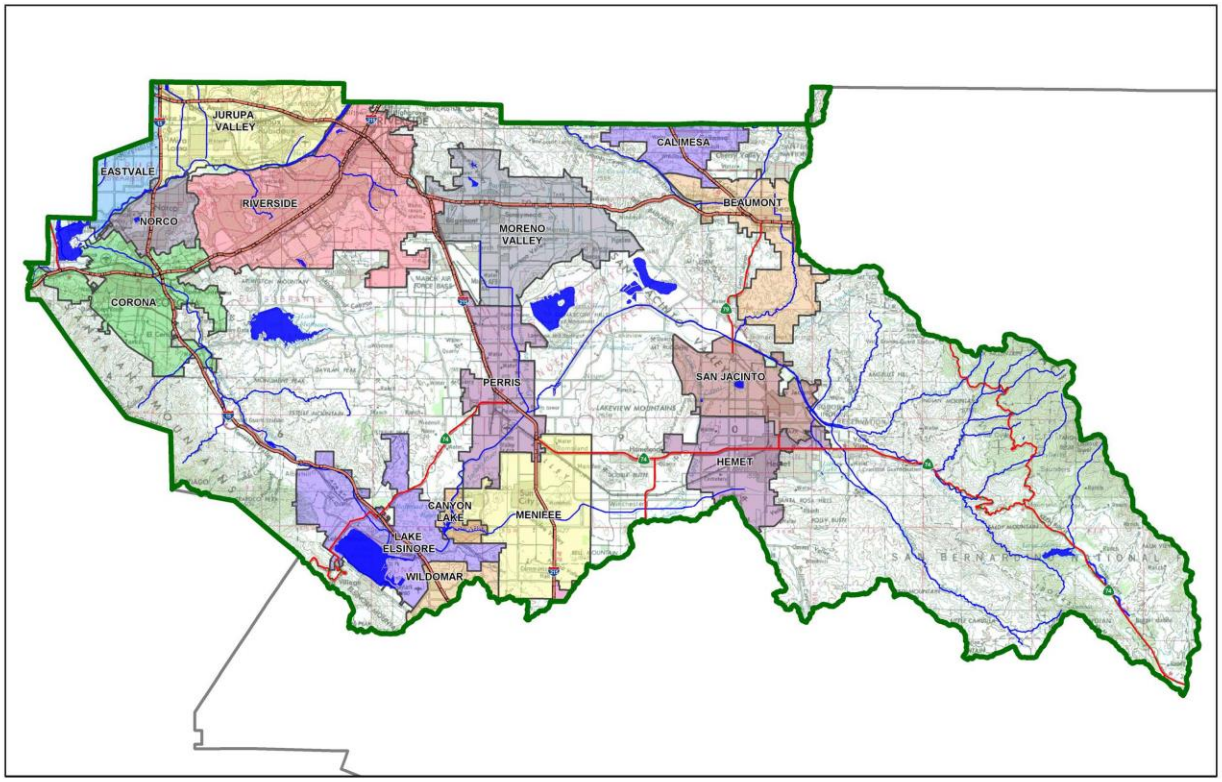
Project Specific Water Quality Management Plan

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

Project Title: Perris Airport Logistics Center – Site 2; Trailer Storage off Case Road

Development No: n/a

Design Review/Case No: CUP 23-05107 TPM 22-05046



☒ **Preliminary**
☐ **Final**

Original Date Prepared: January 2022

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

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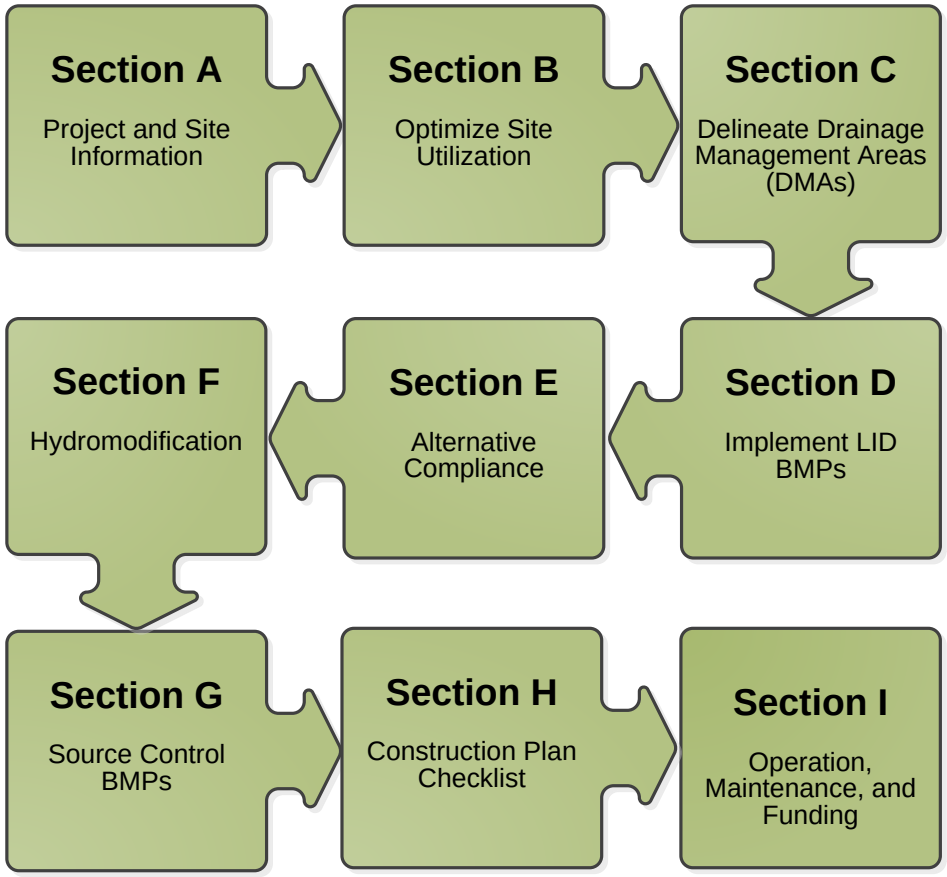
A Brief Introduction

This Project-Specific WQMP Template for the **Santa Ana Region** has been prepared to help guide you in documenting compliance for your project. Because this document has been designed to specifically document compliance, you will need to utilize the WQMP Guidance Document as your "how-to" manual to help guide you through this process. Both the Template and Guidance Document go hand-in-hand, and will help facilitate a well prepared Project-Specific WQMP. Below is a flowchart for the layout of this Template that will provide the steps required to document compliance.



OWNER'S CERTIFICATION

This Project-Specific Water Quality Management Plan (WQMP) has been prepared for *CH REALTY IX-MC I RIVERSIDE PERRIS AIRPORT CENTER, L.P.* by *Albert A. Webb Associates* for the *Perris Airport Logistics Center – Site 2; Trailer Storage off Case Road (CUP 23-05107)* project.

This WQMP is intended to comply with the requirements of *City of Perris* for *Water Quality Ordinance 1194* 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 *City of Perris Water Quality Ordinance 1194.*

"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

7/26/23
Date

Michael Mostafavi
Owner's Printed Name

Manager
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."

Preparer's Signature

7/19/2023
Date

Sarah Kowalski, P.E.
Preparer's Printed Name

Senior Engineer
Preparer's Title/Position

Preparer's Licensure:

CALIFORNIA CERTIFICATE OF ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California)

County of Orange)

On July 26, 2023 before me, Mikyung Kim, Notary Public
(here insert name and title of the officer)

personally appeared Michael Masterson

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/~~are~~ subscribed to the within instrument and acknowledged to me that he/~~she/they~~ executed the same in his/~~her/their~~ authorized capacity(~~ies~~), and that by his/~~her/their~~ signature(~~s~~) on the instrument the person(s), ~~or~~ the entity upon behalf of which the person(~~s~~) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

NRO1 MI KYUNG KIM COMM. #2378217 Notary Public - California Orange County My Comm. Expires Nov. 1, 2025 NRO1

Signature Mikyung Kim (Seal)

Optional Information

Although the information in this section is not required by law, it could prevent fraudulent removal and reattachment of this acknowledgment to an unauthorized document and may prove useful to persons relying on the attached document.

Description of Attached Document

The preceding Certificate of Acknowledgment is attached to a document titled/for the purpose of Owner's Certification

containing _____ pages, and dated 7/26/2023.

The signer(s) capacity or authority is/are as:

- ☐ Individual(s)
- ☐ Attorney-in-Fact
- ☐ Corporate Officer(s) _____ Title(s)
- ☐ Guardian/Conservator
- ☐ Partner - Limited/General
- ☐ Trustee(s)
- ☐ Other: _____

representing: _____ Name(s) of Person(s) or Entity(ies) Signer is Representing

Additional Information

Method of Signer Identification

Proved to me on the basis of satisfactory evidence:
○ form(s) of identification ○ credible witness(es)

Notarial event is detailed in notary journal on:
Page # _____ Entry # _____

Notary contact: _____

Other

☐ Additional Signer(s) ☐ Signer(s) Thumbprint(s)

☐ _____

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Section A: Project and Site Information

PROJECT INFORMATION	
Type of Project:	Industrial
Planning Area:	Mead Valley Area Plan (RCIP)
Community Name:	Mead Valley Area Plan (RCIP)
Development Name:	Perris Airport Logistics Center – Site 2; Trailer Storage off Case Road
PROJECT LOCATION	
Latitude & Longitude (DMS): 33°46'13" N / -117°13'03" W	
Project Watershed and Sub-Watershed: Santa Ana Watershed, San Jacinto Sub-Watershed	
Gross Acres: 25.4 AC	
APN(s): 330-090-034	
Map Book and Page No.: Thomas Bros Map Page 807, Grid H4, H5, J5	
PROJECT CHARACTERISTICS	
Proposed or Potential Land Use(s)	Light Industrial
Proposed or Potential SIC Code(s)	1541 – General Contractors – Industrial Buildings and Warehouses
Area of Impervious Project Footprint (SF)	585,920 SF
Total Area of proposed Impervious Surfaces within the Project Limits (SF)/or Replacement	585,920 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)	46,270 SF (Case Road Improvements per P8-1106D)
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)	C
What is the Water Quality Design Storm Depth for the project?	0.595

Project Description

The Perris Airport Logistics Center – Site 2; Trailer Storage off Case Road is located south of Ellis Avenue, north of a vacant property, west of Case Road, and east of the Perris Valley Airport. The existing land use is mostly vacant and barren with minimal vegetative scrub. There is no existing imperviousness within the project boundaries. Existing elevations across the site vary from 1418.5 to 1413.5 (NAVD88 datum), sloping down at approximately 0.3% grade to the southeast, draining to an existing ditch in Case Road. The existing drainage pattern for the site and the general area is characterized by sheet flows that follow the slope.

The Perris Airport Logistics Center consists of two sites: Site 1 – West Buildings off Goetz Road and Site 2 – East Trailer Storage off Case Road. No walkway or drive aisle is proposed between these two sites. These sites are proposed per one Tentative Parcel Map (TPM 38412), but they have been split into two PWQMPs for review. A Development Plan Review (DPR 22-00005) has been prepared for the west site, while a Conditional Use Permit (CUP 23-05107) has been prepared for the east site. This report covers the east site only.

The planned site condition will propose trailer storage parking on roughly 22.9 net acres. The project proposes truck parking with one guard shack (195 SF), as well as a minimum 15% landscaped area. The proposed impervious area includes one guard shack, 323 trailer parking stalls, 20 tractor parking stalls, and associated drive aisles (approximately 585,920 SF total). The proposed pervious area includes landscaping along Case Road and within the basin (approximately 139,440 SF total). No trash enclosure is proposed for this project site. Due to the project location being immediately adjacent to the Perris Valley Airport runway, roughly 20% of the site lies within the "runway setback" and is proposed with low ground cover (approximately 270,000 SF). Consistent with ALUC guidelines, the runway setback area is specifically designed to provide landscaping that does not promote hazardous wildlife habitation.

All on-site flows generated from the project will be collected by a proposed bioretention basin which will treat the runoff for water quality level storm events and discharge high level storm events, with the help of a lift station, at the existing rate towards the future storm drain channel along Case Road. The bioretention basin will have 1.5 feet of engineered media over 0.5 feet of choker gravel over 1.0 feet of gravel, and it will have a water quality ponding depth of 0.5 feet, per the Riverside County Santa Ana Region bioretention design sheet.

Due to the proximity of the project site to the Perris Valley Airport, and consistent with Airport Land Use Commission (ALUC) design requirements, the basins require a maximum 48-hour detention period for the design storm. The basin is designed to drain within 48-hours and will utilize cover (such as bird balls or netting) to discourage hazardous wildlife, consistent with the ALUC Bird Animal Strike Hazard (BASH) Wildlife Hazard Management Guidelines.

This project is fronted by Case Road. Prior to the project development of Perris Airport Logistics Center – Site 2; Trailer Storge off Case Road, Case Road will be improved per the P8-1106D planset. Those improvements call for the removal of the widening of pavement within Case Road and the addition of a storm drain channel to convey flows to the south. This storm drain channel improves upon the existing ditch at the edge of the existing pavement. The P8-1106D project is responsible for water quality treatment of the Case Road Improvements. This future channel will protect the project site from offsite run-on.

The proposed project is not within an HCOC exemption area. Proposed land use flowrates will be required to match existing land use flowrates for the 2-year, 24-hour storm event.

The proposed project is within the San Jacinto River floodplain. The most recent floodplain analysis was conducted as part of the Conditional Letter of Map Revision (CLOMR) for Tract 36988 – Green Valley. The FEMA Map No. 06065C1440H was revised to reflect the LOMR on January 3, 2019. The study shows that a portion of the project site will still be within Zone AE designation. The trailer parking storage area is raised such that the edge of the pavement is higher than the 1420.1 regulatory elevation.

A.1 Maps and Site Plans

When completing your Project-Specific WQMP, include a map of the local vicinity and existing site. In addition, include all grading, drainage, landscape/plant palette and other pertinent construction plans in Appendix 2. At a **minimum**, your WQMP Site Plan should include the following:

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

Use your discretion on whether or not you may need to create multiple sheets or can appropriately accommodate these features on one or two sheets. Keep in mind that the Co-Permittee plan reviewer must be able to easily analyze your project utilizing this template and its associated site plans and maps.

A.2 Identify Receiving Waters

Using Table A.1 below, list in order of upstream to downstream, the receiving waters that the project site is tributary to. Continue to fill each row with the Receiving Water's 303(d) listed impairments (if any), designated beneficial uses, and proximity, if any, to a RARE beneficial use. Include a map of the receiving waters in Appendix 1.

Table A.1 Identification of Receiving Waters

Receiving Waters	EPA Approved 303(d) List Impairments	Designated Beneficial Uses	Proximity to RARE Beneficial Use
San Jacinto River (Reach 3) (HU#802.11)	None	Intermittently: AGR, GWR, REC1, REC2, WARM, WILD	Not a water body classified as RARE
San Jacinto River (Reach 2) (HU#802.11)	None	AGR, GWR, WILD, MUN, REC1, REC2, WARM	Not a water body classified as RARE
Canyon Lake (Railroad Canyon Reservoir)(HU#802.11, 802.12)	Nutrients, Pathogens	WILD, REC2, WARM, GWR, MUN, REC1, AGR	Not a water body classified as RARE
San Jacinto River (Reach 1) (HU#802.32)	None	Intermittently: AGR, GWR, MUN, REC1, REC2, WARM, WILD	Not a water body classified as RARE
Lake Elsinore (HU#802.31)	Nutrients, Organic Enrichment/Low Dissolved Oxygen, PCBs (Polychlorinated biphenyls), Sediment Toxicity, Unknown Toxicity	REC1, REC2, WARM, WILD	Not a water body classified as RARE

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 **(dependent on tenant)**	☒ Y	☐ N
Western Riverside MSHCP Consistency Approval (e.g., JPR, DBESP)	☐ Y	☒ N
Other *(please list in the space below as required)* City of Perris Grading Permit	☒ Y	☐ N

If yes is answered to any of the questions above, the Co-Permittee may require proof of approval/coverage from those agencies as applicable including documentation of any associated requirements that may affect this Project-Specific WQMP.

Section B: Optimize Site Utilization (LID Principles)

Review of the information collected in Section 'A' will aid in identifying the principal constraints on site design and selection of LID BMPs as well as opportunities to reduce imperviousness and incorporate LID Principles into the site and landscape design. For example, **constraints** might include impermeable soils, high groundwater, groundwater pollution or contaminated soils, steep slopes, geotechnical instability, high-intensity land use, heavy pedestrian or vehicular traffic, utility locations or safety concerns. **Opportunities** might include existing natural areas, low areas, oddly configured or otherwise unbuildable parcels, easements and landscape amenities including open space and buffers (which can double as locations for bioretention BMPs), and differences in elevation (which can provide hydraulic head). Prepare a brief narrative for each of the site optimization strategies described below. This narrative will help you as you proceed with your LID design and explain your design decisions to others.

The 2010 Santa Ana MS4 Permit further requires that LID Retention BMPs (Infiltration Only or Harvest and Use) be used unless it can be shown that those BMPs are infeasible. Therefore, it is important that your narrative identify and justify if there are any constraints that would prevent the use of those categories of LID BMPs. Similarly, you should also note opportunities that exist which will be utilized during project design. Upon completion of identifying Constraints and Opportunities, include these on your WQMP Site plan in Appendix 1.

Site Optimization

The following questions are based upon Section 3.2 of the WQMP Guidance Document. Review of the WQMP Guidance Document will help you determine how best to optimize your site and subsequently identify opportunities and/or constraints, and document compliance.

Did you identify and preserve existing drainage patterns? If so, how? If not, why?

Yes, the project site currently sheet flows from the northwest to the southeast. The project proposes to continue with the existing drainage pattern by conveying runoff to the southeast, where a propose basin will retain water before discharging to the Case Road storm drain channel (per IDI plan P8-1106D).

Did you identify and protect existing vegetation? If so, how? If not, why?

No. The existing vegetation on the site is very minimal. No existing vegetation is proposed to be protected.

Did you identify and preserve natural infiltration capacity? If so, how? If not, why?

No. There is no substantial natural infiltration capacity to preserve. Based on the geotechnical investigation, the maximum calculated onsite infiltration rate is 1.4 inches per hour. This does not meet the requisite 1.6 inch per hour to implement infiltration BMPs.

Did you identify and minimize impervious area? If so, how? If not, why?

The project proposes to minimize impervious areas given the proposed site usage and required parameters.

Did you identify and disperse runoff to adjacent pervious areas? If so, how? If not, why?

Runoff will be conveyed towards the proposed bioretention basin.

Section C: Delineate Drainage Management Areas (DMAs)

Utilizing the procedure in Section 3.3 of the WQMP Guidance Document which discusses the methods of delineating and mapping your project site into individual DMAs, complete Table C.1 below to appropriately categorize the types of classification (e.g., Type A, Type B, etc.) per DMA for your project site. Upon completion of this table, this information will then be used to populate and tabulate the corresponding tables for their respective DMA classifications.

Table C.1 DMA Classifications

DMA Name or ID	Surface Type(s)[1]	Area (Sq. Ft.)	DMA Type
DMA-E	**Mixed**	**725,360**	**D**
L-E	*Landscape*	*42,590*	*D*
H-E	*Hardscape*	*585,920*	*D*
BMP-E	*Landscape*	*96,850*	*D*
SR-E	**Landscape**	**270,000**	**A**

[1]*Reference Table 2-1 in the WQMP Guidance Document to populate this column*

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

DMA Name or ID	Area (Sq. Ft.)	Stabilization Type	Irrigation Type (if any)
SR-E	270,000	Low Groundcover (per ALUC guidelines)	Low volume, rotary type, overhead irrigation system

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) [A]	Storm Depth (inches) [B]	DMA Name / ID	[C] from Table C.4 = [C]	Required Retention Depth (inches) [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	DMA name /ID	Area (square feet)	Ratio
	[A]		[B]	[C] = [A] x [B]		[D]	[C]/[D]
n/a							

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

DMA Name or ID	BMP Name or ID
DMA-E	Bioretention Basin (BMP-E)

Note: More than one drainage management area can drain to a single LID BMP, however, one drainage management area may not drain to more than one BMP.

Section D: Implement LID BMPs

D.1 Infiltration Applicability

Is there an approved downstream 'Highest and Best Use' for stormwater runoff (see discussion in Chapter 2.4.4 of the WQMP Guidance Document for further details)? ☐ Y ☒ N

If yes has been checked, Infiltration BMPs shall not be used for the site. If no, continue working through this section to implement your LID BMPs. It is recommended that you contact your Co-Permittee to verify whether or not your project discharges to an approved downstream 'Highest and Best Use' feature.

Geotechnical Report

A Geotechnical Report or Phase I Environmental Site Assessment may be required by the Copermittee to confirm present and past site characteristics that may affect the use of Infiltration BMPs. In addition, the Co-Permittee, at their discretion, may not require a geotechnical report for small projects as described in Chapter 2 of the WQMP Guidance Document. If a geotechnical report has been prepared, include it in Appendix 3. In addition, if a Phase I Environmental Site Assessment has been prepared, include it in Appendix 4.

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 below is meant to provide a simple means of assessing which DMAs on your site support Infiltration BMPs and is discussed in the WQMP Guidance Document in Chapter 2.4.5. Check the appropriate box for each question and then list affected DMAs as applicable. If additional space is needed, add a row below the corresponding answer.

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: *all*		
…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:		

If you answered "Yes" to any of the questions above for any DMA, Infiltration BMPs should not be used for those DMAs and you should proceed to the assessment for Harvest and Use below.

D.2 Harvest and Use Assessment

Please check what applies*:*

☒ 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 (verify with the Copermittee).

☐The Design Capture Volume will be addressed using Infiltration Only BMPs. In such a case, Harvest and Use BMPs are still encouraged, but it would not be required if the Design Capture Volume will be infiltrated or evapotranspired.

If any of the above boxes have been checked, Harvest and Use BMPs need not be assessed for the site. If neither of the above criteria applies, follow the steps below to assess the feasibility of irrigation use, toilet use and other non-potable uses (e.g., industrial use).

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: n/a

Type of Landscaping (Conservation Design or Active Turf): n/a

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: n/a

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).

Enter your EIATIA factor: n/a

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: n/a

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)
n/a	*n/a*

Toilet Use Feasibility

Complete the following steps to determine the feasibility of harvesting stormwater runoff for toilet flushing uses on your site:

Step 1: Identify the projected total number of daily toilet users during the wet season, and account for any periodic shut downs or other lapses in occupancy:

Projected Number of Daily Toilet Users: n/a

Project Type: n/a

Step 2: Identify the planned total of all impervious areas on the proposed project from which runoff might be feasibly captured and stored for toilet 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: n/a

Step 3: Enter the Design Storm depth for the project site (see Exhibit A) into the left column of Table 2-1 in Chapter 2 to determine the minimum number or toilet users per tributary impervious acre (TUTIA).

Enter your TUTIA factor: n/a

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

Minimum number of toilet users: n/a

Step 5: Determine if harvesting stormwater runoff for toilet flushing use is feasible for the project by comparing the Number of Daily Toilet Users (Step 1) to the minimum required number of toilet users (Step 4).

Minimum required Toilet Users (Step 4)	**Projected number of toilet users (Step 1)**
n/a	*n/a*

Other Non-Potable Use Feasibility

Are there other non-potable uses for stormwater runoff on the site (e.g. industrial use)? See Chapter 2 of the Guidance for further information. If yes, describe below. If no, write N/A.

n/a

Step 1: Identify the projected average daily non-potable demand, in gallons per day, during the wet season and accounting for any periodic shut downs or other lapses in occupancy or operation.

Average Daily Demand: n/a

Step 2: Identify the planned total of all impervious areas on the proposed project from which runoff might be feasibly captured and stored for the identified non-potable 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: n/a

Step 3: Enter the Design Storm depth for the project site (see Exhibit A) into the left column of Table 2-3 in Chapter 2 to determine the minimum demand for non-potable uses per tributary impervious acre.

Enter the factor from Table 2-3: n/a

Step 4: Multiply the unit value obtained from Step 4 by the total of impervious areas from Step 3 to develop the minimum number of gallons per day of non-potable use that would be required.

Minimum required use: n/a

Step 5: Determine if harvesting stormwater runoff for other non-potable use is feasible for the project by comparing the Number of Daily Toilet Users (Step 1) to the minimum required number of toilet users (Step 4).

Minimum required non-potable use (Step 4)	**Projected average daily use (Step 1)**
n/a	n/a

If Irrigation, Toilet and Other Use feasibility anticipated demands are less than the applicable minimum values, Harvest and Use BMPs are not required and you should proceed to utilize LID Bioretention and Biotreatment, unless a site-specific analysis has been completed that demonstrates technical infeasibility as noted in D.3 below.

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.

Select one of the following:

☒ LID Bioretention/Biotreatment BMPs will be used for some or all DMAs of the project as noted below in Section D.4 (note the requirements of Section 3.4.2 in the WQMP Guidance Document).

☐ A site-specific analysis demonstrating the technical infeasibility of all LID BMPs has been performed and is included in Appendix 5. If you plan to submit an analysis demonstrating the technical infeasibility of LID BMPs, request a pre-submittal meeting with the Copermittee to discuss this option. Proceed to Section E to document your alternative compliance measures.

D.4 Feasibility Assessment Summaries

From the Infiltration, Harvest and Use, Bioretention and Biotreatment Sections above, complete Table D.2 below to summarize which LID BMPs are technically feasible, and which are not, based upon the established hierarchy.

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	
DMA-E	☐	☐	☒	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐

For those DMAs where LID BMPs are not feasible, provide a brief narrative below summarizing why they are not feasible, include your technical infeasibility criteria in Appendix 5, and proceed to Section E below to document Alternative Compliance measures for those DMAs. Recall that each proposed DMA must pass through the LID BMP hierarchy before alternative compliance measures may be considered.

n/a

D.5 LID BMP Sizing

Each LID BMP must be designed to ensure that the Design Capture Volume will be addressed by the selected BMPs. First**,** calculate the Design Capture Volume for each LID BMP using the V_{BMP} worksheet in Appendix F of the LID BMP Design Handbook. Second**,** design the LID BMP to meet the required V_{BMP} using a method approved by the Copermittee. Utilize the worksheets found in the LID BMP Design Handbook or consult with your Copermittee to assist you in correctly sizing your LID BMPs. Complete Table D.3 below to document the Design Capture Volume and the Proposed Volume for each LID BMP. Provide the completed design procedure sheets for each LID BMP in Appendix 6. You may add additional rows to the table below as needed.

Table D.3 DCV Calculations for LID BMPs, East Basin

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*BMP – E*		
	[A]		[B]	[C]	[A] x [C]			
L-E	*42,590*	*Landscape*	*0.1*	*0.11*	*4,704.4*	*Design Storm Depth (in)*	*Design Capture Volume,* $\mathbf{V_{BMP}}$ *(cubic feet)*	*Proposed Volume on Plans (cubic feet)*
H-E	*585,920*	*Hardscape*	*1*	*0.89*	*522,640.6*			
BMP-E	*96,850*	*Landscape*	*0.1*	*0.11*	*10,697.9*			
	$A_T = \Sigma[A]$				$\Sigma = [D]$	[E]	$[F] = \frac{[D]x[E]}{12}$	[G]
	725,360				538,042.9	0.60	26,678	34,431

[B], [C] is obtained as described in Section 2.3.1 of the WQMP Guidance Document

[E] is obtained from Exhibit A in the WQMP Guidance Document

[G] is obtained from a design procedure sheet, such as in LID BMP Design Handbook and placed in Appendix 6

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 LID waiver approval by the Copermittee). Check one of the following Boxes:

☒ 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 Co-Permittee 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 following 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.

n/a

E.1 Identify Pollutants of Concern

Utilizing Table A.1 from Section A above which noted your project's receiving waters and their associated EPA approved 303(d) listed impairments, cross reference this information with that of your selected Priority Development Project Category in Table E.1 below. If the identified General Pollutant Categories are the same as those listed for your receiving waters, then these will be your Pollutants of Concern and the appropriate box or boxes will be checked on the last row. The purpose of this is to document compliance and to help you appropriately plan for mitigating your Pollutants of Concern in lieu of implementing LID BMPs.

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 ft^2)	P	N	N	N	N	N	P	P
☐ Hillside Development (>5,000 ft^2)	P	N	P	P	N	P	P	P
☒ Parking Lots (>5,000 ft^2)	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

E.2 Stormwater Credits

Projects that cannot implement LID BMPs but nevertheless implement smart growth principles are potentially eligible for Stormwater Credits. Utilize Table 3-8 within the WQMP Guidance Document to identify your Project Category and its associated Water Quality Credit. If not applicable, write N/A.

Table E.2 Water Quality Credits

Qualifying Project Categories	Credit Percentage[2]
n/a	
Total Credit Percentage[1]	

[1]*Cannot Exceed 50%*
[2]*Obtain corresponding data from Table 3-8 in the WQMP Guidance Document*

E.3 Sizing Criteria

After you appropriately considered Stormwater Credits for your project, utilize Table E.3 below to appropriately size them to the DCV, or Design Flow Rate, as applicable. Please reference Chapter 3.5.2 of the WQMP Guidance Document for further information.

Table E.3 Treatment Control BMP Sizing

DMA Type/ID	**DMA Area (square feet)**	**Post-Project Surface Type**	**Effective Impervious Fraction, I_f**	**DMA Runoff Factor**	**DMA Area x Runoff Factor**		***Enter BMP Name / Identifier Here***		
	[A]		[B]	[C]	[A] x [C]				
n/a						*Design Storm Depth (in)*	*Minimum Design Capture Volume or Design Flow Rate (cubic feet or cfs)*	*Total Storm Water Credit % Reduction*	*Proposed Volume or Flow on Plans (cubic feet or cfs)*
	A_T = Σ[A]				Σ= [D]	[E]	$[F] = \frac{[D]x[E]}{[G]}$	[F] X (1-[H])	[I]

[B], [C] is obtained as described in Section 2.3.1 from the WQMP Guidance Document
[E] is obtained from Exhibit A in the WQMP Guidance Document
[G] is for Flow-Based Treatment Control BMPs [G] = 43,560, for Volume-Based Control Treatment BMPs, [G] = 12
[H] is from the Total Credit Percentage as Calculated from Table E.2 above
[I] as obtained from a design procedure sheet from the BMP manufacturer and should be included in Appendix 6

E.4 Treatment Control BMP Selection

Treatment Control BMPs typically provide proprietary treatment mechanisms to treat potential pollutants in runoff, but do not sustain significant biological processes. Treatment Control BMPs must have a removal efficiency of a medium or high effectiveness as quantified below:

- **High**: equal to or greater than 80% removal efficiency
- **Medium**: between 40% and 80% removal efficiency

Such removal efficiency documentation (e.g., studies, reports, etc.) as further discussed in Chapter 3.5.2 of the WQMP Guidance Document, must be included in Appendix 6. In addition, ensure that proposed Treatment Control BMPs are properly identified on the WQMP Site Plan in Appendix 1.

Table E.4 Treatment Control BMP Selection

Selected Treatment Control BMP Name or ID[1]	Priority Pollutant(s) of Concern to Mitigate[2]	Removal Efficiency Percentage[3]
n/a		

[1] Treatment Control BMPs must not be constructed within Receiving Waters. In addition, a proposed Treatment Control BMP may be listed more than once if they possess more than one qualifying pollutant removal efficiency.

[2] Cross Reference Table E.1 above to populate this column.

[3] As documented in a Co-Permittee Approved Study and provided in Appendix 6.

Section F: Hydromodification

F.1 Hydrologic Conditions of Concern (HCOC) Analysis

Once you have determined that the LID design is adequate to address water quality requirements, you will need to assess if the proposed LID Design may still create a HCOC. Review Chapters 2 and 3 (including Figure 3-7) of the WQMP Guidance Document to determine if your project must mitigate for Hydromodification impacts. If your project meets one of the following criteria which will be indicated by the check boxes below, you do not need to address Hydromodification at this time. However, if the project does not qualify for Exemptions 1, 2 or 3, then additional measures must be added to the design to comply with HCOC criteria. This is discussed in further detail below in Section F.2.

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

If Yes, HCOC criteria do not apply.

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

If Yes, report results in Table F.1 below and provide your substantiated hydrologic analysis in Appendix 7.

Table F.1 Hydrologic Conditions of Concern Summary

	2 year – 24 hour		
	Pre-condition	**Post-condition**	**% Difference**
Time of Concentration	*n/a*	*n/a*	*n/a*
Volume (Cubic Feet)	*n/a*	*n/a*	*n/a*

[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 (for example, Prado Dam, Lake Elsinore, Canyon Lake, Santa Ana River, or other lake, reservoir or naturally erosion resistant feature) 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

If Yes, HCOC criteria do not apply and note below which adequate sump applies to this HCOC qualifier:

n/a

F.2 HCOC Mitigation

If none of the above HCOC Exemption Criteria are applicable, HCOC criteria is considered mitigated if they meet one of the following conditions:

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.

Be sure to include all pertinent documentation used in your analysis of the items a, b or c in Appendix 7.

The top of grate will be positioned at a higher elevation to hold the existing 2-year, 24-hour storm event to address hydromodification. The outlet structure will have an opening that will behave as an orifice to restrict flow down to the pre-development hydrograph during the 2-year, 24-hour storm event. Calculations are included in Appendix 7.

Table F.2 Hydrologic Conditions of Concern Summary

	2 year – 24 hour		
	Pre-development	**Post-development**	**% Difference**
Peak Flow Rate	*3.20*	*2.05*	*64%*

A pump station will be required to dewater the treated outflow from the bioretention basins, since the bottom of the media layer will be located at an elevation below the invert of the receiving storm drain (future Case Road storm drain channel).

Section G: Source Control BMPs

Source control BMPs include permanent, structural features that may be required in your project plans — such as roofs over and berms around trash and recycling areas — and Operational BMPs, such as regular sweeping and "housekeeping", that must be implemented by the site's occupant or user. The MEP standard typically requires both types of BMPs. In general, Operational BMPs cannot be substituted for a feasible and effective permanent BMP. Using the Pollutant Sources/Source Control Checklist in Appendix 8, review the following procedure to specify Source Control BMPs for your site:

1. ***Identify Pollutant Sources*:** Review Column 1 in the Pollutant Sources/Source Control Checklist. Check off the potential sources of Pollutants that apply to your site.

2. ***Note Locations on Project-Specific WQMP Exhibit*:** Note the corresponding requirements listed in Column 2 of the Pollutant Sources/Source Control Checklist. Show the location of each Pollutant source and each permanent Source Control BMP in your Project-Specific WQMP Exhibit located in Appendix 1.

3. ***Prepare a Table and Narrative*:** Check off the corresponding requirements listed in Column 3 in the Pollutant Sources/Source Control Checklist. In the left column of Table G.1 below, list each potential source of runoff Pollutants on your site (from those that you checked in the Pollutant Sources/Source Control Checklist). In the middle column, list the corresponding permanent, Structural Source Control BMPs (from Columns 2 and 3 of the Pollutant Sources/Source Control Checklist) used to prevent Pollutants from entering runoff. **Add additional narrative** in this column that explains any special features, materials or methods of construction that will be used to implement these permanent, Structural Source Control BMPs.

4. ***Identify Operational Source Control BMPs:*** To complete your table, refer once again to the Pollutant Sources/Source Control Checklist. List in the right column of your table the Operational BMPs that should be implemented as long as the anticipated activities continue at the site. Copermittee stormwater ordinances require that applicable Source Control BMPs be implemented; the same BMPs may also be required as a condition of a use permit or other revocable Discretionary Approval for use of the site.

Table G.1 Permanent and Operational Source Control Measures

Potential Sources of Runoff pollutants	Permanent Structural Source Control BMPs	Operational Source Control BMPs
A. On-site storm drain catch basins and grated inlets. Locations are shown on the PWQMP Exhibit in Appendix 1.	*On-site storm drain signage will utilize language, "No Dumping Drains to River", or equally approved text that is consistent with the City of Perris' requirements. Landscape area drains surrounded by vegetation will not be signed. Catch Basin Markers may be available from the Riverside County Flood Control and Water District Conservation District, call 951-955-1200 to verify.* *On-site drainage structures, including all storm drain clean outs,*	*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 System Maintenance," in Appendix 10 (CASQA Stormwater Quality Handbook at www.cabmphandbooks.com* *Include the following in lessee agreements: "Tenants shall not allow anyone to discharge anything to*

Potential Sources of Runoff pollutants	Permanent Structural Source Control BMPs	Operational Source Control BMPs
	area drains, inlets, catch basins, inlet & outlet structures, forebays, & water treatment control basins shall be inspected and maintained on a regular basis to ensure their operational adequacy.	*storm drains or to store or deposit materials so as to create a potential discharge to storm drains"* *Maintenance should include removal of trash, debris, & sediment and the repair of any deficiencies or damage that may impact water quality.*
B. Interior floor drains and elevator shaft sump	*The interior floor drains and elevator shaft sump pumps will be plumbed to sanitary sewer.*	*Inspect and maintain drains to prevent blockages and overflow.*
D2. Landscape/Outdoor Pesticide Use	*The final landscape shall be designed to accomplish all of the following:* *Preserve existing native trees, shrubs and ground cover to the maximum extent possible.* *Design landscape 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.* *Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions.* *Consider using pest-resistant plants, especially adjacent to hardscape.* *To ensure successful establishments, select plants appropriate to site, soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.* *Pesticide usage should be at a necessary minimum and be consistent with the instructions contained on product labels and with the regulations administered by the State Department of Pesticide Regulation.* *Pesticides should be used at an absolute minimum or not at all in the retention/infiltration basin. If used, it should not be applied in close proximity to the rainy season.*	*Maintain landscaping using minimum or no pesticides* *See applicable operational BMPs in "What you should know for…. Landscape and Gardening" at http://www.rcflood.org/stormwater and Appendix 10.* *Provide IPM information to new owners, lessees, and operators.* *Landscape maintenance should include mowing, weeding, trimming, removal of trash & debris, repair of erosion, re-vegetation, and removal of cut & dead vegetation.* *Irrigation maintenance should include the repair of leaky or broken sprinkler heads, the maintaining of timing apparatus accuracy, and the maintaining of shut off valves in good working order.*
G. Refuse Trash Storage areas	*Trash container storage areas shall be paved with an impervious surface, designed not to allow run-on from adjoining areas, designed to divert drainage from adjoining roofs and pavements from the surrounding area, and screened or*	*Adequate number of receptacles shall be provided. Inspect receptacles regularly; repair or replace leaky receptacles. Keep receptacles covered. Prohibit/prevent dumping of liquid or hazardous wastes. Post "no hazardous materials" signs. Inspect*

Potential Sources of Runoff pollutants	Permanent Structural Source Control BMPs	Operational Source Control BMPs
	walled to prevent off-site transport of trash. *Trash dumpsters (containers) shall be leak proof and have attached covers or lids.* *Trash enclosures shall be roofed per City standards and the details on the PWQMP Exhibit in Appendix 1.* *Trash compactors shall be roofed and set on a concrete pad per City standards. The pad shall be a minimum of one foot larger all around than the trash compactor and sloped to drain to a sanitary sewer line. Connection of trash area drains to the MS4 is prohibited.* *See CASQA SD-32 BMP Fact Sheets in Appendix 10 for additional information.* *Signs shall be posted on or near dumpsters with the words "Do not dump hazardous materials here" or similar.*	*and pick up litter daily and clean up spills immediately. Keep spill control materials available on-site. See Fact Sheet SC-34, in Appendix 10, "Waste Handling and Disposal" in the CASQA Stormwater Quality Handbook at www.cabmphandbooks.com*
H. Industrial Processes	*All process activities to be performed indoors. No processes to drain to exterior or to storm drain system.*	*See Fact Sheet SC-10, "Non-Stormwater Discharges" in the CASQA Stormwater Quality Handbook at www.cabmphandbooks.com* *See the brochure "Industrial & Commercial Facilities Best Management Practices for: Industrial, Commercial Facilities" at http://www.rcflood.org/stormwater/*
M. Loading Docks	*Loading docks will not be covered and are 4 feet above finished pavement surface.* *Spill kits are to be kept on-site at all times per SC-11.*	*Move loaded and unloaded items indoors as soon as possible.* *Inspect for accumulated trash and debris. Implement good housekeeping procedures on a regular basis. Sweep areas clean instead of using wash water. Loading docks will be kept in a clean and orderly condition, through a regular program of sweeping and litter control, and immediate cleanup of any spills or broken containers. Property owner will ensure that loading docks will be swept as needed. Cleanup procedures will not include the use of wash-down water. Property owner will be responsible for implementation of loading dock housekeeping procedures*

Potential Sources of Runoff pollutants	Permanent Structural Source Control BMPs	Operational Source Control BMPs
		See the Fact Sheet SC-30, in Appendix 10, "Outdoor Loading and Unloading" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
N. Fire Sprinkler Test Water	*Provide a means to drain fire sprinkler test water to the sanitary sewer.*	*See the note in the Fact Sheet SC-41, in Appendix 10, "Building and Grounds Maintenance", in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com*
O. Miscellaneous Drain or Wash Water or Other Sources: *Boiler drain lines* *Condensate drain lines* *Rooftop equipment* *Drainage sumps* *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.* *Any drainage sumps on-site shall feature a sediment sump to reduce the quantity of sediment in pumped water.* *Avoid roofing, gutters and trim made of copper of other unprotected metals that may leach into runoff.* *Include controls for other sources as specified by local reviewer.*	
P. Plazas, sidewalks, and parking lots	*Spill kits are to be kept on-site at all times per SC-11.*	*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 wash water containing any cleaning agent or degreaser and discharge to the sanitary sewer not to a storm drain.*

Section H: Construction Plan Checklist

Populate Table H.1 below to assist the plan checker in an expeditious review of your project. The first two columns will contain information that was prepared in previous steps, while the last column will be populated with the corresponding plan sheets. This table is to be completed with the submittal of your final Project-Specific WQMP.

