S A W P A

SANTA ANA WATERSHED PROJECT AUTHORITY
11615 Sterling Avenue, Riverside, California 92503 • (951) 354-4220

REGULAR COMMISSION MEETING
TUESDAY, FEBRUARY 4, 2020 – 9:30 A.M.

AGENDA

1. **CALL TO ORDER/PLEDGE OF ALLEGIANCE (David J. Slawson, Chair)**

2. **ROLL CALL**

3. **PUBLIC COMMENTS**

   Members of the public may address the Commission on items within the jurisdiction of the Commission; however, no action may be taken on an item not appearing on the agenda unless the action is otherwise authorized by Government Code §54954.2(b).

4. **CONSENT CALENDAR**

   All matters listed on the Consent Calendar are considered routine and non-controversial and will be acted upon by the Commission by one motion as listed below.

   A. APPROVAL OF MEETING MINUTES: JANUARY 21, 2020 5
   Recommendation: Approve as posted.

5. **NEW BUSINESS**

   A. ASSESSING HOMELESSNESS IMPACT ON WATER QUALITY, RIPARIAN AND AQUATIC HABITAT IN UPPER SANTA ANA RIVER WATERSHED | TASK 1 REPORT (CM#2020.8) 9
   Presenter: Mark Norton
   Recommendation: Receive and file.

   B. PURCHASE OF AN EMERGENCY GENERATOR (CM#2020.9) 103
   Presenter: Carlos Quintero
   Recommendation: Authorize the transfer of $48,000 from Building Reserves to the General Fund and authorize the General Manager to issue a Purchase Order to YC Power Systems in the amount of $63,243.56 for the purchase of a Generac Model MDG75DF4 portable diesel powered generator and a GTS automatic transfer switch.

C. **PARTNERSHIP AGREEMENT FOR WECAN IN THE CITY OF RIVERSIDE (CM#2020.10)** 125
Presenter: Ian Achimore
Recommendation: Authorize the General Manager to execute a Partnership Agreement between SAWPA and the City of Riverside in support of the City application for a Transformative Climate Communities grant which, if awarded, would fund a component of the Water-Energy Community Action Network (WECAN) Program for approximately $700,000.

6. INFORMATIONAL REPORTS

Recommendation: Receive for information.

A. CHAIR'S COMMENTS/REPORT

B. COMMISSIONERS' COMMENTS

C. COMMISSIONERS' REQUEST FOR FUTURE AGENDA ITEMS

7. CLOSED SESSION

There were no Closed Session items anticipated at the time of the posting of this agenda.

8. ADJOURNMENT

Americans with Disabilities Act: If you require any special disability related accommodations to participate in this meeting, call (951) 354-4230 or email kberry@sawpa.org. 48-hour notification prior to the meeting will enable staff to make reasonable arrangements to ensure accessibility for this meeting. Requests should specify the nature of the disability and the type of accommodation requested.

Materials related to an item on this agenda submitted to the Commission after distribution of the agenda packet are available for public inspection during normal business hours at the SAWPA office, 11615 Sterling Avenue, Riverside, and available at www.sawpa.org, subject to staff's ability to post documents prior to the meeting.

Declaration of Posting
I, Kelly Berry, Clerk of the Board of the Santa Ana Watershed Project Authority declare that on January 30, 2020, a copy of this agenda has been uploaded to the SAWPA website at www.sawpa.org and posted at the SAWPA office, 11615 Sterling Avenue, Riverside, California.

/s/
_____
Kelly Berry, CMC

2020 SAWPA Commission Meetings/Events

First and Third Tuesday of the Month

(NOTE: Unless otherwise noticed, all Commission Workshops/Meetings begin at **9:30 a.m.** and are held at SAWPA.)

January	**February**
1/7/20 ~~Commission Workshop~~ [cancelled] 1/21/20 Regular Commission Meeting	2/4/20 Commission Workshop 2/18/20 Regular Commission Meeting
March	**April**
3/3/20 Commission Workshop 3/17/20 Regular Commission Meeting	4/7/20 Commission Workshop 4/21/20 Regular Commission Meeting
May	**June**
5/5/20 Commission Workshop 5/5 – 5/8/20 ACWA Spring Conference, Monterey 5/19/20 Regular Commission Meeting	6/2/20 Commission Workshop 6/16/20 Regular Commission Meeting
July	**August**
7/7/20 Commission Workshop 7/21/20 Regular Commission Meeting	8/4/20 Commission Workshop 8/18/20 Regular Commission Meeting
September	**October**
9/1/20 Commission Workshop 9/15/20 Regular Commission Meeting	10/6/20 Commission Workshop 10/20/20 Regular Commission Meeting
November	**December**
11/3/20 Commission Workshop 11/17/20 Regular Commission Meeting	12/1/20 Commission Workshop 12/1 – 12/4/20 ACWA Fall Conference, Indian Wells 12/15/20 Regular Commission Meeting

SAWPA COMPENSABLE MEETINGS

Commissioners and Alternate Commissioners will receive compensation for attending the meetings listed below, pursuant to the Commission Compensation, Expense Reimbursement, and Ethics Training Policy.

IMPORTANT NOTE: These meetings are subject to change. Prior to attending any meetings listed below, please confirm meeting details by viewing the website calendar using the following link:

https://sawpa.org/sawpa-calendar/

MONTH OF: February 2020

DATE	TIME	MEETING DESCRIPTION	LOCATION
2/4/20	8:30 AM	PA 23 Committee Mtg	CANCELLED
2/4/20	10:00 AM	PA 24 Committee Mtg	CANCELLED
2/18/20	1:30 PM	Emerging Constituents Program Task Force Mtg	SAWPA
2/20/20	1:00 PM	Basin Monitoring Program Task Force Mtg	SAWPA
2/20/20	4:00 PM	LESJWA Board of Directors Mtg	Elsinore Valley MWD 31315 Chaney Street Lake Elsinore, CA 92530
2/27/20	8:00 AM	PA 22 Committee Mtg	CANCELLED

MONTH OF: March 2020

DATE	TIME	MEETING DESCRIPTION	LOCATION
3/3/20	10:00 AM	PA 24 Committee Mtg	SAWPA
3/10/20	8:30 AM	PA 22 Committee Mtg	SAWPA
3/24/20	9:00 AM	Basin Monitoring Program Task Force Mtg	SAWPA
3/25/20	1:30 PM	Lake Elsinore/Canyon Lake TMDL Task Force Mtg	SAWPA
3/26/20	11:00 AM	OWOW Steering Committee Mtg	SAWPA

Please Note : We strive to ensure the list of Compensable Meetings set forth above is accurate and up-to-date; the list is compiled based on input from SAWPA staff and Department Managers regarding meeting purpose and content.

SAWPA COMMISSION
REGULAR MEETING MINUTES
JANUARY 21, 2020

COMMISSIONERS PRESENT

David J. Slawson, Eastern Municipal Water District
Kati Parker, Vice Chair, Inland Empire Utilities Agency
Brenda Dennstedt, Western Municipal Water District (9:40 a.m.)
T. Milford Harrison, San Bernardino Valley Municipal Water District

COMMISSIONERS ABSENT

Denis R. Bilodeau, Secretary-Treasurer, Orange County Water District

ALTERNATE COMMISSIONERS PRESENT; NON-VOTING None

STAFF PRESENT Rich Haller, Karen Williams, Mark Norton, David Ruhl, Dean Unger, Rick Whetsel, Kelly Berry

OTHERS PRESENT Andrew Turner, Lagerlof, LLC

The Regular Commission Meeting of the Santa Ana Watershed Project Authority was called to order at 9:30 a.m. by Vice Chair Parker at the Santa Ana Watershed Project Authority, 11615 Sterling Avenue, Riverside, California.

1. CALL TO ORDER/PLEDGE OF ALLEGIANCE

2. ROLL CALL

Roll call was duly noted and recorded by the Clerk of the Board.

3. PUBLIC COMMENTS

There were no public comments.

Due to lack of a quorum to consider the meeting minutes, the Commission next considered Agenda Item No. 5.A.

4. CONSENT CALENDAR

A. APPROVAL OF MEETING MINUTES: DECEMBER 17, 2019
Recommendation: Approve as posted.

B. TREASURER'S REPORT – DECEMBER 2019
Recommendation: Approve as posted.

MOVED, approve the Consent Calendar.

Result:	**Adopted (Passed)**
Motion/Second:	Dennstedt/Harrison
Ayes:	Dennstedt, Harrison, Parker
Nays:	None
Abstentions:	Slawson
Absent:	Bilodeau

5. NEW BUSINESS

A. CHAIR AND COMMISSION APPOINTMENTS (CM#2020.5)

On January 8, 2020, the Eastern Municipal Water District governing Board appointed David J. Slawson as SAWPA Commissioner and Ronald W. Sullivan as Alternate SAWPA Commissioner. In keeping with the historical rotation, staff recommended appointment of David J. Slawson as Commission Chair to complete the remainder of the two-year term, until the January 2021 rotation of officers.

MOVED, acknowledge the recent appointment of David J. Slawson as Commissioner for Eastern Municipal Water District; install David J. Slawson as Commission Chair for the remainder of the two-year term, until the January 2021 rotation of officers.

Result:	**Adopted (Unanimously)**
Motion/Second:	Harrison/Slawson
Ayes:	Harrison, Parker, Slawson
Nays:	None
Abstentions:	None
Absent:	Bilodeau, Dennstedt

On January 15, 2019, the Commission appointed Ronald W. Sullivan and T. Milford Harrison to serve on the OCSD/SAWPA Joint Policy Committee. The OCSD/SAWPA Policy Committee meets as necessary with designated OCSD board members to consider present and future policy matters. Staff recommended the appointment of Commissioner Slawson to serve on this Committee, replacing Ronald W. Sullivan.

MOVED, appoint Commissioner David J. Slawson to the OCSD/SAWPA Joint Policy Committee, replacing Ronald W. Sullivan.

Result:	**Adopted (Unanimously)**
Motion/Second:	Harrison/Slawson
Ayes:	Harrison, Parker, Slawson
Nays:	None
Abstentions:	None
Absent:	Bilodeau, Dennstedt

Commissioner David J. Slawson chaired the meeting at this point.

B. INTEGRATED REGIONAL WATER MANAGEMENT (IRWM) SUPPORT IN FUTURE 2020 RESOURCES BONDS (CM#2020.3)

Mark Norton provided the PowerPoint presentation included in the agenda packet on pages 24 through 34. A revised Commission Memorandum No. 2020.3 with attachments was provided to the Commission, staff and members of the public. There was no discussion; Chair Slawson called for a motion.

Commissioner Dennstedt arrive at 9:40 a.m., during the presentation for Agenda Item No. 5.B.

MOVED, authorize staff to send the Integrated Regional Water Management (IRWM) 2020 Resources Bond Support Letter to pertinent legislators to indicate funding support for IRWM in all future 2020 resources bonds.

Result:	**Adopted (Unanimously)**
Motion/Second:	Parker/Dennstedt
Ayes:	Dennstedt, Harrison, Parker, Slawson
Nays:	None
Abstentions:	None
Absent:	Bilodeau

C. AMENDMENT NO. 2 WITH LOCAL GOVERNMENT COMMISSION (LGC) IN THE DISADVANTAGED COMMUNITIES INVOLVEMENT (DCI) PROGRAM | ACTIVITY 15: WATER AGENCY COMMUNITY ENGAGEMENT TRAINING (CM#2020.4)

Rich Whetsel provided the PowerPoint presentation included in the agenda packet on pages 50 through 59. It was noted that private mutual water companies can benefit from these funds. There was no discussion.

MOVED, authorize the General Manager to execute Amendment No. 2, a time, scope and budget amendment in an amount not to exceed $99,936 with the Local Government Commission as part of the Disadvantaged Communities Involvement (DCI) Program.

Result:	**Adopted (Unanimously)**
Motion/Second:	Harrison/Parker
Ayes:	Dennstedt, Harrison, Parker, Slawson
Nays:	None
Abstentions:	None
Absent:	Bilodeau

D. EMPLOYEE HANDBOOK UPDATE (CM#2020.6)

Rich Haller provided an oral Employee Handbook update; Haller requested Commissioner input regarding the feasibility of adopting a 4-10 alternate workweek schedule since language would need to be included in the updated handbook. Employee hardships, if any, in adopting a 4-10 alternate workweek schedule would be addressed on a case-by-case basis; the office would be closed every Friday. There was a brief discussion among the Commissioners regarding employee options, retention, and possible half-staffing on Fridays and Mondays; there were no objections to adopting a 4-10 alternate workweek schedule. Haller advised the next step would be to allow for an election; if adoption of the 4-10 alternate workweek schedule passes, we would proceed from there. Handbook revisions would include sick time and vacation accrual adjustments under the 4-10 alternate workweek schedule.

This item was for informational and discussion purposes; no action was taken on Agenda Item No. 5.D.

E. COMMISSIONER COMPENSATION (CM#2020.7)

The current per day of service compensation amount is $210. In accordance with Ordinance No. 2017-01, the compensation amount will automatically increase to $220 beginning in January 2020. Alternatively, the Commission could adopt Resolution No. 2020-01 maintaining the $210 amount.

No action was taken, allowing the per day of service rate to increase automatically from $210 to $220 effective January 2020.

6. INFORMATIONAL REPORTS

The following oral/written reports/updates were received and filed.

A. INTER-FUND BORROWING – NOVEMBER 2019 (CM#2020.1)

B. PERFORMANCE INDICATORS/FINANCIAL REPORTING – NOVEMBER 2019 (CM#2020.2)

C. OWOW QUARTERLY STATUS REPORT: OCTOBER 1, 2019 – DECEMBER 31, 2019

D. ROUNDTABLES QUARTERLY STATUS REPORT: OCTOBER 1, 2019 – DECEMBER 31, 2019

E. GENERAL MANAGER REPORT

F. STATE LEGISLATIVE REPORT

G. SAWPA GENERAL MANAGERS MEETING NOTES

- January 14, 2020

H. CHAIR'S COMMENTS/REPORT

There were no comments/reports from the Chair.

I. COMMISSIONERS' COMMENTS

There were no comments from the Commissioners.

J. COMMISSIONERS' REQUEST FOR FUTURE AGENDA ITEMS

There were no Commissioners' request for future agenda items.

7. CLOSED SESSION

There was no Closed Session.

The Commission next considered Agenda Item No. 4. Consent Calendar, followed by meeting adjournment.

8. ADJOURNMENT

There being no further business for review, Chair Slawson adjourned the meeting at 10:05 a.m.

Approved at a Regular Meeting of the Santa Ana Watershed Project Authority Commission on Tuesday, February 4, 2020.

_____
David J. Slawson, Chair

Attest:

_____
Kelly Berry, CMC
Clerk of the Board

COMMISSION MEMORANDUM NO. 2020.8

DATE: February 4, 2020

TO: SAWPA Commission

SUBJECT: Assessing Homelessness Impact on Water Quality, Riparian and Aquatic Habitat in Upper Santa Ana River Watershed | Task 1 Report

PREPARED BY: Mark Norton PE, Water Resources and Planning Manager

RECOMMENDATION

It is recommended that the SAWPA Commission receive and file this status report regarding the draft Task 1 Report for Assessing Homelessness Impact on Water Quality, Riparian and Aquatic Habitat in Upper Santa Ana River Watershed as prepared by GEI Consultants.

DISCUSSION

During discussion of the Memorandum of Understanding between SAWPA and the Housing Authority of the City of Riverside, correspondence from Eastern Municipal Water District and the Orange County Water District requested SAWPA undertake a program of quantifying the water quality impacts of homelessness in the watershed. Responding to that request, SAWPA staff has worked closely with member agency staff and general managers to consider this monitoring program. This staff group felt that it would be valuable to evaluate other monitoring efforts being conducted nearby in San Diego and elsewhere in California to resolve the question of how encampments of people experiencing homelessness impact water quality, riparian and aquatic habitat, however, it is likely that the Santa Ana River watershed has unique characteristics that suggest the need for a local monitoring program.

To determine the correct course for the watershed, a competitive request for proposals was undertaken and a contract was awarded to GEI Consultants on Feb. 5, 2019. The scope of work included two tasks. The first task provides a literature review and assessment of existing information of what is known in the watershed and elsewhere about the linkages between water quality, riparian and aquatic habitat and encampments. This work includes research, and engagement with existing monitoring SAWPA Task Forces in the watershed.

The second task will prepare a preliminary monitoring program, aligned with existing monitoring efforts in the upper watershed. Three characteristic encampments will be selected for monitoring to be designed. The resulting technical memorandum will discuss the methods, results, and implications of the monitoring effort, including a discussion of the relative impacts that encampments have as compared to other sources of impact.

SAWPA staff proposed to fund the work by GEI Consultants using grant funding available from the Proposition 1 Integrated Regional Water Management, Disadvantaged Community Involvement (DCI) grant program. This was supported by the Technical Advisory Committee of the DCI Program and the SAWPA Commission using funding designated to DCI Program Technical Assistance for Community Need. The contract was approved for an amount not-to-exceed $74,441.

Task 1 is now complete and a report covering the results of Task 1 will be shared with the Commission.

CRITICAL SUCCESS FACTORS

A strong reputation and sufficient capacity within SAWPA staff for strategic facilitation, planning, communication, leadership and community engagement.

Successful implementation of an integrated regional water resource plan that reflects the watershed management needs of the public and the environment.

Data and information needed for decision-making is available to all.

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RESOURCE IMPACTS
Sufficient funding is available through the DCI to complete this work over the coming fiscal year.

Attachments:
1. PowerPoint Presentation
2. GEI Consultants Task 1 Memorandum

Assessing Homelessness Impacts on Water Quality, Riparian and Aquatic Habitat in Upper Santa Ana River Watershed

Mark Norton, Water Resources & Planning Manager

SAWPA Commission | February 4, 2020

Item No. 5.A.

Project Scoping

- In late 2018, Commission directed staff to hire consultant to conduct assessment of the homelessness impact on water quality, riparian and aquatic habitat in upper Santa Ana River Watershed.
- Contract for work was approved on Feb. 5, 2019 with GEI Consultants to conduct work for $74,441
- Draft Task 1 Memo is completed including
  - Assessment of Homeless Encampments
  - Literature Review
- Work is funded by Prop 1 IRWM Disadvantaged Community Involvement Grant Program


Homeless Encampments in the Upper Santa Ana River Watershed

GEI Consultants
Consulting Engineers and Scientists

Submitted to:
Santa Ana Watershed Project Authority
11615 Sterling Avenue
Riverside, CA 92503

Submitted by:
GEI Consultants, Inc.
Denver, CO

CWE
Fullerton, CA

January 2020

Questions to be Answered:

- What is known about the impacts caused by encampments of people experiencing homelessness to:
  - Water quality?
  - Riparian & aquatic habitat health?

- How would this watershed evaluate the impacts being felt here?
  - Existing monitoring?
  - Additional monitoring?

- What is the relationship between the impacts caused by encampments and those caused by other sources?

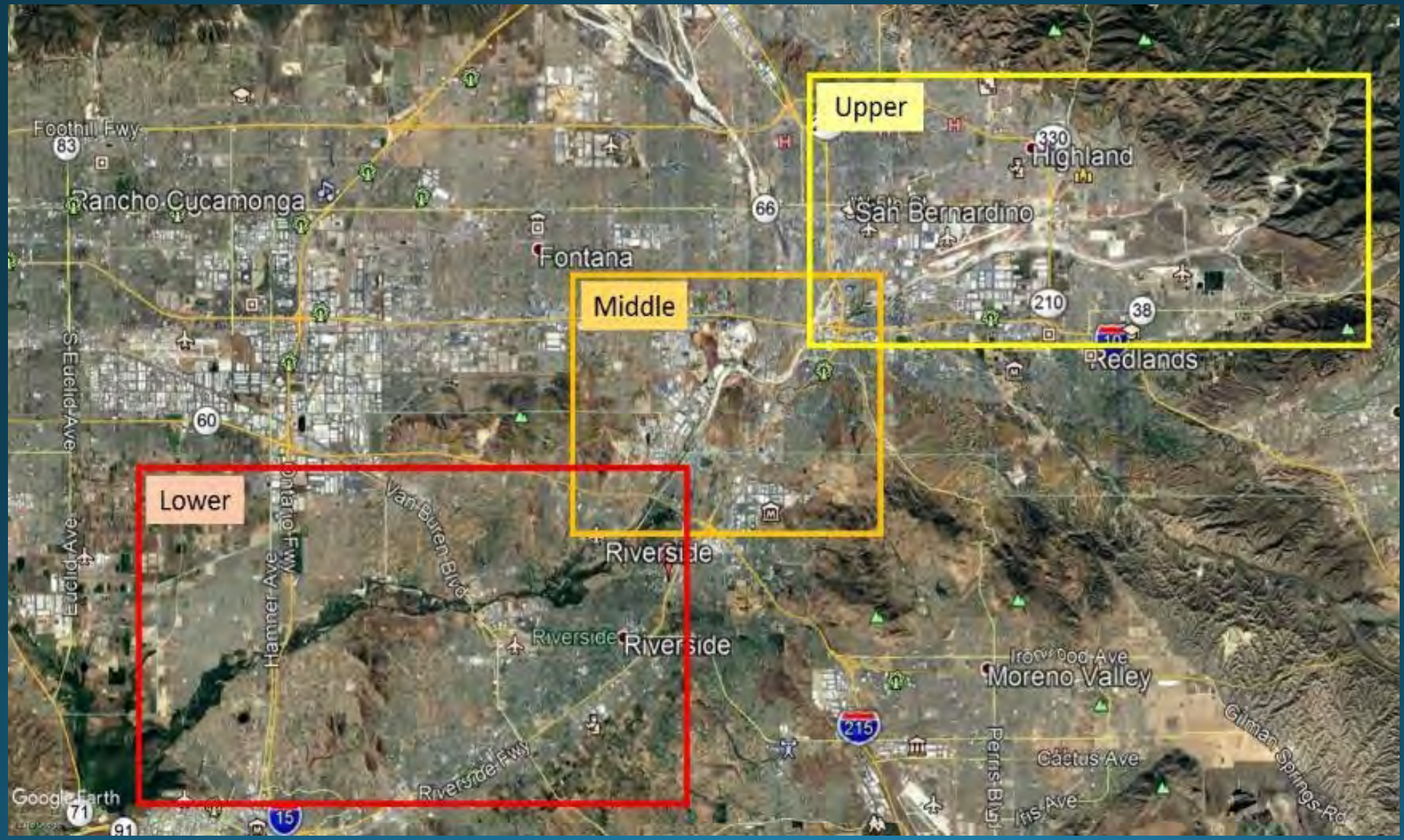
Assessment of Homeless Encampments

Data gathered from the following entities:

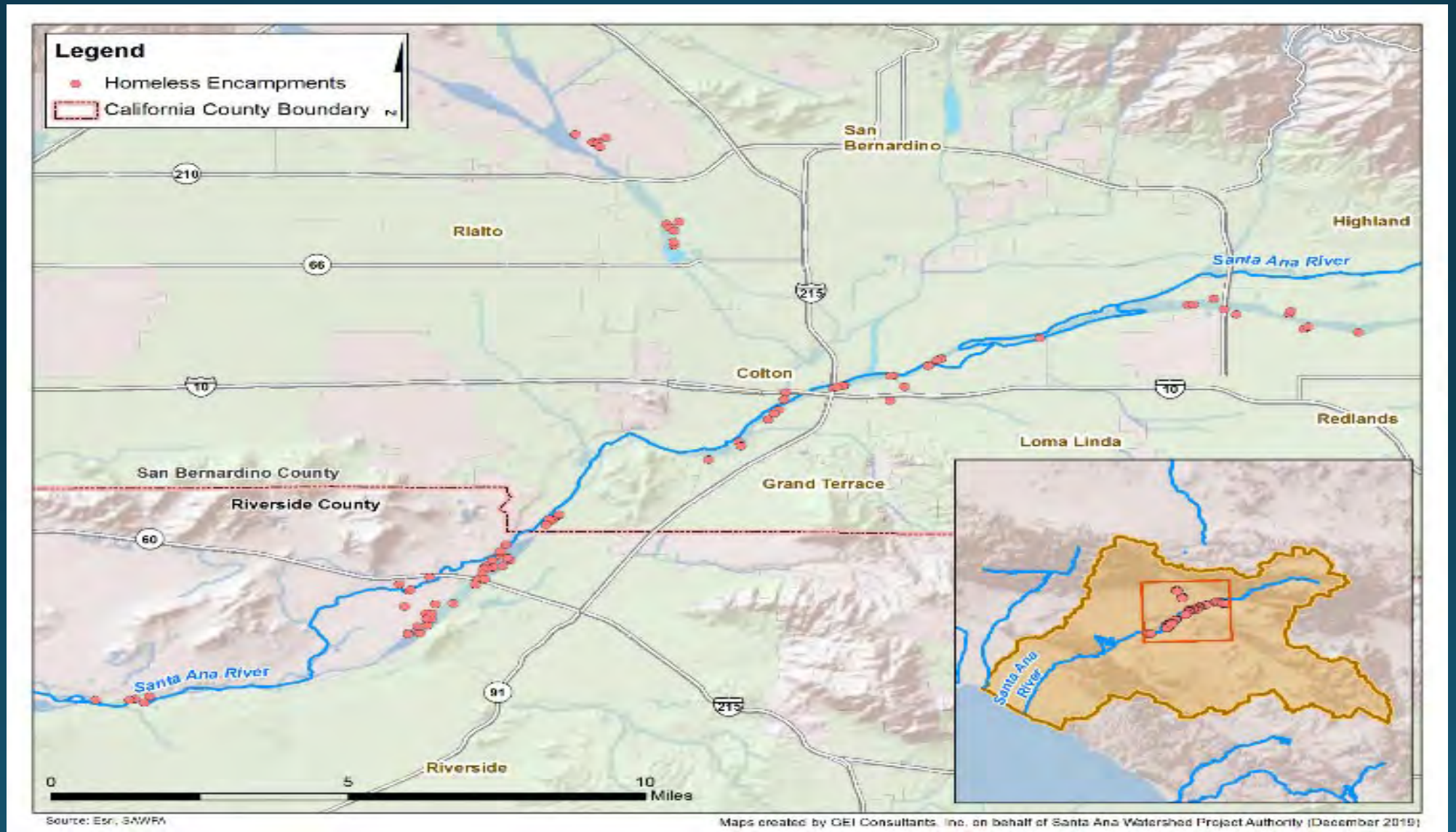
- Santa Ana Watershed Project Authority and SAWPA Task Forces
- San Bernardino County Sheriff Department
- San Bernardino County Department of Public Works
- Riverside County Flood Control & Water Conservation District (including information

  from County of Riverside County Executive Office)
- Inland Empire Waterkeeper
- City of Rialto (represented by Lynn Merrill and Associates, Inc. and Geovironment Consulting)
- Riverside Regional Water Quality Control Plant
- Santa Ana Regional Water Quality Control Board
- San Bernardino Valley Water Conservation District

