



A G E N D A

Meeting of the Scotts Valley City Council

Date: November 7, 2018

Time: 6:00 pm

CONTACT INFORMATION	MEETING LOCATION	POSTING
City of Scotts Valley 1 Civic Center Drive Scotts Valley, CA 95066 (831) 440-5600	City Council Chambers 1 Civic Center Drive Scotts Valley, CA 95066	The agenda was posted 11-2-18 at City Hall, SV Senior Center, SV Library and on the Internet at www.scottsvalley.org .

ELECTED OFFICIALS	CITY STAFF MEMBERS
Jim Reed, Mayor Jack Dilles, Vice Mayor Stephany E. Aguilar, Council Member Randy Johnson, Council Member Donna Lind, Council Member	Jenny Haruyama, City Manager Kirsten Powell, City Attorney Steve Walpole, Chief of Police Taylor Bateman, Community Development Director Tony McFarlane, Administrative Services Director Daryl Jordan, Public Works Director Tracy Ferrara, City Clerk

MEETING NOTICE AND AGENDA PACKET MATERIALS
Notice regarding City Council Meetings: The City Council meets regularly on the 1st and 3rd Wednesday of each month at 6:00 pm in the City Hall Council Chambers located at 1 Civic Center Drive, Scotts Valley, CA 95066. Agenda and Agenda Packet Materials: The City Council agenda and the complete agenda packet are available for review by 5:00 pm the Friday before the Wednesday meeting on the Internet at the City's website: www.scottsvalley.org and in the lobby of City Hall at 1 Civic Center Drive, Scotts Valley, CA. Pursuant to Government Code §54957.5, materials related to an agenda item, submitted after distribution of the agenda packet, are available for public inspection in the lobby of City Hall during normal business hours, Monday-Friday, 8am-12 pm and 1-5 pm. In accordance with AB 1344, such documents will be posted on the City's website at www.scottsvalley.org. Televised Meetings: City Council meetings are cablecast "Live" on Community Television of Santa Cruz County on Comcast Channel 25.

CALL TO ORDER 6:00 PM

PLEDGE OF ALLEGIANCE and MOMENT OF SILENCE

ROLL CALL

SPECIAL SET MATTERS

1. Introduction of New Employee: Robin Woodman, Building Official
2. Legislative Update by Assembly Member Mark Stone

COMMITTEE REPORTS

Council members are appointed to committees which are either City committees or committees dealing with other jurisdictions. This portion of the agenda allows the committee member to present oral or written reports to the Council regarding their committee assignments. It also allows the Council to make comments and give the committee member direction, as required.

CITY MANAGER REPORT

PUBLIC COMMENT TIME

This is the opportunity for individuals to make and/or submit written or oral comments to the Council on any items within the purview of the Council, which are NOT part of the Agenda. No action on the item may be taken, but the Council may request the matter be placed on a future agenda.

ALTERATIONS TO CONSENT AGENDA

Council can remove or add items to the Consent Agenda.

CONSENT AGENDA

The Consent Agenda is comprised of items which appear to be non-controversial. Persons wishing to speak on any items may do so raising their hand to be recognized by the Mayor.

- A. Approve City Council minutes of 10-17-18
- B. Approve check registers dated 10-12-18, 10-19-18, 10-31-18
- C. Approve 2019 City Council meeting schedule
- D. Approve and ratify Council Member Stephany Aguilar's appointment of Shannon Slaughter to the Parks & Recreation Advocates
- E. Accept the 2017/2018 Annual AB1600 Development Impact Fee Report
- F. Approve the second reading and adoption of Ordinance No. 176.4, repealing and replacing Chapter 5.10 of Title 5 of the Scotts Valley Municipal Code regarding massage establishments

- G. Approve the Bicycle Route Signage Memorandum of Understanding (MOU) between the City of Scotts Valley and the Santa Cruz County Regional Transportation Commission (SCCRTC) and authorize the City Manager to execute the agreement
- H. Approve tentative agreement between the City of Scotts Valley and the Scotts Valley Police Supervisors Association (SVPSA)

ALTERATIONS TO REGULAR AGENDA

Council can remove or add items to the Regular Agenda.
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REGULAR AGENDA

Persons wishing to speak on any item may do so by raising their hand to be recognized by the Mayor.

- 1. Storm Drain Master Plan Update (Public Works/Civil Engineer Kahn)
- 2. Future Council agenda items
(This portion of the Regular Agenda allows the Council to determine items to be placed on a future agenda and to choose a date, if so desired.)

ADJOURNMENT

ADA NOTICE

The City of Scotts Valley does not discriminate against persons with disabilities. The City Council Chambers is an accessible facility. If you wish to attend a City Council meeting and require assistance such as sign language, a translator, or other special assistance or devices in order to attend and participate at the meeting, please call the City Clerk's office at (831) 440-5602 five to seven days in advance of the meeting to make arrangements for assistance. If you require the agenda of a City Council meeting be available in an alternative format consistent with a specific disability, please call the City Clerk's Office. The California State Relay Service (TTY/VCO/HCO to Voice: English 1-800-735-2929, Spanish 1-800-855-3000; or, Voice to TTY/VCO/HCO: English 1-800-735-2922, Spanish 1-800-855-3000), provides Telecommunications Devices for the Deaf and Disabled and will provide a link between the TDD caller and users of telephone equipment.
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PROCEDURAL INFORMATION FOR THE PUBLIC

**THE FOLLOWING IS THE PROCEDURE COUNCIL SHOULD TAKE IN
APPROVAL OF A RESOLUTION:**

1. Move the Resolution number for approval.
2. Second the motion.
3. Vote by body, a roll call vote is not required.

**THE FOLLOWING IS THE PROCEDURE COUNCIL SHOULD TAKE IN
INTRODUCTION/ADOPTION OF AN ORDINANCE:**

1. Move the Ordinance number for introduction (or adoption).
2. Move the Ordinance be introduced by title only and waive the reading of the text.
3. Read the Ordinance title.
4. Second the motion.
5. Vote by body, a roll call vote is not required.

**THE FOLLOWING IS THE PROCEDURE COUNCIL SHOULD TAKE IN
PUBLIC COMMENT/PUBLIC HEARINGS:**

Unless otherwise determined by the presiding officer of the meeting:

1. Three minutes allowed per individual to speak.
2. Five minutes allowed per individual representing a group of three or more.



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MINUTES

Meeting of the Scotts Valley City Council

Date: October 17, 2018

Time: 6:00 pm

CONTACT INFORMATION	MEETING LOCATION	POSTING
City of Scotts Valley 1 Civic Center Drive Scotts Valley, CA 95066 (831) 440-5600	City Council Chambers 1 Civic Center Drive Scotts Valley, CA 95066	The agenda was posted 10-12-18 at City Hall, SV Senior Center, SV Library and on the Internet at www.scottsvally.org .

CALL TO ORDER 6:00 PM

The City Council meeting was called to order at 6:00 pm.

SPECIAL SET MATTER – MAYOR FOR A DAY

Mayor for a Day: Max Tempesta, Scotts Valley Middle School, 6th Grade called the meeting to order at 6:07 p.m.

PLEDGE OF ALLEGIANCE and MOMENT OF SILENCE

ROLL CALL

ELECTED OFFICIALS PRESENT:	CITY STAFF MEMBERS PRESENT:
Max Tempesta, Acting Mayor for a Day	Jenny Haruyama, City Manager
Jim Reed, Mayor	Kirsten Powell, City Attorney
Jack Dilles, Vice Mayor	Taylor Bateman, Community Development Director
Stephany E. Aguilar, Council Member	Steve Walpole, Chief of Police
Randy Johnson, Council Member	Tony McFarlane, Administrative Services Director
Donna Lind, Council Member	Daryl Jordan, Public Works Director
	Wayne Bellville, Police Detective
	Tracy Ferrara, City Clerk

SPECIAL SET MATTER

Ginger Dykaar, Senior Transportation Planner for the Santa Cruz County Regional Transportation Commission, gave a PowerPoint presentation on the Unified Corridor Investment Study (UCS) and responded to questions from Council. She stated that the UCS is available at <https://sccrtc.org/projects/multi-modal/unified-corridor-study/> and questions can be emailed to ucs@sccrtc.org.

COMMITTEE REPORTS

VM Dilles reported that as an alternate, he attended an AMBAG meeting, where they discussed the Coordinated Public Transit Human Services Transportation Plan, which identifies transit needs for the elderly, disabled, and low-income population. The Board also approved a Draft Monterey Bay Metropolitan and Transportation Improvement Program for 2018/19 through 2021/22, covering projects in three counties and the anticipated funding, which will be used as a short-range transportation planning document.

VM Dilles reported that as an alternate he attended the Santa Margarita Groundwater Agency Joint Powers Authority, where the JPA accepted a million dollar grant for sustainable groundwater planning.

VM Dilles reported that he attended a Seniors Advisory Council meeting where they discussed Proposition 6 and the harm that it will cause to lose \$5.1 billion of transportation funding state-wide, two-thirds of which are for highways and roads.

CM Johnson reported that the Santa Cruz County Regional Transportation Commission met and discussed the Unified Corridor Investment Study.

CM Lind reported that Santa Margarita Groundwater Agency Joint Powers Authority met, and they are working on logistics within the organization.

CM Lind reported that she attended a LAFCO Conference where they received reports on challenges related to emergency/disaster evacuations that have occurred as a result of recent natural disasters. She also reported that Pat McCormick, Executive Officer of Santa Cruz LAFCO was honored with a lifetime achievement award.

CM Lind reported that the Santa Cruz Metropolitan Transit District Board met and discussed potential impacts if SB1 funds are lost.

CITY MANAGER REPORT

Street Sweeping: You may have noticed a street sweeper in town – we are currently conducting street sweeping, in which we rotate street routes throughout the year. As routes change, our goal is to alternate areas so that all public roads throughout the City are swept.

Broadband Forum: The County of Santa Cruz is hosting a second Broadband Service Forum, giving residents a chance to directly hear from local broadband providers about existing and upcoming services. The meeting will be held tomorrow, Thursday, October 18, 2018 from 6:00 to 8:00 pm at Aptos Junior High School.

GPAC Meeting: The next General Plan Advisory Committee (GPAC) meeting is scheduled for Monday, October 22, 2018 from 6:00 to 8:00 pm at the Scotts Valley City Hall Council Chambers. The agenda includes a review of the Open Space and Conservation Element.

Ballot Mail Box: You can drop off your vote by mail ballot in the Ballot Drop Box located at Scotts Valley City Hall. Visit <http://www.votescount.com> for more information about ways to vote and voting deadlines.

Movie and Food Trucks in the Park: Join us on Friday, October 26, 2018 at Skypark for the movie, "Hotel Transylvania 2" and delicious food from our local food truck vendors! Food and drinks are served at 4:30 pm and the movie begins at 6:30 pm. Don't forget to bring a canned good for Valley Churches United.

PUBLIC COMMENT TIME

Gary Richard Arnold, expressed concerns about AMBAG governance and its impacts on local government.

ALTERATIONS TO CONSENT AGENDA

M/S: Aguilar/Lind

To approve the Consent Agenda.

Carried 5/0 (AYES: Aguilar, Dilles, Johnson, Lind, Reed)

CONSENT AGENDA

- A. Approve City Council minutes of 9-19-18
- B. Approve check registers dated 9-14-18, 9-21-18, 10-1-18
- C. Approve Resolution No. 1895.23, approving sidewalk and public access easement and dedication for APN's 023-031-91 (portion), 023-033-025 (portion), 023-041-09 (portion) and original Bethany Drive (portion), and authorize the City Manager to execute the deed agreement
- D. Approve Resolution No. 1808.3, a resolution designating an area of Lundy Lane as a public right-of-way
- E. King's Village Road Sidewalk Improvements Project:
 - (1) Authorize a budget expenditure appropriation in the amount of \$50,000 from Fund 155, Measure D - Sales Tax for Transportation; and
 - (2) Approve agreement with Anderson Pacific Engineering Construction, Inc. for the Kings Village Road Sidewalk Improvements Project and authorize the City Manager to execute the agreement.

- F. Approve Resolution No. 1956, a resolution of the City Council of the City of Scotts Valley approving Sidewalk and Public Access Easement Dedication for the Kings Village Road Sidewalk Improvements Project, APN 022-601-18 (portion)
- G. Approve Resolution No. 1955, creating the job classification of Administrative Services Analyst, designating it as confidential, and adding the salary range to the salary schedule

ALTERATIONS TO REGULAR AGENDA

M/S: Aguilar/Johnson

To approve the Regular Agenda.

Carried 5/0 (AYES: Aguilar, Dilles, Johnson, Lind, Reed)

REGULAR AGENDA

1. **Consider first reading and introduction of Ordinance No. 176.4, repealing and replacing Chapter 5.10 (Massage Establishments) of the Scotts Valley Municipal Code**

PD Bellville presented the written staff report and responded to questions from Council.

M/S: Johnson/Lind

To approve the first reading and introduction of Ordinance No. 176.4 repealing and replacing Chapter 5.10 of Title 5 of the Scotts Valley Municipal Code regarding massage establishments, and waive the reading thereof.

Carried 5/0 (AYES: Aguilar, Dilles, Johnson, Lind, Reed)

2. **Future Council agenda items**

CM Aguilar undergrounding of telecommunications.

CONVENE TO CLOSED SESSION

The City Council convened to closed session at 7:39 p.m. to discuss the following items:

- (1) Pursuant to Government Code Section 54957.6, the City Council met in closed session to confer with their labor negotiator regarding employee negotiations with Scotts Valley Police Bargaining Unit and Scotts Valley Police Supervisors Association.
- (2) Pursuant to Government Code Section 54961, the City Council met in closed session to confer with legal counsel regarding liability claim. Name of Case: Majid Yamin

RECONVENE TO OPEN SESSION

The City Council reconvened to open session at 8:15 p.m.

REPORT ON ACTION TAKE DURING CLOSED SESSION

Mayor Reed announced that there was nothing to report.

ADJOURNMENT

The meeting adjourned at 8:15 p.m.

Approved: _____
Jim Reed, Mayor

Attest: _____
Tracy A. Ferrara, City Clerk

AGENDA ITEM B

DATE: 11-7-2018

SCOTTS VALLEY ACCOUNTS PAYABLE
10/12/2018 18:06:26 Check Register

CITY OF SCOTTS VALLEY
GL050S-V08.08 COVERPAGE
GL540R

Report Selection:

RUN GROUP... 101218 COMMENT... A/P AS OF OCT 12 2018

DATA-JE-ID DATA COMMENT

W-10122018-360 A/P AS OF OCT 12 2018

Run Instructions:

Jobq	Banner	Copies	Form	Printer	Hold	Space	LPI	Lines	CPI	CP	SP	RT
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BANK	VENDOR	CHECK#	DATE	AMOUNT	
BA	GENERAL CHECKING ACCOUNT				
	001219 ALHAMBRA	114635	10/12/18	91.98	
	003497 ALVAREZ INDUSTRIES, INC	114636	10/12/18	2,436.00	
	000627 ALVAREZ/JOSE F.	114637	10/12/18	271.23	
	001670 AT &T	114638	10/12/18	3,683.51	
	000097 AT&T	114639	10/12/18	9.34	
	001963 BELLVILLE/WAYNE	114640	10/12/18	248.00	
	000437 BRASS KEY LOCKSMITH	114641	10/12/18	115.06	
	003088 CALIFORNIA COAST UNIFORM	114642	10/12/18	513.78	
	000235 CIVIL CONSULTANTS GROUP	114643	10/12/18	580.00	
	002091 COMCAST	114644	10/12/18	167.56	
	002091 COMCAST	114645	10/12/18	323.21	
	000207 DEPARTMENT OF JUSTICE	114646	10/12/18	222.00	
	003602 DIAMOND VIEW AUTO GLASS	114647	10/12/18	355.00	
	001537 DYNAMIC PRESS	114648	10/12/18	802.54	
	000072 ECOLOGY ACTION OF SC	114649	10/12/18	80.00	
	000338 GRAHAM CONTRACTORS INC	114650	10/12/18	4,650.00	
	000615 HOHMANN/PATRICK J.	114651	10/12/18	186.50	
	003266 INTERGRITY AUTOMOTIVE	114652	10/12/18	307.81	
	002032 KT MECHANICAL INC	114653	10/12/18	296.48	
	001333 LARA/JESUS D	114654	10/12/18	103.55	
	001020 LEADERSHIP SANTA CRUZ CO	114655	10/12/18	2,198.00	
	003711 LOMBARDO DIAMOND CORE	114656	10/12/18	485.00	
	000195 MESITI-MILLER ENGINEERIN	114657	10/12/18	2,715.00	
	003685 MONTEREY BAY ANALYTICAL	114658	10/12/18	575.00	
	001418 MONTEREY REGIONAL	114659	10/12/18	383.95	
	003368 MT HERMON VETERINARY CLI	114660	10/12/18	549.58	
	000939 NATIONAL COMTEL NETWORK	114661	10/12/18	16.37	
	000101 PACIFIC GAS & ELECTRIC C	114662	10/12/18	538.86	
	000101 PACIFIC GAS & ELECTRIC C	114663	10/12/18	50,068.92	
	000101 PACIFIC GAS & ELECTRIC C	114664	10/12/18	14.45	
	003152 PETERSON POWER SYSTEMS,	114665	10/12/18	1,200.83	
	000918 PETTY CASH-JEANETTE ROLA	114666	10/12/18	132.32	
	001857 PHOENIX GROUP	114667	10/12/18	192.30	
	000723 PIED PIPER INC./THE	114668	10/12/18	75.50	
	001479 ROBB DDS/JOSEPH W	114669	10/12/18	215.20	
	001022 S.B.R.P.S.T.C.	114670	10/12/18	1,580.00	
	001894 S.V. WATER DISTRICT - BU	114671	10/12/18	19.72	
	000127 SANTA CRUZ SENTINEL	114672	10/12/18	1,494.40	
	000128 SCARBOROUGH LUMBER	114673	10/12/18	2,526.99	
	000143 SUMMIT UNIFORMS	114674	10/12/18	1,581.11	
	001085 SYCAL ENGINEERING INC	114675	10/12/18	3,577.50	
	001589 TELECOMMUNICATIONS	114676	10/12/18	6,666.24	
	001366 U.S. BANCORP OFFICE	114677	10/12/18	342.81	
	001106 VERIZON WIRELESS	114678	10/12/18	336.88	
	002021 ZOOM	114679	10/12/18	498.39	
	GENERAL CHECKING ACCOUNT			93,428.87	***

SCOTTS VALLEY ACCOUNTS PAYABLE
CITY OF SCOTTS VALLEY
10/12/2018 18:06:26
GL540R-V08.08 PAGE 2

Check Register

BANK	VENDOR	CHECK#	DATE	AMOUNT
REPORT TOTALS:				93,428.87

RECORDS PRINTED - 000123

GL540R

FUND RECAP:

FUND	DESCRIPTION	DISBURSEMENTS
----	-----	
001	GENERAL	33,763.11
004	RECREATION	2,548.29
010	WASTEWATER OPERATIONS	41,910.07
011	TERTIARY TREATMENT PLANT	485.00
012	WASTEWATER CAPITAL RESERVE	3,307.50
024	LENNAR TRUST FUNDS	4,650.00
028	SENIOR CENTER	912.67
031	STP EXCHANGE PROJECTS	4,209.40
050	PINEWOOD EST LNDSCP MAINT DT	9.93
077	SKYPARK MAINT ASSESS DIST	33.07
112	DENTAL INS INTERNAL SERV	649.70
123	COMMUNITY FACILITY CENTER	950.13
TOTAL ALL FUNDS		93,428.87

BANK RECAP:

BANK	NAME	DISBURSEMENTS
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BA	GENERAL CHECKING ACCOUNT	93,428.87
TOTAL ALL BANKS		93,428.87

SCOTTS VALLEY ACCOUNTS PAYABLE
10/19/2018 17:58:02 Check Register

CITY OF SCOTTS VALLEY
GL050S-V08.08 COVERPAGE
GL540R

Report Selection:

RUN GROUP... 101918 COMMENT... A/P AS OF OCT 19 2018

DATA-JE-ID DATA COMMENT

W-10192018-380 A/P AS OF OCT 19 2018

Run Instructions:

Jobq	Banner	Copies	Form	Printer	Hold	Space	LPI	Lines	CPI	CP	SP	RT
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BANK	VENDOR	CHECK#	DATE	AMOUNT
BA	GENERAL CHECKING ACCOUNT			
003566	ABA BUILDING SERVICES	114680	10/19/18	175.00
001405	AFLAC-FLEX ONE	114681	10/19/18	3,288.73
001219	ALHAMBRA	114682	10/19/18	34.11
003672	ALLEN/DENISE	114683	10/19/18	91.00
000097	AT&T	114684	10/19/18	158.17
003557	BARTEL ASSOCIATES, LLC	114685	10/19/18	8,492.00
001066	BEHAVIORAL HEALTH CARE I	114686	10/19/18	128.00
001593	BENEDICT DDS/NANETTE	114687	10/19/18	168.20
000021	BOWMAN & WILLIAMS	114688	10/19/18	2,565.00
003715	CALCON SYSTEMS, INC	114689	10/19/18	2,498.25
003714	CAPITOLA/CITY OF	114690	10/19/18	8,637.13
003280	CAROLLO	114691	10/19/18	4,008.35
000773	CENTRAL COAST LANDSCAPE	114692	10/19/18	383.00
001656	CHRISTENSEN DDS/SAM	114693	10/19/18	35.50
000235	CIVIL CONSULTANTS GROUP	114694	10/19/18	4,467.00
000226	COAST PAPER & SUPPLY INC	114695	10/19/18	908.34
003588	CONDUENT BUSINESS SVCS,	114696	10/19/18	1,803.85
001103	CREATIVE FORMS & CONCEPT	114697	10/19/18	920.56
000389	DASSEL'S PETROLEUM INC	114698	10/19/18	4,816.39
002046	DEPARTMENT OF TOXIC	114699	10/19/18	7.50
001362	DUNCAN AUTO TECH	114700	10/19/18	732.09
003035	FELTON DENTAL CENTER	114701	10/19/18	88.00
003253	FIRST ALARM	114702	10/19/18	133.50
000375	FIRST ALARM SECURITY & P	114703	10/19/18	111.95
003706	GRANADOS/JUSTIN	114704	10/19/18	50.00
000057	HACH COMPANY	114705	10/19/18	115.93
000091	HEUSSER NEWEIGH	114706	10/19/18	56.26
000283	HOSE SHOP	114707	10/19/18	15.83
000275	IFLAND ENGINEERS INC	114708	10/19/18	3,840.00
003266	INTERGRITY AUTOMOTIVE	114709	10/19/18	1,675.19
000430	INTERSTATE BATTERIES	114710	10/19/18	125.21
000835	INTERSTATE SALES	114711	10/19/18	1,137.44
001308	JOHNSON DDS/BRETT	114712	10/19/18	3.00
001903	JONES/KIMARIE	114713	10/19/18	120.00
003592	KAHN/JESSICA	114714	10/19/18	233.10
003142	KELLY-MOORE PAINT CO INC	114715	10/19/18	108.16
003292	KIMLEY-HORN & ASSOCIATES	114716	10/19/18	2,685.69
003292	KIMLEY-HORN & ASSOCIATES	114717	10/19/18	4,185.30
003056	LAURENT/JOHN	114718	10/19/18	550.00
001673	LINCOLN FINANCIAL GROUP	114719	10/19/18	1,501.14
000078	LLOYD'S TIRE SERVICE INC	114720	10/19/18	263.51
003011	LOPEZ/PAUL	114721	10/19/18	101.08
001234	MC GRAW DDS/BERNARD	114722	10/19/18	125.60
000050	MELROSE/TAMERA	114723	10/19/18	115.00
002078	METRO MOBILE COMMUNICATI	114724	10/19/18	462.99
003171	MICHALAK/GENE	114725	10/19/18	110.00
001926	MICROTECH SCIENTIFIC	114726	10/19/18	154.99
003685	MONTEREY BAY ANALYTICAL	114727	10/19/18	420.00

BANK	VENDOR	CHECK#	DATE	AMOUNT	
BA	GENERAL CHECKING ACCOUNT				
001615	OLIN CORP-CHLOR ALKALI	114728	10/19/18	2,068.93	
000101	PACIFIC GAS & ELECTRIC C	114729	10/19/18	51.08	
002063	PATEL-CROSKREY/DARSHANA	114730	10/19/18	269.52	
001233	PORTER DDS MS/BRENT J	114731	10/19/18	82.05	
003503	PURETEC INDUSTRIAL WATER	114732	10/19/18	112.83	
003572	REGIONAL GOVERNMENT SERV	114733	10/19/18	1,725.00	
000294	SANTA CRUZ CNTY TAX COLL	114734	10/19/18	516.04	
001533	SANTA CRUZ COUNTY BANK	114735	10/19/18	5,665.56	
001533	SANTA CRUZ COUNTY BANK	114736	10/19/18	4,562.68	
000122	SANTA CRUZ/CITY OF	114737	10/19/18	1,673.33	
000129	SCOTTS VALLEY BANNER	114738	10/19/18	526.87	
000405	SILVERSTEIN/THOMAS	114739	10/19/18	6,465.15	
003674	SLOAN SAKAI YEUNG & WONG	114740	10/19/18	3,104.48	
002053	STEPFORD	114741	10/19/18	2,142.12	
003712	TANNER PACIFIC, INC	114742	10/19/18	23,960.00	
003330	TERRELL/ELLIOTT	114743	10/19/18	90.00	
000423	UC REGENTS/ SEYMOUR CENT	114744	10/19/18	176.00	
003590	VARGAS ACADEMY OF GYMNAS	114745	10/19/18	1,054.90	
001106	VERIZON WIRELESS	114746	10/19/18	742.90	
000151	VISION SERVICE PLAN	114747	10/19/18	1,256.85	
000714	VOLUNTEER CENTER	114748	10/19/18	200.00	
003713	WGR, SOUTHWEST INC	114749	10/19/18	100.00	
001625	YOSHIDA DDS/NOREEN	114750	10/19/18	303.00	
	GENERAL CHECKING ACCOUNT			119,656.33	***

SCOTTS VALLEY ACCOUNTS PAYABLE
CITY OF SCOTTS VALLEY
10/19/2018 17:58:02
GL540R-V08.08 PAGE 3

Check Register

BANK	VENDOR	CHECK#	DATE	AMOUNT
REPORT TOTALS:				119,656.33

RECORDS PRINTED - 000162

GL540R

FUND RECAP:

FUND	DESCRIPTION	DISBURSEMENTS
----	-----	
001	GENERAL	85,974.22
004	RECREATION	9,899.80
008	TRAFFIC IMPACT MITIGATION	1,745.70
010	WASTEWATER OPERATIONS	8,177.06
011	TERTIARY TREATMENT PLANT	420.00
012	WASTEWATER CAPITAL RESERVE	4,008.35
025	GENERAL TRUST	4,185.30
028	SENIOR CENTER	1,006.97
035	GREEN BUILDING FUNDING	134.28
050	PINEWOOD EST LNDSCP MAINT DT	383.00
112	DENTAL INS INTERNAL SERV	925.35
123	COMMUNITY FACILITY CENTER	428.03
150	GENERAL CAPITAL IMPROVEMENTS	805.71
312	POLICE - BUDGET ACT OF 2016	1,562.56
TOTAL ALL FUNDS		119,656.33

BANK RECAP:

BANK	NAME	DISBURSEMENTS
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BA	GENERAL CHECKING ACCOUNT	119,656.33
TOTAL ALL BANKS		119,656.33

SCOTTS VALLEY ACCOUNTS PAYABLE
10/30/2018 17:37:10 Check Register

CITY OF SCOTTS VALLEY
GL050S-V08.08 COVERPAGE
GL540R

Report Selection:

RUN GROUP... 103118 COMMENT... A/P AS OF OCT 31 2018

DATA-JE-ID DATA COMMENT

W-10312018-399 A/P AS OF OCT 31 2018

Run Instructions:

Jobq	Banner	Copies	Form	Printer	Hold	Space	LPI	Lines	CPI	CP	SP	RT
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BANK	VENDOR	CHECK#	DATE	AMOUNT
BA	GENERAL CHECKING ACCOUNT			
	000041 ACC BUSINESS	114751	10/31/18	1,222.77
	003457 ADAMS/TROY	114752	10/31/18	30.00
	001626 AGUILAR/STEPHANY	114753	10/31/18	75.00
	003709 AMS PLANNING & RESEARCH	114754	10/31/18	9,400.00
	001009 ARD/KRISTIN	114755	10/31/18	30.00
	003282 ARTS COUNCIL OF SC COUNT	114756	10/31/18	1,030.00
	000998 ASSOCIATED SERVICES CO.	114757	10/31/18	103.09
	001670 AT &T	114758	10/31/18	301.31
	003643 AUNT LALI'S	114759	10/31/18	257.50
	002011 B & B SMALL ENGINE	114760	10/31/18	232.04
	001373 BAY TREE, LLC	114761	10/31/18	3,620.38
	001963 BELLVILLE/WAYNE	114762	10/31/18	325.51
	003573 BEN'S MOTORCYCLE WORKS	114763	10/31/18	2,056.46
	000107 BIRT/DUSTIN	114764	10/31/18	20.00
	000500 BOLANOS/DORENE	114765	10/31/18	20.00
	000021 BOWMAN & WILLIAMS	114766	10/31/18	4,193.75
	000437 BRASS KEY LOCKSMITH	114767	10/31/18	48.97
	000018 BRINK'S TROPHY SHOPPE	114768	10/31/18	96.47
	001633 CAL-WEST LIGHTING & SIGN	114769	10/31/18	895.00
	001659 CALIFORNIA BUILDING	114770	10/31/18	224.49
	015008 CENTRAL HOME SUPPLY	114771	10/31/18	101.10
	001051 COASTAL EVERGREEN CORP	114772	10/31/18	1,400.00
	002091 COMCAST	114773	10/31/18	146.20
	003716 COSENTINO/JOE	114774	10/31/18	350.00
	001853 COVANTA ENERGY, LLC	114775	10/31/18	164.25
	000274 DEPT OF CONSERVATION	114776	10/31/18	664.97
	000778 DEPT OF JUSTICE	114777	10/31/18	137.00
	001627 DITTRICH DDS/RUDOLPH	114778	10/31/18	184.00
	003326 DIVISION OF THE STATE AR	114779	10/31/18	311.60
	001362 DUNCAN AUTO TECH	114780	10/31/18	90.19
	000098 ESCALON SERVICES	114781	10/31/18	1,624.73
	000202 FEDERAL EXPRESS	114782	10/31/18	23.24
	000582 FERRARA/TRACY A.	114783	10/31/18	30.00
	003154 FLANNERY/MARLENE	114784	10/31/18	129.39
	003122 GOLDFARB LIPMAN ATTORNEY	114785	10/31/18	160.00
	001828 GONZALES/GABE	114786	10/31/18	440.84
	003706 GRANADOS/JUSTIN	114787	10/31/18	20.00
	003575 HARUYAMA/JENNIFER	114788	10/31/18	51.21
	000615 HOHMANN/PATRICK J.	114789	10/31/18	20.00
	003271 HOME DEPOT CREDIT SERVIC	114790	10/31/18	135.76
	000430 INTERSTATE BATTERIES	114791	10/31/18	246.05
	000877 INTOXIMETERS	114792	10/31/18	1,483.21
	001903 JONES/KIMARIE	114793	10/31/18	90.99
	003592 KAHN/JESSICA	114794	10/31/18	30.00
	002032 KT MECHANICAL INC	114795	10/31/18	185.00
	000078 LLOYD'S TIRE SERVICE INC	114796	10/31/18	230.96
	.15308 MALECKI/MARCIE	114797	10/31/18	50.97
	003403 MAR-KEN INTERNATIONAL PO	114798	10/31/18	975.00

BANK	VENDOR	CHECK#	DATE	AMOUNT
BA	GENERAL CHECKING ACCOUNT			
	001591 MARKELL/ROD	114799	10/31/18	1,974.00
	001815 MC GRATH/TRISH	114800	10/31/18	20.00
	001130 MIRACLE PLAYSYSTEMS, INC	114801	10/31/18	2,645.33
	003685 MONTEREY BAY ANALYTICAL	114802	10/31/18	420.00
	000967 MONTEREY BAY SYSTEMS	114803	10/31/18	831.14
	001872 NORTH CENTRAL LABORATORI	114804	10/31/18	1,022.59
	001615 OLIN CORP-CHLOR ALKALI	114805	10/31/18	2,107.65
	003152 PETERSON POWER SYSTEMS,	114806	10/31/18	537.00
	001787 PETRINI'S GARDENING SERV	114807	10/31/18	75.00
	000918 PETTY CASH-JEANETTE ROLA	114808	10/31/18	187.82
	000918 PETTY CASH-JEANETTE ROLA	114809	10/31/18	260.00
	003323 POMPETTE/NICOLE	114810	10/31/18	20.00
	001097 PRODESSE PROPERTY GROUP	114811	10/31/18	3,523.52
	.15307 REBHANN/VAL	114812	10/31/18	92.97
	001479 ROBB DDS/JOSEPH W	114813	10/31/18	126.20
	000135 SAN LORENZO VALLEY WATER	114814	10/31/18	28.27
	001885 SANTA CRUZ BIOTECHNOLOGY	114815	10/31/18	231.08
	001875 SANTA CRUZ MOSQUITO	114816	10/31/18	654.24
	000128 SCARBOROUGH LUMBER	114817	10/31/18	1,058.89
	.15309 SILVIA/DONNA	114818	10/31/18	45.64
	001535 SKIP'S TIRE & AUTO CENTE	114819	10/31/18	178.33
	002053 STEPFORD	114820	10/31/18	5,240.00
	000882 SUPERIOR ALARM COMPANY	114821	10/31/18	135.00
	001085 SYCAL ENGINEERING INC	114822	10/31/18	4,819.13
	003699 THOMAS/PHILIP	114823	10/31/18	20.00
	003548 TORO PETROLEUM CORP	114824	10/31/18	9,777.42
	001560 TRITON CONSTRUCTION	114825	10/31/18	75.00
	000151 VISION SERVICE PLAN	114826	10/31/18	1,276.80
	003145 WAGE WORKS	114827	10/31/18	149.00
	000443 WALPOLE/STEVE	114828	10/31/18	84.00
	GENERAL CHECKING ACCOUNT			71,275.42 ***

SCOTTS VALLEY ACCOUNTS PAYABLE
CITY OF SCOTTS VALLEY
10/30/2018 17:37:10
GL540R-V08.08 PAGE 3

Check Register

BANK	VENDOR	CHECK#	DATE	AMOUNT
REPORT TOTALS:				71,275.42

RECORDS PRINTED - 000149

GL540R

FUND RECAP:

FUND	DESCRIPTION	DISBURSEMENTS
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001	GENERAL	33,235.27
004	RECREATION	1,508.43
005	SMIP	664.97
009	PARKS & REC FACILITIES	2,645.33
010	WASTEWATER OPERATIONS	12,626.49
011	TERTIARY TREATMENT PLANT	7,561.62
012	WASTEWATER CAPITAL RESERVE	675.00
019	AFFORDABLE HOUSING	1,974.00
023	SVRDA SUCCESSOR AGENCY	7,143.90
028	SENIOR CENTER	624.10
031	STP EXCHANGE PROJECTS	776.25
035	GREEN BUILDING FUNDING	224.49
036	DISABILITY COMPLIANCE FUND	311.60
050	PINEWOOD EST LNDSCP MAINT DT	28.27
077	SKYPARK MAINT ASSESS DIST	500.00
112	DENTAL INS INTERNAL SERV	394.20
123	COMMUNITY FACILITY CENTER	5.99
150	GENERAL CAPITAL IMPROVEMENTS	50.00
312	POLICE - BUDGET ACT OF 2016	325.51
TOTAL ALL FUNDS		71,275.42

BANK RECAP:

BANK	NAME	DISBURSEMENTS
----	-----	
BA	GENERAL CHECKING ACCOUNT	71,275.42
TOTAL ALL BANKS		71,275.42

City of Scotts Valley CITY COUNCIL STAFF REPORT

DATE: November 7, 2018

TO: Honorable Mayor and City Council

FROM: Tracy A. Ferrara, City Clerk

APPROVED: Jenny D. Haruyama, City Manager

SUBJECT: **2019 PROPOSED CITY COUNCIL MEETING SCHEDULE**

SUMMARY OF ISSUE

Scotts Valley Municipal Code Section 2.24.010 establishes regular City Council meeting times on the first and third Wednesdays of each month at 6:00 pm. While City Ordinance sets forth the City Council meeting schedule, it is recommended that the Council formally adopt its schedule on an annual basis. The schedule does not reflect special meetings such as study sessions, as these meetings are not typically scheduled in advance and are infrequent.

Historically, the City Council has cancelled the first meeting in January of each year due to the public's availability during the holiday season. Additionally, meetings during the month of July are cancelled given peak travel and vacation times. This cancellation is also consistent with other public agency schedules in Santa Cruz County.

To accommodate the holiday and summer schedule of the public, it is recommended that Council adopt the 2019 City Council Meeting Schedule below:

2019 City of Scotts Valley City Council Meeting Schedule

MONTH	1ST WEDNESDAY	3RD WEDNESDAY
January	No meeting – 2nd	16 th
February	6 th	20 th
March	6 th	20 th
April	3 rd	17 th
May	1 st	15 th
June	5 th	19 th
July	No Meeting – 3rd	No Meeting 17th
August	7 th	21 st
September	4 th	18 th
October	2 nd	16 th
November	6 th	20 th
December	4 th	18 th

FISCAL IMPACT

There is no fiscal impact associated with the adoption of the 2019 Council meeting schedule.

STAFF RECOMMENDATION

It is recommended the Council approve the proposed 2019 City of Scotts Valley City Council Meeting Schedule.

City of Scotts Valley CITY COUNCIL STAFF REPORT

DATE: November 7, 2018
TO: Honorable Mayor and City Council
FROM: Tracy A. Ferrara, City Clerk
APPROVED: Jenny D. Haruyama, City Manager
SUBJECT: **APPOINTMENT TO PARKS & RECREATION ADVOCATES**

SUMMARY OF ISSUE

As vacancies occur, or due to an election or re-election of a Council Member, a member of the Council may nominate a new individual to serve on a City Commission, Committee, and/or Board. All appointments must be approved by the City Council.

Due to a vacancy, City Council Member Aguilar has nominated Shannon Slaughter to serve on the Parks & Recreation Advocates. Upon Council approval on the consent agenda, Ms. Slaughter would fill the vacancy.

FISCAL IMPACT

None.

STAFF RECOMMENDATION

Council's approval of this item on the Consent Agenda will ratify the appointment.

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Application 2



City of Scotts Valley

Application for Appointment to Serve on a City Advisory Body

Advisory Body you are applying for:

☒ Planning Commission
☒ Parks & Recreation Commission
☒ ADA Accessibility Committee

☐ Arts Commission
☐ Board of Appeals
☒ Parks & Recreation Advocates

☐ Senior Center Board
☐ Code Enforcement Appeals Board
☐ Mobile Home Park Rent Review

Contact Information

Name: Shannon Slaughter
Street Address:
City / ST/ ZIP Code: Scotts Valley, CA, 95066
Phone – Primary: 831-420-7721 ☒ Cell ☐ Work ☐ Home
Phone – Secondary: N/A ☐ Cell ☐ Work ☐ Home
E-Mail Address: shannondslaughter@gmail.com

Background Information*

Years residing in Scotts Valley 24
Employer: n/a
Occupation/Profession: Logistics / Supply Chain Executive
Education: B.A. Management - St Mary's College of California
Certification Supply Chain Management - University of Wisconsin -

**If you are appointed to a city commission or board, you may be required to file a Statement of Economic Interests (FPPC Form 700). The Form 700 is a State-mandated public document disclosing certain business, property and investment holdings which might conflict with the member's decisions. The City Clerk's Office will supply the Form 700 upon appointment.*

Summarize your interests, education, and/or experience as they relate to this position.

I have been in the logistics world for over thirty years. My role is all about planning, executing, and being able to react calmly with alternatives when a plan does not come together. I also focus on Process Improvement as part of my background and am very adept at finding better, faster, less costly ways to do things. As a Certified Sis Sigma Black Belt I have a history of logical problem solving.

Explain how you believe you can contribute toward the effectiveness of this position.

There are not many situations that arise during an event or a project that I have not seen before. I have a unique ability to adapt on the fly when something does not go as plan and to turn a potential bad situation into a good one. I take the approach of working the problem, not letting the problem work me. There are always viable alternatives.

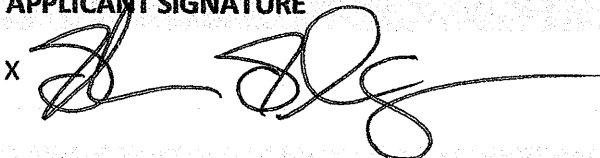
Summarize your participation in civic or community activities.

Volunteer - Relay For Life - Team Candiland
Former Little League Coach
Volunteer - Scotts Valley High School

How did you hear about this vacancy?

☐ City Website ☐ Other Website ☒ Word of Mouth ☐ Other (Specify):

APPLICANT SIGNATURE

X 

DATE

10/3/18

Return application:

For more information, contact:

OFFICE USE ONLY – DATE RECEIVED

By email to:

tferrara@scottsvalley.org

City Clerk's Office (831)440-5600

tferrara@scottsvalley.org

www.scottsvalley.org

In person or by mail to:

City Clerk's Office
1 Civic Center Drive
Scotts Valley, CA 95066

Note: 1) Applications are retained for one year. You will be contacted if a vacancy occurs within that time.
2) A separate application must be submitted for each advisory body to which you seek appointment.
3) You may attach additional pages or material (such as a resume) to the application if desired.

City of Scotts Valley CITY COUNCIL STAFF REPORT

DATE: November 7, 2018

TO: Honorable Mayor and City Council

FROM: Tony McFarlane, Administrative Services Director

APPROVED: Jenny Haruyama, City Manager

SUBJECT: ANNUAL REPORT FOR DEVELOPMENT IMPACT FEES

SUMMARY OF ISSUE

Enabled under California Government Code 66000, Development Impact Fees are one-time charges by a local agency to finance some or all of the cost of providing public facilities related to a new development project. The enacting agency must identify the uses for the fee and show that there is a reasonable relationship between the public facilities needed and the development upon which the fee will be imposed.

Ordinance 143 and a report prepared by the Management Services Institute established 7 development impact mitigation fees on all development within the City. This ordinance and report still demonstrate a reasonable relationship between the fee and the purpose for which it is charged. The 7 development impact mitigation fees are for storm drainage facilities, streets and thoroughfares, parks and recreation facilities, wastewater facilities, general facilities and equipment, law enforcement facilities and equipment, and library facility.

As required under AB1600 guidelines, this report provides:

1. A brief description of the type of fee;
2. The amount of the fee;
3. Beginning and ending balances of the fees;
4. Total fees collected and interest earned, if applicable;
5. Identification of the public improvement the fees were used for;
6. Identification and timeline of public improvements any unexpended fees will be used for;
7. Description and uses for transfers or loans of fees, if applicable.

FISCAL IMPACT

The attached reports show that the ending fund balances for each development impact fee totals \$3,646,803 at June 30, 2018 allocated as follows:

Development Impact Fee	Ending Fund Balance – 6/30/2018
Storm Drainage Facilities	\$ 10
Streets and Thoroughfares	\$ 269,569
Parks and Recreation Facilities	\$ 588,044
Wastewater Facilities	\$ 2,158,948
General Facilities and Facilities	\$ 88,198
Law Enforcement Facilities and Equip	\$ 250,086
Library Facility	\$ 240,953

STAFF RECOMMENDATION

It is recommended that the City Council review and accept the 2017/2018 Annual AB1600 Development Impact Fee Report.

TABLE OF CONTENTS**PAGE**

Storm Drainage Facilities Impact Fee	3
Streets and Thoroughfares Impact Fee	4
Parks and Recreation Facilities Impact Fee	5
Wastewater Facilities Impact Fee	6
General Facilities and Equipment Impact Fee	7
Law Enforcement Facilities and Equipment Impact Fee	8
Library Facility Impact Fee	9

STORM DRAINAGE FACILITIES IMPACT FEE FUND

Purpose To Which Fee Is To Be Put:

Storm drainage facilities within the West Branch-Carbonera Creek, Carbonera Creek, Camp Evers Tributary, and Bean Creek sub-basins.

Relationship Between Fee and Construction of Improvements:

Ordinance 143 and the management services institute report, copies of which are on file in the office of the City Clerk, establishing development impact mitigation fees on all development within the City, did demonstrate and still do demonstrate a reasonable relationship between the fee and the purpose for which it is charged.

Sources and Amounts of Funding Anticipated To Complete Financing in Incomplete Improvements:

Anticipated
Dates

Fund Balance at 6/30/17		\$ 24,314	
Impact Fees	\$ 17,309		
Other Revenue/Transfers	31,983		
Interest	261		
Total Revenue		\$ 49,553	
Storm Drain Master Plan	(73,819)		
Administrative	(38)		
Total Expenses		\$ (73,857)	
Fund Balance at 6/30/18		\$ 10	

Projected Future Impact Fees:

Sub-Basin	Fee Per Sq. Ft.	# of Sq. Ft.	Total Revenue		
Carbonera Creek	\$ 0.24	1,008,600	\$242,064		
Camp Evers Tributary	\$ 0.11	1,575,760	173,334		
Bean Creek	\$ 0.15	130,500	19,575	434,973	7/1/17 to 6/30/30
Projected Future Interest Earnings on Impact Fee Fund			3,250		7/1/17 to 6/30/30
Sum of Projected Revenues			<u>\$438,233</u>		

STREETS & THOROUGHFARES IMPACT FEE FUND

Purpose To Which Fee Is To Be Put:

Street improvements.

Relationship Between Fee and Construction of Improvements:

Ordinance 143 and the management services institute report, copies of which are on file in the office of the City Clerk, establishing development impact mitigation fees on all development within the City, did demonstrate and still do demonstrate a reasonable relationship between the fee and the purpose for which it is charged.

Sources and Amounts of Funding Anticipated To Complete Financing in Incomplete Improvements:Anticipated
Dates

Fund Balance at 6/30/17		\$ 832,084	
Impact Fees	\$ 55,896		
Other Revenue/Transfers	492		
Interest	8,570		
Total Revenue		\$ 64,958	
Transfer to CIP Fund 150	\$ (595,562)		
General Plan Update	(30,686)		
Administrative	(1,225)		
Total Expenses		\$ (627,473)	
Fund Balance at 6/30/18		\$ 269,569	

Projected Future Impact Fees:

Type	Fee	# of Units/Sq. Ft.	Total Revenue		
Residential:					
Single-Family (Units)	\$ 5,775	210	\$1,212,750		
Multi-Family (Units)	\$ 3,426	737	2,524,962		
Commercial (Sq. Ft.)	\$ 11.48	341,469	3,920,064	7,657,776	7/1/17 to 6/30/30
Projected Future Interest Earnings on Impact Fee Fund			65,000		7/1/17 to 6/30/30
Sum of Projected Revenues			\$ 7,992,345		

PARKS & RECREATION FACILITIES FEE FUND

Purpose To Which Fee Is To Be Put:

Park development and acquisition.

Relationship Between Fee and Construction of Improvements:

Ordinance 143 and the management services institute report, copies of which are on file in the office of the City Clerk, establishing development impact mitigation fees on all development within the City, did demonstrate and still do demonstrate a reasonable relationship between the fee and the purpose for which it is charged.

Sources and Amounts of Funding Anticipated To Complete Financing in Incomplete Improvements:

Anticipated
Dates

Fund Balance at 6/30/17		\$ 488,005	
Impact Fees	\$ 90,376		
Other Revenue/Transfers	8,347		
Interest	5,840		
Total Revenue		\$ 104,563	
Pool Shade Structure	\$ (3,696)		
Administrative	(828)		
Total Expenses		\$ (4,524)	
Fund Balance at 6/30/18		\$ 588,044	

Projected Future Impact Fees:

Type	Fee	# of Units	Total Revenue		
R-R-2.5 Rural	\$ 10,255	11	\$ 112,805		
R-140-Estate	\$ 10,255	15	153,825		
R-1-10-Single Family - Det.	\$ 10,255	45	461,475		
R-M-6/R-M-8-Two Family	\$ 7,985	316	2,523,260		
R-H-Multiple Family	\$ 5,126	540	2,768,040		
Mobile Homes / 2nd Unit	\$ 5,331	20	106,620	6,126,025	7/1/17 to 6/30/30
Projected Future Interest Earnings on Impact Fee Fund			26,000		7/1/17 to 6/30/30
Sum of Projected Revenues			<u>\$ 6,740,069</u>		

WASTEWATER FACILITIES IMPACT FEE FUND

Purpose To Which Fee Is To Be Put:

Wastewater facility improvements

Relationship Between Fee and Construction of Improvements:

Ordinance 143 and the management services institute report, copies of which are on file in the office of the City Clerk, establishing development impact mitigation fees on all development within the City, did demonstrate and still do demonstrate a reasonable relationship between the fee and the purpose for which it is charged.

Sources and Amounts of Funding Anticipated To Complete Financing in Incomplete Improvements:

Anticipated
Dates

Fund Balance at 6/30/17		\$ 2,168,971	
Impact Fee	\$ 318,981		
Other Revenue/Transfers	142		
Interest	10,186		
Total Revenue		\$ 329,309	
Transfer to Wastewater Fixed Assets	\$ (118,948)		
Washer/Compactor	(102,995)		
Right-of-Way	(100,000)		
Software	(15,953)		
Administrative	(1,436)		
Total Expenses		\$ (339,332)	
Fund Balance at 6/30/18		\$ 2,158,948	

Projected Future Impact Fees:

Type	Fee	# of Units	Total Revenue		
Residential:					
Single-Family	\$6,137	210	\$1,288,770		
Multi-Family	\$4,440	737	3,272,280		
Commercial / Industrial	\$26.12	341,469	8,919,170	13,480,220	7/1/17 to 6/30/30
Projected Future Interest Earnings on Impact Fee Fund			260,000		7/1/17 to 6/30/30
Sum of Projected Revenues			<u>\$15,899,168</u>		

GENERAL FACILITIES & EQUIPMENT FEE FUND

Purpose To Which Fee Is To Be Put:

Corporation Yard improvements, renovation of Civic Center,
City maintenance fleet expansion, and Scotts Valley Senior Center.

Relationship Between Fee and Construction of Improvements:

Ordinance 143 and the management services institute report, copies of which are on file in the office of the City Clerk, establishing development impact mitigation fees on all development within the City, did demonstrate and still do demonstrate a reasonable relationship between the fee and the purpose for which it is charged.

Sources and Amounts of Funding Anticipated To Complete Financing in Incomplete Improvements:

Anticipated
Dates

Fund Balance at 6/30/17		\$ 60,233	
Impact Fees	\$ 27,265		
Interest	816		
Total Revenue		\$ 28,081	
Administrative	\$ (116)		
Total Expenses		\$ (116)	
Fund Balance at 6/30/18		\$ 88,198	

Projected Future Impact Fees:

Type	Fee	# of Units	Total Revenue		
Residential (Units)	\$ 438	947	\$ 414,786		
Commercial (Acres)	\$ 1,157	7.84	9,071	423,857	7/1/17 to 6/30/30
Projected Future Interest Earnings on Impact Fee Fund				7,800	7/1/17 to 6/30/30
Sum of Projected Revenues				<u>\$ 519,855</u>	

LAW ENFORCEMENT FACILITIES & EQUIPMENT FEE FUND

Purpose To Which Fee Is To Be Put:

Construction of a new police facility, equipment, and training for additional officers and dispatchers, police fleet expansion, and records management system upgrade.

Relationship Between Fee and Construction of Improvements:

Ordinance 143 and the management services institute report, copies of which are on file in the office of the City Clerk, establishing development impact mitigation fees on all development within the City, did demonstrate and still do demonstrate a reasonable relationship between the fee and the purpose for which it is charged.

Sources and Amounts of Funding Anticipated To Complete Financing in Incomplete Improvements:

Anticipated
Dates

Fund Balance at 6/30/17		\$ 210,378	
Impact Fees	\$ 62,983		
Interest	<u>2,623</u>		
Total Revenue		\$ 65,606	
Voter/Comparator Replacement	\$ (25,526)		
Administrative	<u>(372)</u>		
		\$ (25,898)	
Fund Balance at 6/30/18		\$ 250,086	

Projected Future Impact Fees:

Type	Fee	# of Units	Total Revenue		
Residential (Units)	\$ 1,013	947	959,311		
Commercial / Industrial (Acres)	\$23,260	7.84	<u>182,358</u>	1,141,669	7/1/17 to 6/30/30
Projected Future Interest Earnings on Impact Fee Fund			<u>26,000</u>		7/1/17 to 6/30/30
Sum of Projected Revenues			<u>\$ 1,417,755</u>		

LIBRARY IMPACT FEE FUND

Purpose To Which Fee Is To Be Put:

Tier II Library

Relationship Between Fee and Construction of Improvements:

Ordinance 143 and the management services institute report, copies of which are on file in the office of the City Clerk, establishing development impact mitigation fees on all development within the City, did demonstrate and still do demonstrate a reasonable relationship between the fee and the purpose for which it is charged.

Sources and Amounts of Funding Anticipated To Complete Financing in Incomplete Improvements:Anticipated
Dates

Fund Balance at 6/30/17		\$ 240,953	
Impact Fees	\$ 47,539		
Interest	<u>2,874</u>		
Total Revenue		\$ 50,413	
Administrative	<u>\$ (408)</u>		
Total Expenses		<u>\$ (408)</u>	
Fund Balance at 6/30/18		\$ 240,953	

Projected Future Impact Fees:

Type	Fee	# of Units	Total Revenue		
R-R-2.5 Rural	\$ 1,165	11	12,815		
R-140-Estate	\$ 1,089	15	16,335		
R-1-10-Single Family - Det.	\$ 858	45	38,610		
R-M-6/R-M-8-Two Family	\$ 858	316	271,128		
R-H-Multiple Family	\$ 858	540	463,320		
Mobile Homes / 2nd Unit	\$ 745	20	<u>14,900</u>	817,108	7/1/17 to 6/30/30
Projected Future Interest Earnings on Impact Fee Fund				<u>19,500</u>	7/1/17 to 6/30/30
Sum of Projected Revenues				<u><u>\$1,077,561</u></u>	

City of Scotts Valley CITY COUNCIL STAFF REPORT

DATE: November 7, 2018

TO: Honorable Mayor and City Council

FROM: Wayne Bellville, Detective Sergeant

APPROVED: Jenny D. Haruyama, City Manager

SUBJECT: **SECOND READING AND APPROVAL OF ORDINANCE NO. 176.4
REPEALING AND REPLACING CHAPTER 5.10 (MASSAGE
ESTABLISHMENTS) OF THE SCOTTS VALLEY MUNICIPAL CODE**

SUMMARY OF ISSUES

On June 21, 2006, the City Council adopted an ordinance regulating massage establishments in the City of Scotts Valley. The ordinance required anyone operating a business which provides massages to customers to obtain a permit from the Chief of Police. On September 21, 2011, with the initial establishment of the California Massage Therapy Council ("CAMTC"), the City Council approved an amendment adding massage practitioners with a valid CAMTC certification as exempt from this municipal code. The City continued the practice of issuing massage practitioner permits to those who did not have state certification through the California Massage Therapy Council.

The California Massage Therapy Council was created by the California Legislature to implement a certification program for the massage therapy profession that will enable consumers to easily identify credible Certified Massage Therapists (CMTs), ensure that certified massage professionals have completed sufficient training at approved schools, and approve massage schools. CAMTC notifies law enforcement partners when a therapist's certification has been suspended or revoked. Additionally, law enforcement agencies can confirm status of CMTs through the CAMTC law enforcement portal. The standards set by the CAMTC meet and exceed requirements set forth in our current municipal code, and the agency is better suited to regulate the certification of massage practitioners on an on-going basis. The changes recommended will require massage establishment owners to provide a current list of all currently employed massage practitioners during their annual renewal of their establishment permit. Additionally, all practitioners will be required to provide proof of current CAMTC certification to the police department annually to obtain massage practitioner certificate from the police department.

In accordance with the stated purpose of the massage ordinance, the Chief of Police must have the ability to maintain the public health and welfare and prevent criminal behavior. Criminal activity and questionable practitioners hurt the massage therapy profession. Our current ordinance limits the manner in which the City and Chief of Police may address concerns. Notably, the current ordinance does not allow for the Chief of Police to deny an

establishment permit to a business that previously violated the City’s ordinance, nor does it allow for an establishment permit to be revoked if an employee of a business is found to have violated the ordinance.

In summary, changes to the municipal code include:

- 1) An updated list of definitions pertaining to Chapter 10 Section 5;
- 2) A requirement that all massage practitioners maintain certification through the California Massage Therapy Council;
- 3) All massage practitioners who are currently licensed by the City will be allowed to continue to renew their permits until June 30, 2021, at which time the City will no longer issue massage practitioner permits; all permits will be issued through the CMTC; and
- 4) An amendment to the criteria to suspend or revoke a massage establishment permit, which would allow the Chief of Police to determine if a massage business’ establishment permit should be suspended or revoked for criminal activity committed by an employee.

City staff actively engaged local massage establishments and practitioners registered in the City of Scotts Valley about the proposed ordinance changes. This was done in person and via letter (see attached). Based on feedback received from massage stakeholders, the timeframe in which practitioners had to renew their permits with the City was extended from June 30, 2020 to June 30, 2021.

The proposed changes are consistent with ordinances in other jurisdictions, such as San Mateo, Santa Cruz, and San Jose. It is important to note that these ordinances are used as a reference for best practices only; staff carefully reviewed and considered provisions that were applicable to and appropriate for Scotts Valley. The recommended changes in the attached ordinance are designed to enhance the City’s ability to maintain public health/welfare and prevent criminal behavior within a balanced regulatory framework.

The City Council approved the first reading and introduction of Ordinance No. 176.4 at their regular City Council meeting of October 17, 2018.

FISCAL IMPACT

None. There would be no change to the current fiscal impact from the current ordinance.

STAFF RECOMMENDATION

It is recommended that the City Council approve the second reading and adoption of Ordinance No. 176.4, repealing and replacing Chapter 5.10 (Massage Establishments) of the Scotts Valley Municipal Code.

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ORDINANCE NO. 176.4

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SCOTTS REPEALING AND REPLACING CHAPTER 5.10 OF TITLE 5 OF THE SCOTTS VALLEY MUNICIPAL CODE REGARDING MASSAGE ESTABLISHMENTS

**BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF SCOTTS VALLEY AS
FOLLOWS:**

SECTION 1. Chapter 5.10 (Massage Establishments) of Title 5 of the Scotts Valley Municipal Code is hereby repealed.

SECTION 2. New Chapter 5.10 of Title 5 of the Scotts Valley Municipal Code is hereby adopted, to read as follows:

“Chapter 5.10 - MASSAGE ESTABLISHMENTS

Section 5.10.010 Purpose

Section 5.10.020 Definitions

Section 5.10.030 Required Permits and Certificates

Section 5.10.040 Exemptions

Section 5.10.050 Filing Applications and Fees

Section 5.10.060 Term of Permit

Section 5.10.070 Issuance of Permits and Certificates

Section 5.10.080 Massage Establishment and Outcall Operating Requirements

Section 5.10.090 Application of Regulations to Existing Massage Establishments,
Outcall Services, and Massage Technicians

Section 5.10.100 Revocation or Suspension of Permits

Section 5.10.110 Right of Appeal

Section 5.10.120 Notifications

Section 5.10.130 Other Code Provisions

Section 5.10.140 Unlawful Business Practices May Be Enjoined – Remedies
Cumulative

Section 5.10.150 Administrative Fines

Section 5.10.160 Public Nuisance

5.10.010 - Purpose.

(a) In enacting this chapter, the City Council recognizes that commercial massage therapy is a professional pursuit which can offer the public valuable health and therapeutic services. The City Council further recognizes that, unless properly regulated, the practice of massage therapy and the operation of massage businesses may be associated with unlawful activity and pose a threat to the quality of life in the local community. Accordingly, it is the purpose and intent of this chapter to protect the public health, safety, and welfare by providing for the orderly regulation of businesses providing massage therapy services, discouraging prostitution and related illegal activities carried on under the guise of massage therapy, and establishing certain sanitation, health, and operational standards for massage businesses.

(b) It is the City Council's further purpose and intent to rely upon the uniform statewide regulations applicable to massage practitioners and establishments that were enacted by the state legislature in 2008 as Business and Professions Code Section 4600 et seq. by Senate Bill 731, and amended in 2011 by Assembly Bill 619 and in 2014 by Assembly Bill 1147 and in 2017 by Assembly Bill 2194, to restrict the commercial practice of massage in the city to those persons duly certified to practice by the California Massage Therapy Council and to provide for the registration and regulation of massage businesses for health and safety purposes to the extent allowed by law.

5.10.020 - Definitions.

For the purposes of this chapter, certain words and phrases used herein are defined as follows:

- A. As used in this chapter "massage" or "massaging" shall mean the application of a system of structured touch, pressure, movement, and holding to the soft tissues of the human body with the purpose of positively affecting the health and well-being of the client. The practice includes the external application of water, heat, cold, lubricants, salt scrubs, or other topical preparations, and the use of devices that mimic or enhance the actions of the hands. Massage does not include the prescription of legend drugs or controlled substances, the diagnosis of illness or disease, or any treatment for which a license to practice medicine, chiropractic, physical therapy, or podiatry is required. (2) "Massage" does not include touching that meets either of the following criteria: (A) It is done as part of movement education, energy balancing, or any other technique, profession, or modality in which any soft tissue manipulation is incidental to, and not the central aim of, the practice. (B) It is done while engaging in the practice of another somatic technique, profession, or modality with established standards and ethics in which a practitioner is qualified, provided that such services are not designated or implied to be massage or massage therapy.
- B. "Massage establishment" shall mean any business that offers massage therapy in exchange for compensation, whether at a fixed place of business or at a location designated by the customer or client through outcall massage services. Any business that offers any combination of massage therapy and bath facilities – including, but not limited to, showers, baths, wet and dry heat rooms, pools and hot tubs – shall be deemed a massage business under this chapter. The term "massage business" includes a certified massage practitioner who is the sole owner, operator and employee of a massage business operating as a sole proprietorship.
- C. "Out call massage service" shall mean any business where a function of such business is to engage in or carry on massage, not at a fixed location but at a location designated by the customer, massage therapist or other person.
- D. "Massage practitioner" means any person who administers massage to another person for any form of consideration.

- E. "Person" shall mean any individual, co-partnership, firm, association, joint stock company, corporation, or combination of individuals of whatever form or character.
- G. "Employee" shall mean any and all persons, other than the massage therapist, employed by the massage establishment who may render any service to the permittee, and who receives compensation from the establishment and who has no physical contact with customers and clients. The term "employee" shall include independent contractors who are regularly employed by the establishment and who work at the massage establishment.
- H. "Recognized school" shall mean any school or institution of learning which teaches the theory, ethics, practice, profession, and work of massage which furnishes the student with a diploma or certificate of graduation from such school or institution of learning following the successful completion of such course of study or learning, and which has been approved pursuant to the provisions of the California Education Code, or an existing school or institution of learning outside the State of California.

Schools offering a correspondence course not requiring attendance shall not be deemed a recognized school. The City shall have the right to confirm that the applicant has actually attended class in a recognized school.
- I. "Permittee" shall mean the operator of a massage establishment and out call massage service.
- J. "CAMTC" shall mean the California Massage Therapy Council, which was created by the California Legislature through the enactment of Senate Bill 731 and re-authorized by Assembly Bill 1147 and again in 2016 by Assembly Bill 2194.
- K. "Massage Establishment Permit" or "Permit" shall mean the permit required to operate a massage establishment.
- L. "Massage Practitioner Certificate" or "Certificate" shall mean the certificate provided to a massage practitioner after verification from the police department of a valid CAMTC certification."

5.10.030 - Required Permits and Certificates.

- A. **Massage Business Establishment Permit:** It shall be unlawful for any business to provide massage for compensation within the City of Scotts Valley unless all individuals employed by the massage business to perform massage, whether as employee, independent contractor, or sole proprietorship, are CAMTC certified massage practitioners and said business has obtained a valid Massage Establishment Permit as provided in this chapter.
- B. **Massage Practitioner Certificate:** It shall be unlawful for any individual to practice massage therapy for compensation as a sole proprietorship, independent contractor or employee of a massage business or in any other capacity within the City of Scotts Valley unless that individual has received a Massage

Practitioner Certificate from the Chief of Police and is a CAMTC certified massage practitioner or exempt therapist. However, all massage practitioners operating within the City of Scotts Valley who are non-CAMTC certified but have valid massage permits issued by the Chief of Police on the effective date of this Chapter shall have until June 30, 2021 to obtain a CAMTC certification and to apply for and obtain a Massage Practitioner Certificate under the terms of this chapter. Any such non-CAMTC certified massage therapists shall renew their massage permit issued by the Chief of Police by July 1, 2019 and July 1, 2020.

5.10.040 - Exemptions.