Table H.1 Construction Plan Cross-reference

BMP No. or ID	BMP Identifier and Description	Corresponding Plan Sheet(s)
*	*	*

Note that the updated table — or Construction Plan WQMP Checklist — is **only a reference tool** to facilitate an easy comparison of the construction plans to your Project-Specific WQMP. Co-Permittee staff can advise you regarding the process required to propose changes to the approved Project-Specific WQMP.

**To be completed during final engineering.*

Section I: Operation, Maintenance and Funding

The Copermittee will periodically verify that Stormwater BMPs on your site are maintained and continue to operate as designed. To make this possible, your Copermittee will require that you include in Appendix 9 of this Project-Specific WQMP:

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. A warranty covering a period following construction may also be required.
3. An outline of general maintenance requirements for the Stormwater BMPs you have 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. Geo-locating the BMPs using a coordinate system of latitude and longitude is recommended to help facilitate a future statewide database system.
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. Include a brief description of typical landscape maintenance for these areas.

Your local Co-Permittee will also require that you prepare and submit a detailed Stormwater BMP Operation and Maintenance Plan that sets forth a maintenance schedule for each of the Stormwater BMPs built on your site. An agreement assigning responsibility for maintenance and providing for inspections and certification may also be required.

Details of these requirements and instructions for preparing a Stormwater BMP Operation and Maintenance Plan are in Chapter 5 of the WQMP Guidance Document.

Maintenance Mechanism: WQMP Covenant and Agreement

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

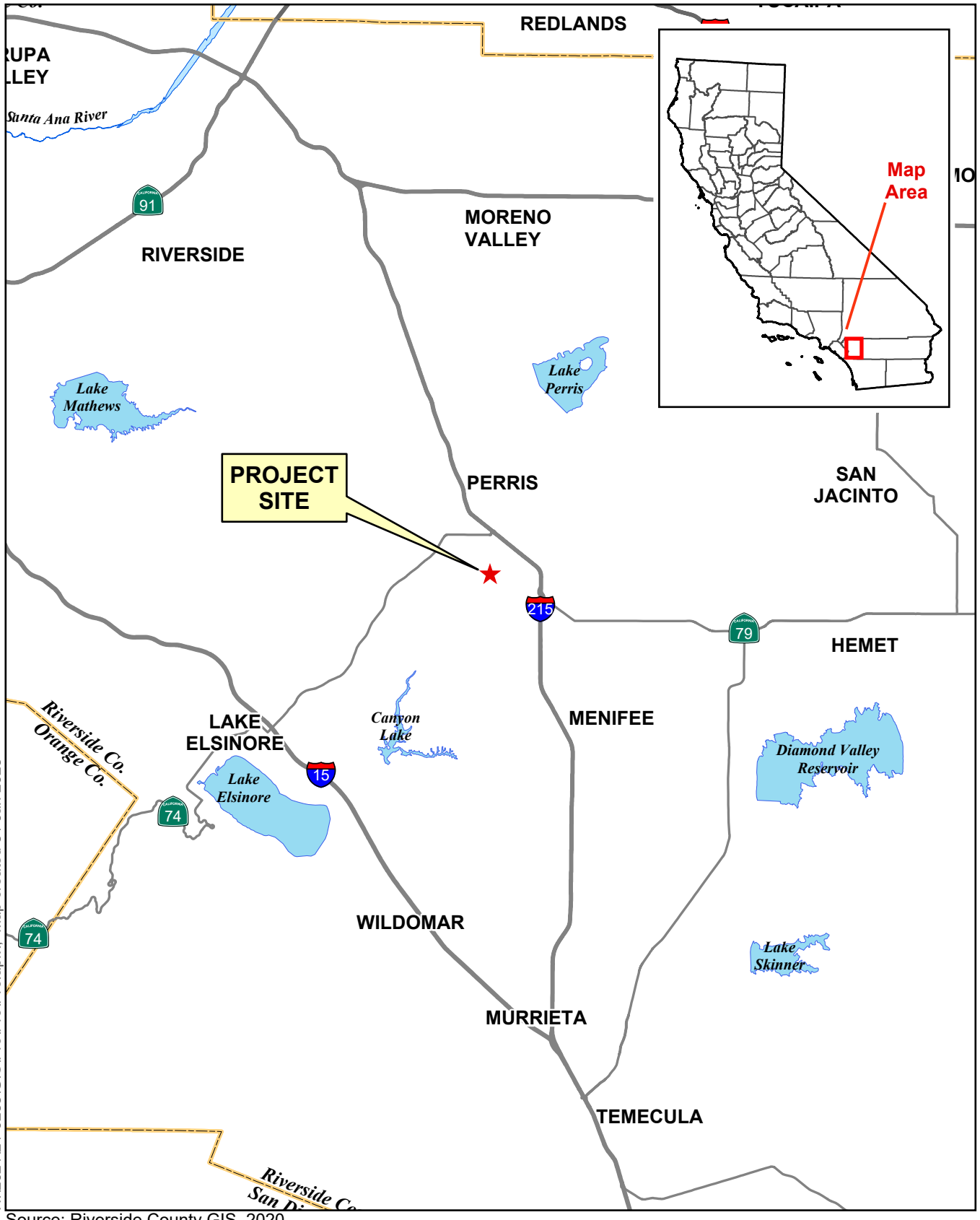
☐ Y ☒ N

Include your Operation and Maintenance Plan and Maintenance Mechanism in Appendix 9. Additionally, include all pertinent forms of educational materials for those personnel that will be maintaining the proposed BMPs within this Project-Specific WQMP in Appendix 10.

**More information to be provided during final engineering.*

Appendix 1: Maps and Site Plans

Location Map, WQMP Site Plan and Receiving Waters Map



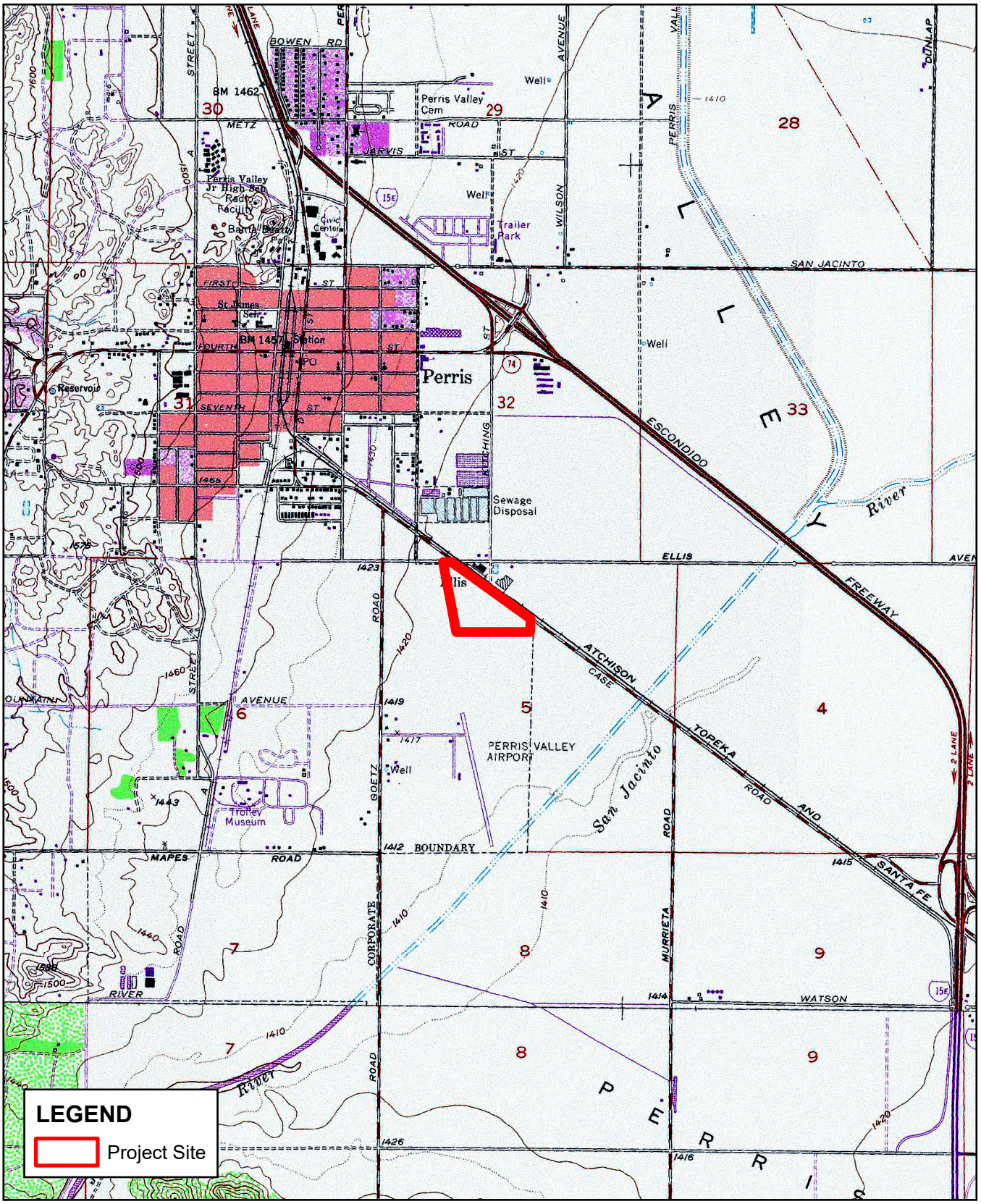
Source: Riverside County GIS, 2020

0 2 4 6 Miles

Figure 1 – Vicinity Map

MC Blackacre Perris Airport ENT - East

ALBERT A. WEBB ASSOCIATES



H:\2021\21-0235\GIS\Pro\Pro\Pro.aprx; Map created 31 Jan 2023; jays

Sources: ESRI / USGS 7.5min Quads

Figure 2 - USGS Map

MC Blackacre Perris Airport ENT - East

ALBERT A. WEBB ASSOCIATES

H:\2021\21-0235\GIS\Pro\Pro\Pro.aprx; Map created 31 Jan 2023

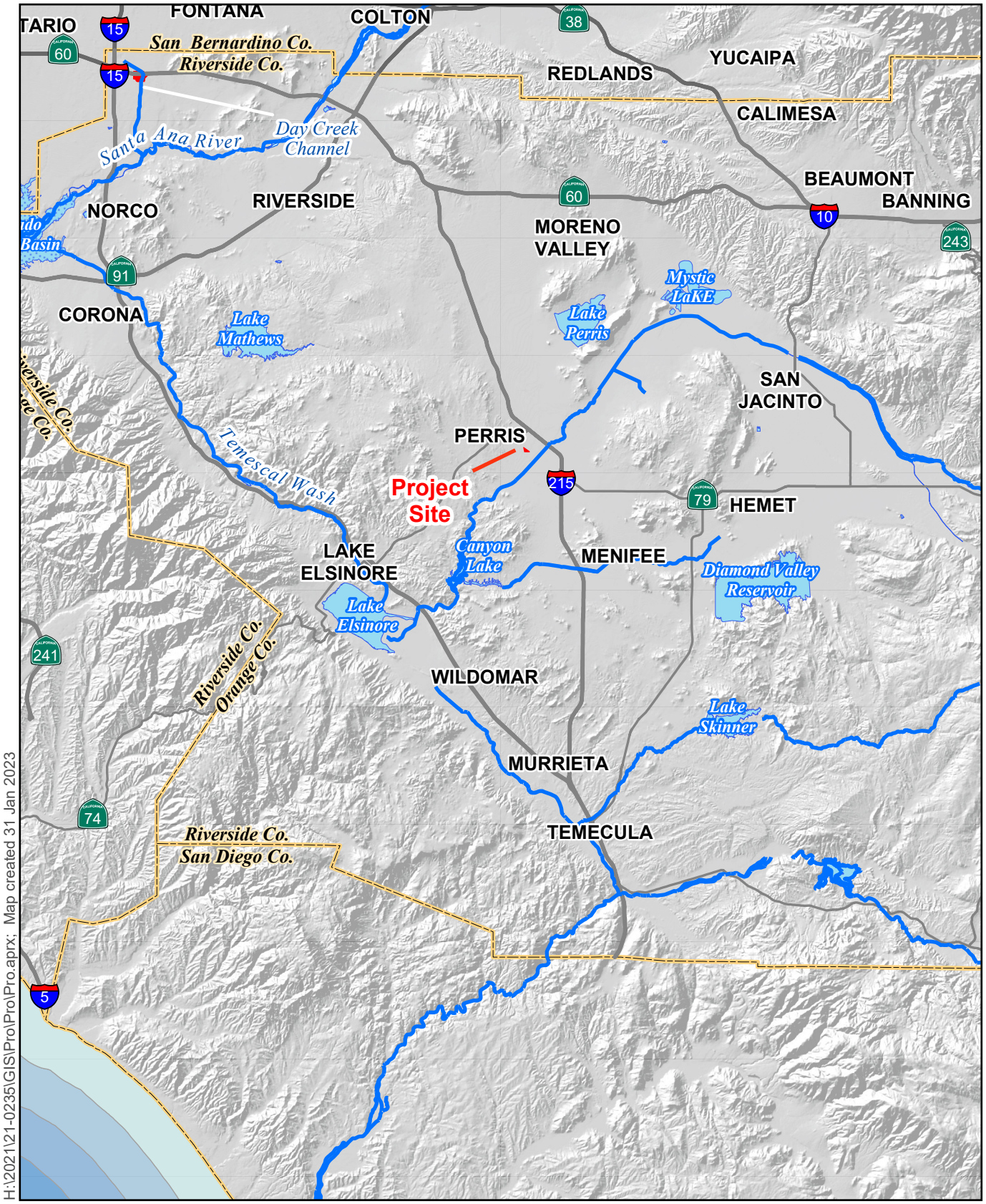
Sources: Riverside Co. GIS, 2023.

Figure 3 - Aerial Photograph

MC Blackacre Perris Airport ENT - East

0 1,000 2,000 3,000 Feet

ALBERT A. WEBB ASSOCIATES



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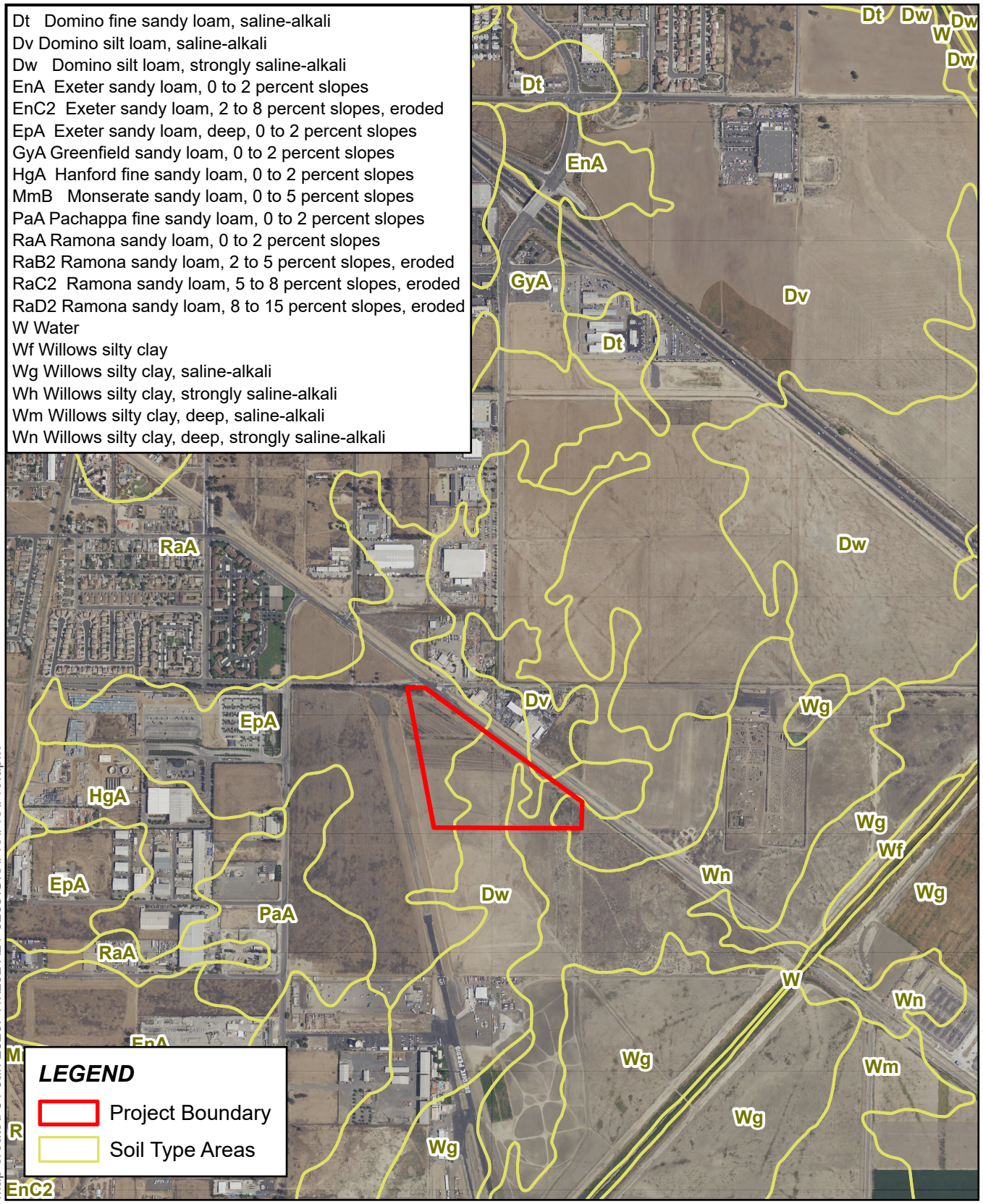
Sources: USGS DLG; USGS 30m DEM

0 2 4 6 8 Miles

Figure 4 – Receiving Waterbodies

MC Blackacre Perris Airport ENT - East

ALBERT A. WEBB ASSOCIATES



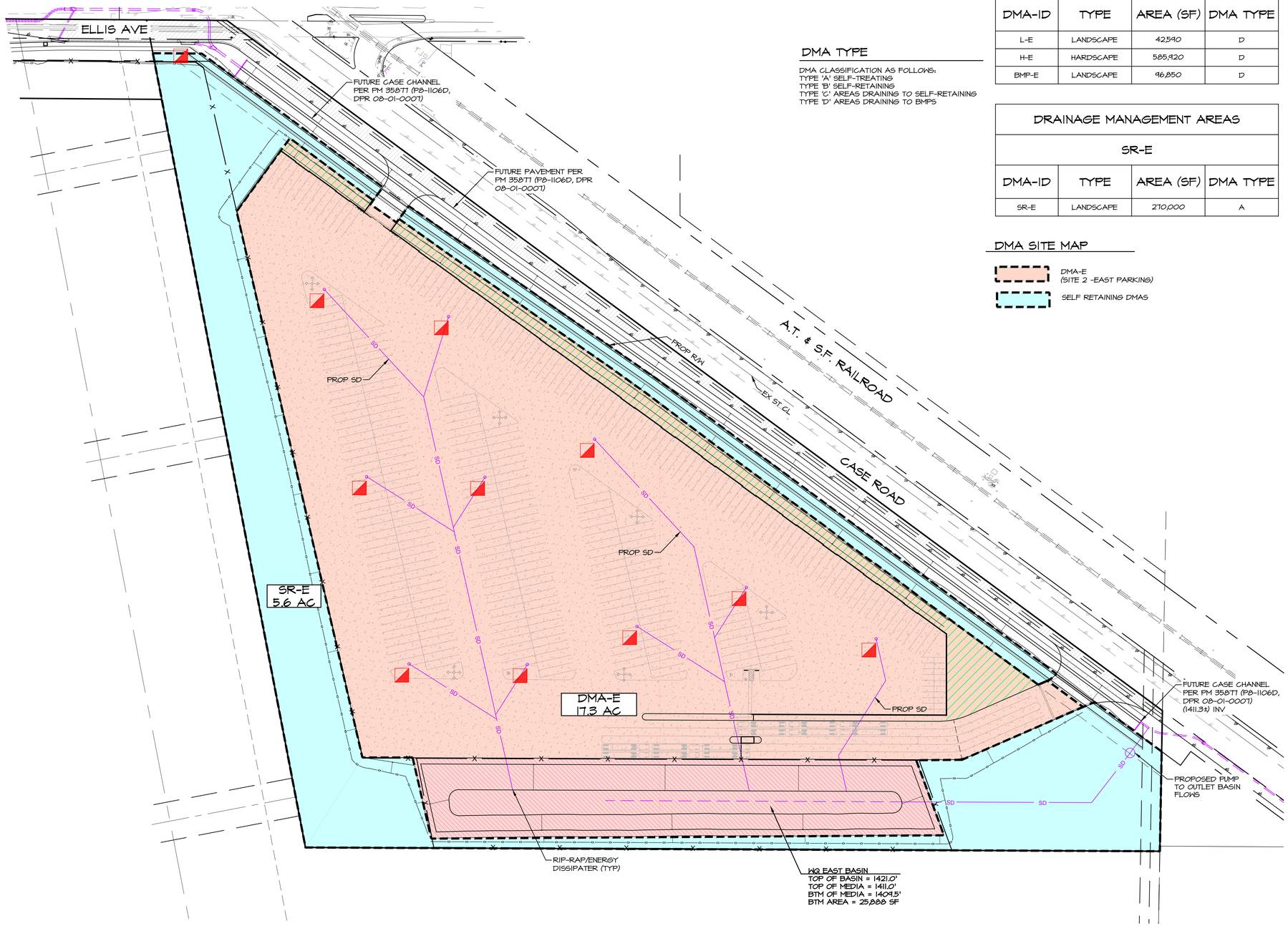
Sources: USDA NRCS SSURGO, 2015;
Riverside Co. GIS, 2023; USDA NAIP, 2016.

0 1,000 2,000 3,000 Feet

Figure 5 – Soils Map

MC Blackacre Perris Airport ENT - East

ALBERT A. WEBB ASSOCIATES



DMA TYPE

DMA CLASSIFICATION AS FOLLOWS:
TYPE 'A' SELF-TREATING
TYPE 'B' SELF-RETAINING
TYPE 'C' AREAS DRAINING TO SELF-RETAINING
TYPE 'D' AREAS DRAINING TO BMPS

DRAINAGE MANAGEMENT AREAS			
DMA-E			
DMA-ID	TYPE	AREA (SF)	DMA TYPE
L-E	LANDSCAPE	42,590	D
H-E	HARDSCAPE	585,920	D
BMP-E	LANDSCAPE	96,850	D

DRAINAGE MANAGEMENT AREAS			
SR-E			
DMA-ID	TYPE	AREA (SF)	DMA TYPE
SR-E	LANDSCAPE	270,000	A

DMA SITE MAP

DMA-E
(SITE 2 -EAST PARKING)

SELF RETAINING DMAS

LEGEND

- DMA BOUNDARY
- LANDSCAPING
- CONCRETE OR ASPHALT
- SELF-RETAINING
- BIO-RETENTION FACILITY
- FLOW DIRECTION
- CURB OPENINGS
- STORM INLET

GENERAL NOTES

1. THIS PRELIMINARY WATER QUALITY REPORT IS BASED ON THE CURRENT AVAILABLE INFORMATION AND IS SUBJECT TO MINOR MODIFICATION.
2. POTENTIAL SELF-RETAINING AREAS EXIST WITHIN THE PARKING AREAS AND WILL BE FURTHER ANALYZED DURING FINAL ENGINEERING. ASSUMED NO SELF-RETAINING AREAS WITHIN THE PARKING AREAS TO REMAIN CONSERVATIVE IN SIZING THE BASINS.
3. BASIN IS DESIGNED TO DRAIN WITHIN 48 HOURS.
4. BASIN IS TO UTILIZE COVER, SUCH AS BIRD BALLS OR NETTING IN INDUSTRIAL AREAS, TO DISCOURAGE HAZARDOUS WILDLIFE.
5. NO RUN-ON IS ANTICIPATED FOR THE PROJECT SITE, AS THE PROJECT SITE IS RAISED OUT OF THE FLOODPLAIN AND CASE ROAD IMPROVEMENTS WILL PRECEDE ON-SITE IMPROVEMENTS.
6. NO TRASH ENCLOSURE IS PLANNED.

BASIS OF BEARINGS

THE BASIS OF BEARINGS IS THE CALIFORNIA STATE PLAN COORDINATE SYSTEM, CCS83, ZONE 6, BASED LOCALLY ON CONTROL STATIONS "MLFP" AND "PPBF" NAD 83(NSRS2007)

BENCHMARK DATA

NGS DESIGNATION: 435
PID: DX5442

DESCRIBED BY METRO WATER DISTR. SO. CALIFORNIA 1992 PERRIS, 1300 FEET (396.2 M) WEST OF ATSF RAILROAD ALONG RIDER ST, ON TOP OF NORTH CURB FACE OF RIDER ST. 28 FEET (8.5 M) NORTH OF RIDER ST, 6 FEET (1.8 M) SOUTH OF A GTE TELEPHONE BOX (DAMAGED). A STANDARD 3-1/4 INCH ALUMINUM DIST SET FLUSH IN TOP OF CURB.

ELEVATION = 1515.12' (NAVD88)

FROM CITY OF SUN CITY BM Z 10984 (RCFC & WCD)
FS. 2-1/4 INCH BRASS DISK FLUSH STAMPED "CAL DOT 9/10/16/15 REPL. GR. STONE FD. 1950" ON ETHANAC AC BRIDGE DECK OVER I-215 FREEWAY

ELEVATION = 1450.319' (NAVD88)

(CONVERSION FACTO TO NGVD 29 IS -2.63' PER RCFC & WCD)

N
W WEBB E
S

1" = 80'
40 0 80 160 240

DMA PLAN

PWQMP REPORT
PERRIS AIRPORT LOGISTICS CENTER - SITE 2
ELLIS AVE AND GOETZ RD, PERRIS
(CUP23-05107)

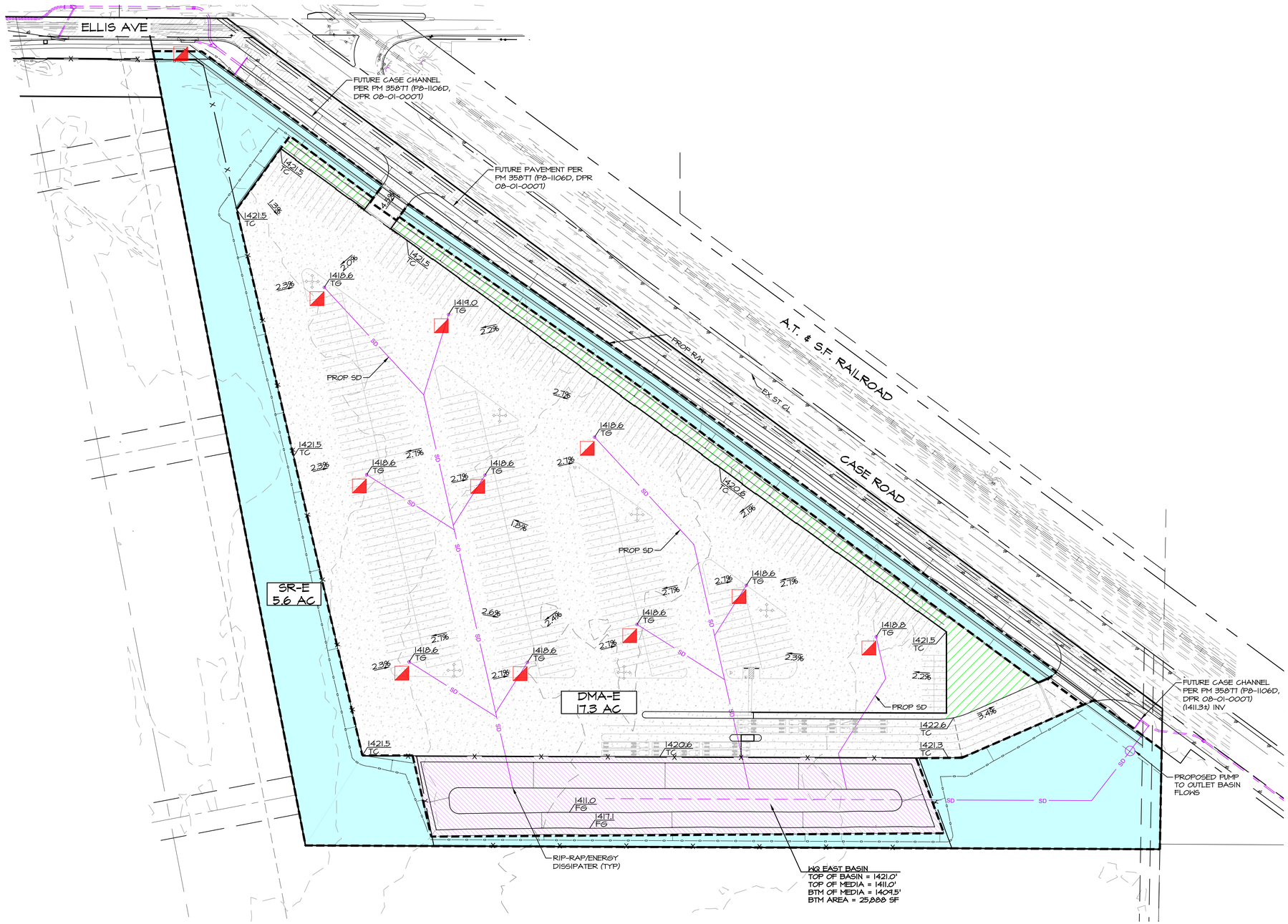
SCALE:	1" = 80'
DATE:	2023-08-23
DESIGNED:	ABE
CHECKED:	SKK
PLN CK REF:	
F.B.	

ALBERT A. WEBB ASSOCIATES
ENGINEERING CONSULTANTS
3788 McCRAY STREET
RIVERSIDE, CA. 92506
PH. (951) 686-1070
FAX (951) 788-1256

W.O.	21-0235
SHEET	1
OF	1 SHEETS
DWG. NO.	

H:\2021\21-0235\DRAINAGE\WQMP\DWG DRAWINGS\21-0235-PWQMP_EAST SITE.DWG 8/23/2023 7:47:49 AM

ALL ISSUE



LEGEND

- DMA BOUNDARY
- LANDSCAPING
- CONCRETE OR ASPHALT
- SELF-RETAINING
- BIO-RETENTION FACILITY
- FLOW DIRECTION
- CURB OPENINGS
- STORM INLET

GENERAL NOTES

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FROM CITY OF SUN CITY BM Z 10984 (RCFC & WCD)
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(CONVERSION FACTO TO NGVD 29 IS -2.63' PER RCFC & WCD)

N
W WEBB E
S

1" = 80'
40 0 80 160 240

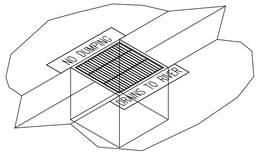
POST-CONSTRUCTION BMP SITE MAP

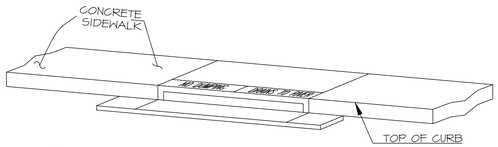
PWQMP REPORT
PERRIS AIRPORT LOGISTICS CENTER - SITE 2
ELLIS AVE AND GOETZ RD, PERRIS
(CUP23-05107)

SCALE: 1" = 80'	ALBERT A. WEBB ASSOCIATES	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE, CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	W.O. 21-0235
DATE:2023-08-23			SHEET 1
DESIGNED: ABE			OF 2 SHEETS
CHECKED: SKK			DWG. NO.
PLN CK REF:			
F.B.			

H:\2021\21-0235\DRAINAGE\WQMP\DWG DRAWINGS\21-0235-PWQMP_EAST SITE.DWG 8/23/2023 7:47:49 AM

ALLISONE

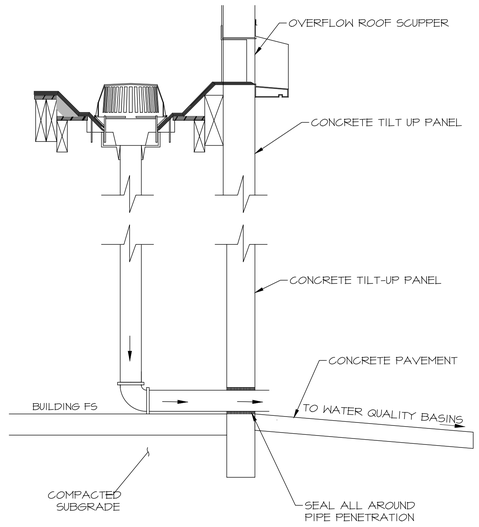




1. STENCILS TO HAVE 2" LETTERS AS FOLLOWS: "NO DUMPING - DRAINS TO RIVER"
2. PLACE BOTH STENCILS CENTERED WITHIN THE CATCHBASIN OPENINGS AND WITHIN THE TOP OF THE CURB.
3. SPRAY BOTH STENCILS WITH WHITE PAINT.
4. REMOVE STENCILS WHEN PAINT IS DRY.

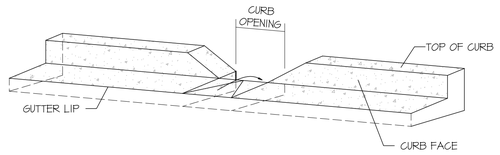
CATCH BASIN STENCILING DETAIL

NTS



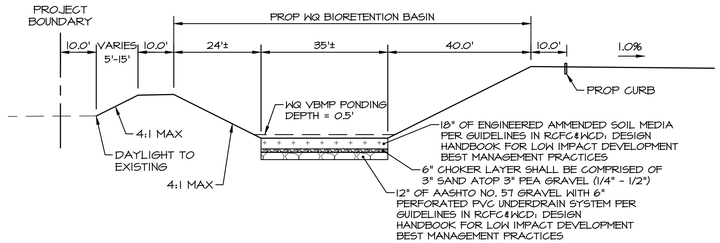
ROOF DRAIN DETAIL

N.T.S.



TYPICAL CURB OPENING DETAIL

N.T.S.



DMA-E (SITE 2) BIORETENTION BASIN

N.T.S.

POST-CONSTRUCTION BMP SITE MAP

PWQMP REPORT
PERRIS AIRPORT LOGISTICS CENTER - SITE 2
ELLIS AVE AND GOETZ RD, PERRIS
(CUP23-05107)

SCALE: AS SHOWN	ALBERT A. WEBB ASSOCIATES	W.O. 21-0235
DATE: 2023-08-23	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	SHEET 2
DESIGNED: ABE		OF 2 SHEETS
CHECKED: SKK		
PLN CK REF:		DWG. NO.
F.B.		

H:\2021\21-0235\DRAINAGE\WQMP\DWG DRAWINGS\21-0235-PWQMP_EAST SITE.DWG 8/23/2023 7:47:49 AM

ALL LOGOS

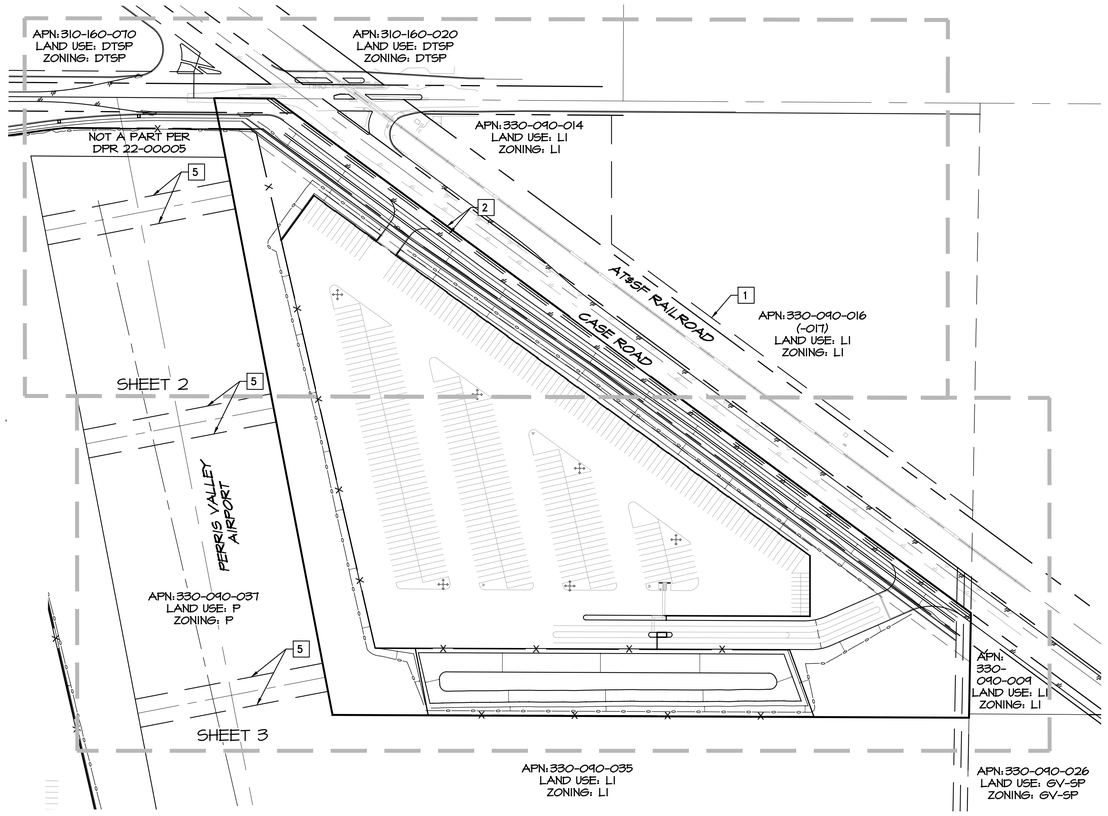
Appendix 2: Construction Plans

Grading and Drainage Plans

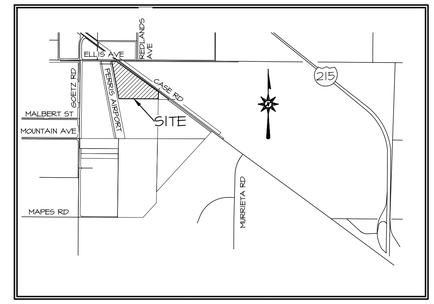
IN THE CITY OF PERRIS, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

CONDITIONAL USE PERMIT - CUP 23-05107

LOCATED IN SECTION 5, T. 5 S., R. 3 W., S.B.M.



INDEX MAP
SCALE: 1"=150'



VICINITY MAP
NTS

PROJECT DESCRIPTION

CONDITIONAL USE PERMIT FOR A TRUCK PARKING LOT CONSISTING OF ONE GUARD HOUSE, 20 TRACTOR STALLS, AND 323 TRAILER STALLS ON 22.9 NET ACRES.

GENERAL INFORMATION

1. THOMAS BROS. MAP BOOK PAGE 807 GRID: H4, H5 & J5.
2. PROJECT IS NOT WITHIN A SPECIFIC PLAN.
3. EASEMENTS OF RECORD ARE PLOTTED HEREIN.
4. PROJECT IS NOT WITHIN A COMMUNITY SERVICES DISTRICT.
5. PROJECT IS WITHIN MEAD VALLEY AREA PLAN (RCIP).
6. THERE ARE NO EXISTING WELLS ON THE PROPERTY.
7. SETBACKS OF SLOPES TO PROPERTY LINES SHALL CONFORM TO COUNTY OF RIVERSIDE ORDINANCE 457 REQUIREMENTS.
8. ALL SLOPES ARE 2:1 RATIO, UNLESS OTHERWISE NOTED.
9. LAND IS NOT WITHIN A SPECIAL STUDIES ZONE.
10. LAND IS SUBJECT TO LOW LIQUEFACTION.
11. NO SUBSURFACE SEPTIC SEWAGE DISPOSAL IS INTENDED.
12. THERE ARE NO EXISTING STRUCTURES WITHIN THE PROJECT BOUNDARY.
13. THE PROJECT WILL COMPLY WITH NPDES REQUIREMENTS AS REQUIRED BY NPDES SUPPLEMENT "A".
14. FLOOD ZONE AE, AREA OF SPECIAL FLOOD HAZARD PER FEMA PANEL 06065C1440H.
16. PROJECT IS WITHIN AIRPORT COMPATIBILITY ZONE E (MARCH AIR FORCE BASE). PROJECT IS WITHIN AIRPORT COMPATIBILITY ZONES A, B1, B2, C, AND D (PERRIS AIRPORT).
17. ARCHITECT SITE PLAN PROVIDED BY RGA ON 03/14/2023

PROJECT DATA

BUILDING USE	
GUARD HOUSE	100 SF
TOTAL FLOOR SPACE	100 SF

AUTO PARKING REQUIRED		
WAREHOUSE		
0-20,000 SF	@1/1,000 SF	1 STALL

PARKING FACILITIES PROVIDED	
STANDARD AUTO PARKING	1 STALL
ACCESSIBLE	1 STALL
TRACTOR PARKING	20 STALLS
TRAILER PARKING	323 STALLS

LEGAL DESCRIPTION

REAL PROPERTY IN THE CITY OF PERRIS, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

APN: 330-090-034

PARCEL 2:
PARCEL 3 AS SHOWN ON CERTIFICATE OF COMPLIANCE - LOT LINE ADJUSTMENT NO. 16-05251, AS EVIDENCED BY DOCUMENT RECORDED APRIL 07, 2017 AS INSTRUMENT NO. 2017-0140879 OF OFFICIAL RECORDS.

