

STATE OF CALIFORNIA
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
STATE WATER RESOURCES CONTROL BOARD

DIVISION OF WATER RIGHTS

PERMIT FOR DIVERSION AND USE OF WATER

PERMIT 21265

Application 31370 of

San Bernardino Valley Municipal Water District and Western Municipal
Water District of Riverside County
P.O. Box 5906
San Bernardino, CA 92412-5906

filed on **November 4, 2002**, has been approved by the State Water Resources Control Board (State Water Board or Board) SUBJECT TO PRIOR RIGHTS and to the limitations and conditions of this permit.

Permittee is hereby authorized to divert and use water as follows:

1. Source of water

Source:

Tributary to:

Santa Ana River (1, 3, 6, 9, 10, 11,12)

Pacific Ocean

Bear Creek (2)

Santa Ana River thence Pacific Ocean

Breakneck Creek (4)

Santa Ana River thence Pacific Ocean

Keller Creek (5)

Santa Ana River thence Pacific Ocean

Alder Creek (7)

Santa Ana River thence Pacific Ocean

within the County of **San Bernardino**.

2. Location of points of diversion (POD) and points of redirection (POR)

By California Coordinate System of 1983, Zone 5	40-acre subdivision of public land survey or projection thereof	Section	Township	Range	Base and Meridian
POD & POR #1: Seven Oaks Dam North 1,866,500 ft. and East 6,835,000 ft.	NE $\frac{1}{4}$ of NW $\frac{1}{4}$	4	01S	02W	SB
POD #2: North 1,882,500 ft. and East 6,859,600 ft.	SE $\frac{1}{4}$ of NE $\frac{1}{4}$	19	01N	01W	SB
POD #3: North 1,882,400 ft. and East 6,859,700 ft.	SE $\frac{1}{4}$ of NE $\frac{1}{4}$	19	01N	01W	SB
POD #4: North 1,880,900 ft. and East 6,858,100 ft.	NW $\frac{1}{4}$ of SE $\frac{1}{4}$	19	01N	01W	SB
POD #5: North 1,877,700 ft. and East 6,846,200 ft.	NW $\frac{1}{4}$ of NE $\frac{1}{4}$	26	01N	02W	SB
POD #6: North 1,876,700 ft. and East 6,846,700 ft.	SW $\frac{1}{4}$ of NE $\frac{1}{4}$	26	01N	02W	SB
POD #7: North 1,877,100 ft. and East 6,843,600 ft.	NW $\frac{1}{4}$ of NW $\frac{1}{4}$	26	01N	02W	SB
POR #8: North 1,865,800 ft. and East 6,837,100 ft.	SE $\frac{1}{4}$ of NE $\frac{1}{4}$	4	01S	02W	SB
POD & POR #9: North 1,864,900 ft. and East 6,835,000 ft.	SE $\frac{1}{4}$ of NW $\frac{1}{4}$	4	01S	02W	SB
POD & POR #10: North 1,864,900 ft. and East 6,834,600 ft.	SE $\frac{1}{4}$ of NW $\frac{1}{4}$	4	01S	02W	SB
POD & POR #11: North 1,863,500 ft. and East 6,834,000 ft.	NW $\frac{1}{4}$ of SW $\frac{1}{4}$	4	01S	02W	SB
POD & POR #12: North 1,862,800 ft. and East 6,834,000 ft.	SW $\frac{1}{4}$ of SW $\frac{1}{4}$	4	01S	02W	SB

2 (continued) Location of point of diversion

By California Coordinate System of 1983, Zone 6	40-acre subdivision of public land survey or projection thereof	Section	Township	Range	Base and Meridian
POR #13: Lake Mathews (Cajalco Dam) North 2,249,950 ft. and East 6,193,550 ft.	NE¼ of SW¼	12	04S	06W	SB
POR #14: Diamond Valley Lake Dam North 2,188,680 ft. and East 6,313,210 ft.	NE¼ of NW¼	11	06S	02W	SB
POR #15 Lake Skinner Dam North 2,157,870 ft. and East 6,311,180 ft.	SW¼ of SE¼	3	07S	02W	SB

3. Purpose of use	4. Place of use	Section (Projected)*	Township	Range	Base and Meridian	Acres
Municipal, Industrial, Irrigation, Heat Control, Frost Protection and Recreational uses	San Bernardino Valley Municipal Water District and Western Municipal Water District of Riverside County's Service Areas*					

*The place of use is shown on maps dated June 7, 2010 and June 14, 2010 and filed with the State Water Board.

5a. The water appropriated shall be limited to the quantity which can be beneficially used and shall not exceed **1,100** cubic feet per second (cfs) by direct diversion and **100,000** acre-feet per annum (afa) by underground and/or surface storage to be diverted from **January 1** to **December 31** of each year. The amount of surface storage at Seven Oaks Dam shall not exceed 50,000 afa. The maximum rate of diversion to offstream storage shall not exceed 1,250 cfs. The maximum rate of diversion to underground storage shall not exceed 400 cfs. The total amount of water to be taken from the sources shall not exceed 100,000 acre-feet (af) per water-year from October 1 to September 30. The total rate for water to be taken from the sources for either direct use, underground storage, and/or offstream surface storage shall not exceed 1,250 cfs.

(0000005E)

5b. The total quantity of water to be taken from the sources under both Application 31165 and Application 31370 shall not exceed 198,317 af per water-year from October 1 to September 30. The total amount of water diverted to storage at Seven Oaks Dam under both Applications 31165 and 31370 shall not exceed 50,000 af per water-year from October 1 to September 30. The total combined rate for water to be taken from the sources under Applications 31165 and 31370 for either direct use, underground storage, and/or offstream surface storage shall not exceed an instantaneous rate of 1,250 cfs.