Locations of Lower, Middle and Upper Portions of the Upper Santa Ana River Watershed Study Area

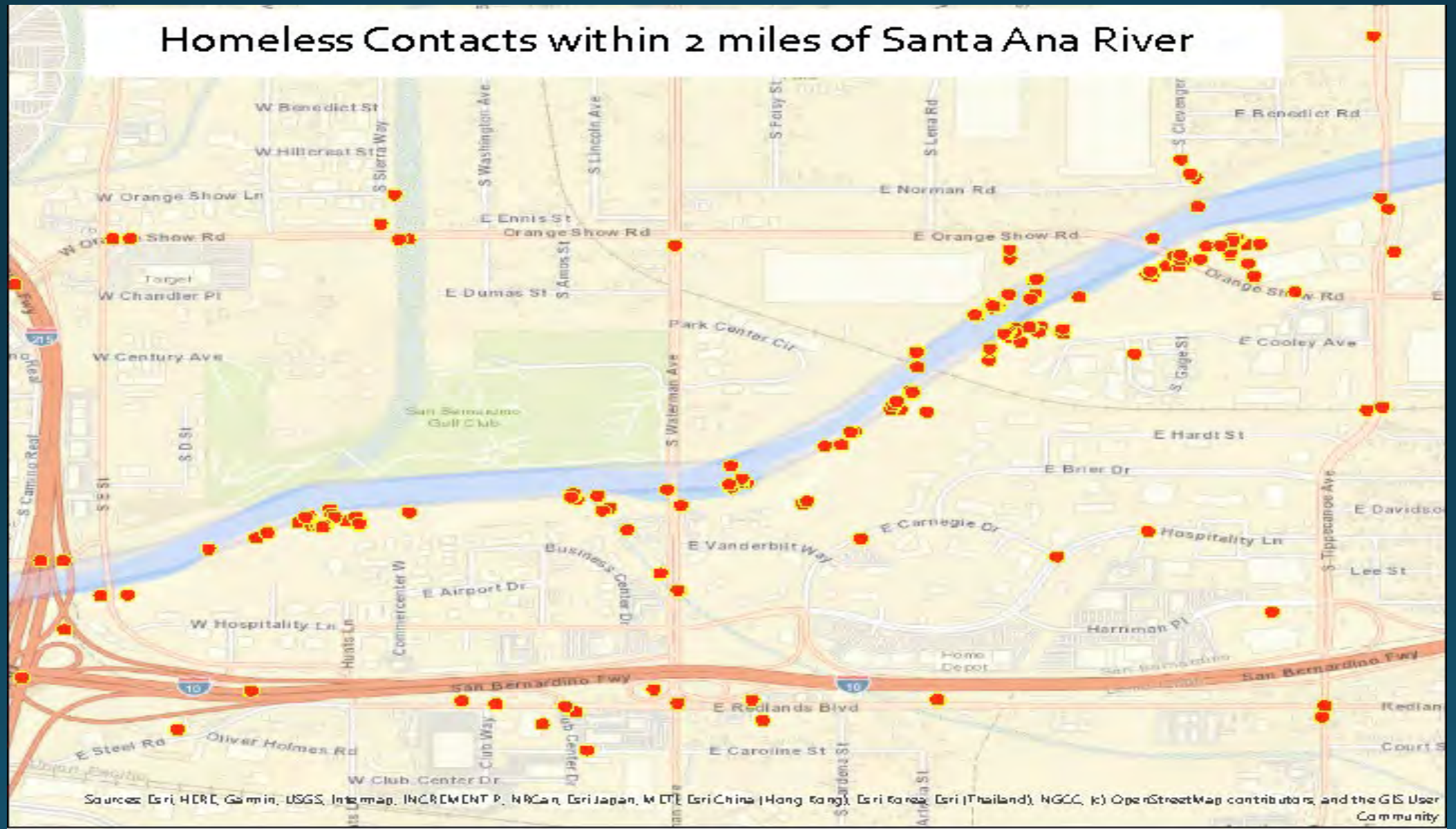


Locations of Homeless Encampments in the Upper Santa Ana River Watershed in 2016 (Data sources are the San Bernardino County and Riverside County Sheriff Departments)



Records of Contacts with Homeless in Area with Highest Concentration of Encampments: Tippecanoe Avenue to E Street/I-215

(Map provided by the San Bernardino County Sheriff Department, 10-10-19)



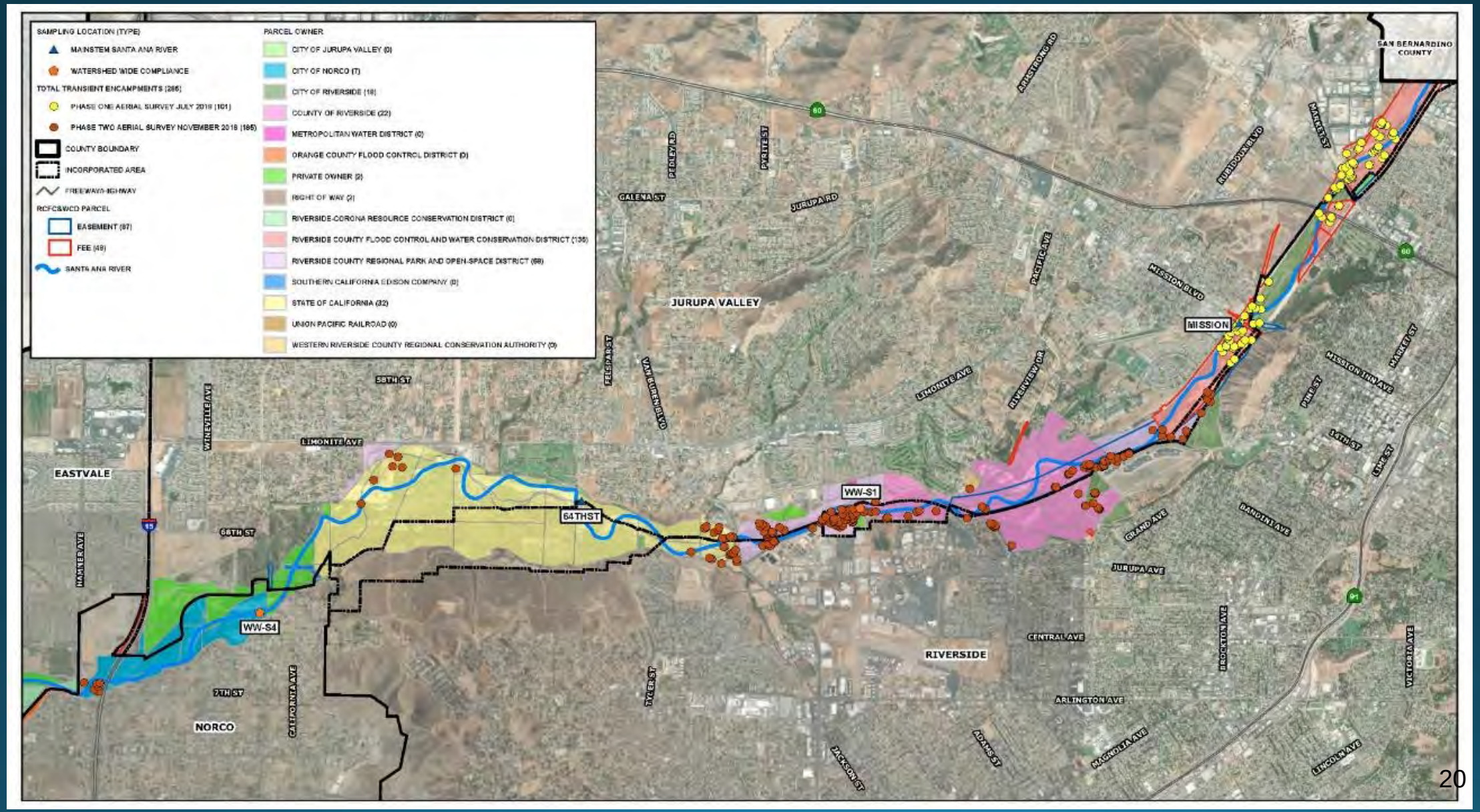
Examples of Homeless Encampments in Santa Ana River Upstream of I-215 Bridge (Photographs from San Bernardino County Sheriff Dept.

Example of Impacts from Homeless Encampments along City Creek

(Presentation delivered by Arlene Chun, Stormwater Program Manager for the San Bernardino County Department of Public Works, at the CASQA Quarterly Meeting, May 9, 2019)

Site Conditions

Documentation of Homeless Encampments along Santa Ana River between I-15 and Riverside County Line Based on 2018 Drone Surveys (Map provided by RCFC&WCD



Literature Review

Environmental impact concerns from homeless encampments in riverbeds in the upper Santa Ana River watershed are no different than what is observed in other areas. Key concerns include:

- Trash - both the presence of the trash itself and the potential for the leakage of toxic chemicals from items in the trash;
- Human waste disposal
- Degradation of riparian areas, including vegetation, habitat, and riverbanks
- Fish barriers created by large trash (e.g., shopping carts)
- Impacts to the physical integrity of levees
- Fire.

CA Studies and Other States

Inside California

Santa Ana

California State University Fullerton

San Bernardino Valley Municipal Water District

- San Gabriel River Watershed
- San Diego Area
  - San Diego River
  - Other San Diego Area Examples
- Contra Costa County
- Santa Clara County
- Santa Clara Valley Water District
  - Guadalupe River Watershed Study
- Sacramento Area
  - Water Quality Studies
  - Levee Impacts
- Russian River

Outside of California

- Colorado
- Oregon
- Texas
  - Austin, Texas Area
  - San Antonio, Texas Area
- Utah

Literature Review Results

- No studies found that clearly demonstrate a direct relationship between encampments and poor water quality.
- Data on trash volume has been reported in other areas. Relationship of trash volume to number of homeless encampments or campers is unclear.
- One study sought to evaluate potential impact of homeless encampments on the quality of the water supply but often a misperception.
- Southern California Coastal Water Research Project (SCCWRP) developing a study in the in San Diego River watershed. Demonstrates how difficult it is to design a study to collect sufficient data and test hypotheses regarding impact of homeless encampments on water quality.

Preliminary Conclusions

- No studies available that directly tie any water quality data to homeless encampments.
- Even recently completed Synoptic Study shows findings that were not consistent from week to week.
- Transient nature of camps, differences in how they operate or handle waste or site conditions from one camp to another make study design difficult.

Preliminary Conclusions

Five key areas where camps are currently concentrated. All are in various reaches of the Santa Ana River:

- Van Buren Boulevard bridge upstream to Anza Drain
- Along the Tequesquite Landfill
- Above and below the Mission Boulevard bridge crossing
- Upstream of the 60 Fwy
- Between the I-215 bridge and Tippecanoe Road

- All of these locations have two things in common
  - Near water
  - Vegetative cover
- Most believe the number of encampments and numbers of residents is on the increase.

Preliminary Recommendations

Next Study Phase:

Preliminary Monitoring Program will consider both direct and indirect approaches to evaluating impacts to water quality and habitat.

- Collect and analyze data to directly evaluate potential dry and wet-weather impacts from homeless encampment activity.
- Will evaluate the relative contribution of bacterial loads from human versus other sources such as wildlife.
- Provide a monitoring framework that takes an indirect approach to monitoring, using survey tools and collaboration with other watershed agencies to track trends in homeless encampments

Recommendation:

Receive and file this status report on the assessment of the homelessness impact on water quality, riparian and aquatic habitat in upper Santa Ana River Watershed.

Homeless Encampments in the Upper Santa Ana River Watershed

GEI Consultants

Consulting Engineers and Scientists

Submitted to:

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Fullerton, CA

January 2020

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Attachments

Acronyms

CASQA	California Stormwater Quality Association
CBRP	Comprehensive Bacteria Reduction Plan
CCFC&WCD	Contra Costa County Flood Control & Water Conservation District
CoSA	City of San Antonio
EIR	Environmental Impact Report
Fwy	Freeway
GC	Geovironment Consulting
HOPE	Homeless Outreach and Proactive Enforcement
I-215	Interstate 215
I-15	Interstate 15
IEWK	Inland Empire Waterkeeper
lbs	Pounds
LMA	Lynn Merrill and Associates
m^3	Cubic meters
MSAR	Middle Santa Ana River
MSAR Bacteria TMDL	Middle Santa Ana River Bacterial Indicator Total Maximum Daily Load
MSAR Task Force	Middle Santa Ana River Watershed TMDL Task Force
North Coast Water Board	North Coast Regional Water Quality Control Board
PPCP	Pharmaceuticals and Personal Care Products
RCFC&WCD	Riverside County Flood Control & Water Conservation District
Riverside RWQCP	Riverside Regional Water Quality Control Plant
Santa Ana Water Board	Santa Ana Regional Water Quality Control Board
San Diego Water Board	San Diego Regional Water Quality Control Board
SAWPA	Santa Ana Watershed Project Authority
SCCWRP	Southern California Coastal Water Research Project
SCVWD	Santa Clara Valley Water District
TCEQ	Texas Commission on Environmental Quality
TMDL	Total Maximum Daily Load
USEPA	United States Environmental Protection Agency
WWTP	Wastewater Treatment Plant

1.0 Project Background and Purpose

1.1 Project Background

The Santa Ana Watershed Project Authority (SAWPA) commissioned a study to (a) assess the current nature and extent of homeless encampments within waterbodies in the upper Santa Ana River watershed; and (b) provide the best available information about the relationships between the presence of homeless encampments and impacts to water quality and riparian and aquatic habitats. The findings from this project can support SAWPA's watershed planning activities in the Santa Ana River region.

For the purposes of this study, the upper watershed generally includes the portions of the Santa Ana River and tributaries above Prado Dam. For the mainstem of the Santa Ana River, the project area is downstream of the San Gabriel and San Bernardino Mountains in the north and east (e.g., downstream of Seven Oaks Dam; downstream of where Hwy 38 enters the San Bernardino Mountains). For the Temescal Creek subwatershed the project area is the portion of Temescal Creek generally downstream of where Temescal Wash begins to parallel Interstate 15 downstream of Lake Elsinore.

Homeless encampments have the potential to impact water quality in a number of ways, including elevated bacterial indicator concentrations from human waste and buildup of trash, which may contain pollutants. Several waterbody segments in the upper watershed are listed as water quality-impaired and have been placed on the State 303(d) List because they do not currently meet beneficial uses for one or more constituents. Currently, several waterbodies in the upper Santa Ana River watershed, including Santa Ana River Reach 3, are subject to the requirements of the Middle Santa Ana River (MSAR) Bacterial Indicator Total Maximum Daily Load (TMDL) ("MSAR Bacteria TMDL"). Other waterbodies remain listed as impaired, but to date TMDLs have not yet been developed (e.g., Santa Ana River Reach 4, Warm Creek, San Timoteo Creek, and Mill Creek Reach 1).

Homeless encampments also may impact the integrity of riparian and aquatic habitats. The mainstem Santa Ana River below Seven Oaks Dam and portions of selected tributaries are designated as critical habitat for the Santa Ana Sucker. In addition, other threatened and endangered species or species of concern are associated with Santa Ana River riparian habitat, e.g., the least Bell's Vireo.

The ***potential*** for homeless encampments to impact water quality and habitat can be documented, at least anecdotally. For constituents such as trash, just the presence of the trash is itself an impact. However, for other constituents, e.g., bacteria or toxic chemicals, actual data that directly links homeless encampment activity to lower water quality, appear to be limited or unavailable. Regardless, it is generally assumed that impacts do occur because of

the lack of adequate sanitary waste disposal facilities and presence of trash containing toxic chemicals.

Given this background, SAWPA and its member agencies commissioned this study to evaluate homeless encampments in the upper Santa Ana River watershed through a two-step process:

1. Develop a better understanding of potential impacts of homeless encampments on water quality and riparian and aquatic habitat based on an assessment of existing information; and
2. Prepare a Preliminary Monitoring Program to assess actual impacts from selected camps within the upper Santa Ana River watershed.

This report documents the findings from the first step. The next section summarizes how this assessment of existing information was completed for the purposes of this report.

1.2 Assessment Approach

To develop a better understanding of potential impacts of homeless encampments on water quality and riparian and aquatic habitat, we carried out the following two activities:

- *Assessment of Homeless Encampments* – This effort focused on identifying where homeless encampments are most prevalent within the upper Santa Ana River watershed. This information was gathered through meetings and discussions with various entities with direct knowledge of homeless encampment activity in the watershed. A general set of questions was prepared for discussion with each of the interviewees. While the focus was on these questions, we allowed interviewees to share any information they deemed appropriate. Where relevant, we requested supplemental information from the interviews (e.g., homeless encampment data and photographs). The findings from this activity are provided in Section 2.0.
- *Review Literature, Studies and Reports* – This activity included a review of published literature, studies and reports that provide information and insight regarding the relationship between the presence of homeless encampments and impacts to water quality and riparian and aquatic habitats. This effort focused primarily on California sources, but additional information was developed from other locations outside of California, especially in other western states. The findings from the literature review are provided in Section 3.0.

Based on the findings from the two activities described above, this report provides the following:

- *Characterization of Homeless Encampment Areas in Study Area* – One of the goals of this study was to develop criteria for selection of up to five homeless encampment areas to evaluate their inherent characteristics. However, based on the findings of the study, it

is not possible to distinguish different camp types based on the information readily available. Instead, we found that areas with encampments have very similar characteristics and types of impacts on the environment. Therefore, this report characterizes typical conditions observed in encampments and impacts observed. In addition, this report identifies five key areas where homeless encampments are concentrated in the upper watershed.

- *Conclusions and Recommendations* – The report uses the characterization of homeless encampments to draw conclusions and recommendations for consideration regarding the development of a Preliminary Monitoring Program – the second part of the two-step process to better understand homeless encampment impacts in the watershed. These recommendations will be discussed with SAWPA prior to initiation of the development of such a program.

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2.0 Assessment of Homeless Encampments

In this section we provide the findings from discussions with watershed stakeholders regarding the presence of homeless encampments in the upper Santa Ana River watershed. Section 2.1 provides a summary of the key findings with regards to the identification of homeless encampments in the watershed and observed impacts from these camps on water quality and habitat. Section 2.2 provides the specific findings from stakeholder interviews that provide the basis for the summary of findings.

2.1 Summary of Key Findings

Information to support the assessment of homeless encampments in the upper watershed was gathered from the following entities:

- Santa Ana Watershed Project Authority
- San Bernardino County Sheriff Department
- San Bernardino County Department of Public Works
- Riverside County Flood Control & Water Conservation District (including information from County of Riverside County Executive Office)
- Inland Empire Waterkeeper
- City of Rialto (represented by Lynn Merrill and Associates, Inc. and Geovironment Consulting)
- Riverside Regional Water Quality Control Plant
- Santa Ana Regional Water Quality Control Board
- San Bernardino Valley Water Conservation District

The following subsections provide an overview of the findings from discussions with these entities. Section 2.2 provides the specific information and data obtained from each entity.

2.1.1 Location of Homeless Encampments

In 2016, SAWPA compiled data from the San Bernardino and Riverside County Sheriff Departments and the Orange County Public Works Department to illustrate locations for homeless camps within the Santa Ana River watershed. These data provide the earliest assessment we have available of overall homeless encampment activity in the upper watershed. At that time camps were concentrated in an approximate 2.5 mile reach above and below the 60 Freeway (Fwy) crossing and around the Interstate 215 (I-215) crossing. Additional camps were noted above the City Creek confluence with the Santa Ana River and Tequesquite Landfill in San Bernardino County and Riverside County, respectively.

In 2019, homeless encampments appear to have expanded in scope and are concentrated in five key areas in the Santa Ana River:

- Van Buren Boulevard bridge upstream to Anza Drain
- Along the Tequesquite Landfill
- Above and below the Mission Boulevard bridge crossing
- Upstream of the 60 Fwy
- Between the I-215 bridge and Tippecanoe Road

The general opinion of most interviewees was that the number homeless encampments is on the increase; however, insufficient data exist to actually affirm this belief. Most agreed that a typical encampment includes 2-4 people. While we do not have total numbers of encampments or numbers of individuals residing in riverbeds in the watershed, we did obtain the following information regarding potential numbers of homeless encampments/residents within specific reaches of the Santa Ana River:

- *Inland Empire Waterkeeper (IEWK)* documented 187 encampments in the Santa Ana River reach from the Van Buren Boulevard bridge upstream to the Market Street bridge in February 2019. Using the 2-4 people estimate/encampment, it is estimated 400 – 800 people likely reside in this reach.
- *Riverside County Flood Control & Water Conservation District (RCFC&WCD)* identified a total of 256 encampments between Interstate 15 (I-15) and the Riverside County line in 2018. Using the 2-4 people/encampment number, this results in an estimate of 500-1000 people in this reach of the Santa Ana River. This estimate is generally consistent with the above IEWK estimates given the RCFC&WCD data is from a longer river reach.
- *San Bernardino County Sheriff Department* staff estimated 300-400 people living in encampments in riverbeds in the portion of the upper Santa Ana River watershed portion that is in San Bernardino County.

2.1.2 Water Quality Impacts

No water quality data were found for the Santa Ana River watershed that demonstrates a direct link between homeless encampment activity and degraded water quality. While no such data were found, it is notable that the ongoing MSAR Bacteria Synoptic Study being implemented by SAWPA's MSAR Watershed TMDL Task Force ("MSAR Task Force") recently observed detectable levels of human source bacteria in the Santa Ana River near the Mission Boulevard crossing on one of six sample dates. Given the high concentration of homeless encampments in that area (see Section 2.2.4 below), this finding should not be surprising; however, interestingly the observation only occurred once in the six-week Synoptic Study. More data would be needed to use this finding to make broad statements

regarding relationships between homeless encampment activity in the Santa Ana River watershed and degraded water quality.

2.1.3 Riparian and Aquatic Habitat Impacts

The environmental impacts from the presence of homeless encampments in the upper Santa Ana River watershed were noted by many of the entities interviewed. Examples of impacts noted through various means include:

- Trash;
- Degradation of riparian areas, including vegetation, habitat, and riverbanks;
- Man-made diversions built in the river;
- Impacts to the physical integrity of levees; and
- Fire

2.2 Specific Findings from Interviewed Entities

We reached out to a number of entities to obtain current information on: (a) the location of homeless encampments in the upper Santa Ana river watershed; (b) observed impacts from these encampments; and (c) obtain any data relevant to the purposes of this study. **Attachment A** provides the basic list of questions that guided each discussion.

Figure 2-1 provides an overall aerial image of the upper Santa Ana River watershed. The following figures provide a more close-up aerial view of each of the areas highlighted in Figure 2-1 and identifies areas where information regarding homeless encampments was obtained:

- **Figure 2-2** – Lower portion of the study area from the 60 Fwy downstream to Prado Basin. Information was obtained on homeless encampment from discussions with the RCFC&WCD, Santa Ana Regional Water Quality Control Board (Santa Ana Water Board) and Riverside Regional Water Quality Control Plant (Riverside RWQCP).
- **Figure 2-3** – Middle portion of study area from I-215 downstream to the 60 Fwy. With the exception of the lower most portion of the reach, the riverbed in this area is typically dry with minimal vegetation. Vegetation begins to appear downstream of where the treated effluent from the City of Rialto Wastewater Treatment Plant (WWTP) enters the mainstem Santa Ana River. Data for this area were obtained from the City through the work of its consultant, Lynn Merrill and Associates, Inc.
- **Figure 2-4** – Upper portion of the study area from I-215 upstream to the beginning of the foothills. For this area, were able to obtain information from the San Bernardino County Sheriff Department, San Bernardino County Public Works and the San Bernardino Valley Water Conservation District.

