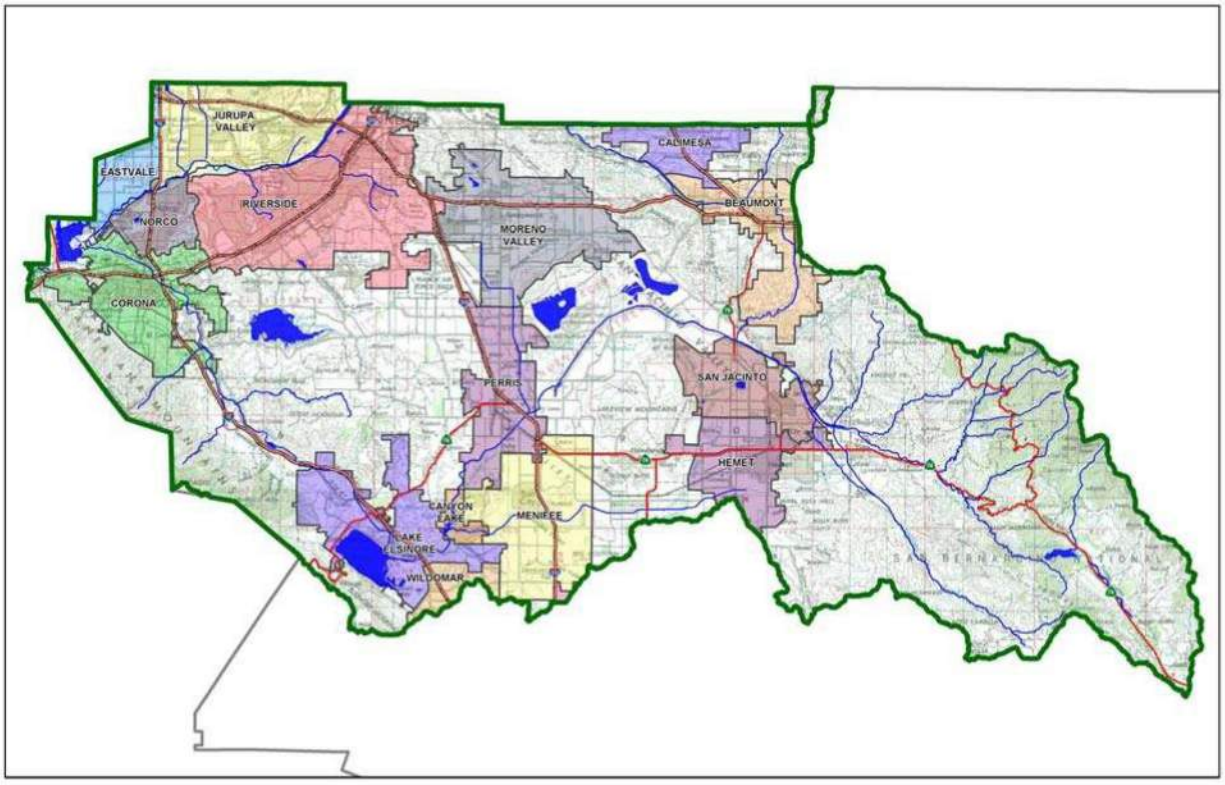
Project Specific Water Quality Management Plan

*A Template for Projects located within the **Santa Ana Watershed** Region of Riverside County*

Project Title: Independence at Canyon Springs – 2764 Gateway Drive

Public Works No: GP-2025-1678

Design Review/Case No: DP-2024-00421



☒ **Preliminary**
☐ **Final**

Original Date Prepared: August 7, 2025

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Prepared for Compliance with
Regional Board Order No. **R8-2010-0033**

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OWNER'S CERTIFICATION

This Project-Specific Water Quality Management Plan (WQMP) has been prepared for LS BTR Development, LLC by KHR Associates for the Independence @ Canyon Springs project.

This WQMP is intended to comply with the requirements of the City of Riverside for A 156 unit multi-family development, Planning Case No. DP-2024-00421 which includes the requirement for the preparation and implementation of a Project-Specific WQMP.

The undersigned, while owning the property/project described in the preceding paragraph, shall be responsible for the implementation and funding of this WQMP and will ensure that this WQMP is amended as appropriate to reflect up-to-date conditions on the site. In addition, the property owner accepts responsibility for interim operation and maintenance of Stormwater BMPs until such time as this responsibility is formally transferred to a subsequent owner. This WQMP will be reviewed with the facility operator, facility supervisors, employees, tenants, maintenance and service contractors, or any other party (or parties) having responsibility for implementing portions of this WQMP. At least one copy of this WQMP will be maintained at the project site or project office in perpetuity. The undersigned is authorized to certify and to approve implementation of this WQMP. The undersigned is aware that implementation of this WQMP is enforceable under the City of Riverside Water Quality Ordinance (Municipal Code Section 14.12.315).

"I, the undersigned, certify under penalty of law that the provisions of this WQMP have been reviewed and accepted and that the WQMP will be transferred to future successors in interest."

Owner's Signature	Date
Spencer Bogner / LS BTR Development, LLC	Senior Vice President, Multi-Family Development
Owner's Printed Name	Owner's Title/Position

PREPARER'S CERTIFICATION

"The selection, sizing and design of stormwater treatment and other stormwater quality and quantity control measures in this plan meet the requirements of Regional Water Quality Control Board Order No. **R8-2010-0033** and any subsequent amendments thereto."

James H. Kawamura	January 19, 2026
Preparer's Signature	Date
James H. Kawamura	President
Preparer's Printed Name	Preparer's Title/Position

Preparer's Licensure: Registered Civil Engineer No. C30560
Exp. 3/31/26



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Section A: Project and Site Information

The proposed development involves new construction consisting of 78 two-story duplexes and 5 single-story "common" buildings, with a total of 156 apartment units, and surface parking on a 9.13 acres (397,648 sf.) property. New construction consists of approximately 78 apartment buildings with garages totaling 141,782 square feet, 1,480 square feet of leasing office, 2,216 square feet of fitness building, 600 square feet of maintenance building, 278 square feet of mail building, 448 square feet of covered trash enclosure, 1,686 square feet of pool and spa area, 830 square feet of dog park, 48,076 square feet of landscaping, 116,376 square feet of exposed vehicular and surface parking area, and 83,876 square feet of hardscape including walks and walls. Open space for residential use consists of a pool area, dog park, and landscaping. Modular Wetlands Systems (MWS) will be used for the stormwater treatment. A detention tank will be used for the proposed conditions stormwater to be released at a rate matching the existing conditions flow rate into the storm drain system. A trash screen to meet SWRCB trash amendment requirements will be installed at the onsite junction structure located just upstream of the discharge point into the MS4.

