS OF THE PROPOSED PROJECT

With project approval and execution of Resolution F2015-11, the Board will adopt Mitigation Measures to avoid or substantially lessen the potentially significant environmental impacts identified in the EIR. However, the following impacts would remain significant:

1. Exceed SCAQMD thresholds for NOX during Project Construction [EIR p. 5.1-37]
2. Exceed SCAQMD thresholds for NOX and VOC if more than one basin and channel are excavated at the same time [EIR p. 5.1-37]
3. Cumulatively Considerable Net Increase on Ozone Precursors (NOx and VOC) [EIR pp. 5.1-37 through 5.1-38]
4. Cumulative Considerable Net Increase on Criteria Pollutant Emissions (NOx and VOC) [EIR pp. 5.1-37 through 5.1-38]

C. LIST OF PROJECT ALTERNATIVES

There are two types of alternatives evaluated in the EIR. First are the alternatives that were considered but rejected from further consideration for various reasons, such as infeasibility, failure to meet basic project objectives; or inability to avoid significant environmental impacts [State CEQA Guidelines §15126.6(c)]; conflicts with land use plans, policies, or regulations; lack of reasonable access to an alternative site; or remote or speculative implementation [EIR p. 7-3].

The first two Alternatives listed below were considered and rejected, whereas the latter four Alternatives were evaluated in the EIR in greater detail and compared to the Project. The

comparison of Alternatives and rationale for selecting the preferred Project is included below in Sections VII(B) through VII(F).

1. **Underground Storm Drains:** A number of other alternatives involving minor realignments and underground facilities versus open channel facilities were studied and eventually disregarded as either being too costly or not providing adequate protection. [EIR p. 7-3]
2. **Alternate Basins Locations:** Basins are required in the Project due to revised hydrology and updated land-use which produces higher flow-rates than what was used in the 1991 Moreno MDP. Four alternate basin sites were suggested by a commenter in a late letters submitted in response to the Notice of Preparation. The District initially considered these potential alternative sites, and rejected all of them because they were not efficient and/or practicable. [EIR p. 7-3 through 7-4]
3. **No Project Alternative:** Under the No Project Alternative, no changes from the existing MDP would occur. [EIR p. 7-5]
4. **Alternative 1:** Alternative 1 contains a variety of underground storm drains, channels and basins. [EIR p. 7-7]
5. **Alternative 2 (Alternative 2A and Alternative 2B):** These Alternatives, collectively refers to as Alternative 2, contain a variety of underground storm drains, channels and basins. [EIR p. 7-9 through 7-12]
6. **Alternative 3:** Alternative 3 contains a variety of underground storm drains, channels and basins. [EIR p. 7-13]

D. ALTERNATIVES CONSIDERED AND REJECTED FROM FURTHER CONSIDERATION

In determining an appropriate range of alternatives to be evaluated in the EIR, several possible alternatives were initially considered and rejected. Alternatives were rejected either because they could not accomplish most of the basic objectives of the Project, would not have resulted in a reduction of potentially significant impacts, or were considered infeasible. The specific reasons for not selecting each of the rejected alternatives are described below.

REJECTED ALTERNATIVE 1: Underground Storm Drains. A number of storm drain alternatives involving minor realignments and underground facilities versus open channel facilities were studied and eventually disregarded as either being too costly or not providing adequate protection. [EIR p. 7-3]

Finding: Based upon the Supporting Explanation below, the Board of Supervisors rejects the Underground Storm Drain Alternative because it does not meet the basic Project objectives as it would be too costly and would not provide adequate protection. [State CEQA Guidelines §15126.6(c)(i)]

Supporting Explanation: The Underground Storm Drain Alternative was not carried forward for detailed evaluation in the EIR because early on it was found to be too costly and would not provide adequate flood protection.[EIR p. 7-3]

REJECTED ALTERNATIVE 2: Alternate Basins Locations. Basins are required in the proposed Project due to revised hydrology and updated land-use which produces higher flow-rates than what was used in the 1991 Moreno MDP.