The provisions of this chapter shall not apply to the following classes of persons while engaged in the performance of the duties of their respective professions:

- A. Persons licensed to practice any healing art pursuant to Division 2 of the Business and Profession Code or the Chiropractic Act, including, but not limited to, physicians, surgeons, chiropractors, osteopaths, acupuncturists, or physical therapists who are duly licensed to practice their respective professions in the State of California and are acting within the scope of that license;
- B. Nurses registered under the laws of the State of California acting within the scope of that license;
- C. Persons licensed or certificated pursuant to Division 3, Chapter 10 of the Business and Professions Code, including, but not limited to, cosmetologists, barbers and estheticians who are duly licensed under the laws of the State of California and are acting within the scope of that license;
- D. Hospitals, nursing homes, sanitariums or other health care facilities duly licensed by the State of California acting within the scope of that license;
- E. Accredited high schools, junior colleges, and colleges or universities where coaches and trainers are acting within the scope of their employment;
- F. Trainers of amateur, semi-professional or professional athletes or athletic teams acting within the scope of their employment;

5.10.050 - Filing Applications and Fees.

- A. **Massage Establishment Permit:** Every applicant for a permit to maintain, operate, or conduct a massage establishment or out call massage service shall obtain a business license from the City Finance Director. After obtaining a business license from the City Finance Director, the applicant shall file a Massage Establishment Permit application with the Chief of Police upon a form provided by the City. The application for a Massage Establishment Permit shall include all of the following:
 - 1. Legal name of the massage business.
 - 2. Address and telephone number of the massage business.
 - 3. Legal names of all owners of the massage business.

4. A list of all of the massage business' employees and independent contractors who are performing massage and their CAMTC certification information.
 5. Residence address and telephone number of all owners of the massage business.
 6. Business address and telephone number of all owners of the massage business.
 7. The form of business under which the massage business will be operating (i.e., corporation, general or limited partnership, limited liability company, or other form).
 8. Each owner or operator of the massage business who is not a CAMTC certified massage practitioner shall submit an application for a background check, including the following: the individual's business, occupation, and employment history for the five years preceding the date of the application; the inclusive dates of such employment history; the name and address of any massage business or similar business owned or operated by the individual whether inside or outside the County of Santa Cruz and its incorporated cities; proof that the applicant(s) has submitted her/his fingerprints to the Department of Justice via LiveScan.
 9. For all owners, a valid and current driver's license and/or identification issued by a state or federal governmental agency or other photographic identification bearing a bona fide seal by a foreign government.
 10. For all owners, a signed statement that all of the information contained in the application is true and correct; that all owners shall be responsible for the conduct of the business' employees or independent contractors providing massage services; and acknowledging that failure to comply with the California Business and Professions Code Section 4600 et seq., and local, state, or federal law, or the provisions of this chapter may result in revocation of the business' city massage establishment registration certificate.
- B. Massage Practitioner Certificate: Massage Practitioner Certificate applications shall be submitted using forms provided by the Police Department and shall be accompanied by all of the following:
1. The applicant's full name, all other names the applicant uses or has used, the applicant's residential address, and residence telephone number;
 2. The name and address of the massage establishment where the applicant is to be employed and the name of the massage establishment owner;

3. The names and addresses of any and all previous establishments where the applicant has been employed as a massage professional for the past two years;
 4. CAMTC certification document;
 5. A statement signed by the owner or operator of a massage establishment indicating an intent to employ the applicant as a massage professional (unless the applicant is the massage establishment owner or operator).
- C. Fees: Any application for a City Massage Establishment Permit, or renewal thereof, shall be accompanied by a nonrefundable fee in the amount established by resolution of the City Council. The fee shall be used to defray the costs of the administration and enforcement of this chapter. The provisions of this section shall not prevent the City from establishing additional fees for safety inspections as may be conducted from time to time by the Chief of Police, and for the background checks, fingerprinting, and subsequent arrest notification for owners of a massage business who are not CAMTC certified and who are subject to such background checks pursuant to this chapter. There shall be no fee for the Massage Practitioner Certificate unless established by resolution of the City Council.

5.10.060 - Term of Permit.

All permits and certificates shall be issued on a fiscal year basis from the first day of July to the 30th day of the succeeding June, inclusive.

5.10.070 - Issuance of Permits and Certificates.

- A. Issuance: Upon provision by the massage business owner of the foregoing acceptable documentation to obtain a Massage Establishment Permit, or 2) the massage practitioner of the foregoing acceptable documentation to obtain a Massage Practitioner Certificate, the Chief of Police shall issue the appropriate permit or certificate, which shall be valid until the end of the current fiscal year. No reapplication for massage establishment permits will be accepted within one year after an application or renewal is denied or a permit is revoked. STANDARDS TO DENY, City massage establishment permits shall not be issued to a massage business seeking to operate at a particular location if:
1. Another massage business is or was operating at that particular location and that massage business is currently serving a suspension or revocation pursuant to Section 5.10.110, during the pendency of the suspension or one year following revocation;
 2. Another massage business is or was operating at that particular location and that massage business has received a notice of suspension, revocation, or fine issued pursuant to Sections 5.10.100 and 5.10.110, during the ten-day period following receipt of the notice or while any appeal of a suspension, revocation or fine is pending;

3. Another massage business is or was operating at that particular location and that massage business has outstanding fines issued pursuant to Section 5.10.100 that have not been paid;
 4. A massage business owner has previously failed to comply with the California Business and Professions Code Section 4600 et seq., and local, state, or federal law, or the provisions of this chapter and is seeking to open a massage business of a different name or at a different location within the City of Scotts Valley.
- B. Amendment: A massage business shall apply to the City to amend its City Massage Establishment Permit within thirty days after any change in the registration information, including, but not limited to, the hiring or termination of certified massage practitioners, the change of the business' address, or changes in the owner's addresses and/or telephone numbers.
- C. Renewal: Massage Establishment Permits and massage practitioner certificates shall be renewed annually on or before July 1st of each fiscal year. The permit and/or certificate will be valid for the fiscal year unless suspended or revoked. If an application of renewal has not been received by July 1st of each fiscal year, the permit or certificate shall be deemed suspended until such time as the renewal application has been received and approved. If a permit is suspended, neither the Massage Establishment nor the Massage Practitioner may perform massage within the City. If a renewal application and all required information for the renewal is not received within sixty (60) days after expiration, the permit or certificate shall be deemed expired and no privilege to provide massage shall exist.

Massage Establishment Permit renewal applications shall only require (1) filling out a Massage Establishment Permit application, (2) either (a) the applicant resubmitting her/his fingerprints to the Department of Justice via LiveScan or (b) by the applicant signing a waiver form with the City authorizing the Department of Justice to utilize the Subsequent Arrest Notification process, (3) submitting a list of all of the massage business' employees and independent contractors who are performing massage and their CAMTC certification information.

Massage Practitioner Certificate renewal applications shall only require (1) filling out the Massage practitioner certificate registration application, and (2) providing a current CAMTC certification document.

- D. Transfer: A City Massage Establishment Permit shall not be transferred except with the prior written approval of the Chief of Police. A written request for such transfer shall contain the same information for the new ownership as is required for applications for a Massage Establishment Permit. In the event of denial, notification of the denial and reasons therefor shall be provided in writing and shall be provided to the applicant by personal delivery or by registered or certified mail. A City Massage Establishment Permit may not be transferred during any period of suspension or one year following revocation pursuant to Section

5.10.110, during the ten-day period following a massage business's receipt of a notice of suspension, revocation or fine issued pursuant to Sections 5.10.100 or while any appeal of a suspension, revocation or fine is pending. Further, a City Massage Establishment Permit may not be transferred until all outstanding fines issued pursuant to Section 5.10.100 have been paid.

5.10.080 - Massage Establishment and Outcall Operating Requirements.

- A. It is unlawful for any owner, manager, operator, responsible managing officer/employee, or permittee to employ or permit a person to act as a massage practitioner who is not in possession of a valid, unrevoked Massage Practitioner Certificate issued pursuant to this chapter.
- B. It is unlawful for any person to engage in the business of massage or act as a massage practitioner and provide any type of massage service without having a valid permit massage practitioner certificate issued by the Chief of Police for the purposes of providing massages.
- C. It shall be unlawful for any owner, proprietor, manager, or other person in charge of any massage establishment or out call massage service to employ any person who is under eighteen (18) years of age.
- D. Every person to whom or for whom a permit shall have been granted shall display such permit and a valid business license in a conspicuous place within the massage establishment so that the permit may be readily seen by persons entering the premises. Persons engaged in an out call massage service shall have their permit available for inspection at all times while providing out call massage services.

5.10.090 - Application of Regulations to Existing Massage Establishments, Outcall Services, and Massage Technicians.

The provisions of this chapter shall be applicable to all persons and businesses whether the business was established before or after the effective date of the ordinance codified in this chapter, except that massage establishments or outcall services legally in business prior to the effective date shall have ninety (90) days to file for a massage permit and to comply with the provisions of this chapter. Massage practitioners who have valid massage permits from the City shall have until June 30, 2021 to obtain a CAMTC certification and to apply for and obtain a Massage Practitioner Certificate under the terms of this chapter. Any such non-CAMTC certified massage therapists shall renew their massage permit issued by the Chief of Police by July 1, 2019 and July 1, 2020.

5.10.100 - Revocation or Suspension of Permits.

The Chief of Police shall revoke or suspend any permit issued pursuant to the provisions of this chapter if s/he finds:

- A. That the permittee, or his employees, agents, or any person connected or associated with the permittee as a partner, director, officer, stockholder, or manager, has been convicted in a court of competent jurisdiction by final judgment within the last ten (10) years of an offense involving lewd conduct.

- B. That the permittee has violated any provision of this chapter or is in violation of any general or special condition of the permit;
- C. That the permittee has had a similar type permit previously revoked for good cause and has not shown a material change in circumstances since the date of such revocation.
- D. An owner or sole proprietor fails to register under the provisions of California Penal Code Section 290 (sex offender registration); is convicted of California Penal Code Sections 266i (pandering), 315 (keeping or residing in a house of ill fame), 316 (keeping disorderly house), 318 (prevailing upon person to visit a place for prostitution), 647(b) (engaging in or soliciting prostitution), 653.22 (loitering with intent to commit prostitution), 653.23 (supervision of prostitute); has a business permit or license denied, revoked, restricted, or suspended by any agency, board, city, county, territory, or state; is subject to an injunction for nuisance pursuant to California Penal Code Sections 11225 through 11235 (red light abatement); is convicted of a felony offense involving the sale of a controlled substance; is convicted of any crime involving dishonesty, fraud, deceit, violence, or moral turpitude; or is convicted in any other state of an offense which, if committed in this state, would have been punishable as one or more referenced offenses in this subsection.
- E. Violations of any of the following occurred on the premises of a massage business or were committed by a massage practitioner: California Business and Professions Code Section 4600 et seq.; any local, state, or federal law; or the provisions of this chapter.

Prior to revoking or suspending the permit, the Chief of Police shall give not less than five (5) days written notice to the permittee to show cause, at a time and place set by the notice, why the permit should not be revoked. At the hearing, the permittee shall appear and submit evidence why the permit should not be revoked. Within ten (10) days after the hearing, the Chief of Police shall make a written determination as to whether the permit should be revoked, and the decision shall be mailed to the permittee. If a permit has been revoked, the permittee shall not reapply for one year.

5.10.110 - Right of Appeal.

The permittee may appeal any of the matters set forth in Section 5.10.110 in writing to the City Council within ten (10) days of receipt of the Chief of Police's written decision. The City Council shall immediately schedule the matter for hearing, and cause written notice of the hearing to be given to the applicant or permittee not less than five (5) days prior to the hearing. At the hearing, the permittee shall appear and offer evidence why the decision of the Chief of Police should be overturned. Within ten (10) days after the hearing, the City Council shall make a written determination, and the decision shall be mailed to the permittee. The decision of the City Council shall be final.

5.10.120 - Notifications.

- (a) A massage business shall notify the Chief of Police of any changes described in Section 5.10.050 pursuant to the timelines specified therein.
- (b) A registrant shall report to the Chief of Police any of the following within ninety-six (96) hours of the occurrence:
 - (1) Arrests of any employees or owners of the registrant's massage business for an offense other than a misdemeanor traffic offense;
 - (2) Resignations, terminations, or transfers of practitioners employed by the registrant's massage business;
 - (3) Any event involving the registrant's massage business or the massage practitioners employed therein that constitutes a violation of this chapter or state or federal law.
- (c) This provision requires reporting to the Chief of Police even if the massage business believes that the Chief of Police has or will receive the information from another source.

5.10.130 - Other Code Provisions.

The provisions of this chapter shall be in addition to all other regulations, laws, requirements, and fees set forth in this Code.

5.10.140 Unlawful Business Practices May Be Enjoined – Remedies Cumulative.

Any massage business operated, conducted or maintained contrary to the provisions of this chapter shall constitute an unlawful business practice pursuant to Business and Professions Code Section 17200 et seq., and the city attorney or district attorney may, in the exercise of discretion, in addition to or in lieu of taking any other action permitted by this chapter, commence an action or actions, proceeding or proceedings in the superior court of Santa Cruz County, seeking an injunction prohibiting the unlawful business practice and/or any other remedy available at law, including but not limited to fines, attorneys' fees and costs. All remedies provided for in this chapter are cumulative.

5.10.150 Administrative Fines.

- (a) Violations. Upon a finding by the Police Chief that a business or person has violated any provision of this chapter, the Police Chief may issue an administrative fine of up to five hundred dollars (\$500.00).
- (b) Separate Violations. Each violation of any provision of this chapter shall constitute a separate violation. Each client to whom massage is provided or offered in violation of this chapter shall also constitute a separate violation. Each day upon which a massage business remains open for business in violation of this chapter shall also constitute a separate violation.

(c) Fine Procedures. Notice of the fine shall be served in accordance with Chapter 4.03 of the Scotts Valley Municipal Code.

5.10.160 Public Nuisance.

It shall be unlawful and a public nuisance for a massage business to be operated, conducted, or maintained contrary to the provisions of this chapter or for a person to conduct massage in violation of the terms of this chapter. The City may exercise its discretion, in addition to or in lieu of imposing an administrative fine, to commence proceedings for the abatement, removal, and enjoinder of that business in any manner provided by law.”

SECTION 3. SEVERABILITY. If any section, subsection, sentence, clause, phrase or portion of this Ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction such portion shall be deemed a separate, distinct and independent provision of such Ordinance and shall not affect the validity of the remaining portions thereof.

SECTION 4. REPEALS CONFLICTING ORDINANCES. All other ordinances of the City of Scotts Valley or provisions of the Scotts Valley Municipal Code which are in conflict with this Ordinance are hereby repealed to the extent of such conflict.

SECTION 5. CEQA COMPLIANCE. The City Council finds and determines that the enactment of this Ordinance is not a “project” as that term is used in the California Environmental Quality Act (“CEQA,” Cal. Pub. Resources Code Section 21000 et seq.) or the State CEQA Guidelines (Cal. Code of Regs., Title 14, Section 15000 et seq.). Therefore, no environmental assessment is required or necessary.

SECTION 6. EFFECTIVE DATE. This Ordinance shall take effect thirty (30) days after the date of its adoption. Prior to the expiration of fifteen (15) days from the date of adoption, this Ordinance shall be published in at least three (3) public places.

* * * * *

This Ordinance was introduced on the 17th day of October, 2018, and passed and adopted by the City Council of the City of Scotts Valley on the 7th day of November, 2018, by the following votes:

AYES:

NOES:

ABSENT:

ABSTAIN:

APPROVED: _____
Jim Reed, Mayor

ATTEST:

Tracy A. Ferrara, City Clerk

APPROVED AS TO FORM:

Kirsten Powell, City Attorney

.....

City of Scotts Valley CITY COUNCIL STAFF REPORT

DATE: November 7, 2018

TO: Honorable Mayor and City Council

FROM: Jessica Kahn, Civil Engineer

APPROVED: Jenny Haruyama, City Manager

SUBJECT: BICYCLE ROUTE SIGNAGE MEMORANDUM OF UNDERSTANDING (MOU) BETWEEN THE CITY AND THE SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION (RTC)

SUMMARY OF ISSUE

The Santa Cruz County Regional Transportation Commission (RTC) developed and adopted the Santa Cruz County Bicycle Route Signage Program 2015 Implementation Plan which identified preferred routes to direct cyclists onto using a wayfinding signage system. These preferred routes were identified with stakeholder and City input and were selected based on a number of factors including connections to key destinations and most direct routes. The final set of routes cross all the jurisdictions in the County of Santa Cruz including some roadways within the City of Scotts Valley.

The RTC has been awarded an Active Transportation Program grant from the California Transportation Commission (CTC) to install wayfinding signs consistent with the 2015 Implementation Plan, collect bicycle count data, and conduct public outreach. RTC staff collaborated with City staff to finalize the plans for construction, obtain an encroachment permit, and prepare bid documents. The project is expected to begin construction in early 2019.

The grant agreement between the RTC and the State of California requires that the RTC maintain ownership of the signs within the City's right of way and establish an agreement with the City for maintenance responsibilities. The attached memorandum of understanding (MOU) details the installation, maintenance, and reporting requirements for the new signage.

FISCAL IMPACT

Plan development and initial installation costs will be incurred by the RTC. Maintenance and replacement costs for the 14 signs located in the City limits is approximately \$200 per year and will be incorporated into the existing sign maintenance schedule.

STAFF RECOMMENDATION

It is recommended that the Council approve the attached Bicycle Route Signage Memorandum of Understanding (MOU) between the City of Scotts Valley and the SCCRTC and authorize the City Manager to execute the agreement.

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MEMORANDUM OF UNDERSTANDING BICYCLE ROUTE SIGNAGE

This Memorandum of Understanding ("MOU") is entered into between the Santa Cruz County Regional Transportation Commission ("SCCRTC") and the City of Scotts Valley (the "City") (collectively the "Parties") this 7th day of November, 2018.

RECITALS

WHEREAS, the SCCRTC has developed the Santa Cruz County Bicycle Route Signage Program (SCC Bicycle Route Signage Program) to direct bicyclists to preferred bicycle routes which link common origins and destinations throughout Santa Cruz County.

WHEREAS, directing cyclists to preferred routes will increase traffic safety for all street users and will encourage cycling in Santa Cruz County.

WHEREAS, the SCCRTC has also developed the SCC Bicycle Route Signage Program - 2015 Implementation Plan ("2015 Implementation Plan") which sets up the methodology for selecting routes, lists Phase I bicycle routes, defines standard signs, establishes sign design guidelines, and describes scenarios for project delivery.

WHEREAS, the SCCRTC has received Active Transportation Program grant funds for Phase 1 of the Bicycle Route Signage Program, which includes installation of signs at over 300 locations throughout the County by 2021. Additionally, gaps in the Pacific Coast Route signage will be identified and addressed. Future phases of the Bicycle Route Signage Program are expected to be implemented over time as funding and resources become available. As a condition of grant funding, the SCCRTC has entered into a Master Agreement with Caltrans ("MA"), the terms and conditions of which are incorporated herein by this reference.

WHEREAS, the 2015 Implementation Plan states that "the SCCRTC will work closely with all local jurisdictions through which routes will traverse (the Cities of Watsonville, Scotts Valley, Capitola, and Santa Cruz, the County of Santa Cruz, and Caltrans for state highway facilities) to deliver the SCC Bicycle Route Signage Program."

WHEREAS, the 2015 Implementation Plan further states that "Local jurisdictions will be responsible for sign maintenance, including manufacture of replacement signs, installation, and all associated costs. In preliminary discussions with local jurisdictions in Santa Cruz County, sign maintenance costs are estimated between \$2,000 and \$4,000 annually per local jurisdiction, depending on the number of signs installed. If funding is identified, the RTC will strive to cover on-going sign replacement as possible."

WHEREAS, the RTC has obtained or will obtain encroachment permits for signage to be installed within each local jurisdiction's respective rights-of-way.

WHEREAS, this MOU outlines the general cooperation and funding framework relating to the implementation of Phase 1 of the Bicycle Route Signage Program pursuant to the 2015 Implementation Plan and terms and conditions of the MA.

WHEREAS, this MOU does not constitute a "Project" subject to the California Environmental Quality Act ("CEQA").

NOW, THEREFORE, the Parties hereby agree as follows:

1. SCCRTC shall be responsible to install and pay for all installation costs of the signs within the City in accordance with the MA, and shall retain ownership of the signs, also in accordance with the MA.
2. The City shall provide maintenance services for the signs installed in the City by the SCCRTC pursuant to this MOU for the useful life of each sign, and shall cover all costs of those services. Maintenance services shall include manufacture of replacement signs, installation, and all associated costs. Notwithstanding the City's obligations hereunder, if eligible grant funding is identified, the SCCRTC will strive to reimburse City for maintenance and/ or sign replacement costs, at the SCCRTC's sole reasonable discretion.
3. The City shall notify the SCCRTC on a yearly basis of all sign repairs or replacements completed during the preceding quarter, if any.
4. Each Party ("Indemnitor") shall defend and indemnify the other Party, its governing board, officers, employees and agents ("Indemnitees") from and against any claims or liability to the extent arising from its misconduct or active or passive negligence in the performance of its obligations under this MOU.
5. This MOU will be effective when signed by the officials listed below. Amendments may be made upon mutual agreement, in writing, of the Parties.

SIGNED:

City of Scotts Valley

By: _____
Jenny Haruyama, City Manager Date

Santa Cruz County Regional Transportation Commission

By: _____
Title: _____ Date
Name: _____

Project Name:
Countywide Bicycle Route
Signage Project

Santa Cruz County
Regional Transportation Commission
1523 Pacific Ave
Santa Cruz, CA 95060



Registered Civil Engineer

10/19/18

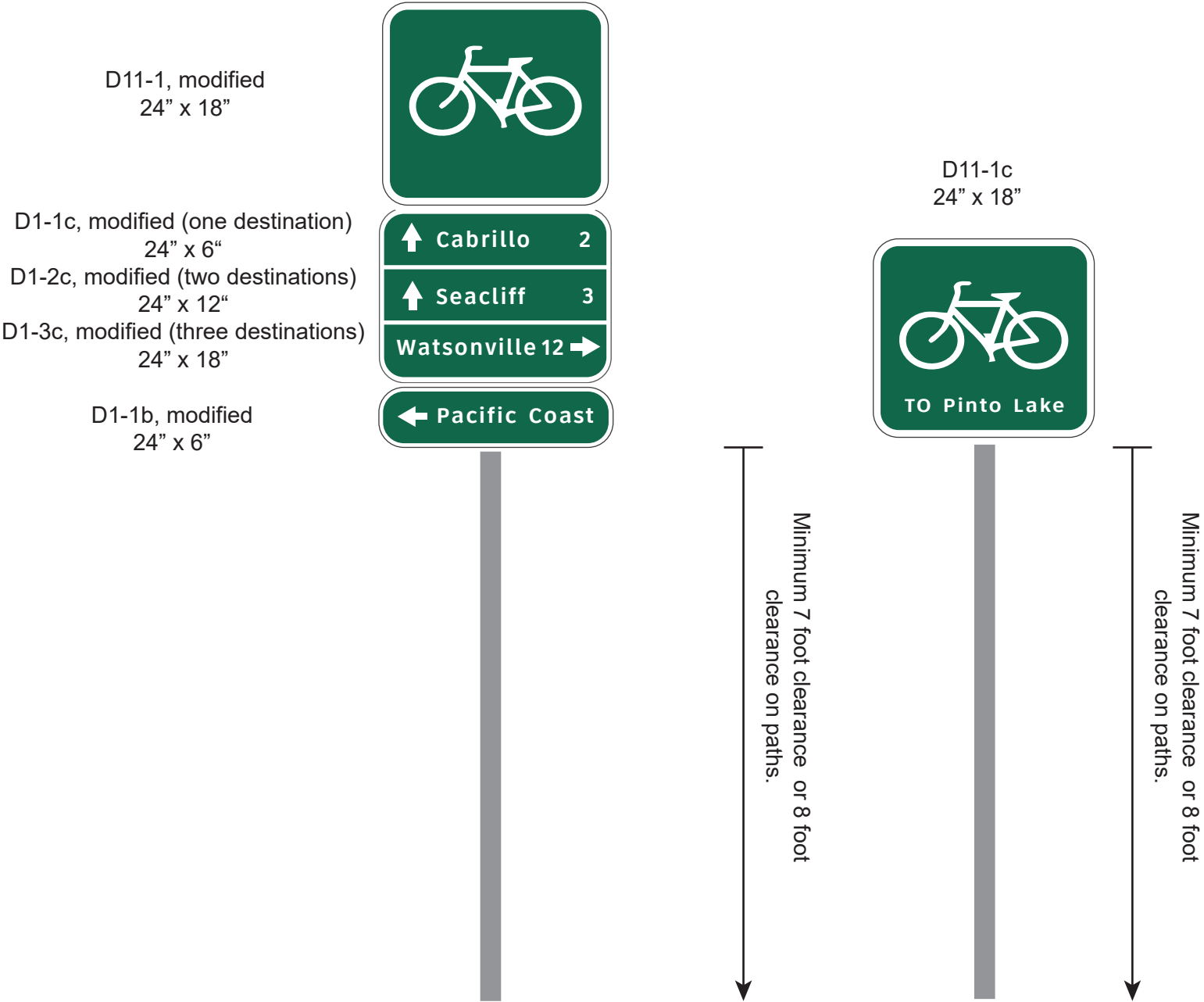
Date



Sheet 1/16
District 05
County SCr
Jurisdiction City of Scotts Valley

Destination Sign

Confirmation Sign



Notes:

1. Exact location and position of signs shall be determined by the engineer.
2. Signs will be embossed with "Property of the Santa Cruz County Regional Transportation Commission".
3. For details not shown refer to Caltrans 2015 Standard Plans and Specifications.
4. Utility locations shall be verified by the contractor prior to construction. Call "Underground Service Alert" (USA) at 800-642-2444 at least 48 hours before digging.
5. It shall be the contractor's responsibility to identify, locate, and protect all underground and overhead utilities. The contractor shall notify the engineer and utility owner for any utility obstruction during construction.

Key:

Route: State Route, if applicable
Post Mile: The nearest post mile of the relevant State Route.
Sign ID: The unique ID assigned by the SCCRTC.
Lat: latitude coordinate
Long: longitude coordinate
Description of Sign Location: This is a general description of the location.
Direction of Travel: This is the direction of travel for the adjacent travel lane.
Sign Post: Indicates whether a new, existing, or existing pole with an extension should be used for installation. (An existing pole requiring an extension will simply read "extension.") If this field states that a pole extension or existing post should be used it will also include a description of the existing signage on the post, such as "no parking sign."
Installation Notes: These are notes specific to where each sign should be installed.
Sign Type/Code: Describes the MUTCD sign design to be used in the sign stack. Note that all sign designs are slight modifications from the MUTCD except for those in the Caltrans ROW.

Directional Sign Panel: Includes the information that should be printed on panels of the D1-1c, D1-2c, or D1-3c types.

Line 1: Shows the arrow direction, text and miles that would be displayed on the first line of the sign panel.
Line 2: Shows the arrow direction, text and miles that would be displayed on the second line of the sign panel.
Line 3: Shows the arrow direction, text and miles that would be displayed on the third line of the sign panel.
N/A: if N/A is displayed it means this sign panel option is not chosen. For example if there is information for Lines 1 and 2, but Line 3 indicates "N/A" the directional sign panel is a D1-2c sign panel. This information is also indicated by the Sign Type/Code field.

Confirmation Sign Panel: Includes the information that should be printed on panels of the D11-1c type. Confirmation sign panels do not include arrows or mileage and therefore will only show information for text. "N/A" indicates this sign panel option is not used.

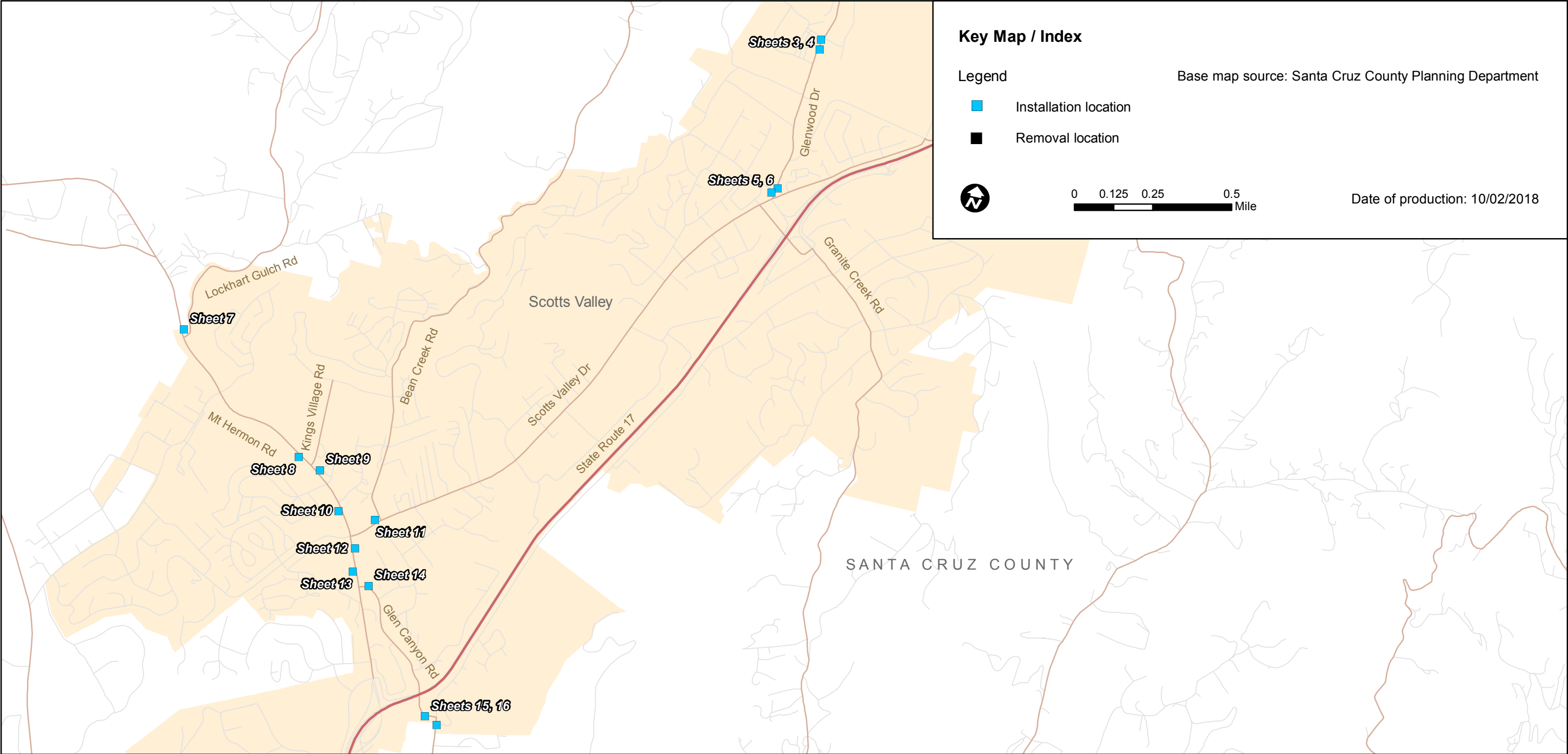
Pacific Coast Route Sign Panel: Indicates whether a Pacific Coast Route sign panel is needed and the direction of the arrow. "N/A" indicates this sign panel option is not used.

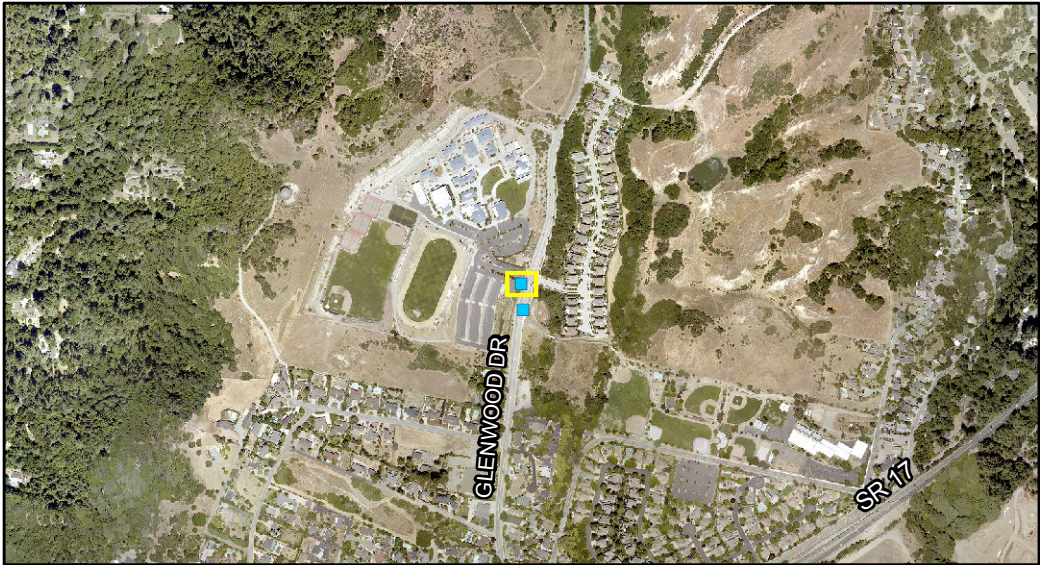
Countywide Bicycle Route
Signage Project

Santa Cruz County
Regional Transportation Commission
1523 Pacific Ave
Santa Cruz, CA 95060

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Jurisdiction
City of Scotts Valley





Countywide Bicycle Route
Signage Project

Santa Cruz County
Regional Transportation Commission
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Santa Cruz, CA 95060

Date of production: 10/08/2018

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Sign ID 0144

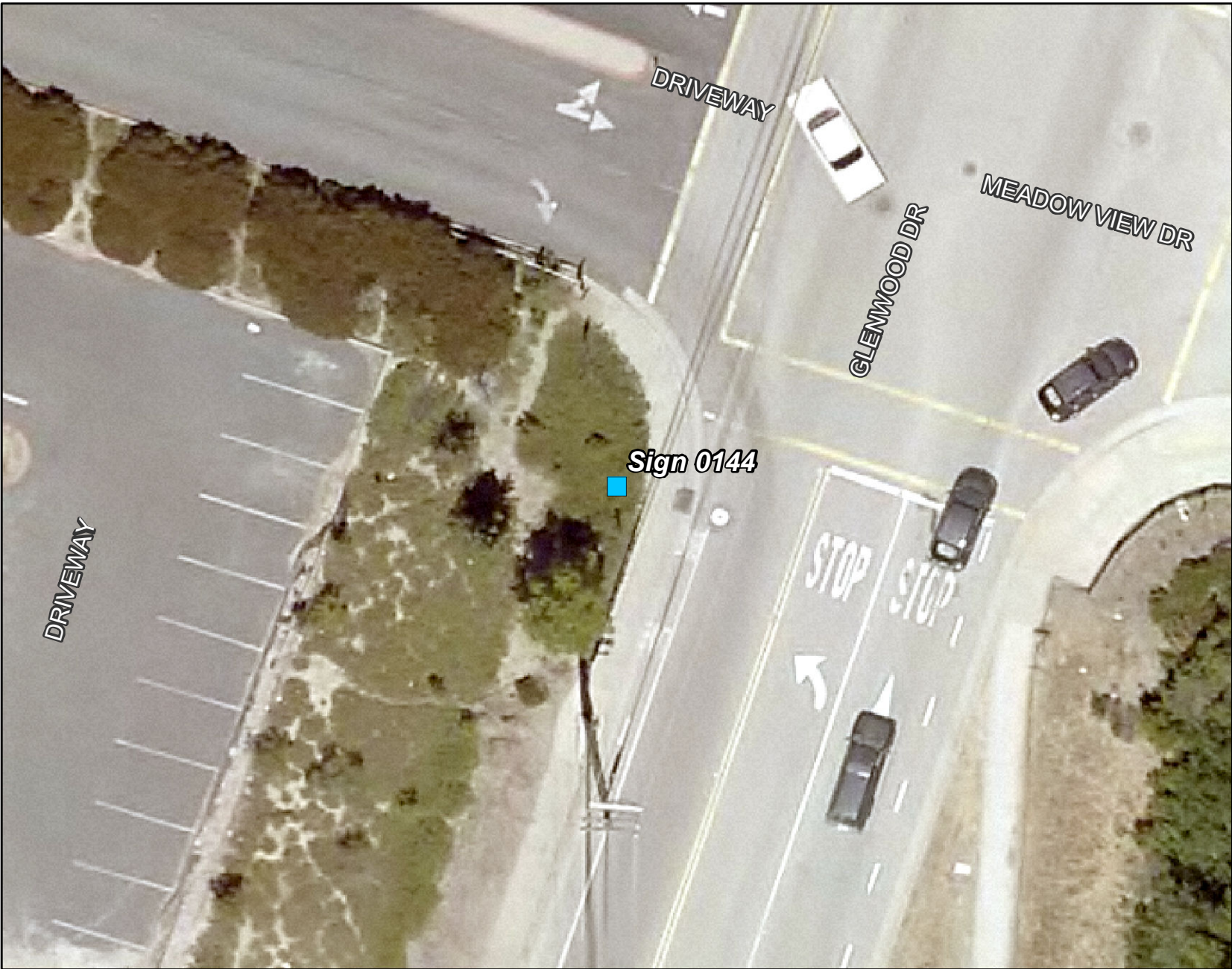
Latitude 37.070391

Longitude -122.005092

Description of
Sign Location Glenwood Drive at Scotts Valley High

Direction
of Travel Southbound

Jurisdiction
City of Scotts Valley



Sign Post Existing: Parking sign wood post

Installation
Notes Add to existing No Parking post

Sign Type/
Code D11-1 mod + D1-3c mod

	Arrow Direction	Text	Miles
Directional Sign Panel			
Line 1	Straight	Transit Center	2.8
Line 2	Straight	Felton	6
Line 3	Straight	Santa Cruz	7
Confirmation Sign Panel		N/A	
Pacific Coast Route Sign Panel	N/A	N/A	

NOTE: FOR DETAILS NOT SHOWN REFER TO CALTRANS 2015 STANDARD PLANS AND SPECIFICATIONS.

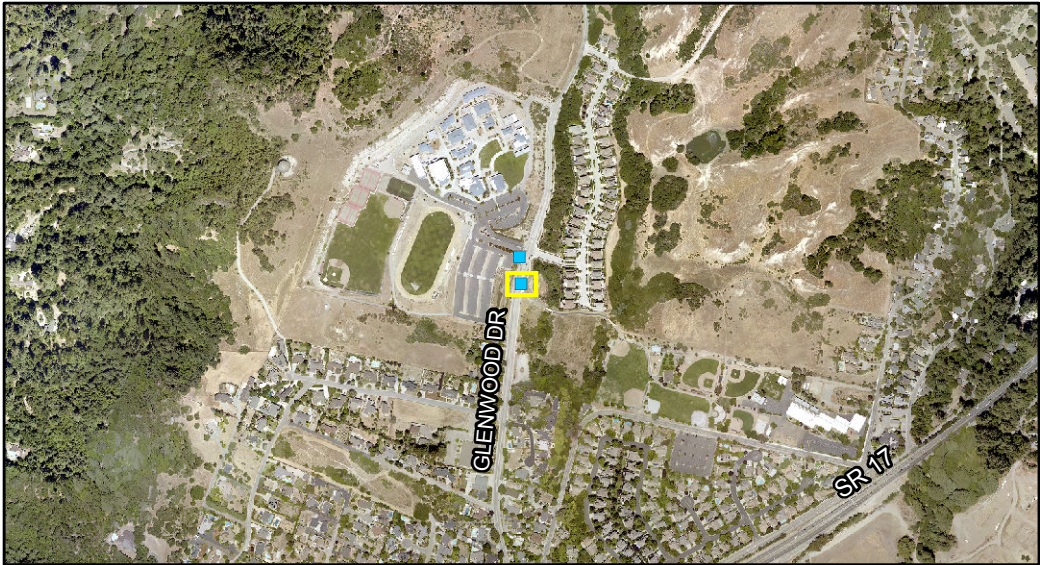
Legend

- Installation location / Removal location
- Other installation or removal in jurisdiction City of Scotts Valley
- Other installation or removal in different jurisdiction



0 10 20 40
Feet

Scale: 1" = 20'



Countywide Bicycle Route
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Santa Cruz, CA 95060

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Sign ID 0181

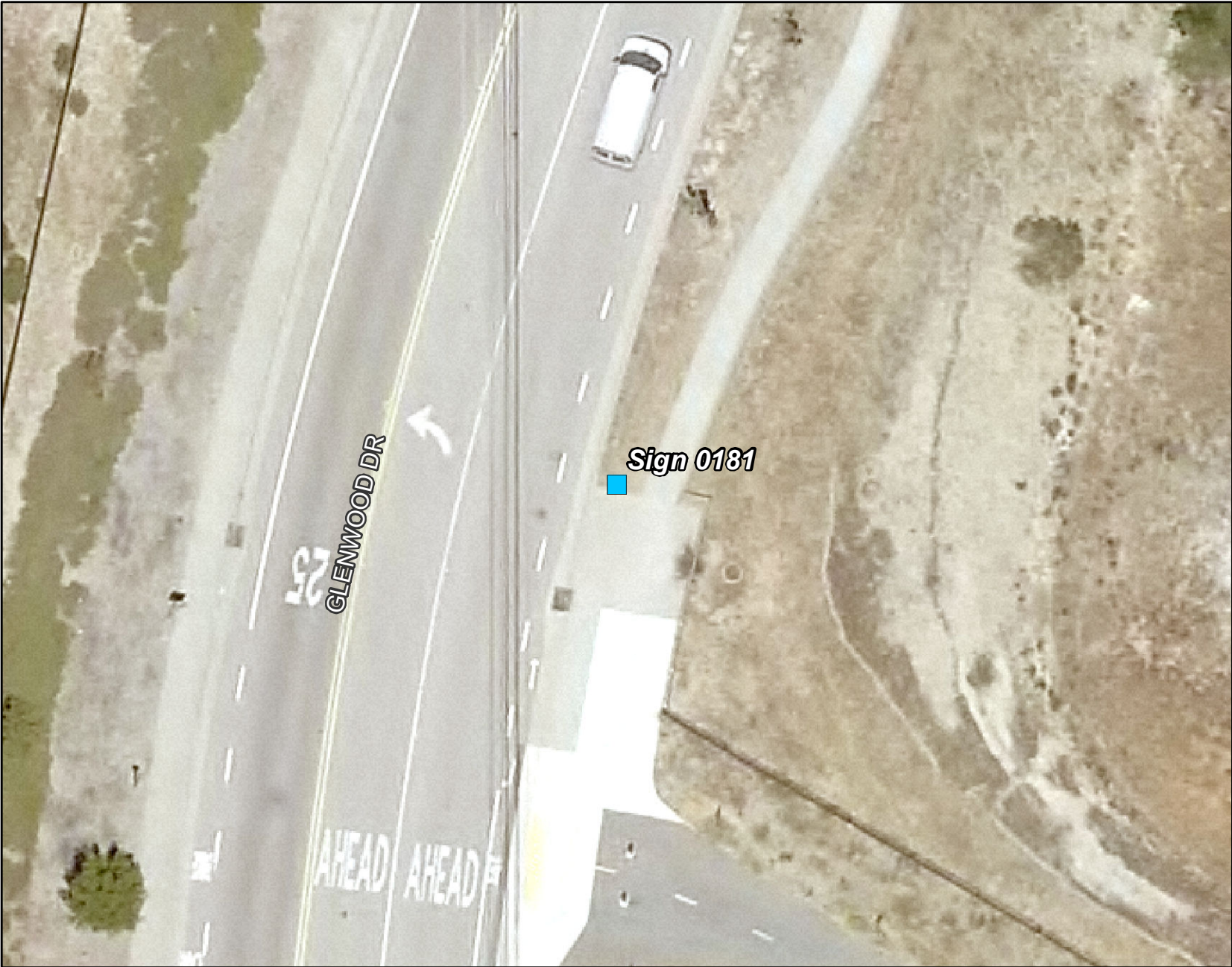
Latitude 37.06995

Longitude -122.005046

Description of
Sign Location Glenwood Dr south of SVHS

Direction
of Travel Northbound

Jurisdiction
City of Scotts Valley



Sign Post New

Installation
Notes Install in dirt between sidewalk and curb, just north of concrete pad

Sign Type/
Code D11-1 mod + D1-1c mod

	Arrow Direction	Text	Miles
Directional Sign Panel			
Line 1	Left	SV High	
Line 2		N/A	
Line 3	N/A	N/A	
Confirmation Sign Panel		N/A	
Pacific Coast Route Sign Panel	N/A	N/A	

NOTE: FOR DETAILS NOT SHOWN REFER TO CALTRANS 2015 STANDARD PLANS AND SPECIFICATIONS.

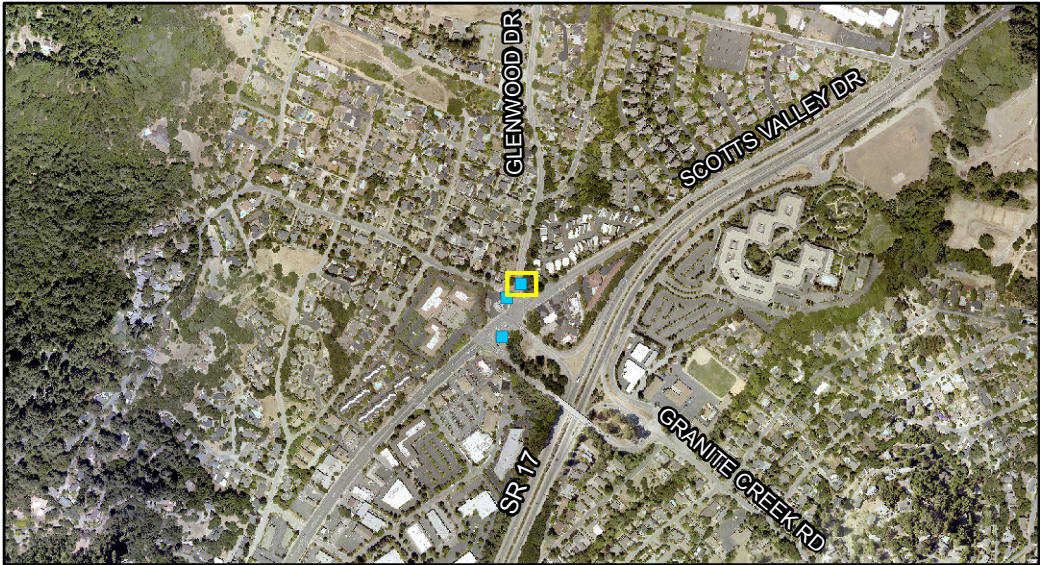
Legend

	Installation location	/		Removal location
	Other installation or removal in jurisdiction City of Scotts Valley			
	Other installation or removal in different jurisdiction			



0 10 20 40
Feet

Scale: 1" = 20'



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Signage Project

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Santa Cruz, CA 95060

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Jurisdiction
City of Scotts Valley

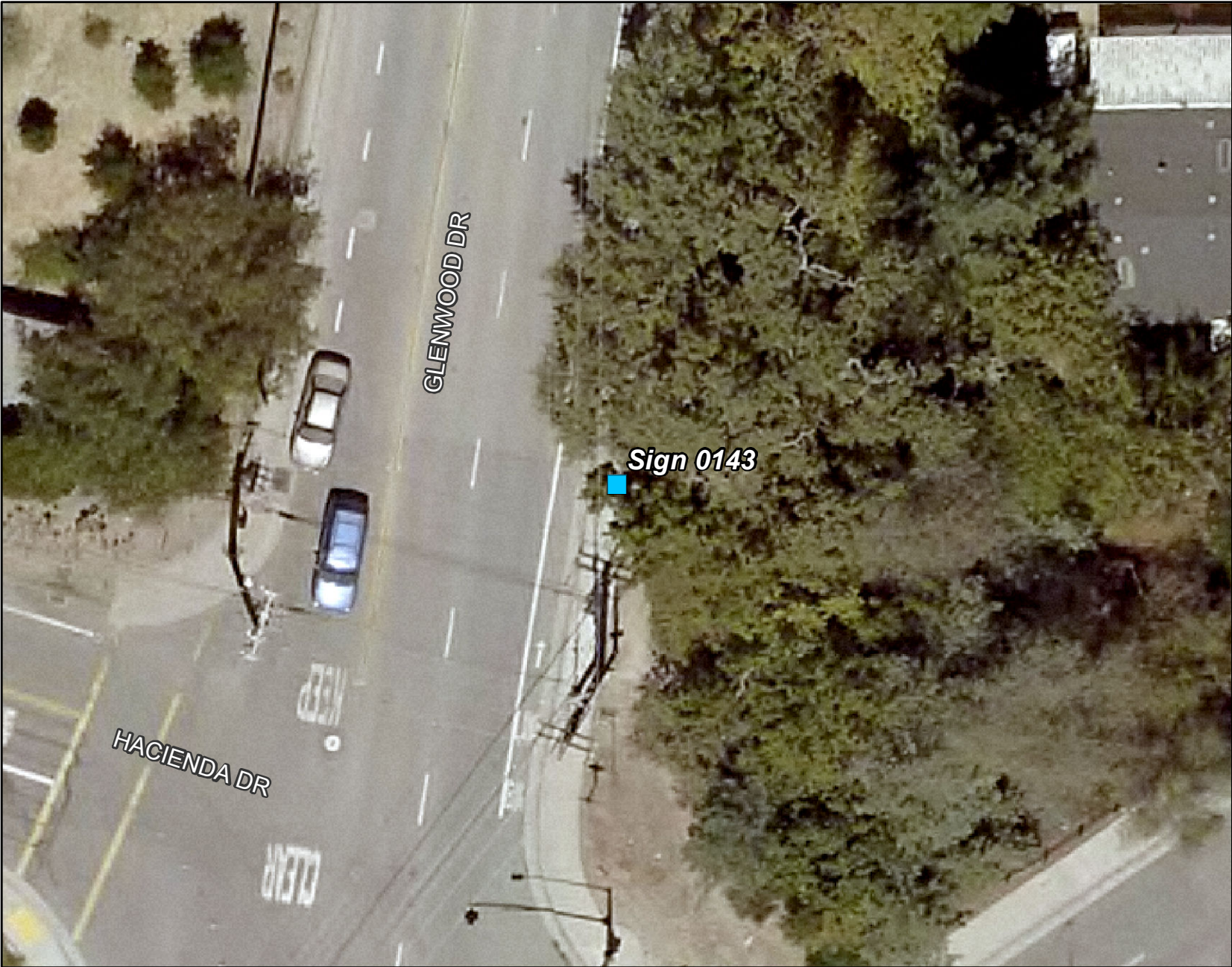
Sign ID 0143

Latitude 37.063246

Longitude -122.005607

Description of
Sign Location Glenwood Drive north of Scotts Valley Drive

Direction
of Travel Northbound



Sign Post Existing: Parking sign square metal post

Installation
Notes Add to existing No Parking post

Sign Type/
Code D11-1c

	Arrow Direction	Text	Miles
Directional Sign Panel			
Line 1	N/A	N/A	
Line 2	N/A	N/A	
Line 3	N/A	N/A	
Confirmation Sign Panel		TO SV High	
Pacific Coast Route Sign Panel	N/A	N/A	

NOTE: FOR DETAILS NOT SHOWN REFER TO CALTRANS 2015 STANDARD PLANS AND SPECIFICATIONS.

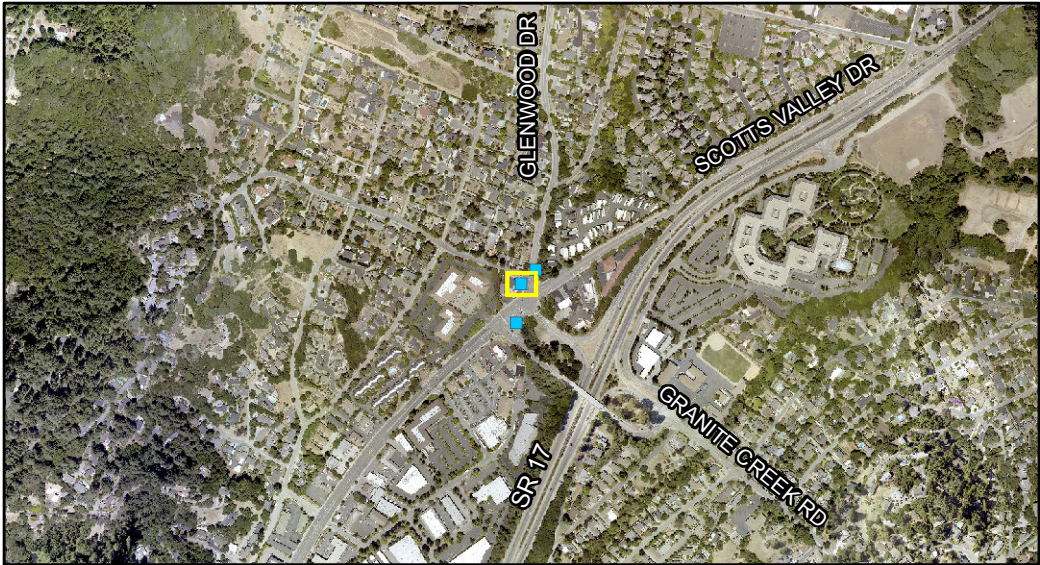
Legend

- Installation location / Removal location
- Other installation or removal in jurisdiction City of Scotts Valley
- Other installation or removal in different jurisdiction



0 10 20 40
Feet

Scale: 1" = 20'



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Sign ID 0145

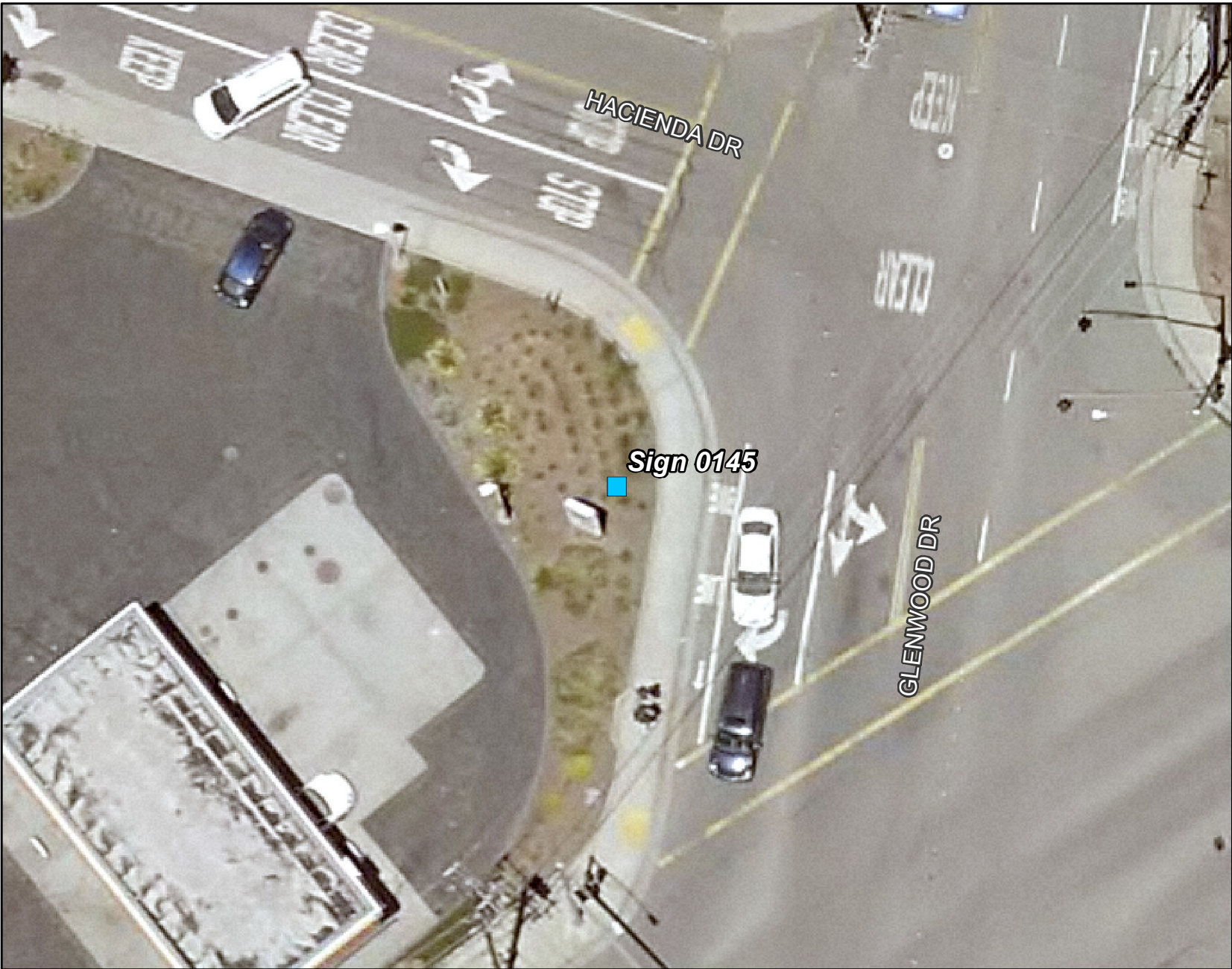
Latitude 37.063014

Longitude -122.005896

Description of
Sign Location Glenwood Dr north of Scotts Valley Dr

Direction
of Travel Southbound

Jurisdiction
City of Scotts Valley



Sign Post New

Installation
Notes Install post on back side of sidewalk in landscaping 25 ft north of traffic signal

Sign Type/
Code D11-1 mod + D1-3c mod

	Arrow Direction	Text	Miles
Directional Sign Panel			
Line 1	Right	Transit Center	2.3
Line 2	Right	Felton	5
Line 3	Right	Santa Cruz	6
Confirmation Sign Panel		N/A	
Pacific Coast Route Sign Panel	N/A	N/A	

NOTE: FOR DETAILS NOT SHOWN REFER TO CALTRANS 2015 STANDARD PLANS AND SPECIFICATIONS.

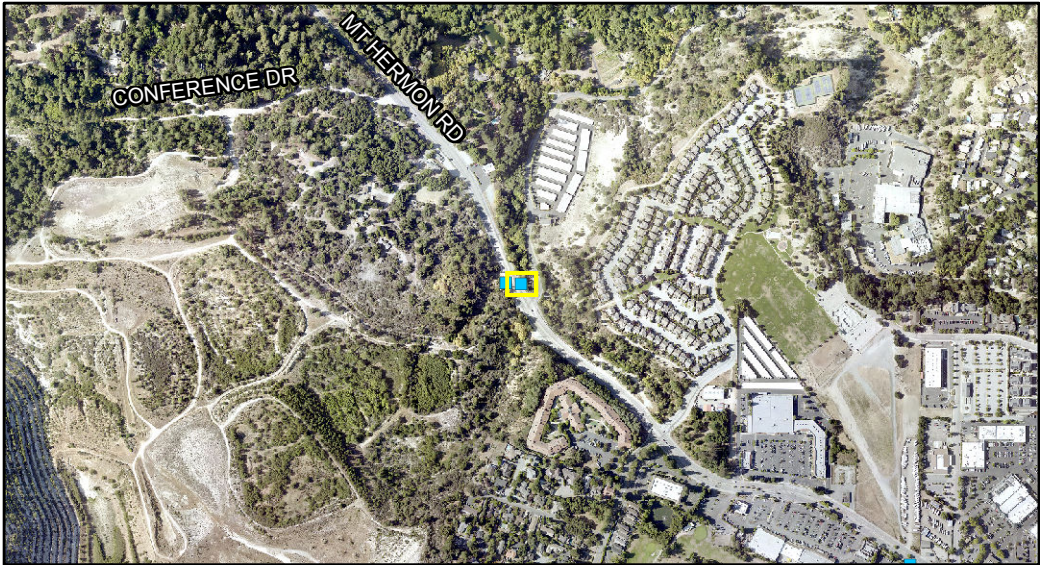
Legend

	Installation location	/		Removal location
	Other installation or removal in jurisdiction City of Scotts Valley			
	Other installation or removal in different jurisdiction			



0 10 20 40
Feet

Scale: 1" = 20'



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Jurisdiction
City of Scotts Valley

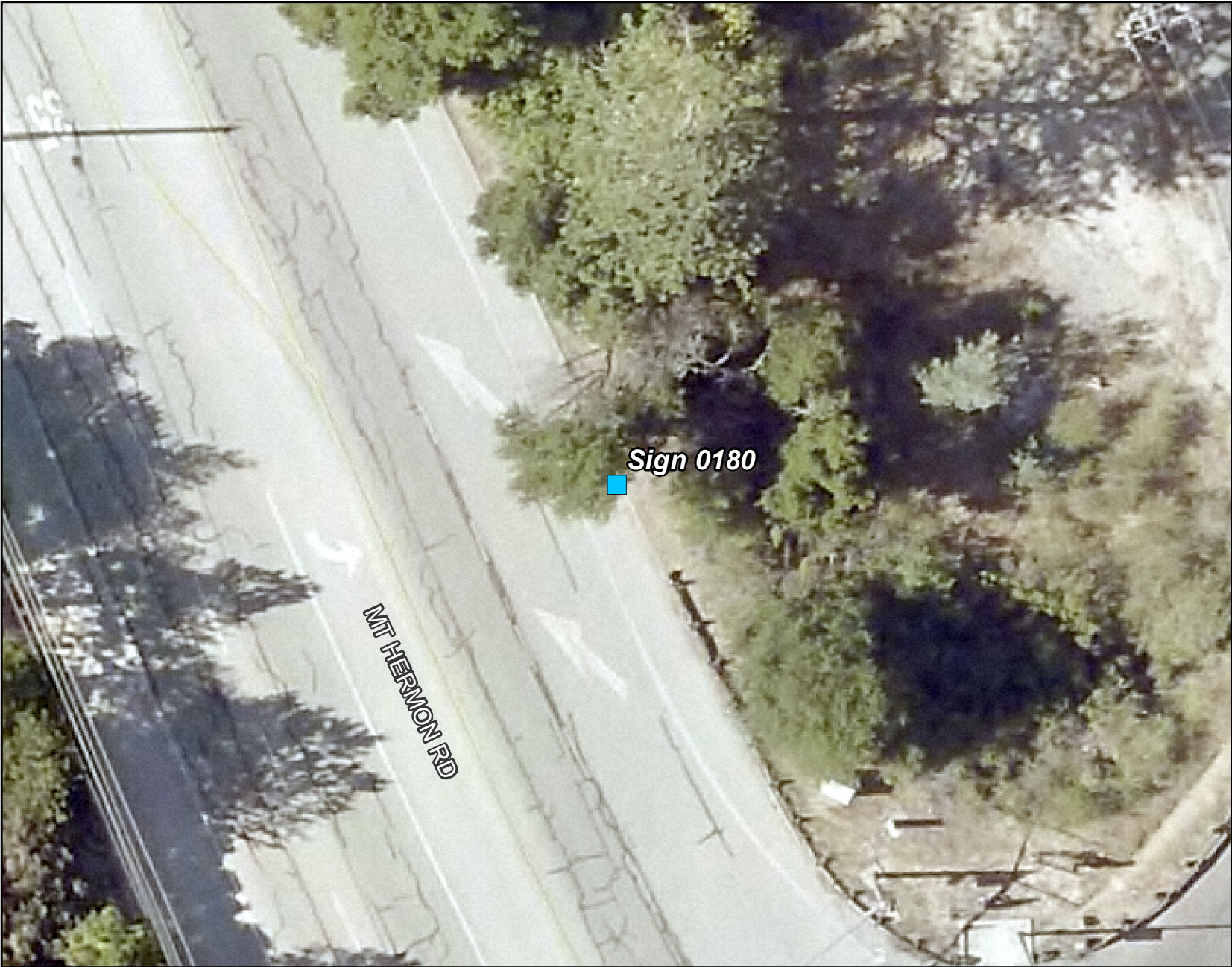
Sign ID 0180

Latitude 37.050784

Longitude -122.037141

Description of
Sign Location Mt Herman south of Lockhart Gulch

Direction
of Travel Northbound



Sign Post New

Installation
Notes Install in dirt 15 ft south of bus sign

Sign Type/
Code D11-1c

	Arrow Direction	Text	Miles
Directional Sign Panel			
Line 1	N/A	N/A	
Line 2	N/A	N/A	
Line 3	N/A	N/A	
Confirmation Sign Panel		TO Felton	
Pacific Coast Route Sign Panel	N/A	N/A	

NOTE: FOR DETAILS NOT SHOWN REFER TO CALTRANS 2015 STANDARD PLANS AND SPECIFICATIONS.