(0000005L)

6. The amount authorized for appropriation may be reduced in the license if investigation warrants.
(0000006)
7. Construction work and the application of water to beneficial use shall be prosecuted with reasonable diligence. Actual construction shall begin no later than June 30, 2010 and be completed by October 1, 2020. Water shall be put to full beneficial use by December 31, 2059.
(0000009)
8. Progress reports shall be submitted promptly by Permittee when requested by the State Water Board until a license is issued.
(0000010)
9. Permittee shall allow representatives of the State Water Board and other parties, as may be authorized from time to time by said State Water Board, reasonable access to project works to determine compliance with the terms of this permit.
(0000011)
10. Pursuant to California Water Code sections 100 and 275, and the common law public trust doctrine, all rights and privileges under this permit and under any license issued pursuant thereto, including method of diversion, method of use, and quantity of water diverted, are subject to the continuing authority of State Water Board in accordance with law and in the interest of the public welfare to protect public trust uses and to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of said water.

The continuing authority of the State Water Board may be exercised by imposing specific requirements over and above those contained in this permit with a view to eliminating waste of water and to meeting the reasonable water requirements of Permittee without unreasonable draft on the source. Permittee may be required to implement a water conservation plan, features of which may include but not necessarily be limited to: (1) reusing or reclaiming the water allocated; (2) using water reclaimed by another entity instead of all or part of the water allocated; (3) restricting diversions so as to eliminate agricultural tailwater or to reduce return flow; (4) suppressing evaporation losses from water surfaces; (5) controlling phreatophytic growth; and (6) installing, maintaining, and operating efficient water measuring devices to assure compliance with the quantity limitations of this permit and to determine accurately water use as against reasonable water requirements for the authorized project. No action will be taken pursuant to this paragraph unless the State Water Board determines, after notice to affected parties and opportunity for hearing, that such specific requirements are physically and financially feasible and are appropriate to the particular situation.

The continuing authority of the State Water Board also may be exercised by imposing further limitations on the diversion and use of water by the Permittee in order to protect public trust uses. No action will be taken pursuant to this paragraph unless the State Water Board determines, after notice to affected parties and opportunity for hearing, that such action is consistent with California Constitution Article X, Section 2; is consistent with the public interest; and is necessary to preserve or restore the uses protected by the public trust.

(0000012)
11. The quantity of water diverted under this permit and under any license issued pursuant thereto is subject to modification by the State Water Board if, after notice to the Permittee and an opportunity for hearing, the State Water Board finds that such modification is necessary to meet water quality objectives in water quality control plans which have been or hereafter may be established or modified pursuant to Division 7 of the Water Code. No action will be taken

pursuant to this paragraph unless the State Water Board finds that: (1) adequate waste discharge requirements have been prescribed and are in effect with respect to all waste discharges which have any substantial effect upon water quality in the area involved, and (2) the water quality objectives cannot be achieved solely through the control of waste discharges.

(0000013)

12. This permit does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish & G. Code, §§ 2050-2097) or the federal Endangered Species Act (16 U.S.C.A. §§ 1531-1544). If a "take" will result from any act authorized under this water right, the Permittee shall obtain authorization for an incidental take prior to construction or operation of the project. Permittee shall be responsible for meeting all requirements of the applicable Endangered Species Act for the project authorized under this permit.

(0000014)

13. Permittee shall maintain records of the amount of water diverted and used to enable State Water Board to determine the amount of water that has been applied to beneficial use pursuant to Water Code section 1605.

(0000015)

14. This permit shall not be construed as conferring upon the Permittee right of access to the point of diversion.

(0000022)

15. Permittee shall consult with the Division of Water Rights (Division) and, within one year from the date of this permit, shall submit to the State Water Board its Urban Water Management Plan as prepared and adopted in conformance with section 10610, et seq. of the California Water Code, supplemented by any additional information that may be required by the Board.

All cost effective measures identified in the Urban Water Management Plan and any supplements thereto shall be implemented in accordance with the schedule for implementation found therein.

(0000029A)

16. If it is determined after permit issuance that the as-built conditions of the project are not correctly represented by the map(s) prepared to accompany the application, Permittee shall, at his expense have the subject map(s) updated or replaced with equivalent as-built map(s). Said revision(s) or new map(s) shall be prepared by a civil engineer or land surveyor registered or licensed in the State of California and shall meet the requirements prescribed in section 715 and sections 717 through 723 of the California Code of Regulations, Title 23. Said revision(s) or map(s) shall be furnished upon request of the Chief of the Division of Water Rights¹.

(0000030)

17. No work shall commence and no water shall be diverted, stored or used under this permit until a copy of a stream or lake alteration agreement between the State Department of Fish and Game (DFG) and the Permittee is filed with the Division. Compliance with the terms and conditions of the agreement is the responsibility of the Permittee. If a stream or lake alteration agreement is not necessary for this permitted project, the Permittee shall provide the Division a copy of a waiver signed by DFG.

(0000063)

¹ The Chief of the Division of Water Rights is hereafter referred by the State Water Board as the Deputy Director for Water Rights.