PROJECT INFORMATION	
Type of Project:	Multi-Family
Planning Area:	Ward 2
Community Name:	Canyon Springs Business Park
Development Name:	Independence at Canyon Springs
PROJECT LOCATION	
Latitude & Longitude (DMS): 33D 56M 10S N, 117D 16M 59S W	
Project Watershed and Sub-Watershed: Santa Ana; Santa Ana River, Reach 3	
APN(s): 291-440-003, 291-440-005, 291-440-006, AND 291-440-007	
Map Book and Page No.: PM Book 128, Page 91-103	
PROJECT CHARACTERISTICS	
Proposed or Potential Land Use(s)	Multi-Family
Proposed or Potential SIC Code(s)	6513
Area of Impervious Project Footprint (SF)	349,572 sf.
Total Area of proposed Impervious Surfaces within the Project Limits (SF)/or Replacement	345,066 sf.
Does the project consist of offsite road improvements?	☐ Y ☒ N
Does the project propose to construct unpaved roads?	☐ Y ☒ N
Is the project part of a larger common plan of development (phased project)?	☐ Y ☒ N
EXISTING SITE CHARACTERISTICS	
Total area of existing Impervious Surfaces within the project limits (SF)	4,789 sf.
Is the project located within any MSHCP Criteria Cell?	☐ Y ☒ N
If so, identify the Cell number:	N/A
Are there any natural hydrologic features on the project site?	☐ Y ☒ N
Is a Geotechnical Report attached?	☒ Y ☐ N
If no Geotech Report, list the NRCS soils type(s) present on the site (A, B, C and/or D)	N/A
What is the Water Quality Design Storm Depth for the project?	0.63 in.

A.1 Maps and Site Plans

Appendix 1 includes a map of the local vicinity and existing site. In addition, WQMP Site Plan, located in Appendix 1, includes the following:

- Drainage Management Areas
- Proposed Structural BMPs
- Drainage Path
- Drainage Infrastructure, Inlets, Overflows
- Source Control BMPs
- Buildings, Downspouts
- Impervious Surfaces
- Standard Labeling

A.2 Receiving Waters

In order of upstream to downstream, the receiving waters that the project site is tributary to are as follows. A map of the receiving waters is included in Appendix 1.

Table A.1 Identification of Receiving Waters

Receiving Waters	Hydrologic Unit	EPA Approved 303(d) List Impairments	Designated Beneficial Uses	Proximity to RARE Beneficial Use
Tequesquite Arroyo (Sycamore Creek)	801.27	Not Listed	GWR, RARE, REC1, REC2, SPWN, WARM, WILD	Approximately 1.7 miles
Santa Ana River, Reach 3	801.21	Copper, Lead, Toxicity, Pyrethroids, Bifenthrin, Indicator Bacteria	AGR, GWR, RARE, REC1, REC2, SPWN, WARM, WILD	Approximately 10.7 miles

A.3 Additional Permits/Approvals required for the Project:

Table A.2 Other Applicable Permits

Agency	Permit Required	
State Department of Fish and Game, 1602 Streambed Alteration Agreement	☐ Y	☒ N
State Water Resources Control Board, Clean Water Act (CWA) Section 401 Water Quality Cert.	☐ Y	☒ N
US Army Corps of Engineers, CWA Section 404 Permit	☐ Y	☒ N
US Fish and Wildlife, Endangered Species Act Section 7 Biological Opinion	☐ Y	☒ N
Statewide Construction General Permit Coverage	☒ Y	☐ N
Statewide Industrial General Permit Coverage	☐ Y	☒ N
Western Riverside MSHCP Consistency Approval (e.g., JPR, DBESP)	☐ Y	☒ N
Other *(please list in the space below as required)*		
City of Riverside Conditional Use Permit	☐ Y	☒ N
City of Riverside Design Review	☒ Y	☐ N
City of Riverside Building Permit	☒ Y	☐ N
City of Riverside Grading Permit	☒ Y	☐ N
City of Riverside Construction Permit	☒ Y	☐ N

Section B: Optimize Site Utilization (LID Principles)

Site Optimization

Does the project identify and preserve existing drainage patterns? If so, how? If not, why?

The site will match as close to possible existing drainage paths and minimize usage of inlets. For the most part, drainage will occur over impervious surfaces.

Does the project identify and protect existing vegetation? If so, how? If not, why?

The site, although currently vacant, was previously graded and does not have any sensitive areas to protect and will not protect any existing vegetation.

Does the project identify and preserve natural infiltration capacity? If so, how? If not, why?

Infiltration is not recommended for the project site due to the low infiltration test rates. The following was taken from the Preliminary Geotechnical and Infiltration Feasibility Investigation dated August 21, 2024 by LOR Geotechnical Group, Inc. "The results of our field investigation and percolation test data indicates the site earth materials at the depth and location tested are not conducive to acceptable infiltration. Therefore, water quality storm water systems should not be incorporate on-site infiltration when determining storm water treatment capacity."

Infiltration test results are summarized in the following table:

Test No.	Depth* (ft)	Infiltration Rate** (in/hr)
P-1	10.0	0.4
P-2	10.0	0.3
P-3	10.0	0.2
P-4	10.0	0.1
* depth measured below existing ground surface ** Porchet Method determined clear water rate		

Does the project identify and minimize impervious area? If so, how? If not, why?

The nature of the development limits the potential to minimize impervious areas. Landscaping will be utilized around the buildings and parking lots as well as used within the parking lots to the maximum extent practical. Drive aisles, parking stalls and sidewalks will be designed to the minimum widths allowed.

Does the project identify and disperse runoff to adjacent pervious areas? If so, how? If not, why?

Impervious areas will be dispersed to pervious areas whenever feasible.

Section C: Delineate Drainage Management Areas (DMAs)

Table C.1 DMA Classifications

DMA Name or ID	Surface Type(s)	Area (Sq. Ft.)	DMA Type
1A, 1B, 1C, 1D	Mixed Surface Types	156,760	D
2A, 2B, 2C, 2D	Mixed Surface Types	110,758	D
3A, 3B, 3C, 3D	Mixed Surface Types	125,341	D

Note that there is a difference of 4,789 square feet between the total property area (397,648 square feet) and the total area of the 3 DMAs (392,859 square feet) due to an easement area for public sidewalk purposes (4,506 square feet) that includes a portion of the driveways (283 square feet) into the project site.