PARCEL 3:
AN EASEMENT AND RIGHT OF WAY TO CONSTRUCT, USE, MAINTAIN, OPERATE, ALTER, ADD TO, REPAIR, REPLACE, RECONSTRUCT, ENLARGE, IMPROVE, INSPECT, AND REMOVE, AND RELOCATE UNDERGROUND PIPELINES AND MAINS FOR UTILITIES, WATER, SEWER, GAS AND STORM SYSTEMS, AS SET FORTH IN THAT CERTAIN EASEMENT AGREEMENT BETWEEN PATRICK M. CONATSER, TRUSTEE OF THE PATRICK M. CONATSER IRREVOCABLE TRUST, DATED DECEMBER 28, 2021, AND MELANIE D. CONATSER, TRUSTEE OF THE MELANIE D. CONATSER IRREVOCABLE TRUST DATED DECEMBER 28, 2021 TO MIRA MESA PERRIS AIRPORT, LLC, DATED DECEMBER 28, 2021 AND RECORDED APRIL 10, 2017 AS INSTRUMENT NO. 2017-0141746 OF OFFICIAL RECORDS.

EASEMENT NOTES

1 AN EASEMENT FOR EITHER OR BOTH POLE LINES, CONDUITS AND INCIDENTAL PURPOSES, RECORDED MAY 27, 1913 IN BOOK 371 OF DEEDS, PAGE 18, IN FAVOR OF SOUTHERN SIERRA POWER COMPANY.

2 AN EASEMENT FOR EITHER OR BOTH POLE LINES, CONDUITS AND INCIDENTAL PURPOSES, RECORDED FEBRUARY 04, 1931 AS BOOK 313, PAGE 66 OF OFFICIAL RECORDS, IN FAVOR OF SOUTHERN CALIFORNIA TELEPHONE COMPANY

5 THE TERMS, PROVISIONS CONTAINED IN THE DOCUMENT ENTITLED "EASEMENT AGREEMENT" RECORDED APRIL 10, 2017 AS INSTRUMENT NO. 2017-0141746 OF OFFICIAL RECORDS.

OWNER/APPLICANT

CH REALTY IX-MC I RIVERSIDE PERRIS AIRPORT CENTER, L.P.
18032 LEMON DRIVE, SUITE 367
YORBA LINDA, CA 92886
CONTACT: MIKE MASTERSON
PHONE: (714) 299-8549

PROJECT REPRESENTATIVE

CHRISTINE SAUNDERS & ASSOCIATES, LLC
11311 STREAMHURST DRIVE
RIVERSIDE, CA 92505
CONTACT: CHRISTINE SAUNDERS
PHONE: (714) 488-1529

ARCHITECT

RGA OFFICE OF ARCHITECTURAL DESIGN
15231 ALTON PARKWAY, SUITE 100
IRVINE, CA 92618
CONTACT: MIKE GILL
PHONE: (949) 341-0920
FAX: (949) 341-0922

ENGINEER

ALBERT A. WEBB ASSOCIATES
3788 MCCRAY STREET
RIVERSIDE, CA 92506
CONTACT: SARAH KOWALSKI
PHONE: (951) 686-1070

SOILS ENGINEER

SOCAL GEOTECHNICAL
22885 SAVI RANCH PARKWAY #E
YORBA LINDA, CA 92887
CONTACT: JOSEPH LOZANO LEON
PHONE: (714) 685-1115
FAX: (714) 685-1118

UTILITY PROVIDERS

WATER	EASTERN MUNICIPAL WATER DISTRICT
SEWER	EASTERN MUNICIPAL WATER DISTRICT
ELECTRICAL	SOUTHERN CALIFORNIA EDISON
GAS	SOUTHERN CALIFORNIA GAS COMPANY
TELEPHONE	FRONTIER COMMUNICATIONS
CABLE T.V.	CHARTER COMMUNICATIONS

LAND USE

EXISTING/PROPOSED GENERAL PLAN LAND USE: LIGHT INDUSTRIAL (LI)
EXISTING/PROPOSED ZONING: LIGHT INDUSTRIAL (LI)

SCHOOL DISTRICT

PERRIS ELEMENTARY AND PERRIS UNION HIGH SCHOOL DISTRICTS

TOPOGRAPHY SOURCE

TOPOGRAPHY FLOWN BY INLAND AERIAL SURVEYS, INC. ON 05/18/2021

A.P.N.

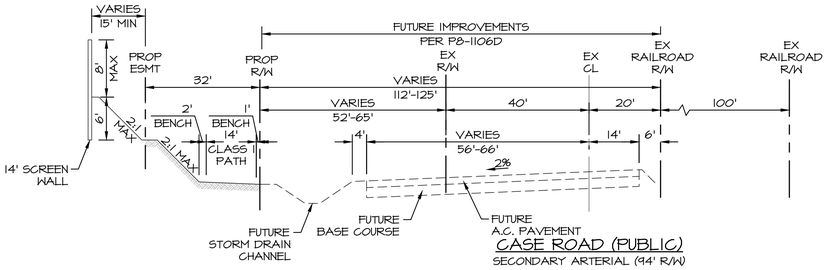
330-090-034

ACREAGE

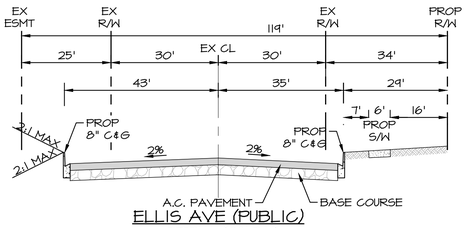
R/W DEDICATION, ELLIS AVENUE:	0.2 AC
R/W DEDICATION, CASE ROAD:	2.3 AC
NET AREA:	22.9 AC
GROSS SITE AREA:	25.4 AC

EARTHWORK ESTIMATE

CUT:	19,000 CY
FILL:	125,100 CY
SHRINKAGE:	100 CY
FILL:	106,000 CY (FILL)



CASE ROAD (PUBLIC)
SECONDARY ARTERIAL (94' R/W)
N.T.S.



ELLIS AVE (PUBLIC)
ARTERIAL (128' R/W)
N.T.S.

LEGEND

	EX CENTER LINE
(1475)	EX CONTOUR
	EX EDGE OF PAVEMENT
	EX POWER POLE
	PROJECT BOUNDARY
1475	PROP CONTOUR
	PROP DAYLIGHT
	PROP EDGE OF PAVEMENT
X	PROP 6' FENCE
	PROP FIRE HYDRANT
	PROP GRADE BREAK
	PROP LIGHTING
SD	PROP STORM DRAIN
	RIGHT-OF-WAY (EX/PROP)

ABBREVIATIONS

DWY	DRIVEWAY
FF	FINISHED FLOOR
R/W	RIGHT-OF-WAY
PROP	PROPOSED
EX	EXISTING
EP	EDGE OF PAVEMENT
SD	STORM DRAIN
FH	FIRE HYDRANT
S/W	SIDEWALK
ESMT	EASEMENT
CL	CENTER LINE
FUT	FUTURE

SHEET INDEX

N
W WEBB E
S

1" = 150'
150 0 150 300 450

PRELIMINARY

REVISIONS	DATE	BY
SPLIT PROPOSED SITE FROM DPR 22-00005	4/23	AG

SCALE: 1" = 150'
DATE: 2023-08-22
DESIGNED: ABE
CHECKED: SKK
PLN CK REF:
F.B.

ALBERT A. WEBB ASSOCIATES
ENGINEERING CONSULTANTS
3788 McCRAY STREET
RIVERSIDE CA. 92506
PH: (951) 686-1070
FAX (951) 788-1256

PLOT DATE: 22-Aug-23

CONDITIONAL USE PERMIT - CUP 23-05107
CITY OF PERRIS

CH REALTY IX-MC I RIVERSIDE PERRIS AIRPORT CENTER, L.P.

W.O. 21-0235
SHEET 1 OF 5 SHEETS
DWG. NO.

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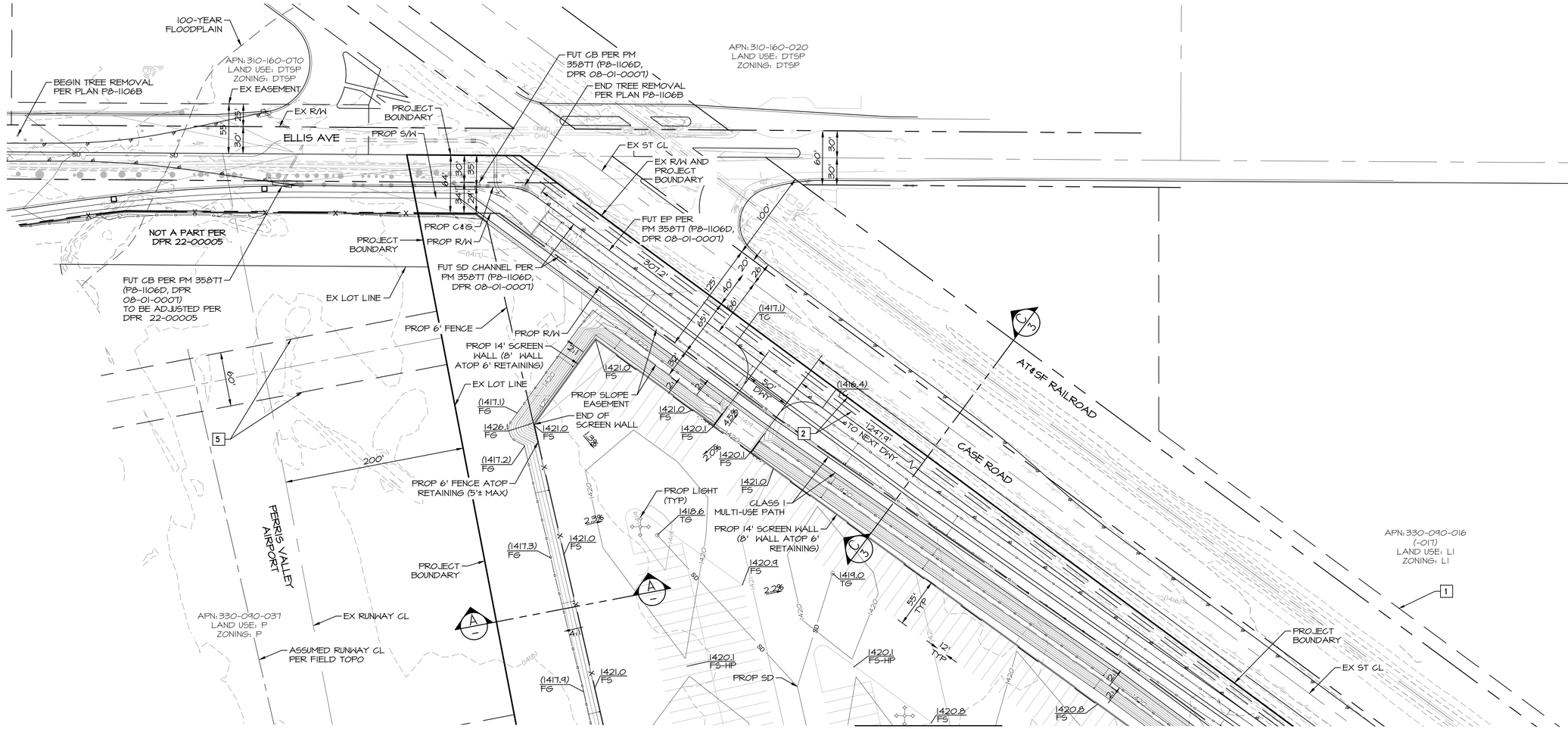

LEGEND

- EX CENTER LINE
- (1475) EX CONTOUR
- EX EDGE OF PAVEMENT
- EX POWER POLE
- PROJECT BOUNDARY
- 1475 PROP CONTOUR
- PROP DAYLIGHT
- PROP EDGE OF PAVEMENT
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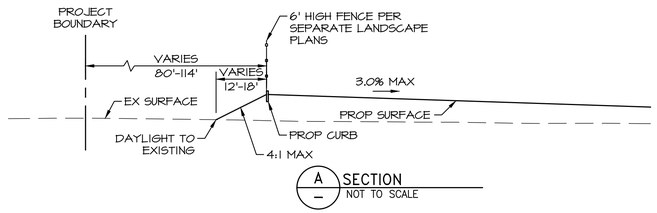
FH	FIRE HYDRANT
S/W	SIDEWALK
ESMT	EASEMENT
CL	CENTER LINE
FUT	FUTURE



A — SECTION
NOT TO SCALE

N W E S WEBB

1" = 60'

60 0 60 120 180

REVISIONS	DATE	BY

SCALE: 1" = 60'
DATE: 2023-08-22
DESIGNED: ABE
CHECKED: SKK
PLN CK REF:
F.B.

ALBERT A. WEBB ASSOCIATES
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3788 McCRAY STREET
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PH. (951) 686-1070
FAX (951) 788-1256

PLOT DATE: 22-Aug-23

CONDITIONAL USE PERMIT - CUP 23-05107
CITY OF PERRIS

CH REALTY IX-MC I RIVERSIDE PERRIS AIRPORT CENTER, L.P.

W.O. 21-0235
SHEET 2
OF 5 SHEETS
DWG. NO.

PRELIMINARY

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SEE SHEET 2
MATCHLINE - A

FERRIS VALLEY AIRPORT

EX RUNWAY CL

ASSUMED RUNWAY CL PER FIELD TOPO

APN: 330-090-037
LAND USE: P
ZONING: P

PROJECT BOUNDARY

PROP 6' FENCE

PROP SD

PROP BASIN
BB=1411.0

PROP WQ BASIN
NOTE: BASIN IS DESIGNED TO DRAIN WITHIN 48 HOURS AND WILL UTILIZE COVER (SUCH AS BIRD BALLS OR NETTING) TO DISCOURAGE HAZARDOUS WILDLIFE.

FUT SD CHANNEL PER PM 35871 (PB-1106D, DPR 08-01-0007)

AT&SF RAILROAD

CASE ROAD

EX R/W

PROP R/W

PROP SLOPE EASEMENT

CLASS I MULTI-USE PATH

PROP 14' SCREEN WALL (8' WALL ATOP 6' RETAINING)

FUT EP PER PM 35871 (PB-1106D, DPR 08-01-0007)

TO NEXT DWY

PROJECT BOUNDARY

PROP LIGHT (TYP)

END OF SCREEN WALL

PROP 14' SCREEN WALL

PROP GUARD HOUSE

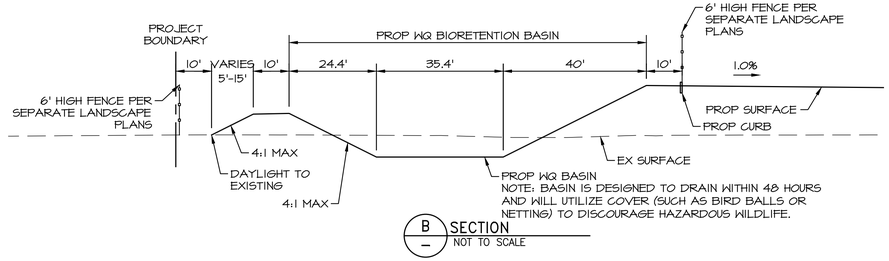
PROP STORM DRAIN LIFT STATION

FUT R/W TO BE OBTAINED PER PM 35871 (PB-1106D, DPR 08-01-0007)

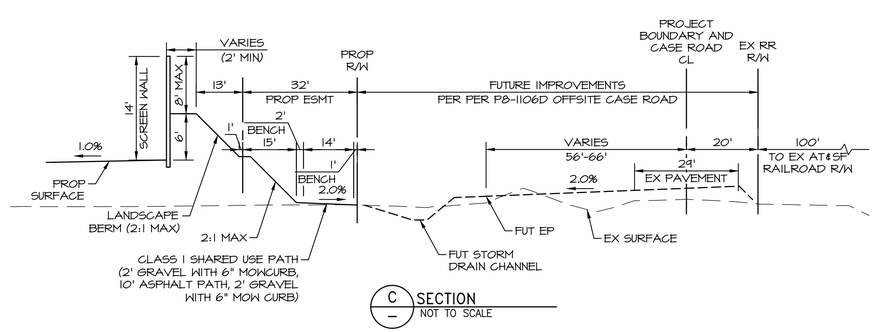
APN: 330-090-009
LAND USE: LI
ZONING: LI

APN: 330-090-035
LAND USE: LI
ZONING: LI

APN: 330-090-026
LAND USE: GV-SP
ZONING: GV-SP



B — SECTION
NOT TO SCALE



C — SECTION
NOT TO SCALE

LEGEND

- EX CENTER LINE
- (1475) EX CONTOUR
- EX EDGE OF PAVEMENT
- EX POWER POLE
- PROJECT BOUNDARY
- 1475 PROP CONTOUR
- PROP DAYLIGHT
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S/W	SIDEWALK
ESMT	EASEMENT
CL	CENTER LINE
FUT	FUTURE

N W WEBB E S

1" = 60'

60 0 60 120 180

PRELIMINARY

REVISIONS	DATE	BY

SCALE: 1" = 60'
DATE: 2023-08-22
DESIGNED: ABE
CHECKED: SKK
PLN CK REF:
F.B.

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PH. (951) 686-1070
FAX (951) 788-1256

PLOT DATE: 22-Aug-23

CONDITIONAL USE PERMIT - CUP 23-05107
CITY OF PERRIS

CH REALTY IX-MC I RIVERSIDE PERRIS AIRPORT CENTER, L.P.

W.O. 21-0235
SHEET 3
OF 5 SHEETS
DWG. NO.

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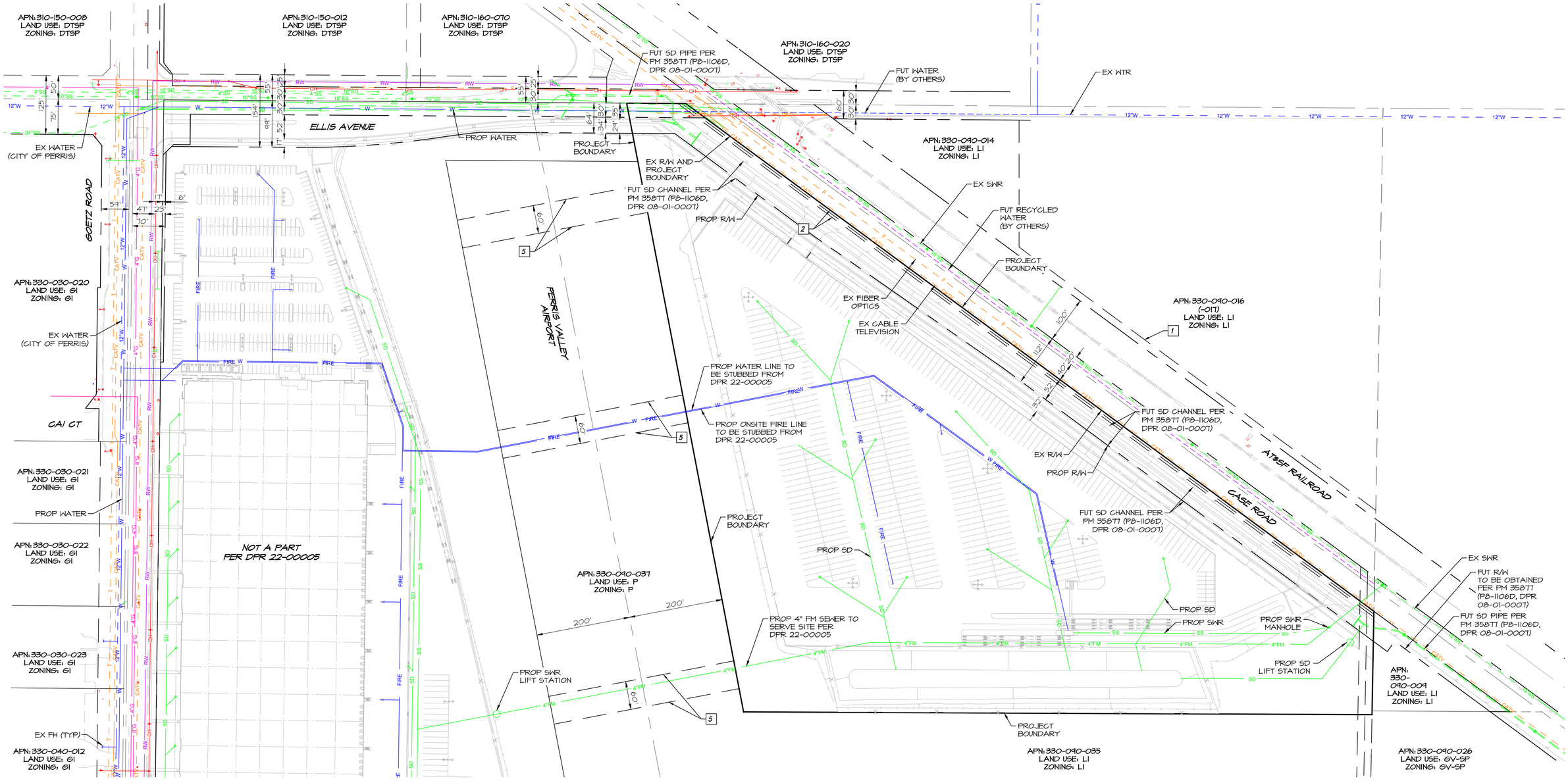

LEGEND

R/W	
EX ROAD CL	
EX ESMT LINE	
PROP SD	
EX SD	
EX GAS	
PROP WATER	
EX WATER	
FUT WATER (BY OTHERS)	
PROP SEWER	
EX SEWER	
PROP RECYCLED WATER	
FUT RECYCLED WATER (BY OTHERS)	
PROP ONSITE FIRE LINE	
EX F.O.	
EX CABLE TELEVISION	
EX TELEPHONE CABLE	
PROJECT BOUNDARY	
EX FH	
EX POWER POLE	

ABBREVIATIONS

CL	CENTER LINE
CONC	CONCRETE
EX	EXISTING
ESMT	EASEMENT
F.O.	FIBER OPTICS
FH	FIRE HYDRANT
FM	FORCED MAIN
FUT	FUTURE
LT	LIGHT
PROP	PROPOSED
R/W	RIGHT OF WAY
SD	STORM DRAIN
ST LT	STREET LIGHT
SWR	SEWER
TYP	TYPICAL
WATR	WATER
WQ	WATER QUALITY

UTILITY PROVIDERS

WATER	EASTERN MUNICIPAL WATER DISTRICT
SEWER	EASTERN MUNICIPAL WATER DISTRICT
ELECTRICAL	SOUTHERN CALIFORNIA EDISON
GAS	SOUTHERN CALIFORNIA GAS COMPANY
TELEPHONE	FRONTIER COMMUNICATIONS
CABLE T.V.	CHARTER COMMUNICATIONS

N W WEBB E S

1" = 100'

100 0 100 200 300

PRELIMINARY

REVISIONS	DATE	BY

SCALE: 1" = 100'
DATE: 2023-08-22
DESIGNED: ABE
CHECKED: SKK
PLN CK REF:
F.B.

ALBERT A. WEBB ASSOCIATES
ENGINEERING CONSULTANTS
3788 McCRAY STREET
RIVERSIDE, CA. 92506
PH. (951) 686-1070
FAX (951) 788-1256

PLOT DATE: 22/08/2023

CONDITIONAL USE PERMIT CUP 23-05107
CITY OF PERRIS

CH REALTY IX-MC I RIVERSIDE PERRIS AIRPORT CENTER, L.P.

W.O. 21-0235
SHEET 4
OF 5 SHEETS
DWG. NO.

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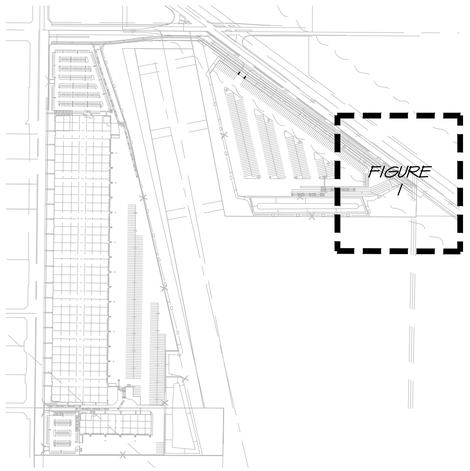
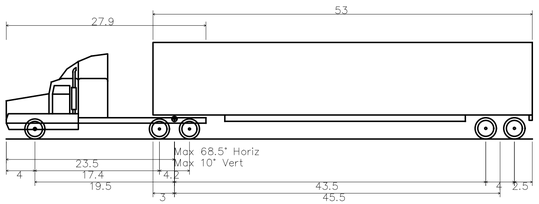


KEY MAP



WB–67 – Interstate Semi–Trailer

Overall Length	73.501ft
Overall Width	8.500ft
Overall Body Height	13.500ft
Min Body Ground Clearance	1.334ft
Max Track Width	8.500ft
Lock–to–lock time	6.00s
Max Steering Angle (Virtual)	28.40°

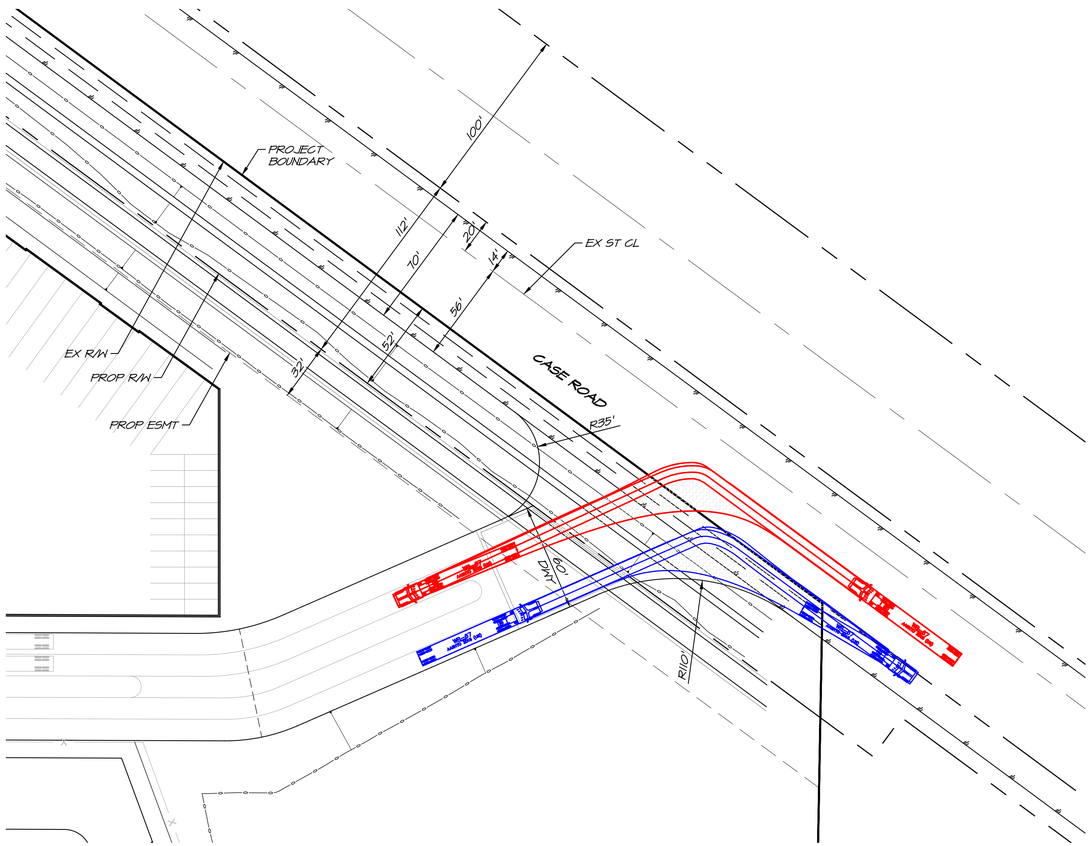


FIGURE 1

PRELIMINARY

REVISIONS	DATE	BY	SCALE: 1" = 40'	ALBERT A. WEBB ASSOCIATES	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE, CA. 92506 PH. (951) 686–1070 FAX (951) 788–1256
			DATE: 8/22/2023		CONDITIONAL USE PERMIT - CUP 23-05107 CITY OF PERRIS
			DESIGNED: AV		W.O. 21–0235
			CHECKED: SKK		SHEET 5 OF 5 SHEETS
			PLN CK REF:	PLOT DATE: 22/08/2023	CH REALTY IX-MC I RIVERSIDE PERRIS AIRPORT CENTER, L.P.
			F.B.		DWG. NO.

H:\2021\21–0235\DRAWINGS\ENTITLEMENT\21–0235–PP–TT.DWG 8/22/2023 10:02:16 AM Aldanne

Appendix 3: Soils Information

Geotechnical Study and Other Infiltration Testing Data

June 29, 2021

MC Blackacre Management LLC
18032 Lemon Drive, Suite 367
Yorba Linda, CA 92886

Attention: Mr. Michael Masterson

Project No.: **21G180-2**

Subject: **Results of Infiltration Testing**
Proposed Industrial Building
Perris Airport Center
SEC Ellis Avenue at Goetz Road
Perris, California

References: 1) Geotechnical Investigation, Proposed RV Storage, Perris Valley Airport, SEC Goetz Road and Ellis Avenue, Perris, California, prepared by Southern California Geotechnical, Inc. (SCG) for BHT Properties Group, SCG Project No. 19G132-1, dated April 23, 2019.

2) Geotechnical Investigation, Proposed Industrial Building, Perris Airport Center, SEC Ellis Avenue at Goetz Road, Perris, California, prepared by SCG for MC Blackacre Management, LLC, SCG project No. 21G180-1, dated June 28, 2021.

Mr. Masterson:

In accordance with your request, we have conducted infiltration testing at the subject site. We are pleased to present this report summarizing the results of the infiltration testing and our design recommendations.

Scope of Services

The scope of services performed for this project was in general accordance with our Proposal No. 21P258R, dated May 24, 2021. The scope of services included site reconnaissance, subsurface exploration, field testing, and engineering analysis to determine the infiltration rates of the on-site soils. The infiltration testing was performed in general accordance with the Riverside County – Low Impact Development BMP Design Handbook – Section 2.3 of Appendix A, prepared for the Riverside County Department of Environmental Health (RCDEH), dated December 2013 and the ASTM test method D-3385-03, Standard Test Method for Infiltration Rate of Soils in Field Using Double-Ring Infiltrometer.

Site and Project Description

The subject site is located at the southeast corner of Goetz Road and Ellis Avenue in Perris, California. The site is bounded to the north by Ellis Avenue, to the west by Goetz Road, to the south by an auction facility, a portion of the Perris Valley Airport (PVA) and a vacant lot, to the northeast by Case Road, and to the east by a vacant lot. The general location of the site is illustrated on the Site Location Map, enclosed as Plate 1 of this report.

The site consists of several irregular-shaped parcels which total 81.64± acres in size. These parcels are located in the northern area of the PVA. The site is currently vacant and generally undeveloped, with the exception of isolated areas in the north-central region of the site. These areas are developed with what appears to be asphaltic concrete pavements. These pavements are located adjacent to the northern terminus of the existing PVA runway. The ground surface cover in the unpaved areas of the site generally consists of exposed soil with moderate to extensive weed growth. Several large trees are present along the northern property line of the subject site, and two large trees are present along the western property line.

Detailed topographic information was not available at the time of this report. Based on elevations obtained from Google Earth and visual observations made at the time of the subsurface investigation, the site is relatively level with localized undulations of 1 to 2± feet.

Proposed Development

A conceptual site plan, prepared by Ware Malcomb, has been provided to our office by the client. Based on this plan, the subject site will be developed with a 704,480± ft² industrial building, located in the western region of the site. Dock-high doors will be constructed along the east wall of the proposed building. The proposed building is expected to be surrounded by asphaltic concrete pavements in the parking and drive areas, Portland cement concrete pavements in the loading dock area, and concrete flatwork and landscaped planters throughout the site.

The proposed development will include on-site infiltration to dispose of storm water. The infiltration system will consist of two infiltration basins located in the southeastern and eastern areas of the site. The bottom of the basins are expected to be 4 to 5± feet below existing site grades.

Previous Study

Southern California Geotechnical, Inc. (SCG) performed a geotechnical investigation for a previously proposed RV storage lot, with the only structure consisting of a 10,000± ft^2 office building located in the northwestern region of the site (Reference No. 1).

As part of this investigation six (6) borings (identified as Boring Nos. B-1 through B-6) were advanced to depths of 5 to 20± feet below the existing site grades. The approximate locations of the previous borings are indicated on the Boring Location Plan, included as Plate 2 in Appendix A of this report. Native alluvium was encountered at the ground surface at all of the boring locations. The near-surface alluvial soils generally consist of loose to medium dense silty sands and clayey sands, and stiff to very stiff sandy clays, extending to depths of 2½ to 6½± feet below the existing site grades. The underlying native alluvium generally possesses higher strengths and densities and consists of clayey sands, silty sands, and sandy clays. Free water was not encountered during the drilling of any of the borings. Based on the lack of water within the borings, the groundwater was considered to have existed at a depth in excess of 20± feet at the time of the previous subsurface exploration.

Concurrent Study

Southern California Geotechnical, Inc. (SCG) concurrently performed a geotechnical investigation at the subject site (Reference No. 2). As part of this investigation, SCG drilled five (5) borings to depths of 5 to 50± feet below the existing site grades. Native older alluvium was encountered at the ground surface at all of the boring locations, extending to depths of 5 to 32± feet below the existing site grades. The alluvium generally consists of dense to very dense clayey sands and silty sands, and stiff to hard sandy clays. Val Verde Tonalite bedrock was encountered beneath the older alluvial soils at one of the boring locations at a depth of 32± feet and extending to a depth of at least 50± feet below the existing site grades. The bedrock consists of medium dense to very dense gray brown to gray fine to coarse-grained tonalite.

Free water was encountered during drilling at depths of 23½± to 30± feet. The static groundwater table is considered to have been present at a depth of 23½± feet below the existing site grades at the time of the subsurface exploration.

Subsurface Exploration

Scope of Exploration

The subsurface exploration for the infiltration testing consisted of seven (7) backhoe-excavated trenches, extending to depths of 4 to 5± feet below existing site grades. The trenches were logged during excavation by a member of our staff. The approximate locations of the infiltration trenches (identified as I-1 through I-7) are indicated on the Infiltration Test Location Plan, enclosed as Plate 2 of this report.

Geotechnical Conditions

Native alluvial soils were encountered at the ground surface at all seven (7) infiltration test locations, extending to at least the maximum explored depth of 5± feet below existing site grades. The upper ½ to 1± foot of alluvium appeared to be disturbed and loosened by farm equipment. The disturbed alluvium consists of loose fine sandy silts. Beneath the disturbed alluvial strata and extending to the maximum explored depth of 5± feet, native older alluvium was encountered at all of the trench locations. The alluvium consists of dense to very dense silty fine sands, silty fine to medium sands, and silty fine to coarse sands. Trace quantities of clay and some calcareous nodules were encountered within the alluvial strata. The Trench Logs, which illustrate the conditions encountered at the infiltration test locations, are included with this report.

Groundwater was not encountered during excavation of any of the infiltration trenches. As previously stated in the concurrent studies section of this report, the groundwater at the site is considered to be at a depth of 23½± feet at the time of our investigation.

As part of our research, we reviewed available groundwater data in order to determine the historic high groundwater level for the site. The primary reference used to determine the groundwater depths in this area is the California State Water Resources Control Board, GeoTracker, website, https://geotracker.waterboards.ca.gov/. Several monitoring wells on record are located approximately one mile north of the subject site. Water level readings within these monitoring wells indicate a high groundwater level of 37± feet below the ground surface in June 2007.

Infiltration Testing – Double Ring Infiltrometer

The infiltration testing was performed in general accordance with the ASTM test method D-3385-03, Standard Test Method for Infiltration Rate of Soils in Field Using Double-Ring Infiltrometer.

Two stainless steel infiltration rings were used for the infiltration testing. The outer infiltration ring is 2 feet in diameter and 20 inches in height. The inner infiltration ring is 1 foot in diameter and 20 inches in height. At each test location, a trench was excavated to the proposed depth of the infiltration system and the outer ring was driven 3± inches into the soil at the base of each trench. The inner ring was centered inside the outer ring and subsequently driven 3± inches into the soil at the base of the trench. The rings were driven into the soil using a sixteen-pound sledge hammer. The soil surrounding the wall of the infiltration rings was only slightly disturbed during the driving process.

Infiltration Testing Procedure

Infiltration testing was performed at both of the infiltration trench locations. The infiltration testing consisted of filling the inner ring and the annular space (the space between the inner and outer rings) with water, approximately 3 to 4 inches above the soil. To prevent the flow of water from one ring to the other, the water level in both the inner ring and the annular space between the rings was maintained using constant-head float valves. The volume of water that was added to maintain a constant head in the inner ring and the annular space during each time interval was determined and recorded. A cap was placed over the rings to minimize the evaporation of water during the tests.

The schedule for readings was determined based on the observed soil type at the base of each backhoe-excavated trench. Based on the existing soils at the trench locations, the volumetric measurements were made at 5, 15, and 25-minute increments, depending on the draining characteristics of the soils at each trench location. The water volume measurements are presented on the spreadsheets enclosed with this report. The infiltration rates for each of the timed intervals are also tabulated on these spreadsheets

Infiltration Results

The infiltration rates from the tests are tabulated in inches per hour. In accordance with the typically accepted practice, it is recommended that the most conservative reading from the latter part of the infiltration tests be used as the design infiltration rate. The rates are summarized below:

Infiltration Test No.	Test Depth (feet)	Soil Description	Infiltration Rate (inches/hour)
I-1	4	Brown Silty fine to medium Sand, trace Clay	1.7
I-2	5	Brown Silty fine to coarse Sand	1.4
I-3	4	Brown Silty fine to coarse Sand	2.3
I-4	4	Brown Silty fine to medium Sand	1.9
I-5	5	Brown Silty fine to medium Sand, trace coarse Sand, trace Clay	1.3
I-6	4	Brown Silty fine to coarse Sand	1.0
I-7	4	Brown Silty fine to coarse Sand, trace Clay	1.5

Laboratory Testing

Moisture Content

The moisture contents for the recovered soil samples within the borings were determined in accordance with ASTM D-2216 and are expressed as a percentage of the dry weight. These test results are presented on the Trench Logs.

Grain Size Analysis

The grain size distribution of selected soils collected from the base of each infiltration test boring have been determined using a range of wire mesh screens. These tests were performed in general accordance with ASTM D-422 and/or ASTM D-1140. The weight of the portion of the sample retained on each screen is recorded and the percentage finer or coarser of the total weight is calculated. The results of these tests are presented on Plates C-1 through C-7 of this report.

Design Recommendations

Seven (7) infiltration tests were performed at the subject site. As noted above, the infiltration rates at these locations vary from 1.0 to 2.3 inches per hour. **Based on the results of the infiltration testing, we recommend the following infiltration rates to be utilized:**

Infiltration System	Infiltration Rate (inches per hour)
A	1.4
B	1.0

The design of the storm water infiltration system should be performed by the project civil engineer, in accordance with the City of Perris and/or County of Riverside guidelines. It is recommended that the system be constructed so as to facilitate removal of silt and clay, or other deleterious materials

from any water that may enter the systems. The presence of such materials would decrease the effective infiltration rates. **It is recommended that the project civil engineer apply an appropriate factor of safety. The infiltration rates recommended above is based on the assumption that only clean water will be introduced to the subsurface profile. Any fines, debris, or organic materials could significantly impact the infiltration rate.** It should be noted that the recommended infiltration rates are based on infiltration testing at seven (7) discrete locations and that the overall infiltration rates of the proposed infiltration systems could vary considerably.

Infiltration Rate Considerations

The infiltration rates presented herein was determined in accordance with the Riverside County guidelines and are considered valid only for the time and place of the actual test. Varying subsurface conditions will exist in other areas of the site, which could alter the recommended infiltration rates presented above. The infiltration rates will decline over time between maintenance cycles as silt or clay particles accumulate on the BMP surface. The infiltration rate is highly dependent upon a number of factors, including density, silt and clay content, grainsize distribution throughout the range of particle sizes, and particle shape. Small changes in these factors can cause large changes in the infiltration rates.

Infiltration rates are based on unsaturated flow. As water is introduced into soils by infiltration, the soils become saturated and the wetting front advances from the unsaturated zone to the saturated zone. Once the soils become saturated, infiltration rates become zero, and water can only move through soils by hydraulic conductivity at a rate determined by pressure head and soil permeability. Changes in soil moisture content will affect the infiltration rate. Infiltration rates should be expected to decrease until the soils become saturated. Soil permeability values will then govern groundwater movement. Permeability values may be on the order of 10 to 20 times less than infiltration rates. The system designer should incorporate adequate factors of safety and allow for overflow design into appropriate traditional storm drain systems, which would transport storm water off-site.

Construction Considerations

The infiltration rates presented in this report are specific to the tested locations and tested depths. Infiltration rates can be significantly reduced if the soils are exposed to excessive disturbance or compaction during construction. Compaction of the soils at the bottom of the infiltration system can significantly reduce the infiltration ability of the basins. Therefore, the subgrade soils within proposed infiltration system areas should not be over-excavated, undercut or compacted in any significant manner. **It is recommended that a note to this effect be added to the project plans and/or specifications.**

We recommend that a representative from the geotechnical engineer be on-site during the construction of the proposed infiltration systems to identify the soil classification at the base of each system. It should be confirmed that the soils at the base of the proposed infiltration systems correspond with those presented in this report to ensure that the performance of the systems will be consistent with the rates reported herein.