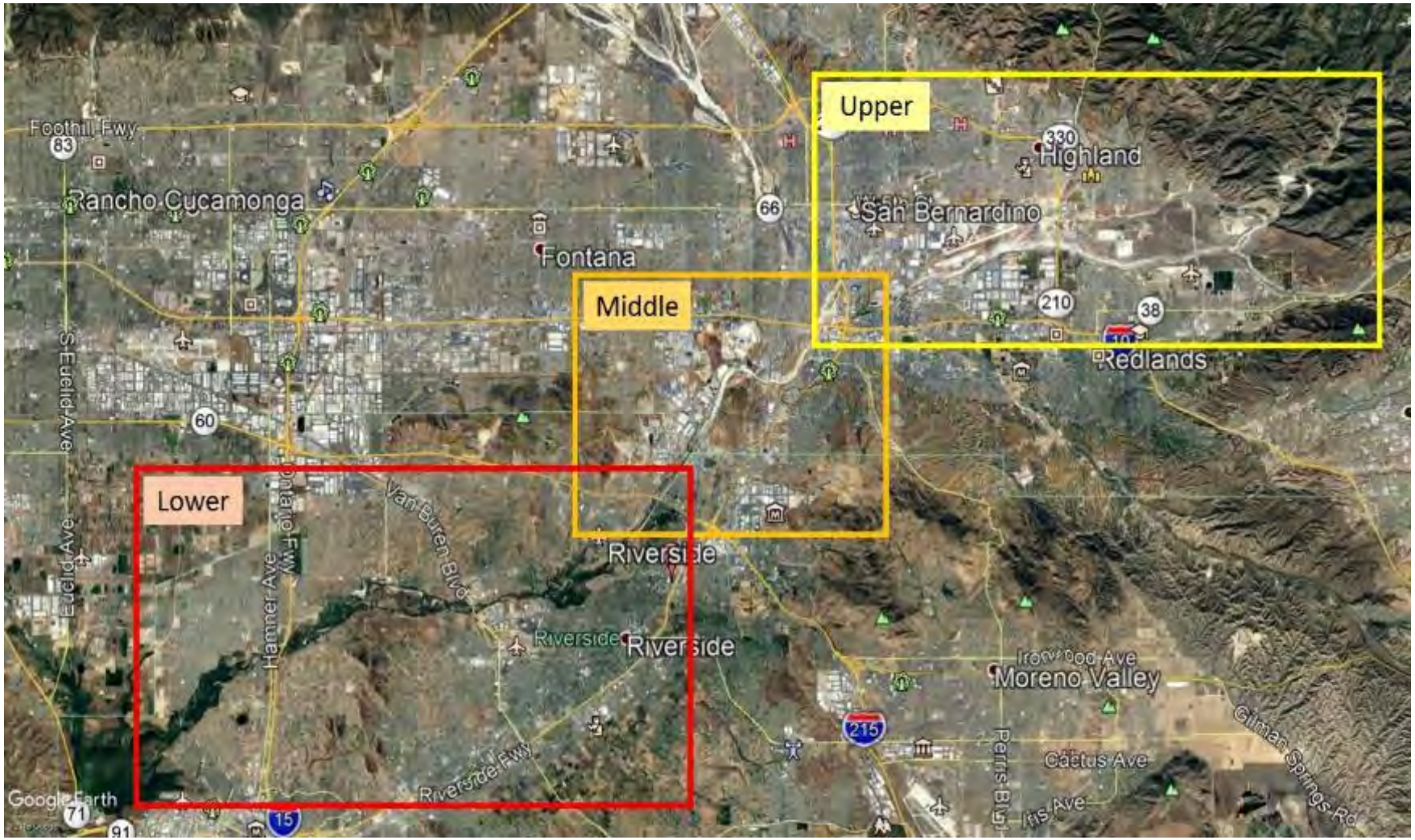

Figure 2-1. Locations of Lower, Middle and Upper Portions of the Upper Santa Ana River Watershed Study Area (see Figures 2-2, 2-3 and 2-4 for a more close-up view of each of the highlighted areas and where information was obtained for the purposes of this project)

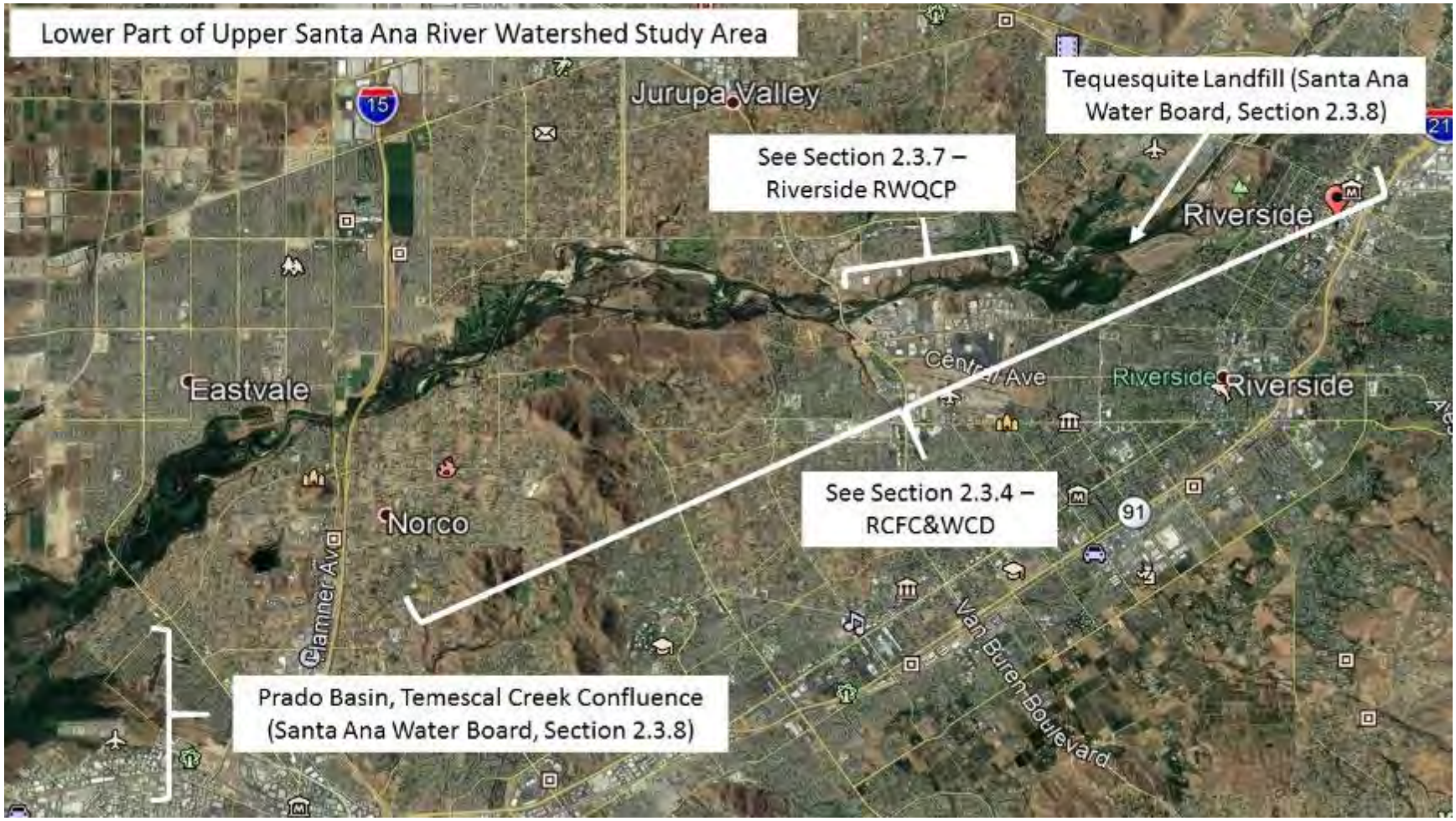

Figure 2-2. Lower Portion of the Upper Santa Ana River Watershed Study Area (see referenced sections for information on homeless encampments in those areas)

Figure 2-3. Middle Portion of the Upper Santa Ana River Watershed Project Study Area (see referenced sections for information on homeless encampments in those areas)

Figure 2-4. Upper Portion of the Upper Santa Ana River Watershed Project Study Area (see referenced sections for information on homeless encampments in those areas)

The following subsections summarize the findings from each of the interviews conducted as part of this project. The overall findings are synthesized above in Section 2.1.

2.2.1 Santa Ana Watershed Project Authority

SAWPA compiled 2016 homeless encampment location data from the San Bernardino and Riverside County Sheriff Departments and the Orange County Public Works Department to in the Santa Ana River watershed (**Figure 2-5)**. While these data show key areas where camps were prevalent (e.g., above and below the 60 Fwy bridge), we cannot conclude that there were no camps in other areas, especially in the lower portion of the Santa Ana River shown in the figure. Today, agencies are more active in documenting presence/absence of encampments, and the lack of data points in 2016 may simply represent a data gap.

SAWPA facilitates the work of the Santa Ana Sucker Conservation Team, which works to determine reasons for the decline of the Santa Ana sucker in the Santa Ana River watershed and devise strategies for the recovery of the species (https://sawpa.org/task-forces/santa-ana-sucker-conservation-team/). Every year the Team oversees the annual Riverwalk. Its purpose is to survey the status of the Santa Ana sucker fish's habitat. For the 2019 survey, we coordinated with SAWPA's Ian Achimore to include a place on the survey form to note homeless encampment observations. **Figure 2-6** identifies the locations where a surveyor noted observations regarding homeless activity. While most forms simply noted the presence of an encampment at the survey location, some forms indicated other impacts, e.g., fire pit evidence, man-made channel diversions, presence of a treehouse, and steps carved into the riverbank. It was notable that the areas where volunteers were most likely to note homeless encampment activity is consistent with the locations where the RCFC&WCD noted the highest concentrations of homeless encampments in 2018 (see Section 2.2.4 below).

SAWPA administers two Task Forces that have missions that may be relevant to the purposes and findings of this project:

- *MSAR Task Force* – This Task Force was formed to implement the Bacterial Indicator TMDLs adopted by the Santa Ana Water Board to address impairments in Chino Creek (Reaches 1 and 2), Mill Creek (Prado Area), Cucamonga Creek Reach 1, Santa Ana River Reach 3 and Prado Park Lake.1 This Task Force will soon begin work to revise this TMDL. In preparation for the TMDL revision, the Task Force recently completed a Synoptic Study to update baseline information on bacterial indicators and presence of human sources of bacteria in the MSAR watershed and key tributaries. Findings from this study that may be relevant to the purposes of this report are discussed below in Section 2.2.4.

[1] Adopted by Santa Ana Water Board Resolution No. R8-2005-0001 on August 26, 2005. The adopted TMDL was approved by the State Water Resources Control Board on May 15, 2006 (Resolution No 2006-030) and by US Environmental Protection Agency (USEPA) Region 9 on May 16, 2007.

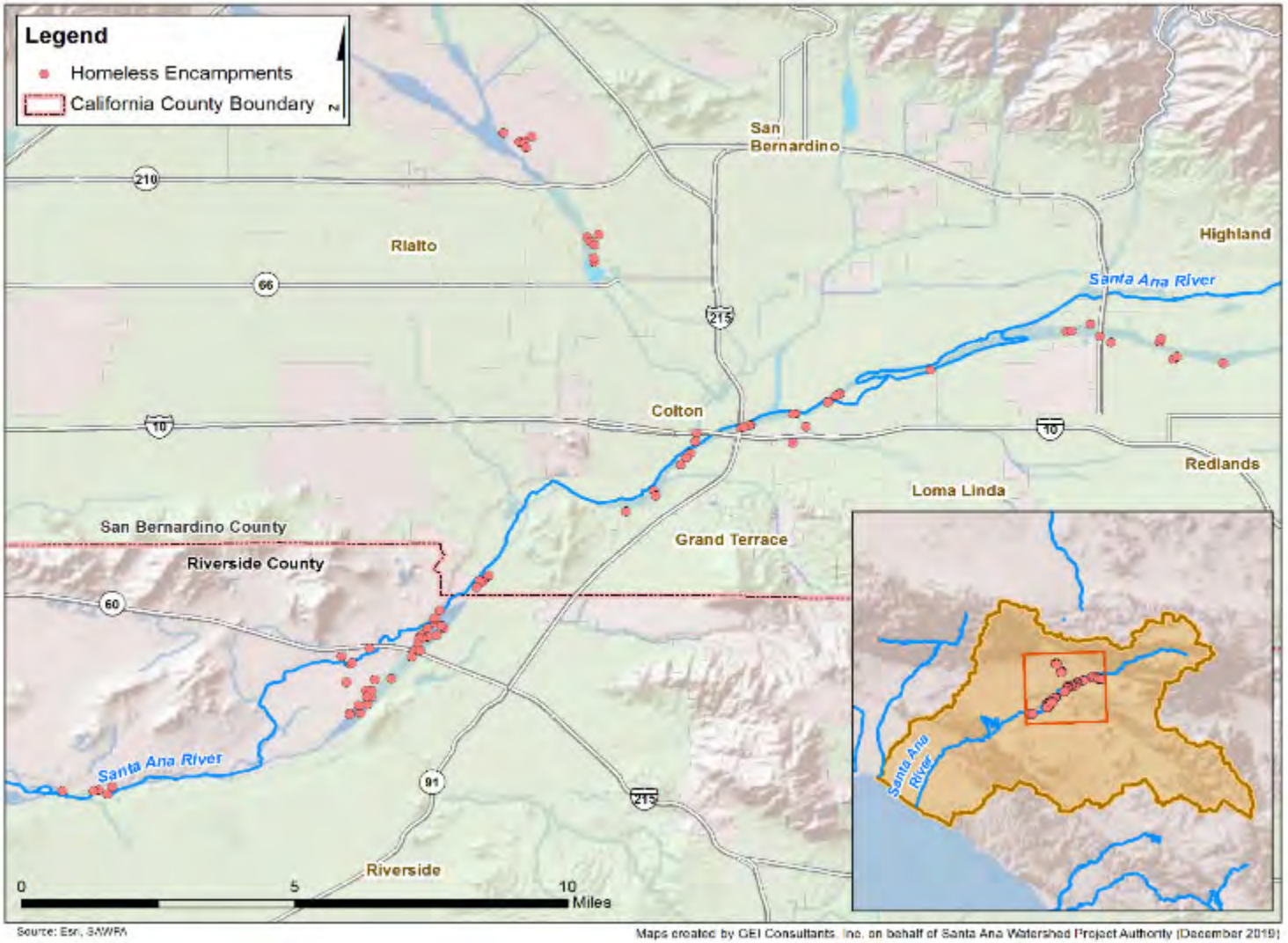

Figure 2-5. Locations of Homeless Encampments in the Upper Santa Ana River Watershed in 2016 (Data provided by SAWPA; original data sources are the San Bernardino County and Riverside County Sheriff Departments)

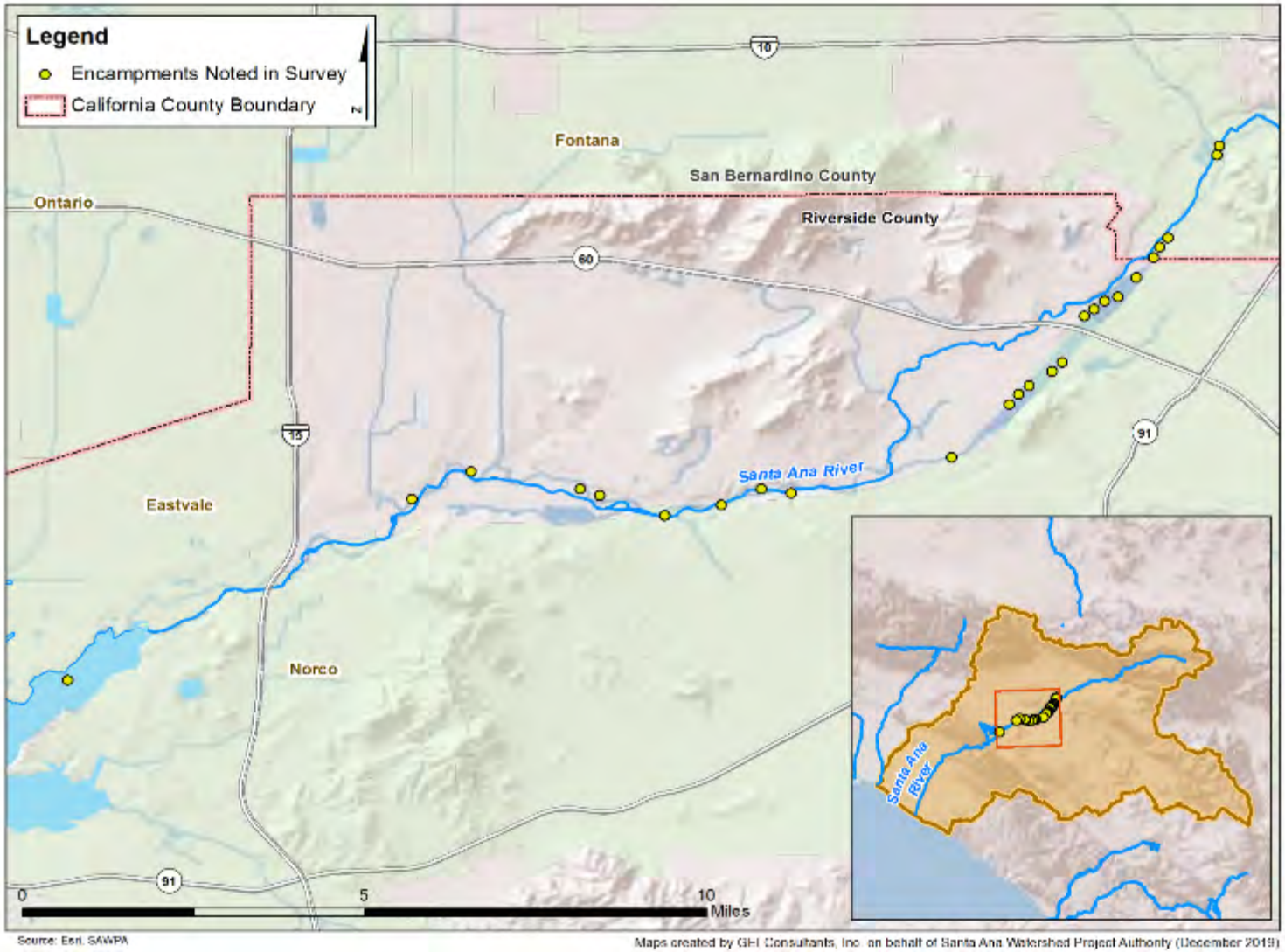

Figure 2-6. Locations of Homeless in the Upper Santa Ana River Watershed Noted during Santa Ana Sucker Riverwalk Survey, November 7, 2019 Based on notations in field forms provided by SAWPA)

- *Regional Water Quality Monitoring Task Force* – This Task Force is responsible for implementing the Regional Bacteria Monitoring Program[2] that implements the (a) surveillance and monitoring requirements for the Basin Plan amendment that revised the Recreation Standards for Inland Freshwaters in the Santa Ana Region;[3] and (b) the monitoring requirements established by the MSAR Bacteria TMDL.

Given the nature of this review of homeless encampments and their potential to impact water quality, the above Task Forces were briefed on the nature of this project in fall 2019.

2.2.2 San Bernardino County Sheriff Department

The San Bernardino County Sheriff Department is one of the lead agencies in the county to address homeless concerns. We met with Deputy Sheriffs Mike Jones, Mike Catalano and Aaron Halloway on September 10, 2019 to gather their insights, in particular with regard to the presence of homeless encampments in riverbeds. All serve in San Bernardino County's Homeless Outreach and Proactive Enforcement (HOPE) Program. HOPE is a pro-active approach intended to ultimately reduce calls for service and other resources currently required to deal with the homeless population. HOPE works to link the homeless population with resources and service providers throughout the county.

Figures 2-7 illustrates locations within two miles of the Santa Ana River mainstem where the county has had contact with homeless. The county database includes information on where contact occurs; it does not indicate that an encampment is present at that location. During the interview, the HOPE team provided the following information regarding where homeless encampment activity is typically found in the Santa Ana River study area:

- Santa Ana River, Orange Avenue to Palm Avenue, east of the Airport – Cluster of camps in this area, in particular along the shooting range.
- Santa Ana River, Along the Airport – No camps located noted in this reach.
- Santa Ana River, Tippecanoe Avenue to E Street/I-215 Fwy bridge – Largest concentration of camps are in this area (**Figure 2-8**). Based on most recent data, it is estimated that approximately 30 encampments are located in this reach with potentially up to 100 people in this area (an encampment is defined as having a tent; on the average there are 2-4 people per tent). In the opinion of the interviewees, the number of people in the camps in this area has increased over the past two years.

[2] Regional Bacteria Monitoring Program: https://sawpa.org/task-forces/regional-water-quality-monitoring-task-force/#geographic-setting

[3] Amendment to the Basin Plan approved June 15, 2012 (Resolution No. R8-2012-0001); approved by State Water Resources Control Board: January 21, 2014 (Resolution No. 2014-0005); USEPA: April 8, 2015.

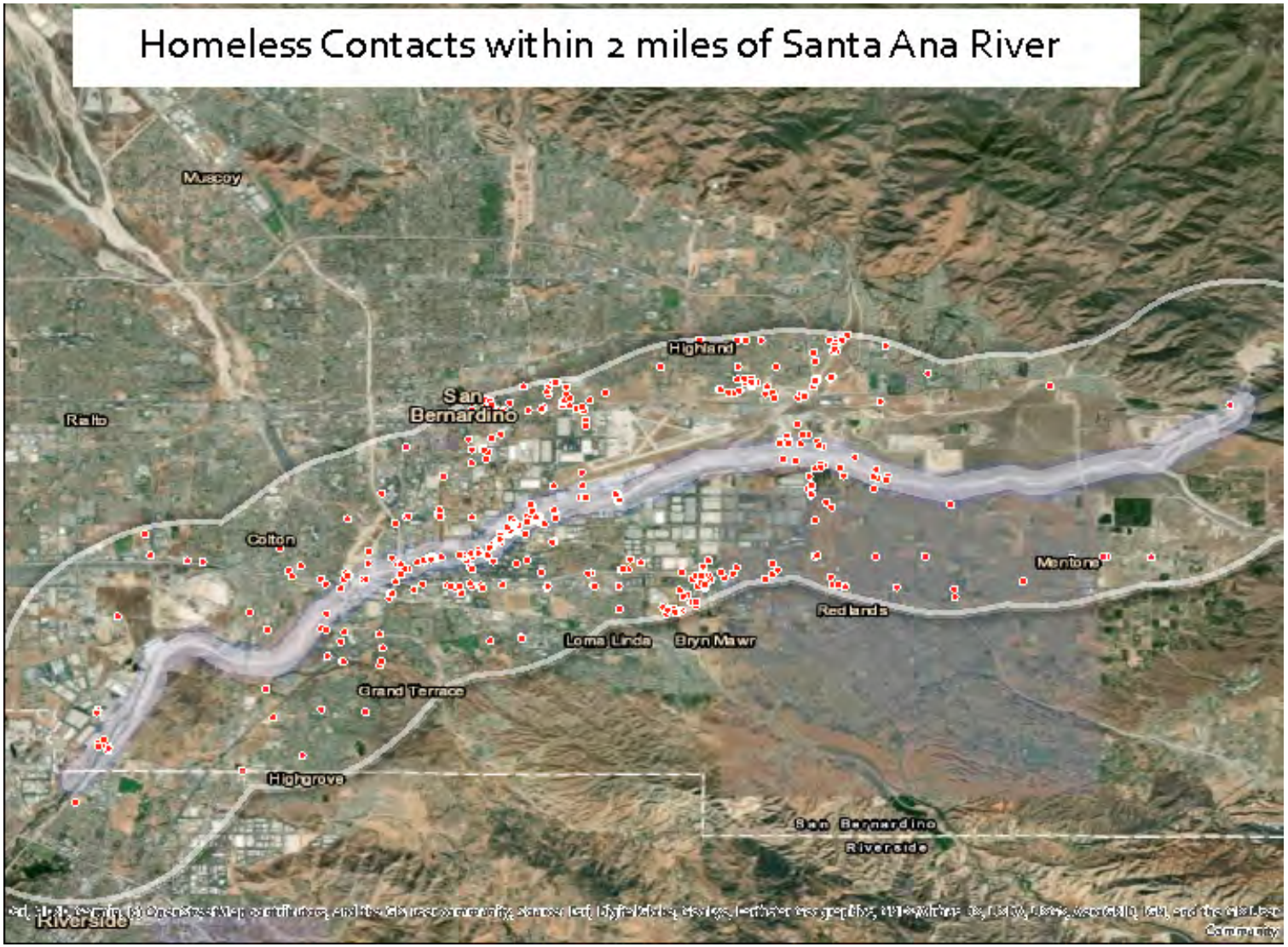

Figure 2-7. Records of Contacts with Homeless within Two Miles of the Santa Ana River in San Bernardino County (Map provided by the San Bernardino County Sheriff Department, October 10, 2019)

Figure 2-8. Records of Contacts with Homeless in Area with Highest Concentration of Encampments: Tippecanoe Avenue to E Street/I-215 (Map provided by the San Bernardino County Sheriff Department, October 10, 2019)

- Santa Ana River, Under I-215 bridge - Some camps are present, but not many.
- Santa Ana River, Below Lytle Creek Confluence - May get a few camps in this area. Considered “rural” as compared to upstream. Camps remain sparse until downstream beginning near the South Riverside Avenue Bridge.