18. In order to prevent degradation of the quality of water during and after construction of the project, prior to commencement of construction undertaken after issuance of the permit, Permittee shall file a report pursuant to Water Code Section 13260 and shall comply with all waste discharge requirements imposed by the California Regional Water Quality Control Board, Santa Ana Region, or by the State Water Board.
(0000100)
19. Prior to diversion of water under this permit, Permittee shall: (1) install devices to measure the instantaneous rate of diversion and the quantities of water placed into underground storage, and (2) install devices to measure or provide documentation of the method to be used to determine the quantity of water recovered from underground storage and placed to beneficial use. All measuring devices and the method of determining the quantity of water placed into and recovered from underground storage shall be approved by the State Water Board prior to diversion of water under this permit. All measuring devices shall be properly maintained. The diversion data shall be posted on Permittee's websites on a weekly basis.
(0080117)
20. The Permittee shall obtain all necessary state and local agency permits required by other agencies prior to construction and diversion of water. Copies of such permits and approvals shall be forwarded to the Deputy Director for Water Rights (Deputy Director).
(0000203)
21. No debris, soil, silt, cement that has not set, oil, or other such foreign substance will be allowed to enter into or be placed where it may be washed by rainfall runoff into the waters of the State. When operations are completed, any excess materials or debris shall be removed from the work area.
(0000208)
22. The State Water Board adopts and incorporates by reference into this permit the mitigation measures and monitoring and reporting requirements applicable to the impacts of the Project on biological and cultural resources, geology, hazardous material and groundwater contamination, groundwater and surface water hydrology, water quality and public services, utilities and transportation identified in the Final EIR, specifically mitigation measures MM BIO-1, MM BIO-2 and MM BIO-6 through MM BIO-10, MM CR 1 through MM CR 4, MM HAZ 1 through MM HAZ 5, MM GEO-1 through MM GEO-8, MM GW-1, MM SW-2 and MM PS-12. (See attached Table 1.) Permittee must implement the measures to mitigate significant impacts and conduct the required reporting and monitoring of those measures as provided in the Mitigation Monitoring and Reporting Plan adopted on March 21, 2007 by the respective Boards of Directors of San Bernardino Valley Municipal Water District and Western Municipal Water District of Riverside County. In addition, Permittee shall submit an annual report to the Deputy Director that includes the results of the Mitigation Monitoring and Reporting Program. The State Water Board reserves jurisdiction to require any reasonable amendments to these measures and requirements to ensure that they will accomplish the stated goal.
(0400500)
23. The State Water Board adopts and incorporates by reference into this permit the mitigation measures and monitoring and reporting requirements applicable to the cumulative impacts of the Project on biological and cultural resources, geology, hazardous material and groundwater contamination, groundwater and surface water hydrology and water quality, and public services, utilities and transportation identified in the EIR, specifically mitigation measures MM Cumulative BIO-1, MM Cumulative CR-1, MM Cumulative CR-2, MM Cumulative HAZ-1, MM Cumulative SW-1 and MM Cumulative GW-1. (See attached Table 2.) Permittee must implement the measures to mitigate cumulative impacts and conduct the required reporting and monitoring of those measures as provided in the Mitigation Monitoring and Reporting Plan adopted by the respective Boards of Directors of San Bernardino Valley Municipal Water District and Western

Municipal Water District of Riverside County on March 21, 2007. In addition, Permittee shall submit to the Deputy Director an annual report that includes the results of the Mitigation Monitoring and Reporting Program. The State Water Board reserves jurisdiction to require any reasonable amendments to these measures and requirements to ensure that they will accomplish the stated goal.

(0400500)

24. This permit shall not be construed as conferring upon Permittee right of access to facilities of the U.S. Army Corps of Engineers and the Santa Ana River Mainstem Local Sponsors.

(0000022)

25. This permit is specifically subject to the prior rights of Bear Valley Mutual Water Company, City of Redlands, East Valley Water District, Lugonia Water Company, North Fork Water Company and Redlands Water Company to divert the first 88 cfs of the natural flow of the Santa Ana River pursuant to pre-1914 appropriative rights, to the extent that such rights may exist.

(0400500)

26. This permit is specifically subject to the prior rights of San Bernardino Valley Water Conservation District under Licenses 2831 and 2832 issued pursuant to Applications 2217 and 4807, and any valid pre-1914 appropriative right confirmed by the Court.

(0400500)

27. Nothing in this permit shall be construed as authorizing any diversions contrary to the provisions of the December 19, 2002 Biological Opinion issued by United States Fish and Wildlife Service for operation of Seven Oaks Dam, as may be revised in the future, including flow releases for downstream over-bank inundation to preserve State and federally listed threatened and endangered species and their habitat.

(0600500)

28. Permittee shall only divert water at points of diversion 5 through 10 in compliance with the terms and conditions of Federal Energy Regulatory Commission (FERC) license Project No. 1933 and 401 water quality certification as well as any future FERC licenses and 401 water quality certifications.

(0560900)

29. Permittee shall not, without the prior written consent of Southern California Edison (SCE), construct, operate or maintain diversion works at points of diversion located upstream of the flood inundation pool of Seven Oaks Dam in a manner that interferes with the operation and maintenance of the hydroelectric works licensed to SCE by the Federal Energy Regulatory Commission (FERC) license for Project No. 1933. Permittee's diversion of water at such points of diversion shall not interfere with SCE's diversion of water for hydroelectric purposes, again as described in the FERC license for Project No. 1933. Nothing in this permit shall be construed to limit Permittee's diversion of water from such points of diversion at times when the quantity of water available for diversion at such points of diversion exceeds the demand of SCE's facilities to divert water from the Santa Ana River system.

(0430999)

30. This permit shall not be construed as conferring upon Permittee the right of access to Seven Oaks Dam, the points of diversion, the lands necessary for related facilities, or the lands necessary for inundation for water storage. Access to, construction upon, or inundation of National Forest Service lands shall not commence prior to authorization by the Forest Service, in accordance with applicable laws and regulations. Such authorization will require compliance with all applicable federal laws and regulations. Permittee specifically recognizes that completion of

the applicable legal process does not guarantee such authorization will be granted, the issuance of this water right permit notwithstanding.

(0000022)

31. This permit shall not be construed as conferring upon Permittee the right of access to Seven Oaks Dam, the points of diversion, and lands necessary for related facilities, or the lands necessary for inundation for water storage. Permittee shall not commence construction and operation of water diversion facilities at Seven Oaks Dam without a written access agreement from the Santa Ana River Mainstem Project Local Sponsors.