We recommend that scrapers and other rubber-tired heavy equipment not be operated on the basin bottom, or at levels lower than 2 feet above the bottom of the system, particularly within basins. As such, the bottom 24 inches of the infiltration systems should be excavated with non-rubber-tired equipment, such as excavators.

Basin Maintenance

The proposed project may include infiltration basins. Water flowing into these basins will carry some level of sediment. Wind-blown sediments and erosion of the basin side walls will also contribute to sediment deposition at the bottom of the basin. This layer has the potential to significantly reduce the infiltration rate of the basin subgrade soils. Therefore, a formal basin maintenance program should be established to ensure that these silt and clay deposits are removed from the basin on a regular basis. Appropriate vegetation on the basin sidewalls and bottom may reduce erosion and sediment deposition.

Basin maintenance should also include measures to prevent animal burrows, and to repair any burrows or damage caused by such. Animal burrows in the basin sidewalls can significantly increase the risk of erosion and piping failures.

Location of Infiltration Systems

The use of on-site storm water infiltration systems carries a risk of creating adverse geotechnical conditions. Increasing the moisture content of the soil can cause the soil to lose internal shear strength and increase its compressibility, resulting in a change in the designed engineering properties. Overlying structures and pavements in the infiltration area could potentially be damaged due to saturation of the subgrade soils. **The proposed infiltration systems for this site should be located at least 25 feet away from any structures, including retaining walls.** Even with this provision of locating the infiltration system at least 25 feet from the building(s), it is possible that infiltrating water into the subsurface soils could have an adverse effect on the proposed or existing structures. It should also be noted that utility trenches which happen to collect storm water can also serve as conduits to transmit storm water toward the structure, depending on the slope of the utility trench. Therefore, consideration should also be given to the proposed locations of underground utilities which may pass near the proposed infiltration system.

The infiltration system designer should also give special consideration to the effect that the proposed infiltration systems may have on nearby subterranean structures, open excavations, or descending slopes. In particular, infiltration systems should not be located near the crest of descending slopes, particularly where the slopes are comprised of granular soils. Such systems will require specialized design and analysis to evaluate the potential for slope instability, piping failures and other phenomena that typically apply to earthen dam design. This type of analysis is beyond the scope of this infiltration test report, but these factors should be considered by the infiltration system designer when locating the infiltration systems.

General Comments

This report has been prepared as an instrument of service for use by the client in order to aid in the evaluation of this property and to assist the architects and engineers in the design and preparation of the project plans and specifications. This report may be provided to the contractor(s) and other design consultants to disclose information relative to the project. However, this report is not intended to be utilized as a specification in and of itself, without appropriate interpretation by the project architect, structural engineer, and/or civil engineer. The design of the proposed storm water infiltration system is the responsibility of the civil engineer. The role of the geotechnical engineer is limited to determination of infiltration rate only. By using the design infiltration rate contained herein, the civil engineer agrees to indemnify, defend, and

hold harmless the geotechnical engineer for all aspects of the design and performance of the proposed storm water infiltration system. The reproduction and distribution of this report must be authorized by the client and Southern California Geotechnical, Inc. Furthermore, any reliance on this report by an unauthorized third party is at such party's sole risk, and we accept no responsibility for damage or loss which may occur.

The analysis of this site was based on a subsurface profile interpolated from limited discrete soil samples. While the materials encountered in the project area are considered to be representative of the total area, some variations should be expected between boring locations and testing depths. If the conditions encountered during construction vary significantly from those detailed herein, we should be contacted immediately to determine if the conditions alter the recommendations contained herein.

This report has been based on assumed or provided characteristics of the proposed development. It is recommended that the owner, client, architect, structural engineer, and civil engineer carefully review these assumptions to ensure that they are consistent with the characteristics of the proposed development. If discrepancies exist, they should be brought to our attention to verify that they do not affect the conclusions and recommendations contained herein. We also recommend that the project plans and specifications be submitted to our office for review to verify that our recommendations have been correctly interpreted. The analysis, conclusions, and recommendations contained within this report have been promulgated in accordance with generally accepted professional geotechnical engineering practice. No other warranty is implied or expressed.

Closure

We sincerely appreciate the opportunity to be of service on this project. We look forward to providing additional consulting services during the course of the project. If we may be of further assistance in any manner, please contact our office.

Respectfully Submitted,

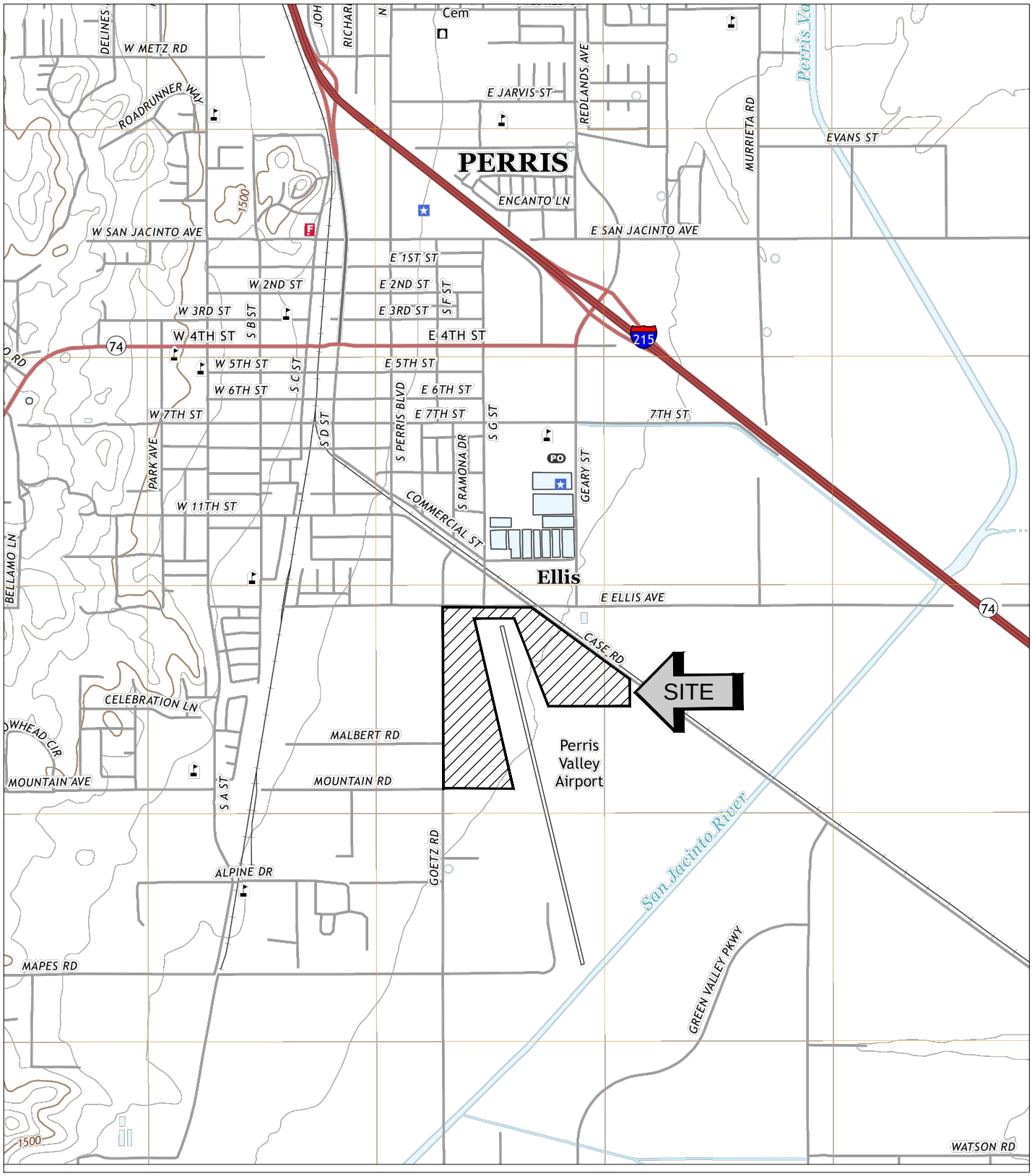
SOUTHERN CALIFORNIA GEOTECHNICAL, INC.

Ryan Bremer
Staff Geologist

Gregory K. Mitchell, GE 2364
Principal Engineer

Distribution: (1) Addressee

Enclosures: Plate 1 - Site Location Map
Plate 2 - Infiltration Test Location Plan
Trench Logs & Trench Log Legend (9 pages)
Infiltration Test Results Spreadsheets (7 pages)
Grain Size Distribution Results (7 pages)



SOURCE: USGS TOPOGRAPHIC MAP OF THE PERRIS QUADRANGLE, RIVERSIDE COUNTY, CALIFORNIA, 2018.

SITE LOCATION MAP

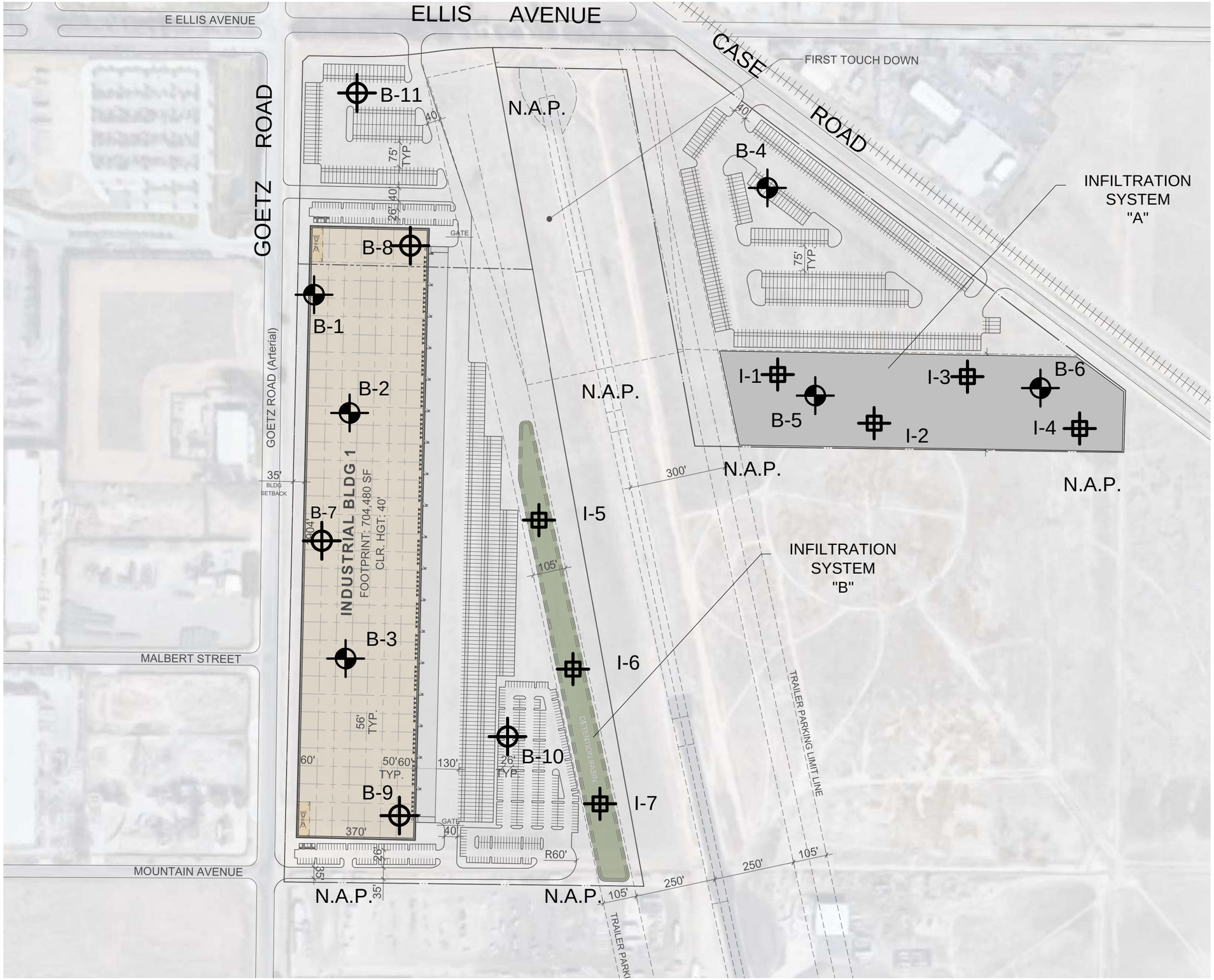
PROPOSED INDUSTRIAL BUILDING

PERRIS, CALIFORNIA

SCALE: 1" = 2000'	
DRAWN: JAZ CHKD: GKM	
SCG PROJECT 21G180-2	
PLATE 1	

SoCalGeo

SOUTHERN CALIFORNIA GEOTECHNICAL



GEOTECHNICAL LEGEND

- APPROXIMATE INFILTRATION TEST LOCATION
- APPROXIMATE BORING LOCATION (SCG PROJECT NO. 21G180-1)
- PREVIOUS BORING LOCATION (SCG PROJECT NO. 19G132-1)

NOTE: CONCEPTUAL SITE PLAN PREPARED BY WARE MALCOMB. AERIAL PHOTOGRAPH OBTAINED FROM GOOGLE EARTH (2018).

INFILTRATION TEST LOCATION PLAN

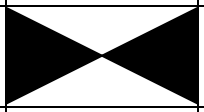
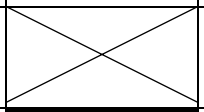
PROPOSED INDUSTRIAL BUILDING

PERRIS, CALIFORNIA

SCALE: 1" = 300'	
DRAWN: JLL CHKD: GKM	
SCG PROJECT 21G180-2	
PLATE 2	

SOUTHERN CALIFORNIA GEOTECHNICAL

TRENCH LOG LEGEND

SAMPLE TYPE	GRAPHICAL SYMBOL	SAMPLE DESCRIPTION
AUGER		SAMPLE COLLECTED FROM AUGER CUTTINGS, NO FIELD MEASUREMENT OF SOIL STRENGTH. (DISTURBED)
CORE		ROCK CORE SAMPLE: TYPICALLY TAKEN WITH A DIAMOND-TIPPED CORE BARREL. TYPICALLY USED ONLY IN HIGHLY CONSOLIDATED BEDROCK.
GRAB		SOIL SAMPLE TAKEN WITH NO SPECIALIZED EQUIPMENT, SUCH AS FROM A STOCKPILE OR THE GROUND SURFACE. (DISTURBED)
CS		CALIFORNIA SAMPLER: 2-1/2 INCH I.D. SPLIT BARREL SAMPLER, LINED WITH 1-INCH HIGH BRASS RINGS. DRIVEN WITH SPT HAMMER. (RELATIVELY UNDISTURBED)
NSR		NO RECOVERY: THE SAMPLING ATTEMPT DID NOT RESULT IN RECOVERY OF ANY SIGNIFICANT SOIL OR ROCK MATERIAL.
SPT		STANDARD PENETRATION TEST: SAMPLER IS A 1.4 INCH INSIDE DIAMETER SPLIT BARREL, DRIVEN 18 INCHES WITH THE SPT HAMMER. (DISTURBED)
SH		SHELBY TUBE: TAKEN WITH A THIN WALL SAMPLE TUBE, PUSHED INTO THE SOIL AND THEN EXTRACTED. (UNDISTURBED)
VANE		VANE SHEAR TEST: SOIL STRENGTH OBTAINED USING A 4 BLADED SHEAR DEVICE. TYPICALLY USED IN SOFT CLAYS-NO SAMPLE RECOVERED.

COLUMN DESCRIPTIONS

DEPTH: Distance in feet below the ground surface.

SAMPLE: Sample Type as depicted above.

BLOW COUNT: Number of blows required to advance the sampler 12 inches using a 140 lb hammer with a 30-inch drop. 50/3" indicates penetration refusal (>50 blows) at 3 inches. WH indicates that the weight of the hammer was sufficient to push the sampler 6 inches or more.

POCKET PEN.: Approximate shear strength of a cohesive soil sample as measured by pocket penetrometer.

GRAPHIC LOG: Graphic Soil Symbol as depicted on the following page.

DRY DENSITY: Dry density of an undisturbed or relatively undisturbed sample in lbs/ft^3.

MOISTURE CONTENT: Moisture content of a soil sample, expressed as a percentage of the dry weight.

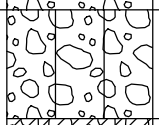
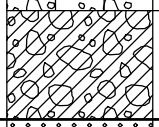
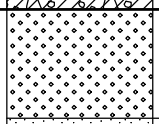
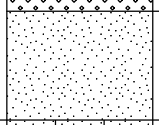
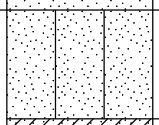
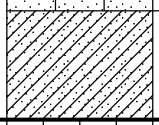
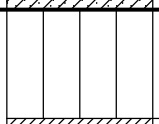
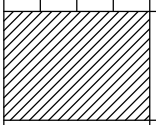
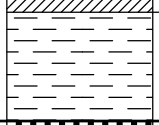
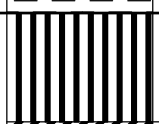
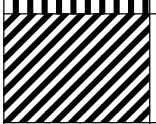
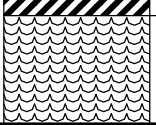
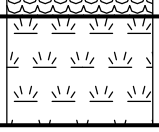
LIQUID LIMIT: The moisture content above which a soil behaves as a liquid.

PLASTIC LIMIT: The moisture content above which a soil behaves as a plastic.

PASSING #200 SIEVE: The percentage of the sample finer than the #200 standard sieve.

UNCONFINED SHEAR: The shear strength of a cohesive soil sample, as measured in the unconfined state.

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

TRENCH NO. I-1

JOB NO.: 21G180-2
PROJECT: Proposed Industrial Building
LOCATION: Perris, California

DRILLING DATE: 6/15/21
EXCAVATION METHOD: Backhoe
LOGGED BY: Caleb Brackett

WATER DEPTH: ---
CAVE DEPTH: ---
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
					DISTURBED ALLUVIUM: Light Brown fine Sandy Silt, trace fine root fibers, loose-damp ALLUVIUM: Brown Silty fine to medium Sand, trace Clay, dense-moist		12			32		
					Trench Terminated at 4'							

TBL 21G180-2.GPJ SOCALGEO.GDT 6/29/21

TEST TRENCH LOG

PLATE B-1

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

TRENCH NO. I-2

JOB NO.: 21G180-2
PROJECT: Proposed Industrial Building
LOCATION: Perris, California

DRILLING DATE: 6/15/21
EXCAVATION METHOD: Backhoe
LOGGED BY: Caleb Brackett

WATER DEPTH: ---
CAVE DEPTH: ---
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
					DISTURBED ALLUVIUM: Light Brown fine Sandy Silt, trace fine root fibers, loose-damp							
					ALLUVIUM: Brown Silty fine Sand, trace Clay, dense-dry to damp							
					Light Brown Silty fine Sand, some Calcareous nodules, medium dense-damp							
					Brown Silty fine to medium Sand, trace coarse Sand, some Calcareous nodules, dense-very moist		17			28		
5					Trench Terminated at 5'							

TBL 21G180-2.GPJ SOCALGEO.GDT 6/29/21

TEST TRENCH LOG

PLATE B-2

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

TRENCH NO. I-3

JOB NO.: 21G180-2
PROJECT: Proposed Industrial Building
LOCATION: Perris, California

DRILLING DATE: 6/15/21
EXCAVATION METHOD: Backhoe
LOGGED BY: Caleb Brackett

WATER DEPTH: ---
CAVE DEPTH: ---
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
					DISTURBED ALLUVIUM: Light Brown fine Sandy Silt, trace fine root fibers, loose-dry							
					ALLUVIUM: Brown Silty fine Sand, trace Clay, dense-moist							
					Light Brown Silty fine to coarse Sand, some Calcareous nodules dense-very moist							
							27			16		
					Trench Terminated at 4'							

TBL 21G180-2.GPJ SOCALGEO.GDT 6/29/21

TEST TRENCH LOG **PLATE B-3**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

TRENCH NO. I-4

JOB NO.: 21G180-2
PROJECT: Proposed Industrial Building
LOCATION: Perris, California

DRILLING DATE: 6/15/21
EXCAVATION METHOD: Backhoe
LOGGED BY: Caleb Brackett

WATER DEPTH: ---
CAVE DEPTH: ---
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
					DISTURBED ALLUVIUM: Light Brown fine Sandy Silt, trace fine root fibers, loose-dry							
					ALLUVIUM: Brown Silty fine Sand, trace Clay, very dense-damp							
							30			42		
					Light Brown Silty fine to medium Sand, some Calcareous nodules, dense to very dense-very moist							
					Trench Terminated at 4'							

TBL 21G180-2.GPJ SOCALGEO.GDT 6/29/21

TEST TRENCH LOG

PLATE B-4

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

TRENCH NO. I-5

JOB NO.: 21G180-2
PROJECT: Proposed Industrial Building
LOCATION: Perris, California

DRILLING DATE: 6/14/21
EXCAVATION METHOD: Backhoe
LOGGED BY: Caleb Brackett

WATER DEPTH: ---
CAVE DEPTH: ---
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
					DISTURBED ALLUVIUM: Light Brown fine Sandy Silt, trace fine root fibers, loose-dry							
					ALLUVIUM: Brown Silty fine to medium Sand, trace coarse Sand, trace Clay, very dense-damp							
5							8			38		
					Trench Terminated at 5'							

TBL 21G180-2.GPJ SOCALGEO.GDT 6/29/21

TEST TRENCH LOG

PLATE B-5

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

TRENCH NO. I-6

JOB NO.: 21G180-2
PROJECT: Proposed Industrial Building
LOCATION: Perris, California

DRILLING DATE: 6/14/21
EXCAVATION METHOD: Backhoe
LOGGED BY: Caleb Brackett

WATER DEPTH: ---
CAVE DEPTH: ---
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
					DISTURBED ALLUVIUM: Brown fine Sandy Silt, trace fine root fibers, loose-dry ALLUVIUM: Brown Silty fine to coarse Sand, very dense-damp							
							7			36		
					Trench Terminated at 4'							

TBL 21G180-2.GPJ SOCALGEO.GDT 6/29/21

TEST TRENCH LOG **PLATE B-6**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

TRENCH NO. I-7

JOB NO.: 21G180-2
PROJECT: Proposed Industrial Building
LOCATION: Perris, California

DRILLING DATE: 6/14/21
EXCAVATION METHOD: Backhoe
LOGGED BY: Caleb Brackett

WATER DEPTH: ---
CAVE DEPTH: ---
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
					DISTURBED ALLUVIUM: Brown fine Sandy Silt, trace fine root fibers, loose-dry ALLUVIUM: Brown Silty fine to coarse Sand, trace Clay, little porosity, very dense-damp							
							4			28		
					Trench Terminated at 4'							

TBL 21G180-2.GPJ SOCALGEO.GDT 6/29/21

TEST TRENCH LOG

PLATE B-7

INFILTRATION CALCULATIONS

Project Name	Proposed Industrial Building
Project Location	Perris, California
Project Number	21G180-2
Engineer	Caleb Brackett

Infiltration Test No: I-1

Constants	Diameter (ft)	Area (ft^2)	Area (cm^2)
Inner	1	0.79	730
Anlr. Spac	2	2.36	2189

*Note: The infiltration rate was calculated based on current time interval

Test Interval		Time (hr)	Interval **Elapsed** (min)	Flow Readings: Inner Ring (ml)	Flow Readings: Ring Flow (cm^3)	Flow Readings: Annular Ring (ml)	Flow Readings: Space Flow (cm^3)	Infiltration Rates: Inner Ring* (cm/hr)	Infiltration Rates: Annular Space* (cm/hr)	Infiltration Rates: Inner Ring* (in/hr)	Infiltration Rates: Annular Space* (in/hr)
1	Initial	8:00 AM	15	0	1500	0	9300	8.22	16.99	3.24	6.69
	Final	8:15 AM	**15**	1500		9300					
2	Initial	8:17 AM	15	0	1600	0	9100	8.77	16.63	3.45	6.55
	Final	8:32 AM	**30**	1600		9100					
3	Initial	8:34 AM	15	0	1300	0	9150	7.13	16.72	2.81	6.58
	Final	8:49 AM	**45**	1300		9150					
4	Initial	8:51 AM	15	0	1000	0	9100	5.48	16.63	2.16	6.55
	Final	9:06 AM	**60**	1000		9100					
5	Initial	9:08 AM	15	0	900	0	9000	4.93	16.45	1.94	6.48
	Final	9:23 AM	**75**	900		9000					
6	Initial	9:25 AM	15	0	800	0	9000	4.39	16.45	1.73	6.48
	Final	9:40 AM	**90**	800		9000					

INFILTRATION CALCULATIONS

Project Name	Proposed Industrial Building
Project Location	Perris, California
Project Number	21G180-2
Engineer	Caleb Brackett

Infiltration Test No: I-2

Constants

	Diameter (ft)	Area (ft^2)	Area (cm^2)
Inner	1	0.79	730
Anlr. Spac	2	2.36	2189

*Note: The infiltration rate was calculated based on current time interval

Test Interval		Time (hr)	Interval **Elapsed** (min)	Flow Readings: Inner Ring (ml)	Flow Readings: Ring Flow (cm^3)	Flow Readings: Annular Ring (ml)	Flow Readings: Space Flow (cm^3)	Infiltration Rates: Inner Ring* (cm/hr)	Infiltration Rates: Annular Space* (cm/hr)	Infiltration Rates: Inner Ring* (in/hr)	Infiltration Rates: Annular Space* (in/hr)
1	Initial	10:00 AM	25	0	2500	0	7500	8.22	8.22	3.24	3.24
	Final	10:25 AM	**25**	2500		7500					
2	Initial	10:27 AM	25	0	1600	0	4300	5.26	4.71	2.07	1.86
	Final	10:52 AM	**50**	1600		4300					
3	Initial	10:54 AM	25	0	1300	0	4000	4.28	4.39	1.68	1.73
	Final	11:19 AM	**75**	1300		4000					
4	Initial	11:21 AM	25	0	1050	0	2800	3.45	3.07	1.36	1.21
	Final	11:46 AM	**100**	1050		2800					
5	Initial	11:48 AM	25	0	1050	0	3000	3.45	3.29	1.36	1.30
	Final	12:13 PM	**125**	1050		3000					
6	Initial	12:15 PM	25	0	1050	0	2900	3.45	3.18	1.36	1.25
	Final	12:40 PM	**150**	1050		2900					

INFILTRATION CALCULATIONS

Project Name	Proposed Industrial Building
Project Location	Perris, California
Project Number	21G180-2
Engineer	Caleb Brackett

Infiltration Test No: I-3

Constants

	Diameter (ft)	Area (ft^2)	Area (cm^2)
Inner	1	0.79	730
Anlr. Spac	2	2.36	2189

*Note: The infiltration rate was calculated based on current time interval

				Flow Readings				Infiltration Rates			
Test Interval		Time (hr)	Interval **Elapsed** (min)	Inner Ring (ml)	Ring Flow (cm^3)	Annular Ring (ml)	Space Flow (cm^3)	Inner Ring* (cm/hr)	Annular Space* (cm/hr)	Inner Ring* (in/hr)	Annular Space* (in/hr)
1	Initial	1:00 PM	5	0	1000	0	3500	16.45	19.19	6.48	7.55
	Final	1:05 PM	**5**	1000		3500					
2	Initial	1:07 PM	5	0	800	0	3200	13.16	17.54	5.18	6.91
	Final	1:12 PM	**10**	800		3200					
3	Initial	1:15 PM	5	0	650	0	2900	10.69	15.90	4.21	6.26
	Final	1:20 PM	**15**	650		2900					
4	Initial	1:22 PM	5	0	500	0	2700	8.22	14.80	3.24	5.83
	Final	1:27 PM	**20**	500		2700					
5	Initial	1:30 PM	5	0	400	0	2600	6.58	14.25	2.59	5.61
	Final	1:35 PM	**25**	400		2600					
6	Initial	1:37 PM	5	0	350	0	2500	5.76	13.71	2.27	5.40
	Final	1:42 PM	**30**	350		2500					

INFILTRATION CALCULATIONS

Project Name	Proposed Industrial Building
Project Location	Perris, California
Project Number	21G180-2
Engineer	Caleb Brackett

Infiltration Test No: I-4

Constants	Diameter (ft)	Area (ft^2)	Area (cm^2)
Inner	1	0.79	730
Anlr. Spac	2	2.36	2189

*Note: The infiltration rate was calculated based on current time interval

				Flow Readings				Infiltration Rates			
Test Interval		Time (hr)	Interval **Elapsed** (min)	Inner Ring (ml)	Ring Flow (cm^3)	Annular Ring (ml)	Space Flow (cm^3)	Inner Ring* (cm/hr)	Annular Space* (cm/hr)	Inner Ring* (in/hr)	Annular Space* (in/hr)
1	Initial	8:00 AM	5	0	900	0	3300	14.80	18.09	5.83	7.12
	Final	8:05 AM	**5**	900		3300					
2	Initial	8:07 AM	5	0	600	0	3100	9.87	16.99	3.89	6.69
	Final	8:12 AM	**10**	600		3100					
3	Initial	8:15 AM	5	0	400	0	2800	6.58	15.35	2.59	6.04
	Final	8:20 AM	**15**	400		2800					
4	Initial	8:22 AM	5	0	400	0	2400	6.58	13.16	2.59	5.18
	Final	8:27 AM	**20**	400		2400					
5	Initial	8:30 AM	5	0	350	0	2200	5.76	12.06	2.27	4.75
	Final	8:35 AM	**25**	350		2200					
6	Initial	8:37 AM	5	0	350	0	2200	5.76	12.06	2.27	4.75
	Final	8:42 AM	**30**	350		2200					

INFILTRATION CALCULATIONS

Project Name	Proposed Industrial Building
Project Location	Perris, California
Project Number	21G180-2
Engineer	Caleb Brackett

Infiltration Test No: I-5

Constants	Diameter (ft)	Area (ft^2)	Area (cm^2)
Inner	1	0.79	730
Anlr. Spac	2	2.36	2189

*Note: The infiltration rate was calculated based on current time interval

				Flow Readings				Infiltration Rates			
Test Interval		Time (hr)	Interval **Elapsed** (min)	Inner Ring (ml)	Ring Flow (cm^3)	Annular Ring (ml)	Space Flow (cm^3)	Inner Ring* (cm/hr)	Annular Space* (cm/hr)	Inner Ring* (in/hr)	Annular Space* (in/hr)
1	Initial	9:10 AM	25	0	2050	0	8500	6.74	9.32	2.65	3.67
	Final	9:35 AM	**25**	2050		8500					
2	Initial	9:37 AM	25	0	1350	0	6400	4.44	7.02	1.75	2.76
	Final	10:02 AM	**50**	1350		6400					
3	Initial	10:05 AM	25	0	1000	0	4200	3.29	4.61	1.30	1.81
	Final	10:30 AM	**75**	1000		4200					
4	Initial	10:32 AM	25	0	1000	0	3500	3.29	3.84	1.30	1.51
	Final	10:57 AM	**100**	1000		3500					
5	Initial	11:15 AM	25	0	1000	0	3600	3.29	3.95	1.30	1.55
	Final	11:40 AM	**125**	1000		3600					
6	Initial	11:42 AM	25	0	1000	0	3500	3.29	3.84	1.30	1.51
	Final	12:07 PM	**150**	1000		3500					

INFILTRATION CALCULATIONS

Project Name	Proposed Industrial Building
Project Location	Perris, California
Project Number	21G180-2
Engineer	Caleb Brackett

Infiltration Test No: I-6

Constants	Diameter (ft)	Area (ft^2)	Area (cm^2)
Inner	1	0.79	730
Anlr. Spac	2	2.36	2189

*Note: The infiltration rate was calculated based on current time interval

				Flow Readings				Infiltration Rates			
Test Interval		Time (hr)	Interval **Elapsed** (min)	Inner Ring (ml)	Ring Flow (cm^3)	Annular Ring (ml)	Space Flow (cm^3)	Inner Ring* (cm/hr)	Annular Space* (cm/hr)	Inner Ring* (in/hr)	Annular Space* (in/hr)
1	Initial	12:10 PM	30	0	1000	0	3200	2.74	2.92	1.08	1.15
	Final	12:40 PM	**30**	1000		3200					
2	Initial	12:42 PM	30	0	1000	0	3200	2.74	2.92	1.08	1.15
	Final	1:12 PM	**60**	1000		3200					
3	Initial	1:15 PM	30	0	950	0	3100	2.60	2.83	1.03	1.12
	Final	1:45 PM	**90**	950		3100					
4	Initial	1:46 PM	30	0	950	0	3100	2.60	2.83	1.03	1.12
	Final	2:16 PM	**120**	950		3100					
5	Initial	2:17 PM	30	0	900	0	3000	2.47	2.74	0.97	1.08
	Final	2:47 PM	**150**	900		3000					
6	Initial	2:48 PM	30	0	900	0	3000	2.47	2.74	0.97	1.08
	Final	3:18 PM	**180**	900		3000					

INFILTRATION CALCULATIONS

Project Name	Proposed Industrial Building
Project Location	Perris, California
Project Number	21G180-2
Engineer	Caleb Brackett

Infiltration Test No: I-6

Constants	Diameter (ft)	Area (ft^2)	Area (cm^2)
Inner	1	0.79	730
Anlr. Spac	2	2.36	2189

*Note: The infiltration rate was calculated based on current time interval

				Flow Readings				Infiltration Rates			
Test Interval		Time (hr)	Interval **Elapsed** (min)	Inner Ring (ml)	Ring Flow (cm^3)	Annular Ring (ml)	Space Flow (cm^3)	Inner Ring* (cm/hr)	Annular Space* (cm/hr)	Inner Ring* (in/hr)	Annular Space* (in/hr)
1	Initial	8:00 AM	25	0	2050	0	8000	6.74	8.77	2.65	3.45
	Final	8:25 AM	**25**	2050		8000					
2	Initial	8:30 AM	25	0	1250	0	5500	4.11	6.03	1.62	2.37
	Final	8:55 AM	**50**	1250		5500					
3	Initial	9:00 AM	25	0	1200	0	4700	3.95	5.15	1.55	2.03
	Final	9:25 AM	**75**	1200		4700					
4	Initial	9:30 AM	25	0	1200	0	4600	3.95	5.04	1.55	1.99
	Final	9:55 AM	**100**	1200		4600					
5	Initial	10:00 AM	25	0	1150	0	4500	3.78	4.93	1.49	1.94
	Final	10:25 AM	**125**	1150		4500					
6	Initial	10:30 AM	25	0	1150	0	4500	3.78	4.93	1.49	1.94
	Final	10:55 AM	**150**	1150		4500					

Grain Size Distribution

Sample Description	I-1 @ 4'
Soil Classification	Brown Silty fine to medium Sand, trace Clay

Proposed Industrial Building
Perris, CA
Project No. 21G180-2
PLATE C- 1

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

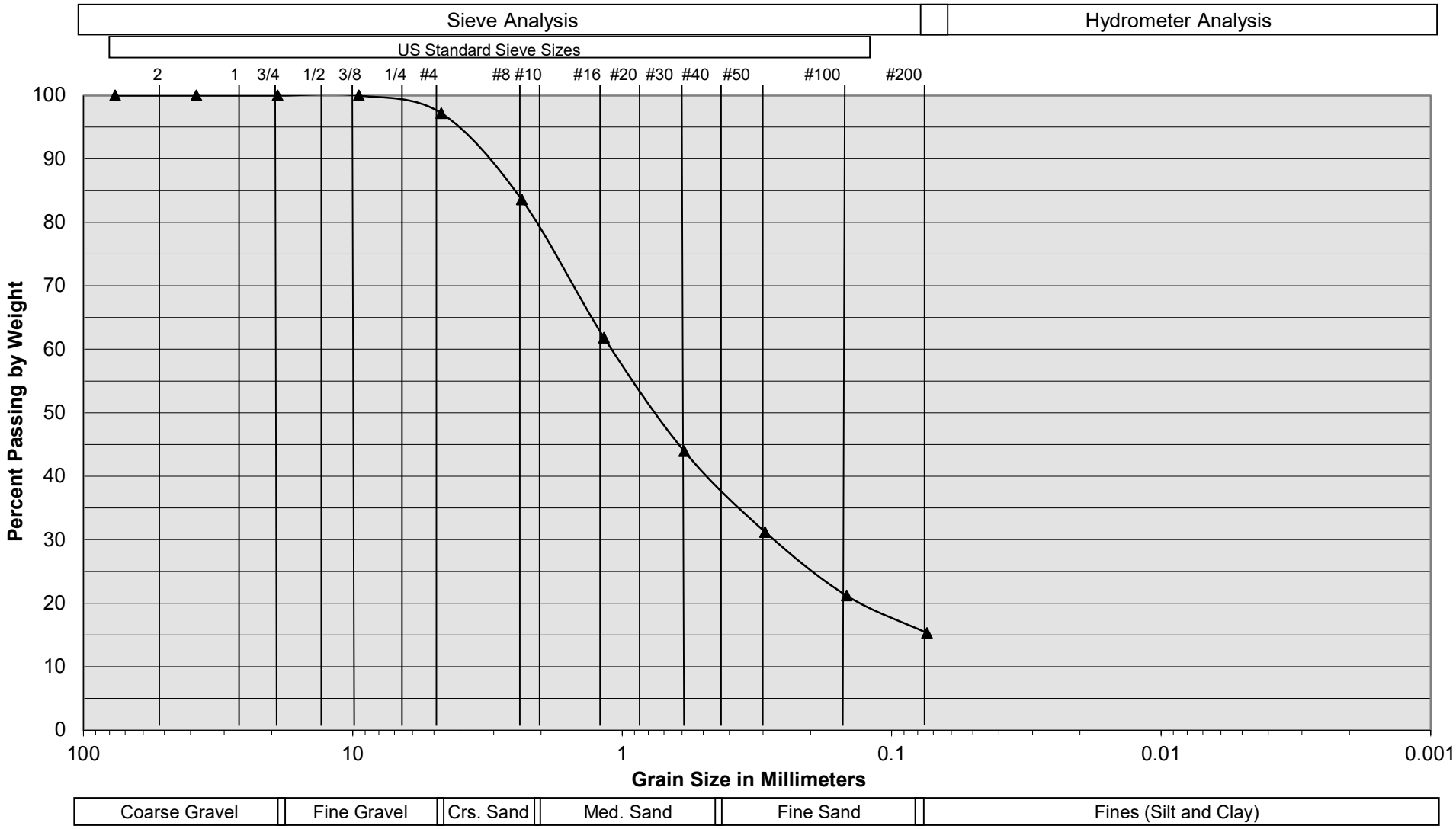
Grain Size Distribution

Sample Description	I-2 @ 5'
Soil Classification	Brown Silty fine to medium Sand, trace coarse Sand

Proposed Industrial Building
Perris, CA
Project No. 21G180-2
PLATE C- 2

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

Grain Size Distribution

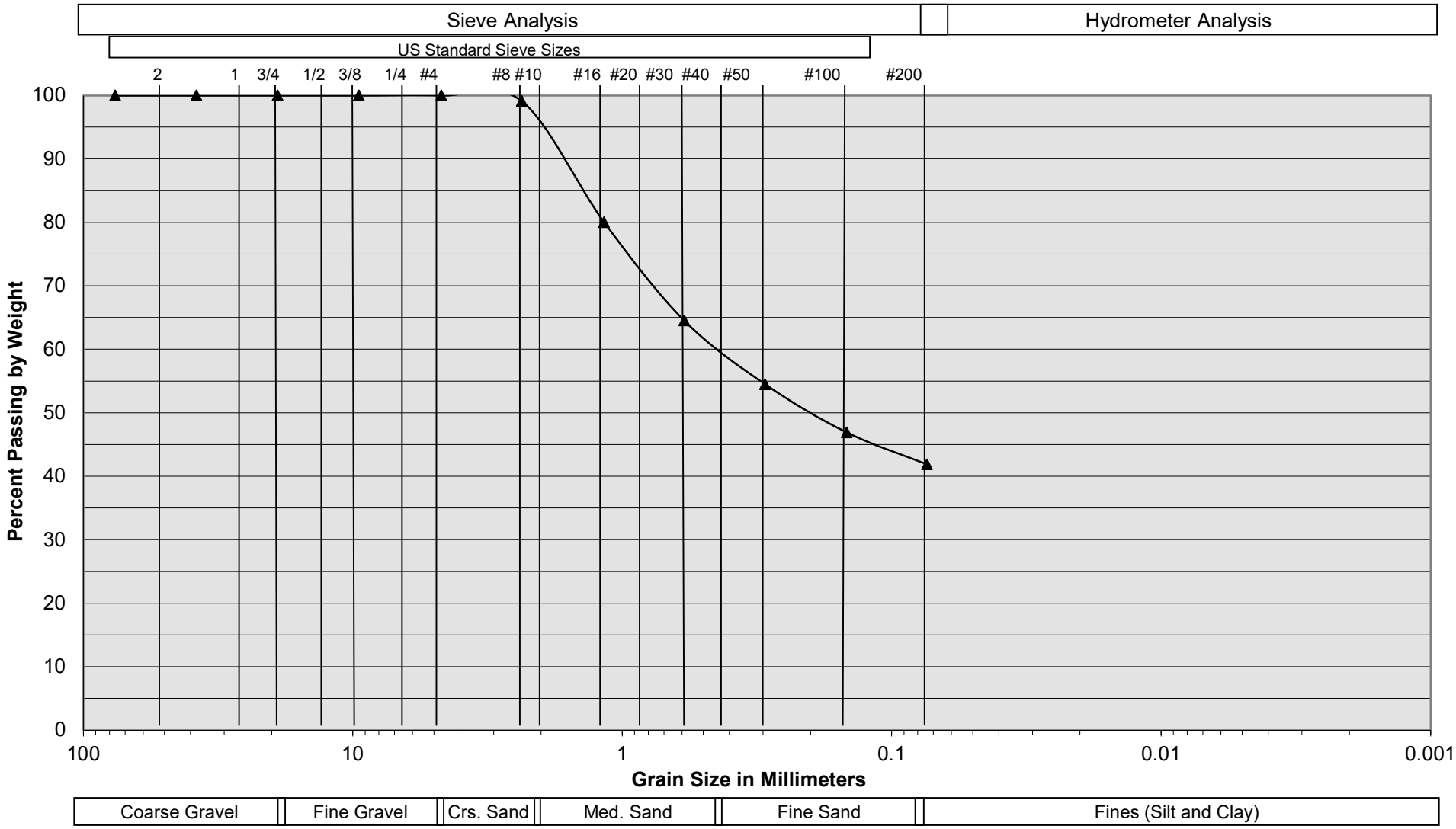


Sample Description	I-3 @ 4'
Soil Classification	Light Brown Silty fine to coarse Sand