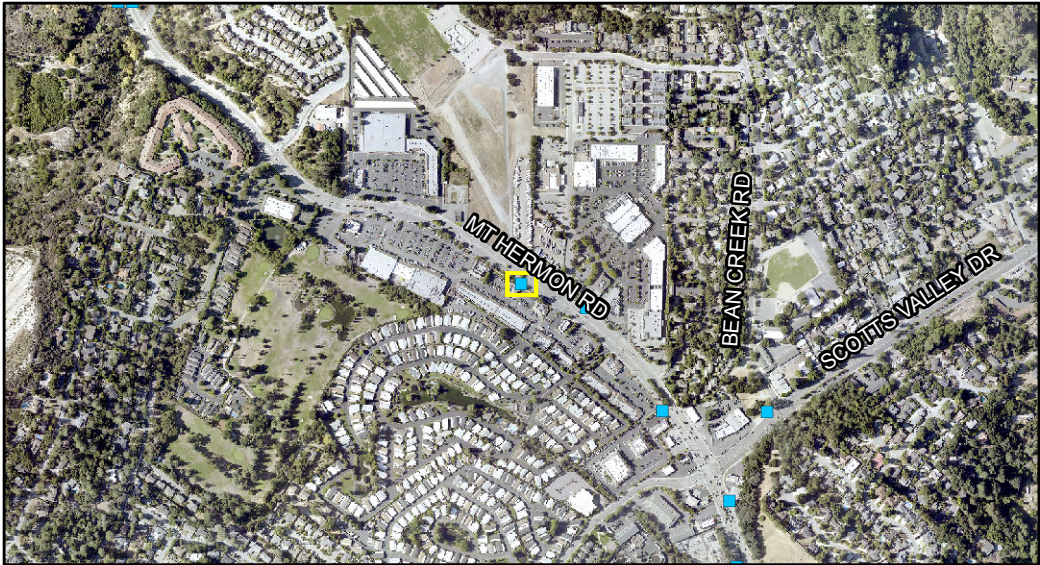
Legend

- Installation location / Removal location
- Other installation or removal in jurisdiction City of Scotts Valley
- Other installation or removal in different jurisdiction



0 10 20 40
Feet

Scale: 1" = 20'



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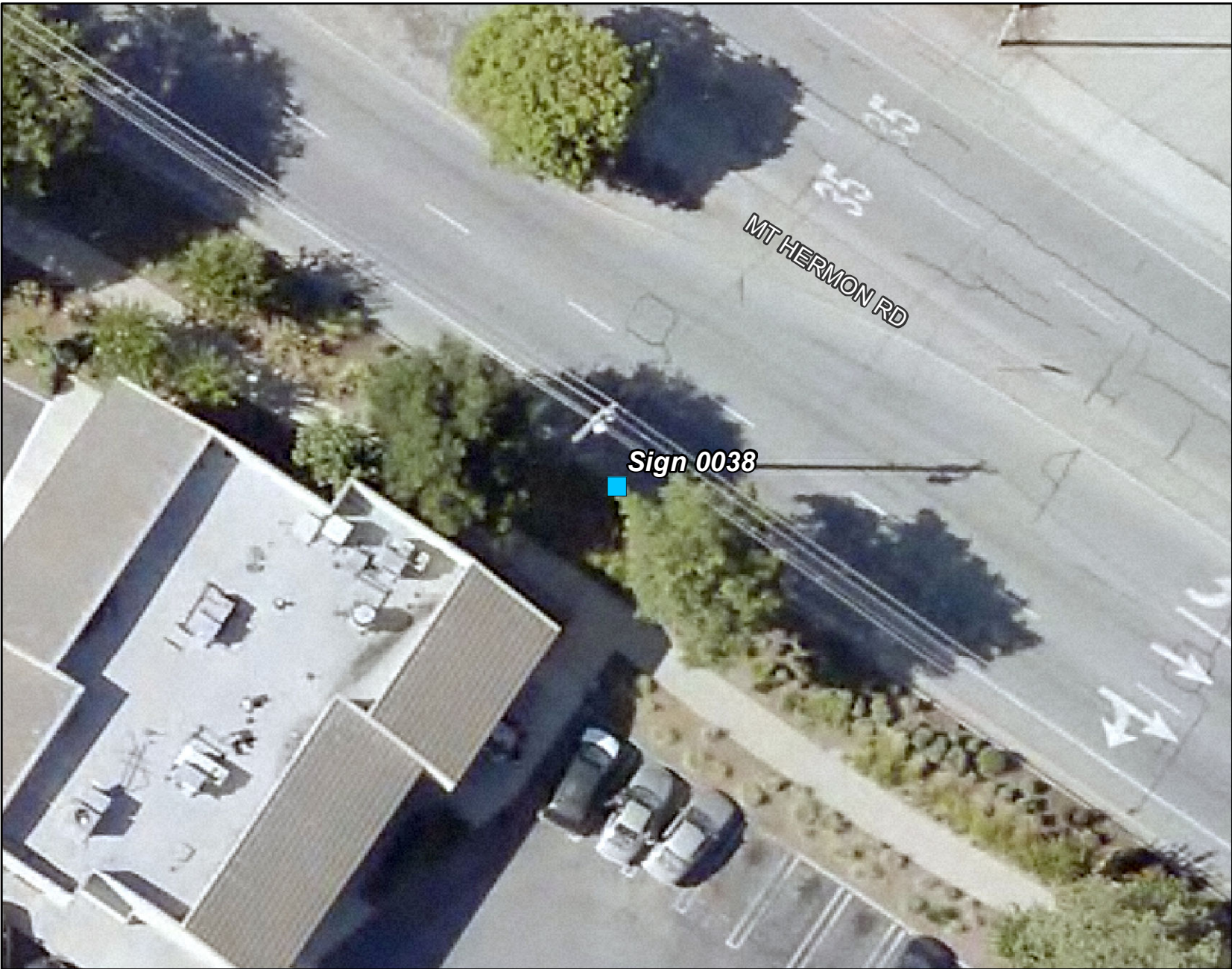
Sign ID 0038

Latitude 37.046244

Longitude -122.029049

Description of
Sign Location *Mt Hermon Road west of Kings Village*

Direction
of Travel *Eastbound*



Sign Post *New*

Installation
Notes *Install in landscaping approx 10 ft SE of utility pole*

Sign Type/
Code *D11-1 mod + D1-3c mod*

	Arrow Direction	Text	Miles
Directional Sign Panel			
Line 1	<i>Straight</i>	<i>SV Schools</i>	
Line 2	<i>Left</i>	<i>Transit Center</i>	<i>0.3</i>
Line 3	<i>Straight</i>	<i>Santa Cruz</i>	<i>4.7</i>
Confirmation Sign Panel		<i>N/A</i>	
Pacific Coast Route Sign Panel	<i>N/A</i>	<i>N/A</i>	

NOTE: FOR DETAILS NOT SHOWN REFER TO CALTRANS 2015 STANDARD PLANS AND SPECIFICATIONS.

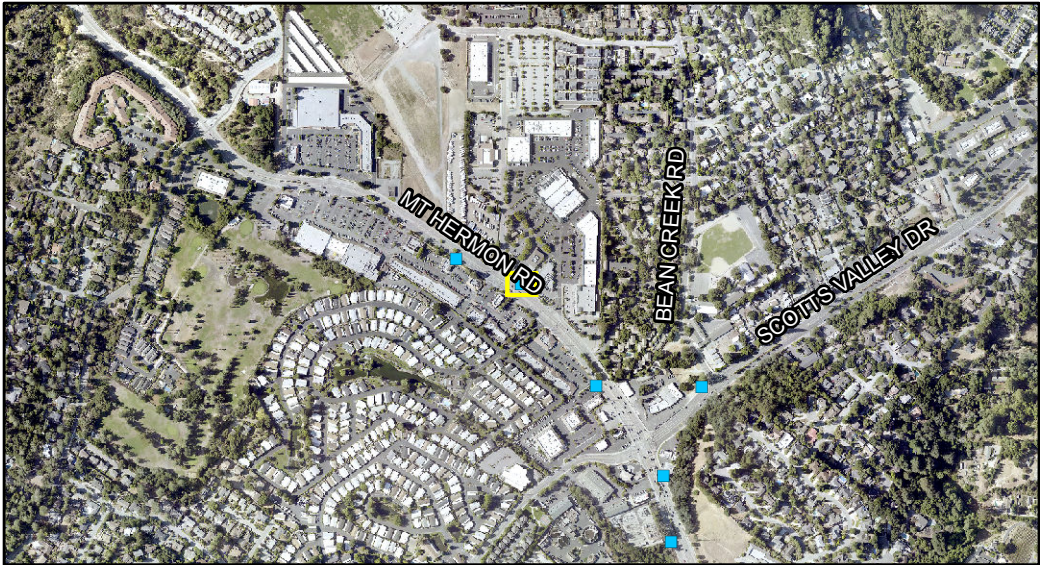
Legend

	Installation location	/		Removal location
	Other installation or removal in jurisdiction <i>City of Scotts Valley</i>			
	Other installation or removal in different jurisdiction			



0 10 20 40
Feet

Scale: 1" = 20'



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Sign ID 0147

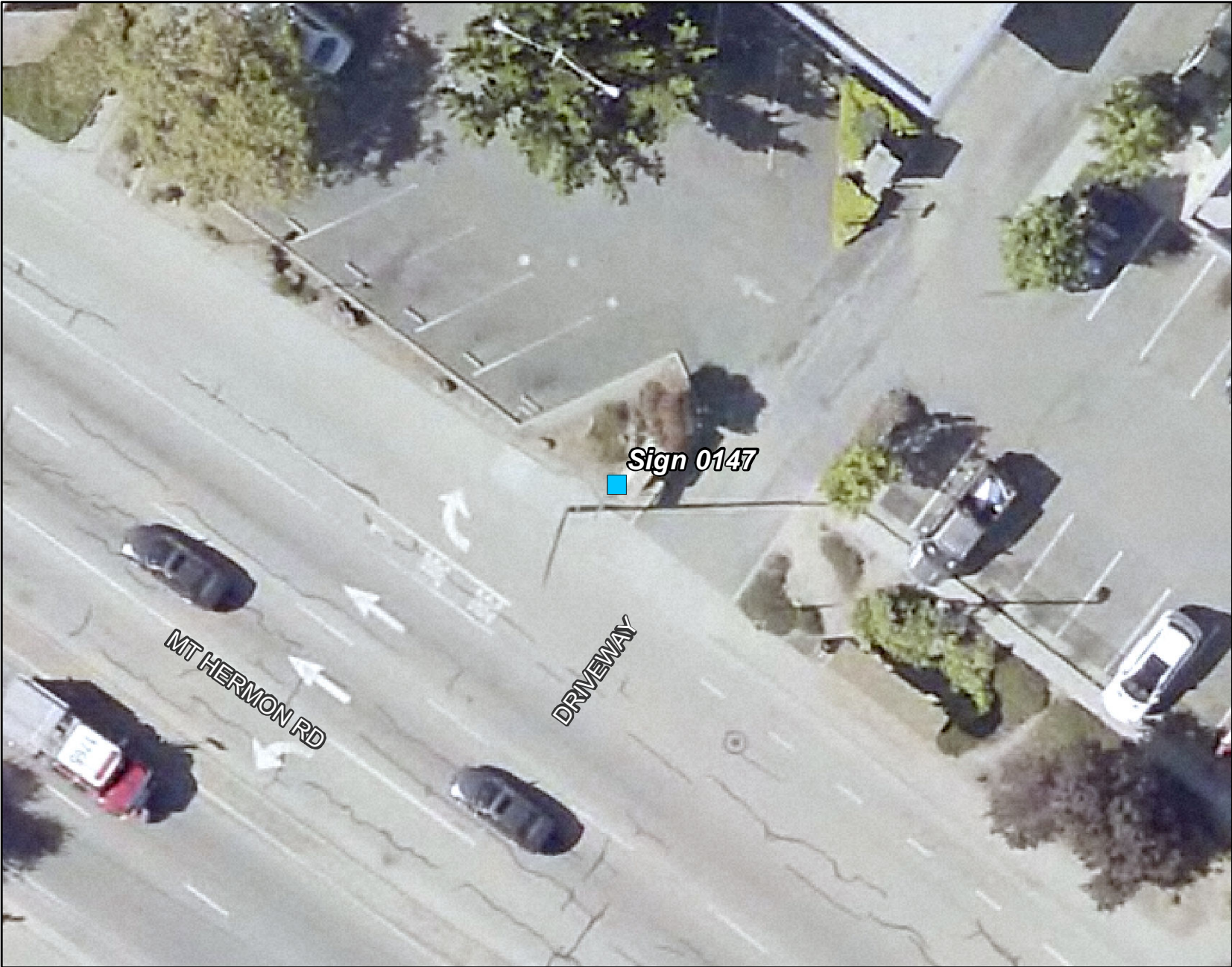
Latitude 37.04585

Longitude -122.027687

Description of
Sign Location Mt Hermon south of Kings Village Rd

Direction
of Travel Northbound

Jurisdiction
City of Scotts Valley



Sign Post Existing: Turn Lane Geo round metal post

Installation
Notes Add to existing turn lane post

Sign Type/
Code D11-1 mod + D1-2c mod

	Arrow Direction	Text	Miles
Directional Sign Panel			
Line 1	Right	Transit Center	0.3
Line 2	Straight	Felton	3
Line 3	N/A	N/A	
Confirmation Sign Panel		N/A	
Pacific Coast Route Sign Panel	N/A	N/A	

NOTE: FOR DETAILS NOT SHOWN REFER TO CALTRANS 2015 STANDARD PLANS AND SPECIFICATIONS.

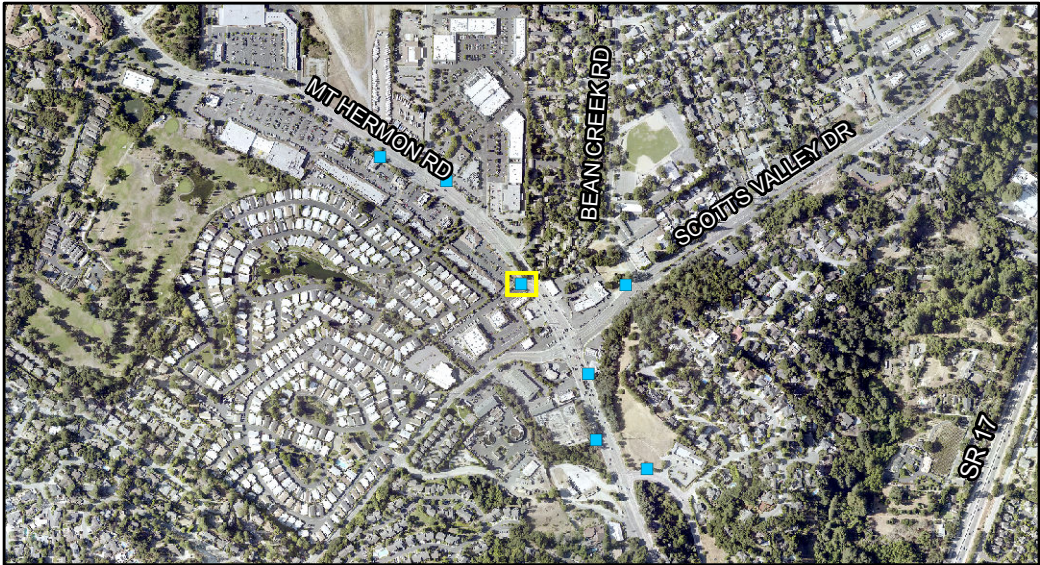
Legend

■	Installation location	/	■	Removal location
■	Other installation or removal in jurisdiction			City of Scotts Valley
□	Other installation or removal in different jurisdiction			



0 10 20 40
Feet

Scale: 1" = 20'



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Sign ID 0141

Latitude 37.044186

Longitude -122.02611

Description of
Sign Location Mt Hermon north of Scotts Valley Dr

Direction
of Travel Southbound

Jurisdiction
City of Scotts Valley



Sign Post New

Installation
Notes Install post on back side of sidewalk 20 ft south of utility pole

Sign Type/
Code D11-1 mod + D1-2c mod

	Arrow Direction	Text	Miles
Directional Sign Panel			
Line 1	Left	SV Schools	
Line 2	Straight	Santa Cruz	4.5
Line 3	N/A	N/A	
Confirmation Sign Panel		N/A	
Pacific Coast Route Sign Panel	N/A	N/A	

NOTE: FOR DETAILS NOT SHOWN REFER TO CALTRANS 2015 STANDARD PLANS AND SPECIFICATIONS.

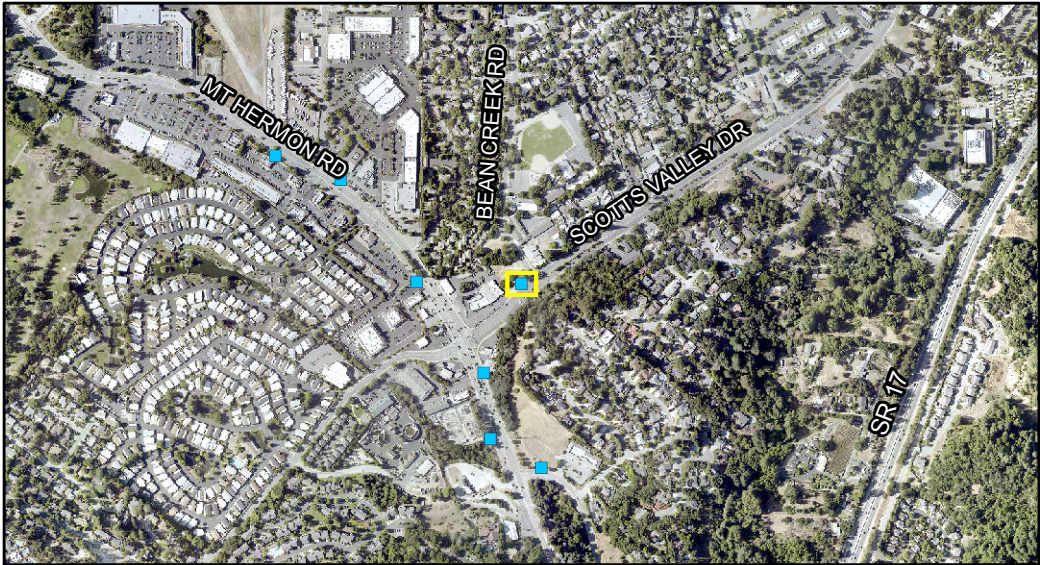
Legend

■	Installation location	/	■	Removal location
■	Other installation or removal in jurisdiction			City of Scotts Valley
□	Other installation or removal in different jurisdiction			



0 10 20 40
Feet

Scale: 1" = 20'



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Sign ID 0146

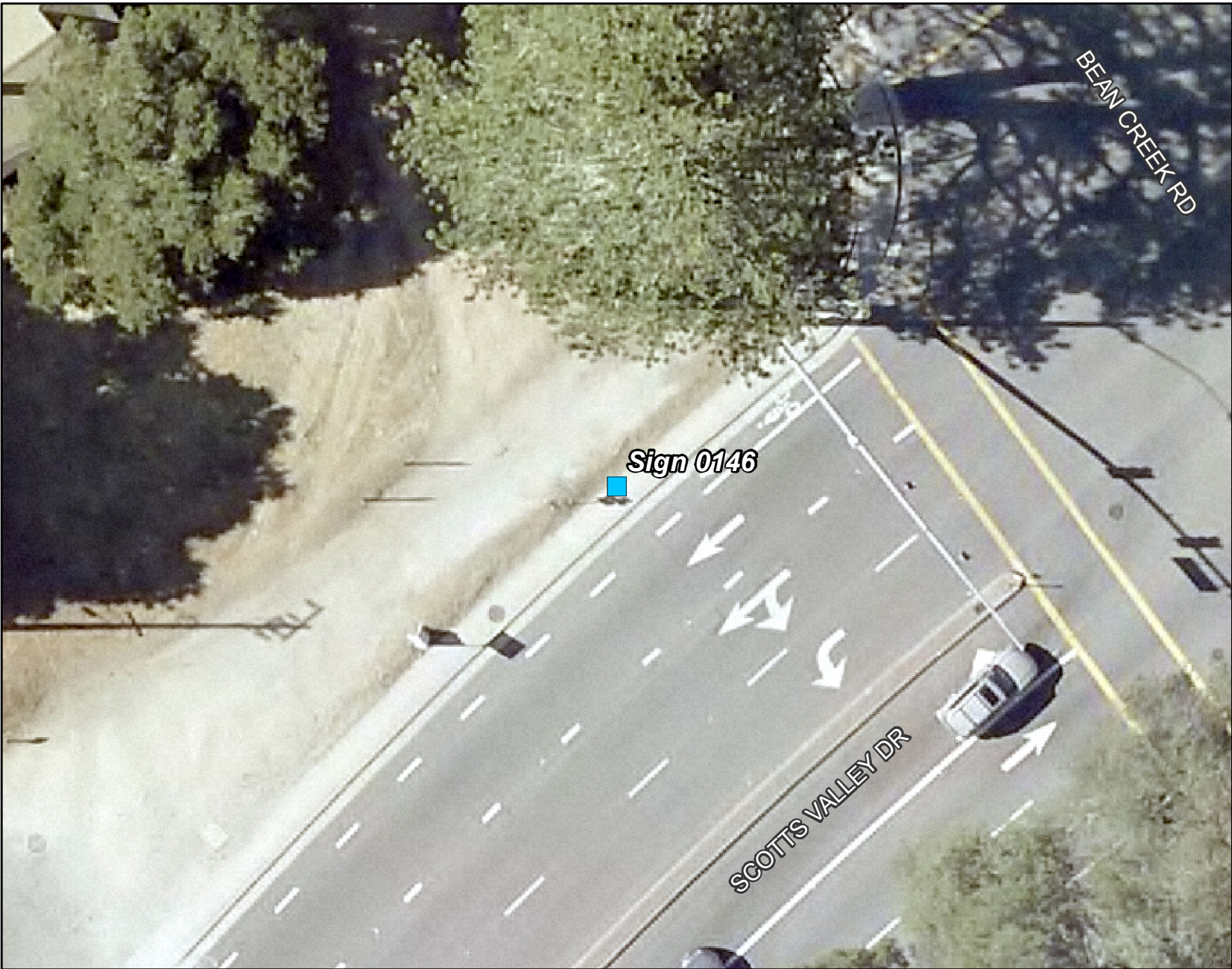
Latitude 37.044194

Longitude -122.023946

Description of
Sign Location Scotts Valley Drive west of Bean Creek

Direction
of Travel Westbound

Jurisdiction
City of Scotts Valley



Sign Post Existing: Bike sign wood post

Installation
Notes Use existing post and replace Bike Route and Transit Center signs

Sign Type/
Code D11-1 mod + D1-3c mod

	Arrow Direction	Text	Miles
Directional Sign Panel			
Line 1	Right	Transit Center	0.6
Line 2	Right	Felton	3.4
Line 3	Left	Santa Cruz	4.5
Confirmation Sign Panel		N/A	
Pacific Coast Route Sign Panel	N/A	N/A	

NOTE: FOR DETAILS NOT SHOWN REFER TO CALTRANS 2015 STANDARD PLANS AND SPECIFICATIONS.

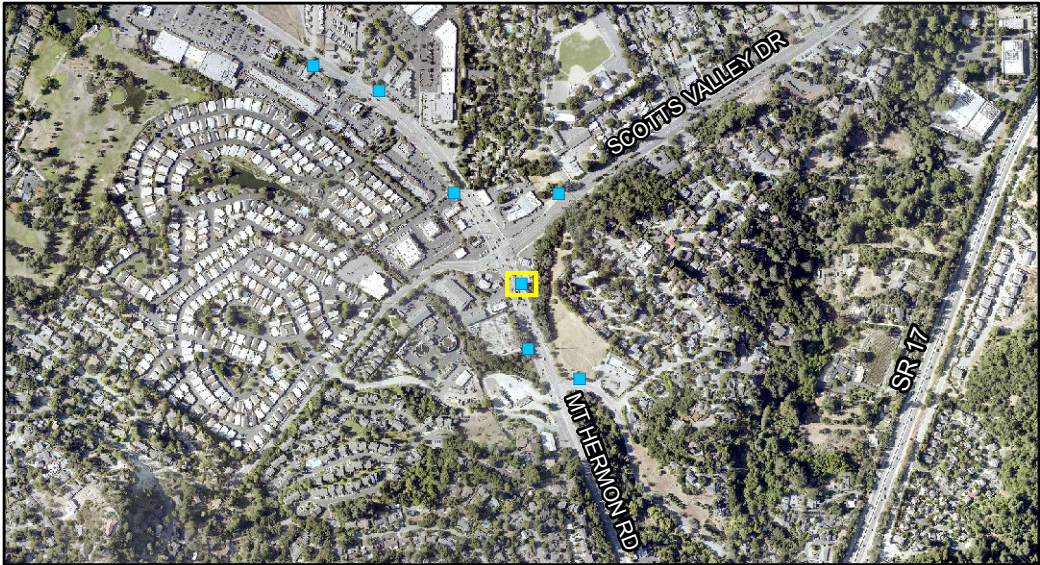
Legend

■	Installation location	/	■	Removal location
■	Other installation or removal in jurisdiction			City of Scotts Valley
□	Other installation or removal in different jurisdiction			



0 10 20 40
Feet

Scale: 1" = 20'



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Jurisdiction
City of Scotts Valley

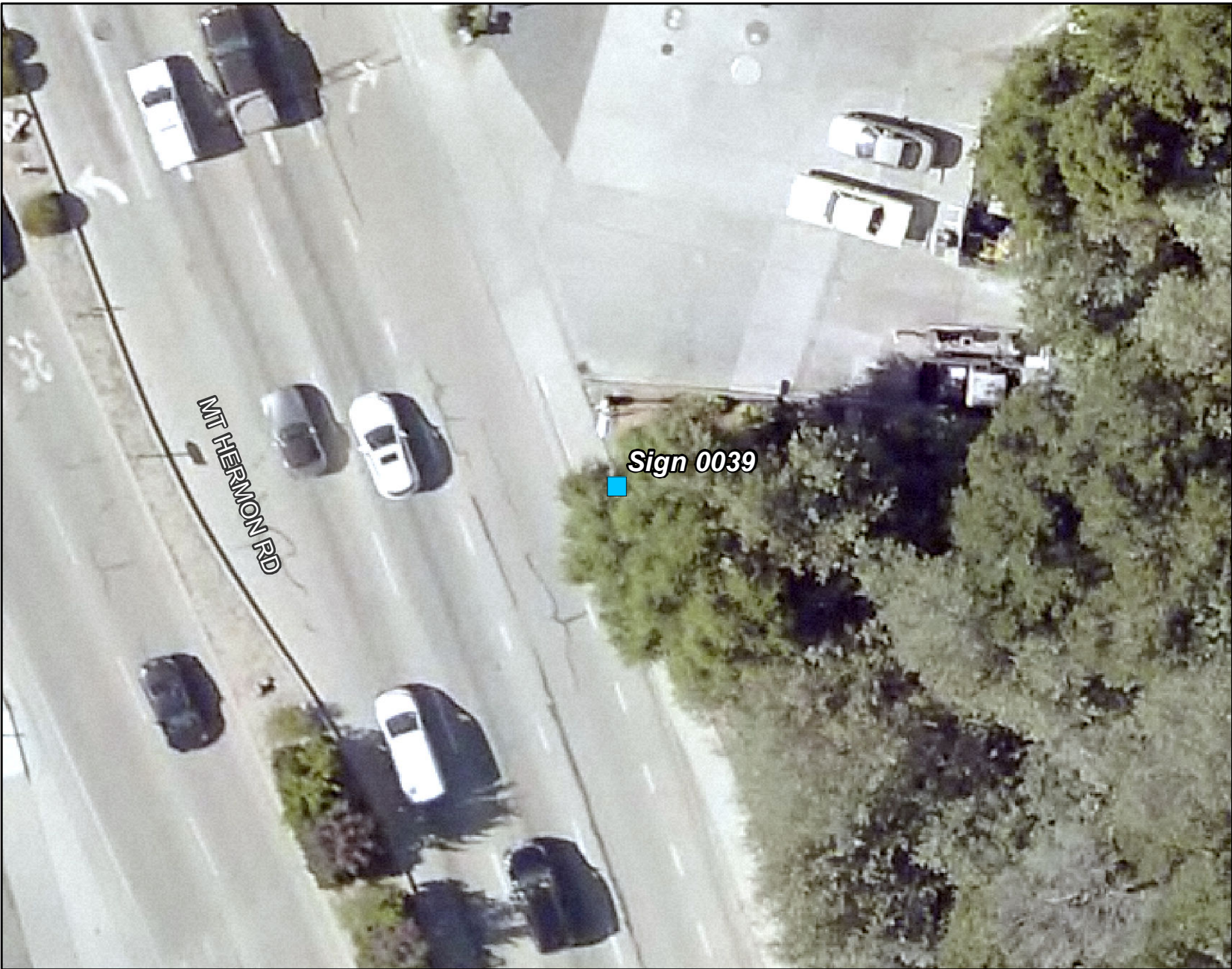
Sign ID 0039

Latitude 37.042708

Longitude -122.024689

Description of
Sign Location *Mt Hermon Road south of Scotts Valley Drive*

Direction
of Travel *Northbound*



Sign Post *New*

Installation
Notes *Install on back side of sidewalk approx 15 ft south of "Right Lane Must Turn Right" sign*

Sign Type/
Code *D11-1 mod + D1-3c mod*

	Arrow Direction	Text	Miles
Directional Sign Panel			
Line 1	<i>Right</i>	<i>SV Schools</i>	
Line 2	<i>Straight</i>	<i>Transit Center</i>	<i>0.5</i>
Line 3	<i>Straight</i>	<i>Felton</i>	<i>3.3</i>
Confirmation Sign Panel		<i>N/A</i>	
Pacific Coast Route Sign Panel	<i>N/A</i>	<i>N/A</i>	

NOTE: FOR DETAILS NOT SHOWN REFER TO CALTRANS 2015 STANDARD PLANS AND SPECIFICATIONS.

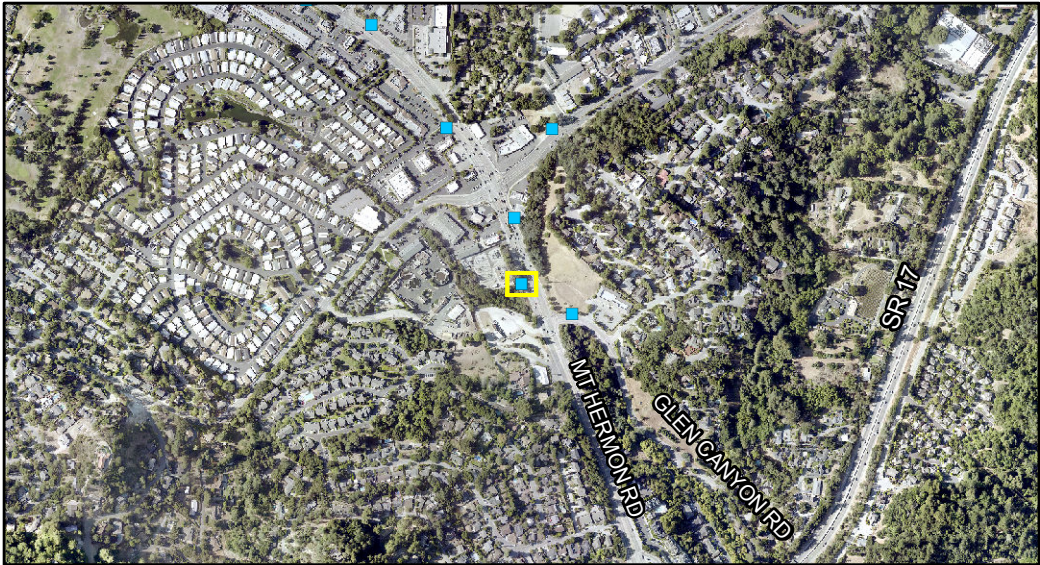
Legend

	Installation location	/		Removal location
	Other installation or removal in jurisdiction <i>City of Scotts Valley</i>			
	Other installation or removal in different jurisdiction			



0 10 20 40
Feet

Scale: 1" = 20'



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Sign ID 0040

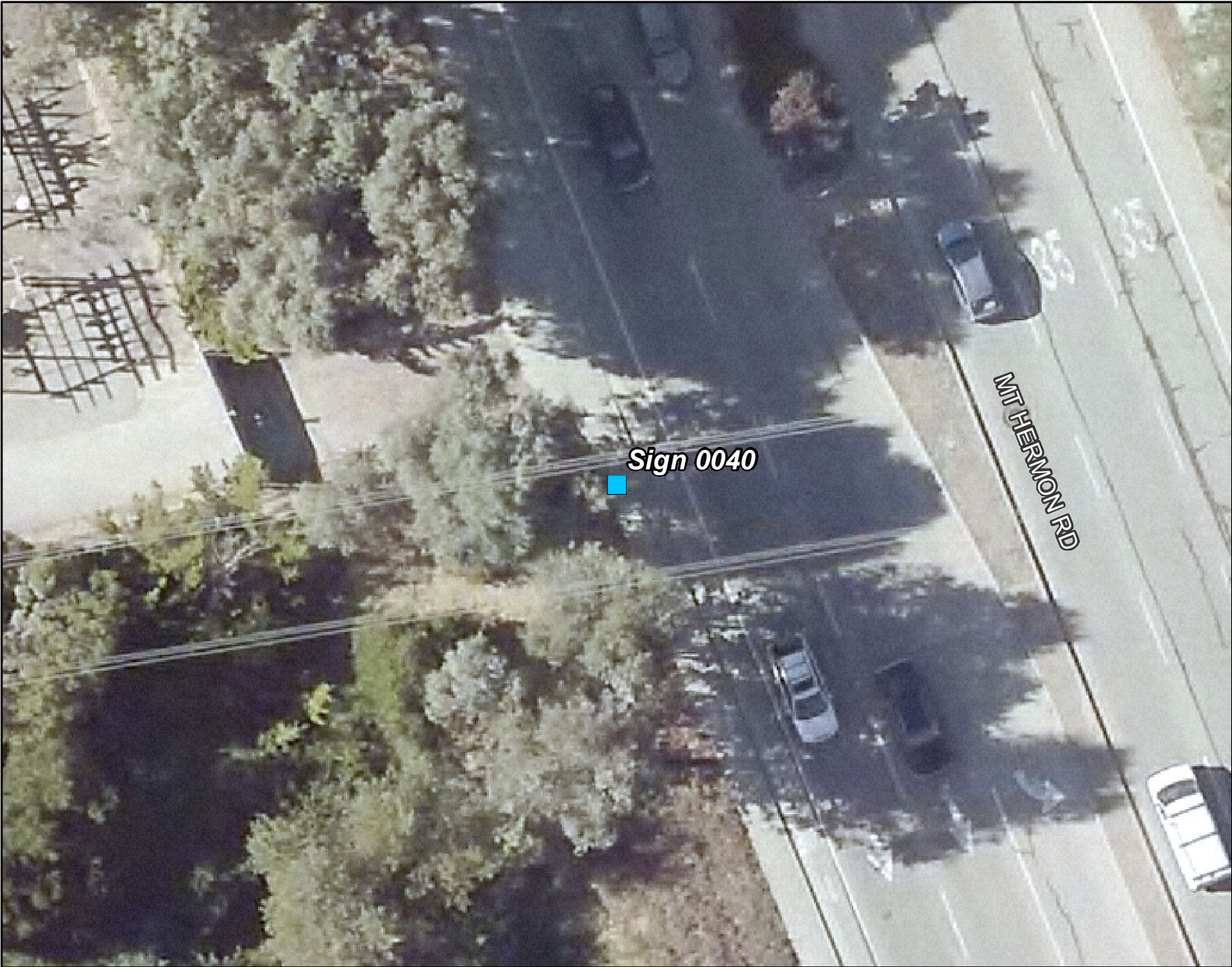
Latitude 37.041627

Longitude -122.024524

Description of
Sign Location Mt Hermon Road north of Glen Canyon intersection

Direction
of Travel Southbound

Jurisdiction
City of Scotts Valley



Sign Post New

Installation
Notes Install on back side of sidewalk approx 10 ft south of driveway

Sign Type/
Code D11-1 mod + D1-1c mod

	Arrow Direction	Text	Miles
Directional Sign Panel			
Line 1	Left	Santa Cruz	4.3
Line 2		N/A	
Line 3	N/A	N/A	
Confirmation Sign Panel		N/A	
Pacific Coast Route Sign Panel	N/A	N/A	

NOTE: FOR DETAILS NOT SHOWN REFER TO CALTRANS 2015 STANDARD PLANS AND SPECIFICATIONS.

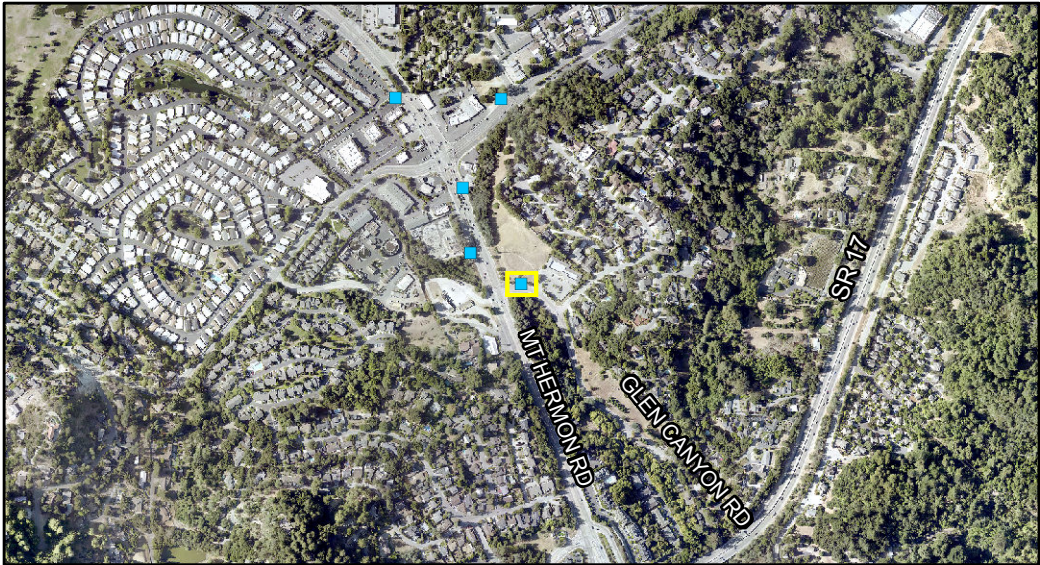
Legend

■	Installation location	/	■	Removal location
■	Other installation or removal in jurisdiction			City of Scotts Valley
□	Other installation or removal in different jurisdiction			



0 10 20 40
Feet

Scale: 1" = 20'



Countywide Bicycle Route
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Sign ID 0054

Latitude 37.041146

Longitude -122.02346

Description of
Sign Location Glen Canyon east of Mount Hermon

Direction
of Travel Northbound

Jurisdiction
City of Scotts Valley



Sign Post New

Installation
Notes Install post in center of strip between sidewalk and curb

Sign Type/
Code D11-1 mod + D1-2c mod

	Arrow Direction	Text	Miles
Directional Sign Panel			
Line 1	Right	Scotts Valley	
Line 2	Right	Felton	3.5
Line 3	N/A	N/A	
Confirmation Sign Panel		N/A	
Pacific Coast Route Sign Panel	N/A	N/A	

NOTE: FOR DETAILS NOT SHOWN REFER TO CALTRANS 2015 STANDARD PLANS AND SPECIFICATIONS.

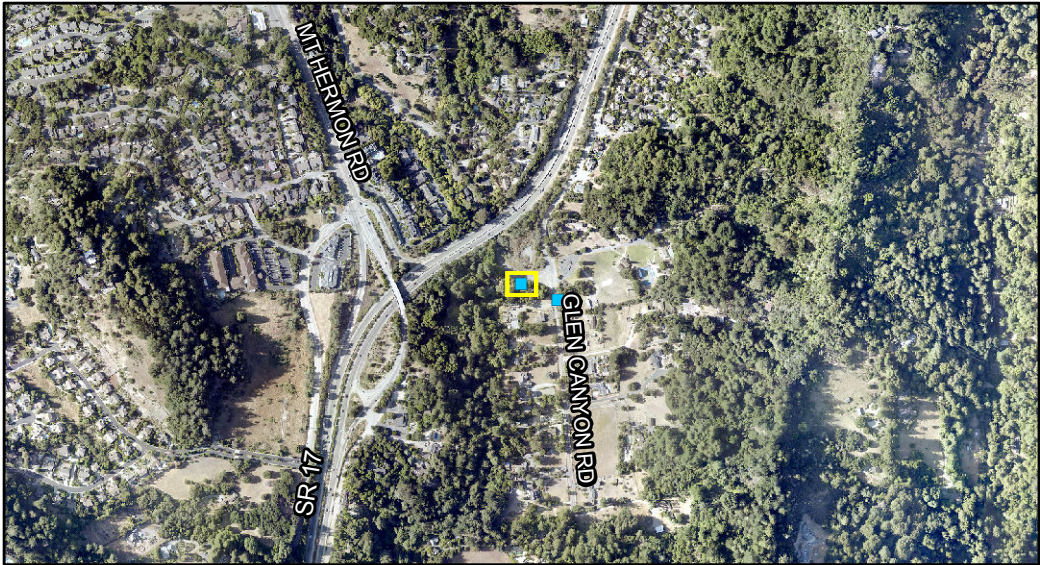
Legend

■	Installation location	/	■	Removal location
■	Other installation or removal in jurisdiction			City of Scotts Valley
□	Other installation or removal in different jurisdiction			



0 10 20 40
Feet

Scale: 1" = 20'



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Sign ID 0041

Latitude 37.035855

Longitude -122.018603

Description of
Sign Location Glen Canyon west of Green Hills Road

Direction
of Travel Southbound

Jurisdiction
City of Scotts Valley



Sign Post New

Installation
Notes Install new pole in dirt 10 ft east of mailbox

Sign Type/
Code D11-1 mod + D1-1c mod

	Arrow Direction	Text	Miles
Directional Sign Panel			
Line 1	Right	Santa Cruz	3.7
Line 2		N/A	
Line 3	N/A	N/A	
Confirmation Sign Panel		N/A	
Pacific Coast Route Sign Panel	N/A	N/A	

NOTE: FOR DETAILS NOT SHOWN REFER TO CALTRANS 2015 STANDARD PLANS AND SPECIFICATIONS.

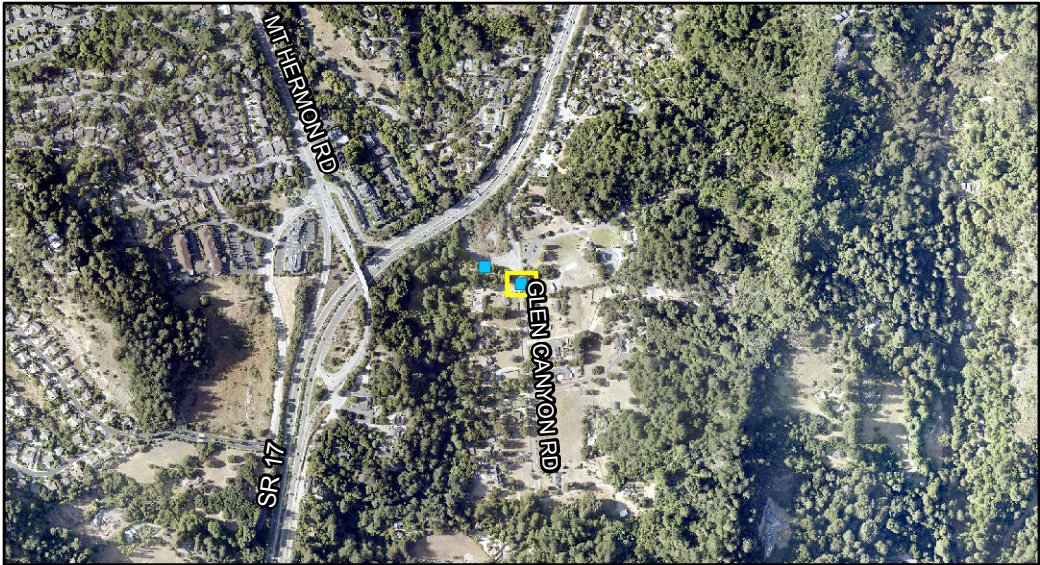
Legend

■	Installation location	/	■	Removal location
■	Other installation or removal in jurisdiction			City of Scotts Valley
□	Other installation or removal in different jurisdiction			



0 10 20 40
Feet

Scale: 1" = 20'



Countywide Bicycle Route
Signage Project

Santa Cruz County
Regional Transportation Commission
1523 Pacific Ave
Santa Cruz, CA 95060

Date of production: 10/08/2018

Sheet 16 / 16

Sign ID 0053

Latitude 37.035589

Longitude -122.017849

Description of
Sign Location Glen Canyon Road south of Green Hills Road

Direction
of Travel Northbound

Jurisdiction
City of Scotts Valley



Sign Post New

Installation
Notes Install post 10 ft north of Speed Checked by Radar sign

Sign Type/
Code D11-1 mod + D1-2c mod

	Arrow Direction	Text	Miles
Directional Sign Panel			
Line 1	Left	Scotts Valley	0.6
Line 2	Left	Felton	4
Line 3	N/A	N/A	
Confirmation Sign Panel		N/A	
Pacific Coast Route Sign Panel	N/A	N/A	

NOTE: FOR DETAILS NOT SHOWN REFER TO CALTRANS 2015 STANDARD PLANS AND SPECIFICATIONS.

- Legend
- Installation location / Removal location
 - Other installation or removal in jurisdiction City of Scotts Valley
 - Other installation or removal in different jurisdiction



0 10 20 40
Feet

Scale: 1" = 20'

City of Scotts Valley CITY COUNCIL STAFF REPORT

DATE: November 7, 2018

TO: Honorable Mayor and City Council

FROM: Jenny D. Haruyama, City Manager

SUBJECT: **APPROVE TENTATIVE AGREEMENT BETWEEN THE CITY OF
SCOTTS VALLEY AND SCOTTS VALLEY POLICE
SUPERVISORS ASSOCIATION (PSA)**

SUMMARY OF ISSUE

Over the past several months, the City has been actively negotiating with the City of Scotts Valley bargaining groups to reach agreement on new contract terms and conditions. The agreements for all City bargaining groups expired on June 30, 2018; however, on October 9, 2018, the City and the Scotts Valley Police Supervisors Association (PSA) reached a tentative agreement regarding a new Memorandum of Understanding (MOU). The tentative agreement is attached for your information.

Consistent with the parameters established by Council, the highlights of the new agreement are:

Contract Term:

- Two-year contract from July 1, 2018 to June 30, 2020.

Compensation:

- Effective the first full pay period after Union ratification and City Council approval of the successor MOU, the salary range for each classification in the unit will receive a 3% percent salary increase.
- Effective the first full pay period in July 2019, the salary range for each classification in the unit will receive a 3% salary increase.
- Effective the first full pay period in July 2020, the salary range for each classification in the unit will receive a 2% salary increase.

Retention Bonus:

- A retention bonus of 1% of salary, offered retroactively and limited to 6 weeks, will be provided effective the first full pay period after Union ratification and City Council approval of the successor MOU.

Employee Retiree Medical Coverage Program:

- Employees hired on or after July 1, 2018 will be eligible for retiree medical coverage under the following conditions:
 1. Must have been employed with the City for ten (10) years or longer.
 2. Shall retire from the City of Scotts Valley. Public safety persons shall be eligible for this benefit upon retiring at age 50 or older; all other EMPLOYEES shall be eligible upon retiring at age 55 or older. Retirement shall be defined as "retiring under the provisions of the PERS Retirement Plan." Consistent with CalPERS requirements, Medicare eligible employees shall enroll in CalPERS Medicare plans upon Medicare eligible age.
 3. The retired EMPLOYEE shall provide annual proof on the anniversary of retirement of current medical insurance coverage including the costs to the retiree. The retiree must notify the City if the medical insurance policy is cancelled. Failure to carry medical insurance or to notify the City of its cancellation will eliminate eligibility for this benefit. The retired must secure his/her own medical insurance coverage. The medical benefit will be provided directly to the retiree at the following rates:
 - For EMPLOYEES who have served 10 to 15 years with the City up to a maximum of monthly contribution which is inclusive of the PEMCHA minimum:
 - Employee Only \$250
 - Employees plus Spouse: \$375
 - For EMPLOYEES who have served 15 to 20 years with the City up to a maximum of monthly contribution which is inclusive of the PEMCHA minimum:
 - Employee Only \$350
 - Employees plus Spouse: \$550
 - For EMPLOYEES who have served over 20 years with the City up to a maximum of monthly contribution which is inclusive of the PEMCHA minimum:
 - Employee Only \$500
 - Employees plus Spouse: \$750

The medical benefit will be provided to the retiree and their spouse. However, this benefit shall only be payable while the retiree is living, and shall not be payable to the spouse of the retiree after the retiree's death.

CalPERS Retirement System and Employee Contribution:

- Effective Upon Adoption - All classic employees shall contribute 2.75% of PERSable salary towards the employee's contribution.
- Effective July 1, 2019: All classic employees shall contribute 5.5% of PERSable salary towards the employee's contribution.
- Effective July 1, 2020: All classic employees shall contribute 8.0% of PERSable salary towards the employee's contribution.

FISCAL IMPACT

It is estimated that over the life of the 2-year contract, the total net savings for the PSA bargaining group based on the FY 2018/19 budget and 5-year Financial Plan is approximately \$6,300. This savings takes into consideration the proposed changes in compensation and contribution toward the employee share of pension costs.

STAFF RECOMMENDATION

It is recommended that the Council approve the attached Tentative Agreement between the City of Scotts Valley and the Police Supervisors Association (PSA) and authorize City staff to update the MOU to include the new terms and conditions and authorize the City Manager to sign the agreement.

Additionally, it is recommended that Council authorize the City Manager and the Administrative Services Director to take any administrative actions necessary to effectuate the terms and conditions of the agreement.

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**Scotts Valley PSA Proposed Tentative Agreement to the City of
Scotts Valley**

October 9, 2018

10.00 HEALTH AND WELFARE BENEFITS

10.1 Health and Welfare Benefits

10.01 PERS Medical Plan

10.01.1 Cafeteria Plan

The City will provide medical insurance through the Public Employees' Retirement System (PERS). The City's contribution towards medical coverage will be the minimum amount required by Government Code section 22825 for regular full-time employees. All employees who elect coverage in the PERS medical plan may choose any medical plan available.

The City will also make available a Flexible Benefit Plan (Cafeteria Plan). The cafeteria plan contribution rate during the term of this MOU shall be the PERS HMO rate, minus the Government Code section 22825 contribution. However, for employees choosing the PERS Choice or PORAC Plans, the City shall contribute either the PERS Choice or PORAC plan rate plus 50% of the difference between the PERS Choice or PORAC plan and the PERS HMO plan per month towards the cafeteria plan.

The City shall also pay administrative fees and contingency reserve fund assessments, if any.

Employees may also elect the following optional benefits if the employee has surplus cafeteria plan funds remaining after electing medical insurance coverage:

1. Medical reimbursement account
2. Dependent care assistance plan
3. AFLAC supplemental insurance
4. Deferred compensation
5. Taxable cash-out

Employees who wish to participate in the optional benefits in the plan, but do not have any surplus City-contributed cafeteria funds, can elect to make pre-tax deductions in an amount to cover the cost of the optional benefits.

10.01.2 Rebate for Non-Enrolled Dependents

The City shall pay any full-time (40 hours per week) Member who chooses not to enroll in the PERS Health plan the Member's otherwise eligible

dependents the following amount provided proof of alternative medical coverage is provided:

1. Employee eligible to enroll as employee plus one, but enrolls as employee only = \$100.
2. Employee eligible to enroll as employee plus two, but enrolls as employee plus one = \$100.
3. Employee eligible to enroll employee plus two, but enrolls employee only = \$150.

10.01.3 Reopener in the Event of Provider Change

In the event that no PERS HMO and/or PERS Choice contract with one of the four major care providers in the area (Sutter, Dominican, Santa Cruz Medical Clinic or Physicians Medical Group) during the term of this MOU, the parties agree to re-open section 10.01 if members are covered by the affected plans.

10.02 Section 125 Plan

The City also agrees, to the extent allowable by law, to adopt the provisions of Section 125 of the Internal Revenue Code, thereby enabling Members to pay allowable medical costs with pre-tax dollars.

10.03 Dental and Vision

The City shall provide reimbursement for employee's and dependents' documented dental expenses, with the first \$200 in expenses – 100% reimbursed, the next \$500 in expenses – 80% reimbursed, and the next \$1,000 in expenses – 50% reimbursed up to a maximum of \$1,100 in City contribution each calendar year.

Vision coverage benefits shall remain the same as those benefits in effect in the previous MOU in the Vision Service Plan.

10.04 Deductibles

Members shall be responsible for paying the deductible portion of their medical, dental and vision insurance plans, where applicable.

When two Members are married to each other, the City shall reimburse the married Members for the deductible portion of the medical premiums up to a maximum of Three Hundred Dollars (\$300.00) per calendar year per couple.

3. For Members who have served over 20 years: 100% of premiums to a maximum of 67% of the PERS-CARE plan; reduced to 33.5% at social security age.

The medical benefit will be provided to the retired Member and the Member's spouse. However, this benefit shall only be payable while the retiree is living, and shall not be payable to the spouse of the retiree after the retiree's death.

b. For Employees hired on or after July 1, 2018

To be eligible for this benefit an EMPLOYEE:

1. Must have been employed with the City for ten (10) years or longer.
2. Shall retire from the City of Scotts Valley. Public safety persons shall be eligible for this benefit upon retiring at age 50 or older; all other EMPLOYEES shall be eligible upon retiring at age 55 or older. Retirement shall be defined as "retiring under the provisions of the PERS Retirement Plan."

3. The retired EMPLOYEE shall provide annual proof on the anniversary of retirement of current medical insurance coverage including the costs to the retiree. The retiree must notify the City if the medical insurance policy is cancelled. Failure to carry medical insurance or to notify the City of its cancellation will eliminate eligibility for this benefit. The retired must secure his/her own medical insurance coverage. The medical benefit will be provided directly to the retiree at the following rates:

- a. For EMPLOYEES who have served 10 to 15 years with the City up to a maximum of monthly contribution which is inclusive of the PEMCHA minimum:

Employee Only 250.00

Employees plus Spouse: 375.00

- b. For EMPLOYEES who have served 15 to 20 years with the City up to a maximum of monthly contribution which is inclusive of the PEMCHA minimum:

Employee Only 350.00

Employees plus Spouse: 550.00

- c. For EMPLOYEES who have served over 20 years with the City up to a maximum of monthly contribution which is inclusive of the PEMCHA minimum:

Employee Only 500.00

Employees plus Spouse: 750.00

The medical benefit will be provided to the retiree and their spouse. However, this benefit shall only be payable while the retiree is living, and shall not be payable to the spouse of the retiree after the retiree's death.

10.07 Life Insurance

The City shall pay the premium for a \$50,000 life insurance plan for all Members.

10.08 Joint Committee for Health Care Cost Containment

City and Association agree to participate in a "Joint Health Care Cost Containment Committee" for the purpose of controlling health care costs. The Committee shall make recommendations consistent with this goal. Recommendations shall be implemented if approved by the City and Association.

18.00 WAGES

18.01 Effective the first full pay period after Union ratification and City Council approval of the successor MOU, the salary range for each classification in the unit will receive a three percent (3.0%) salary increase.

Effective the first full pay period after Union ratification and City Council approval of the successor MOU, the salary range for each classification in the unit will receive a one percent (1.0%) salary increase for retention.

Effective the first full pay period in July 2019 the salary range for each classification in the unit will receive a three percent (3.0%) salary increase.

Effective the first full pay period in July 2019 the salary range for each classification in the unit will receive a one percent (1.0%) salary increase for retention.

~~Effective July 1, 2015, all Members will receive a two percent (2%) salary increase, as reflected on Exhibit A. Effective July 1, 2016, all Member will receive a one percent (1%) salary increase, as reflected on Exhibit B. Effective July 1, 2017, all Members will receive a one percent (1%) salary increase, as reflected on Exhibit C.~~

December 31, 2012 or hired after such date but already in the CalPERS system as a classic member without a six-month break in service.

Effective the first full pay period after Union ratification and approval by the City Council of the successor MOU, all classic safety employees shall contribute three percent (3.0%) of PERSable salary towards the employee's contribution.

Effective the first full pay period in July 1, 2019 all classic safety employees shall contribute six percent (6.0%) of PERSable salary towards the employee's contribution.

B. PEPRA Employees

For those Safety Members hired on or after January 1, 2013 who are new to the City of Scotts Valley, the City shall provide 2.7% at 57 for those Members in accordance with State law. The contribution for new PEPRA Safety Members shall be shared in accordance with State law. PEPRA employee contributions shall be 50% of the normal cost as determined by CalPERS and may change on an annual basis.

~~City agrees to maintain retirement benefits in the Public Employees' Retirement System (PERS) for all Members. Those eligible as "Safety" Members shall be in the three (3%) percent at age fifty (50) plan. Those eligible as "Miscellaneous" Members shall be in the two and a half percent (2.5%) at age fifty five (55) plan. City also agrees to pay the Member's contribution. For both "Safety" and "Miscellaneous" Members hired on or after January 1, 2013, the City agrees to maintain the retirement benefits in accordance with the provisions of the Public Employees' Pension Reform Act of 2013.~~

~~The City shall also provide the IRS 414(h) pick up of the employee portion of the PERS retirement payments as employer contributions in lieu of employee contributions, for all bargaining unit members.~~

TERM OF AGREEMENT

The term of this Agreement shall be July 1, 2018 through June 30, 2020.

TENTATIVE AGREEMENTS: Includes all Tentative Agreement signed by the Parties as of October 9, 2018.

ALL OTHER PROPOSALS DROPPED: Union drops all other outstanding proposals.

Subjected to Council to
Approval 10/9/18
Diana Waf

10/9/18

Justin Miley

008/1/18

City Proposal # 3 Distributed at the Bargaining Table to the SPA on April 26, 2018

The City reserves the right to amend, change or modify proposal

2.00 HIRING PROVISIONS

2.01 Non-Discrimination

~~No Member shall be discriminated against by the City or by the Association for reason of race, color, religion, disability, medical condition, national origin, ancestry, marital status, sex, sexual preference, age (over 40), veteran's status, or any other factor except where sex or physical capability is determined to be a bonafide occupational qualification after consideration of reasonable accommodation factors in relation to the essential duties of the position.~~

There shall be no discrimination because of a person's political, or Union affiliation or belief, non-affiliation or non-belief, ancestry, age (40 and above), color, disability (physical and mental, including HIV and AIDS), genetic information, gender identity, gender expression, marital status, medical condition (genetic characteristics, cancer or a record or history of cancer), military or veteran status, national origin (includes use and possession of a driver's license issued to persons unable to prove their presence in the United States is authorized under federal law, race, religion (includes religious dress and grooming practices) sex/gender (includes pregnancy, childbirth, breastfeeding, and/or related medical conditions), or sexual orientation.

2.02 Employment

The City shall not discipline, discharge or otherwise discriminate against any Member for any Association activity which does not interfere with the proper performance of that Member's work.

10/2/18
Damia Uy

15

009

City Proposal # 5 Distributed at the Bargaining Table to the SPA on April 26, 2018

The City reserves the right to amend, change or modify proposal

6.00 OVERTIME

6.01 Regular Work Schedule Requirement

The Department shall prepare a schedule designating the hours each Member shall work. Work for the City by a Member at time other than those so scheduled shall be approved in advance by the Chief of Police or the Chief's designated representative.

6.02 Authorization of Overtime

No Member (excluding Lieutenants) shall receive compensation for overtime in cash, in time off or a combination thereof, unless such overtime work has been approved by the Chief of Police or the Chief's designated representative as set forth above.

The Lieutenant position shall be exempt from all overtime compensation.

6.03 Definition of Overtime

For the purposes of the 3/12 work schedule, all overtime work for patrol will be defined as all work performed in excess of one hundred and sixty-eight (168) hours in an established twenty-eight (28) day work period. For employees other than patrol personnel, all overtime work will be defined as all work performed pursuant to Section 6.01 and 6.02 in excess of forty (40) hours for each seven (7) day work period.

For all Members on the 3/12 work schedule, all work performed does not include the eight (8) hours of holidays paid (whether they work on those holidays or not) and does not include the four (4) hours of additional holiday hours paid to Members who work on holidays as provided elsewhere in this Agreement.

6.04 Payment of Overtime

For patrol personnel, the first eight (8) hours of overtime in the established twenty-eight (28) day work week period will be paid at straight time. All hours in excess of one hundred sixty-eight (168) hours in the twenty-eight (28) day work period will be paid at the rate of one and one-half (1.5) times the hourly rate. For all other employees, all overtime work will be compensated at the rate of one and one-half (1.5) times the hourly rate after

10/2/18
Dana Uy

010

forty (40) hours in any work week. All paid time off will be considered time worked in determining overtime, except that for Members on the 3/12 work schedule, both the eight (8) or ten (10) hours of holiday paid to Members (whether they work holidays or not) and the four (4) hours or pro-rated hours of additional holiday hours paid to Members who do work holidays other than the floating holiday will not be considered time worked in determining overtime.

6.05 Definition of Hourly Rate

For purposes of this section, hourly rate shall be defined as follows:

Base Monthly Pay times (12) months, divided by 2,080 hours (per year) equals hourly rate.

The Lieutenant position shall be exempt from this provision.

6.06 Fractions of Less than One-Fourth Hours

No overtime payment shall be allowed for any period of less than one-fourth (.25) hours, and fractions of less than one-fourth (.25) hour overtime worked shall not be considered overtime and may not be accumulated in order to total one-fourth (.25) hour or more.

6.07 Compensatory Time Off ("CTO")

At the sole option of a Member CTO may be accrued in lieu of monetary compensation for overtime and is earned at a rate of one and one-half (1.5) times the hourly rate up to the maximum CTO accruals established herein.

All Members may accrue CTO in lieu of monetary compensation for overtime to a maximum of ~~forty (40)~~ **forty-eight (48)** hours. Such CTO may be replenished during the year up to the **forty-eight**-hour maximum. The timing of taking the CTO shall be determined by the Division Commander, considering the Member's preference.

CTO may be granted with a two (2) pay period notice at the discretion of the supervisor. Supervisors are not precluded from granting CTO with a shorter notice if the needs of the Department will allow this time off.

The Lieutenant position shall be exempt from this provision.

6.08 Shift Adjustments

If the department intends to adjust a Member's shift due to overtime worked on a shift, the Member's supervisor must notify him of the intended shift

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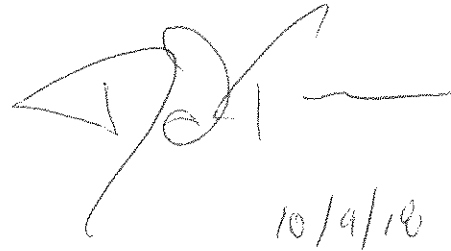
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adjustment on the day before the adjustment occurs. Such notice shall be given by the end of the Member's shift.

For patrol personnel, all shift adjustments shall be made within the twenty-eight (28) day work period. For all other employees, all shift adjustments shall be made within a forty (40) hour work week. All shift adjustments will be completed at the time that the change in the shift is made. Except for unforeseeable circumstances, the Chief of Police shall make every effort to assure that no Member shall have more than one shift adjustment occur during a pay period.

10/9/18
Diana Uy


JUSTIN MURRAY
10/9/18


10/9/18

City of Scotts Valley CITY COUNCIL STAFF REPORT

DATE: November 7, 2018

TO: Honorable Mayor and City Council

FROM: Jessica Kahn, Civil Engineer

APPROVED: Jenny D. Haruyama, City Manager

SUBJECT: **STORM DRAINAGE MASTER PLAN UPDATE AND DRAFT
TRASH AMENDMENT TRACK 2 ALTERNATIVE COMPLIANCE
PLAN**

SUMMARY OF ISSUE

Background

In April 2015, the State Water Resources Control Board (State Water Board) adopted an Amendment to the Water Quality Control Plan collectively referred to as the “Trash Amendments.” Broadly, the Trash Amendments require significant new efforts to reduce discharges of trash from storm drain systems for all municipal agencies in the Central Coast region, including the City of Scotts Valley.

On January 17, 2019 Council approved a contract with NCE to complete a Storm Drain Master Plan Update inclusive of a Compliance Implementation Plan to meet the requirements of the statewide Trash Amendments.

Storm Drain Master Plan

The results of the storm drain analysis show limited flooding issues in the 10 and 100 year storm events, consistent with staff observations within the City. Based on the results of the storm drain analysis, observed flooding issues within the City, and trash amendment analysis (described below), two high priority CIP projects have been identified.

1. Scotts Valley Drive from El Pueblo Road to Willis Road (\$1.4M): Upsize section of storm drain serving Scotts Valley Drive and El Pueblo Road and replace inlets. The project would include replacement and upsizing of approximately 1,200 feet of storm drain pipe. Currently the undersized inlets are not capturing runoff during routine storm events.
2. Bioswale and culvert under Whispering Pines Drive/Vista Del Lago (\$372k): Replace culvert beneath Whispering Pines Drive and construct a bioswale upstream of culvert to infiltrate runoff and reduce maintenance issues. This will address the downstream channel and culvert that regularly flood.

Trash Amendment Implementation Plan

The Trash Amendments specify two different compliance options, or “tracks”. Track 1 requires the installation, operation, and maintenance of Full Capture Systems that treat runoff in the City. Track 2 requires installation, operation, and maintenance of any combination of Full Trash Capture Systems, Multi-Benefit Projects, other Treatment Controls, and/or Institutional Controls. In a September 1, 2017, letter to the Water Board, the City selected Track 1 for trash compliance. Subsequently, a baseline assessment and initial siting for Full Capture Systems determined that Track 1 would be cost prohibitive due to the number of devices that would need to be installed and maintained to treat approximately 500 acres required by the Trash Amendments (a cost of approximately \$2M over 10 years). Track 2 allows for a reduction of these devices in combination with other non-infrastructure actions resulting in significant savings to the City (reducing costs to approximately \$300k over 10 years).