Table C.2 Type 'A', Self-Treating Areas

DMA Name or ID	Area (Sq. Ft.)	Stabilization Type	Irrigation Type (if any)
N/A			

Table C.3 Type 'B', Self-Retaining Areas

Self-Retaining Area				Type 'C' DMAs that are draining to the Self-Retaining Area		
DMA Name/ ID	Post-project surface type	Area (square feet)	Storm Depth (inches)	DMA Name / ID	[C] from Table C.4 =	Required Retention Depth (inches)
		[A]	[B]		[C]	[D]
N/A						

$$[D] = [B] + \frac{[B] \cdot [C]}{[A]}$$

Table C.4 Type 'C', Areas that Drain to Self-Retaining Areas

DMA					Receiving Self-Retaining DMA		
DMA Name/ ID	Area (square feet)	Post-project surface type	Runoff factor	Product		Area (square feet)	Ratio
	[A]		[B]	[C] = [A] x [B]	DMA name /ID	[D]	[C]/[D]
N/A							

Table C.5 Type 'D', Areas Draining to BMPs

DMA Name or ID	BMP Name or ID
1A	MWS-1, Modular Wetlands (MWS-L-8-24)
1B	MWS-1, Modular Wetlands (MWS-L-8-24)
1C	MWS-1, Modular Wetlands (MWS-L-8-24)
1D	MWS-1, Modular Wetlands (MWS-L-8-24)
2A	MWS-2, Modular Wetlands (MWS-L-8-16)
2B	MWS-2, Modular Wetlands (MWS-L-8-16)
2C	MWS-2, Modular Wetlands (MWS-L-8-16)
2D	MWS-2, Modular Wetlands (MWS-L-8-16)
3A	MWS-3, Modular Wetlands (MWS-L-8-20)
3B	MWS-3, Modular Wetlands (MWS-L-8-20)
3C	MWS-3, Modular Wetlands (MWS-L-8-20)
3D	MWS-3, Modular Wetlands (MWS-L-8-20)

Section D: Implement LID BMPs

D.1 Infiltration Applicability

Is there an approved downstream 'Highest and Best Use' for stormwater runoff (ref: Chapter 2.4.4 of the WQMP Guidance Document)? ☐ Y ☒ N

Geotechnical Report

A Geotechnical Report is required by the City of Riverside to confirm present and past site characteristics that may affect the use of Infiltration BMPs, see Appendix 3.

Is this project classified as a small project consistent with the requirements of Chapter 2 of the WQMP Guidance Document? ☐ Y ☒ N

Infiltration Feasibility

Table D.1 Infiltration Feasibility

Does the project site…	YES	NO
…have any DMAs with a seasonal high groundwater mark shallower than 10 feet?		X
If Yes, list affected DMAs:		
…have any DMAs located within 100 feet of a water supply well?		X
If Yes, list affected DMAs:		
…have any areas identified by the geotechnical report as posing a public safety risk where infiltration of stormwater could have a negative impact?		X
If Yes, list affected DMAs:		
…have measured in-situ infiltration rates of less than 1.6 inches / hour?	X	
If Yes, list affected DMAs: **The measured rates for the site were 0.4, 0.3, 0.2, and 0.1 inches per hour.**		
…have significant cut and/or fill conditions that would preclude in-situ testing of infiltration rates at the final infiltration surface?		X
If Yes, list affected DMAs:		
…geotechnical report identify other site-specific factors that would preclude effective and safe infiltration?	X	
Describe here: **Per LOR Geotechnical Group, Inc.'s soils investigation, "The results of our field investigation and percolation test data indicates the site earth materials at the depth and location tested are not conducive to acceptable infiltration. Therefore, water quality storm water systems should not be incorporate on-site infiltration when determining storm water treatment capacity."**		

D.2 Harvest and Use Assessment

The following conditions apply:

☐ Reclaimed water will be used for the non-potable water demands for the project.

☐ Downstream water rights may be impacted by Harvest and Use as approved by the Regional Board (verified with the City of Riverside).

☐ The Design Capture Volume will be addressed using Infiltration Only BMPs. (Harvest and Use BMPs are still encouraged, but are not required as the Design Capture Volume will be infiltrated or evapotranspired).

☒ None of the above.

Harvest and Use BMPs need to be assessed for the site.

Irrigation Use Feasibility

Complete the following steps to determine the feasibility of harvesting stormwater runoff for Irrigation Use BMPs on your site:

Step 1: Identify the total area of irrigated landscape on the site, and the type of landscaping used.

Total Area of Irrigated Landscape: 1.08 AC

Type of Landscaping (Conservation Design or Active Turf): Conservation Design

Step 2: Identify the planned total of all impervious areas on the proposed project from which runoff might be feasibly captured and stored for irrigation use. Depending on the configuration of buildings and other impervious areas on the site, you may consider the site as a whole, or parts of the site, to evaluate reasonable scenarios for capturing and storing runoff and directing the stored runoff to the potential use(s) identified in Step 1 above.

Total Area of Impervious Surfaces: 8.05 AC

Step 3: Cross reference the Design Storm depth for the project site (see Exhibit A of the WQMP Guidance Document) with the left column of Table 2-3 in Chapter 2 to determine the minimum area of Effective Irrigated Area per Tributary Impervious Area (EIATIA).

The project EIATIA factor: 1.05 (Conservation); 0.60 (Active Turf)

Step 4: Multiply the unit value obtained from Step 3 by the total of impervious areas from Step 2 to develop the minimum irrigated area that would be required.

Minimum required irrigated area: 8.45 AC

Step 5: Determine if harvesting stormwater runoff for irrigation use is feasible for the project by comparing the total area of irrigated landscape (Step 1) to the minimum required irrigated area (Step 4).

Minimum required irrigated area (Step 4)	Available Irrigated Landscape (Step 1)
8.45 AC	1.08 AC

D.3 Bioretention and Biotreatment Assessment

Other LID Bioretention and Biotreatment BMPs as described in Chapter 2.4.7 of the WQMP Guidance Document are feasible on nearly all development sites with sufficient advance planning.

For the project, the following applies:

☒ LID Bioretention/Biotreatment BMPs will be used for some or all DMAs of the project as noted below in Section D.4

☐ A site-specific analysis demonstrating the technical infeasibility of all LID BMPs has been performed and is included in Appendix 5.

☐ None of the above.

D.4 Feasibility Assessment Summaries

Table D.2 LID Prioritization Summary Matrix

DMA Name/ID	LID BMP Hierarchy				No LID (Alternative Compliance)
	1. Infiltration	2. Harvest and use	3. Bioretention	4. Biotreatment	
1-3	☐	☐	☐	☒	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐

LID BMPs are feasible for all project DMAs.