(0000022)
32. Flow in the Santa Ana River is highly variable from year to year. Because the face value of this permit is based on a rare storm event, this permit shall not be construed as giving any assurance that such an event will occur. The actual amount of water available for appropriation may be much less.

(0000999)
33. Permittee is required to follow guidance from existing state and federally mandated projects regarding groundwater contaminant plumes within and outside the San Bernardino Basin Area. This includes coordination with appropriate oversight agencies and compliance with policies regarding the remediation of the groundwater contaminant plumes.

(0400800)
34. Permittee shall not use the Cactus Spreading and Flood Control Basins under this permit.

(0400800)
- 35a. In order to prevent degradation of the quality of water released to the Santa Ana River from storage at Seven Oaks Dam, the State Water Board may modify this permit to set conditions that apply water quality objectives to any release from storage.
- 35b. No water shall be released from storage of Seven Oaks Dam for purposes of redirection by Permittee until Permittee has consulted with the Chief Deputy Director for Water Quality or his or her delegee and the Chief Deputy Director has determined that the releases will be consistent with applicable water quality objectives. The releases shall be consistent with any conditions the Chief Deputy Director determines are necessary to ensure compliance with applicable water quality objectives.

(0400800)
36. In order to prevent degradation of water quality during and after construction of the project, prior to commencement of any construction undertaken after issuance of the permit, Permittee shall file a report pursuant to Water Code Section 13260 and shall comply with all waste discharge requirements imposed by the California Regional Water Quality Control Board, Santa Ana Region, or by the State Water Board.

(0400800)

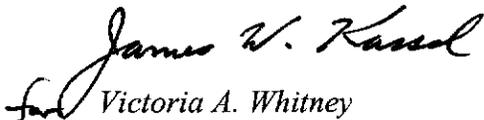
This permit is issued and Permittee takes it subject to the following provisions of the Water Code:

Section 1390. A permit shall be effective for such time as the water actually appropriated under it is used for a useful and beneficial purpose in conformity with this division (of the Water Code), but no longer.

Section 1391. Every permit shall include the enumeration of conditions therein which in substance shall include all of the provisions of this article and the statement that any appropriator of water to whom a permit is issued takes it subject to the conditions therein expressed.

Section 1392. Every Permittee, if he accepts a permit, does so under the conditions precedent that no value whatsoever in excess of the actual amount paid to the State therefore shall at any time be assigned to or claimed for any permit granted or issued under the provisions of this division (of the Water Code), or for any rights granted or acquired under the provisions of this division (of the Water Code), in respect to the regulation by any competent public authority of the services or the price of the services to be rendered by any Permittee or by the holder of any rights granted or acquired under the provisions of this division (of the Water Code) or in respect to any valuation for purposes of sale to or purchase, whether through condemnation proceedings or otherwise, by the State or any city, city and county, municipal water district, irrigation district, lighting district, or any political subdivision of the State, of the rights and property of any Permittee, or the possessor of any rights granted, issued, or acquired under the provisions of this division (of the Water Code).