The Draft Implementation Plan (Plan) provides basic information about the City and the City’s storm sewer system. Those On-Land Visual Trash Assessment surveys produced a base-condition map of the City, showing the varying levels of trash generation that were determined as a result of the field work. The Plan then describes proposed measures, including installation of Full Capture Systems (FCS), an enhanced street sweeping program, community cleanup events, including education and outreach that the City will implement in order to reduce trash levels to Full Trash Capture or Full Trash Capture Equivalent over the next 10 years. The final section describes how the City will implement the Plan, in a phased manner, per a generalized schedule, and report annual results to the Water Board, summarized below.

The City plans to accomplish the tasks listed below to work toward compliance:

- Submit Implementation Plan to the Water Board for approval
- Plan and install FCS in four locations in the public right-of-way
- Plan and implement Full Trash Capture Equivalent actions
 - Initiate up to two jurisdiction-wide public education programs
 - Implement site-specific street sweeping
 - Implement site-specific litter pickup event
 - Identify participating properties and obtain contact information for owner in order to coordinate with private land owners
- Conduct two progress assessments of at least 10% of the treated areas
- Update trash reduction data to assess compliance status

The City is required to submit an Implementation Plan by December 1, 2018 including the proposed locations of all Full Capture Systems and where any combination of controls will be implemented that will achieve Full Capture Equivalency by December 2030.

FISCAL IMPACT

The ten-year fiscal impact for trash amendment compliance is anticipated to be approximately \$300,000. While this amount includes some modest one-time capital expenses (\$4,000), it is mainly comprised of ongoing operational costs such as

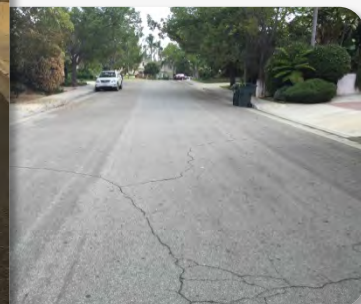
maintenance, education, and outreach, and non-infrastructure program expenses. The continuation of these ongoing expenses beyond ten years will ultimately depend on the trash reduction outcomes. These costs are not budgeted, but are anticipated to be presented to Council on an annual basis under the Public Works Capital Projects and the Public Works Operations and Maintenance budgets once the Trash Amendments are incorporated into the City’s Small Municipal Separate Storm Sewer Systems (MS4) Permit.

Together, the two capital projects included in the Storm Drainage Master Plan Update are estimated at \$2M. Stormwater capital projects are generally funded through the General Fund, development applicant fees and special funds for capital improvements. The needed funds will be evaluated annually and be incorporated in proposed budgets over the next several years. No drainage improvement projects are anticipated for FY 2019/20.

STAFF RECOMMENDATION

This is an informational item and does not require Council action.

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Storm Drain Master Plan Update

City of Scotts Valley, Storm Drain Master Plan Update
October 2018



Reno, NV

1885 S. Arlington Avenue
Reno, NV 89501



City of Scotts Valley

One Civic Center Drive
Scotts Valley, CA 95066

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1.0 INTRODUCTION

1.1 PROJECT BACKGROUND AND PURPOSE

The City of Scotts Valley commissioned this updated Storm Drain Master Plan to determine, prioritize, and estimate the capital improvement needs of the City's storm drain collection system, including compliance with amendment to the *Water Quality Control Plan for the Ocean Waters of California to Control Trash* and *Part 1 Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California* ("Trash Amendments").

This Master Plan update focused on the following goals:

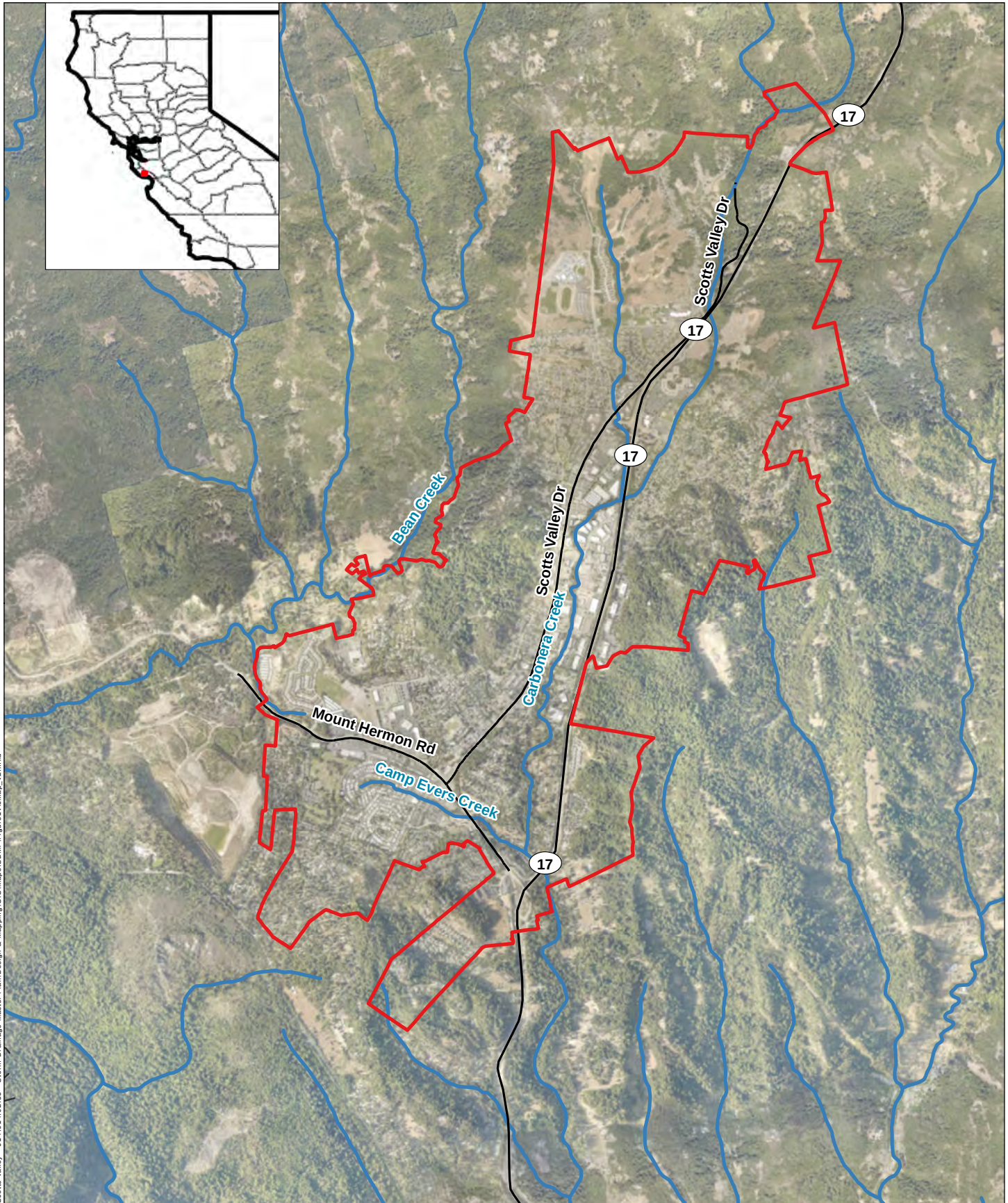
- Map the system and develop a drainage geodatabase within high priority areas of the City
- Model the storm drain system
- Using the modeling results, trash analysis, and City collected observations, identify high priority capital improvement projects including projects associated with Trash Amendment compliance.

1.2 OVERVIEW AND SETTING

The City of Scotts Valley is in Santa Cruz County on the upland slope of the Santa Cruz Mountains, ranging in elevation from approximate 500 feet to 1000 feet above mean sea level (ABSL). It has a mild climate with typical 70-degree highs in the summer and 40-degree lows in the winter. The average precipitation is 31.6 inches with all of it falling as rain. Carbonera Creek flows through the middle of the city, roughly parallel to California Highway 17. Camp Evers Creek, a tributary to Carbonera Creek, flows through the southwest portion of the city. Bean Creek borders the city to the northwest. Please see **Figure 1.1** Vicinity Map.

The City of Scotts Valley has an extensive drainage system. Most of the storm drain systems are short and drain directly to the Carbonera or Camp Evers Creek or tributaries to the creeks. Longer systems run below Scotts Valley Drive and Mount Hermon Road.

NCE worked with the City to divide the project area into high, medium and low priority areas based on land use and hydraulic concerns. The high priority areas encompass the commercial and industrial corridors and the major drainage infrastructure. Data collection and hydraulic analysis focused on the high priority areas. Some data were collected outside of high priority areas where specific drainage issues were identified. **Figure 1.2** shows the high priority areas



Legend
 City Boundary - Project Area
 Main Roadways
 Streams



City of Scotts Valley SDMP Update Vicinity Map

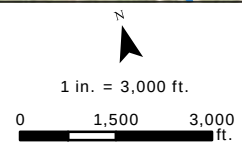


FIGURE
1.1

SOURCE
 ESRI World Imagery basemap

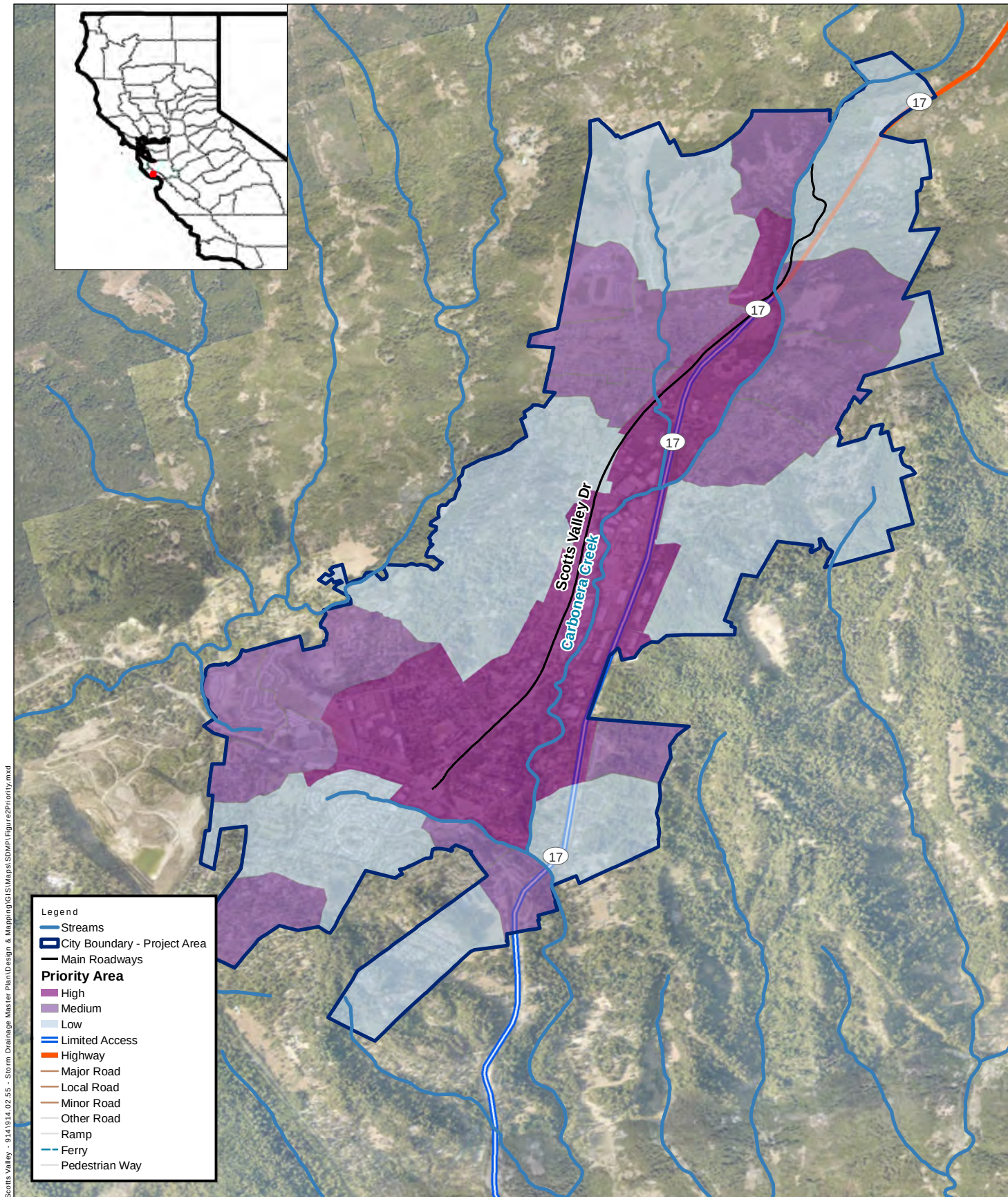
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City of Scotts Valley SDMP Update Priority Areas

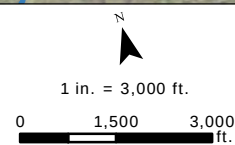


FIGURE
1.2

SOURCE
ESRI World Imagery basemap

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2.0 EXISTING INFORMATION AND DATA SOURCES

2.1 DRAINAGE SYSTEM

Santa Cruz County has GIS storm drain conduit and junction data available. There is substantial coverage of Scotts Valley, however, the data contain little detail, such as size, elevation or type, and it is not accurate in many locations. It was used as a rough outline when collecting storm drain data in the field. Please see **Figure 2.1** for the Santa Cruz County storm drain data delineation.

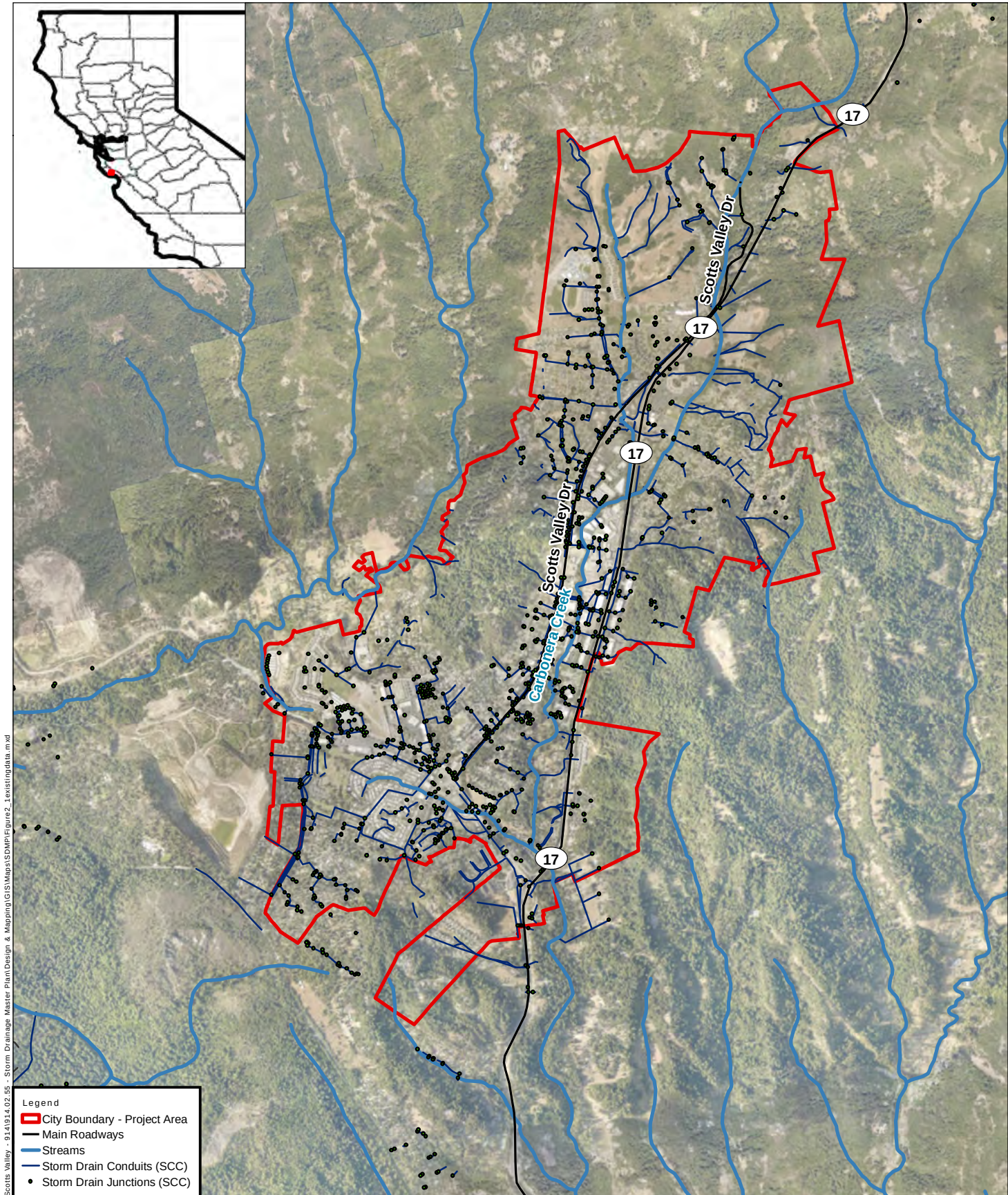
The City provided to NCE data collected and compiled by 2nd Nature for the City's Municipal Separate Storm Sewer System (MS4) permit compliance. The data includes storm drain outfalls and catchment areas draining to the outfalls. The catchments were used in project planning and the outfall locations were used in the storm drain data collection. Catchment delineation, receiving waters, and MS4 outfalls are shown on **Figure 2.2**.

There is a FEMA delineated Zone AE floodplain of Carbonera Creek (meaning that the mapping includes Base Flood Elevations) through the city. The floodplain is confined to the channel through the city except for upstream of Granite Creek Road, where the mapped floodplain expands to include a small residential area, and upstream of Disc Drive, where it expands to cover an industrial area. Zone A floodplains (meaning no base flood elevations have been determined) have been delineated for Bean Creek and Carbonera Creek just upstream and downstream of the City's boundaries. Please see **Figure 2.3** for FEMA flood delineations.

Known flood issues were obtained from the City's database and from interviews with maintenance personnel. The locations and issues were evaluated and are shown on **Figure 2.4**.

2.2 TOPOGRAPHIC DATA

Santa Cruz County has GIS contour data available compiled from a 2003 aerial orthographic photo project. The coverage available for Scotts Valley is at a 2-foot contour interval. The contour data were used for delineation of catchments for the storm drain analysis.



- Legend**
- City Boundary - Project Area
 - Main Roadways
 - Streams
 - Storm Drain Conduits (SCC)
 - Storm Drain Junctions (SCC)



City of Scotts Valley SDMP Update

Santa Cruz County Storm Drain Data

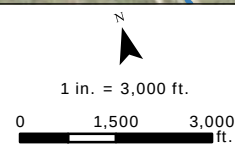


FIGURE
2.1

SOURCE
ESRI World Imagery basemap

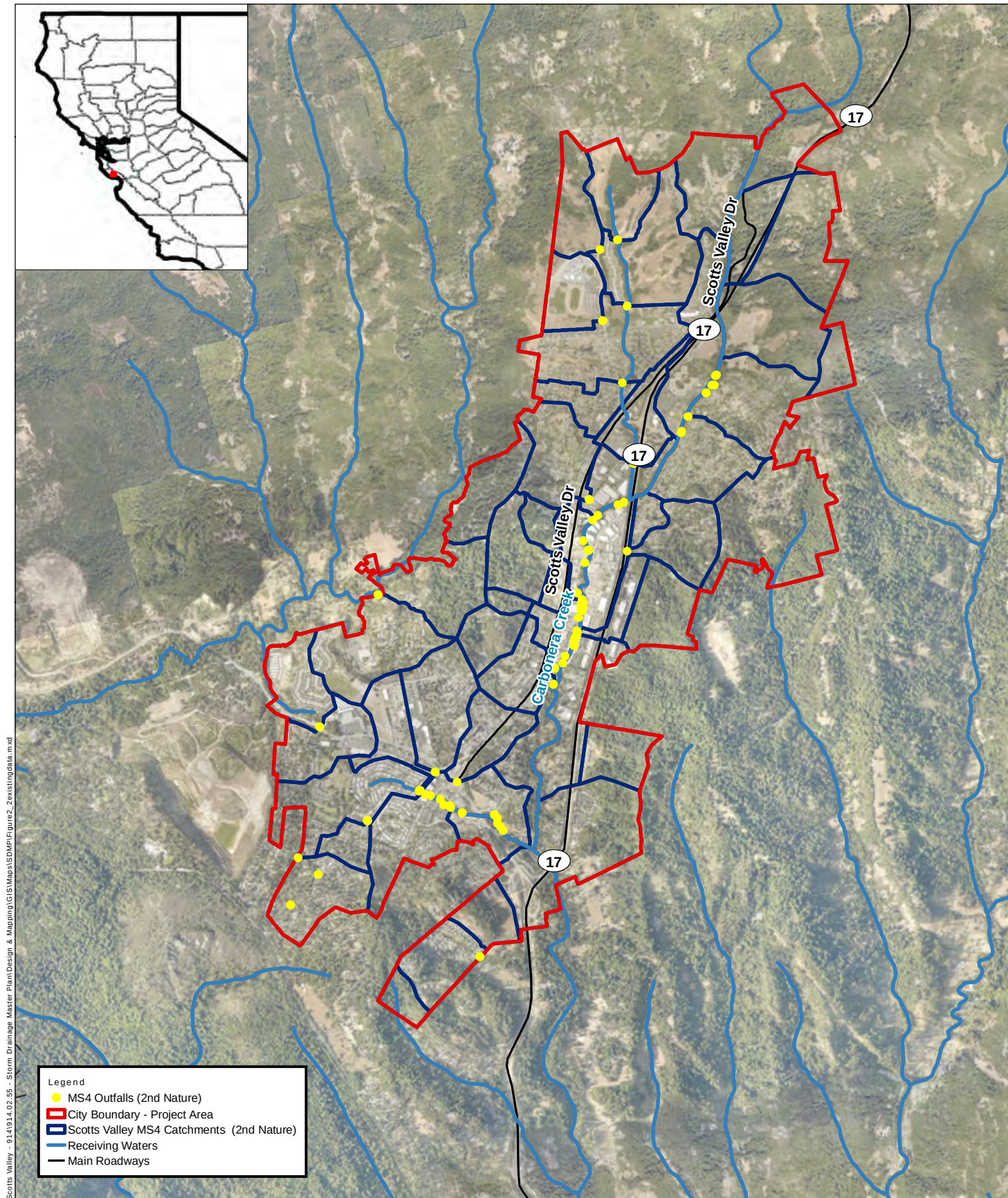
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City of Scotts Valley SDMP Update MS4 Permit Compliance Data

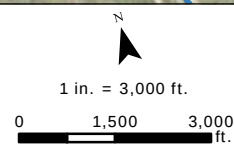


FIGURE
2.2

SOURCE
ESRI World Imagery basemap

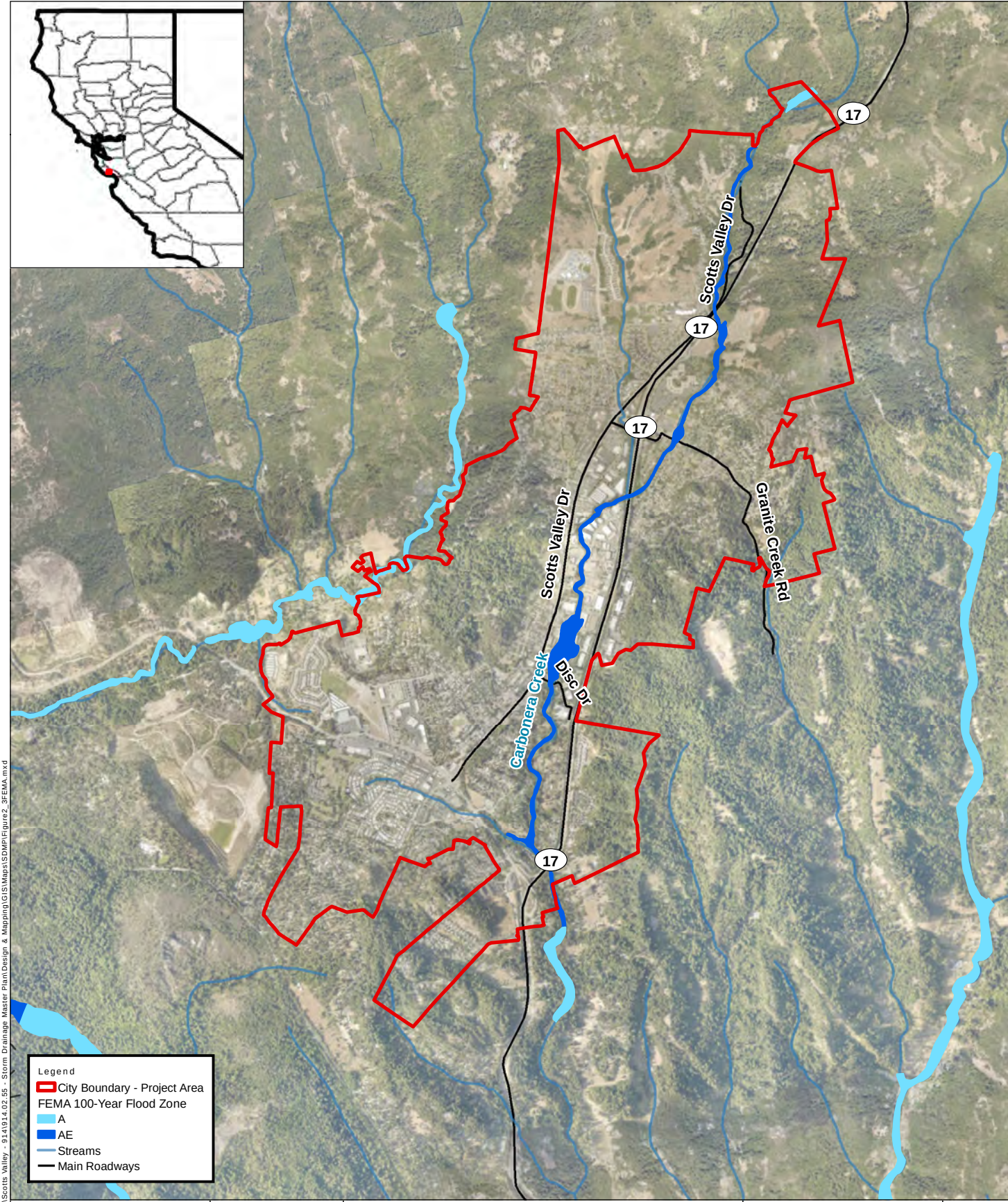
JOB NUMBER
914.02.55

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DATE
10/08/2018

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Legend

- City Boundary - Project Area
- FEMA 100-Year Flood Zone
- A
- AE
- Streams
- Main Roadways



City of Scotts Valley SDMP Update
FEMA Flood Zones

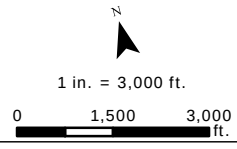
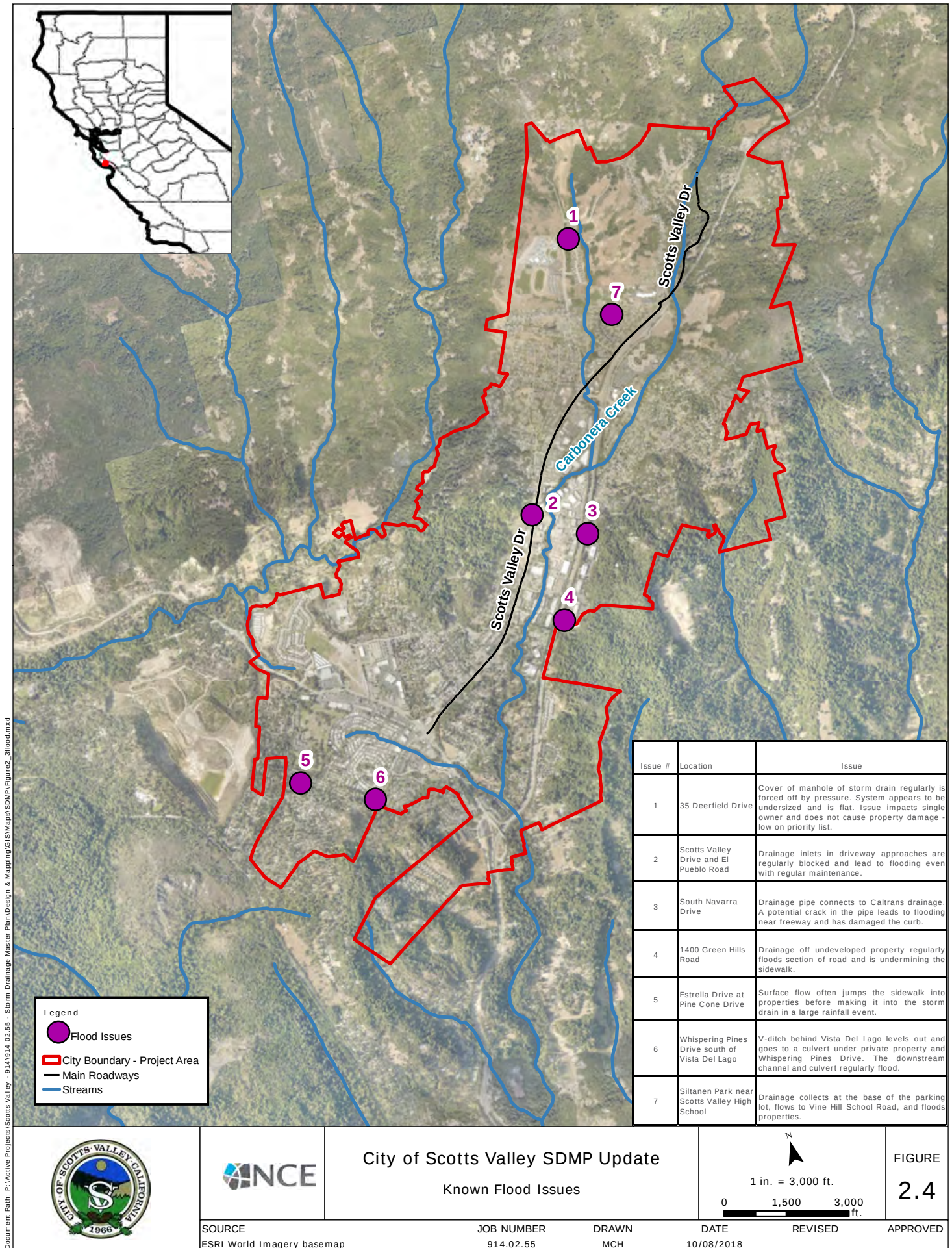


FIGURE
2.3

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
ESRI World Imagery basemap	914.02.55	MCH	10/08/2018		



3.0 DATA COLLECTION AND GEODATABASE (GDB)

3.1 DATA COLLECTION

Due to unknown spatial accuracies and limited attributes associated with the County storm drain system data, NCE determined that additional data was necessary. Data were collected using a Trimble Geo7x Centimeter Edition handheld GPS unit tethered to an external antenna and then post-processed against local base station data to achieve the required spatial resolution of 1.0 foot horizontal and 0.5 foot vertical. Most of the data met the spatial requirements, but with any GPS-based data collection there was a small percentage (approximately 15%) which fell outside the accuracy expectations due to physical obstructions, constellation issues, and/or base station-related problems. This negligible error does not impact the storm drain analysis.

NCE collected a total of 993 features including 466 junctions and 527 conveyances with procedures outlined in the Project Delivery Memo, included as **Appendix C**.

3.2 SUMMARY TABLE

A summary of the storm drain data gathered during the data collection is presented in **Table 3.1** below.

Table 3.1 Summary of Storm Drain Data Gathered During Data Collection

Feature Name	Junction	Conveyance	Number of Features Collected
Channel		X	7
Culvert		X	11
Pipe		X	507
V-Ditch		X	2
Channel*	X		14
Culvert*	X		23
V-Ditch*	X		4
Inlet	X		276
Junction	X		1
Manhole	X		111
Outfall	X		31
Other	X		6
Total			993
* Junctions were collected at each upstream and downstream end of channels, culverts and v-ditches			

4.0 HYDROLOGY AND HYDRAULIC ANALYSIS

4.1 METHODS

The 10- and 100-year peak runoff was calculated for each catchment based on methods outlined in the Scotts Valley Standard Details and Specifications (Standard Details), last updated in December 2017. The Rational Method was used to calculate peak flow rates. Runoff coefficients were calculated using Table 3-1 in the Standard Details and the parcel data/land use obtained from the City. Time of concentrations were based on channel and overland flow, set to 10 minutes minimum. Intensities were obtained from SD-01 in the Standard Details. Tables showing runoff coefficients and time of concentration calculations are included in **Appendix A**.

Hydraulic analysis was completed for storm drain systems located within high priority areas. Elevation, size and specifications for the storm drain pipes, inlets, manholes, and outfalls were based on the data collected as described in **Section 3**. Inlet capacities were not modeled; storm drain capacities were evaluated based solely on the pipe capacities of the pipes. Catchments were delineated to each major section of storm drain pipe as shown in **Figure 4.1**.

Hydraulic analysis was done using Innovyze XPStorm Version 2017.2.1. XPStorm is an integrated hydrologic and hydraulic stormwater and floodplain model. The Scotts Valley Storm Drain Master Plan analysis used the one-dimensional pipe flow modeling functionality of XPStorm to analyze the capacity of the existing storm drain under gravity and pressurized conditions.

4.1.1 Hydraulic Model Configuration

In XPStorm, nodes physically represent inlets, outlets or junctions (including manholes, inlets, and outfalls) and links represent conveyance features (including storm drain pipe and culverts). A total of 183 nodes and 160 links were included in the Scotts Valley XPStorm model. To cut down on model complexity and the number of catchments, the storm drain systems were simplified. Most lateral pipes connecting inlets to main lines were not modeled and some short sections between manholes were combined. Catchments concentrating at an inlet connected to a lateral draining to a manhole were modeled as concentrating at the downstream manhole. Storm drain pipe roughness was set to a default value of 0.014. Downstream boundaries were set to normal depth within the pipes. Additional modeling assumptions are included in **Appendix D**.

4.1.2 Limitations in the Storm Drain Database and Implications for Simulation

The modeling techniques outlined in this report are well-suited to capturing potential inadequacies throughout the entire storm drain network. However, large, City-scale modeling of this kind should be interpreted in the appropriate context. The following are the primary limitations associated with this type of modeling.

- The model results were checked against observations made by the City. The models simulate the 10- and 100-year rainfall events, which occur infrequently enough that field observations may not be available. As a result, model results may show lack of capacity where no previous flooding has been observed.
- Information for the storm drain network, particularly private elements of the system, was missing or inconsistent, largely due to blind connections, limited private property access, or dense vegetation preventing access to storm drain outlets. As a result, modifications to survey data were made using the rules outlined in **Appendix D** to give a best estimate. Model results represent current conditions given the information available. If in the future new or more accurate data is obtained, the model results can be updated if resources are available.
- The XPStorm model assumes that the only limiting factor on storm drain flow is pipe capacity when, in reality, inlet capacity also limits flow into the system.

5.0 RESULTS

The full pipe network and catchments modeled in XPStorm along with results for the 10- and 100-year storm drain analysis are presented on **Figures 5.1 and 5.2**. Complete results are included in **Appendix B**. Computed peak flows for each event were compared to computed pipe capacity. Storm drain pipes where the computed peak flows are less than 90% of pipe capacity are shown in green. Pipes whose capacities are close to the computed peak flows (peak flows are between 90% and 100% of capacity) are shown in yellow. Pipes that have capacities less than the computed peak flows, and therefore have the potential to be under pressure during the simulated storm, are shown in red. Nodes where the computed hydraulic grade line (HGL) is above ground are highlighted on **Figures 5.1 and 5.2** as “surcharged”.

5.1 STORM DRAIN SIMULATION RESULTS

The results of the storm drain analysis show limited flooding issues in the 10- and 100-year events with isolated storm drain sections flowing under pressure in the 10-year event and most pipes flowing under pressure in the 100-year event. There are a few places where the computed HGL is above ground and could cause flooding in the 10-year event and many places the computed HGL is above ground in the 100-year event. This is consistent with observations within the City of few drainage problems associated with the storm drain.

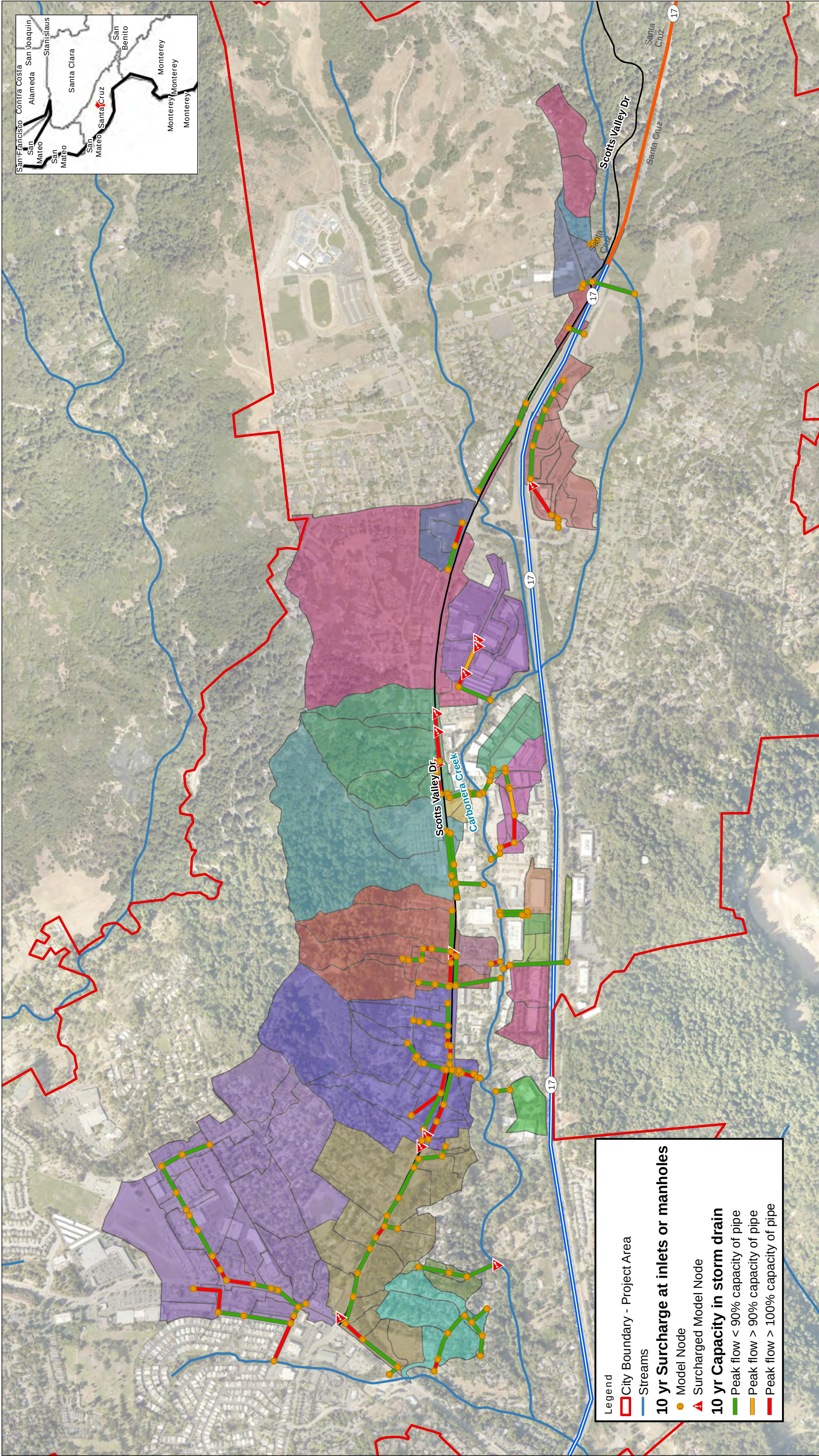
One area where there has been consistent observed flooding is on Scotts Valley Road and El Pueblo Road, where the model shows the HGL above the ground in both the 10- and 100-year events and all the pipes under pressure in both events.

5.2 CAPITAL IMPROVEMENT PROGRAM (CIP)

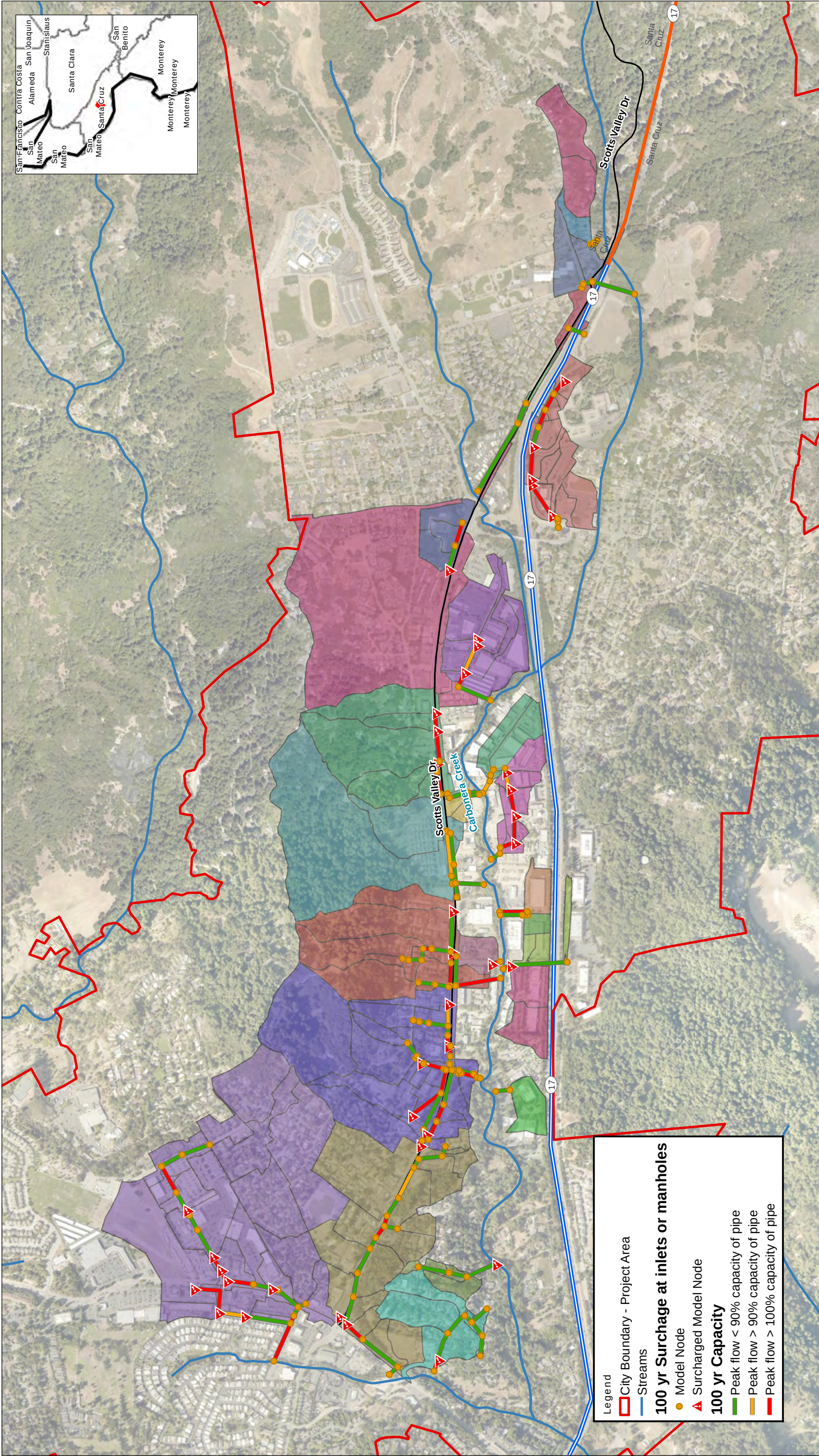
Based on the results of the storm drain analysis, observed flooding issues within the City, and trash amendment analysis (as detailed in the Trash Compliance Implementation Plan), three high priority CIP projects have been identified. Capital projects included in this plan for Trash Amendment compliance are actions the City can complete in the public right-of-way. Additional actions required to meet the Trash Amendment are described in the City’s Trash Compliance Implementation Plan that is required by the Regional Water Quality Control Board. Preliminary cost estimates and project descriptions are shown in **Table 5.1** and in **Figures 5.3** through **5.8**.

Table 5.1 Proposed CIP Projects

Project	Location	Description	Capital Cost	Annual Maintenance Cost
Scotts Valley Storm Drain Upsize	Scotts Valley Drive from El Pueblo to Willis Road	Upsize 1,200 feet of storm drain in Scotts Valley Drive and El Pueblo Road and replace inlets	\$1,400,000	\$1,700
Bioswale and culvert upsize under Whispering Pines Drive	Whispering Pines and southern edge of Vista Del Lago.	Replace culvert beneath Whispering Pines Drive and construct bioswale upstream of culvert to infiltrate runoff.	\$372,000	\$1,200
Trash Amendment Compliance	Various	Install small FTC devices and enhance street sweeping	\$3,900	\$400



		City of Scotts Valley SDMP Update 10-year XPStorm Results			 1 in. = 1,000 ft. 0 525 1,050 ft.	FIGURE 5.1
SOURCE ESRI World Imagery basemap		JOB NUMBER 914.02.55	DRAWN mhorvath	DATE 10/09/2018	REVISED -	APPROVED -



Legend

City Boundary - Project Area

Streams

100 yr Surge at inlets or manholes

Model Node

Surcharged Model Node

100 yr Capacity

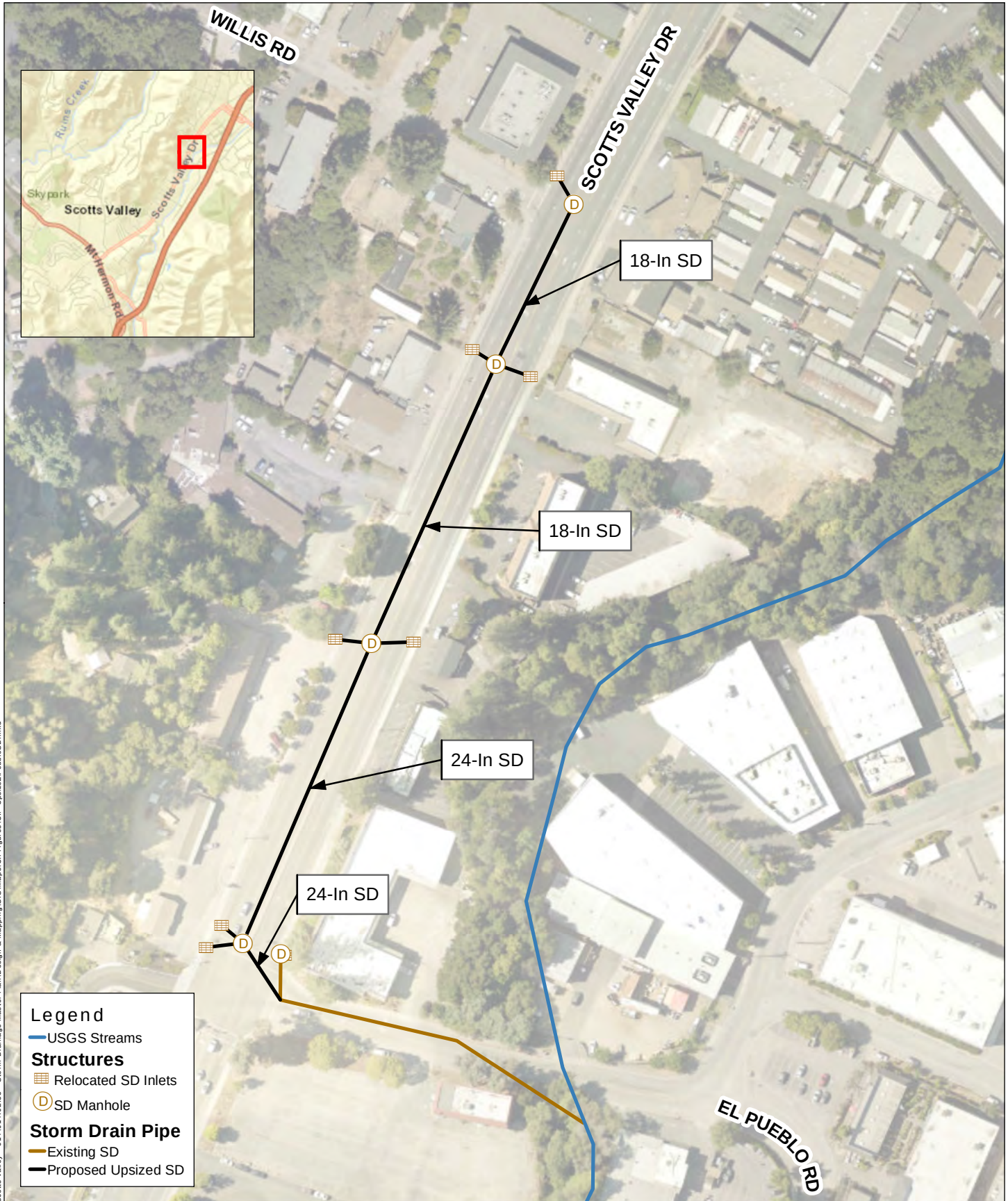
Peak flow < 90% capacity of pipe

Peak flow > 90% capacity of pipe

Peak flow > 100% capacity of pipe

		City of Scotts Valley SDMP Update 100-year XPStorm Results	1 in. = 1,000 ft. 0 525 1,050 ft.	FIGURE 5.2		
SOURCE ESRI World Imagery basemap		JOB NUMBER 914.02.55	DRAWN mhorvath	DATE 10/09/2018	REVISED	APPROVED

CITY OF SCOTTS VALLEY Stormwater Capital Improvement Program											
Date: October 2018		Prepared By: NCE									
Project Title: Scotts Valley Storm Drain Upsize											
Location: Scotts Valley Drive storm drain line from El Pueblo Road to Willis Road		Est. Days Required for Construction:		60		Project #		1			
Program: Storm Drain Projects		Project Priority Area:		Expected Service Life:		25-50 years		Figure			
Est. Project Cost:		\$1,392,300		Est. Annual Maintenance Cost:		\$ 1,700		5.3			
Project Description:		Justification:		Public Benefit:		Decrease inundation severity, lessen nuisance flow and reduce flood risks to private property and public right-of-way.					
Upsize section of storm drain draining Scotts Valley Drive and El Pueblo Road and replace inlets. The project would include replacement and upsizing of approximately 1,200 feet of storm drain pipe.		There have been observations that this area floods and the inlets are not capturing runoff during routine flood events. Storm drain analysis shows the connecting pipes are undersized for the 10-year event. Replacement of inlets is included as they are not positioned correctly in the road to capture flow efficiently.									
CONSTRUCTION COST ESTIMATE				MAINTENANCE COST ESTIMATE							
Item	Unit	Quantity	Unit Cost	Total	Unit Maint. Cost LF					Annual Freq.	Annual Maint.
18" RCP Storm Drain Pipe	LF	815	\$ 250.00	\$ 203,750	\$ 4.00					1x / 3yrs	\$ 1,087
24" RCP Storm Drain Pipe	LF	443	\$ 350.00	\$ 155,050	\$ 4.00					1x / 3yrs	\$ 591
Storm Drain Manhole	EA	4	\$ 12,000.00	\$ 48,000							See Note ◊
Drain Inlet Structure	EA	8	\$ 7,000.00	\$ 56,000							See Note ◊
Aggregate Base	TON	882	\$ 80.00	\$ 70,560							See Note ◊
AC Paving	TON	522	\$ 120.00	\$ 62,640							See Note ◊
General Conditions			15%	\$ 90,000							
Construction Contingency			30%	\$ 206,000							
Inflation			20%	\$ 179,000							
Construction Subtotal				\$ 1,071,000							
Planning, Design, Permitting & CM			30%	\$ 321,300							
Project Total				\$ 1,392,300	Total Annual Maintenance		\$ 1,700				
Notes:											
◊ Assuming proper design and construction, maintenance cost should be negligible for these items. See Figure 5.4 for details related to pipe sizing and length.											



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SOURCE
ESRI World Imagery basemap

City of Scotts Valley SDMP Update
 Scotts Valley Drive Storm Drain Upsize
 El Pueblo Road to Willis Road

JOB NUMBER
914.02.55

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10/8/2018

1 in. = 150 ft.

0 75 150 ft.

DATE
10/8/2018

REVISED
10/9/2018

FIGURE
5.4

APPROVED
mhorravath

CITY OF SCOTTS VALLEY Stormwater Capital Improvement Program									
Date: October 2018				Prepared By: NCE					
Project Title: Bioswale and culvert upsized under Whispering Pines Drive									
Whispering Pines and southern edge of Vista Del Lago.				Project Priority Area:		Est. Days Required for Construction:		Project #	
Program: Storm Drain Projects				Est. Project Cost:		Expected Service Life:		2	
				\$371,800		25-50 years		Figure	
Project Description:				Justification:		Est. Annual Maintenance Cost:		5.5	
Replace culvert beneath Whispering Pines Drive (possibly with upsizing) and construct bioswale upstream of culvert to infiltrate runoff.				Currently, a small v-ditch directs flow between private properties just south of the Vista Del Lago subdivision. The channel is constantly flowing and the culvert overflows. The project is to construct a bioswale in place of the v-ditch to promote infiltration and reduce maintenance issues. Sediment cans will collect sediment upstream of the culvert. The sediment cans would be placed such that they would be accessible between lots for maintenance.		Public Benefit:		Decrease inundation severity and lessen flood risk to properties along V-ditch.	
				CONSTRUCTION COST ESTIMATE			MAINTENANCE COST ESTIMATE		
Item	Unit	Quantity	Unit Cost	Total		Unit Maint. Cost LF	Annual Freq.	Annual Maint.	
Bioswale - Includes 24" Perforated HDPE, and Drain Rock	LF	500	\$ 250.00	\$ 125,000		\$ 4.00	1x / 3yrs	\$ 667	
24" SD RCP Storm Drain Pipe	LF	210	\$ 150.00	\$ 31,500		\$ 4.00	1x / 3yrs	\$ 280	
Sediment Can	EA	3	\$ 5,000.00	\$ 15,000		\$ 300.00	1x/1yrs	\$ 300	
Sidewalk and Curb & Gutter	SF	24	\$ 25.00	\$ 600				See Note ◇	
Aggregate Base	Tons	6	\$ 80.00	\$ 480				See Note ◇	
AC Paving	Tons	5	\$ 120.00	\$ 600				See Note ◇	
General Conditions			15%	\$ 26,000					
Construction Contingency			30%	\$ 60,000					
Inflation			20%	\$ 27,000					
Construction Subtotal				\$ 286,000					
Planning, Design, Permitting & CM			30%	\$ 85,800					
Project Total				\$ 371,800		Total Annual Maintenance		\$ 1,200	
Notes:									
◇ Assuming proper design and construction, maintenance cost should be negligible for these items. See Figure 5.6 for details related to pipe sizing and length.									

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Legend

- Inlet Structure
- ▬ 24in Culvert
- Bioswale



City of Scotts Valley SDMP Update
Whispering Pines Bioswale

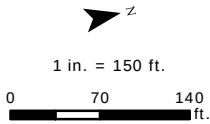
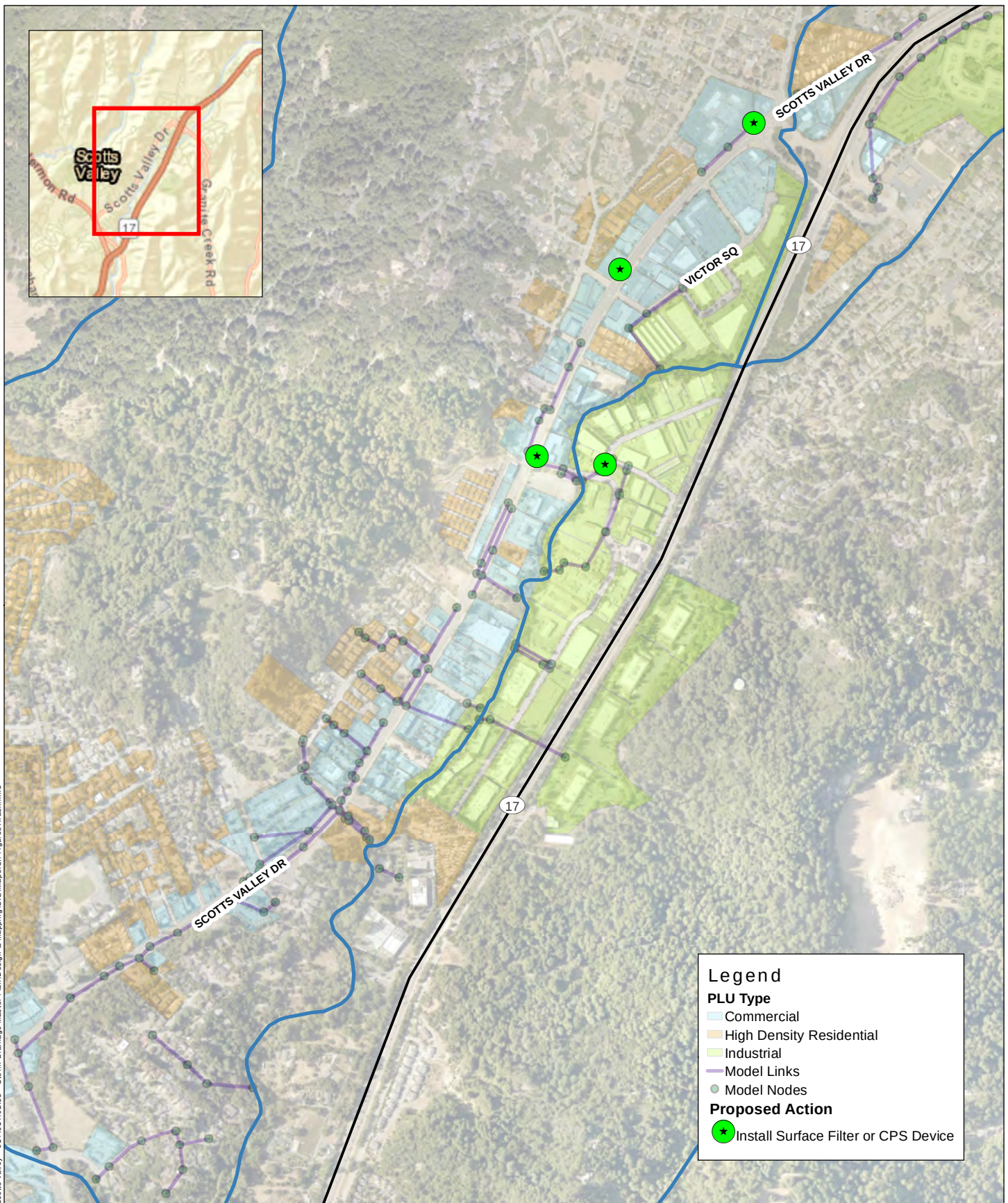


FIGURE
5.6

SOURCE ESRI World Imagery basemap	JOB NUMBER 914.02.55	DRAWN skobs	DATE 10/8/2018	REVISED 10/9/2018	APPROVED mhorvath
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CITY OF SCOTTS VALLEY									
Stormwater Capital Improvement Program									
Date: October 2018								Prepared By: NCE	
Project Title: Trash Amendment Compliance						Project #			
Location: Various		Project Priority Area:		Est. Days Required for Construction:		2		3	
Program: Trash Ammendment		Est. Project Cost: \$3,900		Expected Service Life:		10 years		Figure	
Project Description:		Est. Annual Maintenance Cost:		\$		400		5.7	
Project Description:		Justification:		Public Benefit:					
Install small Full Trash Capture (FTC) devices at locations shown in Figure 5.8 to reduce trash generation from Priority Land Use (PLU) areas and support compliance with the Trash Amendments. This project lists actions that can be conducted in the public right-of-way. Coordination with private property owners will be required in other locations as discussed in the Track 2 Trash Implementation Plan.		FTCs are recommended at locations where an entire PLU drains to the public right-of-way (or does not drain to an internal private storm drain system).		Improved water quality Regulatory Compliance					
		CONSTRUCTION COST ESTIMATE			MAINTENANCE COST ESTIMATE				
Item	Unit	Quantity	Unit Cost	Total	Unit Maint. Cost EA	Annual Freq.	Annual Maint.		
Full Trash Capture Device - CPS Type	EA	4	\$ 600.00	\$ 2,400	\$ 100.00	4x/yr	\$ 400		
		</							



City of Scotts Valley SDMP Update
Trash Ammendment Compliance
Proposed CIP

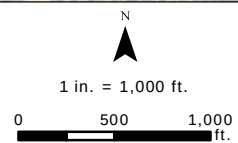


FIGURE
5.8

SOURCE
ESRI World Imagery basemap

JOB NUMBER
914.02.55

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DATE
10/8/2018

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10/9/2018

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- SantaCruzCountyGIS, Santa Cruz County Open Data, Storm Drain Conduits, compiled from multiple sources including cities of Santa Cruz, Watsonville and Scotts Valley, Data Source: gis.co.santa-cruz.ca.us, accessed from [http://www.co.santa-cruz.ca.us/Departments/GeographicInformationSystems\(GIS\).aspx](http://www.co.santa-cruz.ca.us/Departments/GeographicInformationSystems(GIS).aspx) in February 2018
- SantaCruzCountyGIS, Santa Cruz County Open Data, Storm Drain Junctions, compiled from multiple sources including cities of Santa Cruz, Watsonville and Scotts Valley, Data Source: gis.co.santa-cruz.ca.us, accessed from [http://www.co.santa-cruz.ca.us/Departments/GeographicInformationSystems\(GIS\).aspx](http://www.co.santa-cruz.ca.us/Departments/GeographicInformationSystems(GIS).aspx) in February 2018
- SantaCruzCountyGIS, Santa Cruz County Open Data, Topographic Contour Lines, derived from 2003 aerial ortho photo project, Data Source: gis.co.santa-cruz.ca.us, accessed from [http://www.co.santa-cruz.ca.us/Departments/GeographicInformationSystems\(GIS\).aspx](http://www.co.santa-cruz.ca.us/Departments/GeographicInformationSystems(GIS).aspx) in February 2018.