D.5 LID BMP Sizing

Table D.3 DCV Calculations for LID BMPs

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Enter BMP Name / Identifier Here* *Modular Wetlands #1*		
	[A]		[B]	[C]	[A] x [C]			
1	*156,760*	*Mixed*	*1*	*0.89*	*139,829.9*	*Rainfall Intensity (in/hr)* [E]	*Design Flow Rate, Q_{BMP} (cubic feet/sec)* [F]	*Proposed Flow on Plans (cubic feet/sec)* [G]
	156,760 (3.60)				139,829.9 (3.21)	0.2	0.642	0.693

[B], [C], [E] are obtained from Section 2.3.1 of the WQMP Guidance Document
[G] is obtained from LID BMP design procedure sheet, placed in Appendix 6

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Enter BMP Name / Identifier Here* *Modular Wetlands #2*		
	[A]		[B]	[C]	[A] x [C]			
2	*110,758*	*Mixed*	*1*	*0.89*	*98,796.1*	*Rainfall Intensity (in/hr)* [E]	*Design Flow, Q_{BMP} (cubic feet/sec)* [F]	*Proposed Flow on Plans (cubic feet/sec)* [G]
	110,758 (2.54)				98,796.1 (2.27)	0.2	0.454	0.462

[B], [C], [E] are obtained from Section 2.3.1 of the WQMP Guidance Document
[G] is obtained from LID BMP design procedure sheet, placed in Appendix 6

Table D.4 DCV Calculations for LID BMPs

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Enter BMP Name / Identifier Here* *Modular Wetlands #3*		
	[A]		[B]	[C]	[A] x [C]			
3	*125,341*	*Mixed*	*1*	*0.89*	*111,804.2*			
						Rainfall Intensity (in/hr) [E]	*Design Flow Rate, Q_{BMP} (cubic feet/sec)* [F]	*Proposed Flow on Plans (cubic feet/sec)* [G]
	125,341 (2.88)				111,804.2 (2.57)	0.2	0.514	0.577

[B], [C], [E] are obtained from Section 2.3.1 of the WQMP Guidance Document
[G] is obtained from LID BMP design procedure sheet, placed in Appendix 6

To effectively mitigate the potential project priority pollutants of concern, stormwater pollution mitigation will be by means of Modular Wetlands System. See Appendix 6 for the calculations. A trash screen to meet SWRCB trash amendment requirements will be installed at the onsite junction structure located just upstream of the discharge point into the MS4.

Section E: Alternative Compliance (LID Waiver Program)

LID BMPs are expected to be feasible on virtually all projects. Where LID BMPs have been demonstrated to be infeasible as documented in Section D, other Treatment Control BMPs must be used (subject to confirmation of LID waiver approval by the Regional Board). For the project, the following applies:

☒ LID Principles and LID BMPs have been incorporated into the site design to fully address all Drainage Management Areas. No alternative compliance measures are required for this project and thus this Section is not required to be completed.

- *Or* -

☐ The following Drainage Management Areas are unable to be addressed using LID BMPs. A site-specific analysis demonstrating technical infeasibility of LID BMPs has been approved by the Regional Board and included in Appendix 5. Additionally, no downstream regional and/or sub-regional LID BMPs exist or are available for use by the project. The alternative compliance measures on the following pages are being implemented to ensure that any pollutant loads expected to be discharged by not incorporating LID BMPs, are fully mitigated.

E.1 Pollutants of Concern

Table E.1 Potential Pollutants by Land Use Type

Priority Development Project Categories and/or Project Features (check those that apply)	General Pollutant Categories							
	Bacterial Indicators	Metals	Nutrients	Pesticides	Toxic Organic Compounds	Sediments	Trash & Debris	Oil & Grease
☐ Detached Residential Development	P	N	P	P	N	P	P	P
☒ Attached Residential Development	P	N	P	P	N	P	P	P(2)
☐ Commercial/Industrial Development	P(3)	P	P(1)	P(1)	P(5)	P(1)	P	P
☐ Automotive Repair Shops	N	P	N	N	P(4, 5)	N	P	P
☐ Restaurants (>5,000 ft²)	P	N	N	N	N	N	P	P
☐ Hillside Development (>5,000 ft²)	P	N	P	P	N	P	P	P
☒ Parking Lots (>5,000 ft²)	P(6)	P	P(1)	P(1)	P(4)	P(1)	P	P
☐ Retail Gasoline Outlets	N	P	N	N	P	N	P	P
Project Priority Pollutant(s) of Concern	☒	☒	☐	☐	☐	☐	☐	☐

P = Potential

N = Not Potential

(1) A potential Pollutant if non-native landscaping exists or is proposed onsite; otherwise not expected

(2) A potential Pollutant if the project includes uncovered parking areas; otherwise not expected

(3) A potential Pollutant is land use involving animal waste

(4) Specifically petroleum hydrocarbons

(5) Specifically solvents

(6) Bacterial indicators are routinely detected in pavement runoff

To effectively mitigate the potential project priority pollutants of concern, stormwater pollution mitigation will be by means of Modular Wetlands System. A trash screen to meet SWRCB trash amendment requirements will be installed at the onsite junction structure located just upstream of the discharge point into the MS4.

Section F: Hydromodification

F.1 Hydrologic Conditions of Concern (HCOC) Analysis

The project does create a Hydrologic Condition of Concern, not meeting the criteria for HCOC Exemption as shown below:

HCOC EXEMPTION 1: The Priority Development Project disturbs less than one acre. The Copermittee has the discretion to require a Project-Specific WQMP to address HCOCs on projects less than one acre on a case by case basis. The disturbed area calculation should include all disturbances associated with larger common plans of development.

Does the project qualify for this HCOC Exemption? ☐ Y ☒ N

HCOC EXEMPTION 2: The volume and time of concentration[1] of storm water runoff for the post-development condition is not significantly different from the pre-development condition for a 2-year return frequency storm (a difference of 5% or less is considered insignificant) using one of the following methods to calculate:

- Riverside County Hydrology Manual
- Technical Release 55 (TR-55): Urban Hydrology for Small Watersheds (NRCS 1986), or derivatives thereof, such as the Santa Barbara Urban Hydrograph Method
- Other methods acceptable to the Co-Permittee

Does the project qualify for this HCOC Exemption? ☐ Y ☒ N

Results included in Table F.1 below and hydrologic analysis included in Appendix 7.