In general, the highest concentrations of encampments in the Santa Ana River mainstem occur where there is the most water and, therefore, more instream vegetation. **Figure 2-9** is a closeup aerial image of the same area illustrated in Figure 2-8. As can be seen, this area of the river has significantly more vegetation providing cover for homeless encampments. **Figure 2-10** provides some example photographs of the encampments located in this area. The most important habitat impact observed by the HOPE Team has been the significant amount of trash (including needles). They have observed an encampment that was dug into the levee wall to create a living space.

Overall, the HOPE team estimates that the number of homeless in encampments in the upper Santa Ana River watershed within San Bernardino County outside of the mountains is 300-400. The next largest concentration of homeless in the County is in the Victorville area. They stated that they get few reports of homeless encampment activity on county lands in the mountains.

2.2.3 San Bernardino County Department of Public Works

We met with Arlene Chun, Stormwater Program Manager for the San Bernardino County Stormwater Program, and selected Public Works staff on September 11, 2019. They actively work with a variety of agencies to address homeless encampments in county facilities. The most significant homeless encampment problem in the past year has been in City Creek along the reach from the boundary with the National Forest downstream to Baseline Road (see Figure 2-4). **Figures 2-11 and 2-12** provide an overview of homeless encampments in the area involved in the most recent clean-up. The targeted camp was described as very large with multiple dwellings. **Figure 2-13** provides an example of the amount of trash in the area. **Figure 2-14** illustrates one area before and after the clean-up. All together more than 50 tons of trash were removed from the camp.

The Public Works staff stated that a typical homeless encampment could be described as a clearly-defined area with tents. On the average 2-4 people occupy the tents. The biggest impacts have been trash – especially what gets mobilized in flood control channels during wet weather events. Other impacts noted included accidental fire, impacted endangered species habitat, e.g., removing the undergrowth which can be important habitat for birds, and presence of pets which can impact local wildlife.

Figure 2-9. Aerial Imagery of the Mainstem Santa Ana River: Tippecanoe Avenue to E Street (Note the significant greening of the channel in this area – an indication of water at or near the surface to support increased vegetation, which provides cover for homeless encampments)

Figure 2-10. Examples of Homeless Encampments in Santa Ana River Upstream of I-215 Bridge (Photographs courtesy of the San Bernardino County Sheriff Department)

Figure 2-11. Location of City Creek Homeless Encampment Clean-up in San Bernardino County (see Figure 2-4 for location, potential for encampment activity to impact the MS4 in Cities of San Bernardino and Highland) (from presentation delivered by Arlene Chun, Stormwater Program Manager for the San Bernardino County Department of Public Works at the California Stormwater Quality Association [CASQA] Quarterly Meeting, May 9, 2019)

Figure 2-12. Location of Homeless Encampments in City Creek Clean-up Area (see Figure 2-4 for location , potential for encampment activity to impact the MS4 in Cities of San Bernardino and Highland) (from presentation delivered by Arlene Chun, Stormwater Program Manager for the San Bernardino County Department of Public Works, at the CASQA Quarterly Meeting, May 9, 2019)

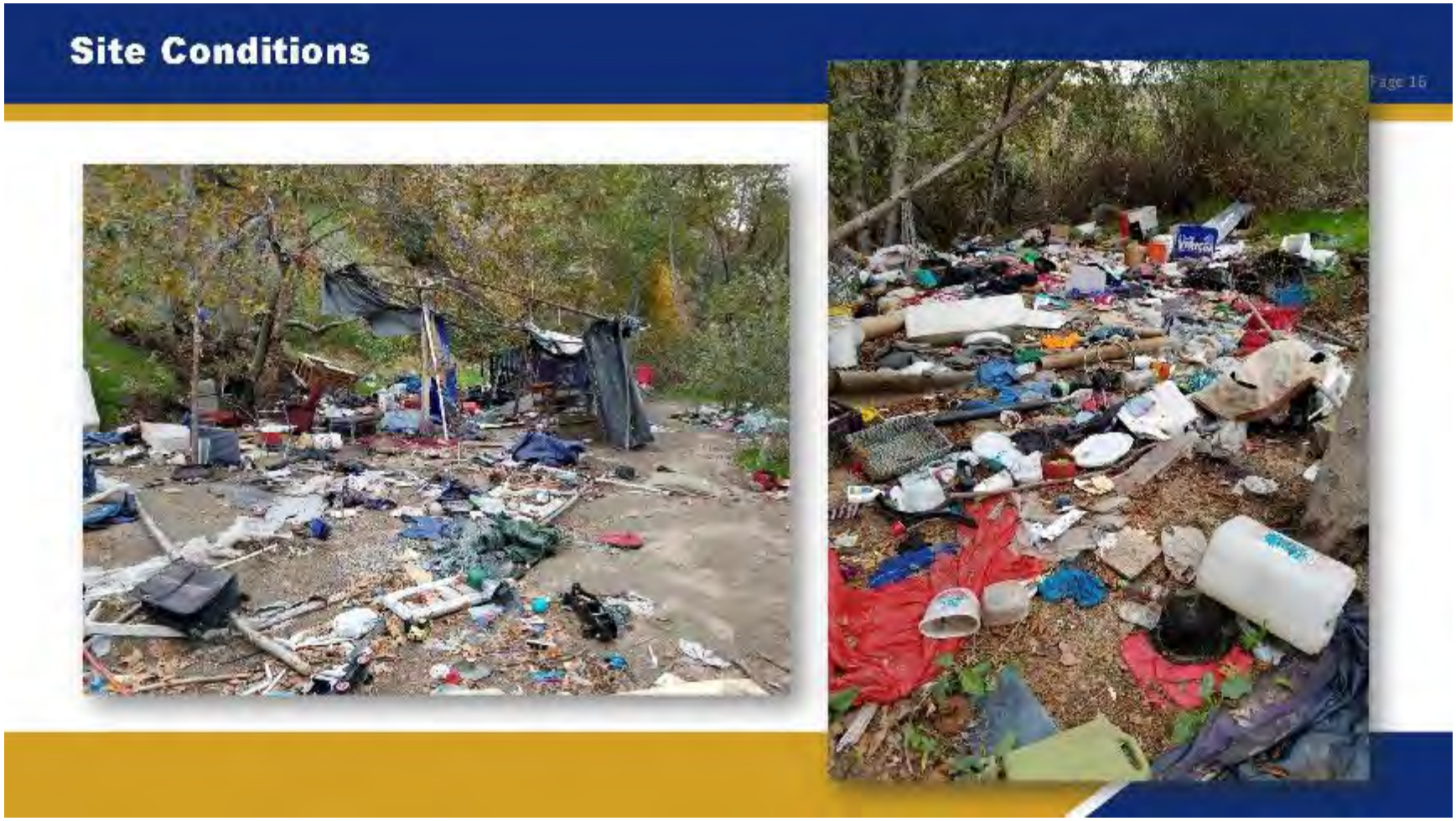

Figure 2-13. Example of Impacts from Homeless Encampments along City Creek (from presentation delivered by Arlene Chun, Stormwater Program Manager for the San Bernardino County Department of Public Works, at the CASQA Quarterly Meeting, May 9, 2019)

Figure 2-14. Example of Outcome after Clean-up of Impacts from Homeless Encampments along City Creek (from presentation delivered by Arlene Chun, Stormwater Program Manager for the San Bernardino County Department of Public Works, at the CASQA Quarterly Meeting, May 9, 2019)

2.2.4 Riverside County Flood Control & Water Conservation District

RCFC&WCD provided results of two drone surveys of the Santa Ana River from the Riverside County line downstream to the I-15 bridge. The first survey occurred in July 2018 from the Riverside County line downstream to < ½ mile below the Mission Boulevard bridge; the second survey occurred November 2018 from the lower end of the first survey to the I-15 bridge. RCFC&WCD staff reviewed the aerial imagery to note where encampments were likely present, based on characteristics such as presence of structures or trash/debris.

Figure 2-15 illustrates the results of these drone surveys. Combined, 286 homeless encampment locations were identified: 101 encampments in the upper portion of the area surveyed (over a distance of approximately 2.8 river miles) and 185 encampments in the lower portion of the surveyed area (over approximately 9.5 river miles). In the upper area surveyed, homeless encampments are concentrated in two areas: around the Mission Boulevard bridge and upstream of the 60 Fwy bridge. In the lower area surveyed most encampments were noted between the Van Buren Boulevard bridge upstream to along the Tequesquite Landfill. The largest cluster of homeless encampments in this reach was generally in the river along the Riverside RWQCP.

Figure 2-15 shows the locations where (a) water quality samples are regularly collected to evaluate compliance with the MSAR Bacteria TMDL; and (b) mainstem Santa Ana River sites included in the MSAR Bacteria Synoptic Study. All of these sample locations were recently sampled over a six-week period as part of the 2019 MSAR Bacteria Synoptic Study being implemented by the SAWPA MSAR Task Force. One of the interesting findings from that sample program was the sample results from August 14 that detected the presence of human source bacteria at the sample site located near the Mission Boulevard bridge crossing. This sample location is the middle of an area with a high concentration of homeless encampments.

In addition to providing the drone survey results, RCFC&WCD allowed us to attend a presentation by Natalie Komuro, Deputy County Executive Officer, Homeless Solutions, to the Riverside County MS4 Stormwater Managers on September 26, 2019. Ms. Komuro shared information regarding County procedures to address homeless encampments when identified (**Figure 2-16**) and the roles and responsibilities of key personnel designated to respond to a need to clean-up homeless encampments (**Figure 2-17**). These figures illustrate well the complexity of the process and issues that need to be considered when addressing homeless encampments.

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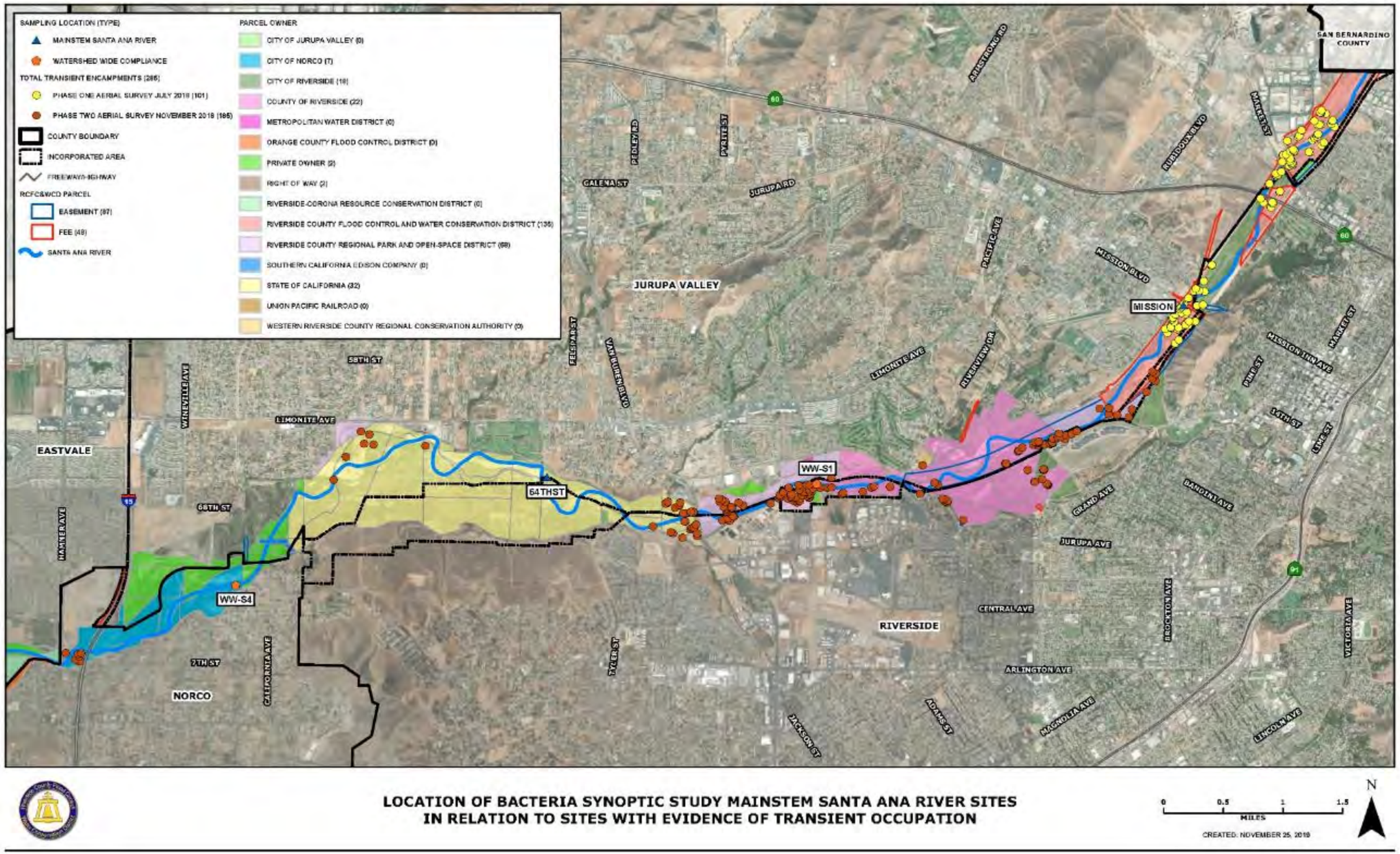

Figure 2-15. Documentation of Homeless Encampments along Santa Ana River between I-15 and Riverside County Line Based on 2018 Drone Surveys (Map provided by RCFC&WCD; figure includes locations of mainstem river and MSAR Bacteria TMDL compliance sites recently sampled as part of the MSAR Bacteria Synoptic Study)

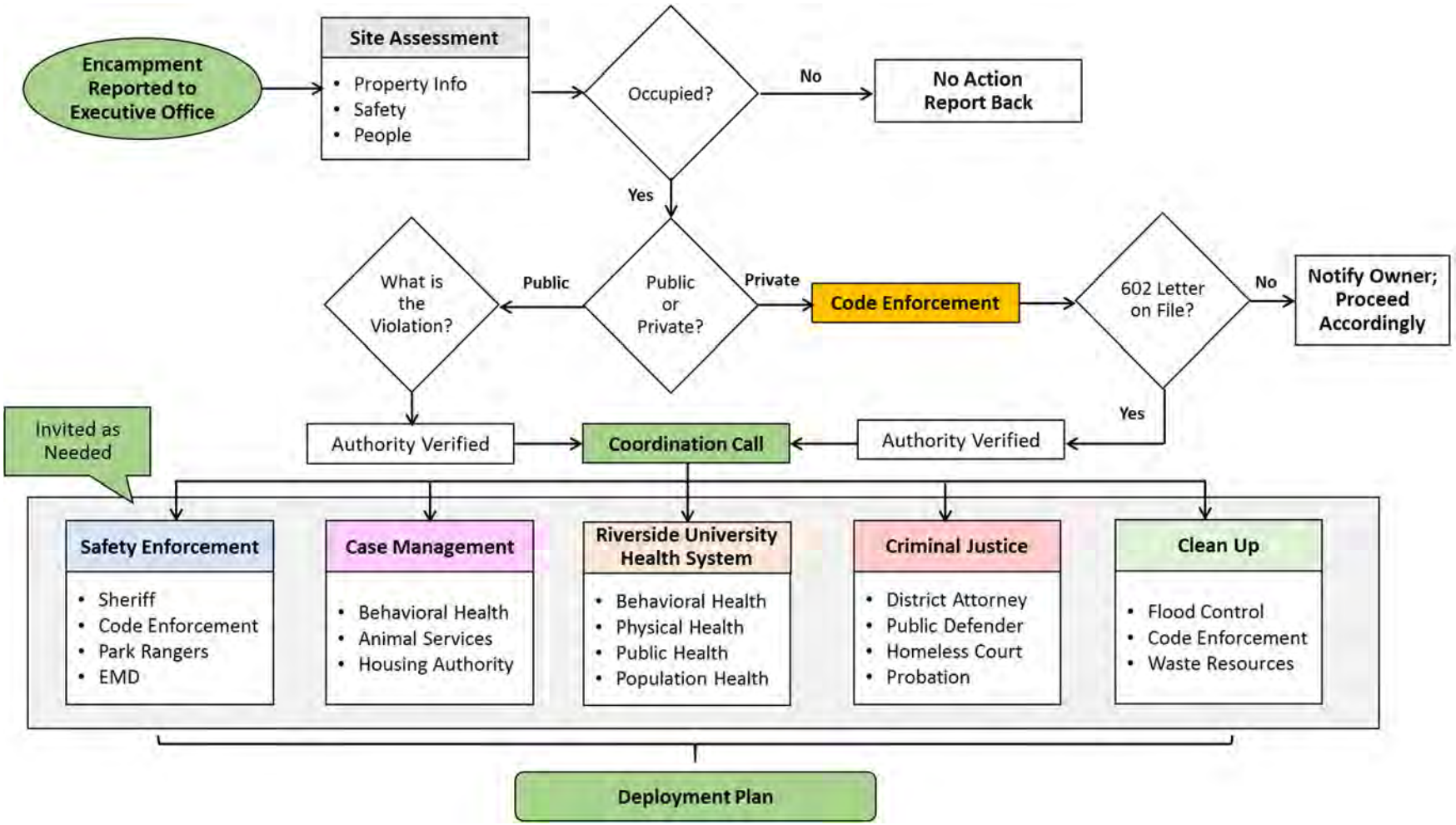

Figure 2-16. Process to Respond to a Report of an Encampment to the Riverside County Executive Office, August 30, 2019 (adapted from presentation by Natalie Komuro, Deputy County Executive Officer, Homeless Solutions, to Riverside County MS4 Stormwater Managers, September 26, 2019)

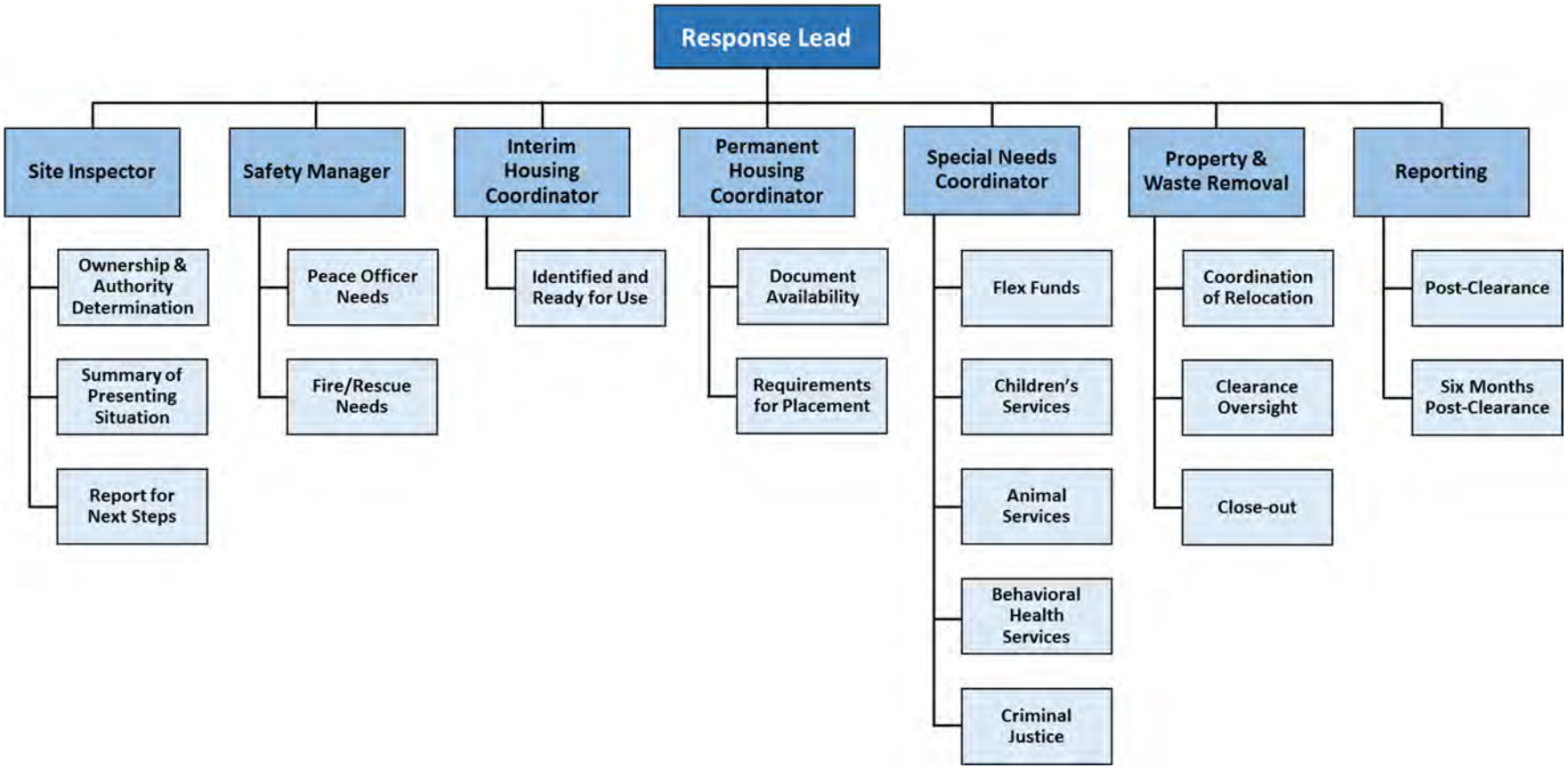

Figure 2-17. Encampment Response – Designated Roles and Responsibilities During Efforts to Clean-up a Homeless Encampment in Riverside County (Adapted from presentation by Natalie Komuro, Deputy County Executive Officer, Homeless Solutions, to Riverside County MS4 Stormwater Managers, September 26, 2019)

2.2.5 Inland Empire Waterkeeper

Inland Empire Waterkeeper (IEWK) has been working on homeless encampment issues and potential impacts to the Santa Ana River mainstem for many years. For example, through the Clean Camp Coalition trash services have been provided to individuals living within the riverbed.[4] We met with Megan Brousseau, IEWK's Associate Director, on September 9, 2019 to discuss IEW's efforts to evaluate and where possible address water quality concerns associated with homeless encampments in the Santa Ana River. As of February 2019, IEWK had documented 187 homeless encampments in an approximate eight mile reach of the Santa Ana River, generally from the Market Street bridge downstream to the Van Buren Boulevard bridge. A typical encampment includes 2-4 people meaning that it is likely that 400 to 800 people reside in the riverbed. IEWK stated that while camps move around some, the number of encampments and number of residents has remained similar over time. To address concerns regarding trash impacts from homeless encampments in the riverbed, IEWK led an effort to implement trash service in the area. IEWK's partner in this project, Rivers & Lands Conservancy, recently posted the following on Facebook regarding the outcome to date from implementation of the trash service program:[5]

> "It's been one year since we launched a weekly trash service for individuals experiencing homelessness in a targeted stretch of the Sant Ana River. Participants have helped remove over 13 TONS of trash to date that would have otherwise polluted the river environment! Thanks to our partners at Inland Empire Waterkeeper for spearheading the project and for inviting us to be part of such important work" (emphasis added).

IEWK has collected information on homeless encampment activity in the riverbed. They indicated that they can provide the following types of data: mapping of camp locations,[6] information on how camps may have changed over time, and photographs of impacts to habitat. Obtaining these data would require compensation to IEWK. At our request, they provided an estimate of up to $14,200 to provide the data listed above.

2.2.6 City of Rialto

Lynn Merrill and Associates, Inc. (LMA) is a consultant to the City of Rialto, representing the City on various environmental issues. We met with Lynn and Paul Merrill of LMA and Andy Minor, Geovironment Consulting (GC) on September 10, 2019 to obtain input on potential homeless encampments in the area below the City of Rialto's WWTP effluent

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[4] Guerre, Regina. 2018. Clean Camp Coalition Report submitted to the Inland Empire Waterkeeper. July 16, 2018.

[5] Rivers & Land Conservancy Facebook blogpost, December 18, 2019.

[6] Note if detailed mapping were provided, it is likely that much of this information would need to be kept confidential to protect the privacy of homeless living in the riverbed (personal communication, Megan Brousseau, IEWK Associate Director).

discharge. From July 31 to August 21, 2019 LMA and GC conducted weekly drone surveys of the channel that receives treated effluent from the City's WWTP and the Santa Ana River from where the effluent channel enters the river downstream to the South Riverside Avenue bridge. The purpose of the surveys was to evaluate the degree to which homeless encampments were present in their study area. **Figure 2-18** illustrates the area surveyed by drone on July 31 (similar areas were surveyed in subsequent weeks), and where homeless encampments and trash/debris were observed. Homeless encampments were observed in both the effluent channel and at the South Riverside Avenue bridge. **Figure 2-19** provides photograph examples of homeless encampment activity around the bridge.