The following alternate locations for the Cactus Basin were suggested by a commenter:

- (i) An existing basin at the northeast corner of Alessandro Boulevard and Merwin Street;
- (ii) An area south of Alessandro Boulevard and north of Brodiaea Avenue;
- (iii) An area bounded on the east by Redlands Boulevard, on the west by Wilmot Street, on the south by Cactus Avenue, and on the north by Brodiaea Avenue; and
- (iv) An area on the east side of Merwin Street at Brodiaea Avenue.

Existing Line F downstream of Cactus Avenue does not have adequate capacity for the flow-rates used for the proposed Project, thus attenuation of flows must be provided upstream of existing Line F. That is the main purpose and function of the Cactus Basin. [EIR p. 7-3]

Commenter-suggested location (i) *the existing basin at the northeast corner of Alessandro Boulevard and Merwin Street* is infeasible because there is no basin at this location. This location only contains a couple of berms to direct storm-flows. [EIR p. 7-3]

Commenter-suggested location (ii) *an area south of Alessandro Boulevard and north of Brodiaea* is infeasible because a portion of this property is part of an entitled subdivision. In addition constructing a basin at this site would require substantial grading along the southern portions of this area due to a hillside. Additionally, this proposed basin site would also involve substantially greater cost when compared to the location identified in the Project. [EIR p. 7-4]

Commenter-suggested location (iii) *an area bounded on the east by Redlands Boulevard, on the west by Wilmot Street, on the south by Cactus Avenue, and on the north by Brodiaea Avenue* and (iv) *an area on the east side of Merwin Street at Brodiaea Avenue* are infeasible alternatives because these locations will only attenuate flows from the Line F system and not the Line F-2 system. A basin at either of these locations would need to be sized to over-mitigate for the Line F-2 system, which would result in a larger, more costly basin. [EIR p. 7-4]

The location of the proposed Cactus Basin is more efficient and practicable than the four commenter-suggested locations because it is upstream of the existing undersized Line F and will collect storm-flows from both the Line F and Line F-2 systems. Portions of the Project's proposed location of the Cactus Basin are currently designated as Open Space and Public Facilities in the Moreno Valley General Plan and the site is currently vacant with no development entitlements. The proposed basin location is also preferred by Moreno Valley (owner of a portion of the proposed basin site), because Moreno Valley wants the option of using

the Cactus Basin for a future park. Use of this basin as a park is not a part of the proposed Project; therefore, subsequent CEQA review will be required prior to Moreno Valley approving and developing a park at this location [EIR pp. 3-8 through 3-9, 7-3 through 7-4]

Finding: Based upon the Supporting Explanation below, the Board of Supervisors rejects the Alternate Basins Locations Alternative because they did not prove to be efficient and/or practicable and would not meet the basic Project objectives. [State CEQA Guidelines §15126.6(c)(i)]

Supporting Explanation: The Alternate Basins Locations Alternative was not carried forward for detailed evaluation in the EIR because it was found to be inefficient, impracticable and would not reduce or eliminate significant environmental effects. [EIR pp. 7-3 through 7-4]

E. ALTERNATIVES CONSIDERED IN DETAIL IN THE EIR

The following Alternatives were considered in detail in the EIR. These are rejected for various reasons as set forth below.

ALTERNATIVE 1: Alternative 1 consists of the same types of facilities (i.e., storm drains and channels) and alignments as the 1991 Moreno MDP. In addition, Alternative 1 includes three basins encompassing approximately 75.3 acres. Two detention basins are proposed along the Line F channel alignment, the Sinclair Basin, located north of State Route 60, and the Bay Basin, located on the north side of Bay Avenue. In addition to the detention basins, Alternative 1 includes the Reche Canyon Debris Basin, which is intended to capture debris upstream of Line K. Under Alternative 1 all channels will be concrete lined and the existing highway drainage culverts located under State Route 60 will be used. [EIR p. 7-7]

Finding: Based upon the Supporting Explanation below, the Board rejects Alternative 1. Alternative 1 is similar to the Project in that it has the same boundary, was developed to reduce flooding, allows for the removal of FEMA mapped Special Flood Hazard Areas, and includes multiple basins with an approximately seven acre difference between the overall basin footprint of the proposed Project. However, Alternative 1 would not reduce the amount of NOx and VOC generated during project construction to below the SCAQMD thresholds for these pollutants to eliminate the Project's only significant impact; would not meet the Project Objectives as fully as the Project; and would not avoid or substantially lessen the significant unavoidable impacts of the Project. [State CEQA Guidelines §15126.6 (c)] Therefore, Alternative 1 is rejected as a meaningful alternative to the Project.