Table F.1 Hydrologic Conditions of Concern Summary

	2 year – 24 hour		
	Pre-condition	**Post-condition**	**% Difference**
Time of Concentration (Minutes)			
Flow (CFS)			
Volume (Cubic Feet)			
Volume Infiltrated			

[1] Time of concentration is defined as the time after the beginning of the rainfall when all portions of the drainage basin are contributing to flow at the outlet.

HCOC EXEMPTION 3: All downstream conveyance channels to an adequate sump (Prado Dam, Santa Ana River) that will receive runoff from the project are engineered and regularly maintained to ensure design flow capacity; no sensitive stream habitat areas will be adversely affected; or are not identified on the Co-Permittees Hydromodification Sensitivity Maps.

Does the project qualify for this HCOC Exemption? ☐ Y ☒ N

F.2 HCOC Mitigation

As an alternative to the HCOC Exemption Criteria above, HCOC criteria is considered mitigated if the project meets one of the following conditions, as indicated:

☐ a. Additional LID BMPS are implemented onsite or offsite to mitigate potential erosion or habitat impacts as a result of HCOCs. This can be conducted by an evaluation of site-specific conditions utilizing accepted professional methodologies published by entities such as the California Stormwater Quality Association (CASQA), the Southern California Coastal Water Research Project (SCCRWP), or other Co-Permittee approved methodologies for site-specific HCOC analysis.

☐ b. The project is developed consistent with an approved Watershed Action Plan that addresses HCOC in Receiving Waters.

☒ c. Mimicking the pre-development hydrograph with the post-development hydrograph, for a 2-year return frequency storm. Generally, the hydrologic conditions of concern are not significant, if the post-development hydrograph is no more than 10% greater than pre-development hydrograph. In cases where excess volume cannot be infiltrated or captured and reused, discharge from the site must be limited to a flow rate no greater than 110% of the pre-development 2-year peak flow.

☐ d. None of the above.

Pre-detention for stormwater quality design volume is required to reduce the runoff volume discharging into the existing public storm drain system to match the pre-developed conditions. The proposed underground detention system is adequately sized to detain the post-development runoff volume and match the pre-development conditions by using a 6-ft Corrugated Metal Pipe (CMP) detention tank with two orifice sizes: 2.5"-inch orifice for low-flow and 12"-inch orifice pipe for high flow, prior to discharging off-site into the MS4. Please see basin characteristics in basin routing calculations in Appendix 7.

Section G: Source Control BMPs

The following table identifies the potential sources of runoff pollutants for this project and specifies how they are addressed through permanent controls and operational BMPs:

Table G.1 Permanent and Operational Source Control Measures

Potential Sources of Runoff pollutants	Permanent Structural Source Control BMPs	Operational Source Control BMPs
On-site storm drain inlets	Location of inlets shown on WQMP Exhibit. Mark all inlets with the words "Only Rain Down the Storm Drain" or similar.	Maintain and periodically repaint or replace inlet markings. Provide stormwater pollution prevention information to new site owners, lessees, or operators. See applicable operational BMPs in Fact Sheet SC-44, "Drainage Systems Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com. Include the following in lease agreements: "Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains."
Need for future indoor & structural pest control	Pests will be kept out of buildings using barriers, screens and caulking.	Provide Integrated Pest Management information to owners, lessees, and operators.
Landscape/Outdoor Pesticide Use	Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution. Consider using pest-resistant plants, especially adjacent to hardscape. To insure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.	Maintain landscaping using minimum or no pesticides. Provide IPM information to new owners, lessees and operators. See applicable operational BMPs in "What you should know for.....Landscape and Gardening" at http://rcflood.org/stormwater/.

Potential Sources of Runoff pollutants	Permanent Structural Source Control BMPs	Operational Source Control BMPs
Pools, spas, ponds, decorative fountains, and other water features	Plumb to sewer in accordance with local requirements. If draining to landscaped area, remove any chemicals and debris before slowly discharging to landscaping.	See applicable operational BMPs in "Guidelines for Maintaining Your Swimming Pool, Jacuzzi and Garden Fountain" at http://rcflood.org/stormwater/.
Refuse areas	Location of refuse areas shown on WQMP Exhibit. Signs will be posted on or near dumpster stating "Do not dump hazardous materials here" or similar. Any doors to trash area and bin lids will be kept closed. Bins will be emptied weekly.	Receptacles will be inspected weekly and repaired/replaced when leaking. Bin lids are to remain closed and refuse area will be maintained daily. See Fact Sheet SC-34, "Waste Handling and Disposal" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com.
Vehicle and Equipment Cleaning	Vehicle and equipment cleaning will not be allowed on-site.	Lease agreement shall state that vehicle and equipment cleaning is prohibited on-site. See Fact Sheet SC-21, "Vehicle and Equipment Cleaning," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com.
Vehicle / Equipment Repair and Maintenance	Vehicle and equipment repair and maintenance will not be allowed on-site.	Lease agreement shall state that vehicle and equipment repair and maintenance is prohibited on-site. No person shall dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazardous materials, or rinse water from parts cleaning into stormwater. No vehicle fluid removal shall be performed outside a building, nor on asphalt or ground surfaces, whether inside or outside a building. Leaking vehicle fluids shall be contained or drained from vehicle immediately.

Potential Sources of Runoff pollutants	Permanent Structural Source Control BMPs	Operational Source Control BMPs
		No person shall leave unattended drip parts or other open containers containing vehicle fluids, unless such containers are in use or in an area of secondary containment.
Miscellaneous Drain or Wash Water or Other Sources: Boiler drain lines; Condensate drain lines; Rooftop equipment; Roofing, gutters, and trim; Other sources	Boiler drain lines shall be directly or indirectly connected to the sanitary sewer system and may not discharge to the storm drain system. Condensate drain lines may discharge to landscaped areas if the flow is small enough that runoff will not occur. Condensate drain lines may not discharge to the storm drain system. Rooftop equipment with potential to produce pollutants shall be roofed and/or have secondary containment. Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff.	N/A
Plazas, sidewalks, and parking lots	N/A	Sweep plazas, sidewalks, and parking lots regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect washwater containing any cleaning agent or degreaser and discharge to the sanitary sewer not to a storm drain.