STATE WATER RESOURCES CONTROL BOARD


Victoria A. Whitney
Deputy Director for Water Rights

Dated: **JUN 29 2010**

Attachments

Table 1: Mitigation Measures

<p>MM BIO-1</p>	<p>Muni/Western will minimize disturbance to native habitats and listed and non-listed sensitive species by the implementation of the following measures at construction sites prior to and during construction. Where ground disturbance is required, the Muni/Western program will include the following:</p> <ol style="list-style-type: none">(1) Clearly marking and delineating the limits of the staging areas as well as the construction corridors/zones in the field and graphically on all final construction drawings and blueprints. Personnel and equipment will be prohibited in native habitats outside the construction limits.(2) Biologically sensitive areas, including individuals or colonies of listed and non-listed sensitive plant species and wildlife species, will be identified and delineated in the field prior to ground disturbance (see MM BIO-3) and will be clearly marked graphically on all final construction plans or blueprints so they will be avoided to maximum extent feasible.(3) Use methods to minimize the construction corridor width to the maximum extent feasible in sensitive habitats, such as transporting and stockpiling excavated materials in disturbed area of the right-of-way (ROW), or into other parts of the ROW by truck or conveyor belt. <p>Employee Training Implementation of an employee training program. Muni/Western's program will include an initial meeting with all personnel presented by a qualified biologist familiar with all affected species, habitats, and permit conditions. The employee training program will include a discussion of each species, all applicable laws, the permit conditions, and the potential penalties for violating permit conditions. The employee training program will be conducted before construction activities begin. Regular updates will occur during weekly tailgate meetings with construction personnel, and newly hired personnel will be informed of the permit conditions as well as the habitat and species issues before working on the Project site.</p> <p>On-Site Monitoring Biological monitoring of habitat clearing activities and removal of sedentary animals, both common and sensitive, within the ROW prior to clearing. This will require a qualified biologist to be at the location of habitat removal before clearing to attempt to remove animals where visible and, during removal activities, to ensure that no inadvertent impacts to adjacent habitats occur. Weekly inspections of the ROW perimeter near work areas will also reduce the potential for inadvertent impacts to adjacent habitat.</p> <p>Best Management Practices (BMPs) Dust control. All areas of mechanical ground disturbance, including dirt access roadways, will be consistently moistened to reduce the creation of dust clouds. The frequency of watering will be consistent with the desired goal and in accordance with regional standards and BMPs. Erosion control. Devices such as straw bales and "v" ditches will be installed in areas where construction activities may directly or indirectly cause erosion or sediment deposition on adjacent habitats. Routine removal of trash from construction areas. All refuse, including non-construction materials such as paper and miscellaneous food packaging materials, will be removed from the ROW to prevent littering of the adjacent habitat areas outside of the ROW. At a minimum, site clean-ups should occur weekly.</p> <p>Listed Species Protection Measures In areas where the San Bernardino Kangaroo Rat (SBKR) is present, either within or adjacent to the ROW, Muni/Western will install exclusionary fencing where appropriate to reduce the potential for SBKR entering the ROW.</p>
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<p>MM BIO-1 (Continued)</p>	<p>Specification for the fencing will be particular to the goal of the SBKR exclusion and will be approved by the United States Fish and Wildlife Service (USFWS). Muni/Western may not install fencing in certain areas such as boulder-strewn washes where fence construction may cause substantial habitat disturbance. Following the installation of fencing, the animals within the ROW will be trapped and released within adjacent suitable habitat outside the ROW. These methods will be approved by the USFWS. In areas where the SBKR is present, either within or adjacent to the ROW, Muni/Western will limit construction activities to daylight hours (approximately 7:00 A.M. to 6:00 P.M.) During night hours, no activities that would unnaturally increase the light or noise within adjacent occupied habitat will occur.</p> <p>In areas where the SBKR, coastal California gnatcatcher CAGN, least Bell's vireo, or southwestern willow flycatcher are present either within or adjacent to the ROW, Muni/Western will avoid or reduce construction activities in the vicinity of occupied habitat during the breeding season. Avoidance will take place from March 1 through June 30. In certain areas, avoidance of southwestern willow flycatcher will continue through July 31. Where complete avoidance is not possible, construction activities will be conducted in a manner that attempts to minimize disturbance during early morning hours and avoids the most sensitive breeding months of April and May.</p> <p>In areas where preconstruction sensitive species surveys and other seasonally limited activities such as seed collection and plant propagation are needed, Muni/Western will prepare a calendar of when such activities need to be accomplished and incorporate this into design and construction schedules to ensure that the surveys can be conducted in the appropriate season without causing delays. (Draft EIR page 3.3-37 through 3.3-39; Final EIR Section 2.4.)</p>
<p>MM BIO-2</p>	<p>Muni/Western will develop a Habitat Revegetation, Restoration, and Monitoring Program (Program), obtaining input from CDFG, and USFWS, for implementation in all habitat areas directly affected by construction activities. The Program will include the following measures:</p> <p>Invasive Species Control</p> <p>Where appropriate and feasible, the area to be treated will be treated to kill invasive exotics species and limit their seed production before initiating any earthmoving activity with the objectives of: (1) preventing invasive species from spreading from the disturbance area, and (2) removing weed sources from the salvaged topsoil. Herbicides will be used only by a licensed herbicide applicator and may require notification to property owners or resource agencies. The treatment will be completed before earthmoving in order for this mitigation to have its intended effect (e.g., the treatment would need to occur before target species set seed).</p> <p>Topsoil Salvage and Replacement</p> <p>In areas where vegetation and soil are to be removed, the topsoil will be salvaged and replaced, where practicable. This may be accomplished using two lifts, the first to salvage the seed bank, and the second to salvage soil along with soil biota in the root zone. Soil will be stockpiled in two areas near the Project site, with the seed bank labeled to identify it. Topsoil will be replaced in the proper layers after final reconfiguration of disturbed areas. Where presence of extensive deposits of boulders and cobbles limit the opportunity to salvage topsoil and make the above-mentioned procedure infeasible, Muni/Western will salvage available surface material and stockpile it for replacement on the surface of the restored area. Stockpiles will be covered if the soil is to be left for an extended period to prevent losses due to erosion and invasion of weeds.</p> <p>Habitat Rehabilitation and Revegetation</p> <p>Muni/Western will develop and implement plans and specifications for replanting areas disturbed by the Project. Replanting will be with native species propagated from locally collected seed or cuttings, and, if applicable, will include seed or sensitive species that would be impacted during construction activities.</p> <p>Monitoring procedures and performance criteria will be developed by Muni/Western to</p>

MM BIO-2 (Continued)	address revegetation and erosion control. The performance criteria will consider the level of disturbance and the condition of adjacent habitats. Monitoring will continue for three-to-five years, or until performance criteria have been met. Appropriate remedial measures, such as replanting, erosion control or weed control, will be identified and implemented if it is determined that performance criteria are not being met. (Draft EIR page 3.3-39 through 3.3-40; Final EIR Section 2.4.)
MM BIO-6	Prior to ground disturbance or other activities, qualified botanists will survey all proposed construction, staging, stockpile, and access areas for presence of non-listed sensitive plant species. Preconstruction surveys will occur during appropriate season and in accordance with established protocols (if required). These surveys will be conducted in all construction areas that occur in native habitats. In the event that non-listed sensitive plant species are observed in the impact area during pre-Project surveys, Muni/Western will implement the following measures: (a) Colonies will be clearly marked, mapped, and recorded along with the numbers of individuals in each colony and their respective condition. To the extent feasible, construction areas and access roads will be configured to avoid or minimize loss of individual plants and damage to occupied habitats. (b) Where impacts to non-listed sensitive plant species are unavoidable, Muni/Western will develop and implement a salvage, propagation, replanting, and monitoring program that will use both seed and salvaged plants constituting an ample and representative sample of each colony. (Draft EIR page 3.3-42.)
MM BIO-7	To reduce impacts on biological resources, Muni/Western will realign pipelines to avoid sensitive resources and habitat to the maximum extent feasible. Specifically, Muni/Western will realign Phase II of the Plunge Pool Pipeline northward and place it adjacent to Greenspot Road. (See Draft EIR Figure 3.3-7). This will put the project-related disturbance at the edge of the habitat and avoid bisecting the intermediate to mature RAFSS habitat along the western portion of the alignment. If it is infeasible to implement MM BIO-7, then the residual impact could be compensated by implementation of MM BIO-8, which is intended to compensate for permanent or long-term losses of sensitive RAFSS habitat as a result of installation of permanent facilities or long-term construction impacts that cannot be fully mitigated by MM BIO-1, MM BIO-2, and MM BIO-7. (Draft EIR page 3.3-44.)
MM BIO-8	To compensate for permanent long-term and temporal losses of RAFSS habitat value, Muni/Western will acquire, for every 1 acre impacted, a minimum of 1 acre of good quality habitat of similar or greater habitat value than the RAFSS area impacted by the Plunge Pool pipeline, and dedicate it in perpetuity as a habitat conservation easement area, or other appropriate designation, and provide funding for its future management as native habitat in perpetuity. The acquired RAFSS habitat area would ideally be contiguous with existing habitat already set aside in the WSPA or other dedicated RAFSS habitat. If good quality habitat in such a locality is not available for purchase, availability of other RAFSS habitat will be investigated, with the objective of obtaining good quality habitat near the Project area. Implementation of this mitigation measure will be subject to the requirement that such long-term mitigation and reporting plans for such acquisitions are to be approved by the Deputy Director for Water Rights of the State Water Resources Control Board prior to construction of the Plunge Pool Pipeline. (Draft EIR page 3.3-44; Final EIR Section 2.4.)
MM BIO-9	Muni/Western will monitor and remove invasive non-native species establishing in the channel and adjacent RAFSS habitats between Seven Oaks Dam and Mill Creek. Target species include species of tamarisk or salt cedar (<i>Tamarix</i> spp.), fountain grass (<i>Pennisetum setaceum</i>), and giant reed (<i>Arundo donax</i>). These species establish in habitats suitable to SBKR and Santa Ana River woolly-star and have the potential to