Proposed Industrial Building
Perris, CA
Project No. 21G180-2
PLATE C- 3

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

Grain Size Distribution

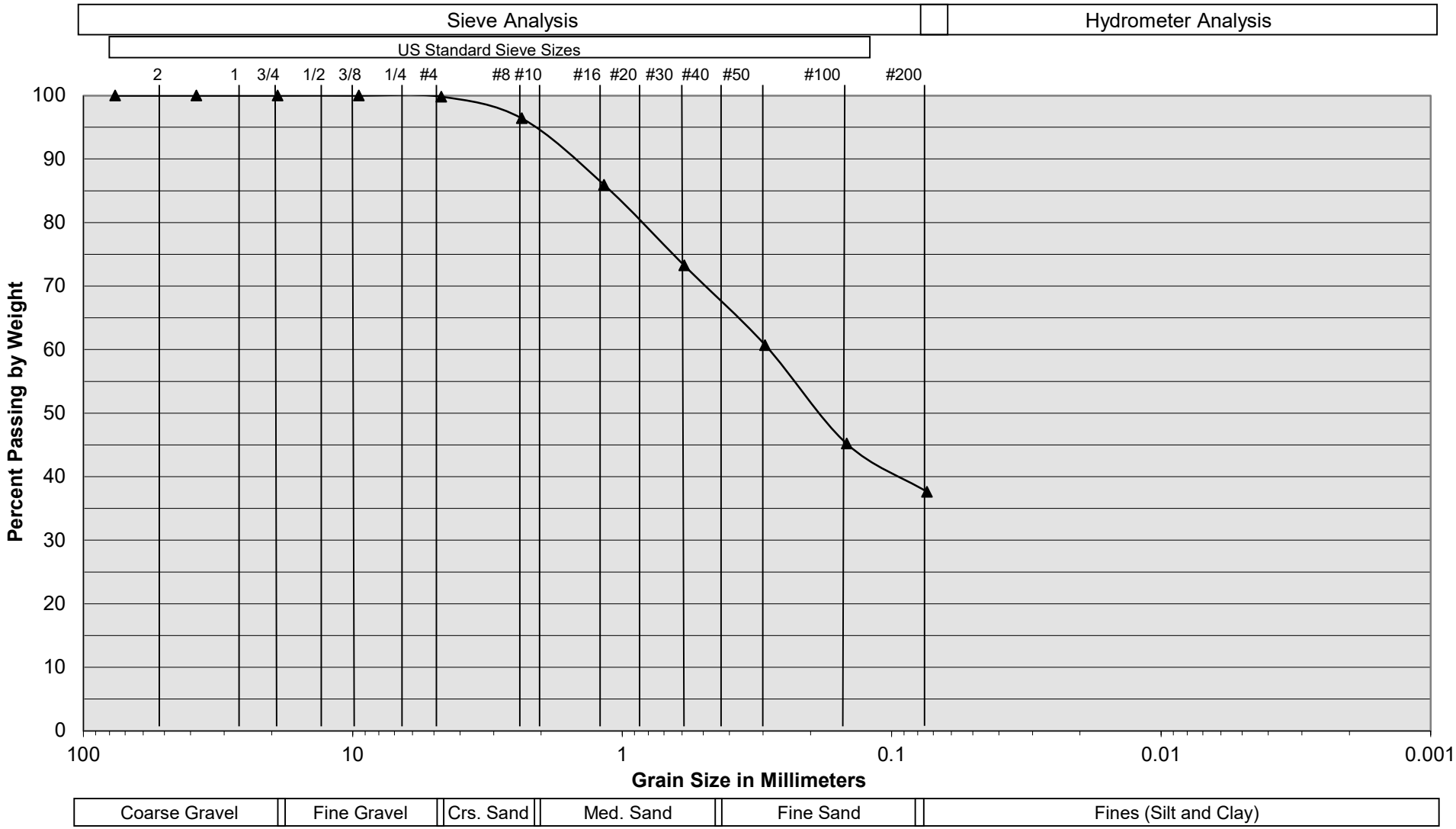


Sample Description	I-4 @ 4'
Soil Classification	Light Brown Silty fine to medium Sand, trace coarse Sand

Proposed Industrial Building
Perris, CA
Project No. 21G180-2
PLATE C- 4

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

Grain Size Distribution

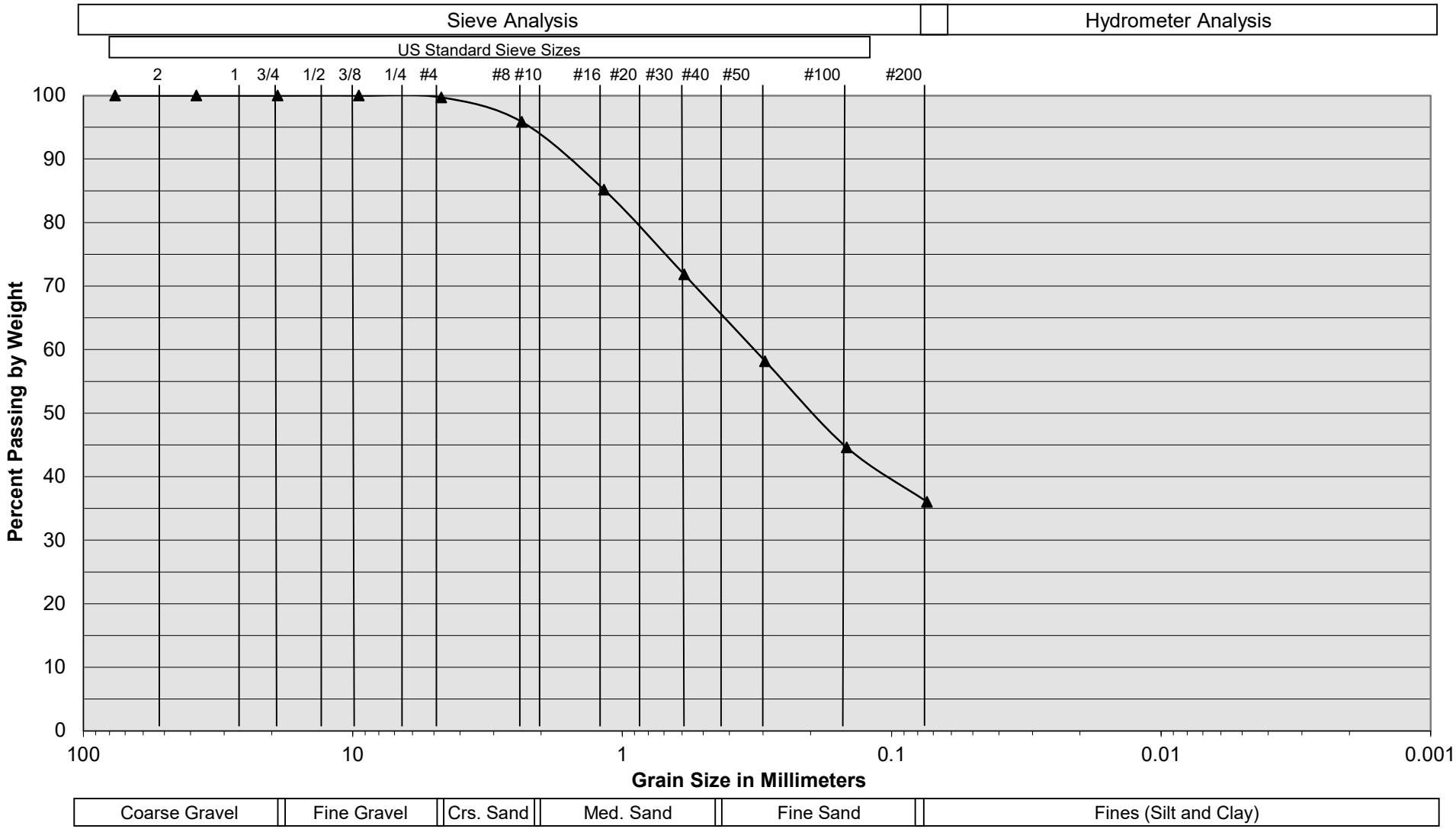


Sample Description	I-5 @ 5'
Soil Classification	Brown Silty fine to medium Sand, trace coarse Sand, trace Clay

Proposed Industrial Building
Perris, CA
Project No. 21G180-2
PLATE C- 5

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

Grain Size Distribution

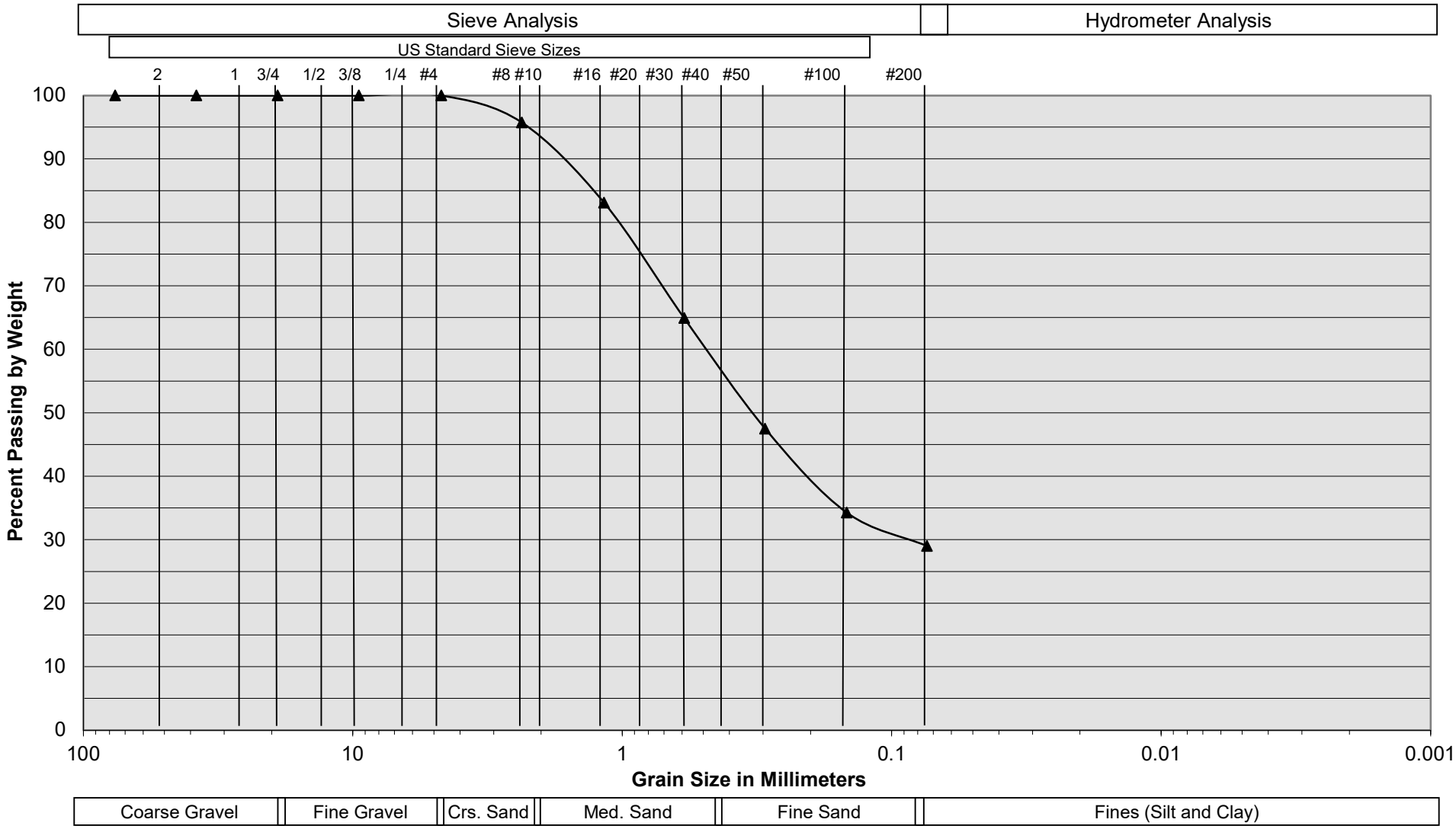


Sample Description	I-6 @ 4'
Soil Classification	Brown Silty fine to medium Sand, trace coarse Sand

Proposed Industrial Building
Perris, CA
Project No. 21G180-2
PLATE C- 6

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

Grain Size Distribution



Sample Description	I-7 @ 4'
Soil Classification	Brown Silty fine to coarse Sand, trace Clay

Proposed Industrial Building
Perris, CA
Project No. 21G180-2
PLATE C- 7

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

Appendix 4: Historical Site Conditions

Phase I Environmental Site Assessment or Other Information on Past Site Use

**To be provided during final engineering*

Appendix 5: LID Infeasibility

LID Technical Infeasibility Analysis

N/A

Appendix 6: BMP Design Details

BMP Sizing, Design Details and other Supporting Documentation

Santa Ana Watershed - BMP Design Volume, V_{BMP}

(Rev. 10-2011)

Legend: Required Entries / Calculated Cells

*(Note this worksheet shall **only** be used in conjunction with BMP designs from the **LID BMP Design Handbook**)*

Company Name: Albert A. Webb Associates | Date: 6/26/2023

Designed by: ABE | Case No: CUP 23-05107

Company Project Number/Name: Perris Airport Logistics Center - Site 2; East Parking off Case

BMP Identification

BMP NAME / ID: DMA-E

Must match Name/ID used on BMP Design Calculation Sheet

Design Rainfall Depth

85th Percentile, 24-hour Rainfall Depth, from the Isohyetal Map in Handbook Appendix E

D_{85}= 0.60 inches

Drainage Management Area Tabulation

Insert additional rows if needed to accommodate all DMAs draining to the BMP

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Imperivous Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Design Storm Depth (in)*	*Design Capture Volume, V_{BMP} (cubic feet)*	*Proposed Volume on Plans (cubic feet)*
L-E	42590	Ornamental Landscaping	0.1	0.11	4704.4			
H-E	585920	Concrete or Asphalt	1	0.89	522640.6			
BMP-E	96850	Ornamental Landscaping	0.1	0.11	10697.9			
	725360	*Total*			538042.9	0.60	26678	34431

Notes:

Bioretention Facility - Design Procedure	BMP ID: BMP-E	Legend:	Required Entries / Calculated Cells

Company Name: Albert A. Webb Associates — Date: 6/26/2023

Designed by: ABE — County/City Case No.: CUP23-05107

Design Volume

Enter the area tributary to this feature	A_T =	17.4	acres
Enter V_{BMP} determined from Section 2.1 of this Handbook	V_{BMP} =	26,678	ft^3

Type of Bioretention Facility Design

- ○ Side slopes required (parallel to parking spaces or adjacent to walkways)
- ◉ No side slopes required (perpendicular to parking space or Planter Boxes)

Bioretention Facility Surface Area

Depth of Soil Filter Media Layer	d_S =	1.5	ft
Top Width of Bioretention Facility, excluding curb	w_T =	30.0	ft
Total Effective Depth, d_E			
$d_E = [(0.3) \times d_S + (0.4) \times 1] + 0.5$	d_E =	1.35	ft
Minimum Surface Area, A_m			
$A_M\,(ft^2) = \frac{V_{BMP}\,(ft^3)}{d_E\,(ft)}$	A_M =	19,762	ft^2
Proposed Surface Area	A=	25,888	ft^2
Minimum Required Length of Bioretention Facility, L	L =	658.7	ft

Bioretention Facility Properties

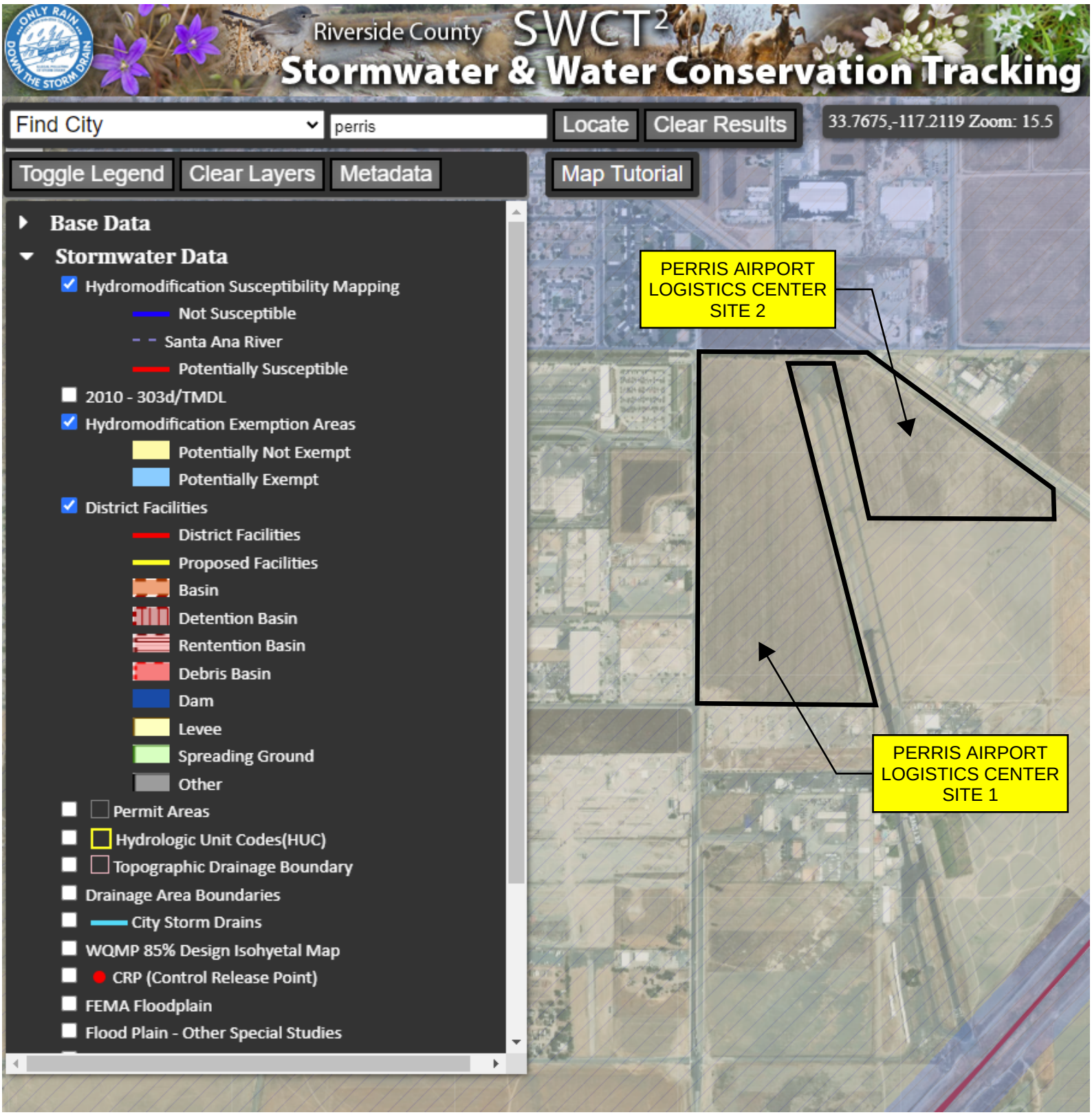
Side Slopes in Bioretention Facility	z =	4	:1
Diameter of Underdrain		6	inches
Longitudinal Slope of Site (3% maximum)		0	%
6" Check Dam Spacing		0	feet

Describe Vegetation: Natural Grasses

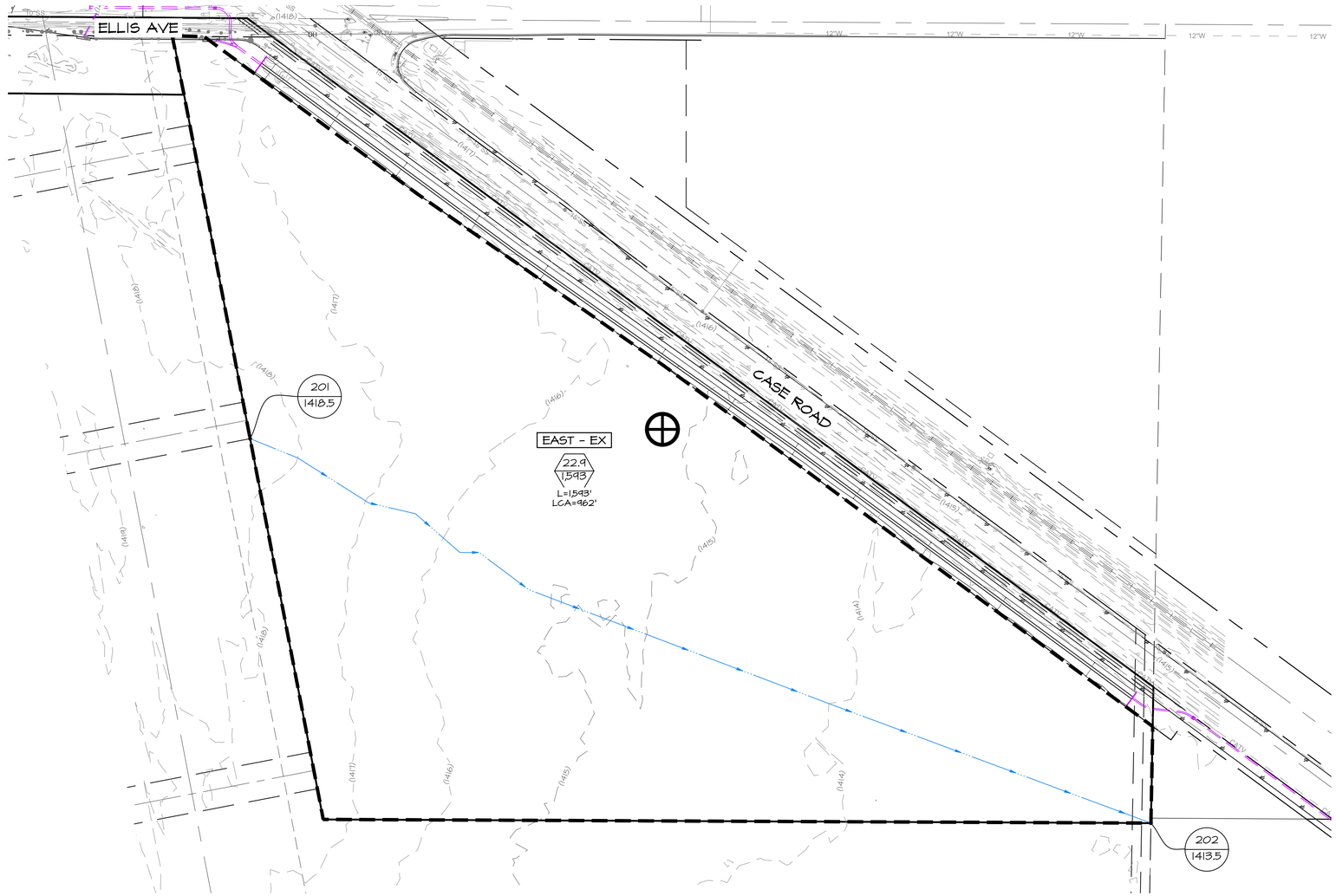
Notes: Proposed Basin Footprint is approximately 35' wide x 700' long x 6' deep

Appendix 7: Hydromodification

Supporting Detail Relating to Hydrologic Conditions of Concern


Riverside County SWCT²
Stormwater & Water Conservation Tracking
Find City
perris
Locate
Clear Results
33.7675,-117.2119 Zoom: 15.5
Toggle Legend
Clear Layers
Metadata
Map Tutorial
Base Data
Stormwater Data
Hydromodification Susceptibility Mapping
Not Susceptible
Santa Ana River
Potentially Susceptible
2010 - 303d/TMDL
Hydromodification Exemption Areas
Potentially Not Exempt
Potentially Exempt
District Facilities
District Facilities
Proposed Facilities
Basin
Detention Basin
Rentention Basin
Debris Basin
Dam
Levee
Spreading Ground
Other
Permit Areas
Hydrologic Unit Codes(HUC)
Topographic Drainage Boundary
Drainage Area Boundaries
City Storm Drains
WQMP 85% Design Isohyetal Map
CRP (Control Release Point)
FEMA Floodplain
Flood Plain - Other Special Studies
PERRIS AIRPORT LOGISTICS CENTER SITE 2
PERRIS AIRPORT LOGISTICS CENTER SITE 1

Unit Hydrograph Maps
Existing and Proposed Conditions



LEGEND

- DRAINAGE MANAGEMENT BOUNDARY
- FLOW DIRECTION
- L=14XX' / LCA=1000' — LONGEST FLOW PATH CENTROIDAL LENGTH
- 101 / 14XX — NODE DESIGNATION NODE ELEVATION
- *14XX — *INVERT ELEVATION
- 5.0 / 1000' — WATERSHED AREA (ACRES) LONGEST WATER PATH (FT)
- CENTROID

BASIS OF BEARINGS

THE BASIS OF BEARINGS IS THE CALIFORNIA STATE PLAN COORDINATE SYSTEM, CCS83, ZONE 6, BASED LOCALLY ON CONTROL STATIONS "MLFP" AND "PPBP" NAD 83(NSRS2007)

BENCHMARK DATA

NGS DESIGNATION: 435
PID: DX5442

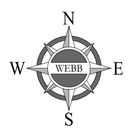
DESCRIBED BY METRO WATER DISTR. SO. CALIFORNIA 1992 PERRIS, 1300 FEET (396.2 M) WEST OF ATSF RAILROAD ALONG RIDER ST, ON TOP OF NORTH CURB FACE OF RIDER ST. 28 FEET (8.5 M) NORTH OF RIDER ST, 6 FEET (1.8 M) SOUTH OF A GTE TELEPHONE BOX (DAMAGED). A STANDARD 3-1/4 INCH ALUMINUM DIST SET FLUSH IN TOP OF CURB.

ELEVATION = 1515.12' (NAVD88)

FROM CITY OF SUN CITY BM Z 10984 (RCFC & WCD)
FS, 2-1/4 INCH BRASS DISK FLUSH STAMPED "CAL DOT 9/10/16/15 REPL. GR. STONE FD. 1950" ON ETHANAC AC BRIDGE DECK OVER I-215 FREEWAY

ELEVATION = 1450.319' (NAVD88)

(CONVERSION FACTO TO NGVD 29 IS -2.63' PER RCFC & WCD)



1" = 100'
50 0 100 200 300

PRELIMINARY

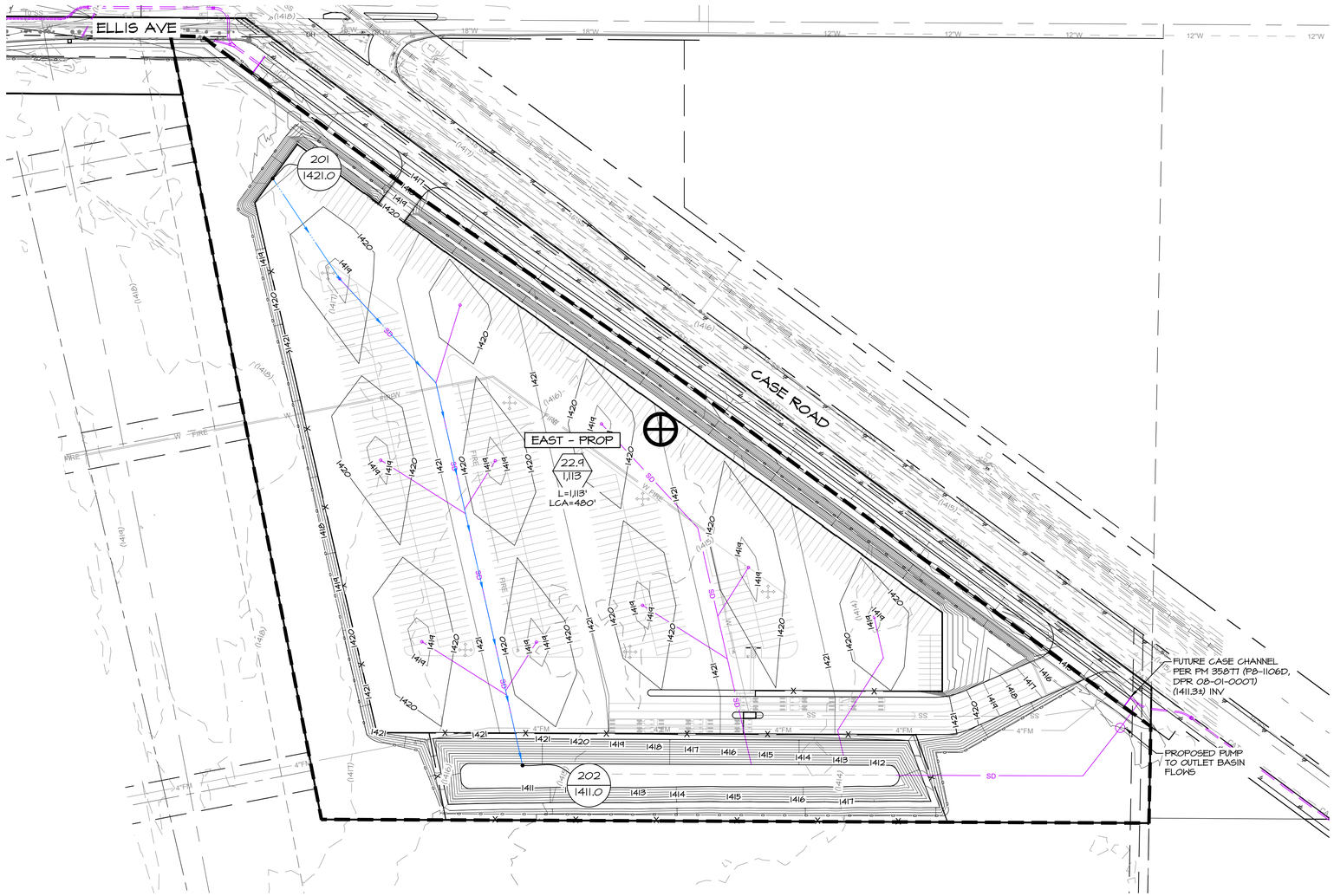
CITY OF PERRIS

PRELIMINARY REPORT (CUP 23-05107)
UNIT HYDROGRAPH HYDROLOGY
EXISITNG UNIT HYDROGRAPH, EAST
PERRIS AIRPORT LOGISTICS CENTER

SCALE: 1" = 100'	ALBERT A. WEBB ASSOCIATES — ENGINEERING CONSULTANTS, 3788 McCRAY STREET, RIVERSIDE, CA. 92506, PH. (951) 686-1070, FAX (951) 788-1256	W.O. 21-0235
DATE2023-06-20		SHEET
DESIGNED: ABE		
CHECKED: SKK		OF 1 SHEETS
PLN CK REF:		DWG. NO.
F.B.		

H:\2021\21-0235\DRAINAGE\HYD\DWG FOLDER\21-0235-PHYD-UH.DWG 6/20/2023 1:47:48 PM

ADR-ANV



LEGEND

- DRAINAGE MANAGEMENT BOUNDARY
- FLOW DIRECTION
- L=14XX' / LCA=1000' — LONGEST FLOW PATH CENTROIDAL LENGTH
- 101 / 14XX — NODE DESIGNATION, NODE ELEVATION
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BENCHMARK DATA

NGS DESIGNATION: 435
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DESCRIBED BY METRO WATER DISTR. SO. CALIFORNIA 1992 PERRIS, 1300 FEET (396.2 M) WEST OF ATSF RAILROAD ALONG RIDER ST, ON TOP OF NORTH CURB FACE OF RIDER ST. 28 FEET (8.5 M) NORTH OF RIDER ST, 6 FEET (1.8 M) SOUTH OF A GTE TELEPHONE BOX (DAMAGED). A STANDARD 3-1/4 INCH ALUMINUM DIST SET FLUSH IN TOP OF CURB.

ELEVATION = 1515.12' (NAVD88)

FROM CITY OF SUN CITY BM Z 10989 (RCFC & WCD)
FS, 2-1/4 INCH BRASS DISK FLUSH STAMPED "CAL DOT 9/10/16/15 REPL. GR. STONE FD. 1950" ON ETHANAC AC BRIDGE DECK OVER I-215 FREEWAY

ELEVATION = 1450.319' (NAVD88)

(CONVERSION FACTO TO NGVD 29 IS -2.63' PER RCFC & WCD)

N
W WEBB E
S

1" = 100'
50 0 100 200 300

PRELIMINARY

CITY OF PERRIS

PRELIMINARY REPORT (CUP 23-05107) UNIT HYDROGRAPH HYDROLOGY PROPOSED UNIT HYDROGRAPH, EAST PERRIS AIRPORT LOGISTICS CENTER

SCALE: 1" = 100'	ALBERT A. WEBB ASSOCIATES — ENGINEERING CONSULTANTS, 3788 McCRAY STREET, RIVERSIDE CA. 92506, PH. (951) 686-1070, FAX (951) 788-1256	W.O. 21-0235
DATE2023-06-20		SHEET |
DESIGNED: ABE		OF 1 SHEETS
CHECKED: SKK		DWG. NO.
PLN CK REF:		
F.B.		

H:\2021\21-0235\DRAINAGE\HYD\DWG FOLDER\21-0235-PHYD-UH.DWG 6/20/2023 1:47:48 PM

ADR:ANV

Existing Unit Hydrograph
2-year, 24-hour Storm Event

U n i t H y d r o g r a p h A n a l y s i s

Study date 01/25/22 File: ONSITEEXEAST242.out

++

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 4010

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

21-0235 - MC BLACKACRE PERRIS AIRPORT SITE
ONSITE UNIT HYDROGRAPH ANALYSIS
EXISTING CONDITION, 2 YEAR
FN: ONSITEEXEAST, ABE, 2022-01-25

Drainage Area = 22.90(Ac.) = 0.036 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 22.90(Ac.) = 0.036 Sq. Mi.
Length along longest watercourse = 1593.00(Ft.)
Length along longest watercourse measured to centroid = 962.00(Ft.)
Length along longest watercourse = 0.302 Mi.
Length along longest watercourse measured to centroid = 0.182 Mi.
Difference in elevation = 5.00(Ft.)
Slope along watercourse = 16.5725 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.140 Hr.
Lag time = 8.41 Min.
25% of lag time = 2.10 Min.
40% of lag time = 3.37 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
22.90	1.80	41.22

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
22.90	5.00	114.50

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 5.000(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
22.900	91.00	0.000

Total Area Entered = 22.90(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

91.0	91.0	0.117	0.000	0.117	1.000	0.117
					Sum (F) =	0.117

Area averaged mean soil loss (F) (In/Hr) = 0.117
Minimum soil loss rate ((In/Hr)) = 0.059
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	59.419	8.084	1.866
2	0.167	118.837	33.555	7.744
3	0.250	178.256	26.770	6.178
4	0.333	237.675	10.409	2.402
5	0.417	297.094	6.131	1.415
6	0.500	356.512	4.153	0.958
7	0.583	415.931	2.967	0.685
8	0.667	475.350	2.082	0.480
9	0.750	534.768	1.721	0.397
10	0.833	594.187	1.282	0.296
11	0.917	653.606	0.980	0.226
12	1.000	713.025	0.700	0.162
13	1.083	772.443	0.594	0.137
14	1.167	831.862	0.573	0.132
			Sum = 100.000	Sum= 23.079

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.014	(0.207)	0.013	0.001
2	0.17	0.07	0.014	(0.207)	0.013	0.001
3	0.25	0.07	0.014	(0.206)	0.013	0.001
4	0.33	0.10	0.022	(0.205)	0.019	0.002
5	0.42	0.10	0.022	(0.204)	0.019	0.002
6	0.50	0.10	0.022	(0.203)	0.019	0.002
7	0.58	0.10	0.022	(0.203)	0.019	0.002
8	0.67	0.10	0.022	(0.202)	0.019	0.002
9	0.75	0.10	0.022	(0.201)	0.019	0.002
10	0.83	0.13	0.029	(0.200)	0.026	0.003
11	0.92	0.13	0.029	(0.199)	0.026	0.003
12	1.00	0.13	0.029	(0.199)	0.026	0.003
13	1.08	0.10	0.022	(0.198)	0.019	0.002
14	1.17	0.10	0.022	(0.197)	0.019	0.002
15	1.25	0.10	0.022	(0.196)	0.019	0.002
16	1.33	0.10	0.022	(0.196)	0.019	0.002
17	1.42	0.10	0.022	(0.195)	0.019	0.002
18	1.50	0.10	0.022	(0.194)	0.019	0.002
19	1.58	0.10	0.022	(0.193)	0.019	0.002
20	1.67	0.10	0.022	(0.192)	0.019	0.002
21	1.75	0.10	0.022	(0.192)	0.019	0.002
22	1.83	0.13	0.029	(0.191)	0.026	0.003
23	1.92	0.13	0.029	(0.190)	0.026	0.003
24	2.00	0.13	0.029	(0.189)	0.026	0.003
25	2.08	0.13	0.029	(0.189)	0.026	0.003
26	2.17	0.13	0.029	(0.188)	0.026	0.003
27	2.25	0.13	0.029	(0.187)	0.026	0.003
28	2.33	0.13	0.029	(0.186)	0.026	0.003
29	2.42	0.13	0.029	(0.186)	0.026	0.003
30	2.50	0.13	0.029	(0.185)	0.026	0.003
31	2.58	0.17	0.036	(0.184)	0.032	0.004
32	2.67	0.17	0.036	(0.183)	0.032	0.004
33	2.75	0.17	0.036	(0.183)	0.032	0.004
34	2.83	0.17	0.036	(0.182)	0.032	0.004
35	2.92	0.17	0.036	(0.181)	0.032	0.004
36	3.00	0.17	0.036	(0.180)	0.032	0.004

37	3.08	0.17	0.036	(0.180)	0.032	0.004
38	3.17	0.17	0.036	(0.179)	0.032	0.004
39	3.25	0.17	0.036	(0.178)	0.032	0.004
40	3.33	0.17	0.036	(0.177)	0.032	0.004
41	3.42	0.17	0.036	(0.177)	0.032	0.004
42	3.50	0.17	0.036	(0.176)	0.032	0.004
43	3.58	0.17	0.036	(0.175)	0.032	0.004
44	3.67	0.17	0.036	(0.174)	0.032	0.004
45	3.75	0.17	0.036	(0.174)	0.032	0.004
46	3.83	0.20	0.043	(0.173)	0.039	0.004
47	3.92	0.20	0.043	(0.172)	0.039	0.004
48	4.00	0.20	0.043	(0.171)	0.039	0.004
49	4.08	0.20	0.043	(0.171)	0.039	0.004
50	4.17	0.20	0.043	(0.170)	0.039	0.004
51	4.25	0.20	0.043	(0.169)	0.039	0.004
52	4.33	0.23	0.050	(0.169)	0.045	0.005
53	4.42	0.23	0.050	(0.168)	0.045	0.005
54	4.50	0.23	0.050	(0.167)	0.045	0.005
55	4.58	0.23	0.050	(0.166)	0.045	0.005
56	4.67	0.23	0.050	(0.166)	0.045	0.005
57	4.75	0.23	0.050	(0.165)	0.045	0.005
58	4.83	0.27	0.058	(0.164)	0.052	0.006
59	4.92	0.27	0.058	(0.164)	0.052	0.006
60	5.00	0.27	0.058	(0.163)	0.052	0.006
61	5.08	0.20	0.043	(0.162)	0.039	0.004
62	5.17	0.20	0.043	(0.161)	0.039	0.004
63	5.25	0.20	0.043	(0.161)	0.039	0.004
64	5.33	0.23	0.050	(0.160)	0.045	0.005
65	5.42	0.23	0.050	(0.159)	0.045	0.005
66	5.50	0.23	0.050	(0.159)	0.045	0.005
67	5.58	0.27	0.058	(0.158)	0.052	0.006
68	5.67	0.27	0.058	(0.157)	0.052	0.006
69	5.75	0.27	0.058	(0.157)	0.052	0.006
70	5.83	0.27	0.058	(0.156)	0.052	0.006
71	5.92	0.27	0.058	(0.155)	0.052	0.006
72	6.00	0.27	0.058	(0.154)	0.052	0.006
73	6.08	0.30	0.065	(0.154)	0.058	0.006
74	6.17	0.30	0.065	(0.153)	0.058	0.006
75	6.25	0.30	0.065	(0.152)	0.058	0.006
76	6.33	0.30	0.065	(0.152)	0.058	0.006
77	6.42	0.30	0.065	(0.151)	0.058	0.006
78	6.50	0.30	0.065	(0.150)	0.058	0.006
79	6.58	0.33	0.072	(0.150)	0.065	0.007
80	6.67	0.33	0.072	(0.149)	0.065	0.007
81	6.75	0.33	0.072	(0.148)	0.065	0.007
82	6.83	0.33	0.072	(0.148)	0.065	0.007
83	6.92	0.33	0.072	(0.147)	0.065	0.007
84	7.00	0.33	0.072	(0.146)	0.065	0.007
85	7.08	0.33	0.072	(0.146)	0.065	0.007
86	7.17	0.33	0.072	(0.145)	0.065	0.007
87	7.25	0.33	0.072	(0.144)	0.065	0.007
88	7.33	0.37	0.079	(0.144)	0.071	0.008
89	7.42	0.37	0.079	(0.143)	0.071	0.008
90	7.50	0.37	0.079	(0.142)	0.071	0.008
91	7.58	0.40	0.086	(0.142)	0.078	0.009
92	7.67	0.40	0.086	(0.141)	0.078	0.009
93	7.75	0.40	0.086	(0.140)	0.078	0.009
94	7.83	0.43	0.094	(0.140)	0.084	0.009
95	7.92	0.43	0.094	(0.139)	0.084	0.009
96	8.00	0.43	0.094	(0.138)	0.084	0.009
97	8.08	0.50	0.108	(0.138)	0.097	0.011
98	8.17	0.50	0.108	(0.137)	0.097	0.011
99	8.25	0.50	0.108	(0.137)	0.097	0.011
100	8.33	0.50	0.108	(0.136)	0.097	0.011
101	8.42	0.50	0.108	(0.135)	0.097	0.011
102	8.50	0.50	0.108	(0.135)	0.097	0.011
103	8.58	0.53	0.115	(0.134)	0.104	0.012
104	8.67	0.53	0.115	(0.133)	0.104	0.012
105	8.75	0.53	0.115	(0.133)	0.104	0.012
106	8.83	0.57	0.122	(0.132)	0.110	0.012
107	8.92	0.57	0.122	(0.131)	0.110	0.012
108	9.00	0.57	0.122	(0.131)	0.110	0.012
109	9.08	0.63	0.137	(0.130)	0.123	0.014
110	9.17	0.63	0.137	(0.130)	0.123	0.014
111	9.25	0.63	0.137	(0.129)	0.123	0.014