2.2.7 Riverside Regional Water Quality Control Plant

We met with Ed Filadelfia, City of Riverside Public Works, Sewer Systems, on September 11, 2019 to discuss homeless encampment activity at the Riverside RWQCP's effluent outfall and along the Santa Ana River adjacent to their facility. **Figure 2-20** illustrates the location of the facility's effluent outfall to the Santa Ana River. The resulting effluent channel flows parallel to the mainstem Santa Ana River for a short distance before merging with the mainstem river near the Van Buren Boulevard bridge. Homeless encampment impacts are clearly visible in the aerial image (Figure 2-20). **Figure 2-21** illustrates additional examples of habitat impacts from homeless encampments.

As part of the interview, we walked along the Santa Ana River Trail down to Van Buren Boulevard Bridge crossing. Even though there is a fence along the Trail to keep people away from the effluent channel, on the day of the visit the fence was cut open, a common occurrence noted by Mr. Filadelfia. In addition to the area along the Riverside RWQCP, Mr. Filadelfia noted concerns with homeless encampment activity upstream along the Tequesquite Landfill.

2.2.8 Santa Ana Regional Water Quality Control Board

We met with Santa Ana Water Board staff (Adam Fischer, Barbara Barry, Nam Nguyen and Ray Akhtarshad) on September 10, 2019 to obtain their insights on homeless encampment activity in the project study area. The Board staff do not directly work on homeless encampment clean-up activities unless they receive a complaint. Instead, they rely on local jurisdictions to address any identified concerns.

Figure 2-18. Flight Path of Drone Surveys Conducted in Santa Ana River Reach between South Riverside Avenue Bridge and City of Rialto WWTP Effluent Channel (Drone survey conducted July 31, 2019 by Andy Minor, GC, on behalf of LMA representing the City of Rialto)

Figure 2-19. Presence of Homeless Encampments in the Santa Ana River at or Immediately Upstream of the South Riverside Avenue Bridge (Photographs taken in August 2019; courtesy of LMA, Inc. representing the City of Rialto)

Figure 2-20. Homeless Encampments in the Santa Ana Riverbed along Riverside RWQCP Upstream of the Van Bureau Boulevard Bridge. Note location of Plant's Effluent Outfall (Image courtesy of Ed Filadelfia, City of Riverside, Public Works, Sewer Systems)

Figure 2-21. Examples of Homeless Encampments in Santa Ana River Riparian Area Near the Riverside RWQCP Outfall (Photographs courtesy of Ed Filadelfia, City of Riverside, Public Works, Sewer Systems)

Beginning in 2017 Board staff conducted an audit of the Comprehensive Bacteria Reduction Plans (CBRP) for the Riverside and San Bernardino County MS4 Programs.[7] The CBRPs describe how the stormwater programs for each county will comply with the MSAR Bacteria TMDL requirements applicable to urban runoff within their respective jurisdictions. The resulting audit reports discussed homeless encampment issues in the study area.[8] As part of the discussion, the Santa Ana Water Board noted the following areas where homeless encampments have been noted by staff: Temescal Creek, in particular where it drains into Prado Basin, Santa Ana River along the Tequesquite Landfill, and in the Eastvale area, south and west of the sport complex/west of the I-15 crossing. Figure 2-15 above shows clusters of homeless encampments along the landfill and in the Eastvale area described above.

2.2.9 San Bernardino Valley Water Conservation District

The San Bernardino Valley Water Conservation District provided information on the upper part of the Santa Ana River upstream of the confluence of City Creek with Santa Ana River Reach 4. **Figure 2-22** illustrates the locations of the few camps located in this area in winter 2018. Staff noted that homeless encampments in this portion of the Santa Ana River are not common, likely due to the limited or non-existent water or vegetative cover.

[7] For example, RCFC&WCD. 2011. *Comprehensive Bacteria Reduction Plan*. Submitted to the Santa Ana Water Board June 28, 2011; approved February 10, 2012 (R5-2012-0015).

[8] Santa Ana Water Board. 2018. *MSAR Comprehensive Bacteria Reduction Plan Audit Report, Riverside County (R8-2020-0033)*. October 2018; Santa Ana Water Board. 2018. *MSAR Comprehensive Bacteria Reduction Plan Audit Report, San Bernardino County (R8-2020-0036)*. October 2018.

Figure 2-22. Homeless Encampments in the Santa Ana Riverbed Upstream of the Confluence of City Creek with the Santa Ana River (Provided courtesy of Daniel Cozad and Jeff Beehler, San Bernardino Valley Water Conservation District)

3.0 Literature Review Findings

A literature review of published literature, studies and reports was conducted to identify any additional information that may provide insight into the relationship between the presence of homeless encampments and impacts to water quality and riparian and aquatic habitats. The literature review primarily focused on California sources, but also included a review of sources outside California (mostly in the west). Our focus during the literature review was water quality and habitat impacts – not homeless policies, solutions, or management decisions. As will be seen below, finding a study or report relevant to the topics searched was rare. More often, we found that the available "literature" was often either news reports of local situations or regulatory documents related to water quality impairments where homeless encampments may be contributing to the impairment. The following subsections provide our findings:

- *Section 3.1, Summary of Literature Review Findings* - Provides a brief overall summary of the key findings from this literature review effort.
- *Section 3.2, Literature Review Findings Relevant to California Waterbodies* - Provides annotated summaries from a review of key sources of information from California waterbodies. Each source includes a link to the original information.
- *Section 3.3, Literature Review Findings from Outside of California* - Provides annotated summaries from a review of sources of information outside of California (focus was on the west). Each source includes a link to the original information.

3.1 Summary of Literature Review Findings

Following is a summary of the key findings from the literature review:

- The environmental impact concerns from the presence of homeless encampments in riverbeds in the upper Santa Ana River watershed are no different than what is observed in other areas. Key concerns include:
  - Trash - both the presence of the trash itself and the potential for the leakage of toxic chemicals from items in the trash;
  - Human waste disposal;
  - Degradation of riparian areas, including vegetation, habitat, and riverbanks;
  - Fish barriers created by large trash (e.g., shopping carts);
  - Impacts to the physical integrity of levees; and
  - Fire.

- While the concerns are broad and widespread, we did not find any study that clearly demonstrates a direct relationship between the presence of homeless encampments and poor water quality, e.g., elevated bacterial indicators. Any statements regarding impacts to water quality are anecdotal and based on assumptions regarding the expected impacts.
- This lack of direct data demonstrating an impact from homeless encampments may be addressed at least in part through a developing Southern California Coastal Water Research Project (SCCWRP) study in the in San Diego River watershed (see Section 3.2.3 below). However, even though SCCWRP is designing a study to evaluate direct water quality impacts, the proposed study demonstrates how difficult it is to design a study to collect sufficient data to test hypotheses regarding the expected impact of homeless encampments on water quality.
- While no water quality data have been found, data on trash volume has been reported in other areas. However, there is insufficient information at this time to relate numbers of homeless encampments or numbers of campers to volumes of trash present.
- While searching for information to support this literature review effort, we found one source where the concern was about the potential impact of homeless encampments on the quality of the water supply (see Section 3.2.2 below). While the article noted that the concern was misplaced (the waterbody was not a drinking water source), it does illustrate the potential for misperception of potential impacts from homeless encampments in waterways.

3.2 Literature Review Findings Relevant to California Waterbodies

As was noted in the summary above, data on direct impacts to water quality are difficult to find, but conclusions regarding likely impacts are not uncommon. For example, a recent California Healthline article discussing potential impacts from homeless encampments on water quality included the following comment from the Executive Officer of the San Francisco Regional Water Quality Control Board:

> "…But the regional water boards, which make key water quality decisions for their regions and take enforcement actions when necessary, aren't testing to determine if and how homeless encampments affect water quality.
>
> Contamination from homeless camps is so easy to observe — and smell — that there is no 'need to monitor to know there's a problem,' said Thomas Mumley, executive officer of the San Francisco Bay Regional Water Quality Control Board, which stretches from Napa County to Santa Clara County.
>
> If there are no bathrooms in or near a homeless encampment, 'we can assume there's a discharge of waste' where there shouldn't be, he said."

Almendrala, A. 2020. *Fecal Bacteria In California's Waterways Increases With Homeless Crisis.* California Healthline Daily Edition. January 6, 2020.

https://californiahealthline.org/news/fecal-bacteria-in-californias-waterways-increases-with-homeless-crisis/

The following sections provide information that was obtained from reports and news articles discussing water quality and habitat concerns from homeless encampment activity in specific watersheds across the State of California.

3.2.1 Santa Ana River

3.2.1.1 California State University Fullerton

California State University, Fullerton, in coordination with IEWK, conducted a study to characterize water quality issues in Santa Ana River Reach 3 as part of an effort to evaluate concerns of people in homeless encampments along the river being exposed to poor water quality. Findings from the study are reported in the following university report:

Gedalanga, P., L. Nguyen, and C. Puga. 2019. *Microbial Source Tracking at the Santa Ana Watershed.* California State University, Fullerton. August 2018 - June 2019.

Overall, the study evaluated the relationship between areas with high human activity and water quality using microbial source tracking techniques. Per the study's executive summary:

> "While human activities were implicated as a potential source of fecal contamination in the Santa Ana River, [the study was] unable to differentiate among the diverse human-related activities occurring in the Santa Ana River such as wastewater effluent discharges, recreational uses, and/or homeless populations."

3.2.1.2 San Bernardino Valley Municipal Water District

The San Bernardino Valley Municipal Water District has proposed constructing and maintaining four tributary restoration sites and create a Mitigation Reserve Program along the Upper Santa Ana River. The four project sites are Anza Creek, Old Ranch Creek, Lower Hole Creek, and Hidden Valley Creek. The purpose of the proposed project is to reestablish, enhance, rehabilitate, and/or preserve jurisdictional aquatic resource habitat and/or improve conditions for Santa Ana sucker. Two relevant documents were reviewed:

- San Bernardino Valley Municipal Water District. 2019. *Upper Santa Ana River Tributaries Restoration Project and Mitigation Reserve Program; Draft Environmental Impact Report.* Prepared by ICF. April 2019. https://www.sbvmwd.com/Home/ShowDocument?id=6225
- San Bernardino Valley Municipal Water District. 2018. *Upper Santa Ana River Tributaries Restoration Project Initial Study.* Prepared by ICF and Stillwater Sciences. July 2018. https://www.sbvmwd.com/Home/ShowDocument?id=5936

Generally documented impacts include channel blockages from human modification to channels such as log paths and dam construction, as well as from debris such as garbage and

shopping carts. These blockages can be barriers to fish passage. Concerns regarding trash were documented throughout project area. The description of the conditions around the Old Ranch Creek site west of the Tequesquite Landfill includes:

> "The site is heavily used by the homeless population in the area, entailing encampments and excessive trash littered throughout the site. In particular, trash includes multiple cathode-ray television sets that were observed smashed in the river channel. Other trash includes large and small appliances such as refrigerators and microwaves. Electronics and appliances of this kind are a source of heavy metal contamination and represent a human and wildlife health risk. Other types of trash, including concrete construction debris, clothes, and plastic, were pervasive throughout the channel but concentrated in the upstream portion. The trash on the sites may also include other household hazardous waste items including medical waste (syringes and lancets). Household hazardous waste refers to used or leftover contents of consumer products that contain materials with one of the four characteristics of a hazardous waste: toxicity, ignitability, corrosivity, or reactivity."

A final Environmental Impact Report (EIR) was recently released for the proposed project:

- San Bernardino Valley Municipal Water District. 2019. *Upper Santa Ana River Tributaries Restoration Project and Mitigation Reserve Program; Final Environmental Impact Report.* Prepared by ICF. November 2019. https://static1.squarespace.com/static/53920f34e4b05366f07d971c/t/5dc30ce3dd9e64690d117e2a/1573063957594/UpperSAR_Restoration_Final_EIR_Nov2019.pdf

This document summarizes homeless encampment concerns raised during development of the draft EIR and provides responses regarding how such concerns will be addressed.

3.2.2 San Gabriel River Watershed

A recent news article in the San Gabriel Valley area illustrates how the public can become concerned about the safety of their drinking water given the presence of homeless encampments in riverbeds. The article first raised the concern of potential impacts from homeless encampments on drinking water, but then clarified that the source of delivered drinking water was from uncontaminated groundwater that was treated before it was delivered.

Yee, Christopher. 2019. *Is the San Gabriel Valley's Water at Risk Due to Homeless Camps along the San Gabriel Riverbed?* San Gabriel Valley Tribune. September 17, 2019. https://www.sgvtribune.com/2019/09/17/is-the-san-gabriel-valleys-water-at-risk-due-to-homeless-camps-along-the-san-gabriel-riverbed/

The article referenced an NBC 4 report that suggested that water in the San Gabriel River was contaminated by homeless living along the riverbed and that the community was at risk as this was the source of their drinking water.

NBC 4 Video: https://www.nbclosangeles.com/news/local/streets-of-shame/homeless-camps-azusa-san-gabriel-valley-threaten-water_los-angeles/1965242/

Per the above referenced article, Ken Manning, Executive Director of the San Gabriel Basin Water Quality Authority, clarified that drinking water is obtained from groundwater and that it is treated before it is delivered to anyone's tap. No contamination of groundwater has been detected.

3.2.3 San Diego Area

3.2.3.1 San Diego River

The Executive Officer of the San Diego Regional Water Quality Control Board (San Diego Water Board) recently commented on concerns regarding homeless encampments in the San Diego River:

> "'I've carried 5-gallon buckets that were unambiguously being used as toilets,' said David Gibson, executive officer of the San Diego Regional Water Quality Control Board, describing his experience cleaning up homeless encampments. 'They were taking it to the San Diego River, dumping it there, and rinsing it out there.'"

Almendrala, A. 2020. *Fecal Bacteria In California's Waterways Increases With Homeless Crisis.* California Healthline Daily Edition. January 6, 2020. https://californiahealthline.org/news/fecal-bacteria-in-californias-waterways-increases-with-homeless-crisis/

The above statement reinforces the basis for the San Diego Water Board recently issuing an Investigative Order to public agencies to evaluate sources of bacteria to the San Diego River and downstream waters:

San Diego Water Board. 2019. *Investigative Order No. R9-2019-0014 - An Order Directing the City of San Diego, the City of Santee, the City of El Cajon, the City of La Mesa, the County of San Diego, the San Diego County Sanitation District, the Padre Dam Municipal Water District, San Diego State University, the Metropolitan Transit System, and the California Department of Transportation To Submit Technical and Monitoring Reports to Identify and Quantify the Sources and Transport Pathways of Human Fecal Material to the Lower San Diego River Watershed*. June 12, 2019. https://www.waterboards.ca.gov/sandiego/board_decisions/adopted_orders/2019/R9-2019-0014.pdf

While potential sources of bacteria to the river are likely diverse, the Order includes a requirement to evaluate the impact of homeless encampments on water quality. Per the San Diego Water Board's Press Release:

San Diego Water Board. 2019. *Ten Public Agencies Are Ordered to Investigate their Systems for Discharges of Human Waste into the Lower San Diego River; Poor Ocean Water Quality*

Is Making Surfers, Beachgoers Sick. California Water Board Media Release. June 12, 2019. https://www.waterboards.ca.gov/sandiego/press_room/press_releases/docs/pr061219_FNL.pdf

> "Ten public agencies suspected of discharging human fecal waste into the Lower San Diego River and its tributaries today were ordered to investigate and identify the sources of the harmful material and report the extent of their involvement to the San Diego Water Board… Based on the best available information, these potential sources include:
>
> - Overflows and leakage from publicly owned sewer collection systems
> - Discharges and leakage from private pipelines
> - Faulty septic systems on residential properties
> - Homeless encampments located near the Lower San Diego River and its tributaries."

Within 180 days of the effective date of the Investigative Order (unless extended), the responsible parties must submit an Investigative Study Work Plan. The Investigative Order references a February 20, 2019 draft workplan proposal from SCWWRP that is anticipated will form the basis for the studies to be completed under the Investigative Order:

SCCWRP. 2019. *Quantifying Sources of Human Fecal Contamination Loading to the San Diego River: A Conceptual Workplan developed by the Southern California Coastal Water Research Project*. February 20, 2019. https://www.waterboards.ca.gov/sandiego/water_issues/programs/san_diego_river_io/docs/Fecal_Loading_Workplan_20190314.pdf

Task 4 in the draft workplan proposal, Quantifying Direct Inputs from Homeless Encampments, provides an approach to evaluate water quality impacts from homeless encampments, but notes the significant challenges expected to be encountered in such a study. For example, SCCWRP estimates that the necessary sample size to confirm water quality impacts from homeless populations for a basic upstream/downstream study would be 30 sample events for dry weather and 60 samples collected during storm events to evaluate wet weather impacts.

SCCWRP has previously written on the challenges of identifying sources human fecal material in the San Diego River watershed:

Steele, J., J. Griffith, R. Noble and K. Schiff. 2017. *Tracking Human Fecal Sources in an Urban Watershed During Wet Weather.* Southern California Coastal Water Research Project. Technical Report 1002. October 2017. http://ftp.sccwrp.org/pub/download/DOCUMENTS/TechnicalReports/1002_HumanMarkerTracking.pdf

> "It appears that human fecal inputs occur ubiquitously throughout the San Diego River watershed during wet weather. HF183 was detected at every site in both

> sampled storm events. This ubiquitous human signal occurred in both large and small tributaries, and along the mainstem…There are potentially four sources of HF183 in the San Diego River watershed; exfiltration from the sewage collection system, septic system contributions, direct deposition from homeless populations, and illegal discharges of human sewage to the storm drains (e.g., discharges from recreational vehicles or connection of sewage laterals to the storm drain system)."

Regarding homeless encampments as a source, SCCWRP states:

> "There are an estimated 300 people living in encampments along the San Diego River between the city of Santee and the coast. It is unknown how many homeless use the river or its banks as a latrine. In-stream inputs of HF183 along the river were estimated near 15% in 2017, however, HF183 has also been detected upstream of the camps. Therefore, the homeless population is not the sole source of human fecal inputs in the river. The HF183 concentrations did appear to be related to storm size, so higher flood waters might result in more fecal material from the banks being washed into the river."

3.2.3.2 Other San Diego Area Examples

Concerns with homeless encampments and their potential to impact habitat and water quality have been documented in the San Diego Area. Two examples from news articles include:

Puterski, Steve. 2019. *Homeless Camps Jeopardizing Habitat in Vista*. The Coast News Group. January 31, 2019 – https://www.thecoastnews.com/homeless-camps-jeopardizing-habitat-in-vista/

The Vista City Council approved an amendment to its Biological Preserve Overlay Zone to address homeless encampment concerns in La Mirada Canyon. Mayor John Franklin described the homeless camps as looking like a landfill with thousands of pounds of discarded trash, which results in huge quantities of waste running off into the watershed. John Conley, Community Development and Engineering Director, stated that the unauthorized use in these areas is damaging sensitive habitat and water quality.

Curlee, Doug. 2017. *Homeless Encampment an 'Ecological Disaster.'* Mission Times Courier. May 19, 2017. https://missiontimescourier.com/homeless-encampment-an-ecological-disaster/

During a cleanup of the San Diego River in Grantville, River Park Foundation CEO Rob Hutsel estimated that they would remove 100,000 pounds (lbs) of trash and garbage out of the site. Hutsel was concerned with how much hazardous material and trash was released into the San Diego River during recent floods. The goal of cleanup was to remove trash and begin repairing the riparian habitat. Dave Gibson, Executive Officer of the San Diego Water Board, stated:

> "What people don't know, but should know, is that encampments like this use the San Diego River as an open-air toilet, and this puts dangerous human pathogens in

> the river," he said. "You can compare it to what happens when there's flooding in the Tijuana River valley down south. Human waste carries dangerous pathogens that can sicken people all along the river route, all the way down to our beaches. People can die from the effects of those waste products. And we know this is far from the only such problem along the river route. We don't really know how many such encampments there are, and we need to find out and do whatever is necessary to put a stop to it."

3.2.4 Contra Costa County

Contra Costa County commissioned research on homelessness in relation to its requirements to manage water quality in association with the implementation of its stormwater discharge permit. The following sources provide information from research conducted in this area.

Saneta DeVuono-Powell. 2013. *Homeless Encampments in Contra Costa County: A Report for the Contra Costa County Flood Control and Water Conservation District.* Summer 2013. https://www.contracosta.ca.gov/DocumentCenter/View/27388/Homeless-Encampments-in-Contra-Costa-County-Report?bidId=

Contra Costa County Flood Control & Water Conservation District (CCFC&WCD) saw the presence of homeless encampments in county waterways as a concern regarding compliance with permit requirements to reduce pollution. The ten month study of camps and their residents resulted in the development of a number of management recommendations for agency adoption to reduce pollution caused by camps.

The report provides information on the types of camps observed in the study area, e.g., Old-timer, Newcomer and Veteran camps. The potential impacts on the environment from these different types of camps varied, but with regards to human waste disposal the distinctions were not as clear. For example, while Old-timer and Veteran camps were more likely to have designated toilet areas or functional outhouses, how human waste was actually disposed of was unclear.

While the reported impacts to habitat and water quality are no different than what is observed in southern California (e.g., see community meeting presentation[9]), the timing of the report in 2013 is interesting in that it provided an early warning of the challenges ahead for resource agencies responsible for the management of surface water resources:

> "[CCFC&WCD] (and other water districts) face a huge challenge, one that is unlikely to disappear any time soon. Perhaps the largest impediment to resolving the question is the fact that even where the complexity is grasped and there is a

[9] https://www.contracosta.ca.gov/DocumentCenter/View/29632/Homeless-Presentation-Walnut-Creek-Community-Meeting-2014-03-12?bidId=,

> willingness to address the systemic issues implicated, the local agencies that are dealing with the problem do not have the capacity to implement many meaningful measures alone. This means that in addition to contending with rigorous environmental requirements, the specific characteristics of the populations within the encampments and the particular landscape of the area, competing mandates, jurisdictional complexity and political pressure the agency must also implement strategies that involve other government agencies, non-governmental agencies and charities. All of which requires time and money, something that most county agencies today do not have in excess."

This 2013 conclusion is now routinely playing out in many jurisdictions. The need for a collaborative response is now the norm as shown in Figures 2-16 and 2-17 that illustrate the homeless encampment reporting process and roles and responsibilities when cleanups are initiated.

Subsequent to the 2013 Report, Contra Costa County created a document titled: *Contra Costa County Homeless Camps: Improved Risk Assessment for Targeted Interventions* (date unknown) (https://www.contracosta.ca.gov/DocumentCenter/View/27390/Suitability-Map?bidId=). The purpose of the document was to develop an assessment method for determining where homeless encampments were most likely to become established based on landscape features (e.g., nearness to a waterbody or intersection of the waterbody and a highway and walking/biking distance to services). While the methodology was intended to assist resource agencies with planning efforts for directing resources, the document includes the following conclusion:

> "Knowing what spots are considered appropriate for camps from a homeless perspective can help the county. Eradicating all of these sites without providing alternative housing opportunities will not be effective. In the past year the county has cleared 3 sites 63 times. To mitigate pollution, County should use this data to target areas for garbage collection, sanctioned sites or targeted services in some suitable areas, based on an assessment of their interests."

3.2.5 Santa Clara County

3.2.5.1 Santa Clara Valley Water District

Santa Clara Valley Water District presented a summary of its efforts to address impacts from homeless activities to waterways in its jurisdiction a the 2018 CASQA annual meeting:

Struve, Kirsten and E. Wilkinson. 2018. *Every District Counts, What One Special District is Doing to Reduce the Pathway of Encampment Trash to Waterways*. Presentation by Santa Clara Valley Water District at the CASQA 2018 Annual Conference.

A presentation by the Santa Clara Valley Water District (SCVWD) provided a wide range of illustrations of the types of habitat damage that can occur because of homeless encampment impacts, including not only the expected trash buildup, but bank excavations, wildfires and debris disposal that can create fish barriers (**Figures 3-1 through 3-5**).

In addition to photographic evidence, SCVWD has also been collecting information on the number of encampment cleanups (**Figure 3-6**) and annual volume of trash removed from sites between 2014 and 2018 (~10,000 to 17,000 cubic yards) (**Figure 3-7**).