Section H: Construction Plan Checklist

Table H.1 Construction Plan Cross-reference

BMP No. or ID	BMP Identifier and Description	Corresponding Plan Sheet(s)	Latitude/ Longitude
1	Modular Wetlands System	Preliminary Storm Drain Plan	33.9354254, -117.2832198
2	Modular Wetlands System	Preliminary Storm Drain Plan	33.9349534, -117.2831506
3	Modular Wetlands System	Preliminary Storm Drain Plan	33.9350492, -117.2833671
TS	Trash Collector Screen	Preliminary Storm Drain Plan	33.9349424, -117.2833057

Section I: Operation, Maintenance and Funding

As required by the City of Riverside, the following Operation, Maintenance and Funding details are provided as summarized:

1. A means to finance and implement facility maintenance in perpetuity, including replacement cost.
2. Acceptance of responsibility for maintenance from the time the BMPs are constructed until responsibility for operation and maintenance is legally transferred.
3. An outline of general maintenance requirements for the Stormwater BMPs selected.
4. Figures delineating and designating pervious and impervious areas, location, and type of Stormwater BMP, and tables of pervious and impervious areas served by each facility.
5. A separate list and location of self-retaining areas or areas addressed by LID Principles that do not require specialized O&M or inspections but will require typical landscape maintenance as noted in Chapter 5, pages 85-86, in the WQMP Guidance.

See Appendix 9 for a detailed Stormwater BMP Operation and Maintenance Plan that sets forth a maintenance schedule for each of the Stormwater BMPs built on site, and an agreement assigning responsibility for maintenance and providing for inspections and certification.

Maintenance Mechanism: Covenant & Agreement, Funding for the on-going operation and maintenance of post-construction BMPs is the responsibility of LS BTR Development, LLC (the property owner).

Will the proposed BMPs be maintained by a Home Owners' Association (HOA) or Property Owners Association (POA)?

☐ Y ☒ N

Operation and Maintenance Plan and Maintenance Mechanism is included in Appendix 9. Educational materials for those personnel that will be maintaining the proposed BMPs within this Project-Specific WQMP are included in Appendix 10.