112	9.33	0.67	0.144		0.128	(0.130)	0.016
113	9.42	0.67	0.144		0.128	(0.130)	0.016
114	9.50	0.67	0.144		0.127	(0.130)	0.017
115	9.58	0.70	0.151		0.127	(0.136)	0.025
116	9.67	0.70	0.151		0.126	(0.136)	0.025
117	9.75	0.70	0.151		0.125	(0.136)	0.026
118	9.83	0.73	0.158		0.125	(0.143)	0.034
119	9.92	0.73	0.158		0.124	(0.143)	0.034
120	10.00	0.73	0.158		0.124	(0.143)	0.035
121	10.08	0.50	0.108	(0.123)		0.097	0.011
122	10.17	0.50	0.108	(0.122)		0.097	0.011
123	10.25	0.50	0.108	(0.122)		0.097	0.011
124	10.33	0.50	0.108	(0.121)		0.097	0.011
125	10.42	0.50	0.108	(0.121)		0.097	0.011
126	10.50	0.50	0.108	(0.120)		0.097	0.011
127	10.58	0.67	0.144		0.119	(0.130)	0.025
128	10.67	0.67	0.144		0.119	(0.130)	0.025
129	10.75	0.67	0.144		0.118	(0.130)	0.026
130	10.83	0.67	0.144		0.118	(0.130)	0.026
131	10.92	0.67	0.144		0.117	(0.130)	0.027
132	11.00	0.67	0.144		0.117	(0.130)	0.027
133	11.08	0.63	0.137		0.116	(0.123)	0.021
134	11.17	0.63	0.137		0.115	(0.123)	0.021
135	11.25	0.63	0.137		0.115	(0.123)	0.022
136	11.33	0.63	0.137		0.114	(0.123)	0.023
137	11.42	0.63	0.137		0.114	(0.123)	0.023
138	11.50	0.63	0.137		0.113	(0.123)	0.024
139	11.58	0.57	0.122	(0.113)		0.110	0.012
140	11.67	0.57	0.122	(0.112)		0.110	0.012
141	11.75	0.57	0.122	(0.111)		0.110	0.012
142	11.83	0.60	0.130		0.111	(0.117)	0.019
143	11.92	0.60	0.130		0.110	(0.117)	0.019
144	12.00	0.60	0.130		0.110	(0.117)	0.020
145	12.08	0.83	0.180		0.109	(0.162)	0.071
146	12.17	0.83	0.180		0.109	(0.162)	0.071
147	12.25	0.83	0.180		0.108	(0.162)	0.072
148	12.33	0.87	0.187		0.108	(0.168)	0.080
149	12.42	0.87	0.187		0.107	(0.168)	0.080
150	12.50	0.87	0.187		0.107	(0.168)	0.081
151	12.58	0.93	0.202		0.106	(0.181)	0.096
152	12.67	0.93	0.202		0.105	(0.181)	0.096
153	12.75	0.93	0.202		0.105	(0.181)	0.097
154	12.83	0.97	0.209		0.104	(0.188)	0.104
155	12.92	0.97	0.209		0.104	(0.188)	0.105
156	13.00	0.97	0.209		0.103	(0.188)	0.105
157	13.08	1.13	0.245		0.103	(0.220)	0.142
158	13.17	1.13	0.245		0.102	(0.220)	0.143
159	13.25	1.13	0.245		0.102	(0.220)	0.143
160	13.33	1.13	0.245		0.101	(0.220)	0.144
161	13.42	1.13	0.245		0.101	(0.220)	0.144
162	13.50	1.13	0.245		0.100	(0.220)	0.145
163	13.58	0.77	0.166		0.100	(0.149)	0.066
164	13.67	0.77	0.166		0.099	(0.149)	0.066
165	13.75	0.77	0.166		0.099	(0.149)	0.067
166	13.83	0.77	0.166		0.098	(0.149)	0.067
167	13.92	0.77	0.166		0.098	(0.149)	0.068
168	14.00	0.77	0.166		0.097	(0.149)	0.068
169	14.08	0.90	0.194		0.097	(0.175)	0.098
170	14.17	0.90	0.194		0.096	(0.175)	0.098
171	14.25	0.90	0.194		0.096	(0.175)	0.099
172	14.33	0.87	0.187		0.095	(0.168)	0.092
173	14.42	0.87	0.187		0.095	(0.168)	0.092
174	14.50	0.87	0.187		0.094	(0.168)	0.093
175	14.58	0.87	0.187		0.094	(0.168)	0.093
176	14.67	0.87	0.187		0.093	(0.168)	0.094
177	14.75	0.87	0.187		0.093	(0.168)	0.094
178	14.83	0.83	0.180		0.092	(0.162)	0.088
179	14.92	0.83	0.180		0.092	(0.162)	0.088
180	15.00	0.83	0.180		0.091	(0.162)	0.089
181	15.08	0.80	0.173		0.091	(0.156)	0.082
182	15.17	0.80	0.173		0.090	(0.156)	0.082
183	15.25	0.80	0.173		0.090	(0.156)	0.083
184	15.33	0.77	0.166		0.090	(0.149)	0.076
185	15.42	0.77	0.166		0.089	(0.149)	0.077
186	15.50	0.77	0.166		0.089	(0.149)	0.077

187	15.58	0.63	0.137	0.088	(0.123)	0.049
188	15.67	0.63	0.137	0.088	(0.123)	0.049
189	15.75	0.63	0.137	0.087	(0.123)	0.050
190	15.83	0.63	0.137	0.087	(0.123)	0.050
191	15.92	0.63	0.137	0.086	(0.123)	0.050
192	16.00	0.63	0.137	0.086	(0.123)	0.051
193	16.08	0.13	0.029	(0.085)	0.026	0.003
194	16.17	0.13	0.029	(0.085)	0.026	0.003
195	16.25	0.13	0.029	(0.085)	0.026	0.003
196	16.33	0.13	0.029	(0.084)	0.026	0.003
197	16.42	0.13	0.029	(0.084)	0.026	0.003
198	16.50	0.13	0.029	(0.083)	0.026	0.003
199	16.58	0.10	0.022	(0.083)	0.019	0.002
200	16.67	0.10	0.022	(0.082)	0.019	0.002
201	16.75	0.10	0.022	(0.082)	0.019	0.002
202	16.83	0.10	0.022	(0.082)	0.019	0.002
203	16.92	0.10	0.022	(0.081)	0.019	0.002
204	17.00	0.10	0.022	(0.081)	0.019	0.002
205	17.08	0.17	0.036	(0.080)	0.032	0.004
206	17.17	0.17	0.036	(0.080)	0.032	0.004
207	17.25	0.17	0.036	(0.080)	0.032	0.004
208	17.33	0.17	0.036	(0.079)	0.032	0.004
209	17.42	0.17	0.036	(0.079)	0.032	0.004
210	17.50	0.17	0.036	(0.078)	0.032	0.004
211	17.58	0.17	0.036	(0.078)	0.032	0.004
212	17.67	0.17	0.036	(0.078)	0.032	0.004
213	17.75	0.17	0.036	(0.077)	0.032	0.004
214	17.83	0.13	0.029	(0.077)	0.026	0.003
215	17.92	0.13	0.029	(0.076)	0.026	0.003
216	18.00	0.13	0.029	(0.076)	0.026	0.003
217	18.08	0.13	0.029	(0.076)	0.026	0.003
218	18.17	0.13	0.029	(0.075)	0.026	0.003
219	18.25	0.13	0.029	(0.075)	0.026	0.003
220	18.33	0.13	0.029	(0.075)	0.026	0.003
221	18.42	0.13	0.029	(0.074)	0.026	0.003
222	18.50	0.13	0.029	(0.074)	0.026	0.003
223	18.58	0.10	0.022	(0.074)	0.019	0.002
224	18.67	0.10	0.022	(0.073)	0.019	0.002
225	18.75	0.10	0.022	(0.073)	0.019	0.002
226	18.83	0.07	0.014	(0.072)	0.013	0.001
227	18.92	0.07	0.014	(0.072)	0.013	0.001
228	19.00	0.07	0.014	(0.072)	0.013	0.001
229	19.08	0.10	0.022	(0.071)	0.019	0.002
230	19.17	0.10	0.022	(0.071)	0.019	0.002
231	19.25	0.10	0.022	(0.071)	0.019	0.002
232	19.33	0.13	0.029	(0.070)	0.026	0.003
233	19.42	0.13	0.029	(0.070)	0.026	0.003
234	19.50	0.13	0.029	(0.070)	0.026	0.003
235	19.58	0.10	0.022	(0.069)	0.019	0.002
236	19.67	0.10	0.022	(0.069)	0.019	0.002
237	19.75	0.10	0.022	(0.069)	0.019	0.002
238	19.83	0.07	0.014	(0.069)	0.013	0.001
239	19.92	0.07	0.014	(0.068)	0.013	0.001
240	20.00	0.07	0.014	(0.068)	0.013	0.001
241	20.08	0.10	0.022	(0.068)	0.019	0.002
242	20.17	0.10	0.022	(0.067)	0.019	0.002
243	20.25	0.10	0.022	(0.067)	0.019	0.002
244	20.33	0.10	0.022	(0.067)	0.019	0.002
245	20.42	0.10	0.022	(0.066)	0.019	0.002
246	20.50	0.10	0.022	(0.066)	0.019	0.002
247	20.58	0.10	0.022	(0.066)	0.019	0.002
248	20.67	0.10	0.022	(0.066)	0.019	0.002
249	20.75	0.10	0.022	(0.065)	0.019	0.002
250	20.83	0.07	0.014	(0.065)	0.013	0.001
251	20.92	0.07	0.014	(0.065)	0.013	0.001
252	21.00	0.07	0.014	(0.065)	0.013	0.001
253	21.08	0.10	0.022	(0.064)	0.019	0.002
254	21.17	0.10	0.022	(0.064)	0.019	0.002
255	21.25	0.10	0.022	(0.064)	0.019	0.002
256	21.33	0.07	0.014	(0.064)	0.013	0.001
257	21.42	0.07	0.014	(0.063)	0.013	0.001
258	21.50	0.07	0.014	(0.063)	0.013	0.001
259	21.58	0.10	0.022	(0.063)	0.019	0.002
260	21.67	0.10	0.022	(0.063)	0.019	0.002
261	21.75	0.10	0.022	(0.062)	0.019	0.002

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262  21.83     0.07      0.014       (  0.062)       0.013        0.001
263  21.92     0.07      0.014       (  0.062)       0.013        0.001
264  22.00     0.07      0.014       (  0.062)       0.013        0.001
265  22.08     0.10      0.022       (  0.062)       0.019        0.002
266  22.17     0.10      0.022       (  0.061)       0.019        0.002
267  22.25     0.10      0.022       (  0.061)       0.019        0.002
268  22.33     0.07      0.014       (  0.061)       0.013        0.001
269  22.42     0.07      0.014       (  0.061)       0.013        0.001
270  22.50     0.07      0.014       (  0.061)       0.013        0.001
271  22.58     0.07      0.014       (  0.060)       0.013        0.001
272  22.67     0.07      0.014       (  0.060)       0.013        0.001
273  22.75     0.07      0.014       (  0.060)       0.013        0.001
274  22.83     0.07      0.014       (  0.060)       0.013        0.001
275  22.92     0.07      0.014       (  0.060)       0.013        0.001
276  23.00     0.07      0.014       (  0.060)       0.013        0.001
277  23.08     0.07      0.014       (  0.060)       0.013        0.001
278  23.17     0.07      0.014       (  0.059)       0.013        0.001
279  23.25     0.07      0.014       (  0.059)       0.013        0.001
280  23.33     0.07      0.014       (  0.059)       0.013        0.001
281  23.42     0.07      0.014       (  0.059)       0.013        0.001
282  23.50     0.07      0.014       (  0.059)       0.013        0.001
283  23.58     0.07      0.014       (  0.059)       0.013        0.001
284  23.67     0.07      0.014       (  0.059)       0.013        0.001
285  23.75     0.07      0.014       (  0.059)       0.013        0.001
286  23.83     0.07      0.014       (  0.059)       0.013        0.001
287  23.92     0.07      0.014       (  0.059)       0.013        0.001
288  24.00     0.07      0.014       (  0.059)       0.013        0.001
                (Loss Rate Not Used)
    Sum =     100.0                                  Sum =     5.7
      Flood volume = Effective rainfall      0.48(In)
       times area      22.9(Ac.)/[(In)/(Ft.)] =       0.9(Ac.Ft)
      Total soil loss =      1.32(In)
      Total soil loss =     2.526(Ac.Ft)
      Total rainfall =      1.80(In)
      Flood volume =       39604.2 Cubic Feet
      Total soil loss =      110017.7 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      3.207(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ----------------------------------------------------------------------------
   0+ 5       0.0000      0.00  Q         |         |         |         |
   0+10       0.0001      0.01  Q         |         |         |         |
   0+15       0.0003      0.02  Q         |         |         |         |
   0+20       0.0005      0.03  Q         |         |         |         |
   0+25       0.0007      0.04  Q         |         |         |         |
   0+30       0.0010      0.04  Q         |         |         |         |
   0+35       0.0013      0.04  Q         |         |         |         |
   0+40       0.0016      0.05  Q         |         |         |         |
   0+45       0.0019      0.05  Q         |         |         |         |
   0+50       0.0023      0.05  Q         |         |         |         |
   0+55       0.0026      0.06  Q         |         |         |         |
   1+ 0       0.0031      0.06  Q         |         |         |         |
   1+ 5       0.0035      0.06  Q         |         |         |         |
   1+10       0.0039      0.06  Q         |         |         |         |
   1+15       0.0042      0.05  Q         |         |         |         |
   1+20       0.0046      0.05  Q         |         |         |         |
   1+25       0.0049      0.05  Q         |         |         |         |
   1+30       0.0053      0.05  Q         |         |         |         |
   1+35       0.0056      0.05  Q         |         |         |         |
   1+40       0.0060      0.05  Q         |         |         |         |
   1+45       0.0063      0.05  Q         |         |         |         |
   1+50       0.0067      0.05  Q         |         |         |         |
   1+55       0.0071      0.06  Q         |         |         |         |
   2+ 0       0.0075      0.06  Q         |         |         |         |
   2+ 5       0.0079      0.06  Q         |         |         |         |
   2+10       0.0084      0.06  Q         |         |         |         |
   2+15       0.0088      0.06  Q         |         |         |         |
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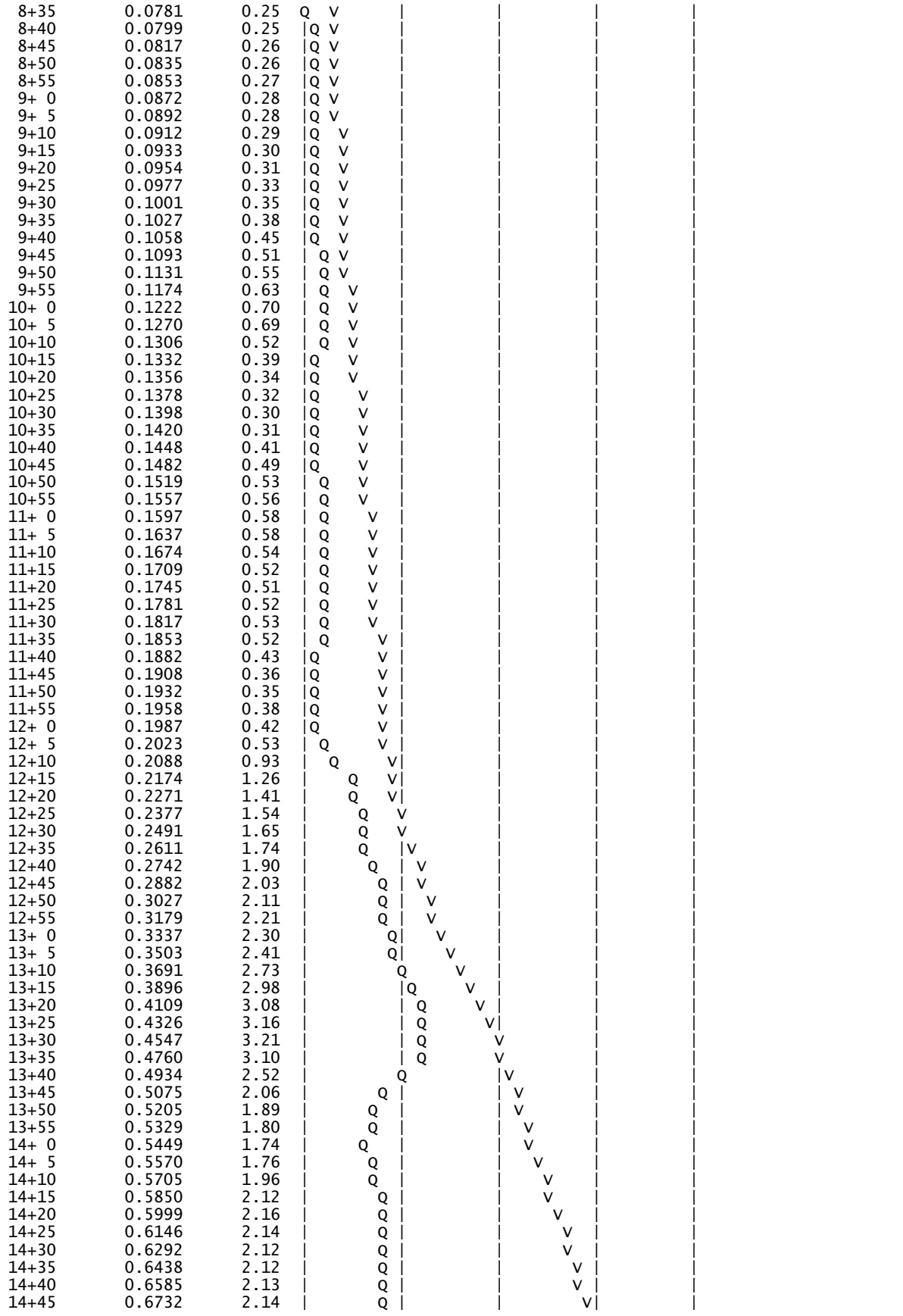
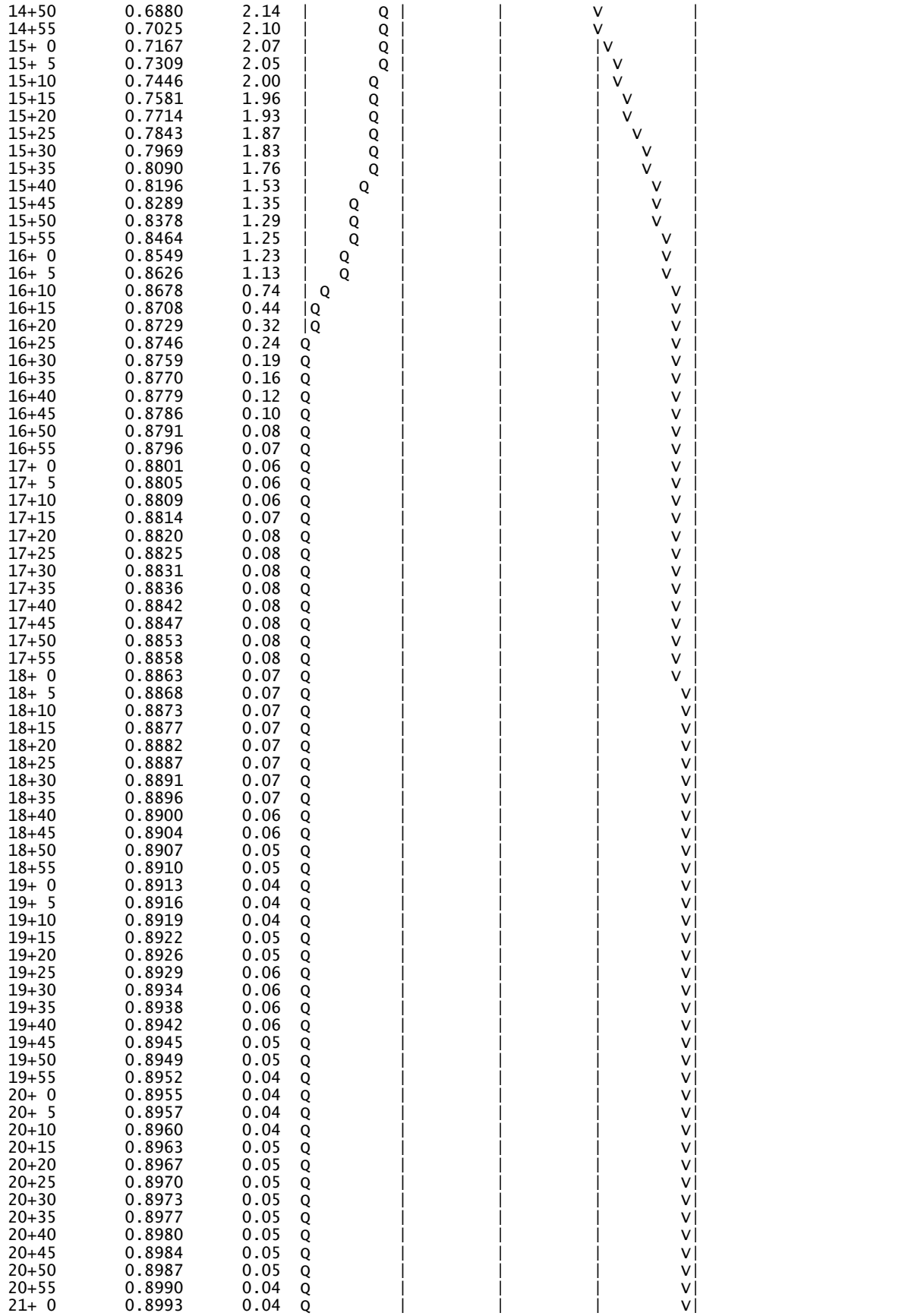
2+20	0.0093	0.07	Q	|	|	|	|
2+25	0.0097	0.07	Q	|	|	|	|
2+30	0.0102	0.07	Q	|	|	|	|
2+35	0.0106	0.07	Q	|	|	|	|
2+40	0.0111	0.07	Q	|	|	|	|
2+45	0.0117	0.08	Q	|	|	|	|
2+50	0.0122	0.08	Q	|	|	|	|
2+55	0.0128	0.08	Q	|	|	|	|
3+ 0	0.0133	0.08	Q	|	|	|	|
3+ 5	0.0139	0.08	Q	|	|	|	|
3+10	0.0145	0.08	Q	|	|	|	|
3+15	0.0150	0.08	Q	|	|	|	|
3+20	0.0156	0.08	Q	|	|	|	|
3+25	0.0162	0.08	Q	|	|	|	|
3+30	0.0168	0.08	Q	|	|	|	|
3+35	0.0173	0.08	Q	|	|	|	|
3+40	0.0179	0.08	Q	|	|	|	|
3+45	0.0185	0.08	Q	|	|	|	|
3+50	0.0191	0.08	Q	|	|	|	|
3+55	0.0197	0.09	Q	|	|	|	|
4+ 0	0.0203	0.09	Q	|	|	|	|
4+ 5	0.0210	0.10	Q	|	|	|	|
4+10	0.0217	0.10	Q	|	|	|	|
4+15	0.0223	0.10	Q	|	|	|	|
4+20	0.0230	0.10	QV	|	|	|	|
4+25	0.0237	0.11	QV	|	|	|	|
4+30	0.0245	0.11	QV	|	|	|	|
4+35	0.0253	0.11	QV	|	|	|	|
4+40	0.0261	0.11	QV	|	|	|	|
4+45	0.0269	0.11	QV	|	|	|	|
4+50	0.0277	0.12	QV	|	|	|	|
4+55	0.0285	0.12	QV	|	|	|	|
5+ 0	0.0294	0.13	QV	|	|	|	|
5+ 5	0.0302	0.13	QV	|	|	|	|
5+10	0.0310	0.12	QV	|	|	|	|
5+15	0.0318	0.11	QV	|	|	|	|
5+20	0.0325	0.11	QV	|	|	|	|
5+25	0.0333	0.11	QV	|	|	|	|
5+30	0.0341	0.11	QV	|	|	|	|
5+35	0.0349	0.12	QV	|	|	|	|
5+40	0.0357	0.12	QV	|	|	|	|
5+45	0.0366	0.13	QV	|	|	|	|
5+50	0.0375	0.13	QV	|	|	|	|
5+55	0.0384	0.13	QV	|	|	|	|
6+ 0	0.0393	0.13	QV	|	|	|	|
6+ 5	0.0402	0.13	QV	|	|	|	|
6+10	0.0411	0.14	QV	|	|	|	|
6+15	0.0421	0.14	QV	|	|	|	|
6+20	0.0431	0.15	QV	|	|	|	|
6+25	0.0441	0.15	QV	|	|	|	|
6+30	0.0452	0.15	QV	|	|	|	|
6+35	0.0462	0.15	Q V	|	|	|	|
6+40	0.0473	0.16	Q V	|	|	|	|
6+45	0.0484	0.16	Q V	|	|	|	|
6+50	0.0495	0.16	Q V	|	|	|	|
6+55	0.0506	0.16	Q V	|	|	|	|
7+ 0	0.0517	0.16	Q V	|	|	|	|
7+ 5	0.0529	0.16	Q V	|	|	|	|
7+10	0.0540	0.17	Q V	|	|	|	|
7+15	0.0552	0.17	Q V	|	|	|	|
7+20	0.0563	0.17	Q V	|	|	|	|
7+25	0.0575	0.17	Q V	|	|	|	|
7+30	0.0587	0.18	Q V	|	|	|	|
7+35	0.0600	0.18	Q V	|	|	|	|
7+40	0.0613	0.19	Q V	|	|	|	|
7+45	0.0626	0.19	Q V	|	|	|	|
7+50	0.0639	0.20	Q V	|	|	|	|
7+55	0.0653	0.20	Q V	|	|	|	|
8+ 0	0.0668	0.21	Q V	|	|	|	|
8+ 5	0.0682	0.21	Q V	|	|	|	|
8+10	0.0698	0.23	Q V	|	|	|	|
8+15	0.0714	0.24	Q V	|	|	|	|
8+20	0.0731	0.24	Q V	|	|	|	|
8+25	0.0747	0.24	Q V	|	|	|	|
8+30	0.0764	0.24	Q V	|	|	|	|





21+ 5	0.8995	0.04	Q	|	|	|	V|
21+10	0.8998	0.04	Q	|	|	|	V|
21+15	0.9001	0.05	Q	|	|	|	V|
21+20	0.9004	0.05	Q	|	|	|	V|
21+25	0.9007	0.04	Q	|	|	|	V|
21+30	0.9010	0.04	Q	|	|	|	V|
21+35	0.9012	0.04	Q	|	|	|	V|
21+40	0.9015	0.04	Q	|	|	|	V|
21+45	0.9019	0.05	Q	|	|	|	V|
21+50	0.9022	0.05	Q	|	|	|	V|
21+55	0.9025	0.04	Q	|	|	|	V|
22+ 0	0.9027	0.04	Q	|	|	|	V|
22+ 5	0.9030	0.04	Q	|	|	|	V|
22+10	0.9033	0.04	Q	|	|	|	V|
22+15	0.9036	0.05	Q	|	|	|	V|
22+20	0.9039	0.05	Q	|	|	|	V|
22+25	0.9042	0.04	Q	|	|	|	V|
22+30	0.9044	0.04	Q	|	|	|	V|
22+35	0.9047	0.04	Q	|	|	|	V|
22+40	0.9049	0.04	Q	|	|	|	V|
22+45	0.9052	0.03	Q	|	|	|	V|
22+50	0.9054	0.03	Q	|	|	|	V|
22+55	0.9056	0.03	Q	|	|	|	V|
23+ 0	0.9059	0.03	Q	|	|	|	V|
23+ 5	0.9061	0.03	Q	|	|	|	V|
23+10	0.9063	0.03	Q	|	|	|	V|
23+15	0.9065	0.03	Q	|	|	|	V|
23+20	0.9068	0.03	Q	|	|	|	V|
23+25	0.9070	0.03	Q	|	|	|	V|
23+30	0.9072	0.03	Q	|	|	|	V|
23+35	0.9075	0.03	Q	|	|	|	V|
23+40	0.9077	0.03	Q	|	|	|	V|
23+45	0.9079	0.03	Q	|	|	|	V|
23+50	0.9081	0.03	Q	|	|	|	V|
23+55	0.9084	0.03	Q	|	|	|	V|
24+ 0	0.9086	0.03	Q	|	|	|	V|
24+ 5	0.9088	0.03	Q	|	|	|	V|
24+10	0.9090	0.02	Q	|	|	|	V|
24+15	0.9090	0.01	Q	|	|	|	V|
24+20	0.9091	0.01	Q	|	|	|	V|
24+25	0.9091	0.01	Q	|	|	|	V|
24+30	0.9091	0.00	Q	|	|	|	V|
24+35	0.9091	0.00	Q	|	|	|	V|
24+40	0.9092	0.00	Q	|	|	|	V|
24+45	0.9092	0.00	Q	|	|	|	V|
24+50	0.9092	0.00	Q	|	|	|	V|
24+55	0.9092	0.00	Q	|	|	|	V|
25+ 0	0.9092	0.00	Q	|	|	|	V|
25+ 5	0.9092	0.00	Q	|	|	|	V

Proposed Unit Hydrograph
2-year, 24-hour Storm Event

U n i t H y d r o g r a p h A n a l y s i s

Study date 01/25/22 File: ONSITEPROPEAST242.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 4010

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

21-0235 - MC BLACKACRE PERRIS AIRPORT SITE
ONSITE UNIT HYDROGRAPH ANALYSIS
PROPOSED CONDITION, 2-YEAR
FN: ONSITEPROPEAST, ABE, 2022-01-25

Drainage Area = 22.90(Ac.) = 0.036 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 22.90(Ac.) = 0.036 Sq. Mi.
Length along longest watercourse = 1113.00(Ft.)
Length along longest watercourse measured to centroid = 480.00(Ft.)
Length along longest watercourse = 0.211 Mi.
Length along longest watercourse measured to centroid = 0.091 Mi.
Difference in elevation = 10.00(Ft.)
Slope along watercourse = 47.4394 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.038 Hr.
Lag time = 2.31 Min.
25% of lag time = 0.58 Min.
40% of lag time = 0.92 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
22.90	1.80	41.22

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
22.90	5.00	114.50

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 5.000(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
22.900	69.00	0.900

Total Area Entered = 22.90(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

69.0	69.0	0.373	0.900	0.071	1.000	0.071
					Sum (F) =	0.071

Area averaged mean soil loss (F) (In/Hr) = 0.071
Minimum soil loss rate ((In/Hr)) = 0.035
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	216.593	46.128	10.646
2	0.167	433.186	42.226	9.745
3	0.250	649.779	8.160	1.883
4	0.333	866.372	3.486	0.805
			Sum = 100.000 Sum=	23.079

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.014	(0.126)	0.003	0.012
2	0.17	0.07	0.014	(0.125)	0.003	0.012
3	0.25	0.07	0.014	(0.125)	0.003	0.012
4	0.33	0.10	0.022	(0.124)	0.004	0.017
5	0.42	0.10	0.022	(0.124)	0.004	0.017
6	0.50	0.10	0.022	(0.123)	0.004	0.017
7	0.58	0.10	0.022	(0.123)	0.004	0.017
8	0.67	0.10	0.022	(0.122)	0.004	0.017
9	0.75	0.10	0.022	(0.122)	0.004	0.017
10	0.83	0.13	0.029	(0.121)	0.006	0.023
11	0.92	0.13	0.029	(0.121)	0.006	0.023
12	1.00	0.13	0.029	(0.120)	0.006	0.023
13	1.08	0.10	0.022	(0.120)	0.004	0.017
14	1.17	0.10	0.022	(0.119)	0.004	0.017
15	1.25	0.10	0.022	(0.119)	0.004	0.017
16	1.33	0.10	0.022	(0.118)	0.004	0.017
17	1.42	0.10	0.022	(0.118)	0.004	0.017
18	1.50	0.10	0.022	(0.117)	0.004	0.017
19	1.58	0.10	0.022	(0.117)	0.004	0.017
20	1.67	0.10	0.022	(0.117)	0.004	0.017
21	1.75	0.10	0.022	(0.116)	0.004	0.017
22	1.83	0.13	0.029	(0.116)	0.006	0.023
23	1.92	0.13	0.029	(0.115)	0.006	0.023
24	2.00	0.13	0.029	(0.115)	0.006	0.023
25	2.08	0.13	0.029	(0.114)	0.006	0.023
26	2.17	0.13	0.029	(0.114)	0.006	0.023
27	2.25	0.13	0.029	(0.113)	0.006	0.023
28	2.33	0.13	0.029	(0.113)	0.006	0.023
29	2.42	0.13	0.029	(0.112)	0.006	0.023
30	2.50	0.13	0.029	(0.112)	0.006	0.023
31	2.58	0.17	0.036	(0.111)	0.007	0.029
32	2.67	0.17	0.036	(0.111)	0.007	0.029
33	2.75	0.17	0.036	(0.110)	0.007	0.029
34	2.83	0.17	0.036	(0.110)	0.007	0.029
35	2.92	0.17	0.036	(0.110)	0.007	0.029
36	3.00	0.17	0.036	(0.109)	0.007	0.029
37	3.08	0.17	0.036	(0.109)	0.007	0.029
38	3.17	0.17	0.036	(0.108)	0.007	0.029
39	3.25	0.17	0.036	(0.108)	0.007	0.029
40	3.33	0.17	0.036	(0.107)	0.007	0.029
41	3.42	0.17	0.036	(0.107)	0.007	0.029
42	3.50	0.17	0.036	(0.106)	0.007	0.029
43	3.58	0.17	0.036	(0.106)	0.007	0.029
44	3.67	0.17	0.036	(0.106)	0.007	0.029
45	3.75	0.17	0.036	(0.105)	0.007	0.029
46	3.83	0.20	0.043	(0.105)	0.009	0.035

47	3.92	0.20	0.043	(0.104)	0.009	0.035
48	4.00	0.20	0.043	(0.104)	0.009	0.035
49	4.08	0.20	0.043	(0.103)	0.009	0.035
50	4.17	0.20	0.043	(0.103)	0.009	0.035
51	4.25	0.20	0.043	(0.102)	0.009	0.035
52	4.33	0.23	0.050	(0.102)	0.010	0.040
53	4.42	0.23	0.050	(0.102)	0.010	0.040
54	4.50	0.23	0.050	(0.101)	0.010	0.040
55	4.58	0.23	0.050	(0.101)	0.010	0.040
56	4.67	0.23	0.050	(0.100)	0.010	0.040
57	4.75	0.23	0.050	(0.100)	0.010	0.040
58	4.83	0.27	0.058	(0.099)	0.012	0.046
59	4.92	0.27	0.058	(0.099)	0.012	0.046
60	5.00	0.27	0.058	(0.099)	0.012	0.046
61	5.08	0.20	0.043	(0.098)	0.009	0.035
62	5.17	0.20	0.043	(0.098)	0.009	0.035
63	5.25	0.20	0.043	(0.097)	0.009	0.035
64	5.33	0.23	0.050	(0.097)	0.010	0.040
65	5.42	0.23	0.050	(0.096)	0.010	0.040
66	5.50	0.23	0.050	(0.096)	0.010	0.040
67	5.58	0.27	0.058	(0.096)	0.012	0.046
68	5.67	0.27	0.058	(0.095)	0.012	0.046
69	5.75	0.27	0.058	(0.095)	0.012	0.046
70	5.83	0.27	0.058	(0.094)	0.012	0.046
71	5.92	0.27	0.058	(0.094)	0.012	0.046
72	6.00	0.27	0.058	(0.093)	0.012	0.046
73	6.08	0.30	0.065	(0.093)	0.013	0.052
74	6.17	0.30	0.065	(0.093)	0.013	0.052
75	6.25	0.30	0.065	(0.092)	0.013	0.052
76	6.33	0.30	0.065	(0.092)	0.013	0.052
77	6.42	0.30	0.065	(0.091)	0.013	0.052
78	6.50	0.30	0.065	(0.091)	0.013	0.052
79	6.58	0.33	0.072	(0.091)	0.014	0.058
80	6.67	0.33	0.072	(0.090)	0.014	0.058
81	6.75	0.33	0.072	(0.090)	0.014	0.058
82	6.83	0.33	0.072	(0.089)	0.014	0.058
83	6.92	0.33	0.072	(0.089)	0.014	0.058
84	7.00	0.33	0.072	(0.089)	0.014	0.058
85	7.08	0.33	0.072	(0.088)	0.014	0.058
86	7.17	0.33	0.072	(0.088)	0.014	0.058
87	7.25	0.33	0.072	(0.087)	0.014	0.058
88	7.33	0.37	0.079	(0.087)	0.016	0.063
89	7.42	0.37	0.079	(0.087)	0.016	0.063
90	7.50	0.37	0.079	(0.086)	0.016	0.063
91	7.58	0.40	0.086	(0.086)	0.017	0.069
92	7.67	0.40	0.086	(0.085)	0.017	0.069
93	7.75	0.40	0.086	(0.085)	0.017	0.069
94	7.83	0.43	0.094	(0.085)	0.019	0.075
95	7.92	0.43	0.094	(0.084)	0.019	0.075
96	8.00	0.43	0.094	(0.084)	0.019	0.075
97	8.08	0.50	0.108	(0.083)	0.022	0.086
98	8.17	0.50	0.108	(0.083)	0.022	0.086
99	8.25	0.50	0.108	(0.083)	0.022	0.086
100	8.33	0.50	0.108	(0.082)	0.022	0.086
101	8.42	0.50	0.108	(0.082)	0.022	0.086
102	8.50	0.50	0.108	(0.082)	0.022	0.086
103	8.58	0.53	0.115	(0.081)	0.023	0.092
104	8.67	0.53	0.115	(0.081)	0.023	0.092
105	8.75	0.53	0.115	(0.080)	0.023	0.092
106	8.83	0.57	0.122	(0.080)	0.024	0.098
107	8.92	0.57	0.122	(0.080)	0.024	0.098
108	9.00	0.57	0.122	(0.079)	0.024	0.098
109	9.08	0.63	0.137	(0.079)	0.027	0.109
110	9.17	0.63	0.137	(0.078)	0.027	0.109
111	9.25	0.63	0.137	(0.078)	0.027	0.109
112	9.33	0.67	0.144	(0.078)	0.029	0.115
113	9.42	0.67	0.144	(0.077)	0.029	0.115
114	9.50	0.67	0.144	(0.077)	0.029	0.115
115	9.58	0.70	0.151	(0.077)	0.030	0.121
116	9.67	0.70	0.151	(0.076)	0.030	0.121
117	9.75	0.70	0.151	(0.076)	0.030	0.121
118	9.83	0.73	0.158	(0.076)	0.032	0.127
119	9.92	0.73	0.158	(0.075)	0.032	0.127
120	10.00	0.73	0.158	(0.075)	0.032	0.127
121	10.08	0.50	0.108	(0.074)	0.022	0.086