3.2.5.2 Guadalupe River Watershed Study

A study that evaluated the environmental impacts of homeless encampments was completed in the Guadalupe River watershed in Santa Clara County in 2013:

White, Courtenay. 2013. *Environmental Impacts of Homeless Encampments in the Guadalupe River Riparian Zone*. Masters Thesis. Royal Roads University, British Columbia, Canada. November 19, 2013. https://viurrspace.ca/bitstream/handle/10170/665/white_courtenay.pdf?sequence=1&isAllowed=y

Figure 3-1. Example of Riverbank Impacts (from Struve and Wilkinson 2018)

Figure 3-2. Example of Riverbank Impacts (from Struve and Wilkinson 2018)

Figure 3-3. Example of Riverbank Impacts (from Struve and Wilkinson 2018)

Figure 3-4. Example of Habitat Impacts from Fire (from Struve and Wilkinson 2018)

Figure 3-5. Example of Aquatic Habitat Impacts (from Struve and Wilkinson 2018)

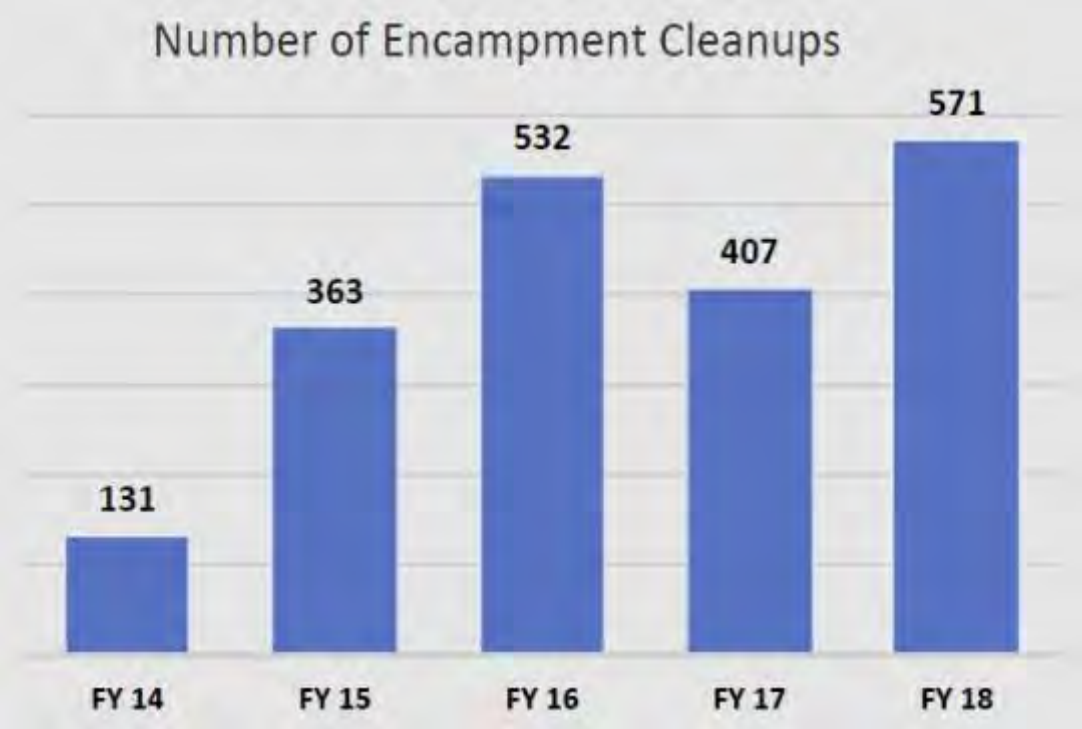

Figure 3-6. Trend in Number of Encampment Clean-ups Over Five Year Period in Santa Clara County (from Struve and Wilkinson 2018)

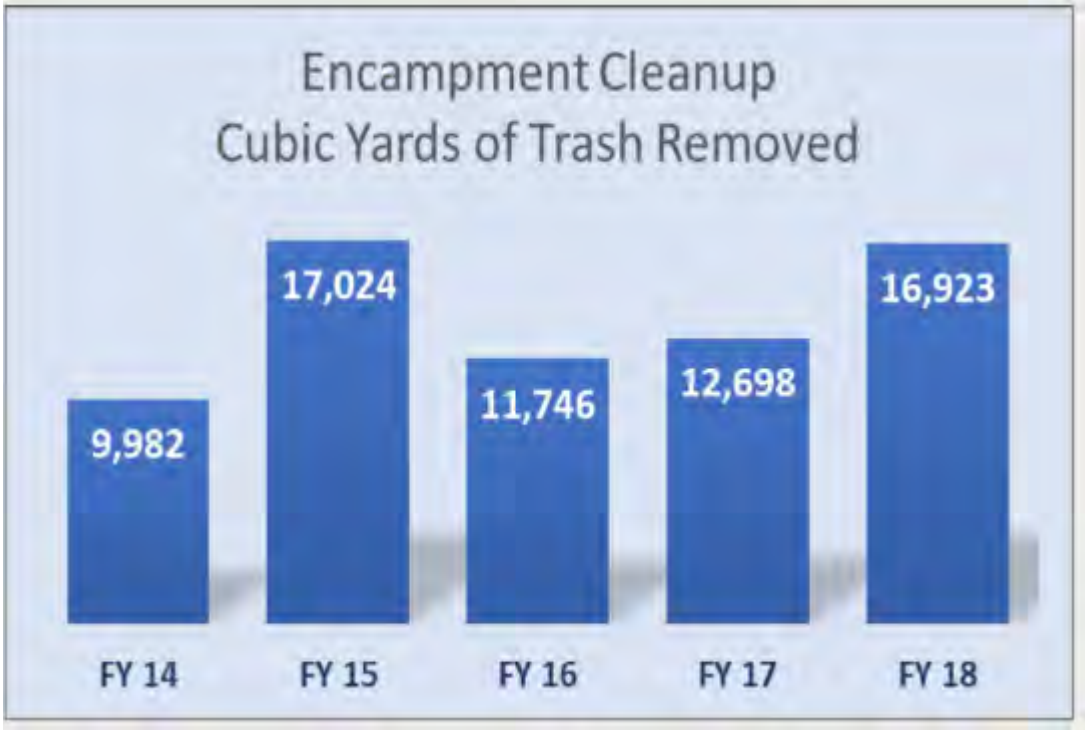

Figure 3-7. Trend in Encampment Clean-up of Cubic Yards of Trash Over Five Year Period in Santa Clara County (from Struve and Wilkinson 2018)

This study focused on the impacts of homeless encampments along San Jose's Guadalupe River. Field data consisted of trash collection within encampments in the riparian zone, and also included examination of other impacts such as stream-bank alteration, destruction of vegetation, and wildfire incidences. Three sample locations were chosen which represented heavy, moderate, and minimal usage by the homeless population. Baseline trash volumes were collected and subtracted from the average total trash volume determined over four sampling events to determine trash attributable to homeless activity. Trash was categorized into cigarette waste, fabrics/clothing, food packaging, miscellaneous paper, and miscellaneous plastic, with the highest total volume being fabrics/clothing with 3295.5 cubic meters (m^3). In addition to the categories above, large item such as lumber and shopping carts were observed/documented. **Table 3-1** below provides the measured trash volume at the three study sites with the "adjusted average" representing the average volume of trash attributable to homeless activity.

The author assumed that the majority of the plastic material observed contains endocrine-disrupting compounds that would be leached to the soil and water. Pharmaceuticals and Personal Care Products (PPCPs) were only a small volume of the debris (88.2 m^3); however, discharge of PPCPs into surface water has the potential to affect freshwater organisms, and may infiltrate the alluvial aquifer.

Total number of streambank alterations were also recorded at all three study sites and averaged per sampling event (Table 3-1). Examples of streambank alterations documented include terracing and trail building which affects slope stability and causes erosion and sedimentation in the stream channel.

Table 3-1. Trash Volume and Number of Streambank Alterations Observed (adapted from White 2013)

Sample Site (Level of Usage)	Trash Total (m^3)		Streambank Alterations	
	Average Trash (m^3)	Adjusted Average Trash (Attributed to Homeless Activity) (m^3)	Total No.	Average No. per Sample Event
Minimal	787.5	525	4	1
Moderate	2062.5	1500	23	5.75
Heavy	2212.5	2025	21	5.25

3.2.6 Sacramento Area

3.2.6.1 Water Quality Impacts

There have been a number of articles from the Sacramento area that document concerns regarding potential impacts from homeless encampments – water quality and physical integrity impacts to levees:

Branan, B. 2017. *Lower American River contains unsafe levels of E. coli. Are homeless camps to blame?* The Sacramento Bee. August 27, 2017. https://www.sacbee.com/news/investigations/the-public-eye/article169515922.html

In a report summarizing results from 2007 to 2014, *E. coli* was higher than the EPA standard at three sites in the westernmost section of the American River Parkway near downtown Sacramento. Although the exact cause was not identified, these sites were near the highest concentration of homeless encampments. Andrew Altevogt, of the Central Valley Regional Water Quality Control Board indicated that staff were still investigating the exact causes of the elevated bacteria but "clearly it comes from animal and human waste, including from the homeless camps along the lower American River between the Nimbus Dam and the Sacramento River".

Local residents observed the following: (a) Campers along Steelhead Creek (tributary to the American River) place toilet seats on plastic containers and then dump the waste into the creek; (b) during high water events human waste and other harmful waste from camps is discharged into the American River; and (c) "we have seen people dumping human feces in the water…People swimming in the water don't need turds floating around them."

3.2.6.2 Levee Impacts

Heap, B. 2019. *Could be Catastrophic: Homeless Camps on Sacramento-area Levees Cause Concern*. KRCA3. May 10, 2019. https://www.kcra.com/article/could-be-catastrophic-homeless-camps-on-sacramento-area-levees-cause-concern/27440429

This is a recently published article regarding the potential for homeless encampments built on levees to cause flooding risks in the Sacramento-San Joaquin Valley. The primary concern is that the camps carved into the sides of levees can in some places go as deep as eight feet into the levee. According to an interviewed civil engineer, these cuts could potentially weaken the structure if the water reaches the camps:

> "A very small hole results in damage to hundreds of thousands of people, or tens of thousands of people…homeless people have been digging into and damaging levees underneath Interstate 5 in a number of places in the Valley, including the Smith Canal…We've had a situation on Smith Canal, where we've repaired it three times in the last six years and they've destroyed it every time…"

Documentation developed by Reclamation District 1000 in the Sacramento area provided a more detailed description of levee concerns:

Reclamation District 1000. 2019. *Agenda Item No. 6.3: Review and Consider Authorizing the General Manager to Submit a Letter to the Appropriate Agencies Requesting Assistance with the Immediate Removal of Unauthorized Encampments on the District Levee System, which Impede the District's Ability to Perform its Public Safety Responsibilities to Monitor, Maintain, Rebuild, Construct and Operate the Levee System.*

https://www.arfcd.org/files/d956e9fa1/9a.+RD+1000+Unauthorized+Encampment+Policy+-+City+Enforcement.pdf

We have directly quoted much of the source and incorporated associated figures to best illustrate the Reclamation District's concerns:

> "The District is currently experiencing a rapid and unprecedented increase in unauthorized encampments along the District's Levee System. These encampments pose a risk to public safety within and around the Natomas Basin, as they impede the District from carrying out its responsibility to monitor, maintain, rebuild, construct and operate the Levee System. Specifically, due to the nature of the encampments, the District is unable to ensure the Levee System is protected from potentially dangerous degradation of the levees.
>
> For the majority of the two-month period from February 14, 2019 through April 11, 2019, the District was on 24-hour monitoring patrols due to elevated river elevations. During this same time period, the number of unauthorized encampments exponentially increased on the Levee System, as the flood channels swelled, the inhabitants moved to higher ground atop the levees. On March 25, 2019, the District was alerted to an excavation into the levee at an abandoned encampment near Northgate Boulevard along the Garden Highway. Figures 1 and 2 [**Figures 3-8 and 3-9** below]…show the excavation and damage at the abandoned encampment site.
>
> By April 4, 2019, when the District returned to monitor the excavation and ensure stability of the site, the site had been completely covered over again by tarps, tents and other debris. Figure 3 [**Figure 3-10** below], shows the re-established encampment, as seen by the District on April 4, 2019.
>
> Figure 3 [Figure 3-10] is typical of the encampments along the District's Levee System. Due to the nature of the unauthorized encampments, it is nearly impossible for the District to visually inspect the system. Without the ability to pull back the tarps and tents, there is no way to know if the levee system is protected."

3.2.7 Russian River

The North Coast Regional Quality Control Board (North Coast Water Board) is in the process of establishing a TMDL to address bacterial indicator impairment in the Russian River:

North Coast Water Board. 2019. *Draft Staff Report for the Action Plan for the Russian River Watershed Pathogen Total Maximum Daily Load*. May 2019. https://www.waterboards.ca.gov/northcoast/water_issues/programs/tmdls/russian_river/pdf/190509/Pathogen%20TMDL_Staff%20Report_%20Action%20Plan_blackline.pdf

Figure 3-8. Abandoned Encampment along Garden Highway near Northgate (Figure 1 in Reclamation District 1000, 2019)

Figure 3-9. Abandoned Encampment along Garden Highway near Northgate (Figure 2 in Reclamation District 1000, 2019)

Figure 3-10. Re-established Encampment along Garden Highway near Northgate (Figure 3 in Reclamation District 1000, 2019)

The draft Staff Report identifies potential sources of bacteria. Specifically, the primary nonpoint sources of fecal waste identified as contributing to elevated pathogens were septic systems, homeless encampments, recreational water use, and manure from livestock. The Staff Report notes that there are many homeless encampments within riparian areas in the Russian River watershed, and that these encampments could be one cause of fecal indicator bacteria as a result of discharge of human waste directly to surface waters. Even though this potential link may exist, the TMDL does not contain any water quality data demonstrating a direct link:

> "The source analysis for this Pathogen TMDL did not attempt to assess the potential of pathogen contamination specifically associated with homeless encampments or sites of other illegal camping. However, monitoring results for Santa Rosa Creek downstream of known homeless encampments routinely indicate high levels of fecal indicator bacteria. Further, anecdotal reports of poor waste disposal practices by the occupants of the encampments lead Regional Water Board staff to conclude that homeless encampments are a likely potential source of pathogens in surface waters as measured by fecal indicator bacteria. The same potential applies to sites of other illegal camping, in close proximity to surface water and without adequate sanitation facilities."

As part of the implementation of the TMDL, Sonoma County and Mendocino County plan to enter into a Memorandum of Understanding with the North Coast Water Board, to address water quality impacts from homeless encampments: https://www.waterboards.ca.gov/northcoast/board_info/board_meetings/08_2019/pdf/1/20190730_Basin%20Plan%20Amendment_Strike%20Out%20Underline_hardened.pdf

3.3 Literature Review Findings from Outside of California

We conducted a high level search of potential homeless encampment impacts to waterways in areas outside of California. The impression resulting from our search is that the degree of concern about homeless camp impacts on waterbodies is less outside of California. Regardless of impressions, there are certainly many examples to draw from which show that the impacts observed or the potential concerns identified in California waterbodies is no different elsewhere. Also, similar to California, we found no studies that provide direct information linking the presence of homeless encampments to water quality, e.g., elevated bacterial indicator concentrations. The following sections provide examples of information found from other areas.

3.3.1 Colorado

Hindi, Saja. 2019. *Englewood Police, City Crews Remove Homeless Camp along South Platte River*. Denver Post. June 4, 2019. https://www.denverpost.com/2019/06/04/englewood-homeless-encampment-removal/

An Englewood, Colorado homeless encampment near the South Platte River has increased in size and was destroying vegetation, polluting the river, and causing safety issues. Englewood police Sergeant Chad Read stated that during the cleanup they encountered human waste, trip wires and needles, which would eventually end up in the river. The concerns in this area of the South Platte River (south of downtown Denver, Colorado) have been a concern for some time as noted in the following article:

del Castillo, Amanda. 2018. *25 Truckloads of Transient Trash Cleared from South Platte River Encampment*. Denver 7, The Denver Channel. April 10, 2018. https://www.thedenverchannel.com/news/our-colorado/nearly-40000-spent-cleaning-up-homeless-camps-along-south-platte-river

> "Homelessness along our Colorado riverbanks is a growing issue that has extended outside of Denver and deep into our suburbs…In January, several agencies took part in a Platte River Clean-up Project throughout a quarter-mile stretch of the river [South Platte River near West Dartmouth Avenue in Englewood]….Reid McGrath with Englewood PD's Impact Team [said] there was a total of 21 camps located along that specific stretch of the river, and roughly 31 people who were relocated because of the project. He said, 'in the end, 25 truckloads of trash were taken away from the area…While in some ways, it seems like an ideal place, it's not…There's no water here. There's no sanitation here. There's no trash disposal here.'"

> "'The trash and debris are one portion of it,' Stephen Materkowski with the Urban Drainage and Flood Control District said. 'Then there's also the degradation of the banks--the environmental impacts…the dozens of people also destroyed nearby plants and trees, which serve as a natural way to prevent floods…It then creates water quality issues because all that's ending up in the South Platte River…'"

3.3.2 Oregon

The Springwater Corridor in the Portland, OR area has a lengthy history of concerns with impacts from homeless encampments. From the following article:

Hernandez, Tony. 2016. *Springwater Corridor Homeless Camps Strain Resources, Patience*. The Oregonian. July 15, 2016
https://www.oregonlive.com/portland/2016/07/springwater_corridor_grapples.html

> "People have cut trees down and made make-shift toilets in the creeks," said Maggie Skenderian, the bureau's Eastside Watersheds Program manager…The reality is that we've restored over 250 acres, and so we've had folks express concerns that what's going on now negates the work we've done."

Skenderian stated that the sanitation issues currently have more of an impact on human health than fish and wildlife. Volunteers have reported that newly planted trees and vegetation have been removed, and don't feel safe working in the area due to seeing syringes throughout the nature areas. The Springwater Corridor has continued to be a location requiring regular attention with regards to establishment of homeless encampments, e.g., https://pamplinmedia.com/pt/9-news/435558-346321-gresham-clears-homeless-camps-from-springwater-corridor-.

3.3.3 Texas

3.3.3.1 Austin, Texas Area

A numbered of publicized reports have been observed in the past year regarding homeless encampment concerns in the Austin, Texas area. Following are two related articles from early 2019:

Devenyns, Jessi. 2019. *Watershed Department Works with City to Clean-up Homeless Camps.* Austin Monitor. February 11, 2019.
https://www.austinmonitor.com/stories/2019/02/watershed-department-works-with-city-to-clean-up-homeless-camps/

The City of Austin has set up a program within its Watershed Protection Department to address homeless camp concerns:

> "In addition to a new "homelessness czar," the budget includes funding for the Watershed Protection Department to hire a contractor for an estimated $1 million over four years to clean up refuse in creeks or drainage facilities such as trash,

> propane tanks, syringes and human waste that homeless people are leaving behind. As many homeless camps are situated in watersheds, along with public safety issues come stormwater conveyance contamination and flood risk to those living in the camps. According to Assistant Director Jose Guerrero of the Watershed Protection Department, even if the city cleans up a camp, "As soon as we clean it out, it frequently gets backed up in another one or two months." In an effort to stop the perpetual cycle, Guerrero told the Environmental Commission at its Feb. 6 meeting that instead of merely clearing camps and tossing the debris into dumpsters, the Watershed Protection Department is going to try a "service-oriented approach" at nine different campsites. At each site, the cleanup crews will try to connect homeless people with services before commencing with any cleanup work. In order to accomplish this goal, the Watershed Protection Department is partnering with the Parks and Recreation Department, Austin Police Department, Austin Resource Recovery, Emergency Medical Services, and the Downtown Austin Community Court."

Perez. Pattrick. 2019. *Concerns Over Safety, Water Quality Spurs Austin Homeless Camp Cleanup.* KVUE ABC. March 8, 2019. https://www.kvue.com/article/news/concerns-over-safety-water-quality-spurs-austin-homeless-camp-cleanup/269-2f8ff7e2-154d-47b4-9e34-4b5d2a1d34e9

The City's Watershed Protection Department has become concerned about an encampment in a tunnel because a creek runs through the tunnel which results in trash and human waste mixing with the water:

> "It's not just a danger to water quality, according to managing engineer Ramesh Swaminathean, but for the people who take shelter in there. 'When there's a flood or rainfall that comes into this box culverts, they're going to literally be trapped in there. It's going to result in potential loss of life or some other health issue,' Swaminathean said. Swaminathean said the camp is one of nine spots his department will clean up within a few weeks as part of a pilot program. 'What we're trying to do is take a sort of a complete look at each of these sites and try to figure out a way that we can solve this problem both from a watershed mission area perspective and also from a humane service-oriented perspective,' Swaminathean said."

3.3.3.2 San Antonio, Texas Area

Another example from the Texas area is an effort to address sources of bacteria in a TMDL established for three waterbodies in the San Antonio area:

Texas Commission on Environmental Quality (TCEQ). 2016. I*mplementation Plan for Three Total Maximum Daily Loads for Bacteria in the Upper San Antonio Watersheds; Segments: 1910, 1910A, 1911.* TCEQ Water Quality Planning Division, Office of Water; Approved April 6, 2016.

https://www.tceq.texas.gov/assets/public/waterquality/tmdl/34uppersa/34F_UpperSanAntonio_TMDLIPlan_Approved.pdf

A bacteria TMDL was established for three waterbodies in the San Antonio area in 2007. The TMDL does state that homeless encampments are a potential source of bacteria to the impaired waterbodies. In 2016, a TMDL Implementation Plan was approved by TCEQ. This Implementation Plan includes 30 "Management Measurements" to reduce bacteria loading to waterbodies. Only one targets homeless encampments:

> "A population of homeless/transients is common in urban areas. The transient population is often encamped under street bridges and other similar areas that provide some amount of shelter from the elements. Another potential source of human waste in the study area could be untreated waste from transients or homeless people. Several encampments were observed at locations in the San Antonio urban area. There is evidence that this transient population is affecting bacteria concentrations in some of the smaller watercourses in the study area. These individuals do not always have access to centralized plumbing and restroom facilities. They may deposit waste directly into or in close proximity to the area's waterways. This is a plausible source, since bridges along the waterway may provide temporary or semi-permanent shelter. To help reduce this potential load, CoSA [City of San Antonio] provided restroom facilities and adequate maintenance cleaning in areas with concentrated homeless populations. A control measure for this source of bacteria would be an increased effort for provision of sanitary restroom facilities at strategic locations throughout the City. In the past, there were few, if any, public restroom or shower facilities within the City, except for those that are located near various public places, such as the Brackenridge Park…"

The implementation measures are essentially no different than approaches being implemented in California. Under the "measurable milestones" for a five year planning period, the difficulty in measuring the impact on the environment was noted:

> "…CoSA will continue to coordinate with the Code and Police Departments and document through their annual report to TCEQ the amount of debris removed by this management measure. Efforts to curb the impact of vagrants and homeless people on the environment will continue for the next 5 years. Since it is difficult to measure the size of the homeless population and their impact on the environment, there is not a measurable milestone other than the reporting of refuge removal by CoSA."

3.3.4 Utah

Following is an example of a typical report describing reports of impacts from homeless encampments along the Jordan River in the Salt Lake City area.

Moody, Sean. 2018. *South Salt Lake Police Clear Out Homeless Encampments along Jordan River*. KSL TV. September 14, 2018. https://www.ksl.com/article/46390973/south-salt-lake-police-clear-out-homeless-encampments-along-jordan-river

> "South Salt Lake Police Chief Jack Carruth said trash and human waste from the campsites pollute the nearby Jordan River…'We cleaned up approximately seven to eight camps and roughly 8,000 pounds of trash. Now, that brings us to today, where we've got a count of 21 camps – and I'm going to estimate with what you see going out, 25,000 to 30,000 pounds of trash. Somewhere between 15 to 20 large dump truck loads of garbage will be removed from this area,'"

In another article is a discussion of how a park management has been working to address homeless encampments in an area under their jurisdiction, going so far as to removing healthy vegetation to discourage the camps:

Neild, M. and J. Rose. 2019. *Addressing Homelessness in Public Parks*. National Recreation and Parks Association. Parks & Recreation Magazine, January 7, 2019. https://www.nrpa.org/parks-recreation-magazine/2019/january/addressing-homelessness-in-public-parks/

Park management's quick response to the community complaints about homeless resulted in maintenance crews being pulled from their duties and tasked with eviction and camp cleanup and removing healthy vegetation to discourage homeless camps. Removal of vegetation has caused additional concern as it is intended to absorb urban stormwater, mitigate soil erosion, and enhance park aesthetics.

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4.0 Conclusions and Recommendations

As noted in Section 1, this report focuses on the findings from the first step of the process implemented to evaluate homeless encampments in the upper Santa Ana River watershed, i.e., develop a better understanding of potential impacts of homeless encampments on water quality and riparian and aquatic habitat based on an assessment of existing information. The findings from this effort are intended to inform the development of a Preliminary Monitoring Program to assess actual impacts from selected camps within the upper Santa Ana River watershed. In this section, we will first provide our conclusions from the assessment completed to date. From that we will provide recommendations for development of a Preliminary Monitoring Program.