Supporting Explanation: Alternative 1 was not selected as the superior alternative in the EIR because it did not meet the Project Objectives as fully as the Project and would not reduce or eliminate significant environmental effects to less than significant. [EIR p. 7-29]

ALTERNATIVE 2 (Includes Alternative 2A and Alternative 2B): Alternative 2 consists of the realignment of proposed facilities upstream of State Route 60 in an effort to maintain the natural drainage patterns within the upper watershed. This alternative would eliminate the Line A

diversion proposed in the 1991 Moreno MDP, such that the mainline facilities would be aligned north to south, and would drain directly to the existing culverts at State Route 60, instead of draining to the proposed Sinclair Basin. Both Alternative 2A and Alternative 2B propose Line F, Line G and Line K as earthen channels with rock-lined side slopes and also include the Reche Canyon Debris Basin to capture debris upstream of Line K. The primary difference between Alternative 2A and Alternative 2B are the size, number, and location of the proposed detention basins.

Alternative 2A proposes a total of six basins (five detention basins and the Reche Canyon Debris Basin) encompassing a total of 71.9 acres. Alternative 2B proposes a total of five basins (four detention basins and the Reche Canyon Debris Basin) encompassing a total of 74.9 acres. [EIR pp. 7-9 through 7-12]

Finding: Based upon the Supporting Explanation below, the Board rejects Alternative 2. Although, Alternative 2 was similar to the proposed Project in that it had the same boundary, was developed to reduce flooding, allowed for the removal of FEMA mapped Special Flood Hazard Areas, and included multiple basins with only an average 10 acre difference between the overall basin footprints of the proposed Project. Alternative 2 would not reduce the amount of NO_x and VOC generated during project construction to below the SCAQMD thresholds for these pollutants to eliminate the Project's only significant impact, would not meet the Project Objectives as fully as the Project, and would not avoid or substantially lessen the significant unavoidable impacts of the Project. [State CEQA Guidelines §15126.6 (c)] Therefore, Alternative 2 is rejected as a meaningful alternative to the Project.

Supporting Explanation: Alternative 2 was not selected as the superior alternative in the EIR because it did not meet the project objectives as fully as the proposed Project, and would not reduce or eliminate significant environmental effects to less than significant. [EIR p. 7-29]

ALTERNATIVE 3: Alternative 3 retains the major alignment for Line A, as proposed in Alternative 2A and Alternative 2B but proposes three detention basins downstream of State Route 60. Alternative 3 would require upsizing the existing highway drainage culverts under State Route 60 to convey the 100-year flows to the proposed basins. Alternative 3 proposes a total of four basins (three detention basins and the Reche Canyon Debris Basin) encompassing a total of 78.3 acres. Alternative 3 proposes Line F, Line G, and Line K as earthen channels instead of the concrete lined channels proposed in Alternative 1. [EIR pp. 7-13 through 7-14]

Finding: Based upon the Supporting Explanation below, the Board of Supervisors rejects Alternative 3. Although, Alternative 3 was similar to the proposed Project in that it had the same boundary, was developed to reduce flooding, allowed for the removal of FEMA mapped Special Flood Hazard Areas, and included multiple basins with only a 4 acre difference between the overall basin footprints of the proposed Project. Alternative 3 would not reduce the amount of NO_x and VOC generated during project construction to below the SCAQMD thresholds for these pollutants to eliminate the Project's only significant impact, would not meet the Project Objectives as fully as the Project, and would not avoid or substantially lessen the significant

unavoidable impacts of the Project. [State CEQA Guidelines §15126.6 (c)] Therefore, Alternative 3 is rejected as a meaningful alternative to the Project.