APPENDIX A

HYDROLOGIC INPUT PARAMETERS

Catchment	Catchment Area (AC)	Land Use Area (SF) and Runoff Coefficient										Area Weighted C Value	Longest Water Course (FT)	Average Catchment Slope	T _l (min)	T _c (min)	T _{total}	T _{±10 Min.}
		COM	IMP	IND	MFR	RUR	SFR	Road										
								0.80	0.90									
IN-1803261308 - 1	8.25	10,506	13,126	-	10,805	116,435	197,104	11,292	11,292	0.43	1,708	20.38	4.42	13.40	17.82	17.82	17.82	
IN-1803261418 - 1	1.20	-	-	-	27,229	-	9,118	15,949	15,949	0.64	264	12.81	3.54	1.37	4.91	4.91	10.00	
IN-1803261453 - 1	8.10	-	-	-	24,802	244,291	49,747	34,041	34,041	0.36	1,689	22.45	4.73	13.24	17.97	17.97	17.97	
IN-1803271146 - 1	3.29	-	-	-	105,239	10,333	-	27,721	27,721	0.60	868	34.16	2.78	6.40	9.18	9.18	10.00	
IN-1803271426 - 1	1.99	24,830	-	-	59,815	2,090	-	-	-	0.61	715	36.45	2.66	5.13	7.79	7.79	10.00	
IN-1803280734 - 1	4.16	25,451	-	122,246	-	-	-	33,314	33,314	0.75	922	2.44	4.68	6.85	11.53	11.53	11.53	
IN-1803280739 - 1	3.17	-	-	116,869	-	-	-	21,286	21,286	0.73	996	2.53	4.89	7.47	12.36	12.36	12.36	
IN-1803280746 - 1	0.33	3,703	-	3,429	-	-	-	7,278	7,278	0.83	225	1.13	4.67	1.04	5.71	5.71	10.00	
IN-1803280818 - 1	2.63	849	-	99,514	-	-	-	14,167	14,167	0.73	583	3.68	4.32	4.03	8.35	8.35	10.00	
IN-1803280825 - 1	1.87	73,196	-	476	-	-	-	7,829	7,829	0.81	432	2.07	4.10	2.77	6.87	6.87	10.00	
IN-1803280912 - 1	1.38	9,087	-	40,624	-	-	-	10,403	10,403	0.75	312	2.00	5.00	1.77	6.77	6.77	10.00	
IN-1803280946 - 1	1.75	41,563	-	28,280	-	-	-	6,347	6,347	0.77	689	1.28	5.48	4.91	10.39	10.39	10.39	
IN-1803280956 - 1	0.55	8,017	-	15,763	-	-	-	-	-	0.73	326	8.93	3.21	1.88	5.09	5.09	10.00	
IN-1803281008 - 1	0.81	-	-	35,385	-	-	-	-	-	0.70	274	7.06	3.76	1.45	5.21	5.21	10.00	
IN-1803281136 - 1	1.49	-	-	43,479	-	-	-	16,570	16,570	0.76	409	1.31	5.60	2.58	8.18	8.18	10.00	
IN-1803290722 - 1	2.79	78,144	-	21,019	-	-	-	22,213	22,213	0.80	527	4.95	3.17	3.56	6.73	6.73	10.00	
IN-1803290731 - 1	2.05	72,050	-	-	-	-	-	17,384	17,384	0.82	469	4.64	3.02	3.07	6.09	6.09	10.00	
IN-1803290747 - 1	2.65	81,086	-	-	-	-	-	30,322	30,322	0.81	624	6.32	2.83	4.36	7.19	7.19	10.00	
IN-1803290825 - 1	16.67	88,608	3,638	-	14,912	252,359	313,012	53,799	53,799	0.46	1,905	17.47	4.44	15.04	19.48	19.48	19.48	
IN-1803290836 - 1	6.10	13,482	-	-	27,389	146,931	78,024	63	63	0.37	1,104	25.10	4.49	8.37	12.86	12.86	12.86	
IN-1803290849 - 1	1.39	48,899	-	-	1,428	2,942	-	7,172	7,172	0.78	479	29.78	1.86	3.16	5.02	5.02	10.00	
IN-1803290849 - 2	0.40	38	-	-	-	-	-	17,162	17,162	0.90	425	1.03	3.56	2.71	6.27	6.27	10.00	
IN-1803290948 - 1	4.55	92,758	-	-	12,098	53,881	16,705	22,789	22,789	0.62	1,166	19.92	3.19	8.89	12.08	12.08	12.08	
IN-1803291025 - 1	0.94	-	3,337	11,435	-	-	18,087	8,244	8,244	0.65	427	5.13	4.70	2.73	7.43	7.43	10.00	
IN-1803291104 - 1	2.68	25,016	12,044	-	200	10,355	7,090	62,042	62,042	0.79	1,174	28.09	1.84	8.95	10.79	10.79	10.79	
IN-1803291113 - 1	6.61	179,561	628	-	-	-	28,427	79,444	79,444	0.79	704	4.87	3.29	5.03	8.32	8.32	10.00	
IN-1803291148 - 1	0.91	35,861	-	-	-	-	-	3,696	3,696	0.81	420	4.00	3.29	2.66	5.95	5.95	10.00	
IN-1803291258 - 1	7.37	279,693	-	-	24,997	7,926	-	8,459	8,459	0.77	1,502	21.04	2.15	11.68	13.83	13.83	13.83	
IN-1803291313 - 1	20.96	51,638	22,999	-	3,914	496,333	189,156	148,922	148,922	0.45	1,351	25.86	3.96	10.42	14.38	14.38	14.38	
IN-1803291313 - 2	0.44	18,170	-	-	-	-	-	831	831	0.80	272	2.73	3.87	1.44	5.31	5.31	10.00	
IN-1803291459 - 1	6.22	149,685	44,270	-	19,501	-	41,467	16,078	16,078	0.75	1,436	17.59	2.42	11.13	13.55	13.55	13.55	
IN-1803291509 - 1	0.78	26,210	-	-	-	-	-	7,690	7,690	0.82	372	3.57	3.30	2.27	5.57	5.57	10.00	
IN-1803300748 - 1	8.19	36,325	29,894	-	28,770	-	39,104	222,632	222,632	0.81	1,698	14.56	2.14	13.32	15.46	15.46	15.46	
IN-1803301123 - 1	1.97	-	-	-	-	-	65,812	19,827	19,827	0.55	864	16.25	3.91	6.37	10.28	10.28	10.28	
IN-1804020844 - 1	0.34	7,378	-	-	-	-	-	7,568	7,568	0.85	263	2.44	3.35	1.36	4.71	4.71	10.00	
IN-1804020850 - 1	0.78	26,131	-	-	-	-	-	7,910	7,910	0.82	332	1.27	4.65	1.94	6.59	6.59	10.00	
IN-1804020856 - 1	0.37	15,292	-	-	-	-	-	988	988	0.81	202	0.86	5.49	0.85	6.34	6.34	10.00	
IN-1804020902 - 1	2.36	58,130	-	-	-	-	-	44,548	44,548	0.84	392	2.46	3.47	2.43	5.90	5.90	10.00	

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Catchment	Catchment Area (AC)	Land Use Area (SF) and Runoff Coefficient										Area Weighted C Value	Longest Water Course (FT)	Average Catchment Slope	T ₁ (min)	T _c (min)	T _{total}	T _{2.10 Min.}				
		COM		IMP		IND		MFR		RUR									SFR		Road	
		0.80	0.90	0.90	0.70	0.70	0.55			0.25	0.45								0.90			
IN-1804021137 - 1	2.65	91,270	-	-	3,582	-	-	-	-	-	-	20,682	3.24	7.70	10.94							
IN-1804021137 - 2	1.84	101	-	-	53,486	-	-	-	-	-	-	26,753	3.96	3.74	7.50							
IN-1804021157 - 1	3.61	149,326	-	-	-	-	-	-	-	-	-	7,924	2.20	4.01	6.20							
IN-1804021157 - 2	1.60	51,630	-	-	-	-	-	-	-	-	-	18,052	2.20	3.74	2.79							
IN-1804021400 - 1	4.94	112,949	-	-	-	-	-	10,592	33,301	58,216	0.75	1,151	12.43	2.72	8.76							
IN-1804021404 - 1	2.45	56,702	-	-	-	-	-	-	18,476	31,586	0.77	738	8.35	2.93	5.32							
IN-1804021404 - 2	0.63	-	-	-	-	-	-	-	-	27,622	0.90	681	4.72	2.15	4.84							
IN-1804021423 - 1	2.17	13,381	-	-	-	-	-	-	33,798	47,348	0.72	525	1.67	5.77	3.54							
IN-1804021423 - 2	0.17	-	-	-	-	-	-	-	-	7,596	0.90	195	1.17	3.42	0.79							
IN-1804021423 - 3	0.73	-	-	-	-	-	-	-	-	-	0.90	613	2.30	2.73	4.28							
IN-1804021436 - 1	0.31	-	-	-	-	-	-	45	1,710	11,678	0.84	265	5.15	2.71	1.37							
IN-1804021600 - 1	6.82	182,491	-	-	73,311	-	-	-	-	41,421	0.79	1,053	3.31	3.75	7.95							
IN-1804021631 - 1	4.20	48,994	-	-	87,896	-	-	-	-	46,219	0.78	1,380	2.67	4.16	10.66							
IN-1804021631 - 2	2.41	71,002	-	-	19,489	-	-	-	-	14,665	0.80	539	2.17	4.17	3.66							
IN-1804041001 - 1	10.97	342,768	-	-	-	-	7	19,520	77,505	37,952	0.73	1,446	2.85	4.70	11.22							
IN-1804041027 - 1	3.34	132,084	-	-	-	-	-	-	13	13,366	0.81	581	3.59	3.41	4.01							
IN-1804041042 - 1	1.51	49,044	-	-	-	-	-	-	-	16,575	0.83	422	4.29	2.99	2.69							
IN-1804041534 - 1	0.37	-	-	-	4,495	-	-	-	-	11,715	0.84	265	2.60	3.41	1.37							
IN-1804041701 - 1	1.38	59,681	-	-	-	-	-	-	-	310	0.80	949	1.43	4.79	7.07							
IN-1804050830 - 1	4.60	84,216	-	-	57,888	55	-	-	-	58,373	0.80	680	4.11	3.37	4.83							
IN-1804051004 - 1	2.24	-	-	-	-	21,705	-	-	43,713	32,322	0.62	831	5.91	4.78	6.09							
IN-1805140957 - 1	0.23	-	-	-	-	-	-	-	845	9,080	0.86	216	1.29	3.97	0.97							
IN-1805141025 - 1	0.65	-	-	-	-	-	-	-	11,734	16,714	0.71	390	2.24	5.36	2.41							
IN-1805141046 - 1	0.44	-	-	-	-	-	-	-	10,270	8,970	0.66	288	3.15	5.40	1.57							
IN-1805151401 - 1	1.68	-	1,699	-	-	8,487	-	5,180	-	57,895	0.81	564	10.49	2.39	3.87							
IN-1805151416 - 1	0.45	-	-	-	-	-	-	-	11,734	7,899	0.63	235	2.72	6.06	1.13							
IN-1805151436 - 1	0.78	-	-	-	-	-	-	-	17,897	16,270	0.66	351	5.04	4.62	2.09							
IN-1805151443 - 1	2.35	-	-	-	-	-	-	4,835	-	97,588	0.87	733	8.86	2.00	5.28							
IN-1805151443 - 2	0.64	-	-	-	-	-	-	63	-	27,577	0.90	299	6.97	1.89	1.66							
Junction6 - 1	6.27	38,127	-	168	234,785	-	-	-	-	168	0.71	1,537	3.43	4.66	11.98							
MH-1803270830 - 1	0.83	-	-	-	-	3,591	-	27,577	5,046	-	0.31	459	38.51	4.22	2.99							
MH-1803281122 - 1	3.31	888	-	-	95,879	-	-	-	-	47,344	0.77	629	1.54	5.15	4.41							
MH-1803281357 - 1	0.89	5,317	1,147	-	18,050	-	-	-	-	14,446	0.79	466	0.64	6.47	3.05							
MH-1803281357 - 2	1.53	12,935	5,262	-	40,276	-	-	-	-	7,938	0.76	398	1.70	5.13	2.49							
MH-1803281436 - 1	3.65	128,633	-	-	-	-	-	-	-	30,280	0.82	584	2.59	3.67	4.03							
MH-1803281628 - 1	0.79	2,574	-	-	10,664	-	-	-	-	21,173	0.83	430	1.01	4.84	2.75							
MH-1803291017 - 1	13.05	32,769	697	-	-	36,722	-	204,878	256,202	37,259	0.43	1,840	19.90	4.45	14.50							

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Catchment	Catchment Area (AC)	Land Use Area (SF) and Runoff Coefficient							Area Weighted C Value	Longest Water Course (FT)	Average Catchment Slope	T ₁ (min)	T _c (min)	T _{total}	T _{2.10 Min.}
		COM	IMP	IND	MFR	RUR	SFR	Road							
		0.80	0.90	0.70	0.55	0.25	0.45	0.90							
MH-1803291051 - 1	2.82	96	-	556	47,005	-	24,596	50,606	0.68	515	4.44	4.60	3.46	8.06	10.00
MH-1803300722 - 1	3.00	109,086	-	-	-	-	-	21,660	0.82	649	0.84	5.33	4.58	9.91	10.00
MH-1803301421 - 1	1.15	46,148	-	396	-	-	-	3,343	0.81	553	5.35	2.99	3.77	6.76	10.00
MH-1803301421 - 2	1.51	-	-	-	-	-	-	65,765	0.90	805	3.98	2.27	5.88	8.15	10.00
MH-1803301441 - 1	1.60	54,654	-	-	-	-	-	14,814	0.82	768	4.00	3.18	5.57	8.75	10.00
MH-1804020837 - 1	1.73	66,978	-	-	-	-	-	8,297	0.81	477	3.30	3.51	3.14	6.65	10.00
MH-1804021449 - 1	0.55	-	-	-	-	-	118	23,946	0.90	708	3.41	2.39	5.07	7.46	10.00
MH-1804021615 - 1	2.87	1,367	-	78,417	-	-	-	45,093	0.77	1,065	2.96	4.14	8.04	12.18	12.18
MH-1804030749 - 1	0.50	727	-	-	-	-	-	21,110	0.90	358	0.85	3.80	2.15	5.95	10.00
MH-1804030749 - 2	2.50	90,413	-	-	7,509	-	-	10,763	0.79	484	4.83	3.30	3.20	6.50	10.00
MH-1804030801 - 1	4.47	184,005	-	-	-	-	-	10,845	0.81	1,222	3.66	3.39	9.35	12.74	12.74
MH-1804030942 - 1	17.93	700,359	-	27,449	-	-	-	52,968	0.80	1,613	5.37	3.09	12.60	15.69	15.69
MH-1804031128 - 1	0.70	239	-	7,394	-	-	-	22,742	0.85	460	1.64	3.82	3.00	6.82	10.00
MH-1804031157 - 1	1.58	67,709	-	-	629	-	-	563	0.80	465	0.94	5.52	3.04	8.56	10.00
MH-1804031312 - 1	2.65	71,154	-	-	44,432	40	-	-	0.70	632	0.93	7.37	4.43	11.80	11.80
MH-1804031312 - 2	0.26	374	-	-	-	-	-	10,736	0.90	245	0.93	3.69	1.21	4.90	10.00
MH-1804031416 - 1	3.03	97,553	-	-	12,256	-	-	25,971	0.80	570	0.86	5.67	3.92	9.59	10.00
MH-1804040727 - 1	7.69	41,483	18	-	42,286	78,386	134,718	38,091	0.51	2,084	15.77	4.24	16.53	20.77	20.77
MH-1804040735 - 1	3.20	24,616	-	-	20,916	39,203	10,594	44,140	0.61	963	12.32	3.82	7.19	11.01	11.01
MH-1804040743 - 1	0.62	-	-	-	-	-	-	26,836	0.90	395	1.25	3.34	2.46	5.80	10.00
MH-1804040753 - 1	10.32	38,570	53,569	-	-	263,419	78,670	15,350	0.43	1,529	17.94	4.61	11.91	16.52	16.52
MH-1804040809 - 1	45.79	383,082	40,110	-	-	1,200,839	324,579	45,893	0.42	3,023	11.96	5.36	24.36	29.72	29.72
MH-1804040848 - 1	1.44	39,979	-	-	-	-	-	22,758	0.84	371	6.57	2.50	2.26	4.76	10.00
MH-1804040903 - 1	9.80	-	507	-	-	40,023	374,677	11,809	0.44	1,109	26.39	3.99	8.41	12.40	12.40
MH-1804040903 - 2	17.10	161,417	-	-	46,877	28,956	347,889	159,978	0.62	1,651	16.12	3.42	12.93	16.35	16.35
MH-1804040903 - 3	9.48	7,567	-	-	342,057	38,409	24,963	-	0.52	941	5.97	5.76	7.01	12.77	12.77
MH-1804040903 - 4	2.58	46,793	-	-	33,063	85	13,337	19,256	0.70	560	7.00	3.77	3.83	7.60	10.00
MH-1804040903 - 5	6.71	4,284	1,774	-	285,431	874	-	-	0.55	1,076	7.01	5.18	8.13	13.31	13.31
MH-1804040939 - 1	3.81	125,580	-	55	-	-	-	40,327	0.82	571	2.97	3.51	3.93	7.44	10.00
MH-1804041223 - 1	4.66	93,268	965	-	95,253	4,130	5,032	4,137	0.67	562	4.63	4.65	3.85	8.50	10.00
MH-1804041246 - 1	0.47	19,815	-	-	-	-	-	822	0.80	168	6.70	2.87	0.57	3.44	10.00
MH-1804041253 - 1	1.59	44,292	-	-	-	-	8,923	15,981	0.78	519	8.32	2.84	3.49	6.33	10.00
MH-1804041300 - 1	0.84	4,591	-	-	-	-	22,035	9,856	0.62	313	11.79	3.80	1.77	5.57	10.00
MH-1804041345 - 1	0.20	-	-	-	-	-	-	8,798	0.90	280	1.91	2.90	1.50	4.40	10.00
MH-1804041353 - 1	0.24	-	-	-	-	-	-	10,232	0.90	310	1.44	3.19	1.75	4.94	10.00
MH-1804041406 - 1	0.34	3	-	-	-	-	-	14,737	0.90	169	1.42	3.20	0.57	3.77	10.00
MH-1804041423 - 1	0.52	6,161	-	-	-	-	-	16,656	0.87	369	0.66	4.74	2.24	6.98	10.00

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Catchment	Catchment Area (AC)	Land Use Area (SF) and Runoff Coefficient										Area Weighted C Value	Longest Water Course (FT)	Average Catchment Slope	T _i (min)	T _c (min)	T _{total}	T _{≥10 Min.}
		COM	IMP	IND	MFR	RUR	SFR	Road										
		0.80	0.90	0.70	0.55	0.25	0.45	0.90										
MH-1804041433 - 1	0.81	8,458	-	14,494	-	-	-	-	-	-	12,418	0.79	208	7.54	2.85	0.90	3.75	10.00
MH-1804041526 - 1	0.74	16,397	-	12	-	-	-	-	-	-	15,914	0.85	403	1.60	3.85	2.53	6.38	10.00
MH-1804041526 - 2	0.98	22,933	-	19,387	-	-	-	-	-	-	443	0.76	324	6.15	3.34	1.87	5.21	10.00
MH-1804051042 - 1	1.85	7,066	-	-	53,038	-	-	-	2,934	17,385	0.64	624	6.58	4.42	4.36	8.78	10.00	
MH-1804051534 - 1	3.07	-	3,534	-	1,310	1,021	98,981	28,755	-	56,704	0.56	919	5.05	5.67	6.83	12.50	12.50	
MH-1805141156 - 1	3.59	-	-	-	-	-	-	-	99,595	56,704	0.61	1,125	8.22	4.37	8.54	12.91	12.91	
MH-1805141156 - 2	6.06	-	-	-	-	-	-	-	219,172	44,571	0.53	989	5.22	5.92	7.41	13.33	13.33	
MH-1805141400 - 1	6.02	44,178	-	-	-	-	-	-	-	218,129	0.88	648	14.88	1.61	4.57	6.18	10.00	
MH-1805141511 - 1	3.33	96,897	-	-	-	-	-	-	43,571	4,619	0.70	714	9.81	3.37	5.12	8.49	10.00	
MH-1805141511 - 2	2.76	65,236	-	-	-	-	-	-	13,557	41,609	0.80	772	8.94	2.60	5.60	8.20	10.00	
MH-1805151536 - 1	1.26	2,312	429	-	-	-	-	192	50,131	1,644	0.48	454	9.67	5.24	2.95	8.19	10.00	
MH-1805151609 - 1	1.06	213	12,184	-	-	-	-	-	4,283	29,268	0.86	370	7.20	2.24	2.25	4.49	10.00	
MH-1805161013 - 1	16.46	85,647	20,231	16,904	159,808	24,699	335,356	74,692	-	1,399	0.57	1,399	8.11	4.75	10.83	15.58	15.58	
MH-1805161029 - 1	3.88	56,942	-	-	90,281	-	1	21,693	-	646	0.68	646	8.68	3.68	4.55	8.23	10.00	
MH-1805161029 - 2	3.71	872	1,042	-	96,394	-	-	63,105	-	924	0.69	924	2.99	5.13	6.87	12.00	12.00	
MH-1805161043 - 1	4.80	149,353	-	-	8,846	2,126	-	48,788	-	948	0.81	948	3.59	3.41	7.07	10.48	10.48	
MH-1805161108 - 1	2.93	61,590	-	-	-	-	34,532	31,341	-	639	0.73	639	4.95	3.91	4.49	8.40	10.00	
MH-1805161133 - 1	4.88	63,880	-	-	487	49,010	-	99,015	-	1,005	0.72	1,005	9.56	3.23	7.54	10.77	10.77	
MH-1805161215 - 1	4.27	20,235	3,544	-	5,116	87,352	39,558	30,154	-	1,085	0.48	1,085	8.11	5.56	8.21	13.77	13.77	
MH-1805161425 - 1	4.45	75,939	9,603	-	-	473	91,640	16,086	-	1,060	0.65	1,060	7.48	4.14	8.00	12.14	12.14	
MH-1805161627 - 1	1.90	-	-	14,787	-	39,906	-	27,885	-	646	0.55	646	15.03	4.02	4.55	8.57	10.00	
MH-1805161629 - 1	1.91	11,502	-	15,376	-	25,295	-	30,909	-	577	0.65	577	12.17	3.52	3.98	7.50	10.00	
OT-1804021549 - 1	0.60	-	-	-	49	-	-	26,115	-	725	0.90	725	3.16	2.45	5.21	7.66	10.00	

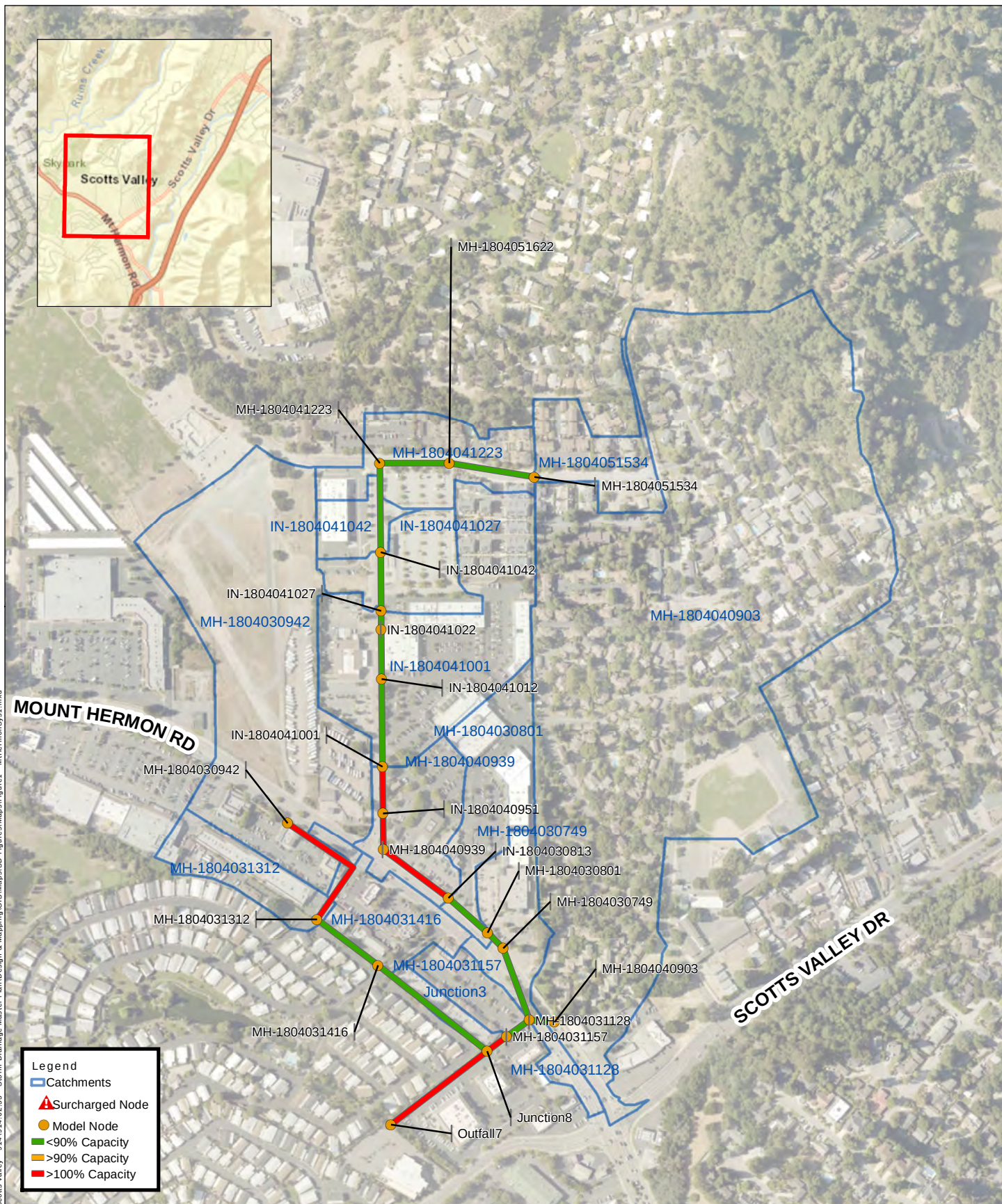
Ti = (1.88*(1.1-Cvalue)*100^0.5/slope^0.333) (Assuming 100-feet of overland flow)

Tc = (Lc-100)/2/60 (assuming average velocity of 2 ft/s)

APPENDIX B

XPSTORM RESULTS

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City of Scotts Valley SDMP Update Appendix B

Mt Hermon Rd - Storm Drain System 1 10-Year Event Results

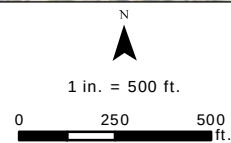


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1

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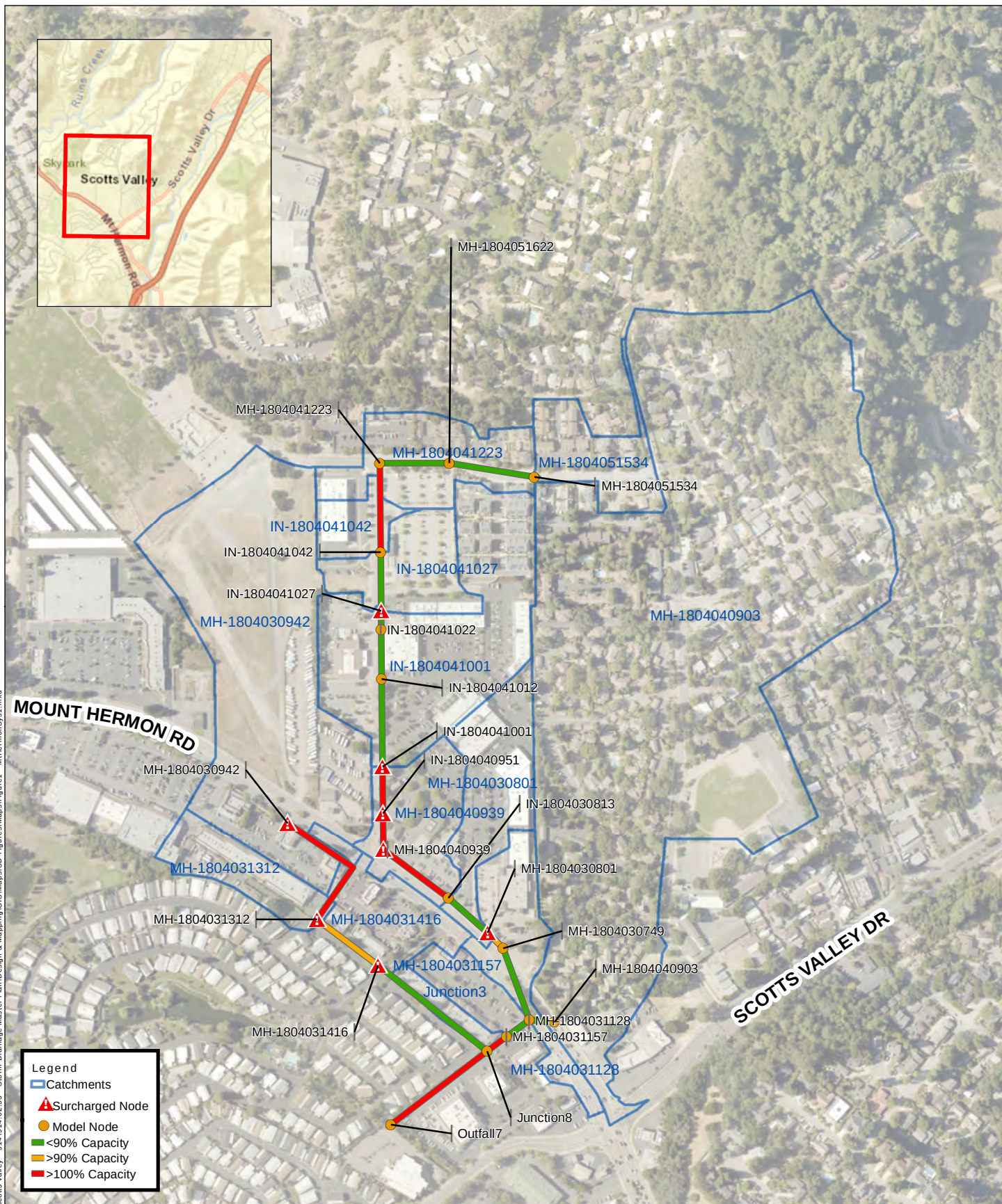
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10/9/2018

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City of Scotts Valley SDMP Update Appendix B

Mt Hermon Rd - Storm Drain System 1 100-Year Event Results

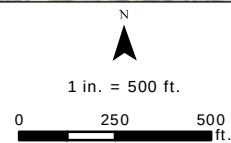


FIGURE
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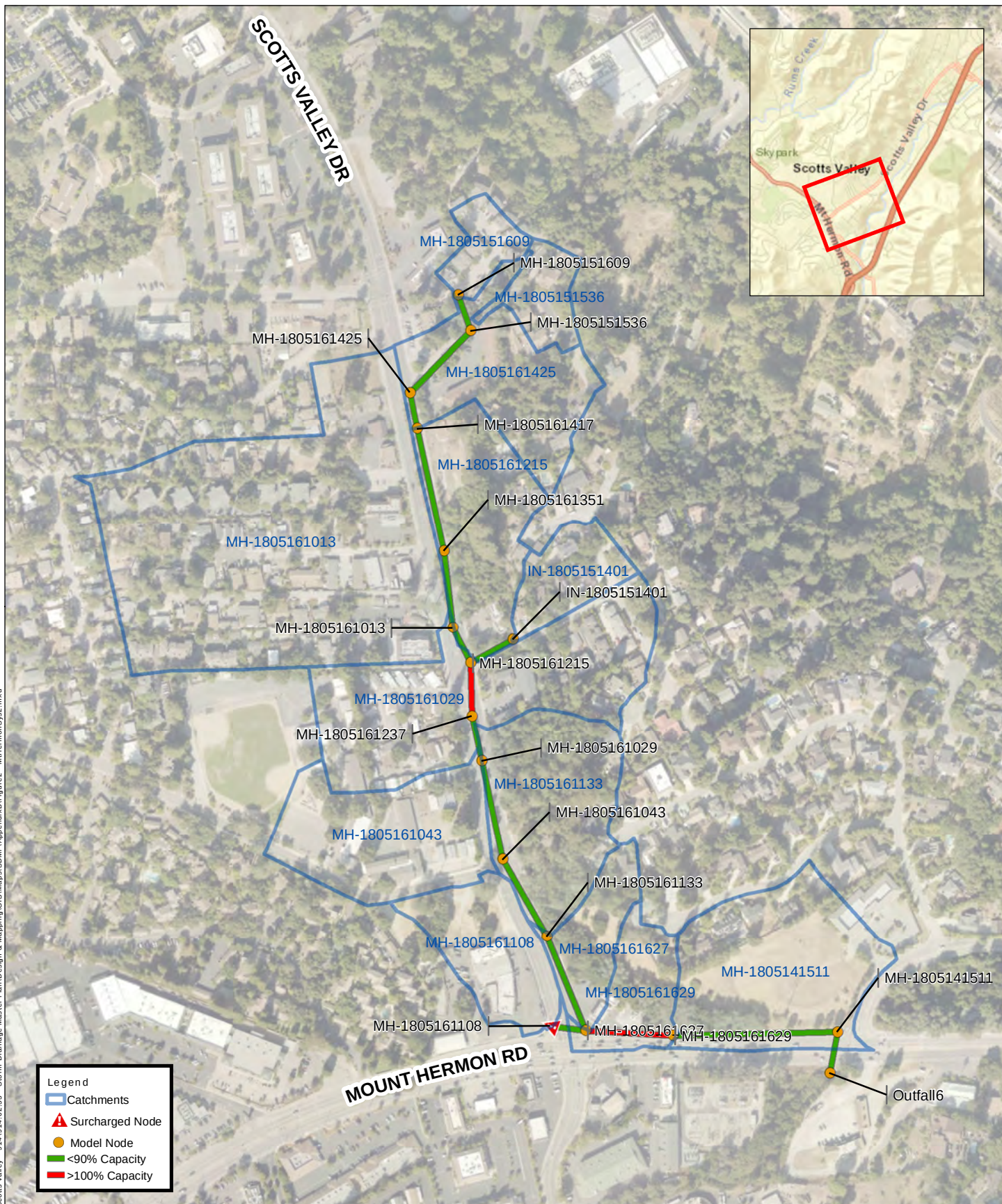
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Legend

- Catchments
- Surcharged Node
- Model Node
- <90% Capacity
- >100% Capacity



City of Scotts Valley SDMP Update
Appendix B
Mt Hermon Rd - Storm Drain System 2
10-Year Event Results



1 in. = 400 ft.

0 200 400 ft.

FIGURE
3

SOURCE
ESRI World Imagery basemap

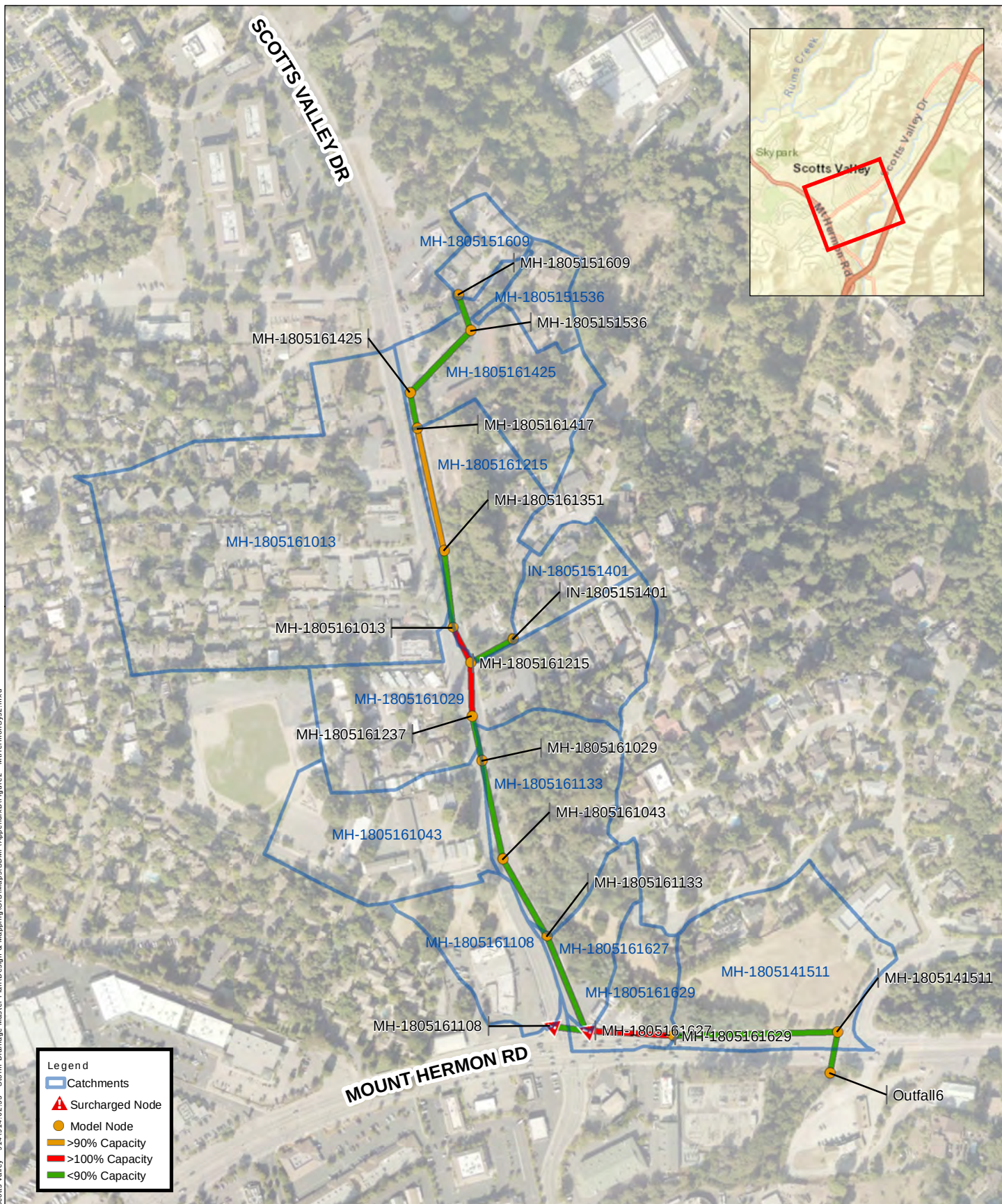
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DATE
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Legend

- Catchments
- Surcharged Node
- Model Node
- >90% Capacity
- >100% Capacity
- <90% Capacity



City of Scotts Valley SDMP Update
Appendix B
Mt Hermon Rd - Storm Drain System 2
100-Year Event Results



1 in. = 400 ft.

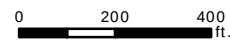


FIGURE
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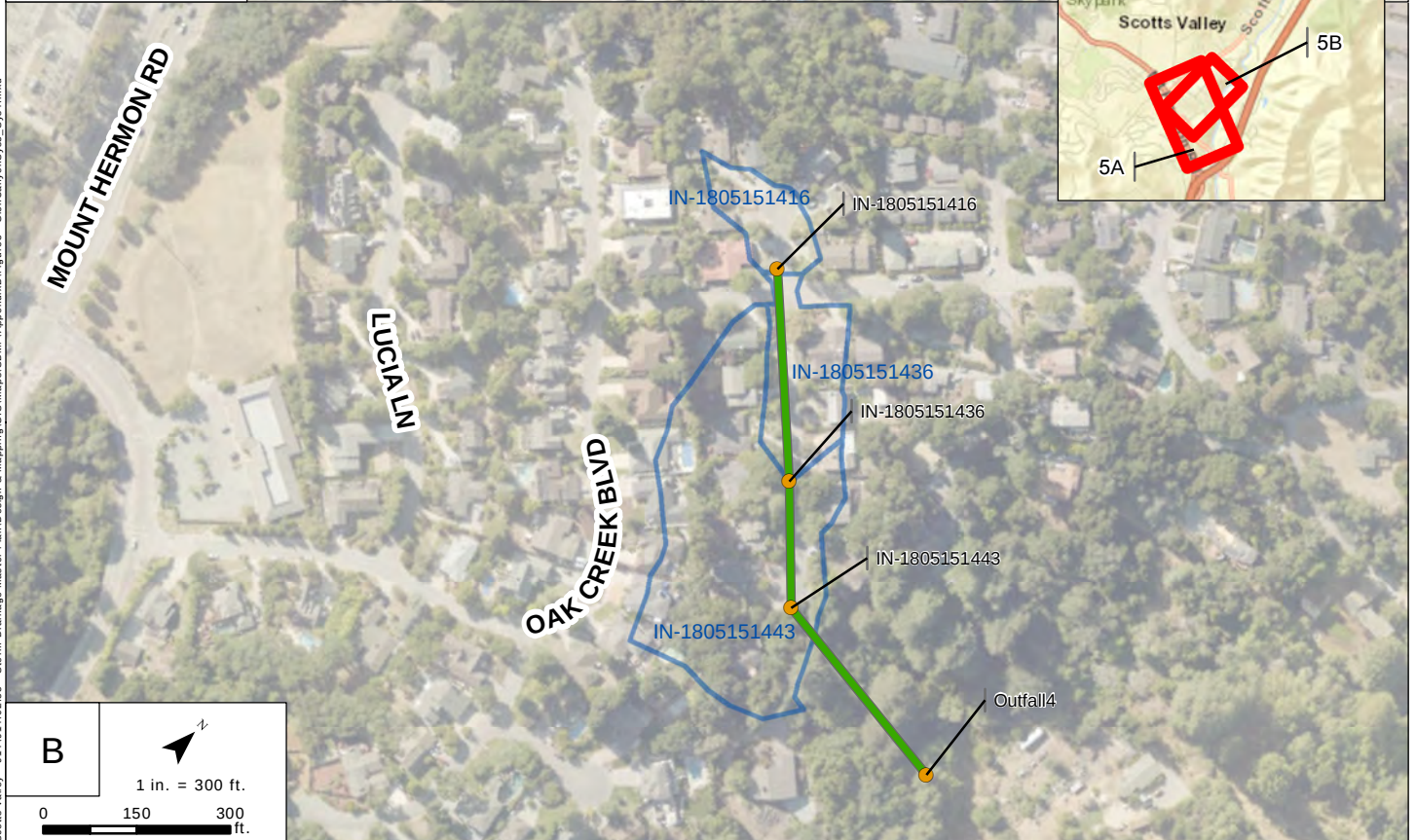
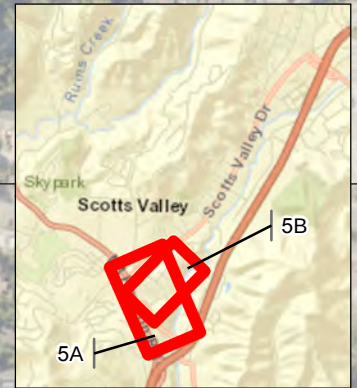
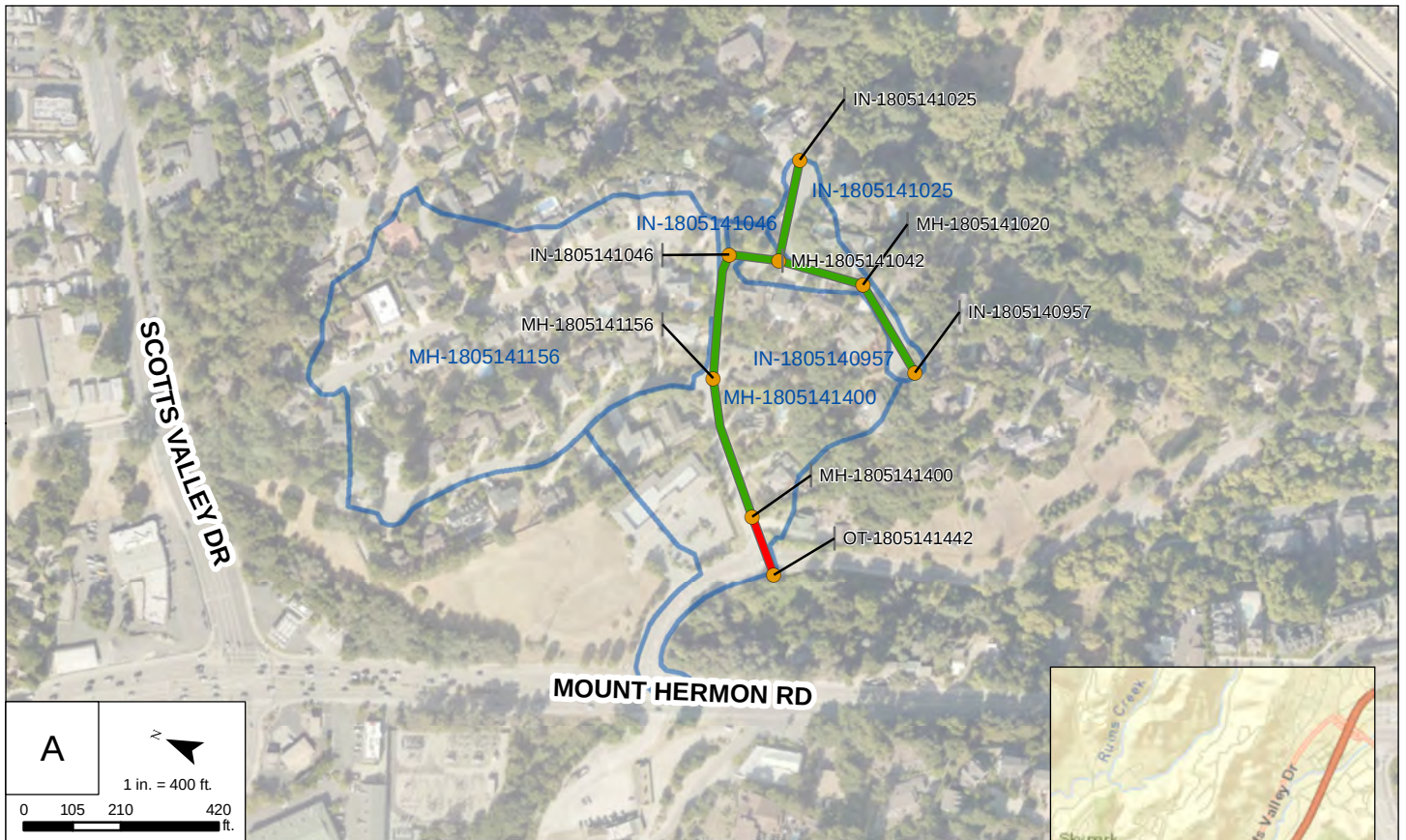
JOB NUMBER
914.02.55

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skobs

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10/09/2018

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- Legend**
- Catchments
 - ▲ Surcharged Node
 - Model Node
 - >10% Capacity
 - <90% Capacity



City of Scotts Valley SDMP Update Appendix B

5A - Glen Canyon Rd - Storm Drain System 3
5B - Glen Canyon Rd - Storm Drain System 4
10-Year Event Results

FIGURE
5

SOURCE
ESRI World Imagery basemap

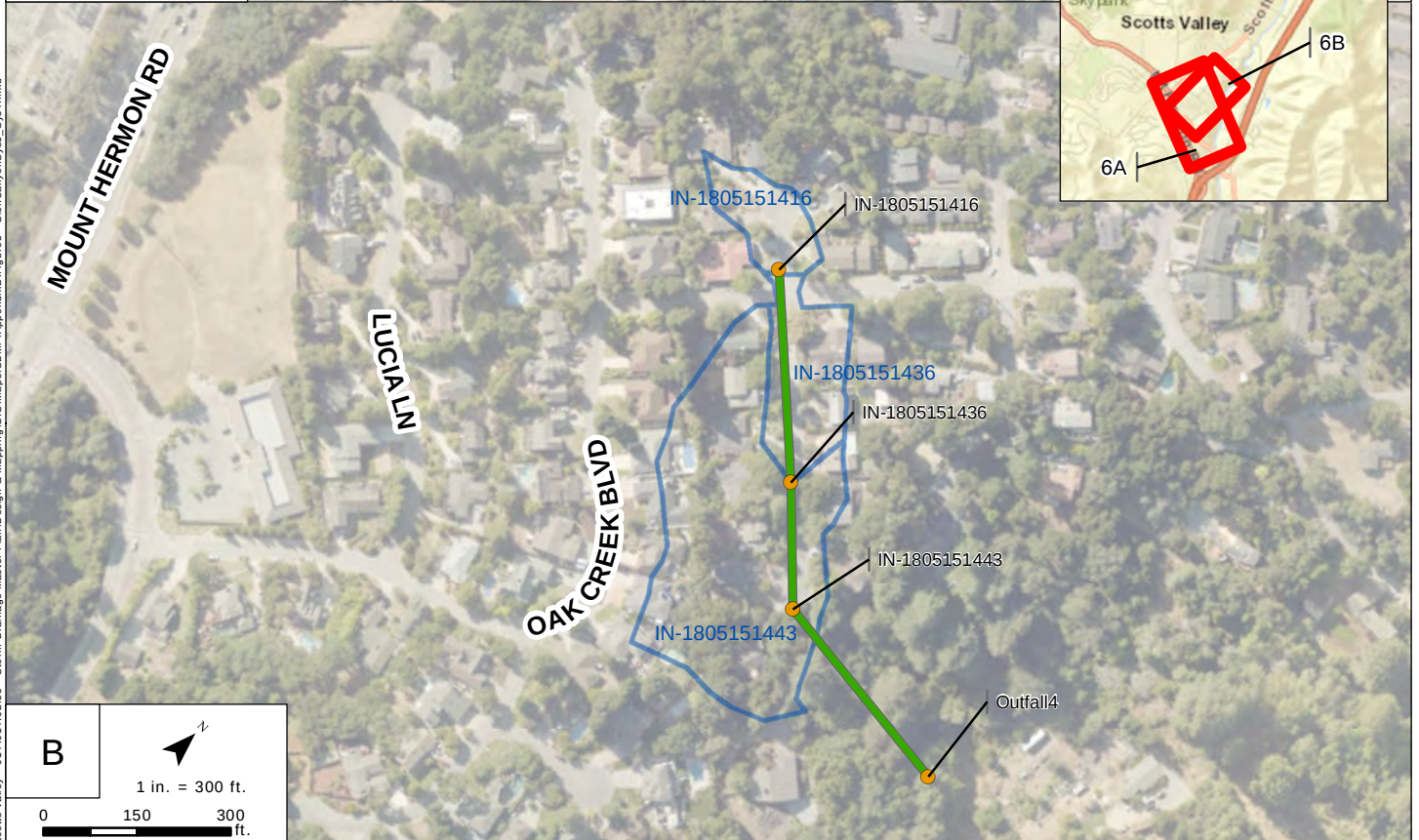
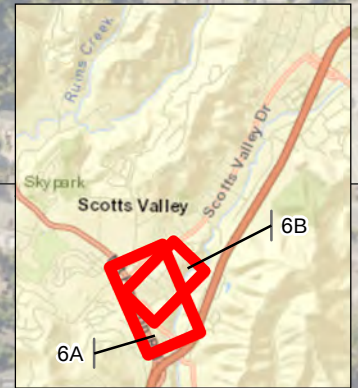
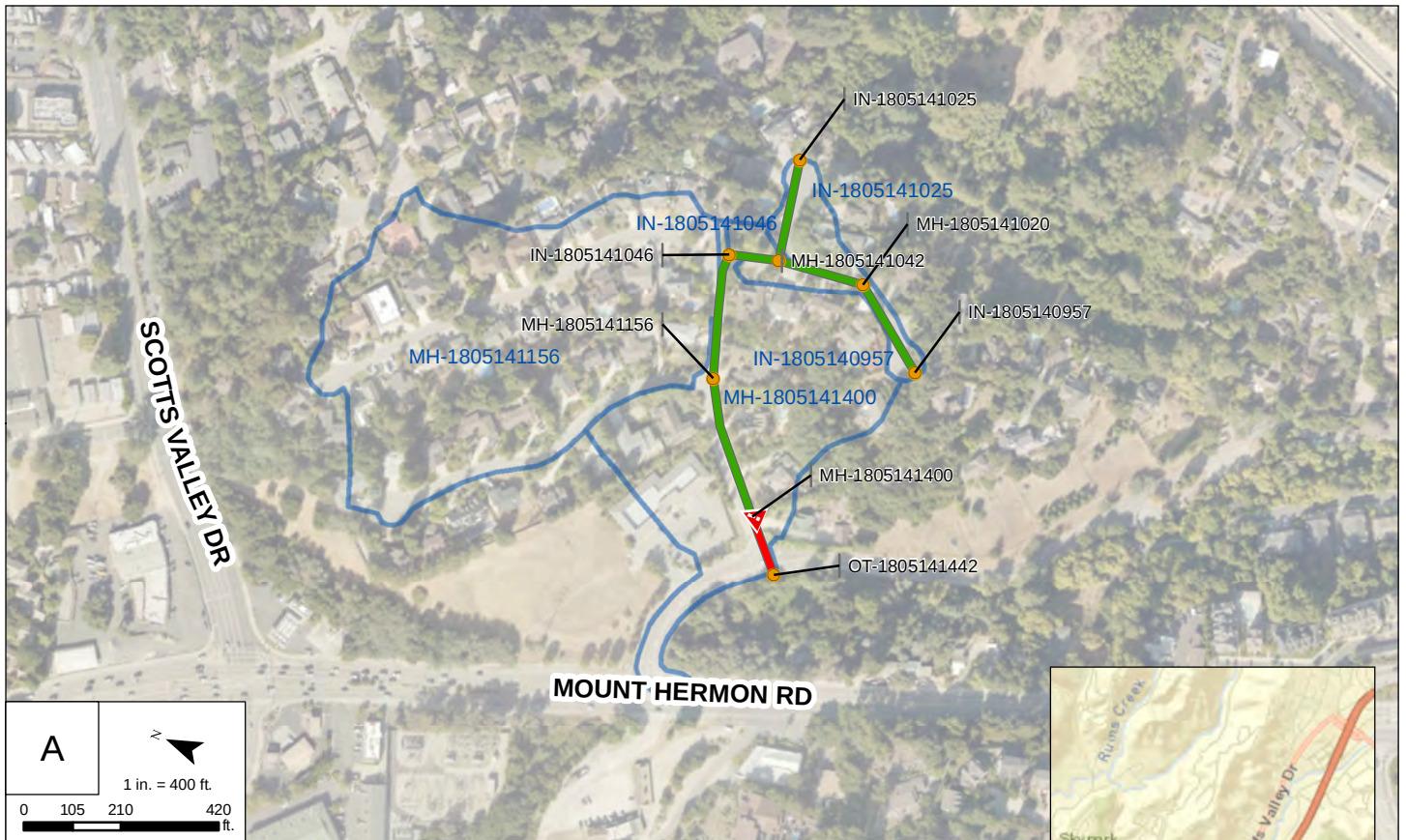
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DRAWN
skobs

DATE
6/19/2018

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6/21/2018

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- Legend**
- Catchments
 - ▲ Surcharged Node
 - Model Node
 - >10% Capacity
 - <90% Capacity



City of Scotts Valley SDMP Update Appendix B

6A - Glen Canyon Rd - Storm Drain System 3
6B - Glen Canyon Rd - Storm Drain System 4
100-Year Event Results

FIGURE

6

SOURCE
ESRI World Imagery basemap

JOB NUMBER
914.02.55

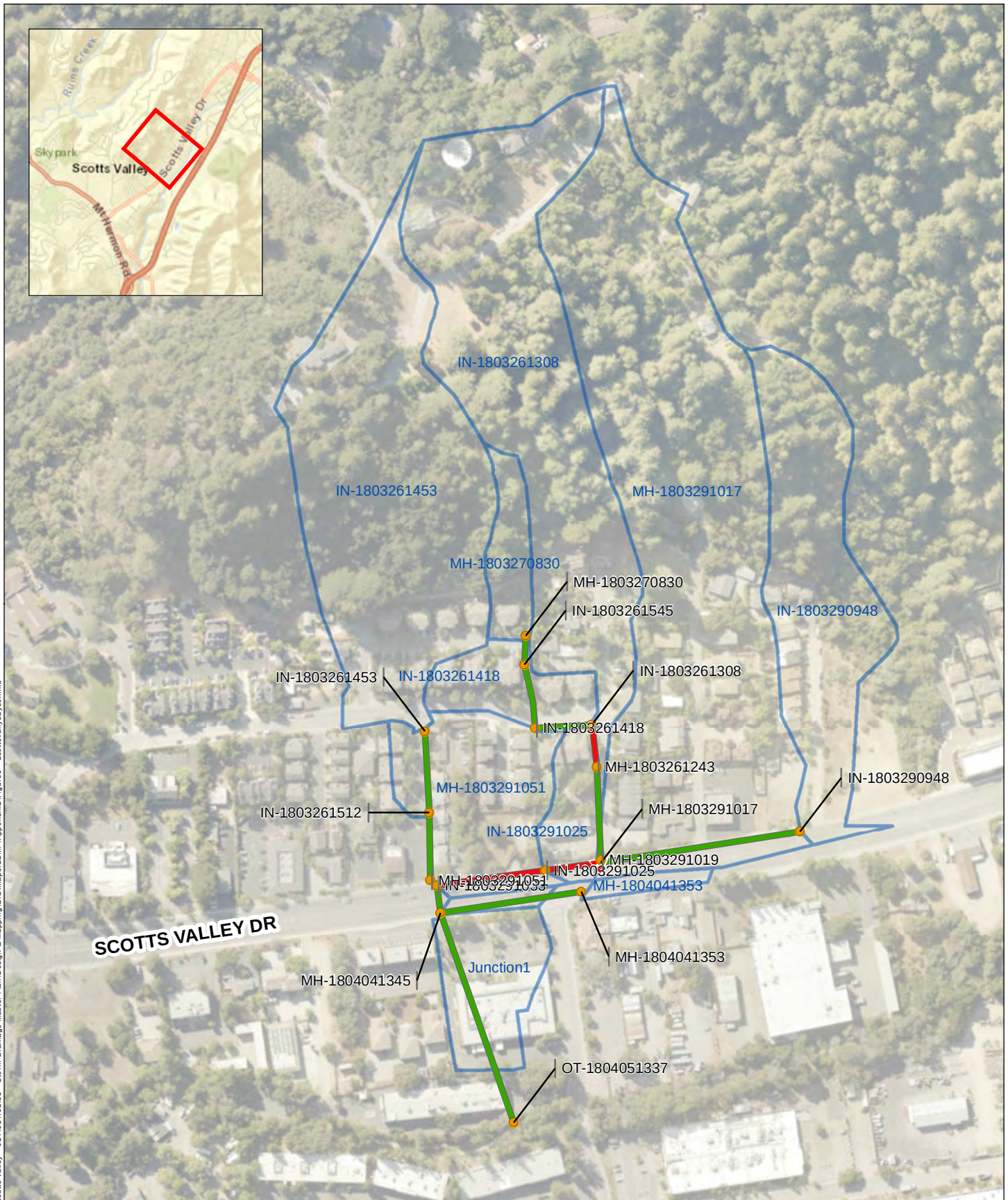
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Legend

- Catchment
- Surcharged Node
- Model Node
- <90% Capacity
- >90% Capacity
- >100% Capacity



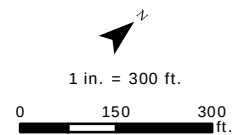
City of Scotts Valley SDMP Update Appendix B Scotts Valley Dr - Storm Drain System 6 10-Year Event Results

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skobs

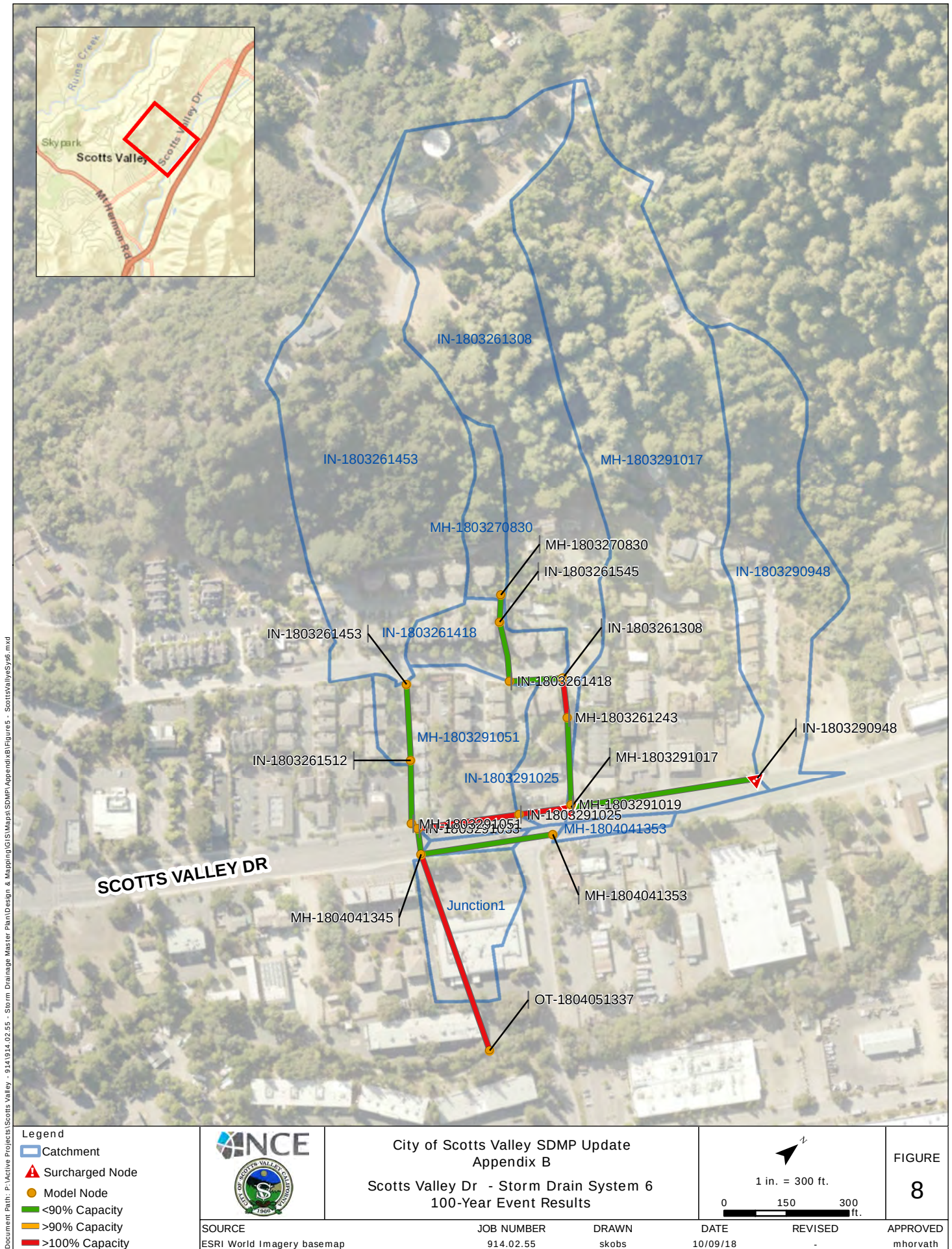
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10/09/18



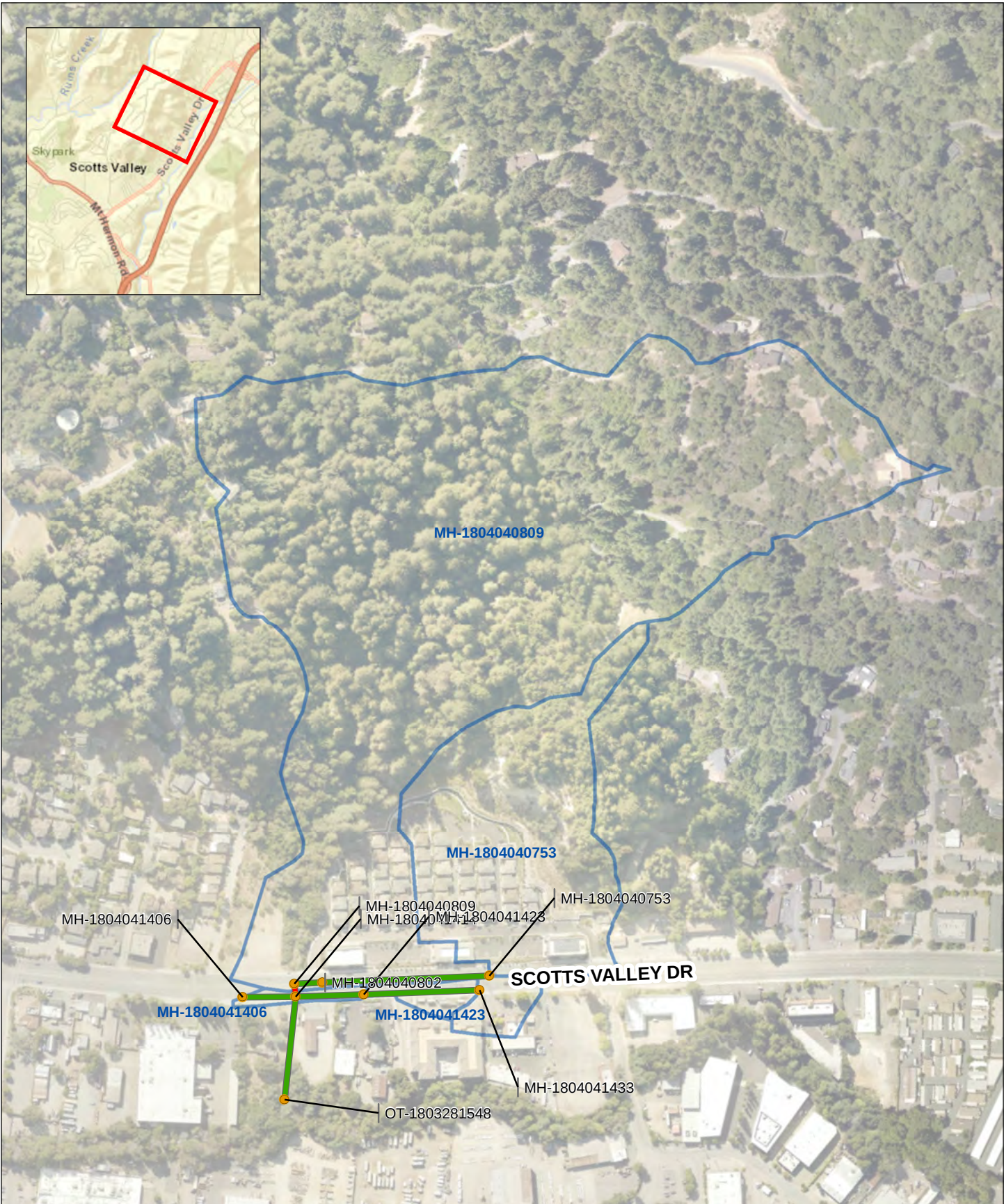
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FIGURE
7

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Document Path: P:\Active Projects\Scotts Valley - Storm Drainage Master Plan\Design & Mapping\GIS\Mapa\SD-Figurea\Mapa\Figured - ScottsValleySys7.mxd



Legend

- Catchment
- Model Node
- <90% Capacity
- >100% Capacity



SOURCE
ESRI World Imagery basemap

City of Scotts Valley SDMP Update
Appendix B
Scotts Valley Dr - Storm Drain System 7
10-Year Event Results