MM BIO-9 (Continued)	spread further into adjacent suitable habitat areas. Initial control will be established using a combination of physical removal and herbicidal treatment using appropriate environmental safeguards. Herbicides will be used pursuant to manufacturer's instructions, and standard measures will be taken to avoid impacts to water quality. Two to several follow-up treatments would be anticipated during the first year with follow-up monitoring and treatments at least once annually in the ensuing years. (Draft EIR page 3.3-61; Final EIR Section 2.4.)
MM BIO-10	Muni/Western will develop a program, in coordination with MSHCP agency participants, to selectively restore SBKR and Santa Ana River woolly-star habitat by using habitat manipulation, either by mechanical means or high pressure water, to remove vegetation and leave freshly deposited sand and silt, simulating the habitat-renewing aftermath of natural flooding. This will be done using an adaptive management approach with input from Multispecies Habitat Conservation Plan (MSHCP) stakeholders. If the high-pressure water method is used, water will be piped. A high-pressure nozzle will be directed at localized areas of habitat determined to be suitable for SBKR and Santa Ana River woolly-star after renewal. The nozzle will be hand-operated or operated from a light vehicle. Treatments will be accomplished in a randomized block design to allow experimental testing of variables such as duration and intensity of spray, addition of clean sand, season of disturbance, application of seed vs. allowing natural dispersal, etc. A rigorous monitoring program funded by Muni/Western will be established to enable the differences among experimental treatments to be determined. The primary indicator of success will be related to development of habitat characteristics identified with pioneer to intermediate RAFSS habitat within the SBKR and Santa Ana River woolly-star populations that have been documented. These characteristics are documented in the literature and will be specified as part of the Muni/Western Program. The program will be adjusted appropriately as results from earlier efforts become available. The design and implementation of the ongoing effort will be funded by Muni/Western and conducted by representatives of Muni/Western with input from the USFWS and CDFG. A complete description of this method is also included in Appendix E7 of the Draft EIR, Section 2.0. Muni/Western commit to achieving a mitigation performance of restoring 10 acres of intermediate- to late-stage RAFSS habitat to the early or intermediate stage RAFSS habitat during the first 20 years of Project implementation (Draft EIR pages 3.3-61 and 3.3-62; Final EIR Section 2.4.)
MM CR-1	In the event of an unanticipated archaeological or paleontological resource discovery during construction, all ground disturbances within 150 feet of the discovery will be halted or redirected to other areas until the discovery has been documented by a qualified archaeologist or paleontologist, and its potential significance evaluated consistent with CEQA. Resources considered significant will be avoided by Project design. If avoidance is not feasible, the resource will be subject to a data recovery mitigation program, as appropriate. If human remains are discovered the County Coroner will be contacted, and all procedures required by the California Health and Safety Code Section 7050.5, State CEQA Guidelines Section 15064.5(e) and PRC Section 5097.98 will be followed. (Draft EIR page 3.9-19.)
MM-CR-2	Proposed construction of the Plunge Pool Pipeline will avoid physical impacts to the Francis Cuttle Weir Dam to the extent feasible. In the event that any portion of the Francis Cuttle Weir Dam would be modified or demolished, a qualified architectural historian will prepare a historic recordation of the Francis Cuttle Weir Dam, in the context of the Conservation District's groundwater spreading system. The recordation will conform to the standards of either the Historic American Buildings Survey (HABS) or the Historic American Engineering Record (HAER). (Draft EIR page 3.9-20.)