Supporting Explanation: Alternative 3 was not selected as the superior alternative in the EIR because it did not meet the Project Objectives as fully as the Project and would not reduce or eliminate significant environmental effects to less than significant. [EIR p. 7-29]

F. ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Because the Project is the implementation of a revision to the 1991 Moreno MDP, the boundary for all alternatives is the same as the proposed Project; each alternative, except the No Project Alternative, provides the same level of flood protection within the Moreno watershed; and all alternatives were developed to reduce flooding, and allow the removal of FEMA mapped Special Flood Hazard Areas. Other than the No Project Alternative, all Alternatives include multiple basins with only a 10 acre difference between the overall footprint of the proposed Project and Alternatives 1, 2A, 2B, and 3. None of the alternatives evaluated, including the No Project Alternative, will reduce the amount of NOx and VOC generated during project construction to below the SCAQMD thresholds for these pollutants to eliminate the Project's only significant impact. The No Project Alternative includes substantially fewer basins and a substantially smaller basin footprint than the other alternatives. Therefore, even though the No Project Alternative would result significant impacts to air quality, its emissions would be incrementally less than Alternatives 1, 2A, 2B, and 3 and for this reason is considered the environmentally superior alternative.

When the No-Project Alternative is the environmentally superior alternative, an EIR must also identify an environmentally superior alternative among the other alternatives [State CEQA Guidelines §15126.6(e)(2)]. In general, the environmentally superior alternative is defined as that alternative with the least adverse impacts to the Project area and its surrounding environment. Impacts among Alternatives 1, 2A, 2B, and 3 are so similar to the proposed Project and each other that there is no single alternative that is clearly environmentally superior to the others.

None of the Alternatives meet the basic Project Objectives as fully as the Project. Additionally 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. The entire Moreno watershed is located totally within the corporate limits and sphere of influence of Moreno Valley. Moreno Valley is not only a responsible agency for CEQA purposes it is also the agency with land use authority within the Moreno watershed. In that capacity, Moreno Valley assisted the District with the establishment of the Project Objectives and the selection of the Project from among the Alternatives identified in the MDP Report. Because none of the Alternatives evaluated effectively lessens or avoids the significant short-term air quality impacts during construction and the Project most fully meets the Project's objectives, the District may adopt the Project with the Mitigation Measures identified in this environmental document. [EIR p. 7-29]

SECTION VIII
STATEMENT OF OVERRIDING CONSIDERATIONS

- A. The Board of Supervisors declares that, pursuant to State CEQA Guidelines §15093, the Board has balanced the benefits against any unavoidable environmental impacts in determining whether to approve the Project. If the benefits outweigh the unavoidable adverse environmental impacts, then those impacts may be considered "acceptable" under CEQA.
- B. The Board of Supervisors declares that the EIR has identified and discussed significant effects that may occur as a result of the Project. With the implementation of existing regulations and the Mitigation Measures discussed in the EIR, the environmental effects of the Project can be mitigated to less than significant levels, except for the following significant and unavoidable impacts:
1. Exceeding SCAQMD thresholds for NO_x during Project Construction [EIR p. 5.1-37]
 2. Exceeding SCAQMD thresholds for NO_x and VOC, if more than one basin and channel are being excavated at the same time [EIR p. 5.1-37]
 3. Cumulatively Considerable Net Increase on Ozone Precursors (NO_x and VOC) [EIR pp. 5.1-37 through 5.1-38]
 4. Cumulatively Considerable Net Increase on Criteria Pollutant Emissions (NO_x and VOC) [EIR pp. 5.1-37 through 5.1-38]
- C. The Board declares that it has made a reasonable and good faith effort to eliminate or substantially mitigate the impacts listed above. To the extent any mitigation measures could not be incorporated, such mitigation measures are infeasible because of specific economic, legal, social, technological and other considerations and the benefits of the Project outweigh the unmitigated impacts.
- D. The Board declares that, having reduced the significant adverse environmental effects of the Project to the extent feasible by adopting Mitigation Measures, having considered the entire administrative record on the Project, and having weighed the benefits of the Project against its unavoidable adverse impacts after mitigation, the Board has determined that the following social, economic, and environmental benefits of the Project outweigh the potential unavoidable significant adverse impacts and render those potential adverse environmental impacts acceptable. Each benefit set forth below constitutes an overriding consideration warranting approval of the Project, independent of the other benefits, and the Board determines that the adverse environmental impacts of the Project are "acceptable" if any of these benefits would be realized. The Project would provide the following benefits:
1. The Project area has experienced significant flooding in the past. As the area continues to develop per the updated Riverside County General Plan and Moreno Valley General Plan, flood damages are expected to increase. The existing master planned drainage system needs to be revised and updated periodically to safely