JOB NUMBER
914.02.55

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10/10/2018

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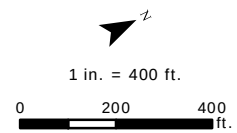
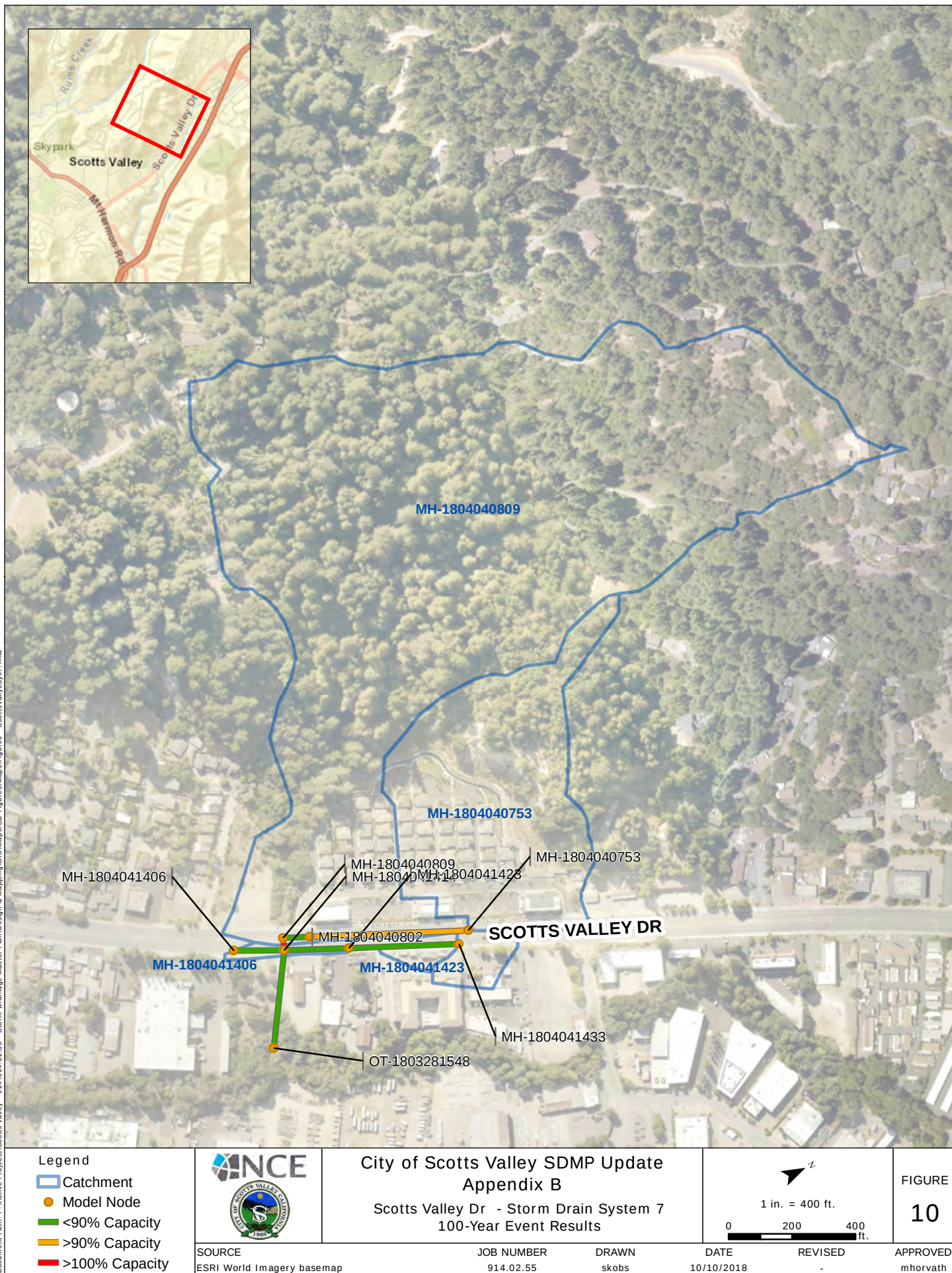
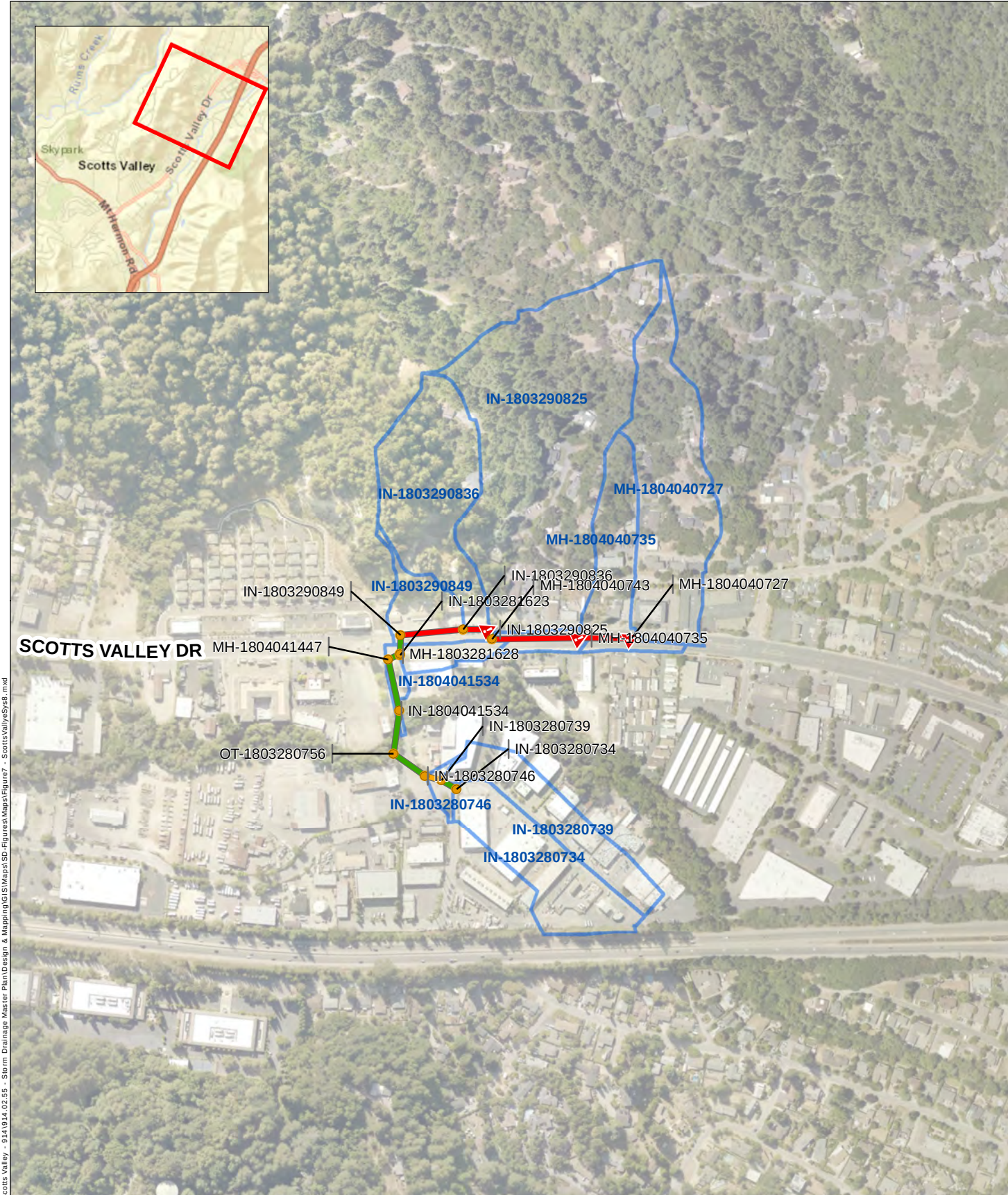


FIGURE
9

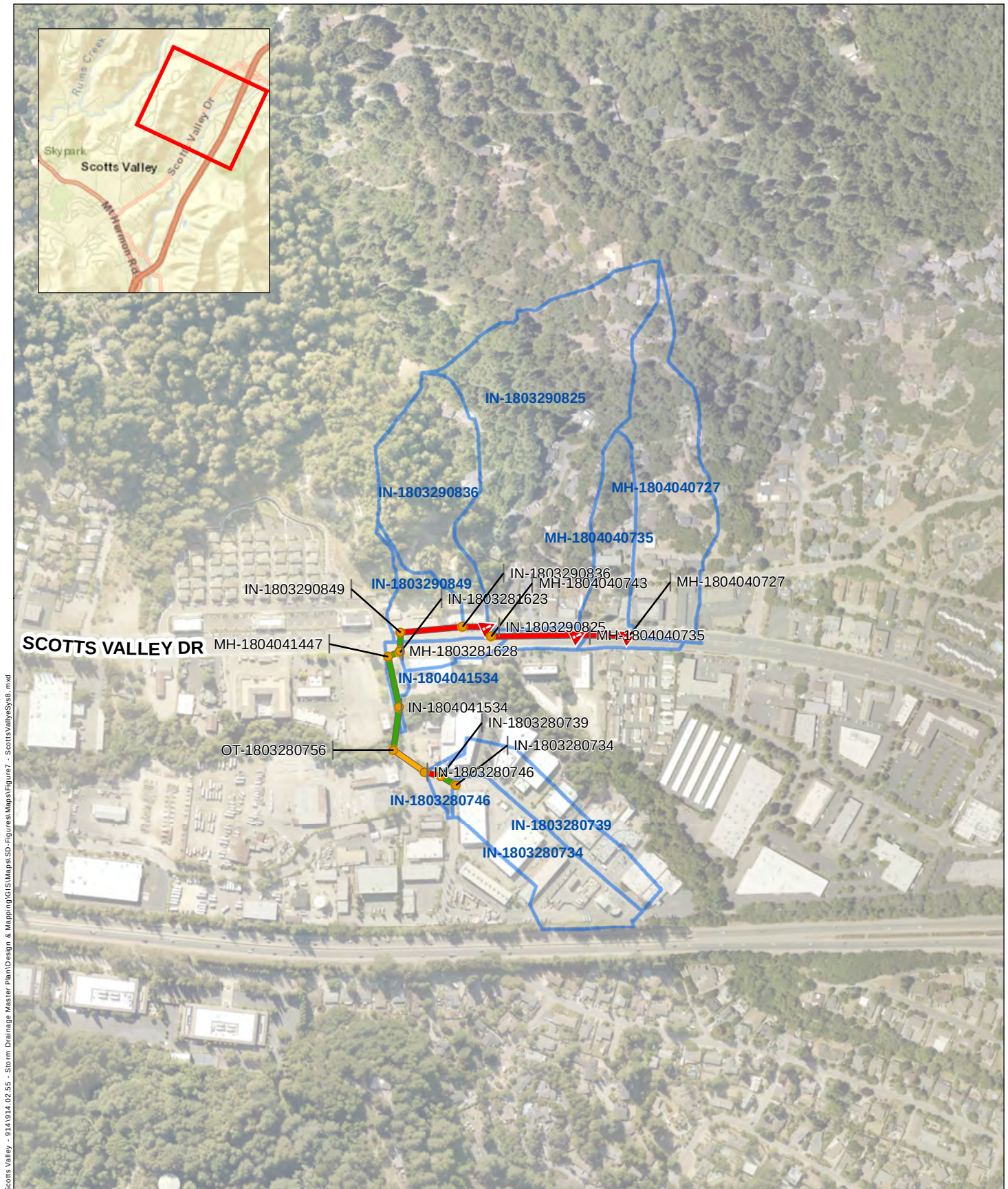
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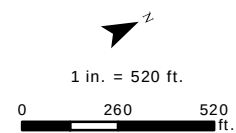
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- Legend**
- Catchments
 - Model Node
 - ▲ Surcharged Node
 - <90% Capacity
 - >90% Capacity
 - >100% Capacity



**City of Scotts Valley SDMP Update
Appendix B**

**Scotts Valley Dr - Storm Drain System 8
100-Year Event Results**



**FIGURE
12**

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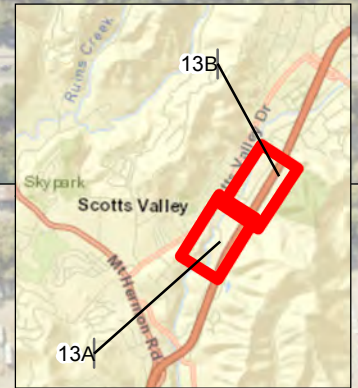
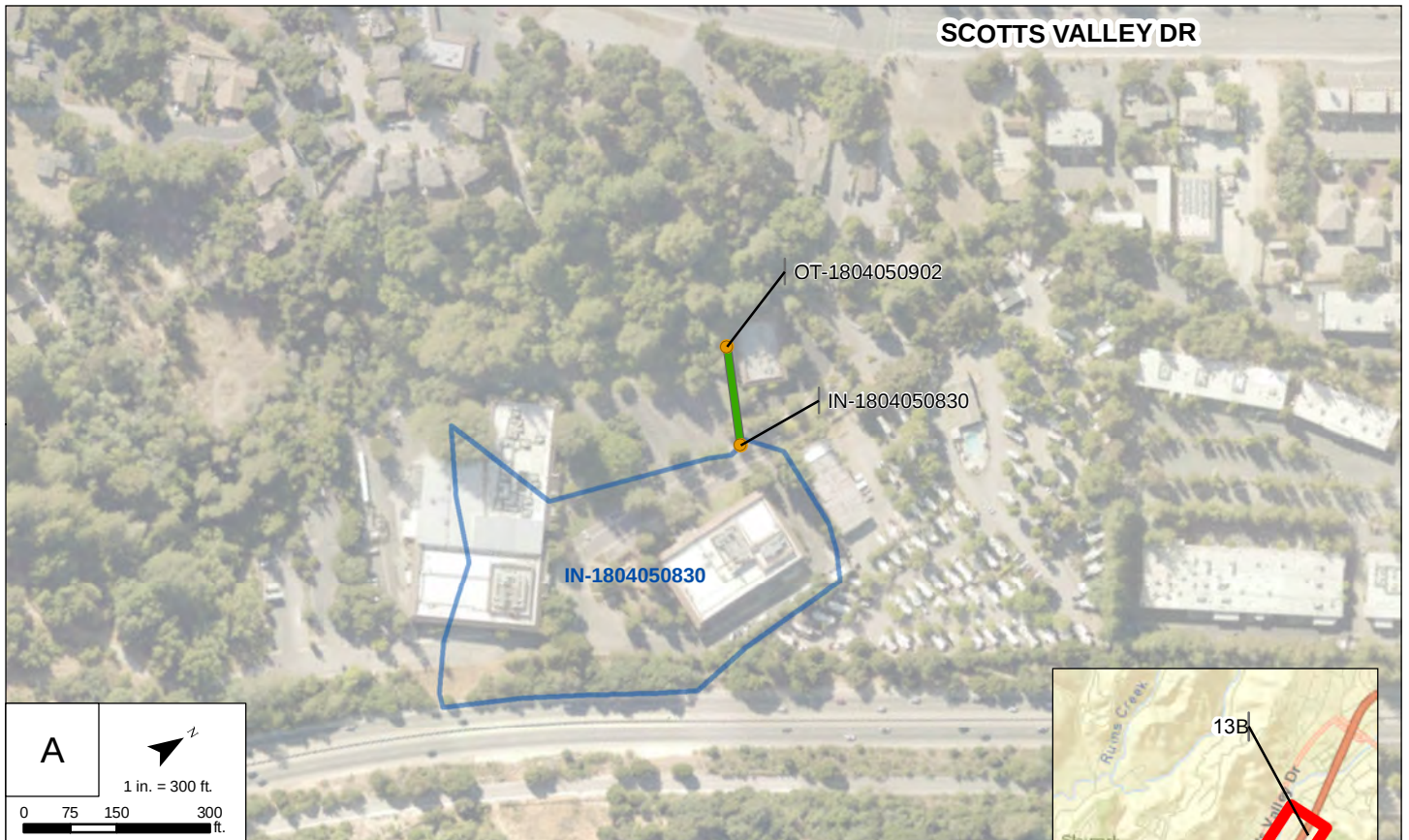
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- Legend
- Catchment
 - Model Node
 - <90% Capacity
 - >100% Capacity



SOURCE
ESRI World Imagery basemap

City of Scotts Valley SDMP Update
Appendix B

13A - Disc Dr - Storm Drain System 9
13B - Carbonero Way - Storm Drain System 10
10-Year Event Results

FIGURE
13

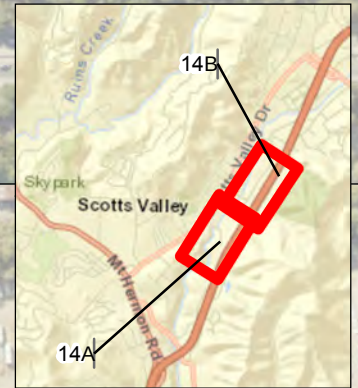
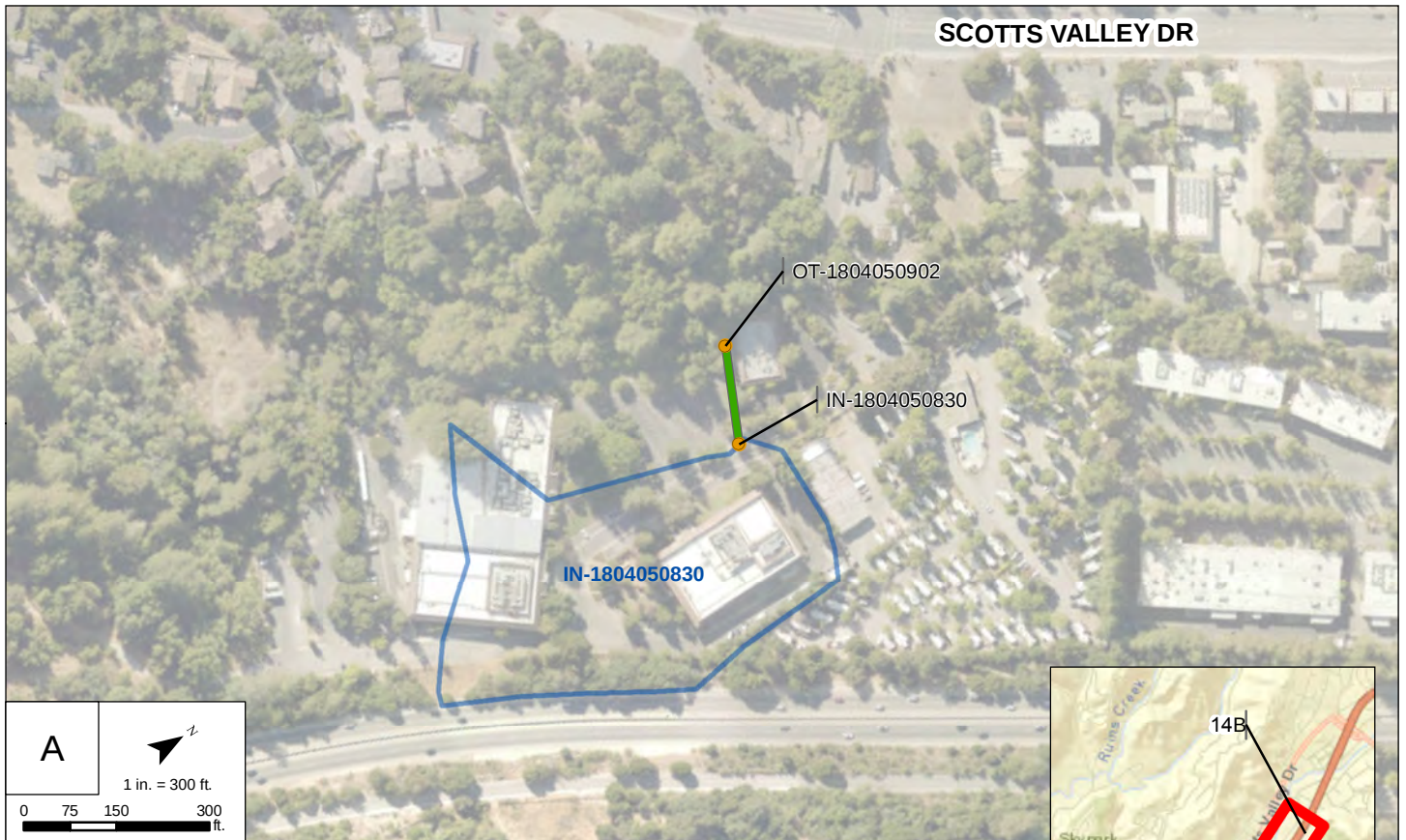
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- Legend**
- Catchment
 - ▲ Surcharged Node
 - Model Node
 - <90% Capacity
 - >100% Capacity



SOURCE
ESRI World Imagery basemap

City of Scotts Valley SDMP Update
Appendix B
14A - Disc Dr - Storm Drain System 9
14B - Carbonero Way - Storm Drain System 10
100-Year Event Results

FIGURE
14

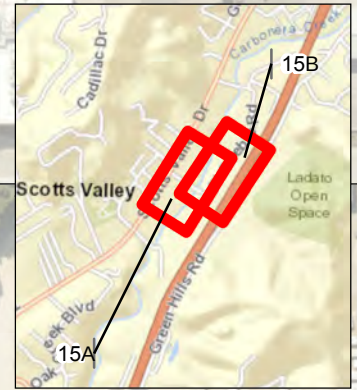
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- Legend**
- Stormwater Basin
 - Model Node
 - <90% Capacity
 - >100% Capacity



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ESRI World Imagery basemap

City of Scotts Valley SDMP Update
Appendix B
15A - Carbonero Way - Storm Drain System 11
15B - Pueblo Dr - Storm Drain System 12
10-Year Event Results

FIGURE
15

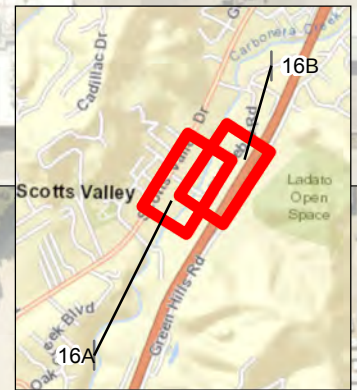
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- Legend**
- Stormwater Basin
 - ▲ Surcharged Node
 - Model Node
 - <90% Capacity
 - >100% Capacity

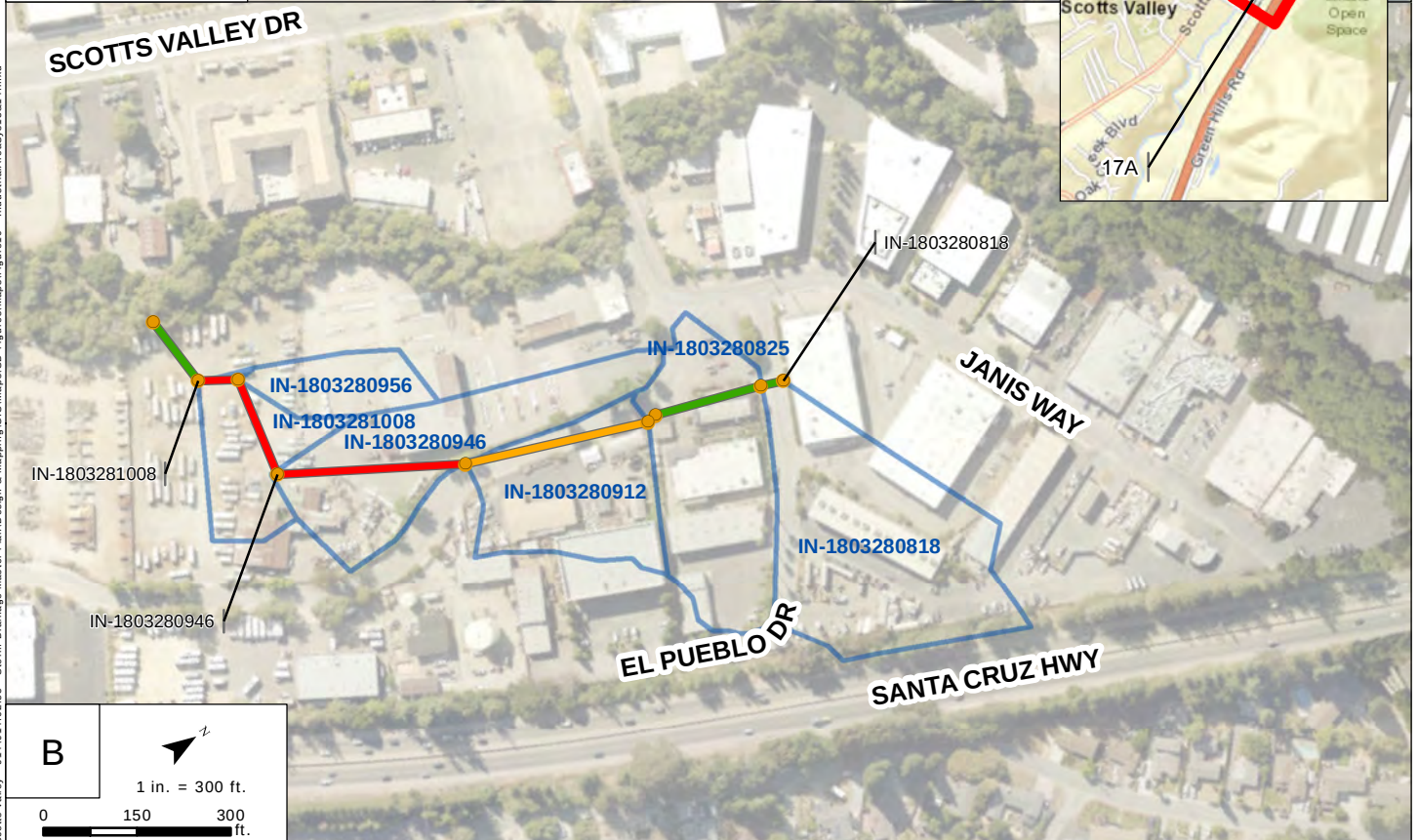
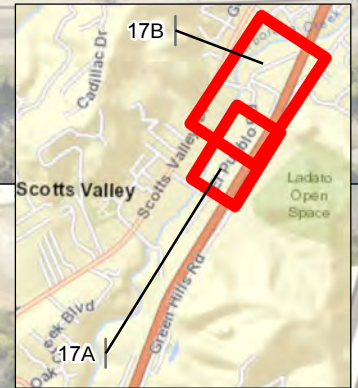


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City of Scotts Valley SDMP Update
Appendix B
16A - Carbonero Way - Storm Drain System 11
16B - Pueblo Dr - Storm Drain System 12
100-Year Event Results

FIGURE
16

JOB NUMBER 914.02.55	DRAWN skobs	DATE 10/10/2018	REVISED -	APPROVED mhorvath
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Legend

- Catchment
- Model Node
- <90% Capacity
- >90% Capacity
- >100% Capacity



City of Scotts Valley SDMP Update Appendix B

17A - Pueblo Dr - Storm Drain System 13
17B - Pueblo Dr - Storm Drain System 14
10-Year Event Results

FIGURE
17

SOURCE
ESRI World Imagery basemap

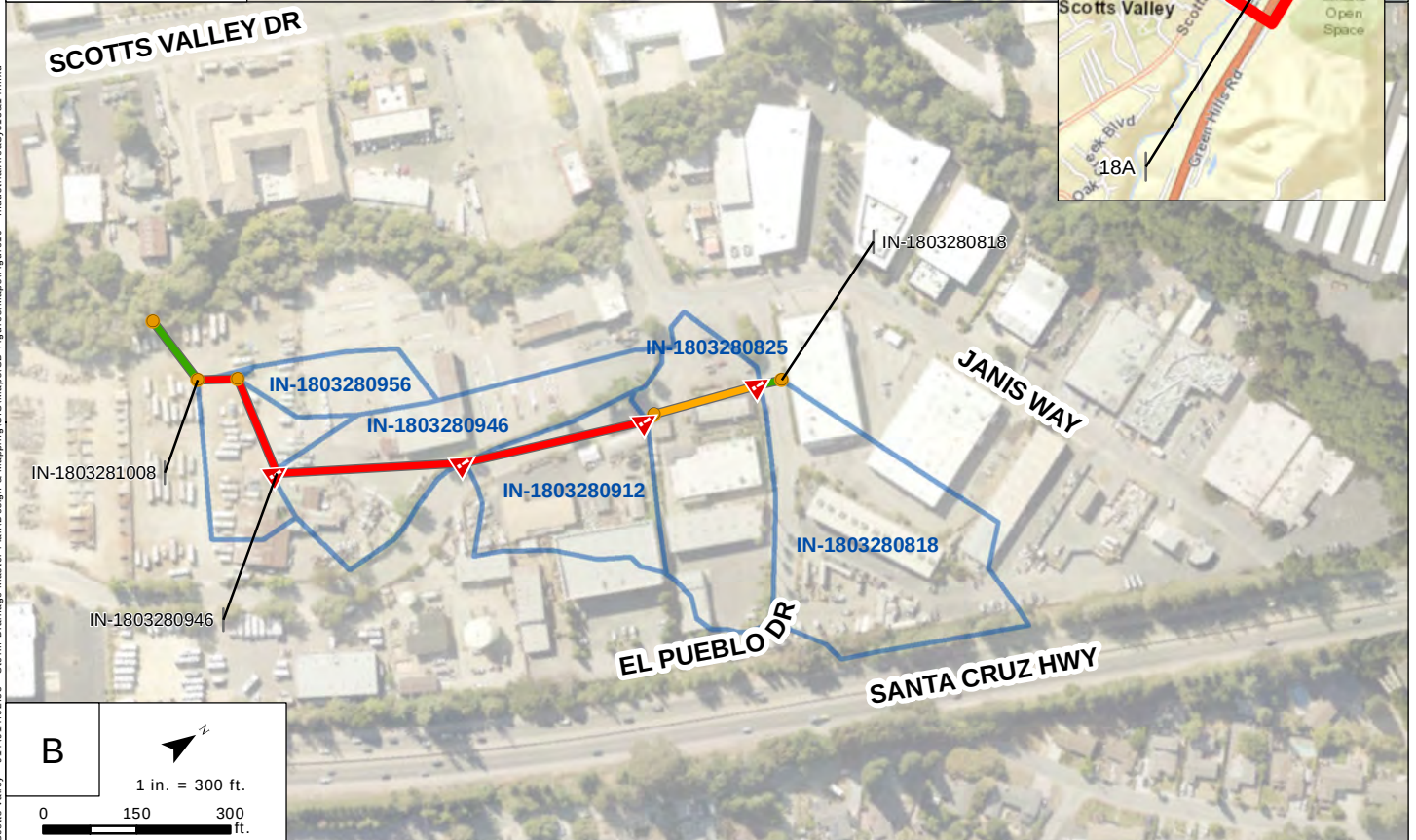
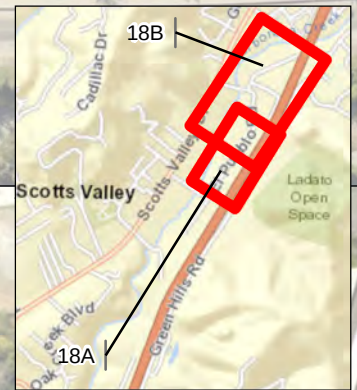
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- Legend**
- Catchment
 - ▲ Surcharged Node
 - Model Node
 - <90% Capacity
 - >90% Capacity
 - >100% Capacity



SOURCE
ESRI World Imagery basemap

City of Scotts Valley SDMP Update Appendix B

18A - Pueblo Dr - Storm Drain System 13
18B - Pueblo Dr - Storm Drain System 14
100-Year Event Results

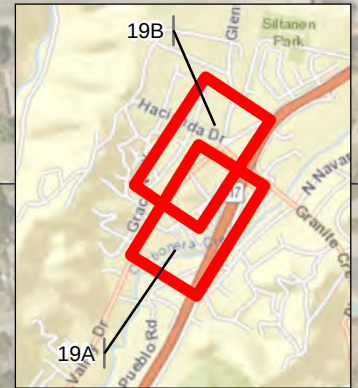
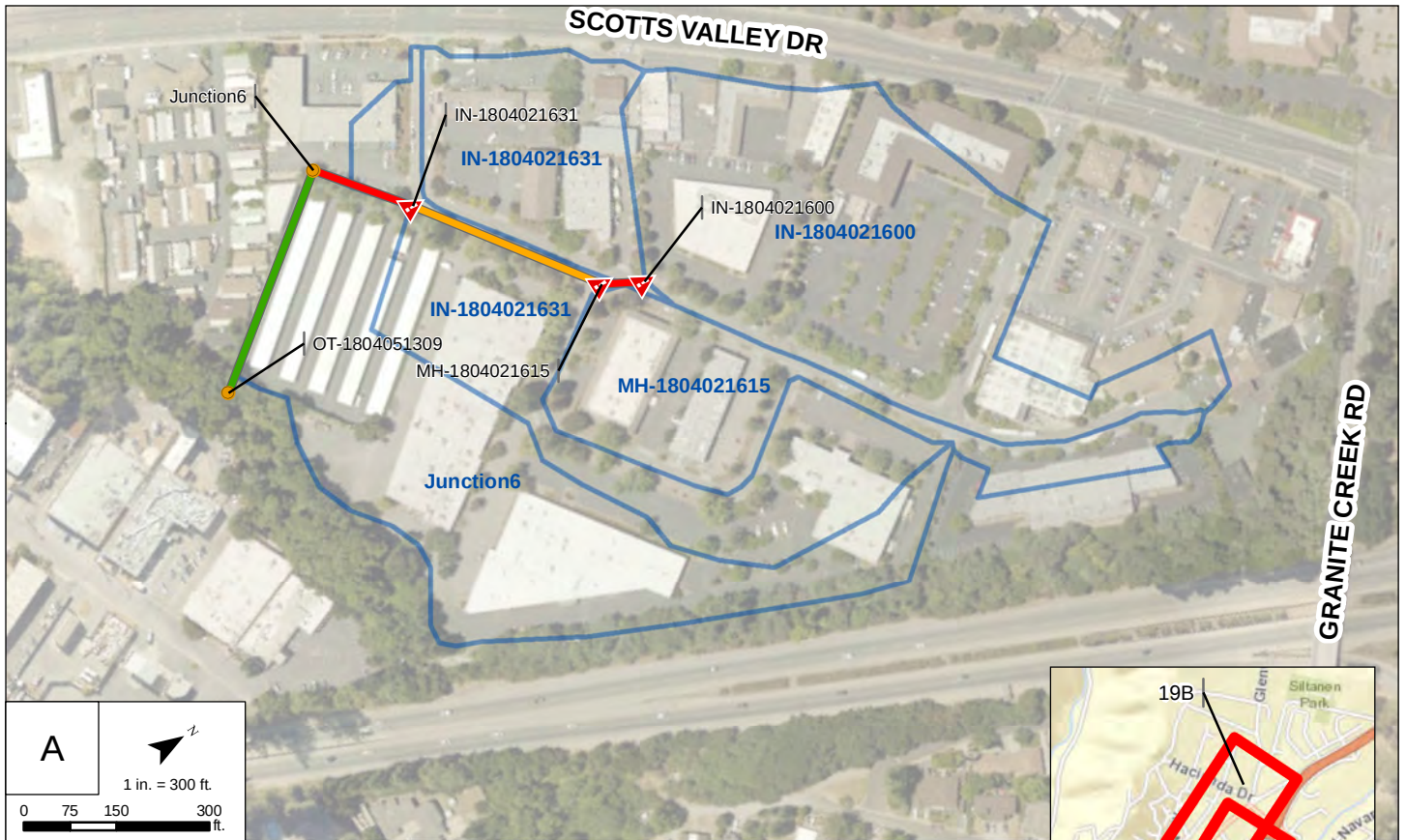
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skobs

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10/10/2018

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10/10/2018

FIGURE
18
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- Legend**
- Stormwater Basin
 - ▲ Surcharged Node
 - Model Node
 - >90% Capacity
 - >90% Capacity
 - >100% Capacity



SOURCE
ESRI World Imagery basemap

City of Scotts Valley SDMP Update
Appendix B
19A - Victor Square - Storm Drain System 15
19B - Scotts Valley Dr - Storm Drain System 16
10-Year Event Results

FIGURE
19

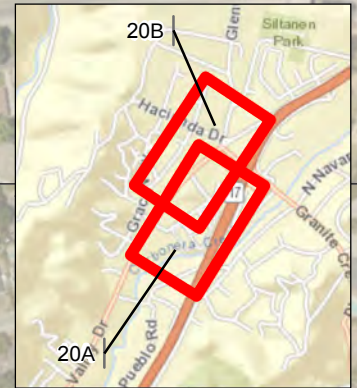
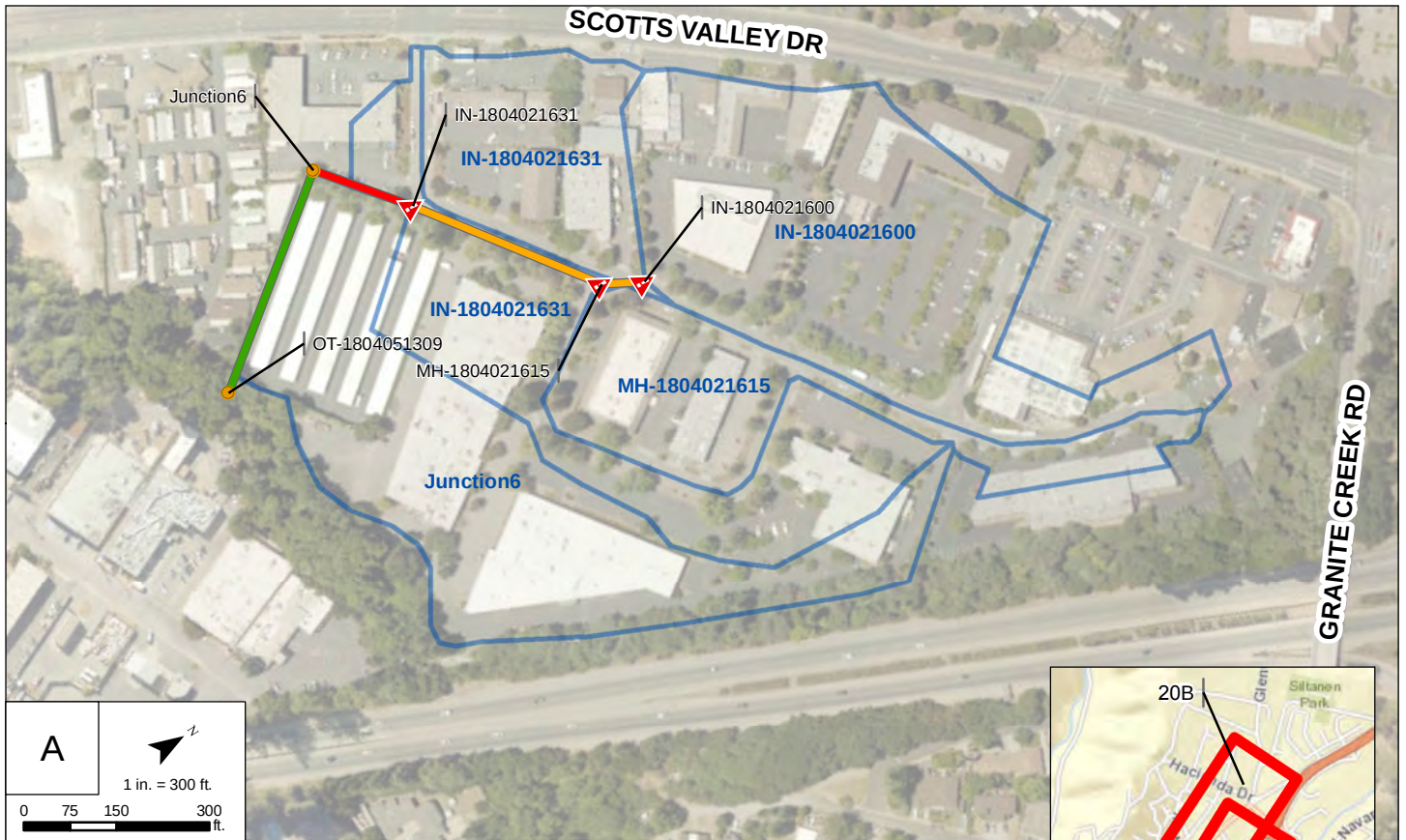
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- Legend**
- Stormwater Basin
 - ▲ Surcharged Node
 - Model Node
 - <90% Capacity
 - >90% Capacity
 - >100% Capacity



SOURCE
ESRI World Imagery basemap

City of Scotts Valley SDMP Update
Appendix B
20A - Victor Square - Storm Drain System 15
20B - Scotts Valley Dr - Storm Drain System 16
100-Year Event Results

FIGURE
20

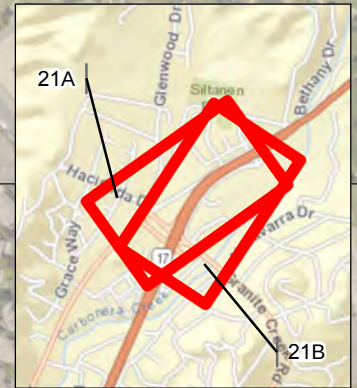
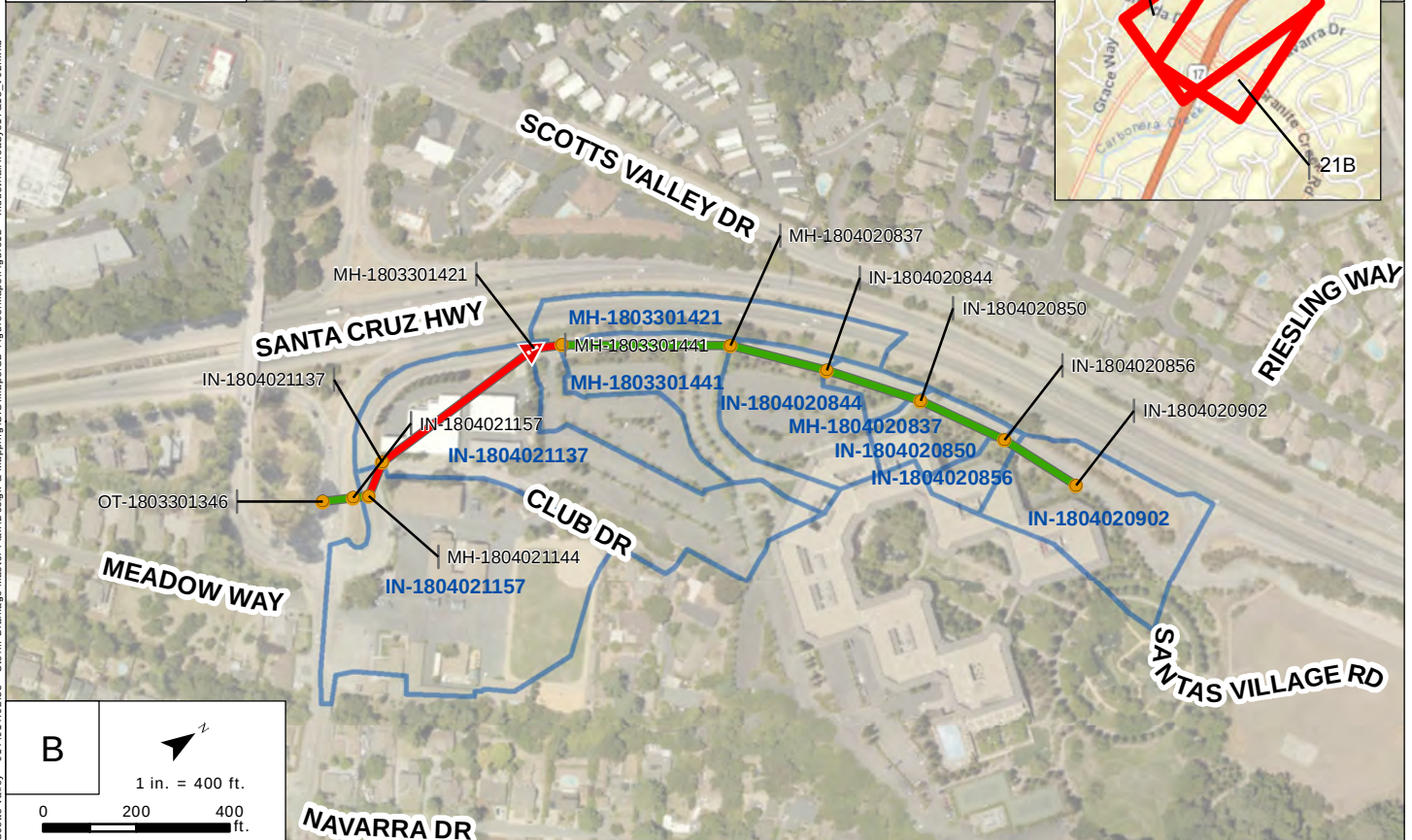
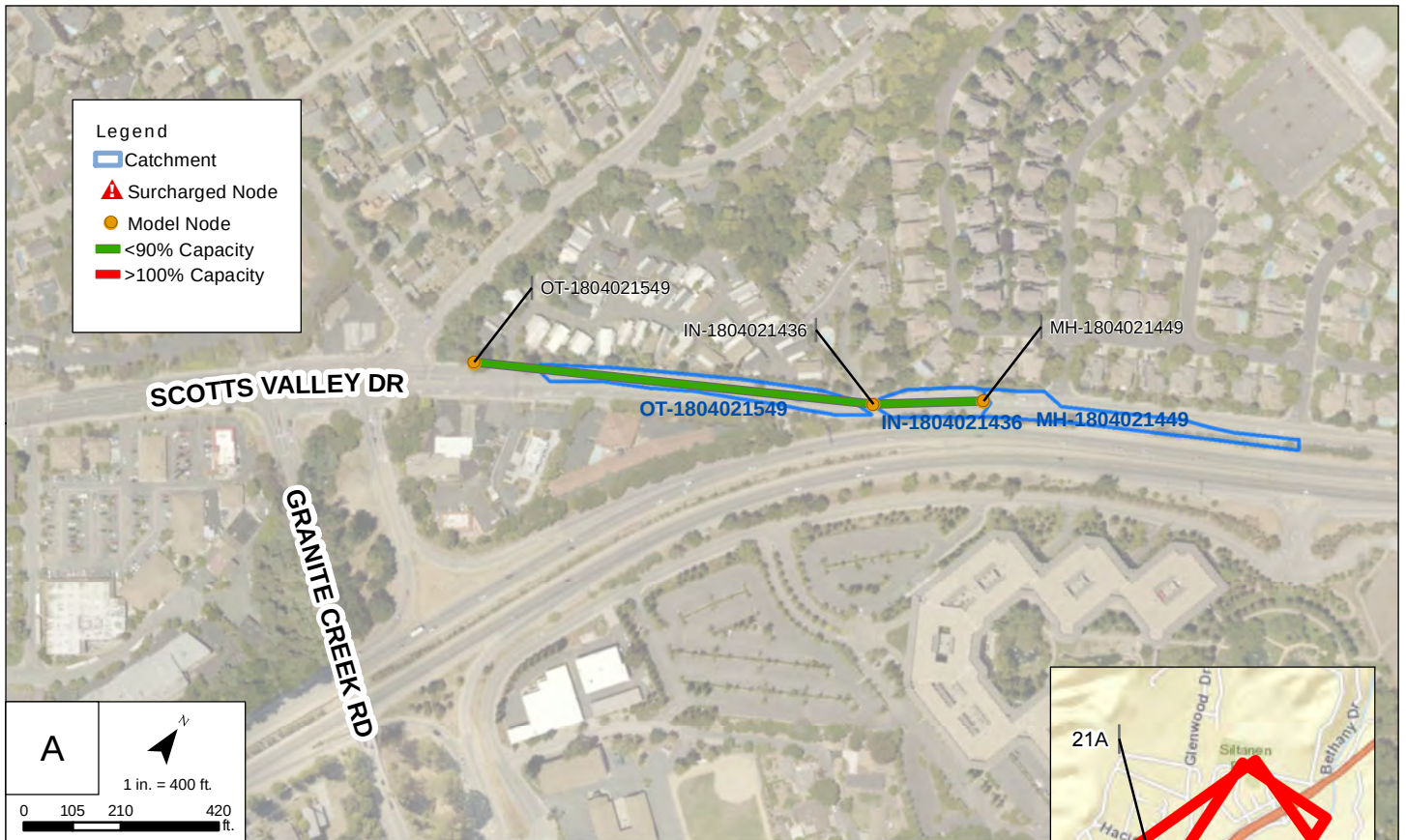
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City of Scotts Valley SDMP Update Appendix B

21A - Scotts Valley Dr - Storm Drain System 17
21B - Santos Village Rd - Storm Drain System 18
10-Year Event Results

FIGURE

21

SOURCE
ESRI World Imagery basemap

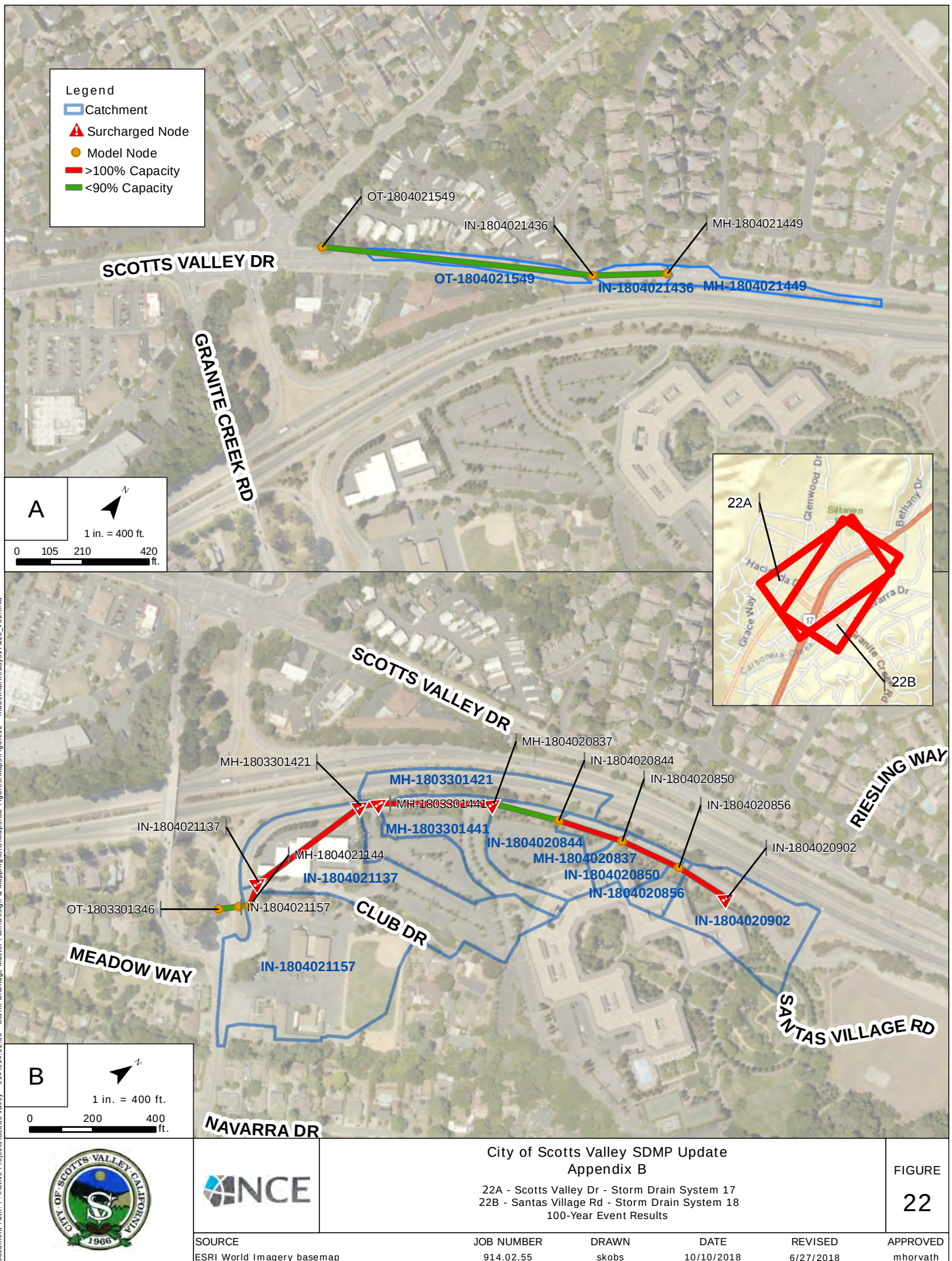
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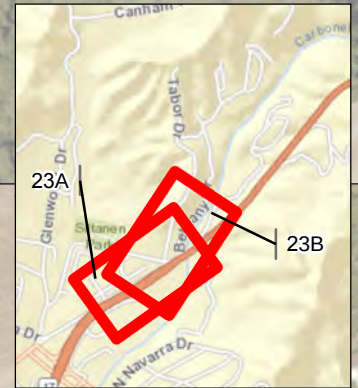
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- Legend**
- ▬ Catchment
 - Model Node
 - ▬ <90% Capacity
 - ▬ >90% Capacity



City of Scotts Valley SDMP Update - Appendix B

23A - Scotts Valley Dr - Storm Drain System 19
 23B - Scotts Valley Dr - Storm Drain System 20
 23B - Bethany Dr - Storm Drain System 21
 10-Year Event Results

FIGURE
23

SOURCE
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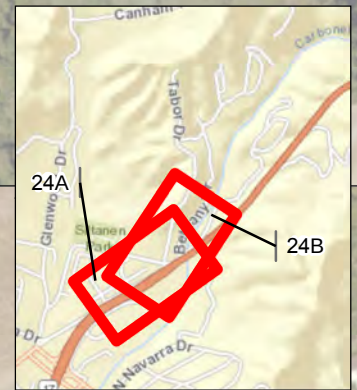
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Legend

- ▬ Catchment
- Model Node
- ▬ <90% Capacity
- ▬ >100% Capacity



City of Scotts Valley SDMP Update - Appendix B

24A - Scotts Valley Dr - Storm Drain System 19
 24B - Scotts Valley Dr - Storm Drain System 20
 24B - Bethany Dr - Storm Drain System 21
 100-Year Event Results

FIGURE
24

SOURCE
ESRI World Imagery basemap

JOB NUMBER
914.02.55

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APPENDIX C

PROJECT DELIVERY MEMO



Project Delivery Memo

City of Scotts Valley, Storm Drain Master Plan Update
March 2018



Lake Tahoe, NV
P.O. Box 1760
Zephyr Cove, NV 89448



City of Scotts Valley

One Civic Center Drive
Scotts Valley, CA 95066



Project Delivery Memo for: City of Scotts Valley

Storm Drain Master Plan Update
Scotts Valley, CA

Prepared for:

City of Scotts Valley
One Civic Center Drive
Scotts Valley, CA

Prepared by:

A handwritten signature in blue ink, appearing to read 'Dave Rios', written over a horizontal line.

Dave Rios
Senior Scientist

A handwritten signature in black ink, appearing to read 'Mack Casterman', written over a horizontal line.

Mack Casterman
Staff Scientist

NCE
P.O. Box 1760
Zephyr Cove, NV 89449

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1.0 INTRODUCTION

1.0 INTRODUCTION

The City of Scotts Valley (City) desires an updated City-wide Storm Drain Master Plan, which will be used by City staff to determine, prioritize, and estimate the capital improvement needs of the City's storm drain collection system. The Master Plan is a proactive approach to determine needs, cost, and priorities associated with storm drain improvements. This tool will provide City staff with the ability to program future capital improvement projects including compliance with amendments to the Water Quality Control Plan for Ocean Waters of California to Control Trash and Part 1 Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California.

The goal of this Project Delivery Memo (PDM) is to establish and document the roadmap by which a new data collection project will be implemented. A successful project requires close collaboration between NCE and the City and the PDM provides City staff with details about what, how, and when tasks will be done and the specific deliverables the City will receive. The specific sections of the PDM include:

- Section 1:** Introduction
- Section 2:** Proposed Data Collection Geodatabase
- Section 3:** Data Collection
- Section 4:** Data Management
- Section 5:** QA/QC Procedures
- Section 6:** Hydraulic Analysis and Modeling
- Section 7:** Trash Compliance Plan

Following the introduction, **Section 2** presents the structure of the temporary data collection Geodatabase (GDB). **Section 3** outlines the data collection methods that will be employed. **Section 4** describes the process for managing the data collection GDB including how information will be backed-up, saved, and how data collection will be tracked in real-time. **Section 5** discusses the NCE QA/QC process to identify, reduce, and rectify potential human error inherent in all data collection projects. **Section 6** describes the Hydraulic Analysis and Modeling process that will provide the City with an overall assessment of the drainage and storm drain system function in high priority areas. **Section 7** outlines the methods that will be used to identify Full Trash Capture (FTC) areas, site FTC devices, and develop cost estimates for FTC.

2.0 PROPOSED DATA COLLECTION GEODATABASE

2.0 PROPOSED DATA COLLECTION GEODATABASE

Data collected for this project will be stored, managed, and delivered to the City via an ESRI File **Geodatabase** (GDB), a container or collection of files in a folder on disk that consists of both spatial and non-spatial data. Spatial data includes **feature classes** such as points, lines, or polygons georeferenced to an assigned coordinate system (e.g., NAD 83 California State Plane Zone 3). Non-spatial data tied to the spatial data include **attribute** tables consisting of **fields** (columns) that describe the **records** (rows) of each feature class. Additional non-spatial data that may be contained within a GDB are **domains** that limit text fields to a defined set of values (e.g., red, blue, or green) or numeric fields to a defined range of values (e.g., 1-10).

The final GDB will contain a series of storm drain facility or junction point feature classes (e.g., inlets, manholes, etc.) and conveyance line feature classes (e.g., pipes, culverts, etc.) that make up the City's storm drain network. Each feature class contains the agreed-upon attributes (e.g., material, elevation, invert, etc.) and domain values (e.g., material types such as CMP, HDPE, etc.) necessary to produce the agreed upon deliverables for the project (models, maps, analysis, etc.).

A preliminary design of the GDB (i.e., proposed feature classes, attributes, and domains) was presented to the City at the technical meeting. The City will want to review the GDB and provide feedback for any changes. Following the review of this document, NCE will make any necessary adjustments to the storm drain GDB.

Appendix C presents the metadata spreadsheet providing additional detail pertaining to GDB components. These tables form the basis for the data collection geodatabase.

2.1 FEATURE CLASSES

The final GDB will contain a total of 8 feature classes including four conveyance polylines (Channel, Culvert, Pipe, and V-ditch), and four junction points (Inlet, Manhole, Outfall, and Junction). Each feature class is assigned a prefix and suffix to help with organization and logic. Conveyance feature classes have a prefix of "c" whereas junction feature classes have a prefix of "j". Polyline geometry feature classes have a suffix of "L" and points have a suffix of "P". The resulting feature class names include:

Conveyance Feature Classes (Lines)	Junction Feature Classes (Points)
cChannel_L	jInlet_P
cCulvert_L	jManhole_P
cPipe_L	jOutfall_P
cVditch_L	jJunction_P

As discussed in more detail below, the GDB will involve at least one iteration of geoprocessing before NCE field collected data can be integrated with the City's master dataset. Geoprocessing iterations are necessary to convert conveyance features, collected as upstream and downstream points in the field, to linear features within final GDBs.

The following subsections outline the feature classes within the GDB.

2.0 PROPOSED DATA COLLECTION GEODATABASE

2.1.1 Scotts Valley Storm Drain GDB

Data collection in the project area will focus on collecting all new storm drain data. Existing data will be viewable as a reference only. **Table 1** contains the list of feature classes selected for data collection.

Table 1: Scotts Valley GDB Design

Feature Class	Geometry Type	Note
jInlet_P	Point	Used for data collection in the field.
jManhole_P	Point	Used for data collection in the field.
Outfall_Existing	Point	Background layer for reference only (includes records from ScottsValley_MS4_outfalls and ScottsValley_MS4_outfalls_paper) - not editable.
jOutfall_P	Point	Used for data collection in the field.
jJunction_P	Point	Used for data collection in the field.
cChannel_P	Point	Used for data collection in the field.
cChannel_L	Line	Not used in the field. Point features collected will be converted to lines via geoprocessing for the final GDB.
cCulvert_P	Point	Used for data collection in the field. Converted to lines for final GDB, then removed.
cCulvert_L	Line	Not used in the field. Point features collected will be converted to lines via geoprocessing for the final GDB.
cPipes_P	Point	Used for data collection in the field. Converted to lines for final GDB, then removed.
cPipes_L	Line	Not used in the field. Point features collected will be converted to lines via geoprocessing for the final GDB.
cVditch_P	Point	Used for data collection in the field.
cVditch_L	Line	Not used in the field. Point features collected will be converted to lines via geoprocessing for the final GDB.
Project_Area	Polygon	Background layer - not editable.

2.1.2 Feature Naming Convention

All records will receive a unique identifier to facilitate linkage to external data sources in the future (e.g., excel tables, database tables, photos, work orders, etc.). New Features will receive a Field ID based on the concatenation of three components: the feature abbreviation, the date originally recorded, and the time in military format of original recording. For example, an inlet recorded on February 28 at 1:15pm would receive a Field ID of IN-1702281315. Because the Field ID is lengthy and somewhat cumbersome for purposes of mapping and labeling, a better suited Unique ID will be created based on the feature abbreviation and a sequential number of records within a particular feature class. Therefore, if IN-1702281315 happens to be the 50th inlet recorded, it would receive a Unique ID of IN-0050.

Feature Abbreviations:

- Channel: CH
- Culvert: CU
- Pipe: PI
- V-Ditch: VD
- Inlet: IN

2.0 PROPOSED DATA COLLECTION GEODATABASE

- Manhole: MH
- Outfall: OT
- Junction: JU

It is our understanding that the City's existing outfall data is relatively spatially accurate and will be used as a reference for data collection in the field. The existing layer, `ScottsValley_MS4_outfalls`, contains three ID fields: `catchID`, `outID`, and `outmatch`, none of which are complete. Although the project entails all new data collection, when possible, existing records will be linked to new records through the use of a consistent ID. A field called Legacy ID was created within the existing data and populated based on the concatenation of "SVOT-" (Scotts Valley Outfall) and the GIS OBJECTID to provide a consistent and unique ID for each existing record. For example, the existing outfall with `catchID` SV 15 is OBJECTID 1 and therefore will receive a Legacy ID of SVOT-1. Within the new data, entry of a Legacy ID may not always be possible, but preserving this link between old and new datasets could be important for the City for future evaluation or comparison.

3.0 DATA COLLECTION

3.0 DATA COLLECTION

3.1 FIELD DATA COLLECTION

Collection of data for the entire City will require more resources than are available for this project. NCE has worked with the City to identify a high priority area including those with hydraulic concern and or where trash compliance is required. The main priority area will generally encompass the commercial and industrial corridors and the major drainage infrastructure. Additional data will be collected at flood prone areas identified by the City if they are outside of the main area. NCE will collect data for up to 350 assets within these priority areas (**Figure 1**).

Data collection in the project area will focus on new storm drain feature collection. Spatial data will be collected using high spatial accuracy GPS equipment to achieve sub 0.5 foot vertical accuracy and sub 1.0 foot horizontal accuracy. Existing data will be used as reference and navigation. Equipment for the project will consist of a GPS receiver in addition to a mobile device running ArcGIS Collector for attribute data. Spatial records from the GPS device will be joined to attribute data based on a common Unique ID.

3.0 DATA COLLECTION

3.2 FIELD PREPARATION

The success and efficiency of collecting data in the field is tied to preparation before the first field visit. **Table 2** lists key steps that will be completed by NCE prior to collecting data in the field.

Table 2: Preparation Steps for Field Data Collection

Step	Description	Purpose
1	Print hardcopy map grid of existing data to provide the field crew a visual index of the project area for reference. This may be supplemented by hardcopy maps provided by the City of their existing data.	Having a graphic index of the project area is important for tracking areas completed and yet to be visited in the field. It also provides a simple way to delegate the work among crew members, plan for the next day, and to track overall progress and efficiency.
2	Test and implement a mobile data collection workflow that includes field data collection, uploading, and QA/QC protocols.	The purpose of this step is to test the data collection work flow, establish means for moving data from field to GDB, and setup QC procedures.
3	Prepare field kit including: GPS receiver, monopole, mobile device, tape measure, lifting hook, sledge hammer, map grid, field forms, safety equipment, batteries, car chargers, and laptop (for downloading data).	To provide the field crew with all the equipment necessary to complete the data collection effort.
4	Prepare staffing plan for field work.	To ensure staff will be available and that field collection time frames are met.
5	Conduct orientation for field staff.	Ensure staff are trained to consistently use the hardware and software for this specific project, and to have consistency among staff when entering qualitative data (e.g., good, fair, poor). Provide safety guidelines and training.

3.3 SPATIAL & ATTRIBUTE DATA COLLECTION PROCEDURES

The following data collection workflow will guide the spatial and attribute field data collection:

3.3.1 Pre-Field Office Tasks

1. Check out field kit – Check kit for completeness against equipment list, calibrate required equipment, and replace equipment that is not functioning.
2. Print hardcopies of the Project Area map grid and use it to identify the daily areas to be visited and the features and attributes to be evaluated or recorded.
3. Confirm that data collection structure (i.e., data dictionary) is complete and accessible on the tablet and GPS receiver (if applicable).

Using a map grid will help to identify distinct locations so that the field data collection effort is organized, and gaps or duplicate data collection is avoided. To facilitate tracking (e.g., which areas have been visited vs. not visited), an appropriately sized grid index layer will be overlain the pages of the map grid and/or this grid index layer will be published to the web map and editable on the mobile device.

3.0 DATA COLLECTION

A list of feature classes (e.g., Inlets, Manholes, Pipes, etc.) and associated attributes (e.g., Material, Diameter, Invert, etc.) that may be encountered in the field are described in the Storm Drain Features Guide (**Appendix A**). When possible, a picture of each feature type will be presented in the features guide. The guide will be provided and used by all technicians when identifying features in the field. In addition, NCE is providing a copy of the Data Collection Manual (**Appendix B**), so that the City has an explanation for how the data was collected and measurements were taken in the field.