122	10.17	0.50	0.108	(0.074)	0.022	0.086
123	10.25	0.50	0.108	(0.074)	0.022	0.086
124	10.33	0.50	0.108	(0.073)	0.022	0.086
125	10.42	0.50	0.108	(0.073)	0.022	0.086
126	10.50	0.50	0.108	(0.073)	0.022	0.086
127	10.58	0.67	0.144	(0.072)	0.029	0.115
128	10.67	0.67	0.144	(0.072)	0.029	0.115
129	10.75	0.67	0.144	(0.072)	0.029	0.115
130	10.83	0.67	0.144	(0.071)	0.029	0.115
131	10.92	0.67	0.144	(0.071)	0.029	0.115
132	11.00	0.67	0.144	(0.071)	0.029	0.115
133	11.08	0.63	0.137	(0.070)	0.027	0.109
134	11.17	0.63	0.137	(0.070)	0.027	0.109
135	11.25	0.63	0.137	(0.069)	0.027	0.109
136	11.33	0.63	0.137	(0.069)	0.027	0.109
137	11.42	0.63	0.137	(0.069)	0.027	0.109
138	11.50	0.63	0.137	(0.068)	0.027	0.109
139	11.58	0.57	0.122	(0.068)	0.024	0.098
140	11.67	0.57	0.122	(0.068)	0.024	0.098
141	11.75	0.57	0.122	(0.067)	0.024	0.098
142	11.83	0.60	0.130	(0.067)	0.026	0.104
143	11.92	0.60	0.130	(0.067)	0.026	0.104
144	12.00	0.60	0.130	(0.066)	0.026	0.104
145	12.08	0.83	0.180	(0.066)	0.036	0.144
146	12.17	0.83	0.180	(0.066)	0.036	0.144
147	12.25	0.83	0.180	(0.065)	0.036	0.144
148	12.33	0.87	0.187	(0.065)	0.037	0.150
149	12.42	0.87	0.187	(0.065)	0.037	0.150
150	12.50	0.87	0.187	(0.064)	0.037	0.150
151	12.58	0.93	0.202	(0.064)	0.040	0.161
152	12.67	0.93	0.202	(0.064)	0.040	0.161
153	12.75	0.93	0.202	(0.064)	0.040	0.161
154	12.83	0.97	0.209	(0.063)	0.042	0.167
155	12.92	0.97	0.209	(0.063)	0.042	0.167
156	13.00	0.97	0.209	(0.063)	0.042	0.167
157	13.08	1.13	0.245	(0.062)	0.049	0.196
158	13.17	1.13	0.245	(0.062)	0.049	0.196
159	13.25	1.13	0.245	(0.062)	0.049	0.196
160	13.33	1.13	0.245	(0.061)	0.049	0.196
161	13.42	1.13	0.245	(0.061)	0.049	0.196
162	13.50	1.13	0.245	(0.061)	0.049	0.196
163	13.58	0.77	0.166	(0.060)	0.033	0.132
164	13.67	0.77	0.166	(0.060)	0.033	0.132
165	13.75	0.77	0.166	(0.060)	0.033	0.132
166	13.83	0.77	0.166	(0.059)	0.033	0.132
167	13.92	0.77	0.166	(0.059)	0.033	0.132
168	14.00	0.77	0.166	(0.059)	0.033	0.132
169	14.08	0.90	0.194	(0.059)	0.039	0.156
170	14.17	0.90	0.194	(0.058)	0.039	0.156
171	14.25	0.90	0.194	(0.058)	0.039	0.156
172	14.33	0.87	0.187	(0.058)	0.037	0.150
173	14.42	0.87	0.187	(0.057)	0.037	0.150
174	14.50	0.87	0.187	(0.057)	0.037	0.150
175	14.58	0.87	0.187	(0.057)	0.037	0.150
176	14.67	0.87	0.187	(0.056)	0.037	0.150
177	14.75	0.87	0.187	(0.056)	0.037	0.150
178	14.83	0.83	0.180	(0.056)	0.036	0.144
179	14.92	0.83	0.180	(0.056)	0.036	0.144
180	15.00	0.83	0.180	(0.055)	0.036	0.144
181	15.08	0.80	0.173	(0.055)	0.035	0.138
182	15.17	0.80	0.173	(0.055)	0.035	0.138
183	15.25	0.80	0.173	(0.054)	0.035	0.138
184	15.33	0.77	0.166	(0.054)	0.033	0.132
185	15.42	0.77	0.166	(0.054)	0.033	0.132
186	15.50	0.77	0.166	(0.054)	0.033	0.132
187	15.58	0.63	0.137	(0.053)	0.027	0.109
188	15.67	0.63	0.137	(0.053)	0.027	0.109
189	15.75	0.63	0.137	(0.053)	0.027	0.109
190	15.83	0.63	0.137	(0.053)	0.027	0.109
191	15.92	0.63	0.137	(0.052)	0.027	0.109
192	16.00	0.63	0.137	(0.052)	0.027	0.109
193	16.08	0.13	0.029	(0.052)	0.006	0.023
194	16.17	0.13	0.029	(0.051)	0.006	0.023
195	16.25	0.13	0.029	(0.051)	0.006	0.023
196	16.33	0.13	0.029	(0.051)	0.006	0.023

197	16.42	0.13	0.029	(0.051)	0.006	0.023
198	16.50	0.13	0.029	(0.050)	0.006	0.023
199	16.58	0.10	0.022	(0.050)	0.004	0.017
200	16.67	0.10	0.022	(0.050)	0.004	0.017
201	16.75	0.10	0.022	(0.050)	0.004	0.017
202	16.83	0.10	0.022	(0.049)	0.004	0.017
203	16.92	0.10	0.022	(0.049)	0.004	0.017
204	17.00	0.10	0.022	(0.049)	0.004	0.017
205	17.08	0.17	0.036	(0.049)	0.007	0.029
206	17.17	0.17	0.036	(0.048)	0.007	0.029
207	17.25	0.17	0.036	(0.048)	0.007	0.029
208	17.33	0.17	0.036	(0.048)	0.007	0.029
209	17.42	0.17	0.036	(0.048)	0.007	0.029
210	17.50	0.17	0.036	(0.047)	0.007	0.029
211	17.58	0.17	0.036	(0.047)	0.007	0.029
212	17.67	0.17	0.036	(0.047)	0.007	0.029
213	17.75	0.17	0.036	(0.047)	0.007	0.029
214	17.83	0.13	0.029	(0.047)	0.006	0.023
215	17.92	0.13	0.029	(0.046)	0.006	0.023
216	18.00	0.13	0.029	(0.046)	0.006	0.023
217	18.08	0.13	0.029	(0.046)	0.006	0.023
218	18.17	0.13	0.029	(0.046)	0.006	0.023
219	18.25	0.13	0.029	(0.045)	0.006	0.023
220	18.33	0.13	0.029	(0.045)	0.006	0.023
221	18.42	0.13	0.029	(0.045)	0.006	0.023
222	18.50	0.13	0.029	(0.045)	0.006	0.023
223	18.58	0.10	0.022	(0.045)	0.004	0.017
224	18.67	0.10	0.022	(0.044)	0.004	0.017
225	18.75	0.10	0.022	(0.044)	0.004	0.017
226	18.83	0.07	0.014	(0.044)	0.003	0.012
227	18.92	0.07	0.014	(0.044)	0.003	0.012
228	19.00	0.07	0.014	(0.043)	0.003	0.012
229	19.08	0.10	0.022	(0.043)	0.004	0.017
230	19.17	0.10	0.022	(0.043)	0.004	0.017
231	19.25	0.10	0.022	(0.043)	0.004	0.017
232	19.33	0.13	0.029	(0.043)	0.006	0.023
233	19.42	0.13	0.029	(0.042)	0.006	0.023
234	19.50	0.13	0.029	(0.042)	0.006	0.023
235	19.58	0.10	0.022	(0.042)	0.004	0.017
236	19.67	0.10	0.022	(0.042)	0.004	0.017
237	19.75	0.10	0.022	(0.042)	0.004	0.017
238	19.83	0.07	0.014	(0.041)	0.003	0.012
239	19.92	0.07	0.014	(0.041)	0.003	0.012
240	20.00	0.07	0.014	(0.041)	0.003	0.012
241	20.08	0.10	0.022	(0.041)	0.004	0.017
242	20.17	0.10	0.022	(0.041)	0.004	0.017
243	20.25	0.10	0.022	(0.041)	0.004	0.017
244	20.33	0.10	0.022	(0.040)	0.004	0.017
245	20.42	0.10	0.022	(0.040)	0.004	0.017
246	20.50	0.10	0.022	(0.040)	0.004	0.017
247	20.58	0.10	0.022	(0.040)	0.004	0.017
248	20.67	0.10	0.022	(0.040)	0.004	0.017
249	20.75	0.10	0.022	(0.040)	0.004	0.017
250	20.83	0.07	0.014	(0.039)	0.003	0.012
251	20.92	0.07	0.014	(0.039)	0.003	0.012
252	21.00	0.07	0.014	(0.039)	0.003	0.012
253	21.08	0.10	0.022	(0.039)	0.004	0.017
254	21.17	0.10	0.022	(0.039)	0.004	0.017
255	21.25	0.10	0.022	(0.039)	0.004	0.017
256	21.33	0.07	0.014	(0.038)	0.003	0.012
257	21.42	0.07	0.014	(0.038)	0.003	0.012
258	21.50	0.07	0.014	(0.038)	0.003	0.012
259	21.58	0.10	0.022	(0.038)	0.004	0.017
260	21.67	0.10	0.022	(0.038)	0.004	0.017
261	21.75	0.10	0.022	(0.038)	0.004	0.017
262	21.83	0.07	0.014	(0.038)	0.003	0.012
263	21.92	0.07	0.014	(0.038)	0.003	0.012
264	22.00	0.07	0.014	(0.037)	0.003	0.012
265	22.08	0.10	0.022	(0.037)	0.004	0.017
266	22.17	0.10	0.022	(0.037)	0.004	0.017
267	22.25	0.10	0.022	(0.037)	0.004	0.017
268	22.33	0.07	0.014	(0.037)	0.003	0.012
269	22.42	0.07	0.014	(0.037)	0.003	0.012
270	22.50	0.07	0.014	(0.037)	0.003	0.012
271	22.58	0.07	0.014	(0.037)	0.003	0.012

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272  22.67     0.07      0.014       (  0.036)       0.003        0.012
273  22.75     0.07      0.014       (  0.036)       0.003        0.012
274  22.83     0.07      0.014       (  0.036)       0.003        0.012
275  22.92     0.07      0.014       (  0.036)       0.003        0.012
276  23.00     0.07      0.014       (  0.036)       0.003        0.012
277  23.08     0.07      0.014       (  0.036)       0.003        0.012
278  23.17     0.07      0.014       (  0.036)       0.003        0.012
279  23.25     0.07      0.014       (  0.036)       0.003        0.012
280  23.33     0.07      0.014       (  0.036)       0.003        0.012
281  23.42     0.07      0.014       (  0.036)       0.003        0.012
282  23.50     0.07      0.014       (  0.036)       0.003        0.012
283  23.58     0.07      0.014       (  0.036)       0.003        0.012
284  23.67     0.07      0.014       (  0.036)       0.003        0.012
285  23.75     0.07      0.014       (  0.036)       0.003        0.012
286  23.83     0.07      0.014       (  0.035)       0.003        0.012
287  23.92     0.07      0.014       (  0.035)       0.003        0.012
288  24.00     0.07      0.014       (  0.035)       0.003        0.012
               (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    17.3
      Flood volume = Effective rainfall      1.44(In)
       times area      22.9(Ac.)/[(In)/(Ft.)] =       2.7(Ac.Ft)
      Total soil loss =      0.36(In)
      Total soil loss =     0.687(Ac.Ft)
      Total rainfall =      1.80(In)
      Flood volume =      119697.5 Cubic Feet
      Total soil loss =       29924.4 Cubic Feet
      --------------------------------------------------------------------
       Peak flow rate of this hydrograph =      4.522(CFS)
      --------------------------------------------------------------------
      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      --------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      --------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ---------------------------------------------------------------------------
   0+ 5       0.0008      0.12  Q         |         |         |         |
   0+10       0.0025      0.24  Q         |         |         |         |
   0+15       0.0042      0.26  VQ        |         |         |         |
   0+20       0.0065      0.33  VQ        |         |         |         |
   0+25       0.0091      0.38  VQ        |         |         |         |
   0+30       0.0118      0.39  VQ        |         |         |         |
   0+35       0.0146      0.40  VQ        |         |         |         |
   0+40       0.0173      0.40  VQ        |         |         |         |
   0+45       0.0201      0.40  VQ        |         |         |         |
   0+50       0.0233      0.46  VQ        |         |         |         |
   0+55       0.0268      0.52  V Q       |         |         |         |
   1+ 0       0.0304      0.53  V Q       |         |         |         |
   1+ 5       0.0337      0.47  VQ        |         |         |         |
   1+10       0.0365      0.41  VQ        |         |         |         |
   1+15       0.0393      0.40  VQ        |         |         |         |
   1+20       0.0421      0.40  VQ        |         |         |         |
   1+25       0.0448      0.40  VQ        |         |         |         |
   1+30       0.0476      0.40  VQ        |         |         |         |
   1+35       0.0503      0.40  VQ        |         |         |         |
   1+40       0.0531      0.40  VQ        |         |         |         |
   1+45       0.0558      0.40  VQ        |         |         |         |
   1+50       0.0590      0.46  VQ        |         |         |         |
   1+55       0.0625      0.52  V Q       |         |         |         |
   2+ 0       0.0662      0.53  V Q       |         |         |         |
   2+ 5       0.0698      0.53  |VQ       |         |         |         |
   2+10       0.0735      0.53  |VQ       |         |         |         |
   2+15       0.0772      0.53  |VQ       |         |         |         |
   2+20       0.0808      0.53  |VQ       |         |         |         |
   2+25       0.0845      0.53  |VQ       |         |         |         |
   2+30       0.0882      0.53  |VQ       |         |         |         |
   2+35       0.0922      0.59  |VQ       |         |         |         |
   2+40       0.0967      0.65  |VQ       |         |         |         |
   2+45       0.1013      0.66  |VQ       |         |         |         |
   2+50       0.1058      0.66  |VQ       |         |         |         |
   2+55       0.1104      0.66  |VQ       |         |         |         |
   3+ 0       0.1150      0.66  |VQ       |         |         |         |
   3+ 5       0.1196      0.66  |VQ       |         |         |         |
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3+10       0.1242      0.66  |VQ        |          |          |          |
3+15       0.1287      0.66  |VQ        |          |          |          |
3+20       0.1333      0.66  |VQ        |          |          |          |
3+25       0.1379      0.66  | Q        |          |          |          |
3+30       0.1425      0.66  | Q        |          |          |          |
3+35       0.1471      0.66  | Q        |          |          |          |
3+40       0.1516      0.66  | Q        |          |          |          |
3+45       0.1562      0.66  | Q        |          |          |          |
3+50       0.1612      0.73  | Q        |          |          |          |
3+55       0.1666      0.78  | VQ       |          |          |          |
4+ 0       0.1721      0.79  | VQ       |          |          |          |
4+ 5       0.1776      0.80  | VQ       |          |          |          |
4+10       0.1831      0.80  | VQ       |          |          |          |
4+15       0.1886      0.80  | VQ       |          |          |          |
4+20       0.1945      0.86  | VQ       |          |          |          |
4+25       0.2008      0.92  | VQ       |          |          |          |
4+30       0.2072      0.93  |  Q       |          |          |          |
4+35       0.2136      0.93  |  Q       |          |          |          |
4+40       0.2200      0.93  |  Q       |          |          |          |
4+45       0.2264      0.93  |  Q       |          |          |          |
4+50       0.2332      0.99  |  Q       |          |          |          |
4+55       0.2405      1.05  |  VQ      |          |          |          |
5+ 0       0.2477      1.06  |  VQ      |          |          |          |
5+ 5       0.2542      0.94  |  Q       |          |          |          |
5+10       0.2599      0.83  |  Q       |          |          |          |
5+15       0.2655      0.81  |  Q       |          |          |          |
5+20       0.2714      0.86  |  Q       |          |          |          |
5+25       0.2777      0.92  |  QV      |          |          |          |
5+30       0.2841      0.93  |  QV      |          |          |          |
5+35       0.2909      0.99  |  QV      |          |          |          |
5+40       0.2982      1.05  |   Q      |          |          |          |
5+45       0.3055      1.06  |   Q      |          |          |          |
5+50       0.3128      1.06  |   Q      |          |          |          |
5+55       0.3201      1.06  |   Q      |          |          |          |
6+ 0       0.3274      1.06  |   Q      |          |          |          |
6+ 5       0.3352      1.13  |   Q      |          |          |          |
6+10       0.3433      1.18  |   Q      |          |          |          |
6+15       0.3515      1.19  |   QV     |          |          |          |
6+20       0.3598      1.20  |   QV     |          |          |          |
6+25       0.3680      1.20  |   QV     |          |          |          |
6+30       0.3763      1.20  |   QV     |          |          |          |
6+35       0.3849      1.26  |    Q     |          |          |          |
6+40       0.3940      1.31  |    Q     |          |          |          |
6+45       0.4031      1.33  |    Q     |          |          |          |
6+50       0.4123      1.33  |    QV    |          |          |          |
6+55       0.4214      1.33  |    QV    |          |          |          |
7+ 0       0.4306      1.33  |    QV    |          |          |          |
7+ 5       0.4398      1.33  |    QV    |          |          |          |
7+10       0.4489      1.33  |    QV    |          |          |          |
7+15       0.4581      1.33  |    QV    |          |          |          |
7+20       0.4677      1.39  |    QV    |          |          |          |
7+25       0.4776      1.45  |    QV    |          |          |          |
7+30       0.4877      1.46  |    Q V   |          |          |          |
7+35       0.4982      1.52  |     QV   |          |          |          |
7+40       0.5090      1.58  |     QV   |          |          |          |
7+45       0.5200      1.59  |     QV   |          |          |          |
7+50       0.5314      1.66  |     QV   |          |          |          |
7+55       0.5432      1.71  |     QV   |          |          |          |
8+ 0       0.5551      1.72  |     Q V  |          |          |          |
8+ 5       0.5679      1.85  |      QV  |          |          |          |
8+10       0.5814      1.96  |      QV  |          |          |          |
8+15       0.5951      1.99  |      QV  |          |          |          |
8+20       0.6088      1.99  |      QV  |          |          |          |
8+25       0.6225      1.99  |      Q V|          |          |          |
8+30       0.6363      1.99  |      Q V|          |          |          |
8+35       0.6504      2.06  |       QV|          |          |          |
8+40       0.6650      2.11  |       QV|          |          |          |
8+45       0.6796      2.12  |       QV|          |          |          |
8+50       0.6947      2.19  |       Q V          |          |          |
8+55       0.7101      2.25  |       Q V          |          |          |
9+ 0       0.7257      2.26  |        QV          |          |          |
9+ 5       0.7421      2.38  |        QV          |          |          |
9+10       0.7593      2.50  |        Q|V         |          |          |
9+15       0.7766      2.52  |         QV         |          |          |
9+20       0.7945      2.59  |         QV         |          |          |
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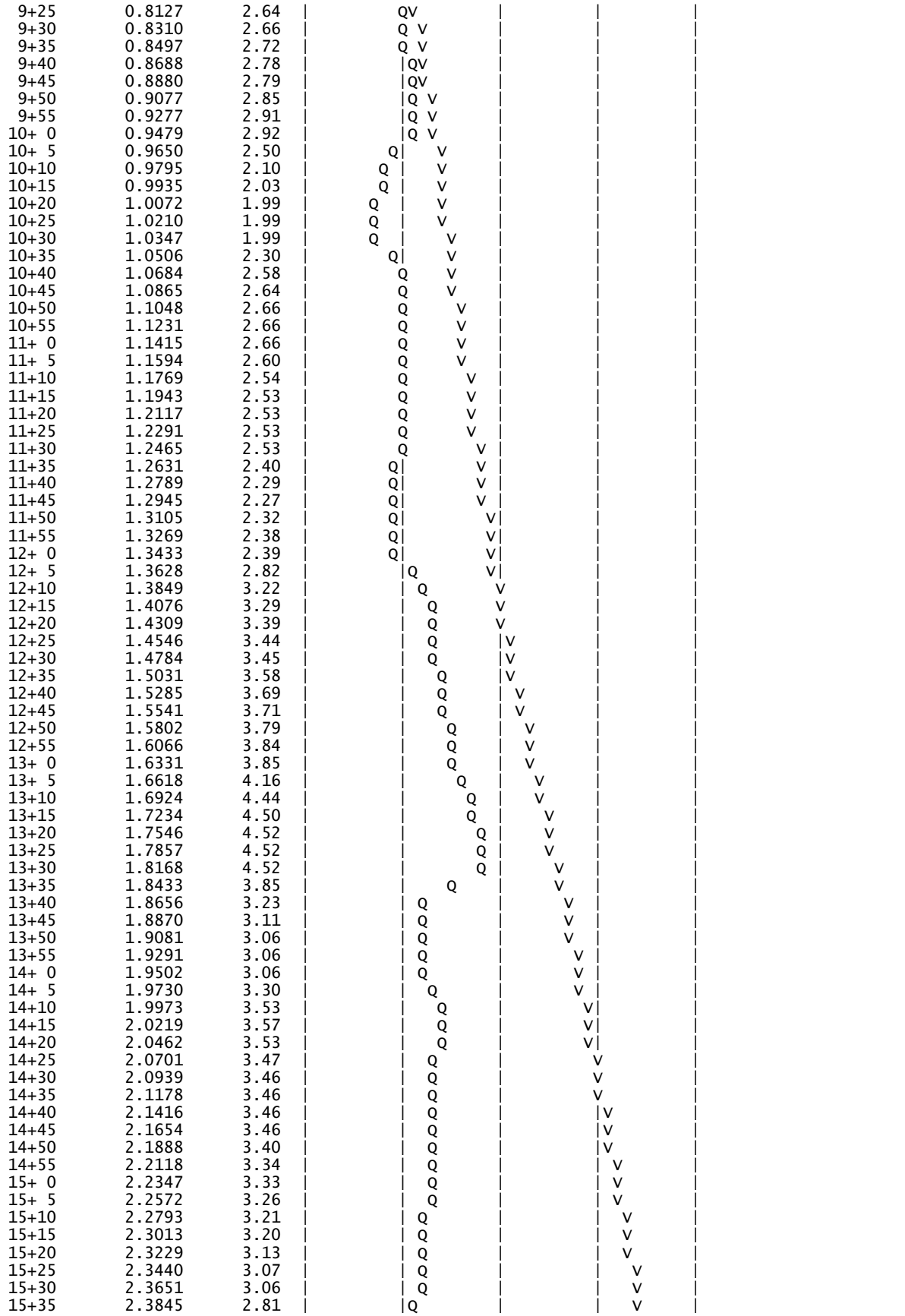

15+40	2.4023	2.59		Q			V
15+45	2.4199	2.55		Q			V
15+50	2.4373	2.53		Q			V
15+55	2.4547	2.53		Q			V
16+ 0	2.4721	2.53		Q			V
16+ 5	2.4831	1.61		Q			V
16+10	2.4884	0.76		Q			V
16+15	2.4925	0.60	Q				V
16+20	2.4962	0.53	Q				V
16+25	2.4999	0.53	Q				V
16+30	2.5035	0.53	Q				V
16+35	2.5068	0.47	Q				V
16+40	2.5096	0.41	Q				V
16+45	2.5124	0.40	Q				V
16+50	2.5152	0.40	Q				V
16+55	2.5179	0.40	Q				V
17+ 0	2.5207	0.40	Q				V
17+ 5	2.5242	0.52	Q				V
17+10	2.5286	0.63	Q				V
17+15	2.5331	0.66	Q				V
17+20	2.5377	0.66	Q				V
17+25	2.5423	0.66	Q				V
17+30	2.5469	0.66	Q				V
17+35	2.5514	0.66	Q				V
17+40	2.5560	0.66	Q				V
17+45	2.5606	0.66	Q				V
17+50	2.5648	0.60	Q				V
17+55	2.5685	0.55	Q				V
18+ 0	2.5722	0.54	Q				V
18+ 5	2.5759	0.53	Q				V
18+10	2.5796	0.53	Q				V
18+15	2.5832	0.53	Q				V
18+20	2.5869	0.53	Q				V
18+25	2.5906	0.53	Q				V
18+30	2.5942	0.53	Q				V
18+35	2.5975	0.47	Q				V
18+40	2.6003	0.41	Q				V
18+45	2.6031	0.40	Q				V
18+50	2.6054	0.34	Q				V
18+55	2.6074	0.28	Q				V
19+ 0	2.6092	0.27	Q				V
19+ 5	2.6115	0.33	Q				V
19+10	2.6141	0.38	Q				V
19+15	2.6168	0.39	Q				V
19+20	2.6200	0.46	Q				V
19+25	2.6236	0.52	Q				V
19+30	2.6272	0.53	Q				V
19+35	2.6304	0.47	Q				V
19+40	2.6333	0.41	Q				V
19+45	2.6361	0.40	Q				V
19+50	2.6384	0.34	Q				V
19+55	2.6403	0.28	Q				V
20+ 0	2.6422	0.27	Q				V
20+ 5	2.6444	0.33	Q				V
20+10	2.6471	0.38	Q				V
20+15	2.6498	0.39	Q				V
20+20	2.6526	0.40	Q				V
20+25	2.6553	0.40	Q				V
20+30	2.6580	0.40	Q				V
20+35	2.6608	0.40	Q				V
20+40	2.6635	0.40	Q				V
20+45	2.6663	0.40	Q				V
20+50	2.6686	0.34	Q				V
20+55	2.6706	0.28	Q				V
21+ 0	2.6724	0.27	Q				V
21+ 5	2.6747	0.33	Q				V
21+10	2.6773	0.38	Q				V
21+15	2.6800	0.39	Q				V
21+20	2.6824	0.34	Q				V
21+25	2.6843	0.28	Q				V
21+30	2.6862	0.27	Q				V
21+35	2.6884	0.33	Q				V
21+40	2.6911	0.38	Q				V
21+45	2.6938	0.39	Q				V
21+50	2.6961	0.34	Q				V

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   21+55       2.6980      0.28  |Q        |         |         |        V|
   22+ 0       2.6999      0.27  |Q        |         |         |        V|
   22+ 5       2.7022      0.33  |Q        |         |         |        V|
   22+10       2.7048      0.38  |Q        |         |         |        V|
   22+15       2.7075      0.39  |Q        |         |         |        V|
   22+20       2.7098      0.34  |Q        |         |         |        V|
   22+25       2.7118      0.28  |Q        |         |         |        V|
   22+30       2.7136      0.27  |Q        |         |         |        V|
   22+35       2.7155      0.27  |Q        |         |         |        V|
   22+40       2.7173      0.27  |Q        |         |         |        V|
   22+45       2.7191      0.27  |Q        |         |         |        V|
   22+50       2.7210      0.27  |Q        |         |         |        V|
   22+55       2.7228      0.27  |Q        |         |         |        V|
   23+ 0       2.7246      0.27  |Q        |         |         |        V|
   23+ 5       2.7265      0.27  |Q        |         |         |        V|
   23+10       2.7283      0.27  |Q        |         |         |        V|
   23+15       2.7301      0.27  |Q        |         |         |        V|
   23+20       2.7320      0.27  |Q        |         |         |        V|
   23+25       2.7338      0.27  |Q        |         |         |        V|
   23+30       2.7356      0.27  |Q        |         |         |        V|
   23+35       2.7375      0.27  |Q        |         |         |        V|
   23+40       2.7393      0.27  |Q        |         |         |        V|
   23+45       2.7411      0.27  |Q        |         |         |        V|
   23+50       2.7429      0.27  |Q        |         |         |        V|
   23+55       2.7448      0.27  |Q        |         |         |        V|
   24+ 0       2.7466      0.27  |Q        |         |         |        V|
   24+ 5       2.7476      0.14  Q         |         |         |        V|
   24+10       2.7478      0.03  Q         |         |         |        V|
   24+15       2.7479      0.01  Q         |         |         |         V
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Basin Routing
2-year, 24-hour Storm Event

BASIN ROUTING RESULTS

	Existing Peak (cfs)	Post Peak (cfs)	Mitigated Peak (cfs)	Ponding Depth (ft)	Water Surface Elev. (ft)	Drawdown Time* (hrs)
2-YEAR 1-HOUR	0.00	0.00				
2-YEAR 3-HOUR	0.00	0.00				
2-YEAR 6-HOUR	0.00	0.00				
2-YEAR 24-HOUR	3.20	4.50	2.05	1.9	1413.4	25.0

**** Drawdown time considered from the end of storm to 0.1' of basin depth. (48hr minimum per airport)***

ALBERT A. WEBB ASSOCIATES

Basin Stage-Storage-Outflow Table

21-0235 Perris Airport Logistics Center - Site 2 - East Parking off Case

Bioretention Basin (BMP-E)

Basin Information: Bio-Retenion Basin			2-Year 24 Hour Orifice		Q_{out} Pump	100-year Basin Outlet	
Vbmp:	26,759	CF	Q 2-YR 24-HR	4.5		Peak Q-100-YR	61.5
	0.614	AC-FT	Opening (IN)	2.5		Number of Grates	2
Bottom Elevation:	1411.5	FT	Opening (FT)	0.208		Length (FT)	14.5
Bottom Length:	1000	FT	AREA (SF)	0.034		C	3
Bottom Width:	30	FT	# of Orifices	2		% Clogging	25
Bottom Area:	25,888	SF	Total Area (SF)	0.068			
Bottom Slope:	0	%	G (FT/s^2)	32.2			
Side Slope:	4	:1	Cd	0.66			
			Invert H (FT)	1405		Top of Grates	1413.4

#	Elevation (FT)	Depth (FT)	Storage (AC-FT)	h (FT)	Q** (CFS)	Q (CFS)	h (FT)	Q*** (CFS)	Qtotal (CFS)
1.00	1,411.50	0.00	0.000	6.396	0.000	0.000	0.00	0.000	0.000
2.00	1,412.00	0.50	0.352	6.896	0.948	0.000	0.00	0.000	0.948
3.00	1,413.00	1.50	1.161	7.896	1.015	0.000	0.00	0.000	1.015
4.00	1,413.40	1.90	1.525	8.296	1.040	0.000	0.00	0.000	1.040
5.00	1,414.00	2.50	2.115	8.896	1.077	4.000	0.60	15.163	20.240
6.00	1,415.00	3.50	3.214	9.896	1.136	4.000	1.60	66.028	71.164
7.00	1,416.00	4.50	4.464	10.896	1.192	4.000	2.60	136.776	141.968
8.00	1,417.00	5.50	5.868	11.896	1.245	4.000	3.60	222.846	228.091

*The water quality volume is considered to be dead storage and it is not included in this analysis.

**Q determined using orifice equation, Q=CA(2gh)^0.5

***Q determined using weir equation, Q=CL(h)^3/2

FLOOD HYDROGRAPH ROUTING PROGRAM

Study date: 06/30/22

21-0235 PERRIS AIRPORT LOGISTICS CENTER
BASIN ROUTING CALCULATIONS
2-YEAR, 24-HOUR STORM EVENT
FN: BMPE.OUT ABE

Program License Serial Number 4010

********** HYDROGRAPH INFORMATION **********

From study/file name: ONSITEPROPEAST242.rte
**********HYDROGRAPH DATA**********
Number of intervals = 291
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 4.522 (CFS)
Total volume = 2.748 (Ac.Ft)
Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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Process from Point/Station 201.000 to Point/Station 202.000
**** RETARDING BASIN ROUTING ****
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User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 291
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.500	0.352	0.948	0.349	0.355
1.500	1.161	1.015	1.158	1.164
1.900	1.525	1.040	1.521	1.529
2.500	2.115	20.240	2.045	2.185
3.500	3.214	71.164	2.969	3.459
4.500	4.464	141.968	3.975	4.953
5.500	5.868	228.091	5.083	6.653

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	1.1	2.26	3.39	4.52	Depth (Ft.)
0.083	0.12	0.00	0.000	O	|	|	|	|	0.00
0.167	0.24	0.00	0.002	OI	|	|	|	|	0.00
0.250	0.26	0.01	0.003	OI	|	|	|	|	0.00

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0.333    0.33    0.01      0.005  o I     |       |       |       |     0.01
0.417    0.38    0.02      0.008  o I     |       |       |       |     0.01
0.500    0.39    0.03      0.010  o I     |       |       |       |     0.01
0.583    0.40    0.03      0.013  o I     |       |       |       |     0.02
0.667    0.40    0.04      0.015  o I     |       |       |       |     0.02
0.750    0.40    0.05      0.018  o I     |       |       |       |     0.02
0.833    0.46    0.05      0.020  o  I    |       |       |       |     0.03
0.917    0.52    0.06      0.023  o  I    |       |       |       |     0.03
1.000    0.53    0.07      0.026  o  I    |       |       |       |     0.04
1.083    0.47    0.08      0.029  o  I    |       |       |       |     0.04
1.167    0.41    0.09      0.032  o I     |       |       |       |     0.04
1.250    0.40    0.09      0.034  o I     |       |       |       |     0.05
1.333    0.40    0.10      0.036  o I     |       |       |       |     0.05
1.417    0.40    0.10      0.038  o I     |       |       |       |     0.05
1.500    0.40    0.11      0.040  o I     |       |       |       |     0.06
1.583    0.40    0.11      0.042  o I     |       |       |       |     0.06
1.667    0.40    0.12      0.044  o I     |       |       |       |     0.06
1.750    0.40    0.12      0.046  o I     |       |       |       |     0.07
1.833    0.46    0.13      0.048  o  I    |       |       |       |     0.07
1.917    0.52    0.14      0.050  o  I    |       |       |       |     0.07
2.000    0.53    0.14      0.053  |o I    |       |       |       |     0.08
2.083    0.53    0.15      0.056  |o I    |       |       |       |     0.08
2.167    0.53    0.16      0.058  |o I    |       |       |       |     0.08
2.250    0.53    0.16      0.061  |o I    |       |       |       |     0.09
2.333    0.53    0.17      0.063  |o I    |       |       |       |     0.09
2.417    0.53    0.18      0.066  |o I    |       |       |       |     0.09
2.500    0.53    0.18      0.068  |o I    |       |       |       |     0.10
2.583    0.59    0.19      0.071  |o  I   |       |       |       |     0.10
2.667    0.65    0.20      0.074  |o  I   |       |       |       |     0.10
2.750    0.66    0.21      0.077  |o  I   |       |       |       |     0.11
2.833    0.66    0.22      0.080  |o  I   |       |       |       |     0.11
2.917    0.66    0.22      0.083  |o  I   |       |       |       |     0.12
3.000    0.66    0.23      0.086  |o  I   |       |       |       |     0.12
3.083    0.66    0.24      0.089  |o  I   |       |       |       |     0.13
3.167    0.66    0.25      0.092  |o  I   |       |       |       |     0.13
3.250    0.66    0.26      0.095  |o  I   |       |       |       |     0.13
3.333    0.66    0.26      0.098  |o  I   |       |       |       |     0.14
3.417    0.66    0.27      0.100  |o  I   |       |       |       |     0.14
3.500    0.66    0.28      0.103  |o  I   |       |       |       |     0.15
3.583    0.66    0.28      0.106  | o I   |       |       |       |     0.15
3.667    0.66    0.29      0.108  | o I   |       |       |       |     0.15
3.750    0.66    0.30      0.111  | o I   |       |       |       |     0.16
3.833    0.73    0.31      0.114  | o  I  |       |       |       |     0.16
3.917    0.78    0.31      0.117  | o  I  |       |       |       |     0.17
4.000    0.79    0.32      0.120  | o  I  |       |       |       |     0.17
4.083    0.80    0.33      0.123  | o  I  |       |       |       |     0.17
4.167    0.80    0.34      0.126  | o  I  |       |       |       |     0.18
4.250    0.80    0.35      0.129  | o  I  |       |       |       |     0.18
4.333    0.86    0.36      0.133  | o   I |       |       |       |     0.19
4.417    0.92    0.37      0.136  | o   I |       |       |       |     0.19
4.500    0.93    0.38      0.140  | o   I |       |       |       |     0.20
4.583    0.93    0.39      0.144  | o   I |       |       |       |     0.20
4.667    0.93    0.40      0.148  | o   I |       |       |       |     0.21
4.750    0.93    0.41      0.151  | o   I |       |       |       |     0.21
4.833    0.99    0.42      0.155  | o    I|       |       |       |     0.22
4.917    1.05    0.43      0.159  |  o   I|       |       |       |     0.23
5.000    1.06    0.44      0.163  |  o   I|       |       |       |     0.23
5.083    0.94    0.45      0.167  |  o  I |       |       |       |     0.24
5.167    0.83    0.46      0.170  |  o I  |       |       |       |     0.24
5.250    0.81    0.46      0.173  |  o I  |       |       |       |     0.25
5.333    0.86    0.47      0.175  |  o  I |       |       |       |     0.25
5.417    0.92    0.48      0.178  |  o  I |       |       |       |     0.25
5.500    0.93    0.49      0.181  |  o  I |       |       |       |     0.26
5.583    0.99    0.50      0.184  |  o   I|       |       |       |     0.26
5.667    1.05    0.51      0.188  |  o   I|       |       |       |     0.27
5.750    1.06    0.52      0.191  |  o   I|       |       |       |     0.27
5.833    1.06    0.53      0.195  |  o   I|       |       |       |     0.28
5.917    1.06    0.54      0.199  |  o   I|       |       |       |     0.28
6.000    1.06    0.55      0.202  |  o   I|       |       |       |     0.29
6.083    1.13    0.56      0.206  |  o   I|       |       |       |     0.29
6.167    1.18    0.57      0.210  |   o   I       |       |       |     0.30
6.250    1.19    0.58      0.215  |   o   I       |       |       |     0.30
6.333    1.20    0.59      0.219  |   o   I       |       |       |     0.31
6.417    1.20    0.60      0.223  |   o   I       |       |       |     0.32
6.500    1.20    0.61      0.227  |   o   I       |       |       |     0.32
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6.583	1.26	0.62	0.231	o	I			0.33
6.667	1.31	0.63	0.236	o	I			0.33
6.750	1.33	0.65	0.240	o	I			0.34
6.833	1.33	0.66	0.245	o	I			0.35
6.917	1.33	0.67	0.250	o	I			0.35
7.000	1.33	0.68	0.254	o	I			0.36
7.083	1.33	0.70	0.258	o	I			0.37
7.167	1.33	0.71	0.263	o	I			0.37
7.250	1.33	0.72	0.267	o	I			0.38
7.333	1.39	0.73	0.271	o	I			0.39
7.417	1.45	0.74	0.276	o	I			0.39
7.500	1.46	0.76	0.281	o	I			0.40
7.583	1.52	0.77	0.286	o	I			0.41
7.667	1.58	0.78	0.291	o	I			0.41
7.750	1.59	0.80	0.297	o	I			0.42
7.833	1.66	0.81	0.302	o	I			0.43
7.917	1.71	0.83	0.308	o	I			0.44
8.000	1.72	0.85	0.314	o	I			0.45
8.083	1.85	0.86	0.321	o	I			0.46
8.167	1.96	0.88	0.328	o	I			0.47
8.250	1.99	0.90	0.335	o	I			0.48
8.333	1.99	0.92	0.343	o	I			0.49
8.417	1.99	0.94	0.350	o	I			0.50
8.500	1.99	0.95	0.357	o	I			0.51
8.583	2.06	0.95	0.365	o	I			0.52
8.667	2.11	0.95	0.373	o	I			0.53
8.750	2.12	0.95	0.381	o	I			0.54
8.833	2.19	0.95	0.389	o	I			0.55
8.917	2.25	0.95	0.398	o	I			0.56
9.000	2.26	0.95	0.407	o	I			0.57
9.083	2.38	0.95	0.416	o	I			0.58
9.167	2.50	0.95	0.426	o	I			0.59
9.250	2.52	0.96	0.437	o	I			0.61
9.333	2.59	0.96	0.448	o	I			0.62
9.417	2.64	0.96	0.459	o	I			0.63
9.500	2.66	0.96	0.471	o	I			0.65
9.583	2.72	0.96	0.483	o	I			0.66
9.667	2.78	0.96	0.495	o	I			0.68
9.750	2.79	0.96	0.508	o	I			0.69
9.833	2.85	0.96	0.521	o	I			0.71
9.917	2.91	0.96	0.534	o	I			0.72
10.000	2.92	0.96	0.547	o	I			0.74
10.083	2.50	0.97	0.559	o	I			0.76
10.167	2.10	0.97	0.569	o	I			0.77
10.250	2.03	0.97	0.576	o	I			0.78
10.333	1.99	0.97	0.583	o	I			0.79
10.417	1.99	0.97	0.590	o	I			0.79
10.500	1.99	0.97	0.597	o	I			0.80
10.583	2.30	0.97	0.606	o	I			0.81
10.667	2.58	0.97	0.616	o	I			0.83
10.750	2.64	0.97	0.627	o	I			0.84
10.833	2.66	0.97	0.639	o	I			0.85
10.917	2.66	0.97	0.650	o	I			0.87
11.000	2.66	0.97	0.662	o	I			0.88
11.083	2.60	0.97	0.673	o	I			0.90
11.167	2.54	0.98	0.684	o	I			0.91
11.250	2.53	0.98	0.695	o	I			0.92
11.333	2.53	0.98	0.706	o	I			0.94
11.417	2.53	0.98	0.716	o	I			0.95
11.500	2.53	0.98	0.727	o	I			0.96
11.583	2.40	0.98	0.737	o	I			0.98
11.667	2.29	0.98	0.747	o	I			0.99
11.750	2.27	0.98	0.756	o	I			1.00
11.833	2.32	0.98	0.765	o	I			1.01
11.917	2.38	0.98	0.774	o	I			1.02
12.000	2.39	0.98	0.784	o	I			1.03
12.083	2.82	0.98	0.795	o	I			1.05
12.167	3.22	0.99	0.809	o	I			1.06
12.250	3.29	0.99	0.824	o	I			1.08
12.333	3.39	0.99	0.841	o	I			1.10
12.417	3.44	0.99	0.857	o	I			1.12
12.500	3.45	0.99	0.874	o	I			1.15
12.583	3.58	0.99	0.892	o	I			1.17
12.667	3.69	0.99	0.910	o	I			1.19
12.750	3.71	1.00	0.929	o	I			1.21