convey stormwater runoff from existing and future development with the least interruption to public services. In conjunction with ultimate street improvements, the Project will provide 100-year flood protection to existing and planned development, including infrastructure and public roads, thereby providing numerous benefits to public health and safety.

2. Public costs associated with reoccurring flood damages will be substantially reduced by the construction of drainage Facilities included in the MDP Revision.
3. A more orderly growth pattern can safely occur over a wider area with the master planned drainage system provided by the Project.
4. The Project is the most feasible of the Alternatives studied.
5. The Project lends itself to staged construction as funds become available.

SECTION IX
CERTIFICATION OF EIR

As the decision-making body for the Project, the Board finds that it has reviewed and considered the EIR in evaluating the Project, that the EIR is an accurate and objective statement that fully complies with the Public Resources Code and the State CEQA Guidelines and that the EIR reflects the independent judgment of the Board. The Board consequently certifies the EIR. The Board has reviewed and considered the information contained in the Findings and supporting documentation. The Board finds and determines that the Findings contain a complete and accurate reporting of the environmental impacts and mitigation measures associated with the Project, as well as a complete and accurate reporting of the unavoidable impacts and benefits of the proposed Project as detailed in the Statement of Overriding Considerations. The Board finds that the EIR was prepared in compliance with CEQA and that the District complied with CEQA's procedural and substantive requirements.

The Board declares that no new significant information as defined by State CEQA Guidelines §15088.5 has been received by the District after circulation of the EIR nor added by the District to the EIR that would require recirculation.

The Board certifies the EIR based on, without limitation, the following finding and conclusions:

A. Finding:

1. The significant environmental impacts set forth in Section IV of these Findings have been identified in the EIR and will require mitigation, but cannot be mitigated to a less than significant level.
2. The significant cumulative environmental impacts set forth in Section V(C) of these Findings have been identified in the EIR and will require mitigation, but cannot be mitigated to a less than significant level.

B. Conclusions:

1. All significant environmental impacts from the implementation of the Project have been identified in the EIR and, with implementation of the identified Mitigation Measures, impacts will be mitigated to a less than significant level, except for the air quality impacts listed in Section IV of these Findings.
2. Environmental, economic, social and other considerations and benefits derived from the Project override and make infeasible mitigation measures beyond those incorporated into the Project.
3. Other reasonable Alternatives to the Project that could feasibly achieve the basic goals and objectives of the proposed Project have been considered and rejected in favor of the Project.

SECTION X

ADOPTION OF MITIGATION MONITORING AND REPORTING PROGRAM

Pursuant to Public Resources Code §21081.6, the Board of Supervisors hereby adopts the Mitigation Monitoring and Reporting Program attached to this Resolution as Exhibit "C". In the event of any inconsistencies between the Mitigation Measures as set forth herein and the Mitigation Monitoring and Reporting Program, the Mitigation Monitoring and Reporting Program shall control.

SECTION XI
PROJECT APPROVAL

Based upon the entire administrative record before the Board of Supervisors, including the above findings and all written and oral evidence presented during the administrative process, the Board of Supervisors hereby approves the Moreno Master Drainage Plan Revision.

SECTION XII
CUSTODIAN OF RECORD

The custodians of the documents and materials that constitute the record of proceedings on which this decision is based are with the Clerk of the Board of Supervisors located at 4080 Lemon Street, Riverside, California; they are also available at the District located at 1995 Market Street, Riverside, California. This information is provided in compliance with Public Resources Code §21081.6.