3.3.2 Daily Field Tasks

1. Daily Tracking and Planning
 - a. Locate field area (i.e., grid index) in the map grid for the day, park the vehicle and walk/drive the length of the area. Data within each grid index may be collected in the anticipated direction of flow (i.e., walk downstream).
2. Collect Data
 - a. Locate storm drain facilities and position GPS receiver as close as possible to the top-center of the feature.
 - b. Collect spatial data using the GPS receiver. Populate the Field ID.
 - c. Collect attribute information using a tablet loaded with the ESRI Collector. When a value must purposely be left blank due to accessibility or non-applicability, use "No Value" for text fields and "99" for numeric fields. These values are re-calculated as NULL for the final GDB.
 - d. Take a picture of the feature. Only photos of surface features (inlets, manholes, culverts, etc.) will be taken. Pictures of subsurface features (pipes) will not be taken.
 - e. Walk or drive all streets/areas within the grid index to ensure that all storm drain features have been recorded and that connectivity is accurately described.
3. Conduct First Line QC
 - a. Before submitting data on a given record, perform initial (first line) QC by reviewing fields with partner for accuracy and completeness.
4. Field Forms (if necessary)
 - a. Fill out a field form, if necessary, to describe field observations that will help with establishing connectivity following data collection.
5. Update Tracking
 - a. Cross out the grid index cell in the map grid once all storm drain features have been collected for that area.

3.3.3 Daily Post Data Collection Tasks

1. Upon completion of each day's data collection, download and share:
 - a. Download the raw Trimble field data (if applicable) and store on the field laptop. Post these data to NCE's Sharefile for subsequent download and storage on NCE's network.
 - b. Data collected with ESRI Collector is stored on ArcGIS Online. For these data, export the feature service to GDB and leave on ArcGIS Online (AGOL). The NCE GIS Administrator will download the most recent version once per week to NCE's network, check to make sure the data is readable in ArcGIS, then delete the exported copies of the feature service from AGOL.
2. Check in Field Kit
 - a. Charge devices and ensure all equipment is in proper working order.
3. Tracking and Planning Update
 - a. Ensure tracking is up to date on the map grid and plan the next day's session.

4.0 DATA MANAGEMENT

4.0 DATA MANAGEMENT

The spatial data will be collected using a Trimble GPS receiver paired with an external antenna capable of sub-foot accuracy. Collected data will be managed with ESRI Desktop GIS software for integration to a master geodatabase. The attribute data will be collected using an Apple iPad running the ESRI Collector application. Following data collection, NCE will implement QA/QC protocols identified in Section 5.0, and will then perform the necessary geoprocessing to create the final GDB.

4.1 DATA PROCESSING & INTEGRATION

Data will be stored as a feature service on AGOL. Once per week, the most recent exported GDB will be downloaded, and viewed using ArcGIS to ensure readability. Also once per week, the Trimble data will be converted to GIS and appended to a master Trimble GDB. Linkage between the AGOL GDB and the Trimble GDB will be tested to ensure 100% record linkage.

4.2 BACKUP & REDUNDANCY

Ensuring redundancy of digital data to safeguard against hardware or software catastrophic failure is a critical component to all NCE data's collection projects. Unless the process is built into the workflow or automated if necessary, backing up data can often be overlooked during day-to-day operations. Following the workflow developed for this project, redundancy is built into the process:

1. Collector Field Data
 - a. This data is stored as a feature service on AGOL. Once per week, the most recently exported GDB will be downloaded to the NCE network which is backed up multiple times per day.
2. Trimble Field Data
 - a. This data is downloaded daily from the GPS receiver, stored on a local field laptop, and also uploaded to NCE's Sharefile site. Field data is downloaded from Sharefile once per week to the NCE network.
3. GIS data
 - a. All GIS data will be stored on the NCE network
 - b. Field data is retained throughout the life of the project
 - c. Master GDBs (AGOL and Trimble) are versioned as they accumulate records (e.g., AGOL Master GDB v01 contains weeks 1 and 2 field data, AGOL Master GDB v02 contains weeks 1-4, and similar for Trimble Master GDB)

5.0 QA/QC PROCEDURES

5.0 QA/QC PROCEDURES

Quality assurance and control (QA/QC) is a crucial component for all of NCE's projects. To produce the highest quality data, NCE has developed a Quality Assurance and Management Program (QAMP) for which all employees are educated then tested prior to certification. Stemming from that program, we have developed and tested a QA/QC protocol for storm drain data collection projects which will be employed for this project.

5.1 FIRST LINE REVIEW

During the data collection and prior to saving the information for each storm drain feature, field technicians will review the attribute and spatial information for accuracy. The vast majority of simple errors are caught through consistent and diligent first line review.

5.2 SECOND LINE REVIEW

Second Line Review involves a systematic desktop evaluation of GIS records to ensure storm drain feature types (e.g., inlets, manholes, etc.) are complete and accurate. Records with missing, likely incorrect, or suspicious values are flagged for subsequent third line review. If missing information is a result of access issues to the feature (e.g., manhole lid sealed, etc.), these will be excluded from third line review. Suspicious values are those that could be correct but seem incorrect, like a depth of 20 feet for a manhole rather than something more typical like 5 to 10 feet.

5.3 THIRD LINE REVIEW

As part of the third line review, in addition to correcting errors/potential errors identified during second line review, an extra 10% of randomly selected records will be field verified. This step is important to catch systematic errors that may not otherwise be identified. This step involves navigating to flagged features and collecting all new data. After the QC dataset is downloaded/processed, the QC dataset is compared with the original field dataset to identify discrepancies. Photos are used to verify the storm drain feature type (except for subsurface features). Text attributes must match 100% of the time (e.g., pipe material = CMP). Numeric attributes must be within +/- five percent of each other. For records with non-matching text attributes or numeric attributes that are greater than +/- five percent, these records are flagged for inclusion with the next round of quality control and the process begins again.

If greater than 10% of errors for a given attribute collected by the same field technician are identified during the dataset comparison described above, then all records collected by that field technician must be re-verified. Any systematic errors identified will be addressed with field technicians to be certain the error is corrected (e.g., improper measurement). This drastic step is only taken when systematic errors are identified and rectified before the error transcends the entire dataset.

5.4 MANAGER REVIEW

The final QC process involves the NCE Project Manager scrutinizing the data at a course scale. This final review helps to identify possible issues of network connectivity, flow direction, and/or unrealistic or improbable values. Examples include checks to ensure downstream inverts are less than upstream inverts or pipe crowns do not extend above ground surface.

6.0 HYDROLOGIC ANALYSIS AND MODELING

6.0 HYDROLOGIC ANALYSIS AND MODELING

NCE will complete hydrologic and hydraulic models at the level of detail necessary to provide an assessment of the overall drainage and the storm drain system in high priority areas.

6.1 HYDROLOGIC AND HYDRAULIC ANALYSIS

Catchment areas will be delineated to drainage infrastructure that is inventoried for this project in high priority areas and for the analysis of flood prone problem areas based on USGS topography data and field observation. , Hydrologic and hydraulic analysis will consider prior drainage studies where available.

6.2 DATA REQUIREMENTS

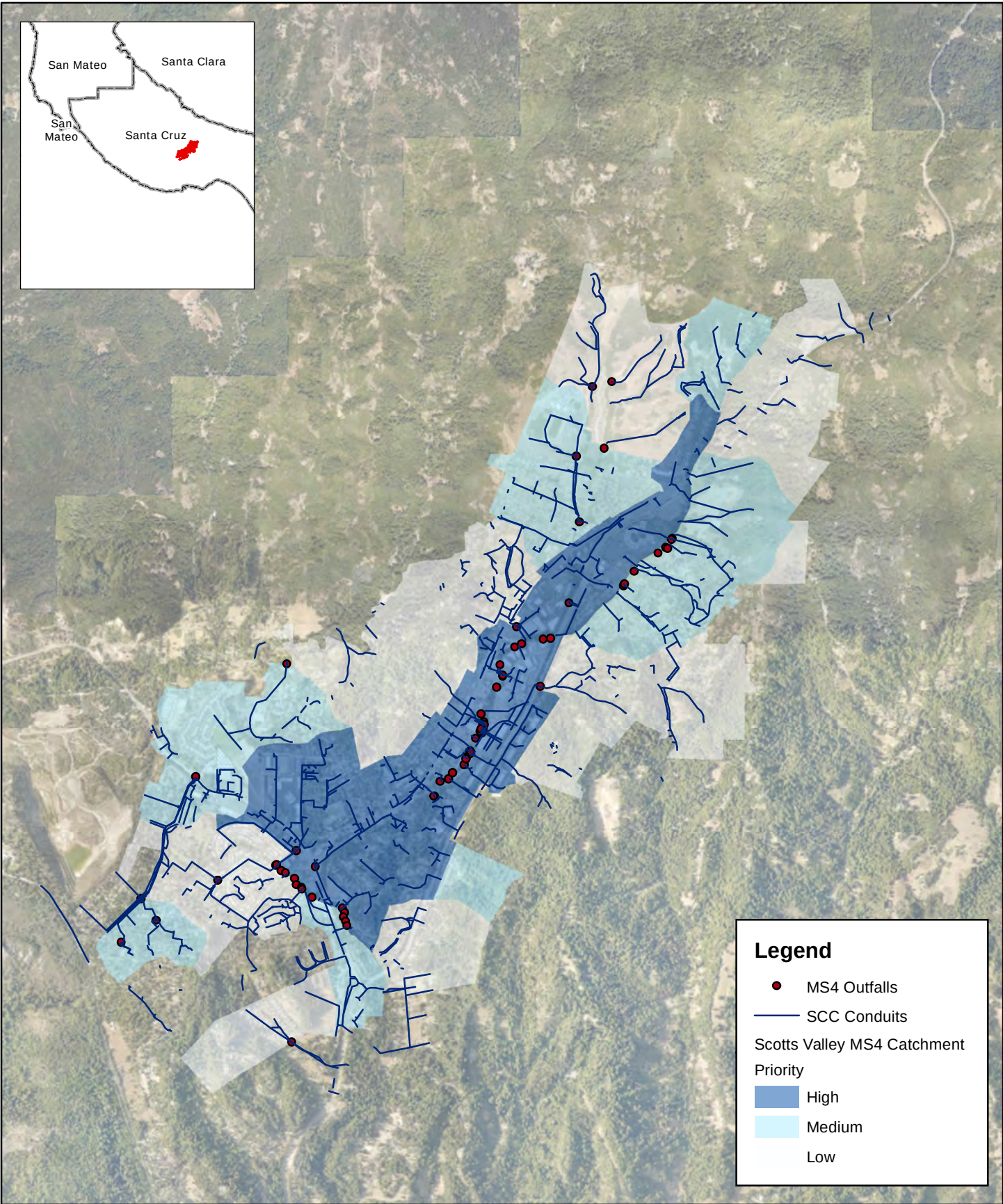
The following data types will be obtained or developed from existing sources:

- General channel geometry for outfalls of major storm drain systems
- Ground surface condition, including vegetation, percent impervious area, soil types (from limited field reconnaissance and aerial photographs)
- Location of existing storm drain elements (pipes, manholes, inlets, and outfalls) from field survey
- Sizes and geometries of storm drain elements from field survey
- Downstream creek water surface elevations for design storms, from Federal Emergency (FEMA) Flood Insurance Study (FIS) mapping
- Rainfall hyetographs for each design storm for the city area, assuming uniform rainfall over the entire city area.

6.3 ASSUMPTIONS

The scope and budget of the present study allows for only limited data collection of the storm drain in high priority areas. Engineering judgement and experience will be used fill in missing data. The modeling plan assumes that data collected and existing information will be adequate to support the building of reasonably accurate analysis for the systems through high priority areas. The assumptions made in the hydrologic and hydraulic analysis will be documented.

Figure 1: Project Delivery Priority Areas



Legend

- MS4 Outfalls
- SCC Conduits

Scotts Valley MS4 Catchment

Priority

- High
- Medium
- Low

City of
Scotts Valley



City of Scotts Valley, Storm Drain
Master Plan Update
Project Delivery Memo
Priority Areas

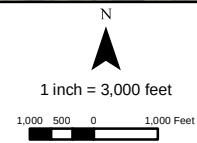


FIGURE
1

SOURCE
ESRI World Imagery

JOB NUMBER
914.02.55

DRAWN
Mhorvath

DATE
3/7/2018

REVISED
3/14/2018

APPROVED
MC

Appendix A

STORM DRAIN FEATURES GUIDE

City of Scotts Valley

Storm Drain Features Guide

The purpose of this features guide is to document the nomenclature of the features found within the City's storm drain system. This guide includes a photo and short description of each of these features to help field technicians and City staff consistently identify storm drain system features in the field. Where appropriate, this guide also includes additional information and photos to describe specific attributes and domain values. All of the following names, titles and definitions are for use by the City of Scotts Valley as part of this project. These descriptions are not intended to be industry descriptions.

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GLOBAL ATTRIBUTES

Several attributes will be collected for each feature described in the following pages.

Access Issues

- Lid/Grate Sealed: Inlet grate or manhole lid is stuck or sealed shut
- Parked Car: A parked vehicle is blocking a storm drain feature prohibiting collection of pertinent attributes and spatial location.
- Private Property: The storm drain feature is located on private property and is not be collected.
- Traffic: Traffic is heavy or too fast to safely collect a storm drain feature.
- Other: Describe in the comments.

Maintenance Condition

- Good: Feature is free from debris and flow is unhindered as it moves through the facility. No maintenance currently required.
- Fair: Feature is functional; however, small amounts of debris exist, flow can move through the facility, but maintenance is recommended.
- Poor: Feature has limited function, debris is evident, and requires immediate maintenance.

Structural Condition

- Good: Feature is fully functional or newly constructed and all facets appear to be in good condition.
- Fair: Feature is functional, but has minor structural issues and repair may be necessary within the next ten years.
- Poor: Defects requiring immediate attention are evident, feature has failed or is likely to fail in the next five years. Replacement recommended within five years.

CHANNEL



Definition

A stormwater conveyance channel is a waterway designed to convey stormwater runoff. Channels can be natural or artificial. The channel can be lined with vegetation, pavement or riprap, which extend up the side slopes to design flow depth. Creeks and identified Waters of the US do not qualify as channels.

Identifying Features

A long, narrow excavation that conveys surface water and is open to air. Channels can be found below steep grades where runoff begins to concentrate; along roadways for flood drainage; at the top of slopes to divert runoff from adjacent or undisturbed slopes; or at the bottom and mid-slope to intercept sheet flow and convey concentrated flows.

Channel Material

Concrete:



A composite material composed of coarse aggregate bonded together with a fluid cement that hardens over time.

Earthen:



Composed of a non-paved surface with only dirt or soil composing the structure.

Vegetated:



Composed of a non-paved ground with wild or planted vegetation covering surface.

Riprap:



Large pieces of broken-up loose stone, often concrete

Channel Shape

See “Swale Form” section.

CULVERT



Definition

A culvert is a conveyance feature such as a pipe or concrete box structure that conveys stormwater from open channels, swales, or ditches under existing infrastructure such as a roadway or embankment. Catch basins or manholes are typically absent along the entire length of the culvert.

Identifying Features

Culvert size and material will vary depending on the function of the culvert. Shapes can include round, elliptical, flat-bottomed, squashed (right image) pear-shaped, and box. Culvert materials may include steel, precast concrete, or polymer (plastic). Hybrid designs are also common which combine two or more materials.

Culvert Material

See “Pipe Material” section.

Culvert Shape

Arch:



Arch culverts have application in locations where less obstruction to a waterway is desirable and where foundations are adequate for structural support.

Box:



Box culverts are often made of pre-cast concrete.

Circular:



The most geometrically efficient shape for a culvert – often made using precast concrete, or pipe since on-site fabrication is more costly than alternative culvert designs.

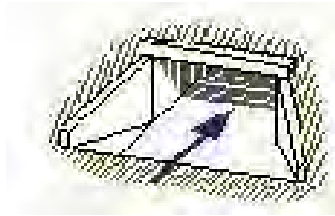
Elliptical:



Similar to circular culvert, but in an oval shape

Headwall Type

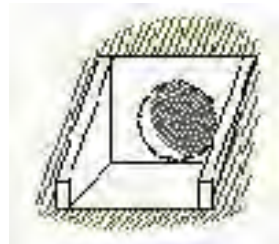
Flared:



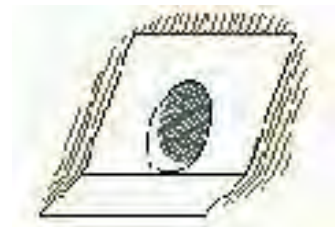
Parallel:



Straight:



Mitered:



Projecting:



Other:

Other is for features that do not fit into one of the predefined categories. Please provide explanation in the “comment” field.

INLET



Definition

Inlets are a general term to describe a point of entry to the storm drain system that can be located in line with curb and gutter or in the middle of paved areas. They may include a sump to capture sediment, debris, and pollutants.

Identifying Features

Inlets can be associated with curb and gutter, located along the side of streets, or in the middle of paved areas away from the curb.

Inlet Types

Drop Inlet:



Drop inlets can be located adjacent to or away from the curb. However, drop inlets do not have a curb opening.

Curb Inlet:

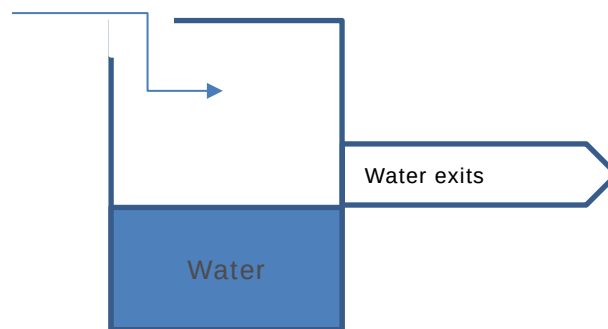


Curb inlets are located along the curb flowline, may or may not have a grate, and may or may not have an access point (manhole)

Basin Type

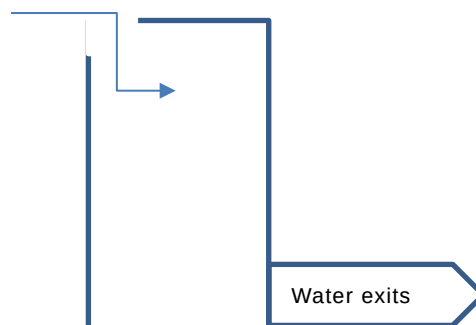
The basin type attribute describes whether there is a sump or not within the inlet.

Catch Basin:



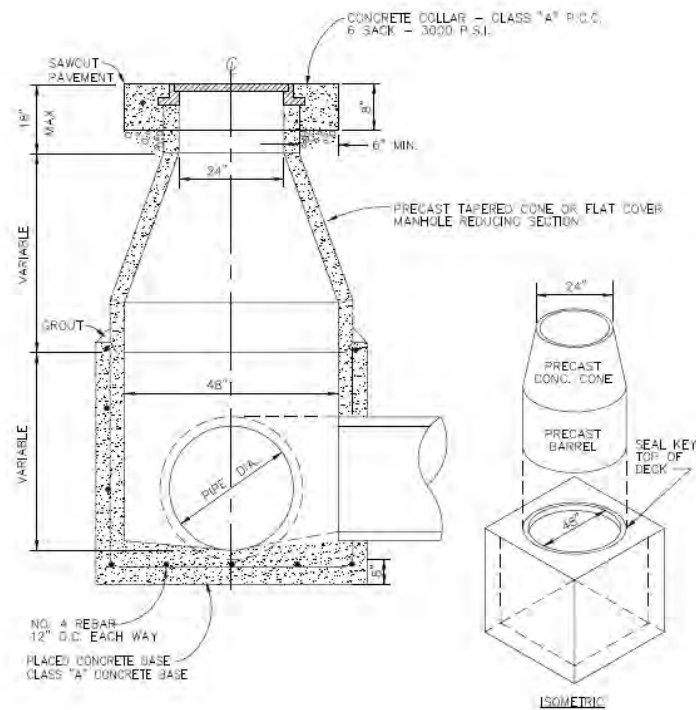
The outlet pipe of a “catch basin” basin type will be located toward the top of the structure, allowing for the detention of stormwater. This is also known as a sump.

Drainage Basin:



The outlet pipe of a “drainage basin” basin type will be located toward the bottom of the structure, not allowing for any stormwater detention. This flow through structure is lacking a sump.

MANHOLE



1. ALL JOINTS BETWEEN PRECAST SECTIONS SHALL BE SEALED, INSIDE AND OUTSIDE.
2. INTERIOR OF MANHOLE SHALL HAVE A SMOOTH TROWELED SURFACE.
3. PIPES LARGER THAN 48" REQUIRE SPECIAL DESIGN.

Definition

Manholes provide access to underground utility vaults, sanitary systems, or storm drain systems. Manholes may also provide access to other utilities including telephone, electricity or gas. For the purposes of this project, manholes are access points for the storm drain system and will often involve a number of inlet pipes and typically a single outlet pipe.

Identifying Features

Manholes are typically located on or adjacent to the streets, but occasionally are found on sidewalks. The manhole cover is circular in shape to prevent accidental fall of the cover into the hole.

OUTFALL



Definition

Outfalls define a discharge point from the storm drain system. The outfall type is defined by where the water is discharging **from**.

Identifying Features

Outfalls generally discharge to non-tidal channels, natural ditches, or other conveyance features within the storm drain system. Outfalls may contain velocity dissipation devices. The dissipation devices are placed at outfalls to prevent scour and reduce the velocity and/or energy from stormwater flows. Velocity dissipation devices may include riprap, a concrete apron, or a plunge pool.

Outfall Type

Channel:



Channels are man-made permanent waterways designed to convey stormwater runoff. Channels can be lined with vegetation, pavement, or riprap.

Creek:



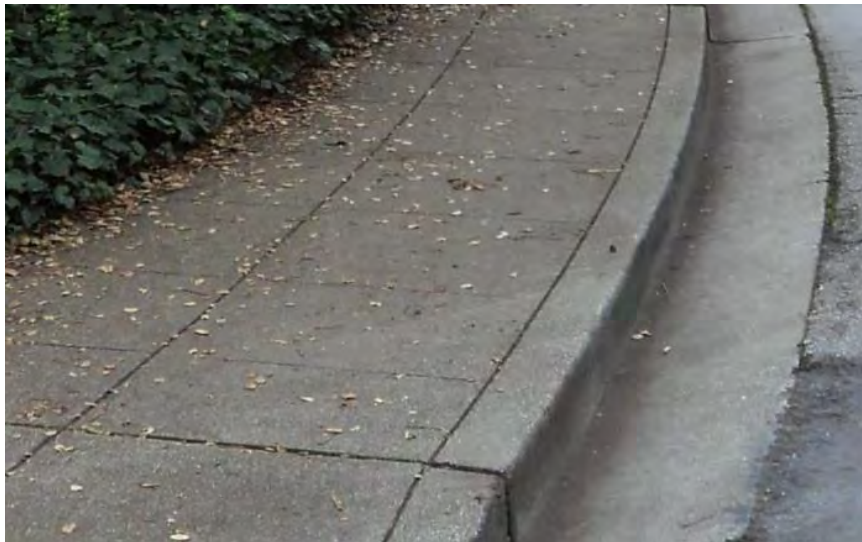
Creeks are narrow natural waterways that convey stormwater to larger natural waterways such as rivers, lakes, bays or oceans.

Culvert:



Culverts are conveyance features that move stormwater under infrastructure. Often culverts are constructed under roads, railroads, or trails.

Gutter:



Gutters are formed at the joint between a roadway and a curb. Gutters direct flow along a section of curb.

Pipe:



Pipes are primary conveyance elements of the storm drain system. Storm drain pipes convey stormwater runoff from points of entry at inlets to treatment facilities or detention facilities and eventually to the outfall.

Outfall Material

See “Pipe Material” and “Channel Material” section

PIPE



Definition

Storm drain pipes are primary conveyance elements of the storm drain system. Storm drain pipes convey stormwater runoff from points of entry at inlets to treatment facilities or detention facilities and eventually to storm drain outfalls.

Identifying Features

Storm drain pipes, unlike culverts, will typically be connected to the larger storm drain system through inlets or other collection devices. These features are designed to convey stormwater from source areas to the outfall and not simply convey water under another feature such as a road (culvert). The shape (form) of storm drain pipes varies and can include rectangular, square, oval, or most commonly circular (image above).

Pipe Material

Aluminum:



Silver colored pipe without any paint or evidence of corrosion

Cast Iron:



Black metal pipe, may have rust or other corrosion present.

Clay:



Orange or red in color ceramic-based pipe.

CMP:



Corrugated Metal Pipe, generally silver in color

HDPE:



High-density polyethylene. Black in color, often corrugated.

PVC:



Polyvinyl Chloride (PVC) is a common strong lightweight plastic used in construction. It is often colored white, but unplasticized large-diameter pipe is often blue. Look for identification codes printed on the pipe to see the letters PVC to confirm material.

RCP:



Reinforced Concrete Pipe (RCP) – a precast concrete piping that is the most common form of concrete piping. Can be used in any project where storm water, waste water, drainage, telecommunications cabling, or electrical cabling is contained or managed. Designed primarily for use with storm drains, culverts, and storm sewers.

Pipe Shape

Circular:



Circular pipes have equivalent diameters in both the vertical and horizontal plane.

Elliptical:



Elliptical pipes have larger width than height. They appear squashed.

Pipe Type

Pipe:



Pipes convey flow from one storm drain feature to another.

Slotted Drain:



Pipe with an open slot along the top side that allows runoff to enter the pipe along the pipe's length.

V-DITCH



Definition

V-ditches are man-made open conveyance structures that are typically V or U-shaped. A swale is less than 1 foot deep with wide-minimally sloped sides and is always lined with an asphalt or concrete type material and not vegetated. An example in Scotts Valley would be along Bean Creek Road at the intersection of Viki Ct.

Identifying Features

V-ditches consist of a shallow drainage course with gently sloping sides (less than 6%) and unlike bioswales are not vegetated but rather are constructed of asphalt or concrete.

V-Ditch Material

Asphalt:



Asphalt consists of a black petroleum-based glue mixed with aggregate particles.

Concrete:



A composite material composed of coarse aggregate bonded together with a fluid cement that hardens over time.

Other:

Other is for features that do not fit into one of the predefined categories. Please provide explanation in the “comment” field.

JUNCTION



Definition

A junction is any connection that is not a manhole or an inlet.

Identifying Features

Junctions are access points to pipe connections that do not fit the description of a manhole or inlet. Often Junctions are identified by steel plates which can be lifted to access pipes in basins below. Junctions cannot be classified as a manhole, inlet, outfall to a creek, etc.

Appendix B

DATA COLLECTION MANUAL

City of Scotts Valley

Data Collection Manual

The purpose of this document is to describe the data collection method for each feature of the Scotts Valley storm drain system. This manual includes a photo and short description of the feature collection methods to help field technicians and City staff consistently measure storm drain system features in the field.

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GLOBAL ATTRIBUTES

Several attributes will be collected for each feature described in the following pages.

Unique Identifier

All records will receive a unique identifier to facilitate linkage to external data sources in the future (e.g., excel tables, database tables, photos, work orders, etc.). New Features will receive a Field ID based on the concatenation of three components: the feature abbreviation, the date originally recorded, and the time in military format of original recording. For example, an inlet recorded on February 28 at 1:15pm would receive a Field ID of IN-1702281315. Because the Field ID is lengthy and somewhat cumbersome for purposes of mapping and labeling, a better suited Unique ID will be created based on the feature abbreviation and a sequential number of records within a particular feature class. Therefore, if IN-1702281315 happens to be the 50th inlet recorded, it would receive a Unique ID of IN-0050.

Feature Abbreviations:

- Channel: CH
- Culvert: CU
- Pipe: PI
- V-Ditch: VD
- Inlet: IN
- Manhole: MH
- Outfall: OT
- Junction: JU

To capture these three components, only two fields need to be filled out for a given feature. The Date field contains the feature abbreviation by default, so all that is required to select the date from a drop-down menu. The time field must be entered for every record. These two fields will be concatenated after field collection to form the full unique ID (e.g., IN-1702281315).

Please note that because conveyance features are collected as points, the upstream and downstream date and time fields must match, the difference being the upstream point will be denoted with an “Upstream” attribute and the downstream point will be marked as “Downstream”. As such, if an upstream end of a pipe is collected and the date field is “PI-170228” and time field is “1245”, when collecting the downstream end of the pipe, the date and time fields must match those of the upstream point. All conveyance points will be converted to lines after field collection and matching ID facilitates ease of pairing the points.

UP_DN

For conveyance feature only, this attribute defines whether the point is “Upstream” or “Downstream”.

Access

This attributes refers to when access issues are encountered prohibiting data collection of a storm drain feature.

- Lid/Grate Sealed: Inlet grate or manhole lid is stuck or sealed shut
- Parked Car: A parked vehicle is blocking a storm drain feature prohibiting collection of pertinent attributes and spatial location.

- Private Property: The storm drain feature is located on private property and is not be collected.
- Traffic: Traffic is heavy or too fast to safely collect a storm drain feature.
- Other: Describe in the comments.

Maintenance Condition

- Good: Feature is free from debris and flow is unhindered as it moves through the facility. No maintenance currently required.
- Fair: Feature is functional; however, small amounts of debris exist, flow can move through the facility, but maintenance is recommended.
- Poor: Feature has limited function, debris is evident, and requires immediate maintenance.

Structural Condition

- Good: Feature is fully functional or newly constructed and all facets appear to be in good condition.
- Fair: Feature is functional, but has minor structural issues and repair may be necessary within the next ten years.
- Poor: Defects requiring immediate attention are evident, feature has failed or is likely to fail in the next five years. Replacement recommended within five years.

Elevation

Elevation is captured from the Trimble unit. Unless otherwise noted below, the elevation is the surface elevation of the feature.

Comment

Provide additional explanations or other pertinent information not included in the existing fields. For example, include descriptions of any records that contain “other” for an attribute.

Photo

If possible, one (1) photograph of each feature will be taken. If the lighting or angle necessary to take an effective picture prohibits the quality of the photo, one will not be taken.

CHANNEL

A stormwater conveyance channel is a permanent waterway, designed to convey stormwater runoff. Channels can be man-made or natural. The channel is lined with vegetation, pavement or riprap, which extend up the side slopes to design flow depth. Creeks and identified Waters of the US do not qualify as channels. Examples in San Pablo would be adjacent to the railroads, and adjacent to 2638 Vale Road.



CH_Material

Material lining the channel (select from drop-down menu)

See Features Guide for descriptions

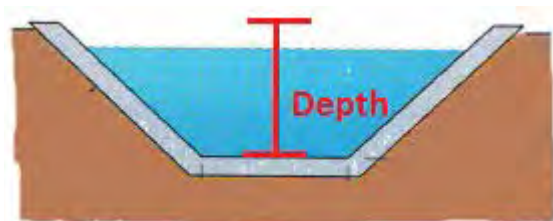
CH_Shape

Channel Shape (select from drop-down menu)

See Features Guide for descriptions

Depth

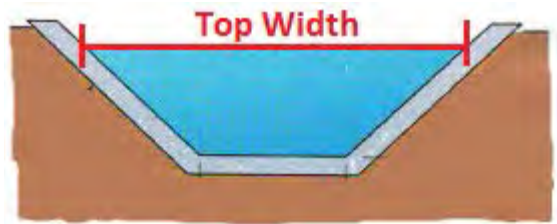
Height or depth of the channel in decimal feet



Measured from the top of the bank vertically down to the deepest part of the channel proximate to where the data point is collected.

Top_Width

Measured in decimal feet



Measure from edge to edge of high water point of channel. Take measurement 5 Feet from the downstream end of the channel.

Bot_Width

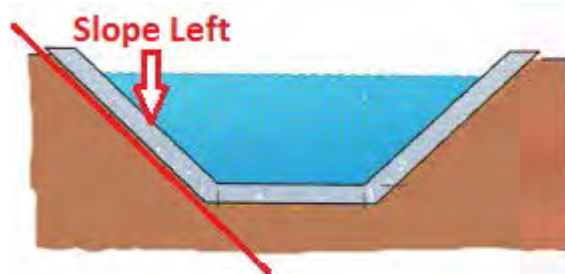
Measured in decimal feet



Measure from edge to edge of channel bottom. Take measurement 5 Feet from the downstream end of the channel.

Slope_Left

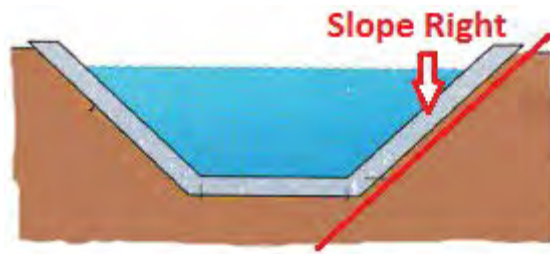
Measured in decimal degrees using an electronic level



Slope of left wall of channel looking downstream. Take measurement 5 Feet from the end of the channel.

Slope_Right

Measured in decimal degrees using an electronic level



Slope of right wall of channel looking downstream. Take measurement 5 Feet from the downstream end of the channel.

CULVERT



Barrels

The number of flow channels in the culvert (defaulted to 1)



Photo shows culvert with 3 barrels.

Diameter

Culvert pipe inside diameter measured in inches
Select from drop-down menu

Size1

Height, if not round measured in decimal feet
Only take measurement if culvert pipe is not circular

Size2

Width, if not round measured in decimal feet
Only take measurement if culvert pipe is not circular

Invert

Measured in decimal feet

Invert that corresponds to either the upstream pipe or the downstream pipe (depending on UP_DN section).



This will be field collected using the Trimble and is measured where the pipe segment ends or begins. If the feature is inaccessible, collect a relative measurement to determine the distance from the invert to the top of the structure. Note how the measurement was taken in comments section.

INLET



Depth

Measured in decimal feet (if present)



Depth measurement from wherever the locational point was collected (i.e., center of grate, edge of curb) to floor of the facility. In some cases the floor bottom will not be level. By taking measurement in middle of facility it provides reasonable depth consideration for facility.

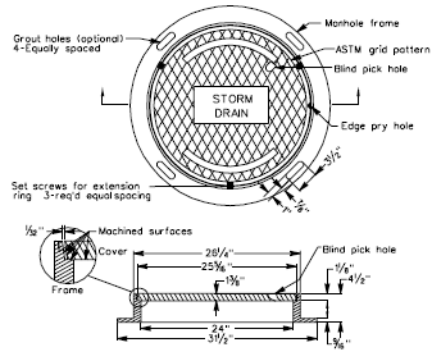


For basins with two grates, take measurement as close to the center as possible on the uphill side.

Elevation

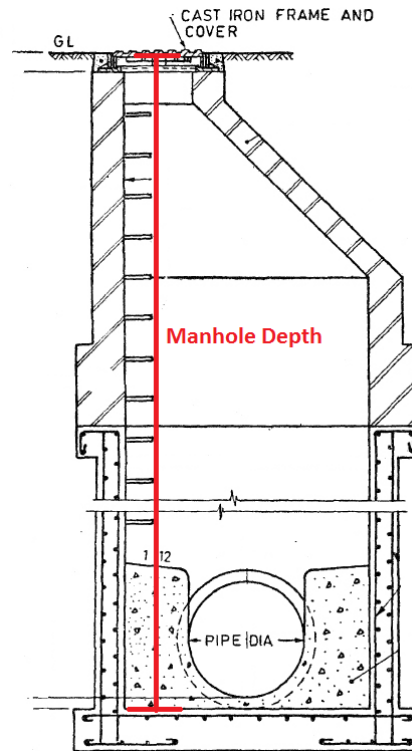
Elevation for grated inlets is measured with Trimble unit from the top center of the inlet grate (see photo above). For curb inlets without grates, elevation is measured from the top rim of the access feature.

MANHOLE / JUNCTION



Depth

Measured in decimal feet



Measure from center of manhole opening to bottom of gallery. Use level to take measurement at street level.

OUTFALL



Has_Grate

Does the outfall have a grate?
Select "Yes" or "No"

Has_Flapgate

Does the outfall have a flapgate?
Select "Yes" or "No"

Diameter

Inside diameter of outlet pipe measured in inches



Select from drop-down menu

Invert

Measured in decimal feet



This will be field collected using the Trimble.

- For pipes, take the measurement from the invert of the pipe (lower line in above photo) if possible.
- For channels, take the measurement from the bed of the channel prior to discharge into the receiving water.
- For gutters, take the measurement from the gutter pan prior to discharge into the receiving water.

- If the feature is inaccessible, the invert will be a relative measurement from the top of the structure (e.g., headwall) to the pipe invert. Note how the measurement was taken in comments section.

Material

The surface of the outfall. This can be the material of the pipe if the outfall is a pipe outfall, or if the outfall is a channel, the material the channel is constructed from.

Elevation

Elevation is measured with Trimble unit at the top of the structure (headwall) or for channels or gutters, measurement is taken at the bed of the channel or in the gutter pan prior to discharge into the receiving water.

PIPE



Diameter

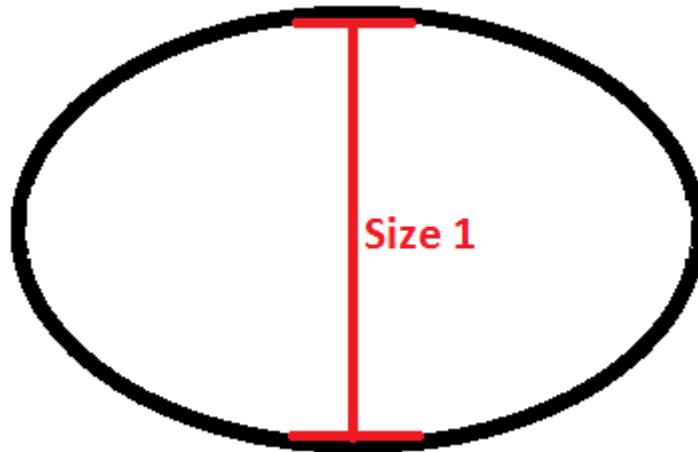
Inside diameter of pipe in inches



Select from drop-down menu

Size1

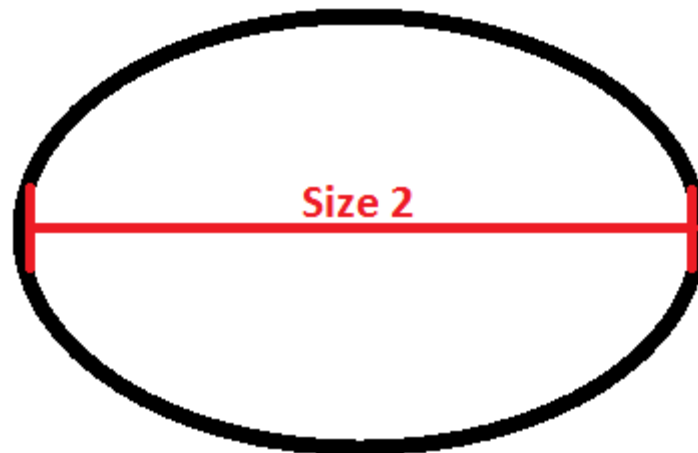
Length, if not round (inches)



Take measurement only if pipe is not circular

Size2

Width, if not round (inches)

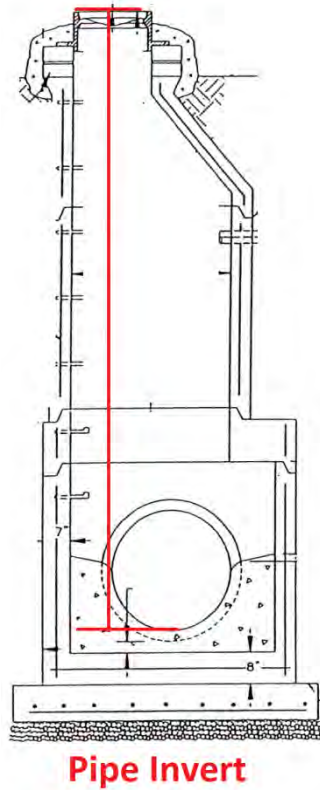


Take measurement only if pipe is not circular

Invert

Measured in decimal feet

Invert that corresponds to either the upstream pipe or downstream pipe (Depending on UP_DN section).



This measurement is collected using the pipe-mic or in some instances a tape measure. For manholes, measure invert from the pipe invert to top of manhole rim (same location as elevation measurement, see above photo). For grated inlets, measure from the pipe invert to the top of the grate's center (see "Vault depth" section for more details). For curb inlets without grates, measure invert from the pipe invert to the top of lid or rim of manhole.

Elevation

Elevation is not field collected, but instead will be derived from the corresponding junction feature's elevation field.

V-DITCH

A man-made V or U shaped open structure for water to flow. A v-ditch is always lined with an asphalt or concrete type material and is not vegetated. V-ditches consist of a shallow drainage course with gently sloping sides (less than 6%). An example in Scotts Valley would be along Bean Creek Road at the intersection of Viki Ct.



Width

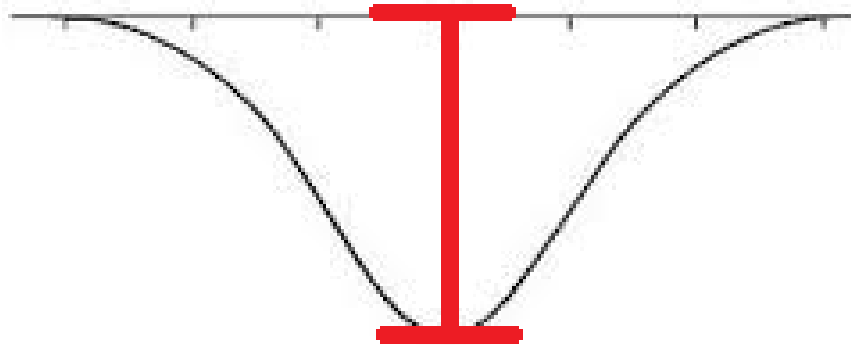
Width of v-ditch measured in decimal feet



Width is measured perpendicular to flow along the top of the feature.

Depth

Depth of the v-ditch in decimal feet



Measured from the approximate top of the v-ditch down to the deepest part of the v-ditch proximate to where the data point is collected.

Appendix C

PROPOSED GEODATABASE DESIGN

Domains

Domain	Values	Description	Notes	Assigned To
Access	Debris/Trash	Accessibility issues	Defaulted to None	All feature types
	Lid/Grate Sealed			
	Parked Vehicle			
	Private Property			
	Sediment			
	Traffic			
	Vegetation			
	Visibility/Recessed			
	Other		Enter other value in comments	
	None		No access issues	
Basin_Type	Catch Basin (Sump)	Basin type		Inlet
	Drainage Basin (No Sump)			
	Unknown			
CH_Material	Concrete	Channel material		Channel
	Earthen			
	Riprap			
	Vegetated			
	Other		Enter other value in comments	
	Unknown			
CH_Shape	No Value		Use when purposefully leaving a value blank	
	U-Shaped (Rectangular)	Channel shape		Channel
	Trapezoidal			
	Triangular			
	Unknown			
	Other		Enter other value in comments	
Condition	No Value		Use when purposefully leaving a value blank	
	Good	Maintenance and structural condition		All feature types
	Fair			
	Poor			
	Unknown			
	No Value		Use when purposefully leaving a value blank	
CU_Material	Cast Iron	Culvert material		Culvert
	Clay			
	CMP			
	HDPE			
	PVC			
	RCP			
	Other		Enter other value in comments	
	Unknown			
	No Value		Use when purposefully leaving a value blank	
	Arch	Culvert shape		Culvert
CU_Shape	Box			
	Circular			
	Ellipse			
	Other		Enter other value in comments	
	Unknown			
	No Value		Use when purposefully leaving a value blank	
Diameter	4"	Pipe diameter		Pipe; Outfall
	6"			
	8"			
	10"			
	12"			
	15"			
	18"			
	21"			
	24"			
	30"			
	36"			
	42"			
	48"			
	60"			
	72"			
	Other		Enter other value in comments	
	Unknown			
	No Value		Use when purposefully leaving a value blank	
Grate	Yes w/ curb	Grate association with curb		Inlet
	Yes w/o curb			
	No			
	Unknown			
IN_Type	No Value		Use when purposefully leaving a value blank	
	Curb Inlet (Curb Open)	Inlet type		Inlet
	Drop Inlet (No Curb Open)			
JU_Type	[1:1]	Junction type		Junction
	[2:1]			
	[multiple:1]			
	Other		Enter other value in comments	
	Unknown			
OT_Material	No Value		Use when purposefully leaving a value blank	
	Asphalt	Outfall material		Outfall
	Cast Iron			
	Clay			
	CMP			
	Concrete			
	Earthen			
	Grass			
	HDPE			
	PVC			

Domains

Domain	Values	Description	Notes	Assigned To
	RCP			
	Riprap			
	Weeds			
	Other		Enter other value in comments	
	Unknown			
	No Value		Use when purposefully leaving a value blank	
OT_Type	Channel	Outfall type	Where the flow is coming FROM	Outfall
	Creek			
	Culvert			
	Gutter			
	Pipe			
	Other		Enter other value in comments	
	Unknown			
	No Value		Use when purposefully leaving a value blank	
PI_Material	Aluminum	Pipe material		Pipe
	Cast Iron			
	Clay			
	CMP			
	HDPE			
	PVC			
	RCP			
	Other		Enter other value in comments	
	Unknown			
	No Value		Use when purposefully leaving a value blank	
PI_Shape	Arched	Pipe shape		Pipe
	Circular			

Field Name	Data Type	Length	Domain	Generation	Description
Field_ID	Text	4	-	Field	Four digit 24-hour time (e.g., 0926)
Unique_ID	Text	25	-	Derived	Concatenation of feature abbreviation (e.g., CH), six digit date (e.g., 170228), and four digit 24-hour time (e.g., 0926). The corresponding ID would be CH-1702280926.
Legacy_ID	Text	10	-	Derived	Pre-populated ID for existing data
GPS_Date	Date			Derived	Auto-generated from the GPS unit
GPS_Time	Time			Derived	Auto-generated from the GPS unit
Date_Rec	Date	-	-	Field	Date recorded (purposeful redundancy with GPS_Date)
Access	Text	25	Access	Field	Access issues (defaulted to None). Additional access issues are noted in the comments.
Maint_Cond	Text	10	Condition	Field	Maintenance condition. If condition differs between upstream and downstream end, the lowest value will be used.
Struc_Cond	Text	10	Condition	Field	Structural condition. If condition differs between upstream and downstream end, the lowest value will be used.
Material	Text	25	CH_Material	Field	Material lining the channel (indicator of roughness). If material differs between upstream and downstream end, the upstream material is noted in the Material field and the downstream material is noted in the comments.
Form	Text	25	CH_Shape	Field	Channel shape. If shape differs between upstream and downstream end, the upstream shape is noted in the Form field and the downstream material is noted in the comments.
Depth	Double	-	-	Field	Height or depth of the channel (decimal feet) measured from the approximate ground surface to the deepest part of the channel proximate to where the data points is collected. If the depth varies significantly between the upstream end and the downstream end, the upstream value is entered in the Depth field and the downstream value is entered in the comments.
Top_Width	Double	-	-	Field	Top width of the channel (decimal feet). If top width varies significantly between the upstream and downstream ends, the upstream value is entered in the Top_Width field and the downstream value is entered in the comments.
Bot_Width	Double	-	-	Field	Bottom width of the channel (decimal feet). If bottom width varies significantly between the upstream and downstream ends, the upstream value is entered in the Bot_Width field and the downstream value is entered in the comments.
L_Slope	Double	-	-	Field	Left side slope (decimal degrees). If the left slope varies significantly between the upstream and downstream ends, the upstream value is entered in the L_Slope field and the downstream value is entered in the comments.
R_Slope	Double	-	-	Field	Right side slope (decimal degrees). If the right slope varies significantly between the upstream and downstream ends, the upstream value is entered in the R_Slope field and the downstream value is entered in the comments.
UP_JID	Text	25	-	Derived	Calculated in the office - upstream Junction ID
DN_JID	Text	25	-	Derived	Calculated in the office - downstream Junction ID
UP_Elev	Double	-	-	Field	Elevation of channel

Field Name	Data Type	Length	Domain	Generation	Description
DN_Elev	Double	-	-	Field	Elevation of channel
Comment	Text	100	-	Field	Miscellaneous or info pertaining to attributes assigned to "other". Upstream comments and downstream comments will be distinguished and separated with a vertical bar ().
UP Photo	Text	50	-	Field	Photo for upstream point
DN Photo	Text	50	-	Field	Photo for downstream point
UP Photo Path	Text	250	-	Field	photo path for upstream point
DN Photo Path	Text	250	-	Field	photo path for downstream point
QC Flag	Short	-	-	Derived	Second line QC review flag for field verification
SHAPE_Length	Double	-	-	Derived	Auto-generated within the GDB (decimal feet)

Field Name	Data Type	Length	Domain	Generation	Description
Field_ID	Text	4	-	Field	Four digit 24-hour time (e.g., 0926)
Unique_ID	Text	25	-	Derived	Concatenation of feature abbreviation (e.g., CU), six digit date (e.g., 170228), and four digit 24-hour time (e.g., 0926). The corresponding ID would be CU-1702280926.
Legacy_ID	Text	10	-	Derived	Pre-populated ID for existing data
GPS_Date	Date			Derived	Auto-generated from the GPS unit
GPS_Time	Time			Derived	Auto-generated from the GPS unit
Date_Rec	Date	-	-	Field	Date recorded (purposeful redundancy with GPS Date)
Access	Text	25	Access	Field	Access issues (defaulted to None). Additional access issues are noted in the comments.
Maint_Cond	Text	10	Condition	Field	Maintenance condition. If condition differs between upstream and downstream end, the lowest value will be used.
Struc_Cond	Text	10	Condition	Field	Structural condition. If condition differs between upstream and downstream end, the lowest value will be used.
Material	Text	25	CU_Material	Field	Culvert material. If material differs between upstream and downstream end, the upstream material is noted in the Material field and the downstream material is noted in the comments. If >1 barrel, enter material of other pipe in comments.
Form	Text	25	CU_Shape	Field	Culvert shape. If shape differs between upstream and downstream end, the upstream shape is noted in the Form field and the downstream material is noted in the comments.
Headwall	Text	3	Yes_No	Field	Culvert headwall presence/absence. If one end of the culvert has a headwall and the other end does not, select "Yes" for the Headwall field, and note in the comments that the other end does not have a headwall.
Barrels	Integer	-	-	Field	Number of barrels/pipes. Default to 1.
Diameter	Text	5	-	Field	Culvert diameter. If the diameter is different between the upstream and downstream end, the upstream diameter is noted in the Diameter field and the downstream diameter is noted in the comments.
Size1	Double	-	-	Field	Length, if not round (decimal feet). If the length is different between the upstream and downstream end, the upstream length is noted in the Size 1 field and the downstream diameter is noted in the comments.
Size2	Double	-	-	Field	Width, if not round (decimal feet). If the width is different between the upstream and downstream end, the upstream width is noted in the Size 2 field and the downstream diameter is noted in the comments.
UP_Inv	Double	-	-	Field	Invert measured as a relative value. If this field is found to be unnecessary, it can be deleted from the final feature class.

Field Name	Data Type	Length	Domain	Generation	Description
DN_Inv	Double	-	-	Field	Invert measured as a relative value. If this field is found to be unnecessary, it can be deleted from the final feature class.
UP_Elev	Double	-	-	Field	Ground elevation. If this field is found to be unnecessary, it can be deleted from the final feature class.
DN_Elev	Double	-	-	Field	Ground elevation. If this field is found to be unnecessary, it can be deleted from the final feature class.
UP_Inv_Elev	Double	-	-	Derived	Calculated in the office based on the elevation minus the invert
DN_Inv_Elev	Double	-	-	Derived	Calculated in the office based on the elevation minus the invert
Comment	Text	100	-	Field	Miscellaneous or info pertaining to attributes assigned to "other". Upstream comments and downstream comments will be distinguished and separated with a vertical bar ().
UP_Photo	Text	50	-	Field	Photo for upstream point
DN_Photo	Text	50	-	Field	Photo for downstream point
UP_Photo_Path	Text	250	-	Field	photo path for upstream point
DN_Photo_Path	Text	250	-	Field	photo path for downstream point
QC_Flag	Short	-	-	Derived	Second line QC review flag for field verification
SHAPE_Length	Double	-	-	Derived	Auto-generated within the GDB once points are converted to lines (decimal feet)

Field Name	Data Type	Length	Domain	Generation	Description
Field_ID	Text	4	-	Field	Four digit 24-hour time (e.g., 0926)
Unique_ID	Text	25	-	Derived	Concatenation of feature abbreviation (e.g., PI), six digit date (e.g., 170228), and four digit 24-hour time (e.g., 0926). The corresponding ID would be PI-1702280926.
Legacy_ID	Text	10	-	Derived	Pre-populated ID for existing data
GPS_Date	Date			Derived	Auto-generated from the GPS unit
GPS_Time	Time			Derived	Auto-generated from the GPS unit
Date_Rec	Date	-	-	Field	Date recorded (purposeful redundancy with GPS_Date)
Access	Text	25	Access	Field	Access issues (defaulted to None). Additional access issues are noted in the comments.
Type	Text	10	PI_Type	Field	Pipe type (pipe [default], slotted drain, or subdrain)
Pipe_Stub	Text	25	PI_Stub	Field	Pipe stub type
Maint_Cond	Text	10	Condition	Field	Maintenance condition. If condition differs between upstream and downstream end, the lowest value will be used.
Struc_Cond	Text	10	Condition	Field	Structural condition. If condition differs between upstream and downstream end, the lowest value will be used.
Material	Text	25	PI_Material	Field	Pipe material. If material differs between upstream and downstream end, the upstream material is noted in the Material field and the downstream material is noted in the comments.
Form	Text	25	PI_Shape	Field	Pipe shape. If shape differs between upstream and downstream end, the upstream shape is noted in the Form field and the downstream material is noted in the comments.
Diameter	Text	5	Diameter	Field	Pipe diameter. If the diameter is different between the upstream and downstream end, the upstream diameter is noted in the Diameter field and the downstream diameter is noted in the comments.
Size1	Double	-	-	Field	Length, if not round (decimal feet). If the length is different between the upstream and downstream end, the upstream length is noted in the Size 1 field and the downstream diameter is noted in the comments.
Size2	Double	-	-	Field	Width, if not round (decimal feet). If the width is different between the upstream and downstream end, the upstream width is noted in the Size 2 field and the downstream diameter is noted in the comments.
UP_JID	Text	25	-	Derived	Calculated in the office - upstream Junction ID
DN_JID	Text	25	-	Derived	Calculated in the office - downstream Junction ID
UP_Inv	Double	-	-	Field	Invert measured as a relative value. If this field is found to be unnecessary, it can be deleted from the final feature class.
DN_Inv	Double	-	-	Field	Invert measured as a relative value. If this field is found to be unnecessary, it can be deleted from the final feature class.
UP_Elev	Double	-	-	Field	Ground elevation. If this field is found to be unnecessary, it can be deleted from the final feature class.
DN_Elev	Double	-	-	Field	Ground elevation. If this field is found to be unnecessary, it can be deleted from the final feature class.
UP_Inv_Elev	Double	-	-	Derived	Calculated in the office based on the elevation minus the invert
DN_Inv_Elev	Double	-	-	Derived	Calculated in the office based on the elevation minus the invert

Field Name	Data Type	Length	Domain	Generation	Description
Comment	Text	100	-	Field	Miscellaneous or info pertaining to attributes assigned to "other". Upstream comments and downstream comments will be distinguished and separated with a vertical bar ().
UP Photo	Text	50	-	Field	Photo for upstream point
DN Photo	Text	50	-	Field	Photo for downstream point
UP Photo Path	Text	250	-	Field	photo path for upstream point
DN Photo Path	Text	250	-	Field	photo path for downstream point
QC Flag	Short	-	-	Derived	Second line QC review flag for field verification
SHAPE_Length	Double	-	-	Derived	Auto-generated within the GDB once points are converted to lines (decimal feet)

Field Name	Data Type	Length	Domain	Generation	Description
Field_ID	Text	4	-	Field	Four digit 24-hour time (e.g., 0926)
Unique_ID	Text	25	-	Derived	Concatenation of feature abbreviation (e.g., VD), six digit date (e.g., 170228), and four digit 24-hour time (e.g., 0926). The corresponding ID would be VD-1702280926.
Legacy_ID	Text	10	-	Derived	Pre-populated ID for existing data
GPS_Date	Date			Derived	Auto-generated from the GPS unit
GPS_Time	Time			Derived	Auto-generated from the GPS unit
Date_Rec	Date	-	-	Field	Date recorded (purposeful redundancy with GPS Date)
Access	Text	25	Access	Field	Access issues (defaulted to None). Additional access issues are noted in the comments.
Maint_Cond	Text	10	Condition	Field	Maintenance condition. If condition differs between upstream and downstream end, the lowest value will be used.
Struc_Cond	Text	10	Condition	Field	Structural condition. If condition differs between upstream and downstream end, the lowest value will be used.
Material	Text	25	SW_Material	Field	V-ditch material. If material differs between upstream and downstream end, the upstream material is noted in the Material field and the downstream material is noted in the comments.
Form	Text	25	CH_Shape	Field	V-ditch shape - same values as Channel. If shape differs between upstream and downstream end, the upstream shape is noted in the Form field and the downstream material is noted in the comments.
Width	Double	-	-	Field	Width of the v-ditch (decimal feet). If width varies significantly between upstream and downstream ends, enter the upstream value in the Width field and the downstream value in the comments.
Depth	Double	-	-	Field	Depth of the v-ditch (decimal feet) measured from the approximate ground surface to the deepest part of the v-ditch closest to where the data points is collected. If depth varies significantly between upstream and downstream ends, enter the upstream value in the Depth field and the downstream value in the comments.
Comment	Text	100	-	Field	Miscellaneous or info pertaining to attributes assigned to "other". Upstream comments and downstream comments will be distinguished and separated with a vertical bar ().
UP_Photo	Text	50	-	Field	Photo for upstream point
DN_Photo	Text	50	-	Field	Photo for downstream point
UP_Photo_Path	Text	250	-	Field	photo path for upstream point
DN_Photo_Path	Text	250	-	Field	photo path for downstream point
QC_Flag	Short	-	-	Derived	Second line QC review flag for field verification
SHAPE_Length	Double	-	-	Derived	Auto-generated within the GDB once points are converted to lines (decimal feet)

Field Name	Data Type	Length	Domain	Generation	Description
Field_ID	Text	4	-	Field	Four digit 24-hour time (e.g., 0926)
Unique_ID	Text	25	-	Derived	Concatenation of feature abbreviation (e.g., CH), six digit date (e.g., 170228), and four digit 24-hour time (e.g., 0926). The corresponding ID would be CH-1702280926.
Legacy_ID	Text	10	-	Derived	Pre-populated ID for existing data
GPS_Date	Date			Derived	Auto-generated from the GPS unit
GPS_Time	Time			Derived	Auto-generated from the GPS unit
Date_Rec	Date	-	-	Field	Date recorded (purposeful redundancy with GPS_Date)
UP_DN	Text	10	UP_DN	Field	Upstream or downstream from Channel point
Access	Text	25	Access	Field	Access issues (defaulted to None). Additional access issues are noted in the comments.
Maint_Cond	Text	10	Condition	Field	Maintenance condition
Struc_Cond	Text	10	Condition	Field	Structural condition
Material	Text	25	CH_Material	Field	Material lining the channel (indicator of roughness)
Form	Text	25	CH_Shape	Field	Channel shape
Depth	Double	-	-	Field	Height or depth of the channel (decimal feet) measured from the approximate ground surface to the deepest part of the channel proximate to where the data points is collected
Top_Width	Double	-	-	Field	Top width of the channel (decimal feet)
Bot_Width	Double	-	-	Field	Bottom width of the channel (decimal feet)
L_Slope	Double	-	-	Field	Left side slope (decimal degrees)
R_Slope	Double	-	-	Field	Right side slope (decimal degrees)
Elevation	Double	-	-	Field	Elevation (populated from GPS unit)
Comment	Text	100	-	Field	Miscellaneous or info pertaining to attributes assigned to "other"
QC_Flag	Short	-	-	Derived	Second line QC review flag for field verification
Photo	Text	50	-	Field	Photo
Photo_Path	Text	250	-	Field	Photo filepath

Field Name	Data Type	Length	Domain	Generation	Description
Field_ID	Text	4	-	Field	Four digit 24-hour time (e.g., 0926)
Unique_ID	Text	25	-	Derived	Concatenation of feature abbreviation (e.g., CU), six digit date (e.g., 170228), and four digit 24-hour time (e.g., 0926). The corresponding ID would be CU-1702280926.
Legacy_ID	Text	10	-	Derived	Pre-populated ID for existing data
GPS_Date	Date			Derived	Auto-generated from the GPS unit
GPS_Time	Time			Derived	Auto-generated from the GPS unit
Date_Rec	Date	-	-	Field	Date recorded (purposeful redundancy with GPS_Date)
UP_DN	Text	10	UP_DN	Field	Upstream or downstream part of a linear segment
Access	Text	25	Access	Field	Access issues (defaulted to None). Additional access issues are noted in the comments.
Maint_Cond	Text	10	Condition	Field	Maintenance condition
Struc_Cond	Text	10	Condition	Field	Structural condition
Material	Text	25	CU_Material	Field	Culvert material. If > 1 barrel, put material of other pipe in comments.
Form	Text	25	CU_Shape	Field	Culvert shape
Headwall	Text	3	Yes_No	Field	Culvert headwall presence/absence
Barrels	Integer	-	-	Field	Number of barrels/pipes. Default to 1.
Diameter	Text	5	Diameter	Field	Culvert diameter
Size1	Double	-	-	Field	Length, if not round (decimal feet)
Size2	Double	-	-	Field	Width, if not round (decimal feet)
Invert	Double	-	-	Field	Invert that corresponds to either the upstream pipe or the downstream pipe (depends on UP_DN selection)
Elevation	Double	-	-	Field	Elevation (populated from GPS unit)
Comment	Text	100	-	Field	Miscellaneous or info pertaining to attributes assigned to "other"
QC_Flag	Short	-	-	Derived	Second line QC review flag for field verification
Photo	Text	50	-	Field	Photo
Photo_Path	Text	250	-	Field	Photo filepath

Field Name	Data Type	Length	Domain	Generation	Description
Field_ID	Text	4	-	Field	Four digit 24-hour time (e.g., 0926)
Unique_ID	Text	25	-	Derived	Concatenation of feature abbreviation (e.g., PI), six digit date (e.g., 170228), and four digit 24-hour time (e.g., 0926). The corresponding ID would be PI-1702280926.
Legacy_ID	Text	10	-	Derived	Pre-populated ID for existing data
GPS_Date	Date			Derived	Auto-generated from the GPS unit
GPS_Time	Time			Derived	Auto-generated from the GPS unit
Date_Rec	Date	-	-	Field	Date recorded (purposeful redundancy with GPS_Date)
UP_DN	Text	10	UP_DN	Field	Upstream or downstream part of a linear segment
Access	Text	25	Access	Field	Access issues (defaulted to None). Additional access issues are noted in the comments.
Type	Text	10	PI_Type	Field	Pipe type (pipe [default], slotted drain, or subdrain)
Pipe_Stub	Text	25	PI_Stub	Field	Pipe stub type
Maint_Cond	Text	10	Condition	Field	Maintenance condition
Struc_Cond	Text	10	Condition	Field	Structural condition
Material	Text	25	PI_Material	Field	Pipe material
Form	Text	25	PI_Shape	Field	Shape of the pipe
Diameter	Text	5	Diameter	Field	Pipe diameter
Size1	Double	-	-	Field	Height, if not round (inches)
Size2	Double	-	-	Field	Width, if not round (inches)
Invert	Double	-	-	Field	Invert that corresponds to either the upstream pipe or the downstream pipe (depends on UP_DN selection)
Elevation	Double	-	-	Field	Elevation (populated from GPS unit)
Comment	Text	100	-	Field	Miscellaneous or info pertaining to attributes assigned to "other"
QC_Flag	Short	-	-	Derived	Second line QC review flag for field verification
Photo	Text	50	-	Field	Photo

Field Name	Data Type	Length	Domain	Generation	Description
Field_ID	Text	4	-	Field	Four digit 24-hour time (e.g., 0926)
Unique_ID	Text	25	-	Derived	Concatenation of feature abbreviation (e.g., VD), six digit date (e.g., 170228), and four digit 24-hour time (e.g., 0926). The corresponding ID would be VD-1702280926.
Legacy_ID	Text	10	-	Derived	Pre-populated ID for existing data
GPS_Date	Date			Derived	Auto-generated from the GPS unit
GPS_Time	Time			Derived	Auto-generated from the GPS unit
Date_Rec	Date	-	-	Field	Date recorded (purposeful redundancy with GPS_Date)
UP_DN	Text	10	UP_DN	Field	Upstream or downstream part of a linear segment
Access	Text	25	Access	Field	Access issues (defaulted to None). Additional access issues are noted in the comments.
Maint_Cond	Text	10	Condition	Field	Maintenance condition
Struc_Cond	Text	10	Condition	Field	Structural condition
Material	Text	25	SW_Material	Field	Swale material
Form	Text	25	CH_Shape	Field	Swale shape - same values as Channel
Width	Double	-	-	Field	Width of swale (decimal feet). Once converted to a line, the average width will be calculated from the upstream point and the downstream point
Depth	Double	-	-	Field	Depth of swale (decimal feet) measured from the approximate ground surface to the deepest part of the swale proximate to where the data points is collected
Elevation	Double	-	-	Field	Elevation (populated from GPS unit)
Comment	Text	100	-	Field	Miscellaneous or info pertaining to attributes assigned to "other"
QC_Flag	Short	-	-	Derived	Second line QC review flag for field verification
Photo	Text	50	-	Field	Photo
Photo_Path	Text	250	-	Field	Photo filepath

Field Name	Data Type	Length	Domain	Generation	Description
Field_ID	Text	4	-	Field	Four digit 24-hour time (e.g., 0926)
Unique_ID	Text	25	-	Derived	Concatenation of feature abbreviation (e.g., IN), six digit date (e.g., 170228), and four digit 24-hour time (e.g., 0926). The corresponding ID would be IN-1702280926.
Legacy_ID	Text	10	-	Derived	Pre-populated ID for existing data
GPS_Date	Date			Derived	Auto-generated from the GPS unit
GPS_Time	Time			Derived	Auto-generated from the GPS unit
Date_Rec	Date	-	-	Field	Date recorded (purposeful redundancy with GPS_Date)
Access	Text	25	Access	Field	Access issues (defaulted to None). Additional access issues are noted in the comments.
Maint_Cond	Text	10	Condition	Field	Maintenance condition
Struc_Cond	Text	10	Condition	Field	Structural condition
Type	Text	25	IN_Type	Field	Inlet types (presence/absence of curb opening)
Basin_Type	Text	25	Basin_Type	Field	Basin types (presence/absence of sump)
Depth	Double	-	-	Field	Inlet depth to floor (decimal feet)
Elevation	Double	-	-	Field	Elevation of inlet
Comment	Text	100	-	Field	Miscellaneous or info pertaining to attributes assigned to "other"
QC_Flag	Short	-	-	Derived	Second line QC review flag for field verification
Photo	Text	50	-	Field	Photo
Photo_Path	Text	250	-	Field	Photo filepath

Field Name	Data Type	Length	Domain	Generation	Description
Field_ID	Text	4	-	Field	Four digit 24-hour time (e.g., 0926)
Unique_ID	Text	25	-	Derived	Concatenation of feature abbreviation (e.g., MH), six digit date (e.g., 170228), and four digit 24-hour time (e.g., 0926). The corresponding ID would be MH-1702280926.
Legacy_ID	Text	10	-	Derived	Pre-populated ID for existing data
GPS_Date	Date			Derived	Auto-generated from the GPS unit
GPS_Time	Time			Derived	Auto-generated from the GPS unit
Date_Rec	Date	-	-	Field	Date recorded (purposeful redundancy with GPS_Date)
Access	Text	25	Access	Field	Access issues (defaulted to None). Additional access issues are noted in the comments.
Maint_Cond	Text	10	Condition	Field	Maintenance condition
Struc_Cond	Text	10	Condition	Field	Structural condition
Depth	Double	-	-	Field	Depth of facility
Elevation	Double	-	-	Field	Elevation of manhole
Comment	Text	100	-	Field	Miscellaneous or info pertaining to attributes assigned to "other"
QC_Flag	Short	-	-	Derived	Second line QC review flag for field verification
Photo	Text	50	-	Field	Photo
Photo_Path	Text	250	-	Field	Photo filepath

Field Name	Data Type	Length	Domain	Generation	Description
Field_ID	Text	4	-	Field	Four digit 24-hour time (e.g., 0926)
Unique_ID	Text	25	-	Derived	Concatenation of feature abbreviation (e.g., OT), six digit date (e.g., 170228), and four digit 24-hour time (e.g., 0926). The corresponding ID would be OT-1702280926.
Legacy_ID	Text	10	-	Derived	Pre-populated ID for existing data
GPS_Date	Date			Derived	Auto-generated from the GPS unit
GPS_Time	Time			Derived	Auto-generated from the GPS unit
Date_Rec	Date	-	-	Field	Date recorded (purposeful redundancy with GPS_Date)
Access	Text	25	Access	Field	Access issues (defaulted to None). Additional access issues are noted in the comments.
Maint_Cond	Text	10	Condition	Field	Maintenance condition
Struc_Cond	Text	10	Condition	Field	Structural condition
Type	Text	25	OT_Type	Field	Outfall type
Has_Grate	Text	3	Yes_No	Field	Does the outfall have a grate?
Has_Flapgate	Text	3	Yes_No	Field	Does the outfall have a flap gate?
Diameter	Text	5	Diameter	Field	Outfall (pipe) diameter
Material	Text	25	OT_Material	Field	Outfall (pipe) material
Invert	Double	-	-	Field	Invert elevation = flowline elevation. To get this value, measure from the FL to the floor of the conveyance. This result will be added to the LiDAR value of the Outfall point to get the FL elevation.
Elevation	Double	-	-	Field	Elevation of outfall
Receive_Wtr	Text	3	Yes_No	Derived	Does the storm water discharge to a receiving water?
Comment	Text	100	-	Field	Miscellaneous or info pertaining to attributes assigned to "other"
QC_Flag	Short	-	-	Derived	Second line QC review flag for field verification
Photo	Text	50	-	Field	Photo
Photo_Path	Text	250	-	Field	Photo filepath

Field Name	Data Type	Length	Domain	Generation	Description
Field_ID	Text	4	-	Field	Four digit 24-hour time (e.g., 0926)
Unique_ID	Text	25	-	Derived	Concatenation of feature abbreviation (e.g., WE), six digit date (e.g., 170228), and four digit 24-hour time (e.g., 0926). The corresponding ID would be WE-1702280926.
Legacy_ID	Text	10	-	Derived	Pre-populated ID for existing data
GPS_Date	Date			Derived	Auto-generated from the GPS unit
GPS_Time	Time			Derived	Auto-generated from the GPS unit
Date_Rec	Date	-	-	Field	Date recorded (purposeful redundancy with GPS_Date)
Access	Text	25	Access	Field	Access issues (defaulted to None). Additional access issues are noted in the comments.
Maint_Cond	Text	10	Condition	Field	Maintenance condition
Struc_Cond	Text	10	Condition	Field	Structural condition
Depth	Double	-	-	Field	Depth of facility
Elevation	Double	-	-	Field	Elevation of junction lid
Comment	Text	100	-	Field	Miscellaneous or info pertaining to attributes assigned to "other"
QC_Flag	Short	-	-	Derived	Second line QC review flag for field verification
Photo	Text	50	-	Field	Photo
Photo_Path	Text	250	-	Field	Photo filepath

APPENDIX D

XPSTORM MODEL ASSUMPTIONS

XPSTORM MODEL ASSUMPTIONS

A survey was conducted to collect accurate and detailed storm drain network data, capturing the invert and outfall elevations, pipe and inlet geometries, and pipe network connections. However, because of blind connections typical of older storm drain systems, access issues including overgrown vegetation and private property access, some storm drain data had to be inferred or estimated. Elevation inconsistencies and missing data are not permitted in XPStorm. The following criteria must be met in all links and nodes:

1. *Node-link elevations.* Elevations of the node may not be higher than the invert elevation of a connecting link (pipe). This would physically represent a pipe that connects below the invert of a manhole or drainage inlet.
2. *Ground-surface elevations.* Links may not protrude from the ground surface; pipe elevations plus pipe diameter may not exceed the ground-surface elevation specified by the DEM.
3. *Missing data.* Elevation of any node or pipe may not be omitted. An elevation of zero for a node assumes a basin that extends down to sea level and would act as an unrealistic storage basin in the model. Pipe diameters cannot be missing.