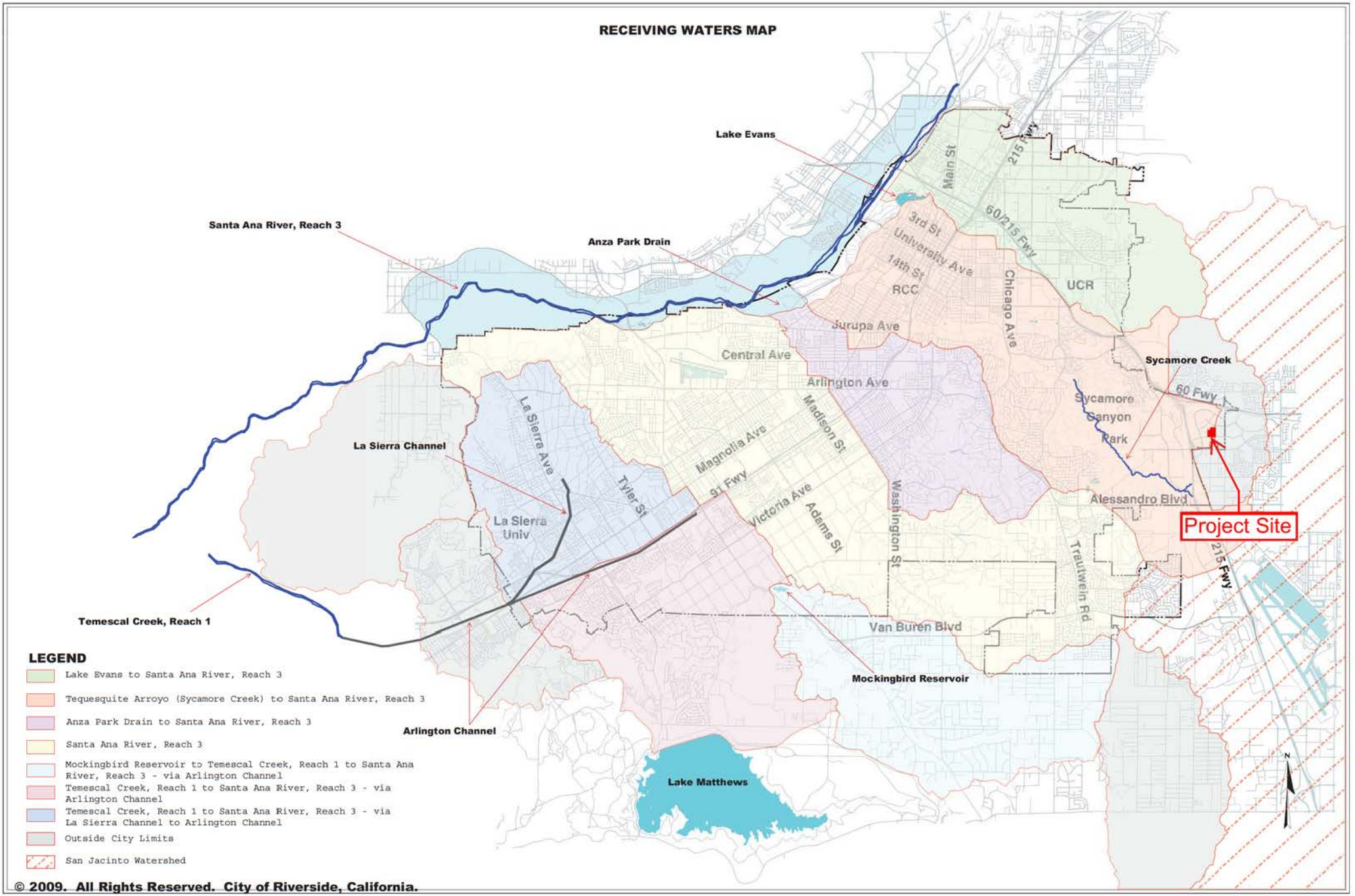
Appendix 1: Maps and Site Plans

Location Map, WQMP Site Plan and Receiving Waters Map

Location Map



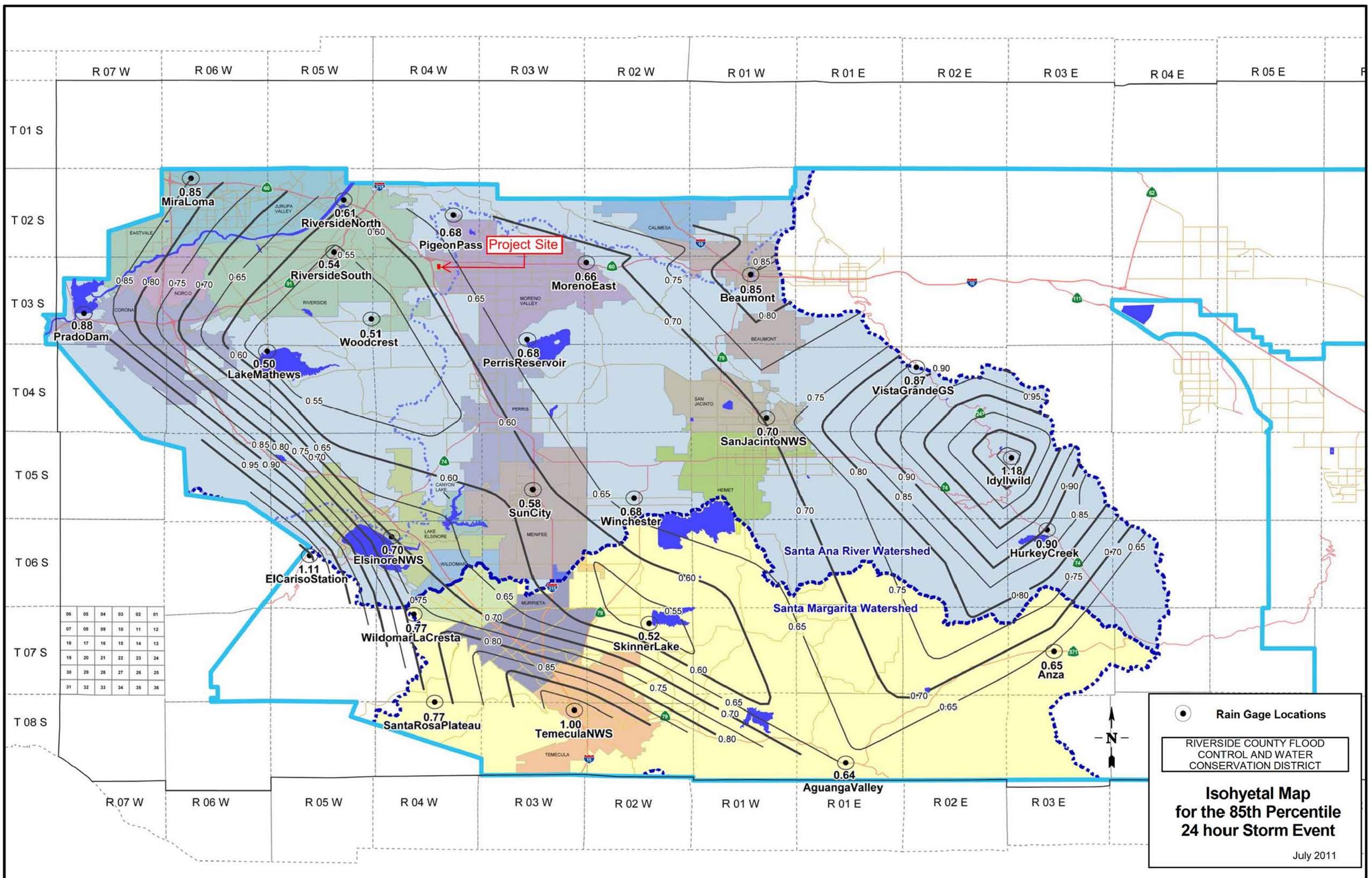
RECEIVING WATERS MAP



LEGEND

- Lake Evans to Santa Ana River, Reach 3
- Tequesquite Arroyo (Sycamore Creek) to Santa Ana River, Reach 3
- Anza Park Drain to Santa Ana River, Reach 3
- Santa Ana River, Reach 3
- Mockingbird Reservoir to Temescal Creek, Reach 1 to Santa Ana River, Reach 3 - via Arlington Channel
- Temescal Creek, Reach 1 to Santa Ana River, Reach 3 - via Arlington Channel
- Temescal Creek, Reach 1 to Santa Ana River, Reach 3 - via La Sierra Channel to Arlington Channel
- Outside City Limits
- San Jacinto Watershed

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R 04 W
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0.85 MiraLoma
0.61 RiversideNorth
0.68 PigeonPass
Project Site
0.54 RiversideSouth
0.66 MorenoEast
0.85 Beaumont
0.88 PradoDam
0.51 Woodcrest
0.68 PerrisReservoir
0.50 LakeMathews
0.87 VistaGrandeGS
0.70 SanJacintoNWS
1.18 Idyllwild
0.58 SunCity
0.68 Winchester
0.70 ElsinoreNWS
1.11 ElCarisoStation
0.90 HurkeyCreek
0.77 WildomarLaCresta
0.52 SkinnerLake
0.65 Anza
0.77 SantaRosaPlateau
1.00 TemeculaNWS
0.64 AguangaValley
Santa Ana River Watershed
Santa Margarita Watershed
JURUPA VALLEY
EASTVALE
NORCO
CORONA
RIVERSIDE
MORENO VALLEY
CALIMESA
BEAUMONT
SAN JACINTO
PERRIS
HEMET
CANYON LAKE
LAKE ELSINORE
MENIFEE
WILDOMAR
MURRIETA
TEMECULA
Rain Gage Locations
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
Isohyetal Map for the 85th Percentile 24 hour Storm Event
July 2011
N

OWNER

LS BTR DEVELOPMENT, LLC
1156 N. MOUNTAIN AVENUE,
UPLAND, CALIFORNIA 91786
ATTN.: BRIAN ORTWEIN
PHONE NO.: (909) 579-5155

APN

291-440-003, 291-440-005, 291-440-006, AND 291-440-007

MEASURED INFILTRATION RATES

P-1: 0.40 IN./HR. P-2: 0.30 IN./HR.
P-3: 0.20 IN./HR. P-4: 0.10 IN./HR.