MM CR-3	Prior to construction activities along the segment of the Plunge Pool Pipeline, Phase I, align north of Greenspot Road, the location of the North Fork Canal will be precisely mapped on engineering design plans to identify where the canal falls within the construction corridor. Temporary fencing will be placed 5 feet south of the canal along the portion of the canal that falls within the construction corridor to provide a small buffer area, and no heavy construction equipment or vehicles will be allowed north of the fencing. (Draft EIR page 3.9-21.)
MM CR-4	If it is necessary to install the Morton Canyon Connector II Pipeline through the "Hole in the Wall" within the retaining wall of Greenspot Bridge, construction activities will be confined to previously disturbed sections only and the wall will be restored to pre-Project conditions. Prior to construction, a qualified architectural historian will review the final construction designs of the Morton Canyon Connector II Pipeline to verify avoidance of significant impacts to any Greenspot Bridge feature. (Draft EIR page 3.9-24.)
MM HAZ-1	Muni/Western will direct the contractor to wash out concrete trucks in a designated area where the material cannot run off into a stream or percolate into the groundwater. This area will be specified on all applicable construction plans and be in place before any concrete is poured. Muni/Western will direct the contractor to construction vehicles in a manner that contains fluids, such as lubricants, within an impervious area to avoid spill-related water quality impacts. (Draft EIR page 3.12-12.)
MM HAZ-2	Muni/Western will direct the contractor to inspect and, as necessary, service all equipment before it enters the construction site and regularly thereafter, and before working immediately adjacent to the Santa Ana River or any other drainage or creek to avoid equipment leak-related water quality impacts. Muni/Western will direct the contractor to repair any leaks or hoses/fittings in poor condition before the equipment begins work. (Draft EIR page 3.12-12.)
MM HAZ-3	Muni/Western will direct the contractor to prepare a spill prevention and contamination plan prior to equipment use on the site. Muni/Western will direct the contractor to follow the spill prevention plan during Project construction to prevent spill-related water quality impacts. This plan will include, but not necessarily be limited to: <ul style="list-style-type: none"> a. Specific bermed equipment maintenance and refueling areas. b. Bermed and lined hazardous material storage areas on site that are covered during the rainy season. c. Hazardous material spill cleanup equipment on site (e.g., absorbent pads, shovels, and bags to contain contaminated soil). d. Workers trained in the location and use of cleanup equipment. (Draft EIR page 3.12-12.)
MM HAZ-4	Using available data, in conjunction with the integrated surface and groundwater models, Muni/Western will identify groundwater trends, including plume movement and isolate changes attributable to implementation of the Project. To the extent feasible given existing infrastructure, and consistent with meeting other basin management objectives, Muni/Western will direct Project water spreading to limit adverse plume movements. (Draft EIR page 3.12-14.)
MM-HAZ-5	Muni/Western will make an alternative water supply available to parties affected by contaminated wells, or provide treatment for affected wells, at Muni/Western's discretion. The alternative supply or treatment for affected wells will be made available for all times when pertinent water quality standards are exceeded as a result of the Project. (Final EIR section 2.3.2.)
MM GEO-1	Before beginning construction, a sedimentation and erosion control plan will be prepared by Muni/Western and submitted to the Santa Ana Regional Water Quality Control Board

MM GEO-1 (Continued)	(SARWQCB) for approval. In addition, a Storm Water Pollution Prevention Plan (SWPPP) will be prepared by Muni/Western and submitted to the SARWQCB for approval prior to construction. Where possible, erosion control measures will be implemented by Muni/Western before beginning work in the rainy season. To minimize short-term impacts associated with erosion and off-site siltation of the SAR, standard erosion and sediment control features will be used during and immediately after grading and excavations.
MM GEO-2	Muni/Western will direct the contractor to install, prior to de-watering activities, energy dissipation devices at discharge points to prevent erosion. Sedimentation basins (such as straw bales lined with filter fabric) will be used at dewatering discharge points to prevent excess downstream sedimentation. These basins will be constructed during dewatering and regularly maintained during construction, including after storm events, to keep them in good working order.
MM GEO-3	Muni/Western will implement recommendations established in a site-specific geotechnical report, prepared by a qualified engineer or engineering geologist. The report recommendations will be based on comprehensive evaluation of slope stability, seismic, and soil conditions that may affect construction of the pipelines and related facilities. Recommendations will be consistent with provisions of California Code of Regulations, Title 8, Construction and Safety Orders. Project grading and excavations will be observed by a geotechnical engineer, engineering geologist, or other qualified representative, to verify compliance with recommendations of the geotechnical report. The geotechnical investigation will be completed in accordance with: (1) CDMG Special Publication 117, <i>Guidelines for Evaluating and Mitigating Seismic Hazards in California</i> (CDMG 1997). (2) Southern California Earthquake Center, Recommended Procedures for Implementation of DMG Special Publication 117 Guidelines for Analyzing and Mitigating Liquefaction in California (SCEC1999).
MM GEO-4	Muni/Western will implement seismic-related recommendations contained in a site-specific geotechnical report, as discussed in MM GEO-3, to minimize seismically induced damage to the pipeline.
MM GEO-5	A water flow shut-off mechanism will be installed by Muni/Western at the Plunge Pool Pipeline Intake Structure to terminate flow immediately following a large earthquake in the vicinity of the site.
MM GEO-6	Muni/Western will complete emergency repairs to the pipeline and/or related facilities, in the event of seismically induced damage. MM GEO-1 and MMGEO-2 will be applied to reduce erosion related impacts associated with soil disturbance during emergency repairs.
MM GEO-7	Muni/Western will implement a groundwater level monitoring program using data from Index Wells (see Figure 3.4-5). This information will be used in conjunction with forecasts of groundwater levels derived from Muni/Western integrated surface and groundwater models to identify trends in groundwater levels and identify changes attributable to the Project. To the extent feasible given existing infrastructure, and consistent with meeting other basin management objectives, Muni/Western will direct Project water spreading to limit high groundwater conditions in the vicinity of Devil Canyon, Lytle Creek, Mill Creek, and areas in the forebay and intermediate area of the SBBA.