4.1 Conclusions from the Assessment

4.1.1 Characterization of Impacts

Homeless encampment impacts are similar regardless of geography. These impacts vary and fell into three categories:

- *Quantifiable Impacts* – The only impact identified with quantifiable data was trash volume. The volume of trash that may need to be removed during the clean-up of an encampment can be significant, as noted from various sources either in the Santa Ana River watershed or from documentation obtained in the literature review. This trash not only builds up around the encampments but can become mobilized during wet weather events.
- *Qualitative Impacts* - Observable, but unquantified, impacts are commonly associated with homeless encampments in riverbeds:
  - Visual presence of trash
  - Damaged riparian vegetation
  - Excavated riverbanks and levees
  - Damaged habitat for aquatic and riparian species of concern
  - Modified aquatic habitat, e.g., creation of diversions, fish passage barriers
- *Anecdotal/Potential Impacts* – Perceived impacts are noted by various sources; however, direct documentation of the anticipated impact is generally not available:
  - Water quality impacts from human waste
  - Water quality impacts from toxic chemicals in trash
  - Habitat damaged by fire resulting from campfires
  - Avoidance of homeless encampment areas by wildlife/species of concern

One of the more interesting aspects of this study was the inability to find any water quality data for bacteria or toxic chemical data demonstrating direct impacts from homeless encampments. Numerous sources mention the water quality concerns but actual data are lacking. Even the recently completed Synoptic Study suggests there may be an impact to water quality in the Santa Ana River from homeless encampments in the Mission Blvd area, but the findings were not consistent from week to week.

In Section 3.2.3 we note that the Investigative Order adopted for the San Diego River includes a component to evaluate the water quality impacts of homeless encampments on the river. Of particular interest in that literature source is the preliminary estimate on the numbers of bacteria samples that will be necessary to confirm whether or not homeless encampments impact water quality in the San Diego River. While this was the only example found of a serious effort to determine the relationship between the presence of encampments and water quality, by itself it does illustrate well the challenges associated with developing a monitoring program to assess such impacts. Moreover, when one considers the transient nature of camps, differences in how they may operate or handle waste or differences in site-specific conditions from one camp to another, one can see that any study designed to quantify any water quality impacts would be a challenging effort.

4.1.2 Extent of Homeless Encampments in the Upper Santa Ana River Watershed

Based on the information gathered from the project study area there are five key areas where camps are currently concentrated. All are in various reaches of the Santa Ana River:

- Van Buren Boulevard bridge upstream to Anza Drain
- Along the Tequesquite Landfill
- Above and below the Mission Boulevard bridge crossing
- Upstream of the 60 Fwy
- Between the I-215 bridge and Tippecanoe Road

All of these locations have two things in common – there is water present and because water is present there is vegetative cover. The majority of those interviewed believe the number of encampments and numbers of residents is on the increase. However, some interviewees believe that the number of camps is unchanged from a few years ago. We did not find anyone who thought the number of encampments is decreasing.

4.2 Recommendations for Development of a Preliminary Monitoring Program

The purpose of this section is to provide recommendations regarding the development of a Preliminary Monitoring Program. Per the project workplan, the purpose of this program is to

(a) provide data to evaluate impacts of selected homeless encampments on water quality during both dry- and wet-weather; and (b) assess riparian and aquatic habitat degradation impacts caused by these same homeless encampments.

Monitoring programs can take a number of forms ranging from direct measurements, e.g., collection and analysis of water quality samples or measures of habitat impacts, to indirect measurements, e.g., trends in numbers and size of homeless encampments. Inherent in the use of an indirect approach is two assumptions: (a) the presence of homeless encampments does impact water quality and habitat; and (b) increasing numbers of encampments likely increases that impact.

Development of a Preliminary Monitoring Program will consider the pros and cons of implementing direct or indirect monitoring approaches for consideration by SAWPA. However, it is important to note that even without the collection of any new monitoring data an already known water quality concern exists in the form of trash. The State Water Resources Control Board Policy on Trash notes that trash is a significant pollutant of California's waters and its presence adversely affects beneficial uses of surface waters, including uses related to the protection of aquatic life, wildlife and public health.[10] Therefore, regardless of other water quality impacts potentially occurring because of homeless encampment activity (e.g., human waste or toxic chemicals) concerns regarding water quality already exist.

Given this as background, and as directed by SAWPA, the Preliminary Monitoring Program to be developed in the next phase of this project will consider both direct and indirect approaches to evaluating impacts to water quality and habitat. With regards to water quality and habitat, we will provide a framework for a monitoring program that collects and analyzes data to directly evaluate potential dry and wet-weather impacts from homeless encampment activity. With regards to water quality and bacterial indicators, this program could include an element to evaluate the relative contribution of bacterial loads from human versus other sources such as wildlife.[11] In addition to the above, we will also provide an alternative monitoring framework that takes an indirect approach to monitoring, e.g., using survey tools and collaboration with other watershed agencies to track trends in homeless encampments, including numbers of residents and progress being made towards reducing the number and extent of camps in the watershed.

[10] State Water Resources Control Board, Statewide Water Quality Control Plans for Trash: https://www.waterboards.ca.gov/water_issues/programs/trash_control/

[11] The water quality monitoring program under development for the San Diego River may provide a potential template for consideration in the Santa Ana River watershed (see Section 3.2.3.1).

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Attachments

Attachment A – Interview Questions

1. How does your organization gather information on the presence/absence of homeless encampments in waterbodies within your jurisdiction or area of interest?
2. What data collection have you done to identify locations of camps, e.g., mapping, census, longevity, transient vs. permanent, trends, photographs, etc.
3. How recent is the data collection?
4. Do you have information of the locations of homeless encampments along waterbodies in the project study area (including maps)?
5. What would be your assessment or best professional judgment be regarding the following: (a) longevity/permanence of encampments; (b) typical numbers of people; (c) overall trend - up, down, same? Is it the same people just moving around or does it change?
6. Of known camps with some longevity/permanence, do you have any information regarding how camp is handling disposal of human waste?
7. Can we obtain the data for use in this study (all information will be cited per instructions of the source)?
8. What role, if any, does your agency/organization have in mitigating homeless camps within waterbodies? What do you do with the information?
9. Finally, is there anything else that you can share that may be relevant but was not addressed by one of my questions?

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COMMISSION MEMORANDUM NO. 2020.9

DATE: February 4, 2020

TO: SAWPA Commission

SUBJECT: Purchase of an Emergency Generator

PREPARED BY: Carlos Quintero, Operations Manager

RECOMMENDATION

Authorize the transfer of $48,000 from Building Reserves to the General Fund and authorize the General Manager to issue a Purchase Order to YC Power Systems in the amount of $63,243.56 for the purchase of a Generac Model MDG75DF4 portable diesel powered generator and a GTS automatic transfer switch.

DISCUSSION

In an effort to ensure that the SAWPA office can be functional during natural disasters which may impact the delivery of electricity, a portable diesel generator can satisfy adequate power to the SAWPA building.

The proposed generator is manufactured by Generac and can provide a maximum of 62 kW, sufficient to cover the SAWPA building electricity load during peak usage (summer months). The transfer switch is rated for 800 amps and would allow a direct connection from the portable generator to the SAWPA building. The installation of a transfer switch will allow automatic transfer to power provided by the electrical grid without any potential damage to the building electrical connections. The total estimated cost of the portable generator, automatic transfer switch, permitting and installation is $78,244.

A total of 3 quotes were received for the purchase of similar units:

Manufacturer	Model (rating)	Cost (including sales tax)
Generac	MDG75DF4 (62 kW)	$57,170
Wacker Neuson	G100 (80 kW)	$63,148
Caterpillar	XQ125 (110 kW)	$82,650

Total costs include:

Concept	Vendor	Cost ($)
Portable Generator	YC Power Systems	$57,170
Automatic Transfer Switch	YC Power Systems	$6,074
Permitting, installation, testing	Alexander Pacific	$15,000
TOTAL	-	$78,244

The cost of a stationary unit is $24,760; however, having a stationary unit on-site can add risk of vandalism and theft of diesel fuel. The portable generator can be also used for Brine Line Operations field work and pipeline repairs. The General Fund (Fund 100) would contribute the equivalent amount of the stationary unit ($24,760), the cost of the automatic transfer switch ($5,585), sales tax ($2,655), and the estimated cost of permitting and installation of the automatic transfer switch ($15,000). The Brine Line Enterprise fund (Fund 240) would cover the difference ($30,244). The portable generator would be kept at the SAWPA warehouse and can be easily towed to the SAWPA parking lot so it can be connected to the SAWPA building when needed.

The proposed funding allocation is as follows:

Fund	Amount ($)
General Fund (100)	$48,000
Brine Line Enterprise Fund (240)	$30,244
TOTAL	$78,244

As of December 31, 2019, there are approximately $756,000 available in the Building Reserve Fund.

RESOURCE IMPACTS
Fund 100 (General Fund) would cover $48,000 and the Brine Line Enterprise (Fund 240) would cover $30,244 of the total cost.

Attachments:
1. PowerPoint Presentation
2. Purchase Order for YC Power Systems
3. Specification for the General MDG75DF4 portable generator
4. Specification of the GTS automatic transfer switch

Emergency Generator

Carlos Quintero, Operations Manager

SAWPA Commission | February 4, 2020

Item No. 5.B.

Recommendation

- Authorize the use of $48,000 from Building Reserves to the General Fund and authorize the General Manager to issue a Purchase Order to YC Power Systems in the amount of $63,243.56 for the purchase of a Generac Model MDG75DF4 portable diesel powered generator and a GTS automatic transfer switch.

Emergency Generator

- Provides full power needs under peak conditions (summer months)
- Easily connected to building with automatic transfer switch
- Can be used during Brine Line Operations field work or pipeline repairs (lights, power tools, etc.)

Transfer switch

- Requires permitting, installation, testing
- SAWPA current electrical contractor, Alexander Pacific, can install
- Portable unit is parked next to the building and connected directly to transfer switch

Quotes Received

Manufacturer	Model (rating, kW)	Cost*
Generac	MDG75DF4 (62 kW)	$57,170
Wacker Neuson	G100 (80 kW)	$63,148
Caterpillar	XQ125 (110 kW)	$82,650

*Includes Sales Tax (8.75%)

Total Cost

Concept	Vendor	Cost
Portable Generator	YC Power Systems	$57,170
Automatic Transfer Switch	YC Power Systems	$6,074
Permits, installation of transfer switch	Alexander Pacific	$15,000 (estimated)
TOTAL	-	$78,244

Cost allocation basis

- Cost to install a stationary unit: $48,000
  - Stationary generator: $26,926
  - Automatic Transfer Switch: $6,074
  - Permitting installation: $15,000 (estimated)
- Cost to purchase a portable unit: $78,244
  - Portable unit: $57,170
  - Automatic Transfer Switch: $6,074
  - Permitting installation: $15,000 estimated
- Cost difference paid from Brine Line Fund (Fund 240): $30,244

Recommendation

- Authorize the use of $48,000 from Building Reserves to the General Fund and authorize the General Manager to issue a Purchase Order to YC Power Systems in the amount of $63,243.56 for the purchase of a Generac Model MDG75DF4 portable diesel powered generator and a GTS automatic transfer switch.

Questions??

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SAWPA
11615 Sterling Avenue
Riverside CA 92503

Purchase Order	**CHANGE ORDER**
Purchase Order No.	PO003981
Date	1/28/2020
Revision Number	1

Buyer ID: cquintero

Vendor: 2263

YC Power Systems
8089 Cherry Avenue
Fontana CA 92336

Ship To:

SAWPA
11615 Sterling Avenue
Riverside CA 92503

Contract Number:

Shipping Method	Payment Terms	Confirm With	Page
			1

L/N	Item Number	Description	Req. Date	U/M	Ordered	Unit Price	Ext. Price
	Project Number	Cost Category ID	Billing Note				
	Shipping Method	Reference Number	FOB				
1	ASSET CLEARING		1/28/2020	Each	29,708.79	$1.00	$29,708.79
	100-00-13100-00		None				
^2	ASSET CLEARING		1/28/2020	Each	33,244.00	$1.00	$33,244.00
	240-00-13100-00		None				
	Emergecny Generator						

Subtotal	$62,952.79
Trade Discount	$0.00
Freight	$0.00
Miscellaneous	$0.00
Tax	$0.00
Order Total	$62,952.79

Requestor Date

Dept. Head Date

Finance Date

General Manager/CFO Date

MDG75DF4 | 4.5 L | 75 kVA

MOBILE DIESEL GENERATOR SET

EPA Emissions Certification: Final Tier 4

Standby Power Rating

68 kW, 85 kVA, 60 Hz

Prime Power Rating

60 kW, 75 kVA, 60 Hz

Image used for illustration purposes only

Codes and Standards

Generac Mobile products are designed to the following standards:

CSA

NATM

TIER 4 FINAL EMISSIONS

ISO 8528-5

Power When and Where You Need It

Generac Mobile diesel generators are designed and engineered to power a variety of projects, in the most extreme environments. Gensets are configured to meet customer needs, including choice of containment, cold weather packages, trailer options, and more.

Generac Mobile diesel generators are manufactured to deliver reliable power, when and where you need it.

SPEC SHEET

1 of 6

MDG75DF4 | 4.5 L | 75 kVA

MOBILE DIESEL GENERATOR SET

EPA Emissions Certification: Final Tier 4

GENERAC® | MOBILE

STANDARD FEATURES

ENGINE SYSTEM

- John Deere® 4045HFG04_B
- 4 cylinder
- Turbocharged
- 275 in^3 (4.5 L) displacement
- EPA Final Tier 4
- Power @ 1,800 rpm – hp (kW):
  - Prime: 97 (73)
  - Standby: 107 (80)

FUEL SYSTEM

- Fuel tank capacity – gal (L):
  - Total: 165 (625)
  - Usable: 150 (568)
- Maximum run time @ 100% load: 24 hr
- Fuel consumption @ prime – gal/hr (L/hr):
  - 25% load: 1.69 (6.37)
  - 50% load: 2.62 (10.22)
  - 75% load: 3.74 (14.18)
  - 100% load: 4.85 (18.39)
- 110% fluid containment

COOLING SYSTEM

- Capable of operating at 107 °F (41.7 °C) ambient
- Oil filter: Spin-on cartridge
- Air filter: Disposable – paper element
- Radiator and oil drains plumbed to exterior

SYSTEM OUTPUTS

- Voltage selection switch: 3-position, lockable
- Electrical power output – kW (kVA):
  - 1-phase standby: 60 (60)
  - 1-phase prime: 55 (55)
  - 3-phase standby: 68 (85)
  - 3-phase prime: 60 (75)

GENERATOR

- 60 Hz engine/generator
- Marathon Electric® 361CSL1602
  - Brushless
  - 4-pole
  - Class H insulation
- Voltage regulation ±1.0% with PM600 voltage regulator

ENCLOSURE

- Aluminum, sound attenuated enclosure
  - UV and fade resistant, high temperature cured, white polyester powder paint
  - Insulated and baffled
  - 74 dB(A) @ 23 ft (7 m) @ prime power
- Fully lockable – includes doors, fuel fill, and DEF fill
- Exterior emergency stop switch
- Central lifting point
- Multi-lingual operating and safety decals
- Document holder with owner's manual – includes AC and DC wiring diagrams

TRAILER

- DOT approved tail, side, brake, and directional lights; recessed rear lights
- Surge brakes
- Transportation tie downs
- Safety chains with spring loaded safety hooks
- 3 in (7.62 cm) ring hitch
- Single axle – 6,000 lb (2,722 kg)

WARRANTY

- 2 year limited or 2,000 hours
  - Unlimited hours covered in first year

CERTIFICATIONS

- CSA certified

SYSTEM CONTROLS

Power Zone® Controller And Display

- Backlit, 800×480 pixel resolution color display
- -40—185 °F (-40—85 °C) operating temperature range
- Automatic coarse voltage adjustment
- Integrated fine voltage adjustment
- PLC functionality

Push Buttons For Easy Operation

- Manual or Auto start
- Engine start
- Engine stop/reset
- Alarm mute
- Operator screens:
  - Home
  - Engine
  - Generator
  - Voltage adjust

Scrolling Arrows for Diagnostic Information

- Engine diagnostic display
  - Oil pressure
  - Engine temperature
  - Fuel level
  - Battery
  - After-treatment inlet/outlet temperature
  - Ash/soot levels
- Generator diagnostic display
  - System kW output display
  - Line output and frequency display
- Alarms
  - Warning
  - Shutdown
  - Electrical Trip
  - Engine
- Alarm list – warnings/shutdowns; 250 event history log – date/time stamp
  - Fuel level: warning – 15%; shutdown – 5%
  - Over speed protection: shutdown – 115%
  - Oil pressure: warning – 25 psi (172.4 kPa); shutdown – 20 psi (137.9 kPa)
  - Coolant temperature: warning – 230 °F (110 °C); shutdown – 235 °F (113 °C)
  - Battery voltage: over – 15 VDC; under – 11 VDC
  - Generator over voltage: warning – 110%; electrical trip – 125%
  - Generator under voltage: warning – 91.4%; shutdown – 70%
  - Generator over frequency: warning – 102.5%; electrical trip – 110%
  - Generator under frequency: warning – 95%; electrical trip – 90%
- Inputs/outputs
- Auto-schedule
- Status
- View controller functional parameters (configuration, firmware version, connections)

ELECTRICAL CONTROLS

- Remote start/stop contacts in receptacle box
- Lockable control box door with diagnostics window
- Lockable lug box with safety switch
  - Trips main breaker when door is opened
  - Disables voltage regulator
- Output ground connection lug inside lug box
- 300 A main breaker with shunt trip
- Convenience receptacles with individual breakers (restricted use in high wye mode)
  - Two 120 V, 20 A, GFCI, duplex outlets (NEMA 5-20R type)
  - Three 125/250 V, 50 A, 3-pole, 4-wire, twistlock outlets (Non-NEMA 6369)
- One 12 V, 720 CCA, wet cell battery

MDG75DF4 | 4.5 L | 75 kVA

MOBILE DIESEL GENERATOR SET

EPA Emissions Certification: Final Tier 4

OPTIONS*

ENGINE SYSTEM

- Two fuel filter heaters
- Oil pan heater
- Battery heater
- CCV multi-heater system
- 60/40 coolant
- Positive air shutdown

FUEL SYSTEM

- 110% fluid containment
- Leak detection
- Extended run fuel and DEF system

TRAILER

- Full size spare tire
- Tool box/storage bin
- 2-5/16 in (5.9 cm) ball hitch
- Electric brakes
- Rear stabilizer jacks
- 2 in (5.08 cm) ball hitch
- Tandem axle

CABINET

- Control panel light
- Interior lights

CONTROL SYSTEM

- 4-position phase switch
- PMG
- Paralleling
- Buck transformer
- Battery disconnect switch
- Cam locks
- 10 A battery charger

GENERATOR SYSTEM

- SuperStart

RATING DEFINITIONS

Standby: Applies to varying emergency load for the duration of a utility power outage.

Prime: Applies to supplying power to a varying load in lieu of utility for an unlimited amount of running time.

*Consult factory for availability

MDG75DF4 | 4.5 L | 75 kVA

MOBILE DIESEL GENERATOR SET

EPA Emissions Certification: Final Tier 4

GENERAC® | MOBILE

APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make (Model)	John Deere (4045HFG04_B)
EPA Emissions Compliance	Final Tier 4
After Treatment System	DOC and SCR
Cylinders – Qty	4
Type	In-line
Displacement – L	4.5
Bore – in (mm)	4.2 (106)
Stroke – in (mm)	5.0 (127)
Compression Ratio	17:1
Intake Air Method	Turbo/air-to-air, after-cooled

Engine Governing

Governor	Electronic
Frequency Regulation (Steady State)	2%

Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Spin-on cartridge
Crankcase Capacity – qt (L)	15.9 (15)

Cooling System

Cooling System Type	Radiator and CAC
Water Pump Type	Engine-belt driven
Fan Type	Pusher
Fan Speed – rpm	Variable Visc clutch
Fan Diameter – in (mm)	23.2 (590)
Cooling System Capacity – qt (L)	22 (20.8)

Fuel System

Fuel Type	Ultra low sulfur diesel
Fuel Specifications	EN590/ASTM D975
Fuel Filtering – μ	Primary: 10 Final: 2
Fuel Inject Pump Make	Denso HP3
Fuel Pump Type	Engine driven - belt
Injector Type	Electronic
Engine Type	Direct Injection
Fuel Supply Line Diameter – in (mm)	.313 (8.0)
Fuel Return Line Diameter – in (mm)	.313 (8.0)

Engine Electrical System

System Voltage – VDC	12
Battery Charger Alternator	STD
Battery – CCA	720
Battery – V (Qty)	12 (1)
Ground Polarity	Negative (-)

ALTERNATOR SPECIFICATIONS

Make (Model)	Marathon Electric (361CSL1602)
Poles	4
Field Type	Rotating
Insulation Class – Rotor	H
Insulation Class – Stator	H
Total Harmonic Distortion	<3.5%
Telephone Interference Factor (TIF)	<50

Standard Excitation	Brushless
Bearings	Single bearing
Coupling	Direct, flex disc
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Analog
Quantity of Sensed Phases	1
Regulation Accuracy (Steady State)	±1%

MDG75DF4 | 4.5 L | 75 kVA

MOBILE DIESEL GENERATOR SET

EPA Emissions Certification: Final Tier 4

OPERATING DATA

POWER RATINGS

	Standby: KW/kVA (A)	Prime: KW/kVA (A)
1-phase, 120/240 VAC @ 1.0 pf	60/60 (250)	55/55 (229)
3-phase, 120/208 VAC @ 0.8 pf	68/85 (236)	60/75 (208)
3-phase, 120/240 VAC @ 0.8 pf*	68/85 (204)	60/75 (180)
3-phase, 277/480 VAC @ 0.8 pf	68/85 (102)	60/75 (90)

**Power ratings achieved through use of optional 4-position phase switch.*

STARTING CAPABILITIES (sKVA)

sKVA vs. Voltage Dip

150 kVa
25%

FUEL AND DEF CONSUMPTION RATES

Load	Fuel Consumption Rate: gal/hr (L/hr)		DEF: gal/hr (L/hr)	
	@ Standby	@ Prime	@ Standby	@ Prime
25%	1.74 (6.61)	1.69 (6.37)	TBD	TBD
50%	2.85 (10.82)	2.62 (10.22)	TBD	TBD
75%	4.06 (15.38)	3.74 (14.18)	TBD	TBD
100%	5.33 (20.19)	4.85 (18.39)	TBD	0.22 (0.98)

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions.
Please consult a Generac Mobile Products Authorized Service Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528, ISO8665, ISO3046, SAE J1228, SAE J1995, and DIN6271 standards.

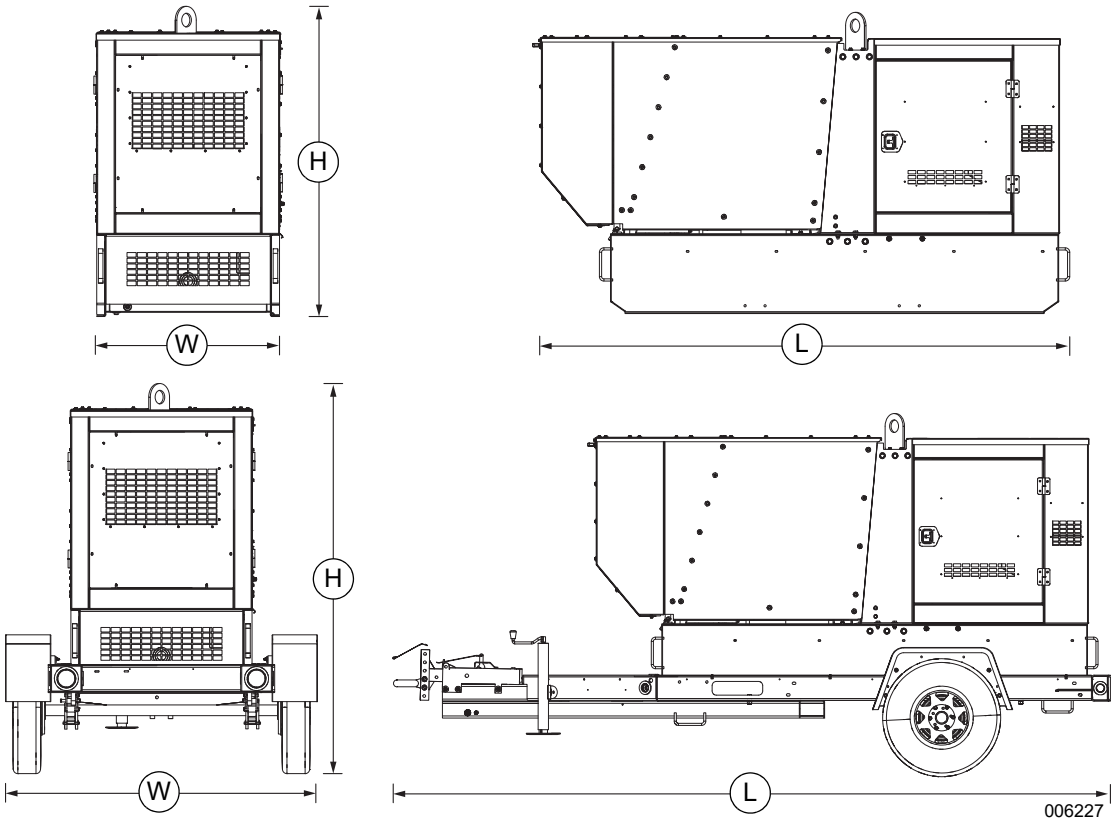
MDG75DF4 | 4.5 L | 75 kVA

MOBILE DIESEL GENERATOR SET

EPA Emissions Certification: Final Tier 4

GENERAC® | MOBILE

DIMENSIONS AND WEIGHTS*



	Run Time: hr	Usable Fuel Capacity: gal (L)	Dimensions – L×W×H: in (m)	Weight: lb (kg)	
Skid	26	146 (551.8)	119×40×62 (3.02×1.02×1.57)	Dry: Operating:	3,830 (1,740) 4,790 (2,170)
Trailer	26	146 (551.8)	170×69×80 (4.31×1.75×2.03)	Dry: Operating:	4,530 (2055) 5,490 (2,490)

* All measurements are approximate and for estimation purposes only.