12.833	3.79	1.00	0.948	| o|	|	| I |	1.24
12.917	3.84	1.00	0.967	| o|	|	| I |	1.26
13.000	3.85	1.00	0.987	| o|	|	| I |	1.28
13.083	4.16	1.00	1.007	| o|	|	| I |	1.31
13.167	4.44	1.00	1.030	| o|	|	| I|	1.34
13.250	4.50	1.01	1.054	| o|	|	| I|	1.37
13.333	4.52	1.01	1.078	| o|	|	| I	1.40
13.417	4.52	1.01	1.102	| o|	|	| I	1.43
13.500	4.52	1.01	1.126	| o|	|	| I	1.46
13.583	3.85	1.01	1.148	| o|	|	| I |	1.48
13.667	3.23	1.02	1.166	| o|	| I |	|	1.50
13.750	3.11	1.02	1.180	| o|	| I |	|	1.52
13.833	3.06	1.02	1.195	| o|	| I |	|	1.54
13.917	3.06	1.02	1.209	| o|	| I |	|	1.55
14.000	3.06	1.02	1.223	| o|	| I |	|	1.57
14.083	3.30	1.02	1.238	| o|	| I|	|	1.58
14.167	3.53	1.02	1.254	| o|	| I	|	1.60
14.250	3.57	1.02	1.272	| o|	| I	|	1.62
14.333	3.53	1.02	1.289	| o|	| I	|	1.64
14.417	3.47	1.02	1.306	| o|	| I	|	1.66
14.500	3.46	1.03	1.323	| o|	| I	|	1.68
14.583	3.46	1.03	1.340	| o|	| I	|	1.70
14.667	3.46	1.03	1.356	| o|	| I	|	1.71
14.750	3.46	1.03	1.373	| o|	| I	|	1.73
14.833	3.40	1.03	1.390	| o|	| I	|	1.75
14.917	3.34	1.03	1.406	| o|	| I|	|	1.77
15.000	3.33	1.03	1.422	| o|	| I|	|	1.79
15.083	3.26	1.03	1.437	| o|	| I|	|	1.80
15.167	3.21	1.04	1.452	| o|	| I |	|	1.82
15.250	3.20	1.04	1.467	| o|	| I |	|	1.84
15.333	3.13	1.04	1.482	| o|	| I |	|	1.85
15.417	3.07	1.04	1.496	| o|	| I |	|	1.87
15.500	3.06	1.04	1.510	| o|	| I |	|	1.88
15.583	2.81	1.04	1.523	| o|	| I |	|	1.90
15.667	2.59	1.32	1.534	|o |	| I |	|	1.91
15.750	2.55	1.57	1.541	| o |	| I |	|	1.92
15.833	2.53	1.77	1.547	| o |	|I |	|	1.92
15.917	2.53	1.92	1.552	| o |	|I |	|	1.93
16.000	2.53	2.04	1.556	| o |	|I |	|	1.93
16.083	1.61	2.05	1.556	| I o |	|	|	1.93
16.167	0.76	1.87	1.551	| I o |	|	|	1.93
16.250	0.60	1.63	1.543	| I o |	|	|	1.92
16.333	0.53	1.42	1.537	| I o |	|	|	1.91
16.417	0.53	1.24	1.531	| I o |	|	|	1.91
16.500	0.53	1.10	1.527	| I o|	|	|	1.90
16.583	0.47	1.04	1.523	| I o|	|	|	1.90
16.667	0.41	1.04	1.519	| I o|	|	|	1.89
16.750	0.40	1.04	1.514	| I o|	|	|	1.89
16.833	0.40	1.04	1.510	| I o|	|	|	1.88
16.917	0.40	1.04	1.506	| I o|	|	|	1.88
17.000	0.40	1.04	1.501	| I o|	|	|	1.87
17.083	0.52	1.04	1.497	| I o|	|	|	1.87
17.167	0.63	1.04	1.494	| I o|	|	|	1.87
17.250	0.66	1.04	1.491	| I o|	|	|	1.86
17.333	0.66	1.04	1.489	| I o|	|	|	1.86
17.417	0.66	1.04	1.486	| I o|	|	|	1.86
17.500	0.66	1.04	1.484	| I o|	|	|	1.85
17.583	0.66	1.04	1.481	| I o|	|	|	1.85
17.667	0.66	1.04	1.478	| I o|	|	|	1.85
17.750	0.66	1.04	1.476	| I o|	|	|	1.85
17.833	0.60	1.04	1.473	| I o|	|	|	1.84
17.917	0.55	1.04	1.470	| I o|	|	|	1.84
18.000	0.54	1.04	1.467	| I o|	|	|	1.84
18.083	0.53	1.04	1.463	| I o|	|	|	1.83
18.167	0.53	1.04	1.460	| I o|	|	|	1.83
18.250	0.53	1.04	1.456	| I o|	|	|	1.82
18.333	0.53	1.04	1.453	| I o|	|	|	1.82
18.417	0.53	1.03	1.449	| I o|	|	|	1.82
18.500	0.53	1.03	1.446	| I o|	|	|	1.81
18.583	0.47	1.03	1.442	| I o|	|	|	1.81
18.667	0.41	1.03	1.438	| I o|	|	|	1.80
18.750	0.40	1.03	1.434	| I o|	|	|	1.80
18.833	0.34	1.03	1.429	| I o|	|	|	1.79
18.917	0.28	1.03	1.424	|I o|	|	|	1.79
19.000	0.27	1.03	1.419	|I o|	|	|	1.78

19.083	0.33	1.03	1.414	| I o|	|	|	|	1.78
19.167	0.38	1.03	1.409	| I o|	|	|	|	1.77
19.250	0.39	1.03	1.405	| I o|	|	|	|	1.77
19.333	0.46	1.03	1.401	| I o|	|	|	|	1.76
19.417	0.52	1.03	1.397	| I o|	|	|	|	1.76
19.500	0.53	1.03	1.393	| I o|	|	|	|	1.76
19.583	0.47	1.03	1.390	| I o|	|	|	|	1.75
19.667	0.41	1.03	1.386	| I o|	|	|	|	1.75
19.750	0.40	1.03	1.381	| I o|	|	|	|	1.74
19.833	0.34	1.03	1.377	| I o|	|	|	|	1.74
19.917	0.28	1.03	1.372	|I o|	|	|	|	1.73
20.000	0.27	1.03	1.367	|I o|	|	|	|	1.73
20.083	0.33	1.03	1.362	| I o|	|	|	|	1.72
20.167	0.38	1.03	1.357	| I o|	|	|	|	1.72
20.250	0.39	1.03	1.353	| I o|	|	|	|	1.71
20.333	0.40	1.03	1.348	| I o|	|	|	|	1.71
20.417	0.40	1.03	1.344	| I o|	|	|	|	1.70
20.500	0.40	1.03	1.340	| I o|	|	|	|	1.70
20.583	0.40	1.03	1.335	| I o|	|	|	|	1.69
20.667	0.40	1.03	1.331	| I o|	|	|	|	1.69
20.750	0.40	1.03	1.327	| I o|	|	|	|	1.68
20.833	0.34	1.03	1.322	| I o|	|	|	|	1.68
20.917	0.28	1.03	1.317	|I o|	|	|	|	1.67
21.000	0.27	1.03	1.312	|I o|	|	|	|	1.67
21.083	0.33	1.03	1.307	| I o|	|	|	|	1.66
21.167	0.38	1.02	1.302	| I o|	|	|	|	1.66
21.250	0.39	1.02	1.298	| I o|	|	|	|	1.65
21.333	0.34	1.02	1.294	| I o|	|	|	|	1.65
21.417	0.28	1.02	1.289	|I o|	|	|	|	1.64
21.500	0.27	1.02	1.283	|I o|	|	|	|	1.63
21.583	0.33	1.02	1.279	| I o|	|	|	|	1.63
21.667	0.38	1.02	1.274	| I o|	|	|	|	1.62
21.750	0.39	1.02	1.270	| I o|	|	|	|	1.62
21.833	0.34	1.02	1.265	| I o|	|	|	|	1.61
21.917	0.28	1.02	1.260	|I o|	|	|	|	1.61
22.000	0.27	1.02	1.255	|I o|	|	|	|	1.60
22.083	0.33	1.02	1.250	| I o|	|	|	|	1.60
22.167	0.38	1.02	1.245	| I o|	|	|	|	1.59
22.250	0.39	1.02	1.241	| I o|	|	|	|	1.59
22.333	0.34	1.02	1.237	| I o|	|	|	|	1.58
22.417	0.28	1.02	1.232	|I o|	|	|	|	1.58
22.500	0.27	1.02	1.227	|I o|	|	|	|	1.57
22.583	0.27	1.02	1.221	|I o|	|	|	|	1.57
22.667	0.27	1.02	1.216	|I o|	|	|	|	1.56
22.750	0.27	1.02	1.211	|I o|	|	|	|	1.55
22.833	0.27	1.02	1.206	|I o|	|	|	|	1.55
22.917	0.27	1.02	1.201	|I o|	|	|	|	1.54
23.000	0.27	1.02	1.195	|I o|	|	|	|	1.54
23.083	0.27	1.02	1.190	|I o|	|	|	|	1.53
23.167	0.27	1.02	1.185	|I o|	|	|	|	1.53
23.250	0.27	1.02	1.180	|I o|	|	|	|	1.52
23.333	0.27	1.02	1.175	|I o|	|	|	|	1.52
23.417	0.27	1.02	1.170	|I o|	|	|	|	1.51
23.500	0.27	1.02	1.164	|I o|	|	|	|	1.50
23.583	0.27	1.01	1.159	|I o|	|	|	|	1.50
23.667	0.27	1.01	1.154	|I o|	|	|	|	1.49
23.750	0.27	1.01	1.149	|I o|	|	|	|	1.49
23.833	0.27	1.01	1.144	|I o|	|	|	|	1.48
23.917	0.27	1.01	1.139	|I o|	|	|	|	1.47
24.000	0.27	1.01	1.134	|I o|	|	|	|	1.47
24.083	0.14	1.01	1.128	|I o|	|	|	|	1.46
24.167	0.03	1.01	1.122	I o|	|	|	|	1.45
24.250	0.01	1.01	1.115	I o|	|	|	|	1.44
24.333	0.00	1.01	1.108	I o|	|	|	|	1.43
24.417	0.00	1.01	1.101	I o|	|	|	|	1.43
24.500	0.00	1.01	1.094	I o|	|	|	|	1.42
24.583	0.00	1.01	1.087	I o|	|	|	|	1.41
24.667	0.00	1.01	1.080	I o|	|	|	|	1.40
24.750	0.00	1.01	1.073	I o|	|	|	|	1.39
24.833	0.00	1.01	1.066	I o|	|	|	|	1.38
24.917	0.00	1.01	1.059	I o|	|	|	|	1.37
25.000	0.00	1.01	1.052	I o|	|	|	|	1.37
25.083	0.00	1.01	1.045	I o|	|	|	|	1.36
25.167	0.00	1.00	1.038	I o|	|	|	|	1.35
25.250	0.00	1.00	1.032	I o|	|	|	|	1.34

25.333	0.00	1.00	1.025	I	o	|	|	|	1.33
25.417	0.00	1.00	1.018	I	o	|	|	|	1.32
25.500	0.00	1.00	1.011	I	o	|	|	|	1.31
25.583	0.00	1.00	1.004	I	o	|	|	|	1.31
25.667	0.00	1.00	0.997	I	o	|	|	|	1.30
25.750	0.00	1.00	0.990	I	o	|	|	|	1.29
25.833	0.00	1.00	0.983	I	o	|	|	|	1.28
25.917	0.00	1.00	0.976	I	o	|	|	|	1.27
26.000	0.00	1.00	0.969	I	o	|	|	|	1.26
26.083	0.00	1.00	0.963	I	o	|	|	|	1.25
26.167	0.00	1.00	0.956	I	o	|	|	|	1.25
26.250	0.00	1.00	0.949	I	o	|	|	|	1.24
26.333	0.00	1.00	0.942	I	o	|	|	|	1.23
26.417	0.00	1.00	0.935	I	o	|	|	|	1.22
26.500	0.00	1.00	0.928	I	o	|	|	|	1.21
26.583	0.00	1.00	0.921	I	o	|	|	|	1.20
26.667	0.00	0.99	0.915	I	o	|	|	|	1.20
26.750	0.00	0.99	0.908	I	o	|	|	|	1.19
26.833	0.00	0.99	0.901	I	o	|	|	|	1.18
26.917	0.00	0.99	0.894	I	o	|	|	|	1.17
27.000	0.00	0.99	0.887	I	o	|	|	|	1.16
27.083	0.00	0.99	0.880	I	o	|	|	|	1.15
27.167	0.00	0.99	0.874	I	o	|	|	|	1.14
27.250	0.00	0.99	0.867	I	o	|	|	|	1.14
27.333	0.00	0.99	0.860	I	o	|	|	|	1.13
27.417	0.00	0.99	0.853	I	o	|	|	|	1.12
27.500	0.00	0.99	0.846	I	o	|	|	|	1.11
27.583	0.00	0.99	0.839	I	o	|	|	|	1.10
27.667	0.00	0.99	0.833	I	o	|	|	|	1.09
27.750	0.00	0.99	0.826	I	o	|	|	|	1.09
27.833	0.00	0.99	0.819	I	o	|	|	|	1.08
27.917	0.00	0.99	0.812	I	o	|	|	|	1.07
28.000	0.00	0.99	0.805	I	o	|	|	|	1.06
28.083	0.00	0.98	0.799	I	o	|	|	|	1.05
28.167	0.00	0.98	0.792	I	o	|	|	|	1.04
28.250	0.00	0.98	0.785	I	o	|	|	|	1.04
28.333	0.00	0.98	0.778	I	o	|	|	|	1.03
28.417	0.00	0.98	0.772	I	o	|	|	|	1.02
28.500	0.00	0.98	0.765	I	o	|	|	|	1.01
28.583	0.00	0.98	0.758	I	o	|	|	|	1.00
28.667	0.00	0.98	0.751	I	o	|	|	|	0.99
28.750	0.00	0.98	0.745	I	o	|	|	|	0.99
28.833	0.00	0.98	0.738	I	o	|	|	|	0.98
28.917	0.00	0.98	0.731	I	o	|	|	|	0.97
29.000	0.00	0.98	0.724	I	o	|	|	|	0.96
29.083	0.00	0.98	0.718	I	o	|	|	|	0.95
29.167	0.00	0.98	0.711	I	o	|	|	|	0.94
29.250	0.00	0.98	0.704	I	o	|	|	|	0.94
29.333	0.00	0.98	0.697	I	o	|	|	|	0.93
29.417	0.00	0.98	0.691	I	o	|	|	|	0.92
29.500	0.00	0.98	0.684	I	o	|	|	|	0.91
29.583	0.00	0.97	0.677	I	o	|	|	|	0.90
29.667	0.00	0.97	0.670	I	o	|	|	|	0.89
29.750	0.00	0.97	0.664	I	o	|	|	|	0.89
29.833	0.00	0.97	0.657	I	o	|	|	|	0.88
29.917	0.00	0.97	0.650	I	o	|	|	|	0.87
30.000	0.00	0.97	0.644	I	o	|	|	|	0.86
30.083	0.00	0.97	0.637	I	o	|	|	|	0.85
30.167	0.00	0.97	0.630	I	o	|	|	|	0.84
30.250	0.00	0.97	0.624	I	o	|	|	|	0.84
30.333	0.00	0.97	0.617	I	o	|	|	|	0.83
30.417	0.00	0.97	0.610	I	o	|	|	|	0.82
30.500	0.00	0.97	0.604	I	o	|	|	|	0.81
30.583	0.00	0.97	0.597	I	o	|	|	|	0.80
30.667	0.00	0.97	0.590	I	o	|	|	|	0.79
30.750	0.00	0.97	0.584	I	o	|	|	|	0.79
30.833	0.00	0.97	0.577	I	o	|	|	|	0.78
30.917	0.00	0.97	0.570	I	o	|	|	|	0.77
31.000	0.00	0.97	0.564	I	o	|	|	|	0.76
31.083	0.00	0.96	0.557	I	o	|	|	|	0.75
31.167	0.00	0.96	0.550	I	o	|	|	|	0.75
31.250	0.00	0.96	0.544	I	o	|	|	|	0.74
31.333	0.00	0.96	0.537	I	o	|	|	|	0.73
31.417	0.00	0.96	0.530	I	o	|	|	|	0.72
31.500	0.00	0.96	0.524	I	o	|	|	|	0.71

31.583	0.00	0.96	0.517	I	o	|	|	|	|	0.70
31.667	0.00	0.96	0.511	I	o	|	|	|	|	0.70
31.750	0.00	0.96	0.504	I	o	|	|	|	|	0.69
31.833	0.00	0.96	0.497	I	o	|	|	|	|	0.68
31.917	0.00	0.96	0.491	I	o	|	|	|	|	0.67
32.000	0.00	0.96	0.484	I	o	|	|	|	|	0.66
32.083	0.00	0.96	0.477	I	o	|	|	|	|	0.66
32.167	0.00	0.96	0.471	I	o	|	|	|	|	0.65
32.250	0.00	0.96	0.464	I	o	|	|	|	|	0.64
32.333	0.00	0.96	0.458	I	o	|	|	|	|	0.63
32.417	0.00	0.96	0.451	I	o	|	|	|	|	0.62
32.500	0.00	0.96	0.445	I	o	|	|	|	|	0.61
32.583	0.00	0.96	0.438	I	o	|	|	|	|	0.61
32.667	0.00	0.95	0.431	I	o	|	|	|	|	0.60
32.750	0.00	0.95	0.425	I	o	|	|	|	|	0.59
32.833	0.00	0.95	0.418	I	o	|	|	|	|	0.58
32.917	0.00	0.95	0.412	I	o	|	|	|	|	0.57
33.000	0.00	0.95	0.405	I	o	|	|	|	|	0.57
33.083	0.00	0.95	0.399	I	o	|	|	|	|	0.56
33.167	0.00	0.95	0.392	I	o	|	|	|	|	0.55
33.250	0.00	0.95	0.385	I	o	|	|	|	|	0.54
33.333	0.00	0.95	0.379	I	o	|	|	|	|	0.53
33.417	0.00	0.95	0.372	I	o	|	|	|	|	0.53
33.500	0.00	0.95	0.366	I	o	|	|	|	|	0.52
33.583	0.00	0.95	0.359	I	o	|	|	|	|	0.51
33.667	0.00	0.95	0.353	I	o	|	|	|	|	0.50
33.750	0.00	0.93	0.346	I	o	|	|	|	|	0.49
33.833	0.00	0.92	0.340	I	o	|	|	|	|	0.48
33.917	0.00	0.90	0.334	I	o	|	|	|	|	0.47
34.000	0.00	0.88	0.328	I	o	|	|	|	|	0.47
34.083	0.00	0.87	0.321	I	o	|	|	|	|	0.46
34.167	0.00	0.85	0.316	I	o	|	|	|	|	0.45
34.250	0.00	0.83	0.310	I	o	|	|	|	|	0.44
34.333	0.00	0.82	0.304	I	o	|	|	|	|	0.43
34.417	0.00	0.80	0.298	I	o	|	|	|	|	0.42
34.500	0.00	0.79	0.293	I	o	|	|	|	|	0.42
34.583	0.00	0.77	0.288	I	o	|	|	|	|	0.41
34.667	0.00	0.76	0.282	I	o	|	|	|	|	0.40
34.750	0.00	0.75	0.277	I	o	|	|	|	|	0.39
34.833	0.00	0.73	0.272	I	o	|	|	|	|	0.39
34.917	0.00	0.72	0.267	I	o	|	|	|	|	0.38
35.000	0.00	0.71	0.262	I	o	|	|	|	|	0.37
35.083	0.00	0.69	0.257	I	o	|	|	|	|	0.37
35.167	0.00	0.68	0.253	I	o	|	|	|	|	0.36
35.250	0.00	0.67	0.248	I	o	|	|	|	|	0.35
35.333	0.00	0.66	0.243	I	o	|	|	|	|	0.35
35.417	0.00	0.64	0.239	I	o	|	|	|	|	0.34
35.500	0.00	0.63	0.235	I	o	|	|	|	|	0.33
35.583	0.00	0.62	0.230	I	o	|	|	|	|	0.33
35.667	0.00	0.61	0.226	I	o	|	|	|	|	0.32
35.750	0.00	0.60	0.222	I	o	|	|	|	|	0.32
35.833	0.00	0.59	0.218	I	o	|	|	|	|	0.31
35.917	0.00	0.58	0.214	I	o	|	|	|	|	0.30
36.000	0.00	0.57	0.210	I	o	|	|	|	|	0.30
36.083	0.00	0.55	0.206	I	o	|	|	|	|	0.29
36.167	0.00	0.54	0.202	I	o	|	|	|	|	0.29
36.250	0.00	0.53	0.198	I	o	|	|	|	|	0.28
36.333	0.00	0.52	0.195	I	o	|	|	|	|	0.28
36.417	0.00	0.52	0.191	I	o	|	|	|	|	0.27
36.500	0.00	0.51	0.188	I	o	|	|	|	|	0.27
36.583	0.00	0.50	0.184	I	o	|	|	|	|	0.26
36.667	0.00	0.49	0.181	I	o	|	|	|	|	0.26
36.750	0.00	0.48	0.178	I	o	|	|	|	|	0.25
36.833	0.00	0.47	0.174	I	o	|	|	|	|	0.25
36.917	0.00	0.46	0.171	I	o	|	|	|	|	0.24
37.000	0.00	0.45	0.168	I	o	|	|	|	|	0.24
37.083	0.00	0.44	0.165	I	o	|	|	|	|	0.23
37.167	0.00	0.44	0.162	I	o	|	|	|	|	0.23
37.250	0.00	0.43	0.159	I	o	|	|	|	|	0.23
37.333	0.00	0.42	0.156	I	o	|	|	|	|	0.22
37.417	0.00	0.41	0.153	I	o	|	|	|	|	0.22
37.500	0.00	0.40	0.150	I	o	|	|	|	|	0.21
37.583	0.00	0.40	0.148	I	o	|	|	|	|	0.21
37.667	0.00	0.39	0.145	I	o	|	|	|	|	0.21
37.750	0.00	0.38	0.142	I	o	|	|	|	|	0.20

37.833	0.00	0.38	0.140	I O				0.20
37.917	0.00	0.37	0.137	I O				0.19
38.000	0.00	0.36	0.134	I O				0.19
38.083	0.00	0.36	0.132	I O				0.19
38.167	0.00	0.35	0.130	I O				0.18
38.250	0.00	0.34	0.127	I O				0.18
38.333	0.00	0.34	0.125	I O				0.18
38.417	0.00	0.33	0.123	I O				0.17
38.500	0.00	0.32	0.120	I O				0.17
38.583	0.00	0.32	0.118	I O				0.17
38.667	0.00	0.31	0.116	I O				0.16
38.750	0.00	0.31	0.114	I O				0.16
38.833	0.00	0.30	0.112	I O				0.16
38.917	0.00	0.30	0.110	I O				0.16
39.000	0.00	0.29	0.108	I O				0.15
39.083	0.00	0.28	0.106	I O				0.15
39.167	0.00	0.28	0.104	IO				0.15
39.250	0.00	0.27	0.102	IO				0.14
39.333	0.00	0.27	0.100	IO				0.14
39.417	0.00	0.26	0.098	IO				0.14
39.500	0.00	0.26	0.096	IO				0.14
39.583	0.00	0.25	0.095	IO				0.13
39.667	0.00	0.25	0.093	IO				0.13
39.750	0.00	0.25	0.091	IO				0.13
39.833	0.00	0.24	0.089	IO				0.13
39.917	0.00	0.24	0.088	IO				0.12
40.000	0.00	0.23	0.086	IO				0.12
40.083	0.00	0.23	0.085	IO				0.12
40.167	0.00	0.22	0.083	IO				0.12
40.250	0.00	0.22	0.081	IO				0.12
40.333	0.00	0.22	0.080	IO				0.11
40.417	0.00	0.21	0.079	IO				0.11
40.500	0.00	0.21	0.077	IO				0.11
40.583	0.00	0.20	0.076	IO				0.11
40.667	0.00	0.20	0.074	IO				0.11
40.750	0.00	0.20	0.073	IO				0.10
40.833	0.00	0.19	0.072	IO				0.10
40.917	0.00	0.19	0.070	IO				0.10
41.000	0.00	0.19	0.069	IO				0.10
41.083	0.00	0.18	0.068	IO				0.10
41.167	0.00	0.18	0.066	IO				0.09
41.250	0.00	0.18	0.065	IO				0.09
41.333	0.00	0.17	0.064	IO				0.09
41.417	0.00	0.17	0.063	IO				0.09
41.500	0.00	0.17	0.062	IO				0.09
41.583	0.00	0.16	0.061	IO				0.09
41.667	0.00	0.16	0.059	IO				0.08
41.750	0.00	0.16	0.058	IO				0.08
41.833	0.00	0.15	0.057	IO				0.08
41.917	0.00	0.15	0.056	IO				0.08
42.000	0.00	0.15	0.055	IO				0.08
42.083	0.00	0.15	0.054	IO				0.08
42.167	0.00	0.14	0.053	IO				0.08
42.250	0.00	0.14	0.052	O				0.07
42.333	0.00	0.14	0.051	O				0.07
42.417	0.00	0.14	0.050	O				0.07
42.500	0.00	0.13	0.049	O				0.07
42.583	0.00	0.13	0.048	O				0.07
42.667	0.00	0.13	0.048	O				0.07
42.750	0.00	0.13	0.047	O				0.07
42.833	0.00	0.12	0.046	O				0.07
42.917	0.00	0.12	0.045	O				0.06
43.000	0.00	0.12	0.044	O				0.06
43.083	0.00	0.12	0.043	O				0.06
43.167	0.00	0.11	0.043	O				0.06
43.250	0.00	0.11	0.042	O				0.06
43.333	0.00	0.11	0.041	O				0.06
43.417	0.00	0.11	0.040	O				0.06
43.500	0.00	0.11	0.040	O				0.06
43.583	0.00	0.10	0.039	O				0.06
43.667	0.00	0.10	0.038	O				0.05
43.750	0.00	0.10	0.037	O				0.05
43.833	0.00	0.10	0.037	O				0.05
43.917	0.00	0.10	0.036	O				0.05
44.000	0.00	0.10	0.035	O				0.05

44.083	0.00	0.09	0.035	o	|	|	|	|	0.05
44.167	0.00	0.09	0.034	o	|	|	|	|	0.05
44.250	0.00	0.09	0.033	o	|	|	|	|	0.05
44.333	0.00	0.09	0.033	o	|	|	|	|	0.05
44.417	0.00	0.09	0.032	o	|	|	|	|	0.05
44.500	0.00	0.09	0.032	o	|	|	|	|	0.04
44.583	0.00	0.08	0.031	o	|	|	|	|	0.04
44.667	0.00	0.08	0.030	o	|	|	|	|	0.04
44.750	0.00	0.08	0.030	o	|	|	|	|	0.04
44.833	0.00	0.08	0.029	o	|	|	|	|	0.04
44.917	0.00	0.08	0.029	o	|	|	|	|	0.04
45.000	0.00	0.08	0.028	o	|	|	|	|	0.04
45.083	0.00	0.07	0.028	o	|	|	|	|	0.04
45.167	0.00	0.07	0.027	o	|	|	|	|	0.04
45.250	0.00	0.07	0.027	o	|	|	|	|	0.04
45.333	0.00	0.07	0.026	o	|	|	|	|	0.04
45.417	0.00	0.07	0.026	o	|	|	|	|	0.04
45.500	0.00	0.07	0.025	o	|	|	|	|	0.04
45.583	0.00	0.07	0.025	o	|	|	|	|	0.04
45.667	0.00	0.07	0.024	o	|	|	|	|	0.03
45.750	0.00	0.06	0.024	o	|	|	|	|	0.03
45.833	0.00	0.06	0.024	o	|	|	|	|	0.03
45.917	0.00	0.06	0.023	o	|	|	|	|	0.03
46.000	0.00	0.06	0.023	o	|	|	|	|	0.03
46.083	0.00	0.06	0.022	o	|	|	|	|	0.03
46.167	0.00	0.06	0.022	o	|	|	|	|	0.03
46.250	0.00	0.06	0.021	o	|	|	|	|	0.03
46.333	0.00	0.06	0.021	o	|	|	|	|	0.03
46.417	0.00	0.06	0.021	o	|	|	|	|	0.03
46.500	0.00	0.05	0.020	o	|	|	|	|	0.03
46.583	0.00	0.05	0.020	o	|	|	|	|	0.03
46.667	0.00	0.05	0.020	o	|	|	|	|	0.03
46.750	0.00	0.05	0.019	o	|	|	|	|	0.03
46.833	0.00	0.05	0.019	o	|	|	|	|	0.03
46.917	0.00	0.05	0.018	o	|	|	|	|	0.03
47.000	0.00	0.05	0.018	o	|	|	|	|	0.03
47.083	0.00	0.05	0.018	o	|	|	|	|	0.03
47.167	0.00	0.05	0.017	o	|	|	|	|	0.02
47.250	0.00	0.05	0.017	o	|	|	|	|	0.02
47.333	0.00	0.05	0.017	o	|	|	|	|	0.02
47.417	0.00	0.04	0.017	o	|	|	|	|	0.02
47.500	0.00	0.04	0.016	o	|	|	|	|	0.02
47.583	0.00	0.04	0.016	o	|	|	|	|	0.02
47.667	0.00	0.04	0.016	o	|	|	|	|	0.02
47.750	0.00	0.04	0.015	o	|	|	|	|	0.02
47.833	0.00	0.04	0.015	o	|	|	|	|	0.02
47.917	0.00	0.04	0.015	o	|	|	|	|	0.02
48.000	0.00	0.04	0.015	o	|	|	|	|	0.02
48.083	0.00	0.04	0.014	o	|	|	|	|	0.02
48.167	0.00	0.04	0.014	o	|	|	|	|	0.02
48.250	0.00	0.04	0.014	o	|	|	|	|	0.02
48.333	0.00	0.04	0.013	o	|	|	|	|	0.02
48.417	0.00	0.04	0.013	o	|	|	|	|	0.02
48.500	0.00	0.03	0.013	o	|	|	|	|	0.02
48.583	0.00	0.03	0.013	o	|	|	|	|	0.02
48.667	0.00	0.03	0.013	o	|	|	|	|	0.02
48.750	0.00	0.03	0.012	o	|	|	|	|	0.02
48.833	0.00	0.03	0.012	o	|	|	|	|	0.02
48.917	0.00	0.03	0.012	o	|	|	|	|	0.02
49.000	0.00	0.03	0.012	o	|	|	|	|	0.02
49.083	0.00	0.03	0.011	o	|	|	|	|	0.02
49.167	0.00	0.03	0.011	o	|	|	|	|	0.02
49.250	0.00	0.03	0.011	o	|	|	|	|	0.02
49.333	0.00	0.03	0.011	o	|	|	|	|	0.02
49.417	0.00	0.03	0.011	o	|	|	|	|	0.02
49.500	0.00	0.03	0.010	o	|	|	|	|	0.01
49.583	0.00	0.03	0.010	o	|	|	|	|	0.01
49.667	0.00	0.03	0.010	o	|	|	|	|	0.01
49.750	0.00	0.03	0.010	o	|	|	|	|	0.01
49.833	0.00	0.03	0.010	o	|	|	|	|	0.01
49.917	0.00	0.03	0.009	o	|	|	|	|	0.01
50.000	0.00	0.03	0.009	o	|	|	|	|	0.01
50.083	0.00	0.02	0.009	o	|	|	|	|	0.01
50.167	0.00	0.02	0.009	o	|	|	|	|	0.01
50.250	0.00	0.02	0.009	o	|	|	|	|	0.01

50.333	0.00	0.02	0.009	o	|	|	|	|	0.01
50.417	0.00	0.02	0.008	o	|	|	|	|	0.01
50.500	0.00	0.02	0.008	o	|	|	|	|	0.01
50.583	0.00	0.02	0.008	o	|	|	|	|	0.01
50.667	0.00	0.02	0.008	o	|	|	|	|	0.01
50.750	0.00	0.02	0.008	o	|	|	|	|	0.01
50.833	0.00	0.02	0.008	o	|	|	|	|	0.01
50.917	0.00	0.02	0.008	o	|	|	|	|	0.01
51.000	0.00	0.02	0.007	o	|	|	|	|	0.01
51.083	0.00	0.02	0.007	o	|	|	|	|	0.01
51.167	0.00	0.02	0.007	o	|	|	|	|	0.01
51.250	0.00	0.02	0.007	o	|	|	|	|	0.01
51.333	0.00	0.02	0.007	o	|	|	|	|	0.01
51.417	0.00	0.02	0.007	o	|	|	|	|	0.01
51.500	0.00	0.02	0.007	o	|	|	|	|	0.01
51.583	0.00	0.02	0.007	o	|	|	|	|	0.01
51.667	0.00	0.02	0.006	o	|	|	|	|	0.01
51.750	0.00	0.02	0.006	o	|	|	|	|	0.01
51.833	0.00	0.02	0.006	o	|	|	|	|	0.01
51.917	0.00	0.02	0.006	o	|	|	|	|	0.01
52.000	0.00	0.02	0.006	o	|	|	|	|	0.01
52.083	0.00	0.02	0.006	o	|	|	|	|	0.01
52.167	0.00	0.02	0.006	o	|	|	|	|	0.01
52.250	0.00	0.02	0.006	o	|	|	|	|	0.01
52.333	0.00	0.01	0.006	o	|	|	|	|	0.01
52.417	0.00	0.01	0.005	o	|	|	|	|	0.01
52.500	0.00	0.01	0.005	o	|	|	|	|	0.01
52.583	0.00	0.01	0.005	o	|	|	|	|	0.01
52.667	0.00	0.01	0.005	o	|	|	|	|	0.01
52.750	0.00	0.01	0.005	o	|	|	|	|	0.01
52.833	0.00	0.01	0.005	o	|	|	|	|	0.01
52.917	0.00	0.01	0.005	o	|	|	|	|	0.01
53.000	0.00	0.01	0.005	o	|	|	|	|	0.01
53.083	0.00	0.01	0.005	o	|	|	|	|	0.01
53.167	0.00	0.01	0.005	o	|	|	|	|	0.01
53.250	0.00	0.01	0.005	o	|	|	|	|	0.01
53.333	0.00	0.01	0.004	o	|	|	|	|	0.01
53.417	0.00	0.01	0.004	o	|	|	|	|	0.01
53.500	0.00	0.01	0.004	o	|	|	|	|	0.01
53.583	0.00	0.01	0.004	o	|	|	|	|	0.01
53.667	0.00	0.01	0.004	o	|	|	|	|	0.01
53.750	0.00	0.01	0.004	o	|	|	|	|	0.01
53.833	0.00	0.01	0.004	o	|	|	|	|	0.01
53.917	0.00	0.01	0.004	o	|	|	|	|	0.01
54.000	0.00	0.01	0.004	o	|	|	|	|	0.01
54.083	0.00	0.01	0.004	o	|	|	|	|	0.01
54.167	0.00	0.01	0.004	o	|	|	|	|	0.01
54.250	0.00	0.01	0.004	o	|	|	|	|	0.01
54.333	0.00	0.01	0.004	o	|	|	|	|	0.01
54.417	0.00	0.01	0.003	o	|	|	|	|	0.00
54.500	0.00	0.01	0.003	o	|	|	|	|	0.00
54.583	0.00	0.01	0.003	o	|	|	|	|	0.00
54.667	0.00	0.01	0.003	o	|	|	|	|	0.00
54.750	0.00	0.01	0.003	o	|	|	|	|	0.00
54.833	0.00	0.01	0.003	o	|	|	|	|	0.00
54.917	0.00	0.01	0.003	o	|	|	|	|	0.00
55.000	0.00	0.01	0.003	o	|	|	|	|	0.00
55.083	0.00	0.01	0.003	o	|	|	|	|	0.00
55.167	0.00	0.01	0.003	o	|	|	|	|	0.00
55.250	0.00	0.01	0.003	o	|	|	|	|	0.00
55.333	0.00	0.01	0.003	o	|	|	|	|	0.00
55.417	0.00	0.01	0.003	o	|	|	|	|	0.00
55.500	0.00	0.01	0.003	o	|	|	|	|	0.00
55.583	0.00	0.01	0.003	o	|	|	|	|	0.00
55.667	0.00	0.01	0.003	o	|	|	|	|	0.00
55.750	0.00	0.01	0.003	o	|	|	|	|	0.00
55.833	0.00	0.01	0.003	o	|	|	|	|	0.00
55.917	0.00	0.01	0.002	o	|	|	|	|	0.00
56.000	0.00	0.01	0.002	o	|	|	|	|	0.00
56.083	0.00	0.01	0.002	o	|	|	|	|	0.00
56.167	0.00	0.01	0.002	o	|	|	|	|	0.00
56.250	0.00	0.01	0.002	o	|	|	|	|	0.00
56.333	0.00	0.01	0.002	o	|	|	|	|	0.00
56.417	0.00	0.01	0.002	o	|	|	|	|	0.00
56.500	0.00	0.01	0.002	o	|	|	|	|	0.00

56.583	0.00	0.01	0.002	o	|	|	|	0.00
56.667	0.00	0.01	0.002	o	|	|	|	0.00
56.750	0.00	0.01	0.002	o	|	|	|	0.00
56.833	0.00	0.01	0.002	o	|	|	|	0.00
56.917	0.00	0.01	0.002	o	|	|	|	0.00
57.000	0.00	0.01	0.002	o	|	|	|	0.00
57.083	0.00	0.01	0.002	o	|	|	|	0.00
57.167	0.00	0.01	0.002	o	|	|	|	0.00
57.250	0.00	0.00	0.002	o	|	|	|	0.00
57.333	0.00	0.00	0.002	o	|	|	|	0.00
57.417	0.00	0.00	0.002	o	|	|	|	0.00
57.500	0.00	0.00	0.002	o	|	|	|	0.00
57.583	0.00	0.00	0.002	o	|	|	|	0.00
57.667	0.00	0.00	0.002	o	|	|	|	0.00
57.750	0.00	0.00	0.002	o	|	|	|	0.00
57.833	0.00	0.00	0.002	o	|	|	|	0.00
57.917	0.00	0.00	0.002	o	|	|	|	0.00
58.000	0.00	0.00	0.002	o	|	|	|	0.00
58.083	0.00	0.00	0.002	o	|	|	|	0.00
58.167	0.00	0.00	0.002	o	|	|	|	0.00
58.250	0.00	0.00	0.001	o	|	|	|	0.00
58.333	0.00	0.00	0.001	o	|	|	|	0.00
58.417	0.00	0.00	0.001	o	|	|	|	0.00
58.500	0.00	0.00	0.001	o	|	|	|	0.00
58.583	0.00	0.00	0.001	o	|	|	|	0.00
58.667	0.00	0.00	0.001	o	|	|	|	0.00
58.750	0.00	0.00	0.001	o	|	|	|	0.00
58.833	0.00	0.00	0.001	o	|	|	|	0.00
58.917	0.00	0.00	0.001	o	|	|	|	0.00
59.000	0.00	0.00	0.001	o	|	|	|	0.00
59.083	0.00	0.00	0.001	o	|	|	|	0.00
59.167	0.00	0.00	0.001	o	|	|	|	0.00
59.250	0.00	0.00	0.001	o	|	|	|	0.00
59.333	0.00	0.00	0.001	o	|	|	|	0.00
59.417	0.00	0.00	0.001	o	|	|	|	0.00
59.500	0.00	0.00	0.001	o	|	|	|	0.00
59.583	0.00	0.00	0.001	o	|	|	|	0.00
59.667	0.00	0.00	0.001	o	|	|	|	0.00
59.750	0.00	0.00	0.001	o	|	|	|	0.00
59.833	0.00	0.00	0.001	o	|	|	|	0.00
59.917	0.00	0.00	0.001	o	|	|	|	0.00
60.000	0.00	0.00	0.001	o	|	|	|	0.00
60.083	0.00	0.00	0.001	o	|	|	|	0.00
60.167	0.00	0.00	0.001	o	|	|	|	0.00
60.250	0.00	0.00	0.001	o	|	|	|	0.00
60.333	0.00	0.00	0.001	o	|	|	|	0.00
60.417	0.00	0.00	0.001	o	|	|	|	0.00
60.500	0.00	0.00	0.001	o	|	|	|	0.00
60.583	0.00	0.00	0.001	o	|	|	|	0.00
60.667	0.00	0.00	0.001	o	|	|	|	0.00
60.750	0.00	0.00	0.001	o	|	|	|	0.00
60.833	0.00	0.00	0.001	o	|	|	|	0.00
60.917	0.00	0.00	0.001	o	|	|	|	0.00
61.000	0.00	0.00	0.001	o	|	|	|	0.00
61.083	0.00	0.00	0.001	o	|	|	|	0.00
61.167	0.00	0.00	0.001	o	|	|	|	0.00
61.250	0.00	0.00	0.001	o	|	|	|	0.00
61.333	0.00	0.00	0.001	o	|	|	|	0.00
61.417	0.00	0.00	0.001	o	|	|	|	0.00
61.500	0.00	0.00	0.001	o	|	|	|	0.00
61.583	0.00	0.00	0.001	o	|	|	|	0.00
61.667	0.00	0.00	0.001	o	|	|	|	0.00

**********HYDROGRAPH DATA**********

Number of intervals = 740
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 2.047 (CFS)
Total volume = 2.747 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

Appendix 8: Source Control

Pollutant Sources/Source Control Checklist

**To be provided during final engineering*

Appendix 9: O&M

Operation and Maintenance Plan and Documentation of Finance, Maintenance and Recording Mechanisms

**To be provided during final engineering*

Appendix 10: Educational Materials

BMP Fact Sheets, Maintenance Guidelines and Other End-User BMP Information

**To be provided during final engineering*