To efficiently address data gaps and inconsistencies over a large and complicated storm drain network, an algorithmic approach was developed which used a set of rules to interpolate data, which was applied in the following order:

1. *Infer link diameter from adjacent link.* When link diameter information is missing, use the link diameter from the connected links. When multiple links are connected, use the most common link size. If no adjacent links are known, assume a 1-foot diameter link.
2. *Infer pipe elevation from adjacent pipe.* If the upstream or downstream pipe elevation is not known, look to pipes that are connected to the same node; use that elevation. If multiple pipes are connected to the pipe with unknown elevation, use the highest elevation to minimize lost flow velocity because of large jumps in pipe elevations in manholes.
3. *Calculate elevation using constant slope.* If there are three nodes in series, where the middle pipe elevation is unknown, calculate the elevation assuming a constant slope between the first and last pipe elevation. If multiple possible elevations exist, use the lowest elevation to produce the most conservative slope. Allow negative (uphill) slopes but capped at -1% slope.
4. *Infer pipe elevation using node elevation.* Nodes and links have separate elevations to allow for manholes that can be connected to multiple links. For unknown link elevations, use the connected node elevation, if known.
5. *Infer node elevation using link elevation.* For unknown node elevations, use the minimum link elevation, if known.
6. *Assume minimum cover.* If any elevations cannot be inferred from the above rules, use the ground-surface elevation in the DEM and assume 2 feet of cover above the pipe.
7. *Cross-check node and link elevations.* After step 6 is processed, some links could be changed to elevations that are lower than the node elevation. In these cases, the node elevation is set to the new link elevation.

Each link and node connection was visually inspected in the model database to confirm the algorithm was applied correctly.



Final

Track 2 Implementation Plan
November 2018



Richmond, CA
501 Canal Blvd., Suite I
Richmond, CA 94804



City of Scotts Valley

701 Lundy Lane, CA 95066

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1.0 INTRODUCTION

1.1 REGULATORY BACKGROUND

Statewide regulations referred to as Trash Amendments require municipalities to plan and implement measures to reduce trash in discharges from municipal stormwater. Municipal stormwater in the City of Scotts Valley (City) is permitted under the Phase I National Pollutant Discharge Elimination System Municipal Separate Storm Sewer (MS4) permit administered by the Central Coast Regional Water Quality Control Board (CCRWQCB). In 2015, the State Water Resources Control Board (State Water Board) adopted Trash Amendments to both the Water Quality Control Plan for Ocean Waters of California and Part 1 Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Water Board, 2015).

Following adoption of the Trash Amendments, the State Water Board issued an Order on June 1, 2017, to the City and several other MS4 permittees across the state under California Water Code Section 13383 (**Appendix A**). The Order required permittees to select a track for compliance by September 1, 2017, and to identify preliminary Priority Land Uses (PLUs) as defined by the Trash Amendments. The Order also described the methods of compliance for each track. In brief, Track 1 requires a permittee to install full capture systems (FCS) in all storm drains that capture runoff from all PLUs in the City's MS4. Under Track 2, a permittee can implement a combination of FCS, multi-benefit projects, other treatment controls, and/or institutional controls. Track 2 permittees must also conduct baseline assessments of trash generation levels in PLUs and complete an implementation plan.

In a September 1, 2017, letter to the CCRWQCB, the City selected Track 1 for trash compliance (**Appendix B**). Subsequently, the City performed baseline assessments and initial siting for FCS and determined that the City would follow Track 2, as it is more feasible, cost-effective and provides the opportunity to implement. **Section 2.0** describes the baseline assessments conducted by the City.

1.2 PURPOSE OF IMPLEMENTATION PLAN

The purpose of this Implementation Plan is to satisfy the requirements of the 13383 Order, which requires Track 2 permittees to submit an updated jurisdictional map and implementation plan by December 1, 2018, subject to approval by the State Water Board and CCRWQCB. As required, the updated map and plan describe the analysis, approach, and control measures used to address trash over the anticipated compliance period, including:

1. An updated jurisdictional map identifying the following:
 - a) All PLU areas and non-PLU locations and land uses discharging to the storm drain network (**Appendix C, Figure 1**).
 - b) The corresponding storm drain network (**Appendix C, Figure 1**).
 - c) Trash levels, using the methodology described in the recommended Visual Trash Assessment Approach or other equivalent trash assessment methodology, for all PLUs, and for other selected locations or land uses within the MS4s jurisdiction if proposing to implement any combination of controls in locations other than Priority Land Uses (**Appendix C, Figure 2**).

- d) Proposed locations of all certified FCS and where any combination of controls will be implemented that will achieve Full Capture System Equivalency (FCSE) (**Appendix C, Figure 3**).
- 2. An Implementation Plan that includes the following:
 - a) The rationale for how the selected combination of controls will achieve FCSE (**Section 3.0**).
 - b) The rationale for how FCSE will be demonstrated (**Section 4.0**).
 - c) If using a methodology other than the recommended On-Land Visual Trash Assessment (OVTA) Approach to determine trash levels, a description of the methodology used and rationale of how the alternative methodology is equivalent to the recommended Visual Trash Assessment Approach. The City used the recommended approach to determine trash levels and so no rationale for an alternative methodology is required and is not included in this plan.
 - d) If proposing to select locations or land uses other than PLUs, a rationale demonstrating that the alternative land uses generate trash at rates that are equivalent to or greater than the Priority Land Uses. The City did not select alternative land uses and thus none are included in this plan.

Section 5.0 presents an implementation timeline. The City anticipates they will adaptively manage their trash compliance approach and that the actions presented in this plan may change over the compliance period if the City identifies more efficient or better-suited actions.

2.0 PLU AND TRASH GENERATION ASSESSMENTS

The Trash Amendments require Track 2 MS4 Permittees to reduce an amount of trash that is equivalent to the amount generated in PLU areas. Thus, the first step is to identify and map the PLUs within the City, then assess trash generation rates within those PLUs through baseline assessments.

2.1 IDENTIFICATION OF PRIORITY LAND USES

PLUs are defined in the Trash Amendments as:

- High density residential land uses with at least 10 Developed Dwelling Units/ Acre.
- Industrial land uses where the primary activities on the developed parcels involve product manufacture, storage, or distribution (e.g., manufacturing businesses, warehouses, equipment storage lots, junkyards, wholesale businesses, distribution centers, or building material sales yards).
- Commercial land uses where the primary activities on the developed parcels involve the sale or transfer of goods or services to consumers (e.g., business or professional buildings, shops, restaurants, theaters, vehicle repair shops).
- Mixed urban (combination of high density residential, industrial, and commercial) land uses where high density residential, industrial, and/or commercial land uses predominate collectively (i.e., are intermixed).
- Public transportation stations, facilities, or sites where public transit agencies' vehicles load or unload passengers or goods (e.g., bus stations and stops).

The City used the most recently available zoning and land use code descriptions available in a Geographic Information System (GIS), aerial and Google Earth street view imagery to verify and update the PLU map. The City compared land use code descriptions in GIS to the five PLU definitions in the Trash Amendments to verify accuracy of PLU data. Land use code descriptions that met PLU definitions were included on the PLU map (**Table 1**). If land use code description information was not sufficient, the PLU status was verified using aerial imagery, Google street view, and development data available for specific properties.

PLUs were removed if they were 1) zoned as a PLU but not developed as a PLU or 2) were undeveloped. In some instances, PLUs were added that, upon further examination, had been developed but not zoned as a PLU, or had not been included on the preliminary map but did meet PLU criteria. Because these PLUs were added later in the planning process, the storm drainage data do not cover all of the PLUs. Storm drainage information would be included for these PLUs in the future, as necessary, to plan trash control actions.

Through this analysis, the City identified 512 total PLU acres (**Figure 1 [Appendix C]**). The majority of the PLUs are high density residential properties, which account for almost half of all PLU areas, followed by an almost equal amount of commercial and industrial areas, and a public transit station. Bus stop locations in Scotts Valley were reviewed using a recent route map (Santa Cruz Metropolitan Transit District, 2018), though few bus stops occur outside of existing PLUs and are not trash generating according to available baseline assessment data. **Table 2** lists the acreage of each PLU type.

Table 1. PLU Types and Corresponding Land Use Code Descriptions

PLU Type	Land Use Code Descriptions
High Density Residential	010-LOT/RESIDENTIAL ZONE
	015-LOT/MISC RES IMPS
	020-SINGLE RESIDENCE
	021-CONDOMINIUM UNIT
	023-NON-CONFORMING RES
	025-AFFORDABLE HOUSING
	027-TOWNHOUSE
	028-SFR + SECOND UNIT
	030-SINGLE DUPLEX
	031-TWO SFRS/1 APN
	032-3 OR 4 UNITS/2+ BLDGS
	033-TRIPLEX
	034-FOUR-PLEX
	041-5 - 10 UNITS
	042-11 - 20 UNITS
	043-21 - 40 UNITS
	090-COMMON AREA/NO IMPS
	091-COMMON AREA/WITH IMPS
	092-COMMON AREA/STREETS
	100-MH PARK
	101-RESIDENT OWNED MH PARK
	103-MH/LAND/LPT
	104-MH/LAND/HCD
	105-MH PARK MISCELLANEOUS
	115-COMMERCIAL LAND/ MISC IMPS
	120-SINGLE STORE
	752-HOME FOR DISABLED
	753-RETIREMENT HOME
	830-TOKEN VALUE PROPERTY
Industrial	090-COMMON AREA/NO IMPS
	110-VACANT COMMERCIAL LAND
	120-SINGLE STORE
	170-SINGLE OFFICE
	171-MULTI OFFICES/1 BLDG
	173-COMMON AREA/OFFICES
	192-COMMERCIAL PARKING
	221-SELF SERVICE STATION
	250-AUTO/TRUCK REPAIR
	260-RETAIL NURSERY

PLU Type	Land Use Code Descriptions
	300-VACANT INDUSTRIAL LAND 310-MANUFACTURING 321-WAREHSE/DRY STORAGE 322-MINI STORAGE 331-RETAIL LUMBER YARD 353-LIGHT INDUSTRY 354-RESEARCH/DEVELOPMENT 801-UTILITY WATER COMPANY 830-TOKEN VALUE PROPERTY
Commercial	023-NON-CONFORMING RES 033-TRIPLEX 034-FOUR-PLEX 041-5 - 10 UNITS 050-LOT/RURAL ZONE 072-MOTEL/50 + UNITS 090-COMMON AREA/NO IMPS 091-COMMON AREA/WITH IMPS 110-VACANT COMMERCIAL LAND 115-COMMERCIAL LAND/ MISC IMPS 120-SINGLE STORE 121-MULTI STORES/1 BLDG 122-STORE W/ LIVING UNIT 131-MULTI STORES/OFFICES 151-SUPERMARKET 160-MAJOR SHOPPING CENTER 161-MINOR SHOPPING CENTER 170-SINGLE OFFICE 171-MULTI OFFICES/1 BLDG 172-OFFICE CONDOMINIUM 180-MEDICAL OFFICE 182-MEDI-DENTAL COMPLEX 183-VETERINARY CLINIC 190-MISC MULTI USE 191-OTHER COMMERCIAL USE 192-COMMERCIAL PARKING 200-RESTAURANT 201-FAST FOOD RESTAURANT 210-BANK 220-FULL SERVICE STATION 222-BULK PLANT 223-GAS STATION W/ STORE

PLU Type	Land Use Code Descriptions
	250-AUTO/TRUCK REPAIR
	251-CAR SERVICE/SPECIALTY
	310-MANUFACTURING
	321-WAREHSE/DRY STORAGE
	322-MINI STORAGE
	353-LIGHT INDUSTRY
	354-RESEARCH/DEVELOPMENT
	610-GOLF COURSE
	614-BODY FITNESS CENTER
	934-MUNICIPAL UTILITY
	936-MISC CITY PROPERTY
	SBNUNORP-SBE-NON-UNITARY NON-OPERATING-REAL
Public Transportation Station	920-VACANT COUNTY LAND

Table 2. PLU Area by Type

PLU Type	Acres
High Density Residential	224
Commercial	143
Industrial	142
Public Transportation Station	3
Total	512

2.2 TRASH GENERATION BASELINE ASSESSMENT

After identifying the PLUs, the City conducted baseline trash generation assessments in each PLU. These assessments were used to identify where trash generation occurs in the City and to calculate an FCSE.

The City followed the Trash Assessment Minimum Level of Effort method and associated (OVTA) protocols referenced in the 13383 Order (State Water Board, 2017; EOA, 2018a-c). Up to two field personnel conducted the assessment in each PLU. Personnel completed the California Stormwater Quality Association (CASQA)-sponsored OVTA protocol trainings held in Sacramento, California, in spring of 2018, or were subsequently trained internally. The City completed two assessments to create the baseline for each PLU, one on July 17 and the second on August 13, 2018. The trash generation status of each PLU was marked on a map and a representative photo was taken of the PLU. Trash generation scores were entered into a geodatabase after each assessment. The final baseline map reflected the highest trash generation score recorded at a PLU. For example, if the same PLU was given a low trash generation score at the first assessment and a moderate trash generation score in the second, then that PLU was assigned a moderate trash generation rate for the final baseline. The final baseline is illustrated and summarized in **Figure 2 (Appendix C)** and **Table 3**, respectively.

No PLUs were scored in the high or very high trash generation categories, and 69 acres were scored in the moderate trash generating category.

Table 3. Baseline Trash Generation Acres by PLU Type

PLU Type	Low (acres)	Moderate (acres)	Total (acres)
High Density Residential	224		224
Commercial	90	53	143
Industrial	126	16	142
Public Transportation Station	3		3
TOTAL	443	69	512

3.0 COMBINATION OF CONTROLS

3.1 DESCRIPTION OF CONTROLS

The City is planning to implement a combination of FCS and functionally equivalent (FE) actions to address trash in moderate trash generating areas. The FE actions would be implemented at a level to achieve FCSE. This section describes the combination of controls and rationale for their selection.

3.1.1 Full Capture Systems

The Trash Amendments define FCS as a treatment control or series of treatment controls, including but not limited to, a multi-benefit project or a Low Impact Development (LID) control that traps all particles that are 5 millimeters (mm) or greater, with a design treatment capacity that is either:

- Not less than the peak flow rate, Q , resulting from a one-year, one-hour, storm in the sub-drainage area; or
- Appropriately sized to, and designed to carry at least the same flows as, the corresponding catch basin.

A list of FCS and multi-benefit devices that meet full capture criteria are updated by the State Water Board (State Water Board, 2018 a-b).

The City did not identify any existing FCS devices that treat PLUs while preparing this implementation plan. Some multi-benefit devices have been constructed on private property to comply with post construction requirements in the City's MS4 permit, but these facilities do not coincide with trash generating PLUs. To address future development with FCS, the City may develop an ordinance requiring the install of trash capture devices at new developments and/or require that LID or multi-benefit devices installed to meet post-construction requirements in the MS4 permit are also designed to meet current State Board FCS criteria (State Water Board, 2018a).

The City conducted a desktop analysis and field visits to identify potential locations suitable for catch basin insert-type FCS devices. The following feasibility criteria were assessed in the field to identify locations for proposed catch basin insert type FCS:

- The location is accessible for maintenance crews and equipment.
- The site is located on public property.
- Storm drain modeling results completed by NCE do not show surcharge or drainage issues at the proposed inlet (NCE, 2018).

The City considered but chose not to install high flow capacity devices given there are few PLU acres located in the City. In addition, the PLUs do not drain to a central location, which prevents efficient treatment by a high flow device.

This analysis identified four locations that would be suitable for catch basin insert devices in the public right-of-way (ROW). **Figure 3 (Appendix C)** illustrates the proposed locations and the areas treated by FCS. The proposed FCS devices would treat approximately 5 acres of the City's 69 trash generating PLU acres. In the remaining PLUs, the City plans to implement functional

equivalent (FE) actions (i.e., referred to as institutional controls in the Trash Amendments). These actions would be completed primarily through coordination with private property owners (see below).

3.1.2 Functional Equivalent Actions

The City developed and evaluated a comprehensive list of nearly 30 types of FE actions prior to selecting the targeted set of FE Actions that are included in this Plan. The City selected preferred FE actions based on available resources (staff and anticipated budget resources), type of PLU generating trash, and existing infrastructure (e.g., curb and gutter for sweeping). Recognizing that some FE actions would be deployed jurisdiction-wide while others would be more site-specific, the City would implement the plan using a three pronged approach:

- 1. Jurisdiction-wide FE actions**
- 2. Site-specific FE actions**
- 3. Site-specific Coordination with Private Landowners**

1. Jurisdiction-wide FE Actions

The City recognizes that the most efficient and effective way to achieve sustained and desired trash reduction over time is through behavior change to reduce the production of trash or to increase community involvement in the cleanup of trash that is produced. Therefore an emphasis in the City's compliance approach would be jurisdiction-wide FE actions aimed at targeting the source of trash. These efforts have been shown through literature¹ or using best professional judgement to be effective methods of reducing trash at the source. These methods include:

- Focused City-wide anti-littering/dumping campaign.
- Increased outreach and education to public and relevant groups, building from existing programs that occur through school districts and newsletters sent out from the City's franchise waste hauler.
- Adoption program (Adopt-a-Road/Sidewalk/Drain).

The City may utilize any combination of the above FE actions and would assess progress made towards the trash reduction goals (discussed in Section 4.0) during OVTAs throughout the compliance period. The combination of FE actions utilized would be adaptively managed throughout the compliance period to allow the City to focus on efforts that result in the biggest trash reduction observed for the least amount of City resources.

The focus of the City-wide campaigns would be to increase the community's awareness about what the Trash Amendments are, to educate the community about how trash contributes to water quality problems, and to present that trash has cost implications to the City. The campaigns would stress that residents can help to address these problems and costs by doing their part to reduce littering and trash. The goal is to try and reduce the trash that is produced before trash needs to be eliminated through FTCs or FE Actions. While prevention is difficult to quantify, the City-wide actions should, at a minimum, reduce the level of effort required in the subsequent FE actions described below, and should reduce the maintenance of FCS.

¹ Caltrans, 2003; Hollin Consulting, 2013; Don't Mess with Texas, 2013; Keep America Beautiful Inc., 2009; State of Minnesota, 2017; and Marion and Reid, 2007

2. Site-specific FE Actions

Where trash persists within the public ROW along PLUs, the City plans to use of the following resources at strategic locations:

- Street sweeping along streets with curb and gutters in trash generating PLUs with curb and gutter, and where trash is identified in the ROW.
 - Routine street sweeping is recommended in areas shown in **Figure 3, Appendix C**. This area was selected because curb and gutter exists, yet drainage issues were identified at inlets that make street sweeping a better fit than installing FCS in an inlet, and trash occurred in the ROW.
 - The City anticipates street sweeping locations may be added or changed, based on where OVTA results show trash generation occurs.
- Volunteer and community trash pickup events at locations with safe access. The City anticipates trash load reduction offsets can be obtained from clean-up events that occur in non-PLUs (e.g., creek clean-ups, homeless encampments).

These FE actions would also be adaptively managed given various cost-benefit analyses and available City resources. Progress made towards the trash reduction goals (discussed in Section 4.0) would be assessed using OVTA throughout the compliance period.

3. Site-specific Coordination with Private Landowners

The City recognizes that certain land uses will inherently lend themselves to higher trash generation, regardless of behavioral changes and site-specific efforts. To address trash generation within these PLUs, the City conducted field visits to identify FE actions tailored to site conditions and/or trash sources. During the field visits, the City observed that PLUs fell into three groups: 1) large commercial developments with private storm drain systems that have multiple junctions to the City MS4; 2) smaller, linear commercial and industrial areas where stormwater runoff drains to the public ROW and/or has few storm drain inlets on the property with centralized or multiple connections to the MS4; and 3) smaller clusters or isolated properties that mostly drain to the ROW or have a few private inlets.

Treating trash within PLUs requires coordination with private property owners because in most cases, trash generated on private property is not conveyed to the public ROW prior to discharge to the MS4. Therefore, the City identified three levels of FE actions tailored for working with private landowners or property management groups and would implement them in a phased approach. The three levels are:

- Level 1. Education and Outreach** – The City would develop and distribute materials such as brochures, direct mailings to property owners, billboards, event booths, and traditional and social media campaigns.
- Level 2. Incentive Based** – The City would implement incentive-based actions with property owners. This would occur on a case-by-case basis, and would be administered by City staff. Examples of incentive-based actions include: on-site training delivered by City engineering or stormwater staff to property owners, letters with brochures on best management practices (BMPs) for addressing trash, provide technical assistance to select FCS or FE actions for their property, and/or development of a formal incentive-based program recognizing businesses that maintain low trash generation status.
- Level 3. Ordinance Development and Enforcement** – Through the issuance of the next MS4 permit, the City may be able to use authority to conduct enforcement actions to achieve FCSE. If legal mechanisms are not available to conduct

enforcement, the City would consider ordinance development to help control trash sources on private property.

In addition to the City-wide and strategically targeted FE actions, the City would initially apply the education and outreach plan to all PLUs identified for partnering. If, after the first two to three years of implementation, progress assessments indicate that PLUs are not achieving a low trash generation status, the City would pursue Level 2 and/or Level 3 FE actions with property owners on a case-by-case basis. This tiered approach has the benefit of fostering a collaborative working relationship between the City and business owners and rewarding businesses that choose to make trash reduction a priority, while also giving the City the means to enforce actions should that need arise.

3.2 CALCULATION OF FCSE

To achieve functional equivalence, the combination of FE actions must reduce a volume of trash equal to the amount that would be captured by FCS. A FCSE target was calculated using the trash capture rate approach (**Table 4**). This approach assumes the average amount of trash that enters a storm drain inlet must be less than or equal to the amount of trash that overflows or bypasses an FCS that removes 70% of the trash transported by all storm events (EOA, 2017).

The FCSE value was quantified for PLU acres subject to FE actions. The City has 64 acres that would be treated by FE actions (69 trash generating acres minus the 5 acres treated by proposed FCS devices). To quantify FCSE that FE actions must achieve, the 64 PLU acres were multiplied by trash generation rates for each PLU (7.5, 30, and 100 gallons of trash per acre per year for Moderate, High, and Very High trash generating categories, respectively; EOA, 2016). Assuming 70% of trash is captured by an FCS, trash generation rates in treated areas equates to 5.25 gallons of trash per acre per year overflowing the device for Moderate trash generating PLUs, respectively. Using these numbers, to achieve FCSE, the FE actions would need to reduce trash by 336 gallons each year (**Table 4**). This FCSE value assumes installation of the FCS devices proposed in **Appendix C, Figure 3**. Subsequent OVTA assessment results would be used to demonstrate progress toward achieving the FCSE target. This is done by multiplying the acres of PLU by the average trash generation rate (gallons per acre per year) to identify how much trash is being generated (gallons per year), and how this compares to the trash generation baseline (gallons per year). The percent difference between the current and baseline trash generation rates quantifies the percent reduction that has been achieved.

Table 4. FCSE Calculation

	Trash Generation Rate				Totals
	Low	Moderate	High	Very High	
PLUs (acres)					
Low trash PLUs (no FCS or FE action) (acres)	443	-	-	-	443
Treated PLUs (by proposed FCS) (acres)	n/a	5	-	-	5
Untreated PLUs (subject to FE action) (acres)	n/a	64	-	-	64
Trash Generation Rate (gal/acre/yr) ¹	n/a	7.5	30	100	-
Trash Generation in Untreated PLUs (gal/yr) ²	n/a	480	0	0	480
FCSE (gal/yr) ³	336 gal/yr				

1. Trash generation rates from EOA, 2016.

2. Trash generation in untreated areas calculated as Untreated PLU (acres) * trash generation rate (gal/ac/yr).

3. Method assumes 70% of trash is captured by FCS from EOA, 2017. Calculated as 70% of baseline load in untreated areas, 480 gal/yr * 0.7.

3.3 RATIONALE OF ACHIEVING FCSE

The City considered nearly 30 types of FE actions and narrowed it to the actions presented in this plan for three key reasons.

First, the FE actions provide a range of options to address a variety of different trash sources. For example, the actions range from jurisdiction-wide education and outreach, to targeted, site-specific clean-ups. The actions included in this plan have also been shown to be effective at reducing trash. For instance, volunteer clean-ups in Oakland reduced trash by 2.5 gallons/volunteer hour (City of Oakland, 2016), and an enhanced street sweeping program in the City of Piedmont removed over 140,000 gallons of litter and organic matter in one year (City of Piedmont, 2017). In addition,

Second, the City selected actions that can be readily implemented in PLUs. The City currently implements a street sweeping program, but it is performed on an irregular basis. ROW areas with a significant trash problem would be targeted to directly reduce trash at specific hotspots. Street sweeping would be expanded to occur at a higher frequency in PLUs with a moderate or high trash generation score and where trash is observed in the ROW. Trash abatement crews and community cleanups are currently implemented in non-PLU areas. These cleanup efforts can be expanded to include PLUs with a moderate or high trash generation score.

Third, the City's implementation of an education and outreach campaign is expected to reduce trash through gradual behavioral change not only within PLUs but also at non-PLUs. These behavioral changes are anticipated to have a significant impact on trash load to receiving water bodies. Sources of trash at trash generating PLUs appear to include a high volume of visitors to large commercial areas, uncovered dumpsters, lack of bins for pedestrians, picnic areas, and a few acute locations where littering occurs. Carefully designed education and outreach campaigns can help increase public awareness of litter in their community. Education and outreach campaigns have been shown to raise awareness and influence human behavior to help address natural resource problems akin to littering (State of Minnesota, 2017; Marion and Reid, 2007). If an education and outreach campaign does not provide the results at a level that is

needed to meet FCSE, the City would implement Level 2 (incentive-based programs) and/or Level 3 (ordinance development and enforcement) FE actions until FCSE is achieved.

Given that the FE actions include a range of options, could be readily implementable, and the FE actions are known to address trash at the source or have proven to reduce trash in other municipalities, the City anticipates that these FE actions will address trash to a level that meets FCSE.

4.0 MONITORING AND ASSESSMENT

Track 2 MS4 permittees are required to develop and implement annual monitoring to demonstrate the effectiveness of the selected combination of controls as well as compliance with FCSE. The Trash Amendments specify several questions to consider when conducting OVTA or other monitoring:

- What type and how many treatment controls, institutional controls, and/or multi-benefit projects have been used and in which locations?
- How many FCS have been installed (if any), in what locations have they been installed, and what is the individual and cumulative treated area?
- What is the combined effectiveness of the treatment controls, institutional controls, and multi-benefit projects employed by the MS4 permittee?
- Has the amount of trash discharged from the MS4 decreased from the previous year? If so, by how much? If not, explain why.
- Has the amount of trash in the MS4's receiving water(s) decreased from the previous year? If so, by how much? If not, explain why.

The City plans to perform OVTA assessments to assess the effectiveness of FE actions and demonstrate FCSE. Progress assessments would be performed using the same OVTA methods (EOA, 2018a-c) once implementation of FE actions begins. The assessments would identify the trash generation rate or category of PLUs being addressed by FE actions. This method was to assess progress because the OVTA protocol is known and accepted by the Water Boards, it was included with the 13383 Order, and it is an established protocol backed by literature research on trash generation rates linked to visual observations.

The progress assessments would be conducted in areas where FE actions occur. The City anticipates the progress assessments would occur at randomized locations representing up to 10% of the PLU areas treated with FE actions. The City anticipates performing two progress assessments each year during the compliance period. Assessment results would be used to calculate progress toward compliance with the FCSE target. A spreadsheet provided at the CASQA training provides a template and formulas to complete the calculations.

The City may submit, along with their annual report, information on compliance with the Trash Amendments. The City does not plan to report on the Trash Amendments until required by the Water Board, which is anticipated to occur sometime after re-issuance of the City's MS4 permit. Reporting information include updated GIS-mapped locations of FCS and areas draining to FCS, and descriptions of multi-benefit projects, other treatment controls, and/or institutional controls implemented.

As noted in the previous sections, the City would evaluate the combination of controls during the annual reporting process and adjustments to the Track 2 compliance program would occur as needed. If necessary, additional controls would be implemented to support compliance with the Trash Amendments. The Implementation Plan may also be modified to remove or adjust FE actions and/or modify proposed FCS locations if they are found to be ineffective by the progress assessments.

5.0 IMPLEMENTATION TIMELINE

Track 2 permittees must comply with the Trash Amendments within 10 years of the effective date of the first implementing permit, or no later than 15 years from the effective date of the Trash Amendments. The Office of Administrative Law approved the Trash Amendments on December 2, 2015. The City plans to accomplish the tasks listed below to work toward compliance.

- Submit Implementation Plan to the CCRWQCB for approval.
- Plan and install FCS
 - o Confirm locations and preferred device type with City maintenance staff.
 - o Contact vendor for quote and verification.
 - o Hire vendor to install devices at up to four of the proposed locations.
 - o If device is not installed at proposed location, select an FE action.
- Plan and implement FE actions
 - o Initiate up to two **jurisdiction-wide** FE actions.
 - o Implement **site-specific** street sweeping at locations shown in **Figure 3**.
 - o Implement **site-specific** litter pickup event at and near trash generating PLUs.
 - o Identify participating PLUs and obtain contact information for owner in order to coordinate **with private land owners**
 - Develop education materials such as brochures, direct mailings to property owners, event booths, and traditional and social media campaigns.
 - If necessary, implement Level 2 (incentive-based program) and Level 3 (ordinance and enforcement) FE actions.
- Conduct two progress assessments of at least 10% of the treated PLU areas.
- Update trash reduction data to assess compliance status.

Following the first two-to-three years of implementation, the City would assess progress toward compliance. The City would then set tasks and timeframes for the remaining compliance period based on the trash reductions achieved to date, progress and challenges observed from implementing FE actions and maintaining FCS, and lessons learned internally and from other permittees.

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Appendix A
13383 ORDER

State Water Resources Control Board

June 1, 2017

Addressed to the Legally Responsible Person

WATER CODE SECTION 13383 ORDER TO SUBMIT METHOD TO COMPLY WITH STATEWIDE TRASH PROVISIONS; REQUIREMENTS FOR TRADITIONAL SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMITTEES

Dear Small MS4 General Permit Discharger:

On April 7, 2015, the State Water Resources Control Board (State Water Board) adopted statewide Trash Provisions¹ to address the pervasive impacts trash has on the beneficial uses of our surface waters. Throughout the state, trash is typically generated on land and transported to surface water, predominantly through MS4 discharges. These discharges from Phase II MS4s are regulated through a statewide general permit (Phase II MS4 Permit)² pursuant to section 402(p) of the Federal Clean Water Act.

The Trash Provisions establish a statewide water quality objective for trash and a prohibition of trash discharge, or deposition where it may be discharged, to surface waters of the State. For Phase II MS4 permittees that have regulatory authority over Priority Land Uses,³ the Trash Provisions require implementation of the prohibition through requirements incorporated into the Phase II MS4 Permit and/or through monitoring and reporting orders, by June 2, 2017. The State Water Board does not anticipate amending the existing Phase II MS4 Permit within the time frame specified by the Trash Provisions. Therefore, the initial steps in planning for the implementation of the Trash Provisions are required through this Order in accordance with Water Code section 13383, as specified in the Trash Provisions,⁴ and as further authorized by Clean Water Act section 308(a) and 40 Code of Federal Regulations part 122.41(h). The implementation plans submitted in response to this Order are subject to approval by the State Water Board and appropriate Regional Water Quality Control Board (Regional Water Board).

This Order is issued to implement federal law. The water quality objective established by the Trash Provisions serves as a water quality standard federally mandated under Clean Water Act section 303(c) and the federal regulations. (33 U.S.C. § 1312, 40 C.F.R. § 131.) This water quality standard was specifically approved by U.S. EPA following adoption by the State Water Board and approval by the Office of Administrative Law. This Order requests information

¹ Amendment to the Water Quality Control Plan for Ocean Waters of California to Control Trash (Ocean Plan) and Part 1 Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, And Estuaries Of California (ISWEBE Plan) to be adopted by the State Water Board. Documents may be downloaded from our website at http://www.waterboards.ca.gov/water_issues/programs/trash_control/documentation.shtml.

² National Pollutant Discharge Elimination System (NPDES) General Permit for Waste Discharge Requirements for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4s), Order No. 2013-0001-DWQ, NPDES No. CAS000004.

³ All terms marked with an asterisk '*' are defined in Enclosure, *Trash Provisions Glossary*.

⁴ Chapter IV.A.5.a.(1)B of the ISWEBE Plan and Chapter III.L.4.a.(1)B of the Ocean Plan.

necessary for municipal permittees to plan for implementation of actions to achieve the water quality standard for trash. Further, the water quality standard expected to be achieved pursuant to the Trash Provisions may allow each water body impaired by trash and already on the Clean Water Act section 303(d) list to be removed from the list, or each water body subsequently determined to be impaired by trash to not be placed on the list, obviating the need for the development of a total maximum daily load (TMDL) for trash for each of those water bodies. (33 U.S.C. § 1313(d); 40 C.F.R. § 130.7.) In those cases, the specific actions that will be proposed by the municipal permittees in response to this Order substitute for some or all of the actions that would otherwise be required consistent with waste load allocations in a trash TMDL. (40 C.F.R. § 122.44, subd. (d)(1)(vii)(B).) This Order nevertheless allows municipal permittees to select specific proposed actions to meet the federal requirements.

Non-municipal MS4 permittees, referred to as non-traditional MS4 permittees, are not subject to this Order. Non-traditional MS4 permittees generally do not have significant areas of Priority Land Uses under their authority. Therefore, this Order is not being issued to non-traditional MS4 permittees. Non-traditional MS4 permittees that generate substantial amounts of trash⁵ may be issued a separate Water Code section 13383 Order with requirements for Priority Land Uses and/or any additional specific land uses within their jurisdiction.

The Trash Provision requires Phase II MS4 permittees with regulatory authority over Priority Land Uses to select a method of compliance with the trash prohibition. Through this Order, the State Water Board requires Phase II traditional MS4 permittees to determine and report their selection of either the following Track 1 or Track 2 compliance methods:⁶

1. **Track 1:** Install, operate, and maintain Full Capture Systems* for the storm drain network that capture runoff from the Priority Land Uses in their jurisdiction.

Phase II MS4 permittees that select the Track 1 compliance method may discover that there are locations within their storm drain network where full capture systems cannot be implemented, or are better implemented within another land use area. The Trash Provisions allow a Phase II MS4 permittee with regulatory authority over Priority Land Uses to request, from the appropriate Regional Water Board Executive Officer, to substitute one or more Priority Land Uses with equivalent alternate land uses*⁷ within the MS4 permittee's jurisdiction.

2. **Track 2:** Install, operate, and maintain any combination of Full Capture Systems, Multi-Benefit Projects,* other Treatment Controls,* and/or Institutional Controls* within either the jurisdiction of the MS4 permittee or the jurisdiction of the MS4 permittee and contiguous MS4 permittees. The MS4 permittee may determine the locations or land uses within its jurisdiction to implement any combination of controls. Permittees choosing Track 2 must demonstrate that the approach⁸ will achieve Full Capture System Equivalency.*

⁵ Chapter IV.A.3.d of ISWEBE Plan or Chapter III.L.2.d of the Ocean Plan.

⁶ Chapter IV.A.3.a. of the ISWEBE Plan and Chapter III.L.2.a. of the Ocean Plan.

⁷ See definition of Priority Land Uses in enclosed *Trash Provisions Glossary*.

⁸ The MS4 permittee may determine which controls to implement to achieve compliance with the Full Capture System Equivalency. It is, however, the State Water Board's expectation that the MS4 permittee will elect to install Full Capture Systems where such installation is not cost-prohibitive. (Chapter IV.A.3.a.(2) of the ISWEBE Plan and Chapter III.L.2.a.(2) of the Ocean Plan).

To ensure the compliance method selection is completed accurately, the State Water Board, through this Order, requires the traditional Phase II MS4 permittees to complete and submit the following:

- 1. Jurisdictional Maps.** Traditional Phase II MS4 permittees must develop jurisdictional maps identifying Priority Land Use areas, the corresponding storm drain network and associated drainage areas, and proposed locations for certified Full Capture System installations.

Permittees selecting the Track 1 compliance method and are proposing alternative land uses shall identify the alternative land uses on the jurisdictional map and the corresponding priority land uses being substituted.

Permittees selecting the Track 2 compliance method may determine the locations or land uses within their jurisdictions to implement any combination of controls that achieve Full Capture System Equivalency. Therefore, the permittee shall also identify on the jurisdictional maps the selected locations or land uses where a combination of controls, which are identified in Track 2 above, will be implemented to achieve Full Capture System Equivalency.

The State Water Board recognizes that field surveys may be necessary to ensure the accuracy of jurisdictional map development. Therefore, this Order requires Phase II MS4 permittees to provide preliminary jurisdictional maps within three months from the date of this Order, and final jurisdictional maps within eighteen months from the date of this Order.

These jurisdictional maps will assist review of the compliance method selection by the State Water Board and Regional Water Boards and also support development of appropriate permit requirements in a future Phase II MS4 permit reissuance.

- 2. Trash Assessments.** Traditional Phase II MS4 permittees that elect the Track 2 compliance method must conduct and submit trash assessments to identify existing levels of trash generation.

Through this Order, the State Water Board directs Traditional Phase II MS4 permittees selecting Track 2, at a minimum, to conduct a trash assessment of the Priority Land Use areas, even if they subsequently select other locations or land uses within their jurisdiction to implement any combination of controls that meet Full Capture System Equivalency. If proposing to select locations or land uses other than Priority Land Uses, the permittee must also assess trash levels at those locations or land uses and provide a justification demonstrating that the selected locations or land uses generate trash at rates that are equivalent to or greater than the Priority Land Uses. State or Regional Water Board approval may be based on the proposed trash assessments and corresponding justification.⁹

The Trash Provisions provide two example trash assessment approaches for permittees to demonstrate Full Capture System Equivalency when a permittee selects the Track 2 compliance method. Phase II MS4 permittees may use alternative methods to demonstrate

⁹ In accordance with Permitting Authority's discretionary authority under Chapter IV.A.3.d. of the ISWEBE Plan or Chapter III.L.2.d. of the Ocean Plan.

Full Capture System Equivalency. One alternative method currently implemented in the San Francisco Bay region is the Visual Trash Assessment Approach, an accepted assessment approach based on on-land visual trash assessments.¹⁰ A description of the Visual Trash Assessment Approach¹¹ is enclosed in this Order and may be used by Phase II MS4 permittees to meet the requirement for a baseline assessment.

Information resulting from the trash assessments is necessary to develop appropriate requirements and provisions in the future Phase II MS4 Permit reissuance, including:

- (1) Establishing a baseline for compliance tracking and determinations,
- (2) Establishing interim milestones to demonstrate progress towards 100 percent compliance with the Trash Provisions within 10 years of the effective date of the implementing permit,¹²
- (3) Evaluating the permittees' planned implementation of Full Capture System Equivalency, and in
- (4) Approving the implementation plan.

Permittees that select the Track 1 compliance method through implementation of certified Full Capture Systems in all storm drains that capture runoff from all Priority Land Use areas are not required to conduct trash assessments. Through the Track 1 compliance method, the State Water Board provides a streamlined compliance pathway with annual progress reporting of Full Capture System installation.

- 3. Implementation Plan.** The implementation plan required by this Order in clause 3 below is subject to approval by the State Water Board Executive Director and/or the corresponding Regional Water Board Executive Officer.¹³ A request for an equivalent alternative land use identified on the jurisdictional map, section 1 above, must be submitted within the implementation plan and approved by the Regional Water Board Executive Officer prior to installation and implementation of certified Full Capture Systems or Full Capture System Equivalency trash controls.

¹⁰ The State Water Board-funded an evaluation (through Proposition 84 grant funds) of the on-land visual trash assessment method as part of the Tracking California's Trash project conducted by the Bay Area Stormwater Management Agencies Association (BASMAA). The evaluation concluded that if visual assessments were conducted consistent with the protocol, the method could reliably establish baseline trash levels and detect progress in reducing trash in MS4 discharges over time.

¹¹ See Enclosure, *Recommended Trash Assessment Minimum Level of Effort*.

¹² Chapter IV.A.5.a.(2) and (3) of ISWEBE Plan or Chapter III.L.4.a.(2) and (3) of the Ocean Plan.

¹³ Chapter IV.A.5.a.(1)B of the ISWEBE Plan or Chapter III.L.4.a.(1)B of the Ocean Plan

Pursuant to Water Code section 13383, **IT IS HEREBY ORDERED THAT**, as a Permittee of the statewide Phase II MS4 permit, you shall:

1. By **September 1, 2017**, submit electronically via SMARTS:¹⁴
 - a. A letter to State Water Board identifying the permittee's selected compliance option, (Track 1 or Track 2) as defined in this Order; and
 - b. A preliminary jurisdictional map(s) identifying the following:
 - i. Priority Land Use areas discharging to the storm drain network ; and
 - ii. The corresponding storm drain network that receives discharges from Priority Land Use areas.
2. Permittees Selecting Track 1: By **December 1, 2018**, submit electronically via SMARTS, an updated jurisdictional map(s) identifying the following:
 - i. All Priority Land Use areas discharging to the storm drain network;
 - ii. The corresponding storm drain network;
 - iii. Proposed locations of all certified Full Capture Systems¹⁵ and,
 - iv. Proposed equivalent alternative land uses, documentation demonstrating that the substitution of equivalent alternative land uses has been approved by the appropriate Regional Water Board Executive Officer, and corresponding storm drainage network, if applicable.
3. Permittees Selecting Track 2: By **December 1, 2018**, submit electronically via SMARTS, the following:
 - i. An updated jurisdictional map(s) identifying the following:
 - a) All Priority Land Use areas and selected locations and land uses, other than the Priority Land Uses area, discharging to the storm drain network;
 - b) The corresponding storm drain network; and
 - c) Proposed locations of all certified Full Capture Systems and where any combination of controls will be implemented that will achieve Full Capture System Equivalency;
 - d) Trash levels, using the methodology described in the attached recommended Visual Trash Assessment Approach or other equivalent trash assessment methodology, for all Priority Land Uses, and for other selected locations or land uses within the MS4s jurisdiction if proposing to implement any combination of controls in locations other than Priority Land Uses; **and**

¹⁴ SMARTS stands for Storm Water Multiple Application and Report Tracking System and is an online database for dischargers to electronically file their permit documents. It can be accessed at:
<https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.xhtml>

¹⁵ A list of Certified Full Capture Systems is located at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/municipal.shtml

- ii. An Implementation Plan that includes the following:
 - a) The rationale for how the selected combination of controls will achieve Full Capture System Equivalency;
 - b) The rationale for how Full Capture System Equivalency will be demonstrated;
 - c) If using a methodology other than the attached recommended Visual Trash Assessment Approach to determine trash levels, a description of the methodology used and rationale of how the alternative methodology is equivalent to the recommended Visual Trash Assessment Approach; and
 - d) If proposing to select locations or land uses other than Priority Land Uses, a rationale demonstrating that the alternative land uses generate trash at rates that are equivalent to or greater than the Priority Land Uses.

The Legally Responsible Person identified in SMARTS must sign and certify all submittals required by this Order, with the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Failure to comply with this Order, or falsifying any information provided therein, may result in enforcement action including civil liabilities for late or inadequate reports consistent with Water Code section 13385.

Questions regarding this Order or any requests for assistance should be directed to Mr. Leo Cosentini of the Division of Water Quality at (916) 341-5524 or leo.cosentini@waterboards.ca.gov.

Sincerely,

/s/

Thomas Howard
Executive Director

Enclosures (3): Trash Policy Implementation Procedure Flowchart
Trash Provisions Glossary
Recommended Trash Assessment Minimum Level of Effort

cc: [see next page]

cc: [via email]

Matthias St. John
North Coast regional Water Quality Control Board
matthias.st.john@waterboards.ca.gov

Bruce Wolfe
San Francisco Bay Regional Water Quality Control Board
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Appendix B

CITY OF SCOTT'S VALLEY TRACK SELECTION LETTER



CITY OF SCOTTS VALLEY

OFFICE OF PUBLIC WORKS

701 Lundy Lane • Scotts Valley • California • 95066
Phone (831) 438-5854 • Facsimile (831) 439-9748 • www.scottsvalley.org

September 1, 2017

John M. Robertson
Executive Officer
California Regional Water Quality Control Board, Central Coast Region
895 Aerovista Place Suite 101
San Luis Obispo, CA 93401

RE: WATER CODE SECTION 13383 ORDER TO SUBMIT METHOD TO COMPLY
WITH STATEWIDE TRASH PROVISIONS; REQUIREMENTS FOR TRADITIONAL
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMITTEES

Dear Mr. Robertson,

In response to the Santa Ana Regional Water Quality Control Board's June 1, 2017, Water Code Section 13383 Order to submit the method to comply with the statewide trash provisions, the City of Scotts Valley will select the Track 1 method of compliance as it is defined in that Order.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

If you have any questions regarding this submittal, please contact Kimarie Jones at (831) 438-5854 or at kjones@scottsvalley.org.

Sincerely,

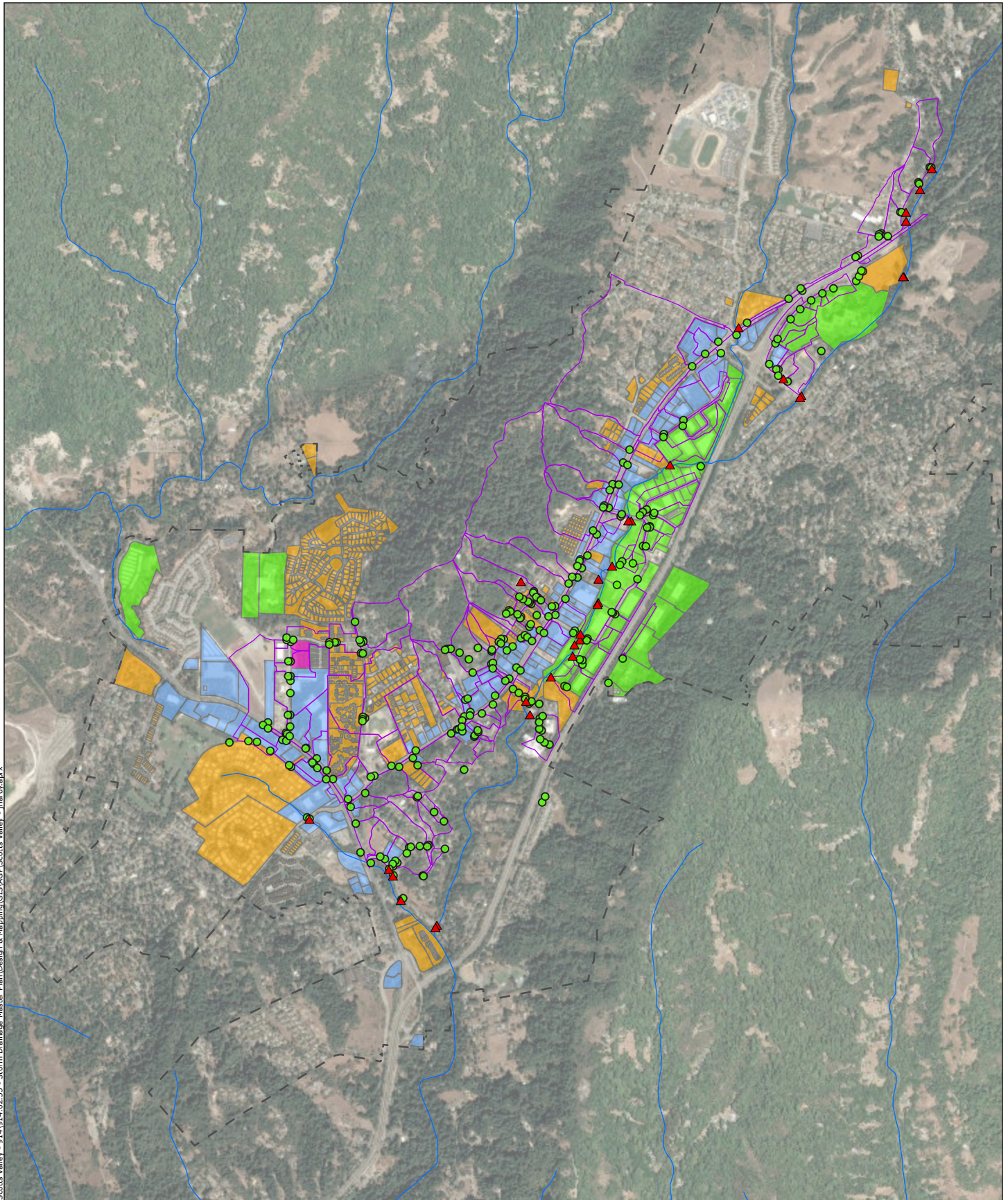
Scott Hamby
Public Works Director

Attachments:

Preliminary Jurisdictional Map

Appendix C

FIGURES



Document Path: P:\Active Projects\Scotts Valley - 914\914.02.55 - Storm Drainage Master Plan\Design & Mapping\GIS\AGP\Scotts Valley - jhardy.aprx

Legend

- Scotts Valley Boundary
- Streams
- Inlet
- Outfall
- Storm Drain Basin
- Priority Land Use Type**
 - Commercial
 - High Density Residential
 - Industrial
 - Public Transportation Station



City of Scotts Valley Priority Land Uses

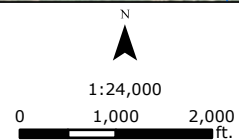


FIGURE
1

SOURCE
Bing Aerial Basemap, NCE 2018

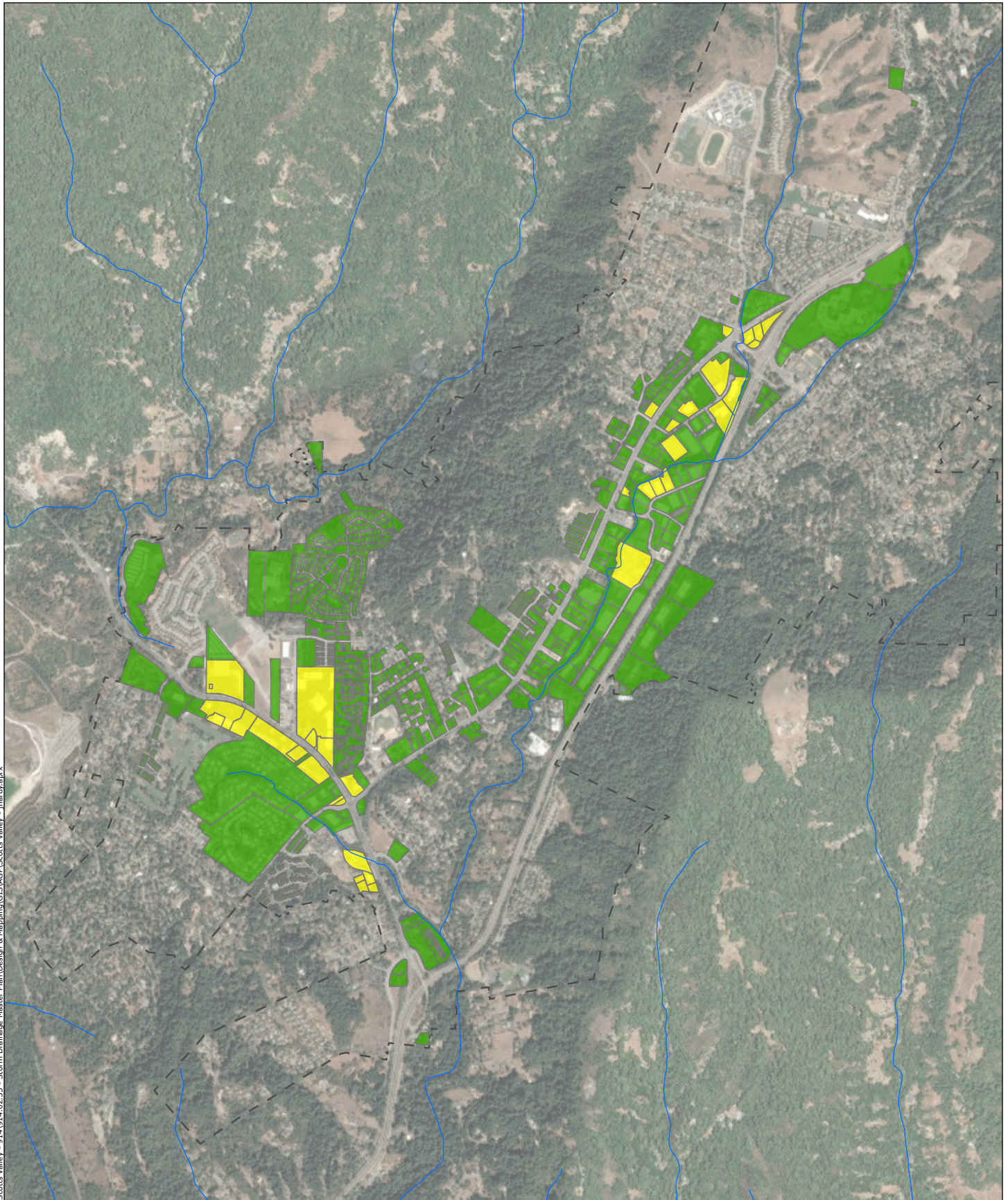
JOB NUMBER
914.02.55

DRAWN
jhardy

DATE
10/22/2018

REVISED

APPROVED



Legend

Scotts Valley Boundary
 Streams
Trash Generation Category
 Low
 Moderate

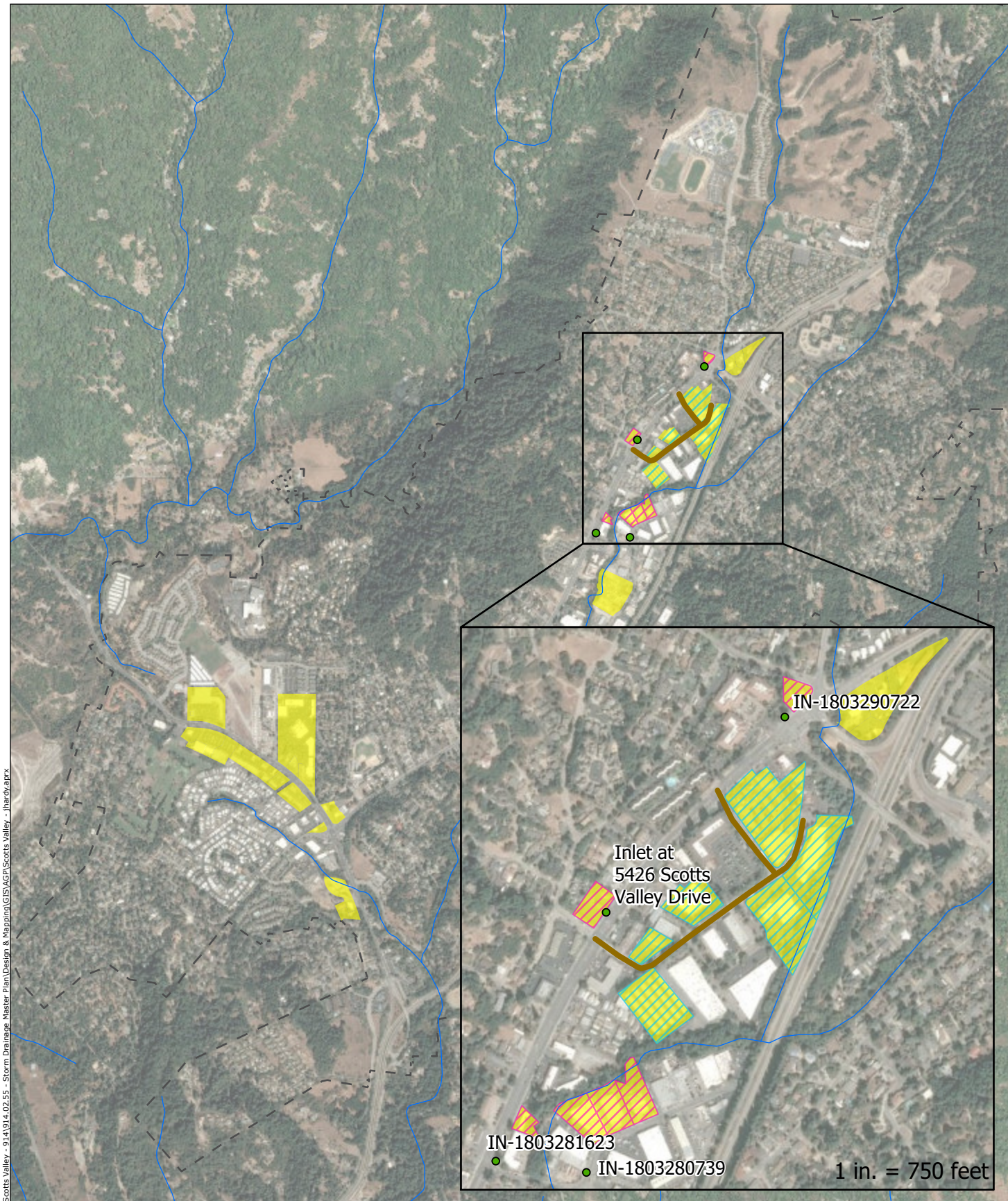
NCE

City of Scotts Valley
 Trash Generation Baseline

1:24,000
 0 1,000 2,000 ft.

FIGURE
 2

SOURCE Bing Aerial Basemap, NCE 2018	JOB NUMBER 914.02.55	DRAWN jhardy	DATE 10/22/2018	REVISED	APPROVED
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Legend

- Scotts Valley Boundary
- Streams
- Potential FCS Location
- Potential FCS Treated Area
- Enhanced Street Sweeping
- Potential Enhanced Street Sweeping Treated Area
- Trash Generation Category**
- Moderate



City of Scotts Valley
Potential Full Capture System (FCS) Treatment Areas

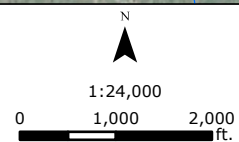


FIGURE
3

SOURCE
 Bing Aerial Basemap, NCE 2018

JOB NUMBER
 914.02.55

DRAWN
 jhardy

DATE
 10/22/2018

REVISED

APPROVED