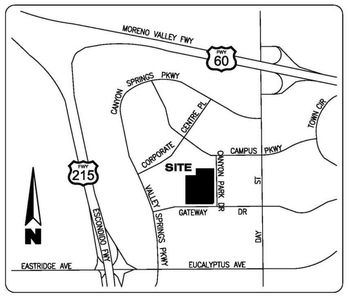
SITE INFORMATION

TOTAL PROPERTY AREA:	397,648 SF (9.13 AC) 100%
PROPOSED IMPERVIOUS AREA & %:	349,572 SF (8.03 AC) 88%
PROPOSED PERVIOUS AREA & %:	48,076 SF (1.10 AC) 12%
TOTAL DESIGN CAPTURE VOLUME (DCV):	11,706 CF
TOTAL SWQDF:	1.0 CFS
TOTAL DISTURBED AREA:	393,142 SF (9.03 AC) 99%
UNDISTURBED AREA (RIGHT-OF-WAY SIDEWALK):	4,506 SF (0.10 AC)

LEGEND

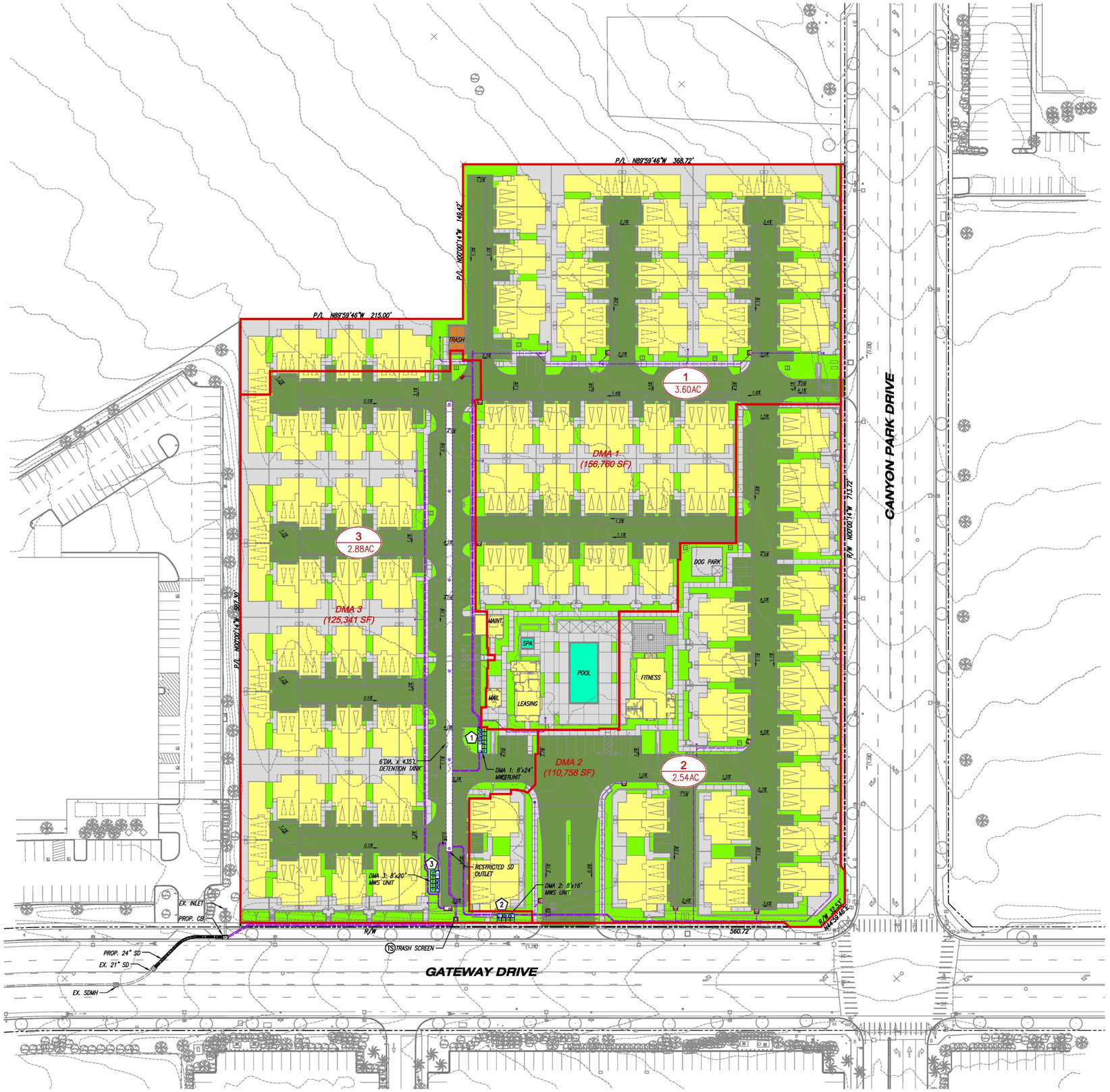
DESCRIPTION	SYMBOL	DMA NAME
SD-12 & SC-41: PERMEABLE AREA (LANDSCAPE AREA)		#A
SC-41: IMPERMEABLE ROOF SURFACES		#B
SD-32 & SC-34: TRASH ENCLOSURE		#B
SC-41: IMPERMEABLE HARDSCAPE AREA		#C
POOL/WATER FEATURE		#C
SC-43: IMPERMEABLE VEHICULAR SURFACE		#D
SC-44: PROPOSED PRIVATE STORM DRAIN		
PROPOSED STORM DRAIN JUNCTION STRUCTURE		
PROPOSED MODULAR WETLANDS SYSTEM		
SD-13 & SC-44: PROPOSED DROP INLET/CATCH BASIN WITH STENCILING		
LID BMP IDENTIFIER	1	
TRASH SCREEN	TS	
LID BMP DRAINAGE AREA BOUNDARY		
DMA # DMA AREA	# #.##AC	

*DMA NAME USES LID BMP IDENTIFIER OF THE SPECIFIC BMP DRAINAGE AREA WITH THE LETTER CORRESPONDING TO THE SURFACE TYPE.



VICINITY MAP

NOT TO SCALE



DMA SUMMARY

DMA DESIGNATION	TOTAL AREA (SF)	IMPERVIOUS AREA (SF)	PERVIOUS AREA (SF)	SURFACE TYPE	DMA QBMP (CFS)	BMP TYPE	MWS MODEL/ FOOTPRINT	MWS MAX. DMA QBMP
1	156,760	156,760	0	A, B, C, D	0.642	MODULAR WETLANDS (MWS)	MWS-L-8-24	0.693 CFS
2	110,758	110,758	0	A, B, C, D	0.454	MODULAR WETLANDS (MWS)	MWS-L-8-16	0.462 CFS
3	125,341	125,341	0	A, B, C, D	0.513	MODULAR WETLANDS (MWS)	MWS-L-8-20	0.577 CFS
TOTAL	392,859	392,859	0	A, B, C, D	1.609			1.732 CFS

0 20 40 80 120

SCALE: 1"=40' DATE: 01/19/2026

INDEPENDENCE AT CANYON SPRINGS

LS BTR DEVELOPMENT, LLC

PRELIMINARY WQMP SITE PLAN

2764 GATEWAY DRIVE, RIVERSIDE, CALIFORNIA 92507

KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
17530 Von Karman Ave. - Suite 200 Tel (949) 756-6440
Irvine, California 92614

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Appendix 2: Construction Plans

Grading and Drainage Plans