MM GEO-8	Muni/Western will implement a groundwater level monitoring program using data from Index Wells. This information will be used in conjunction with forecasts of groundwater levels derived from Muni/Western integrated surface and groundwater models to identify trends in groundwater levels and isolate changes attributable to the Project. To the extent feasible given existing infrastructure, and consistent with meeting other basin management objectives, Muni/Western will direct Project water spreading to limit potential for subsidence in the Pressure Zone area of the SBBA.
MM GW-1	Using available reliable data, Muni/Western will, on an annual basis, evaluate impacts of the Project on TDS and nitrate concentrations in the SBBA. To the extent feasible given existing infrastructure, and consistent with meeting other basin management objectives, Muni/Western will direct Project water spreading to reduce significant TDS and nitrate impacts.
MM SW-2	An energy dissipation structure, a device to slow fast moving flows so as to prevent erosion, will be placed at the terminus of the pipeline delivering water to Lytle Basins channel to ensure that water from the Project does not scour or erode the channel.
MM PS-12	<p>Per the requirements of the Seven Oaks Accord, to avoid a significant effect on groundwater levels at one or more index wells located outside the Pressure Zone, Muni/Western will spread sufficient water to maintain static groundwater levels at the affected index wells.</p> <p>To implement this mitigation measure, Muni/Western will use a groundwater monitoring program based on information derived from the index wells. This information will be used in conjunction with forecasts of groundwater levels derived from Muni/Western integrated surface and groundwater models to identify trends in groundwater levels and isolate the share of change attributable to the Project. Remedial action will be implemented prior to an actual 10-foot reduction being reached, to avoid the significant impact.</p>

Table 2: Cumulative Mitigation Measures

MM Cumulative BIO-1	<p>The San Bernardino General Plan continues a number of policies in the Natural Resources Element designed to require review of biological impacts for each development project in coordination with the development and enforcement of Habitat Conservation Plans, and development of monitoring programs.</p> <p>The Riverside County General Plan Draft Program EIR identifies policies from the Multipurpose Open Space Element of the County of Riverside General Plan as well as additional measures to reduce impacts to biological resources associated with growth. Policies are designed to require review of biological impacts for each development project, avoidance of habitat fragmentation, and use of constructed wetlands to treat water before it enters the natural stream system.</p> <p>Residual impacts: despite General Plan policies, significant unavoidable cumulative biological impacts would still occur in San Bernardino and Riverside Counties.</p>
MM Cumulative CR-1	<p>Individual review of each of the related projects under CEQA would likely result in the identification of any significant cultural resource impacts and provide mitigation to reduce or avoid impacts.</p> <p>It is not certain that all significant cumulative impacts could be successfully mitigated, given the potentially large amount of ground disturbance involved with the Project and related projects.</p> <p>Residual impacts: potential cumulative impacts on cultural resources would remain significant.</p>
MM Cumulative CR-2	<p>The Natural Resources Element of the San Bernardino County General Plan contains a number of policies to mitigate impacts to cultural resources. Generally, these policies require cultural resource field surveys with all project submittals; the preparation of cultural resource overlays for all existing Planning Areas not covered by an overlay map; preliminary cultural resource reviews by the Archaeological Information Center; the cataloging of artifacts discovered as a result of a cultural resource investigation; and notification of the Native American Heritage Commission if projects require the excavation of Native American archaeological sites.</p> <p>The Multipurpose Open Space Element of the Riverside County General Plan also contains relevant policies that would mitigate impacts to cultural resources. The Riverside County General Plan Draft Program EIR identifies additional mitigation measures including compliance with State Health and Safety Code Section 7050.5 that requires disturbance of an area to cease where human remains have been encountered until the Riverside County Coroner has made a determination of the origin and disposition; avoidance of</p>

	<p>cultural resources where possible, where avoidance of cultural resources is not possible, the planting of deterrent plant species such as prickly pear cactus shall be completed to minimize public availability to the site; and additional measures if avoidance and/or preservation of cultural resources is not possible, such as having a participant-observer present from the appropriate Indian Band or Tribe during archaeological testing or excavation of a project site.</p> <p>Residual impacts: significant cumulative impacts to cultural resources could still occur given the potentially large amount of ground disturbance related to growth and development.</p>
MM Cumulative HAZ-1	<p>The San Bernardino County General Plan includes policies to reduce impacts related to hazardous materials. Specifically, the Hazardous Waste/Materials section of the Man-made Hazards Element includes policies HW-1 through HW-26. In general, these measures establish an effective and expeditious permitting process for siting hazardous waste facilities that includes extensive public participation; ensures the protection of public health and safety when siting needed hazardous waste facilities; develops uniform set of criteria for the siting of hazardous waste facilities in the County, including a requirement that facilitates the siting only in areas with a zoning overlay of Specified Hazardous Waste Facility; and ensures coordination among agencies and County departments in the review of all hazardous waste applications within the County.</p>
MM Cumulative SW-1	<p>The San Bernardino General Plan contains a number of policies in the Water section of the Natural Resources Element designed to coordinate and manage water resources throughout the County. However, with regard to water resources in San Bernardino County, significant unavoidable impacts would still occur.</p> <p>The Riverside County General Plan addresses localized flooding risks in the Safety Element of the proposed Riverside County General Plan. Additionally, the proposed Riverside County General Plan Draft Program EIR contains measures to further mitigate flooding impacts including use of FEMA documents to minimize flood hazards, prohibition by the County of the alteration of floodways and channelization where possible, and the requirement that the 10-year flood flows be contained within the tops of curbs and the 100-year flood flows within the street rights-of-way. These policies would mitigate impacts related to surface water in Riverside County.</p> <p>Residual impacts: significant cumulative impacts to surface water resources related to water demand and generation of urban contaminants could still occur in San Bernardino County.</p>

MM Cumulative GW-1	<p>The San Bernardino County General Plan contains a number of policies in the Water section of the Natural Resources Element designed to coordinate and manage water resources throughout the County.</p> <p>The Riverside County General Plan contains a number of policies in the multipurpose Open Space Element and Land Use Element designed to avoid overdraft and groundwater contamination.</p> <p>Residual impacts: significant unavoidable cumulative groundwater impacts would still occur in San Bernardino County.</p>
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