YOUR FACTORY RECOGNIZED GENERAC MOBILE PRODUCTS DEALER

Specification characteristics may change without notice. Dimensions and weights are for preliminary purposes only. Please consult a Generac Mobile Products Authorized Service Dealer for detailed installation drawings.

SPEC SHEET

6 of 6

Part No. 10000018636
Rev. 0 8/15/2019

Automatic Transfer Switch

600 – 1,000 Amps, 600 VAC

Type WN Load Shed Capable

- Standard Time Delay Neutral Will Reduce Switchover Problems
- Logic Control with Inphase Monitor Regulates Switch Functions and Allows Adjustable Switch Settings With LED Indicators
- Control Switches Located on the Front of the Door for Ease of Operation
- All Switches are UL 1008 Listed and CSA Certified
- Electrically-Operated, Mechanically-Held and Interlocked Main Contacts with Break Before Make Design for Fast, Positive Connections
- Rated for All Classes of Load, 100% Equipment Rated, Both Inductive and Resistive With No Derations
- 3 and 4 Pole 600 VAC Contactors
- 160 Millisecond Transfer Time

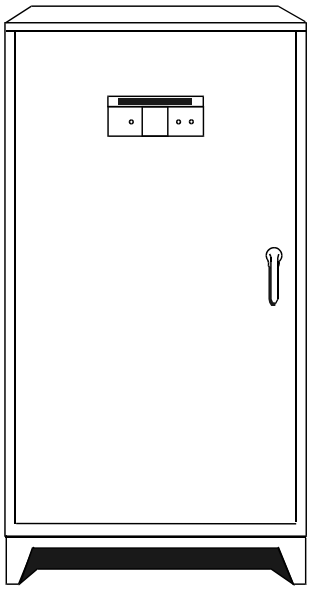


Image used for illustration purposes only

FEATURES

STANDARD FEATURES

- Electrically Operated and Mechanically Held
- Weekly Exerciser
- Main Contacts Are Silver Alloy to Resist Welding and Sticking
- Conformal Coating Protects All Printed Circuit Boards
- Indicating LED's for Switch Position—Normal, Emergency, and Standby Operating
- NEMA 12 Enclosure With Hinged Door and Key-locking Handle
- Three-Position Switch—Fast Test, Auto, Normal Test
- Arc Chutes on Main Contacts

OPTIONAL ACCESSORIES

- NEMA 3R, 4 & 4X Enclosure
- Exterior AC Meter Package
- 4-pole Design for Neutral Isolation
- Remote Automatic Start-Stop Control Circuit
- Signal Before Transfer Contacts
- Return to Normal Timer Bypass
- “Trip to Neutral” with Mechanical Latch for Load Shedding or Sequencing Applications
- “Permissive” Switch for MPS Applications to Prevent Transfer Until Adequate Power Capacity is Obtained
- Single or Double Sets of Auxiliary Contacts
- Preferred Source Selector Switch

Automatic Transfer Switch

600 – 1,000 Amps, 600 VAC

Type WN Load Shed Capable

GENERAC | INDUSTRIAL POWER

GTS CONTROL SYSTEMS

LOGIC CONTROL WITH INPHASE MONITOR

Utility Voltage	
Drop Out	75 – 95% (Adj.)
Pickup	85 – 95% (Adj.)
Line Interrupt	0.1 – 10.0 Sec. (Adj.)
Engine Minimum Run	5 – 30 Min. (Adj.)
Engine Warmup	5 – 180 Sec. (Adj.)
Return to Utility	1 – 30 Min. (Adj.)
Engine Cooldown	1 – 30 Min. (Adj.)
Standby Voltage	85 – 95% (Adj.)
Standby Frequency	80 – 90% (Adj.)
Time Delay Neutral	0.1 – 10.0 Sec. (Adj.)
Transfer on Exercise	On/Off Switch
Warmup Timer Bypass	On/Off Switch
Time Delay Neutral Bypass	On/Off Switch
Inphase Monitor	On/Off Switch

WITHSTAND CURRENT - 600 VOLT GTS SERIES

GTS Rated Amps	600	800	1,000
FUSE PROTECTED			
Maximum RMS Symmetrical			
Fault Current – Amps	200,000	200,000	200,000
Maximum Fuse			
Size – Amps	800	1,200	1,600
Fuse Class	L,T	L	L
CIRCUIT BREAKER PROTECTED (see separate sheet for specific circuit breakers)			
Maximum RMS Symmetrical			
Fault Current – Amps	42,000	65,000	65,000
Protective Device Continuous			
Rating (Max) – Amps	750	1,250	1,250

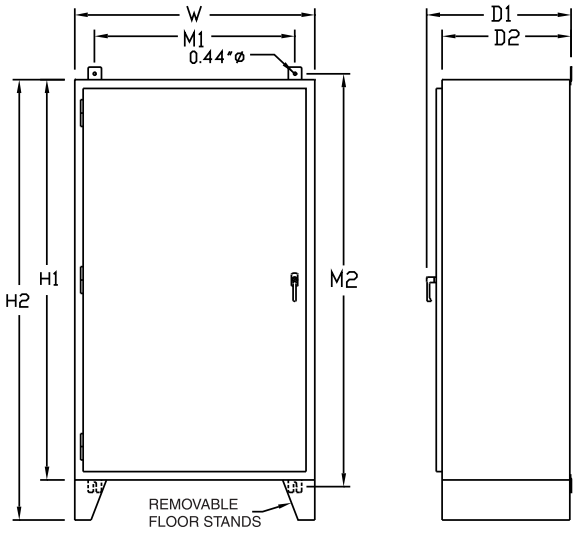
- Tested in accordance with the withstand and closing requirements of UL 1008 and CSA Standards
- Current ratings are listed @ 480 VAC

Automatic Transfer Switch

600 – 1,000 Amps, 600 VAC

Type WN Load Shed Capable

UNIT DIMENSIONS*



GTS Rated Amps	Enclosure Height - in (mm)		Enclosure Width - in (mm)	Wall Mount Bolt Pattern - in (mm)		Enclosure Depth - in (mm)		Weight - lbs (kg)
	H1	H2	W	M1	M2	D1	D2	
600	60 (1,524)	66 (1,676)	36 (914)	30 (762)	62 (1,575)	23.5 (597)	20 (508)	650 (295)
800	60 (1,524)	66 (1,676)	36 (914)	30 (762)	62 (1,575)	23.5 (597)	20 (508)	700 (318)
1,000	60 (1,524)	66 (1,676)	36 (914)	30 (762)	62 (1,575)	23.5 (597)	20 (508)	700 (318)

* All measurements are approximate and for estimation purposes only. Specification characteristics may change without notice. Please contact a Generac Power Systems Industrial Dealer for detailed installation drawings.

TERMINAL LUG WIRE RANGES

GTS Rated Amps	Connector Terminals		Neutral Bar		Ground Lug (1 Provided)
	# Lugs per Pole	Lug Wire Range	# Lugs	Lug Wire Range	Lug Wire Range
600	2	500 MCM – 1 AWG	8	750 MCM – 1/0 AWG	350 MCM – 6 AWG
800	4	500 MCM – 4/0 AWG	12	750 MCM – 1/0 AWG	350 MCM – 6 AWG
1,000	4	500 MCM – 4/0 AWG	12	750 MCM – 1/0 AWG	350 MCM – 6 AWG

COMMISSION MEMORANDUM NO. 2020.10

DATE: February 4, 2020

TO: SAWPA Commission

SUBJECT: Partnership Agreement for WECAN in the City of Riverside

PREPARED BY: Ian Achimore, Senior Watershed Manager

RECOMMENDATION

Authorize the General Manager to execute a Partnership Agreement between SAWPA and the City of Riverside in support of the City application for a Transformative Climate Communities grant which, if awarded, would fund a component of the Water-Energy Community Action Network (WECAN) Program for approximately $700,000.

DISCUSSION

The City of Riverside, in partnership with the County of Riverside, is developing a proposal for the California Strategic Growth Council (SGC) Transformative Climate Communities (TCC) grant program. The SGC is a cabinet level committee created by Senate Bill 732 in 2008 to coordinate the activities of State agencies regarding growth and sustainability, including assisting local entities in planning sustainable communities. This grant program supports efforts to diminish greenhouse gas emissions while fostering public health and environmental benefits in regions of the state which are designated as overburdened by the California disadvantaged community mapping tool, CalEnviroScreen 3.0.

The City approached SAWPA about the existing WECAN Program being implemented by SAWPA. The WECAN Program entails the retrofitting of indoor plumbing fixtures and removing turf at homes of low-income community members in the Santa Ana River Watershed. WECAN has been funded a 2014 Water-Energy Nexus grant from the Department of Water Resources (DWR) and 2016 Water and Energy Efficiency Grant from the Bureau of Reclamation (Reclamation). The work associated with the DWR grant was completed in December 2018 and the Reclamation grant in October 2019.

The Partnership Agreement under consideration needs to be executed prior to the grant proposal being submitted by the City of Riverside in late February. The Partnership Agreement describes the partnership in broad terms in service of the grant application. The activity that it describes and the WECAN component will be contingent on the grant being successfully awarded to Riverside. If awarded, the grant will require a subgrantee agreement between the City and SAWPA that will describe the detailed scope of work for SAWPA to implement the WECAN component in the City. This agreement will be brought to the SAWPA Commission for action when appropriate.

The work by SAWPA and any landscape contractors used would be entirely funded by the grant. SAWPA's scope includes 100,000 square feet of turf removal and drought tolerant landscape installation (for a total of about 100 homes). All work will be within the TCC program boundary, which is the Eastside Riverside neighborhood located near the 91 and 215 freeways. The total value of this proposed work, if awarded, will be approximately $700,000.

The benefits of executing the Partnership Agreement include:

- Allows SAWPA to implement the One Water One Watershed Plan Update 2018 goals of engaging disadvantaged communities and implementing water conservation in the watershed;
- Allows watershed to attain water-energy nexus benefits of saving 13.5 acre-feet per year and 11,176 kWh per year; and
- Furthers a partnership with the City of Riverside, a member on the One Water One Watershed Steering Committee.

CRITICAL SUCCESS FACTORS

- SAWPA has a strong reputation as a watershed-wide, knowledgeable, neutral and trusted facilitator, leader, and administrator of contracted activities.
- Goals, scope, costs, resources, timelines, and the contract term are approved by the Commission before executing an agreement to participate in a roundtable group.

RESOURCE IMPACTS

Work to develop and submit SAWPA's portion of the grant application is funded by 370-01, General Basin Planning. The work of the expanded WECAN Program will be entirely funded by an approximately $600,000 award under the TCC grant and a $100,000 match by Riverside Public Utilities (for a total of approximately $700,000). All SAWPA costs to administer the WECAN project would be funded by the SGC grant.

Attachments:

1. PowerPoint Presentation
2. Partnership Agreement for the Collaborative Stakeholder Structure for the Eastside Climate Collaborative Transformative Climate Communities Initiative

Partnership Agreement for WECAN in the City of Riverside

Ian Achimore, Senior Watershed Manager

SAWPA Commission | February 4, 2020

Item No. 5.C.

Recommendation

Authorize the General Manager to execute a Partnership Agreement between SAWPA and the City of Riverside in support of the City application for a Transformative Climate Communities grant which, if awarded, would fund a component of the Water-Energy Community Action Network (WECAN) Program for approximately $700,000.

Grant Application to Strategic Growth Council

CALIFORNIA STRATEGIC GROWTH COUNCIL

CALIFORNIA CLIMATE INVESTMENTS
Cap and Trade Dollars at Work

Projects Funded

Transportation & Sustainable Communities

Clean Energy & Energy Efficiency

Natural Resources & Waste Diversion

Eastside Climate Collaborative

Urban Greening

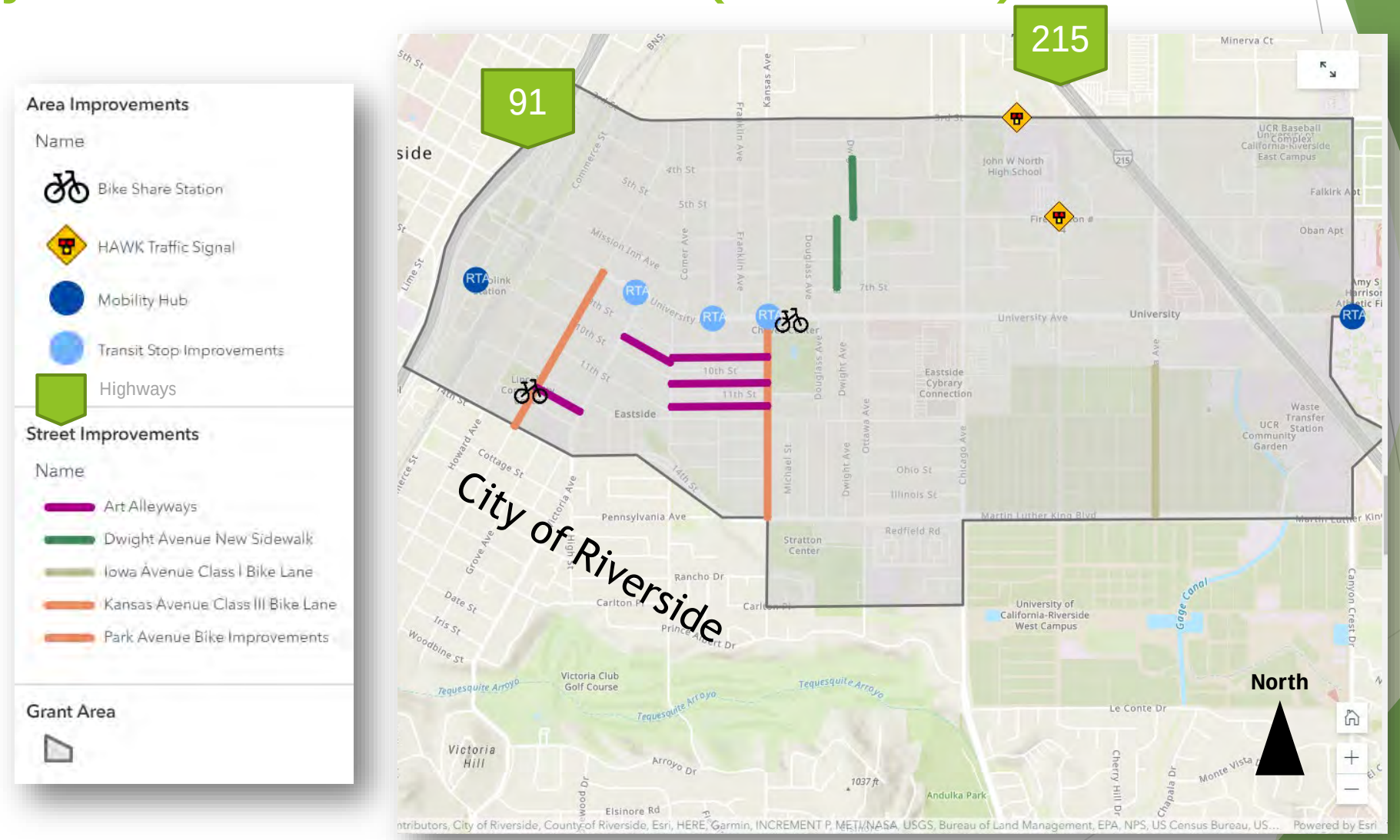
Solar

Water Conservation

Transit Options

Housing: 7th and Chicago Entrada Project

Project Area – Riverside (Eastside)



Partnership Agreement With Riverside

- Required for application to the Strategic Growth Council;
- Outlines City's role and the role of the 13 partner agencies (including SAWPA):
  - Representation on Leadership Council and working groups;
  - Notification process of scope changes to Leadership Council; and
  - Reporting requirements under grant.
- Also affirms 13 partner agencies share goals for Riverside: growth of community amenities and assets (improvement infrastructure, reduced hazardous waste and carbon emissions, etc.).
- Nothing specific to the detailed scope of the SAWPA project: **WECAN**.

Water Energy Community Action Network (WECAN)

- SAWPA partners with retail water agency (4 agencies to date) and hires landscape contractor;
- SAWPA ensures landscape contractor:
  - Provides landscaping design choices to residents,
  - Removes existing turf grass in residential front yards,
  - Plants drought tolerant landscaping and installs efficient irrigation, and
  - Conducts post-installation site visits.
- Phases 1 and 2 of WECAN funded by:
  - 2014 Water-Energy Nexus Grant (Department of Water Resources), and
  - 2016 Water and Energy Efficiency Grant (Bureau of Reclamation).

FONTANA "AT YOUR SERVICE" WATER COMPANY

CITY OF ANAHEIM CALIFORNIA FOUNDED 1857

ANAHEIM PUBLIC UTILITIES

jurupa Community Services District

West Valley Water District

WE CAN

Water Energy Community Action Network

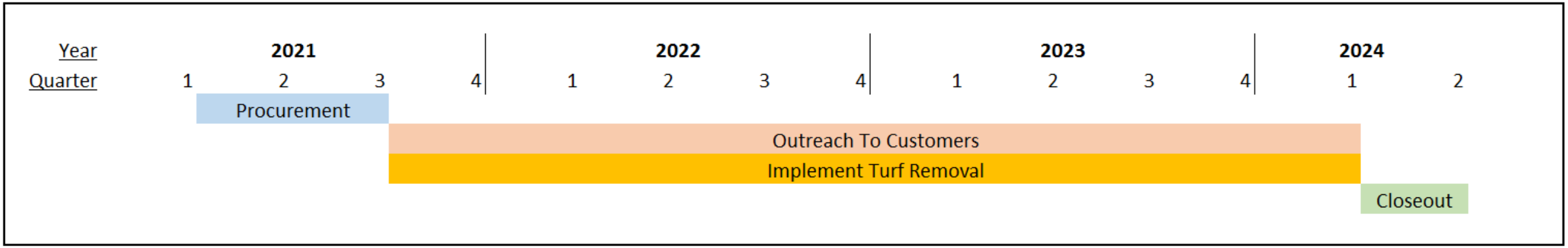
City of Riverside – SAWPA WECAN Component

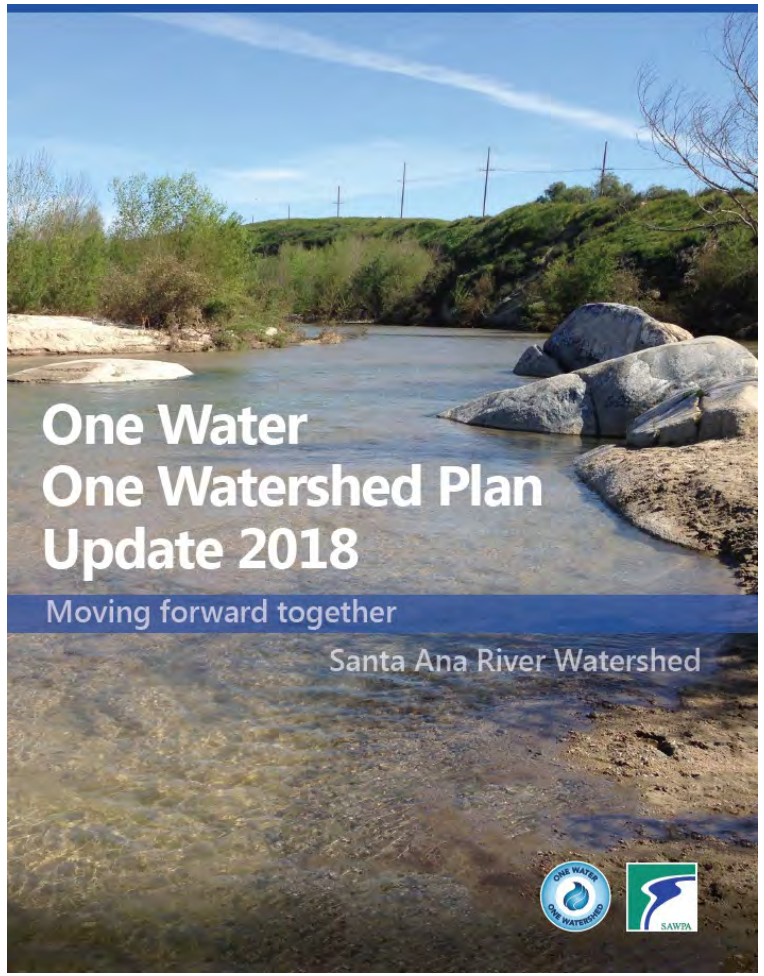
- Will target 100 single family residential properties for 1,000 square feet of turf removal per home (total of 100,000 square feet); and
- Will save 11,176 kWh per year from reducing groundwater pumping.

Item	Grant	Match*
Project Management	$72,000	$ -
Turf Removal Contractor	$500,000	$100,000
Outreach to Customers	$21,000	$ -
Total	**$593,000**	**$100,000**

*Provided by Riverside Public Utilities

City of Riverside – SAWPA WECAN Component



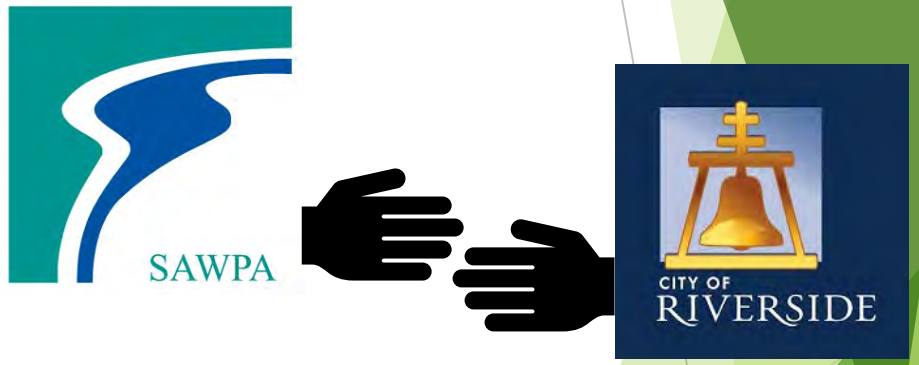


Benefits of Executing the Agreement

- Allows SAWPA to implement the OWOW Plan Update 2018 goals of engaging disadvantaged communities and implementing water conservation in the watershed;
- Allows watershed to attain water-energy nexus benefits of saving 13.5 acre-feet per year and 11,176 kWh per year; and
- Furthers a partnership with the City of Riverside, a member on the OWOW Steering Committee.

Recommendation

Authorize the General Manager to execute a Partnership Agreement between SAWPA and the City of Riverside in support of the City application for a Transformative Climate Communities grant which, if awarded, would fund a component of the Water-Energy Community Action Network (WECAN) Program for approximately $700,000.



PARTNERSHIP AGREEMENT

FOR THE COLLABORATIVE STAKEHOLDER STRUCTURE

FOR THE EASTSIDE CLIMATE COLLABORATIVE TRANSFORMATIVE CLIMATE COMMUNITIES INITIATIVE

by and among

THE CITY OF RIVERSIDE

and

THE COUNTY OF RIVERSIDE,

WESTERN RIVERSIDE COUNCIL OF GOVERNMENTS,

WAKELAND HOUSING & DEVELOPMENT CORPORATION,

RIVERSIDE COMMUNITY HEALTH FOUNDATION,

RIVERSIDE TRANSIT AGENCY,

GRID ALTERNATIVES,

RIVERSIDE UNIFIED SCHOOL DISTRICT,

SAFE ROUTES TO SCHOOL NATIONAL PARTNERSHIP,

SANTA ANA WATERSHED PROJECT AUTHORITY,

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

and

COMMUNITY SETTLEMENT ASSOCIATION OF RIVERSIDE

Dated _____, 2020

TABLE OF CONTENTS

PARTNERSHIP AGREEMENT FOR THE COLLABORATIVE STAKEHOLDER STRUCTURE FOR THE EASTSIDE CLIMATE COLLABORATIVE TRANSFORMATIVE CLIMATE COMMUNITIES INITIATIVE

This PARTNERSHIP AGREEMENT FOR THE COLLABORATIVE STAKEHOLDER STRUCTURE FOR THE EASTSIDE CLIMATE COLLABORATIVE TRANSFORMATIVE CLIMATE COMMUNITIES INITIATIVE ("Partnership Agreement") is made and entered into this ___ day of _____, 2020, by and between THE CITY OF RIVERSIDE, a California charter city and municipal corporation ("City"); THE COUNTY OF RIVERSIDE, a political subdivision of the State of California, through the County of Riverside Economic Development Agency ("County"); WESTERN RIVERSIDE COUNCIL OF GOVERNMENTS, a California joint powers authority ("WRCOG"); WAKELAND HOUSING & DEVELOPMENT CORPORATION, a California nonprofit public benefit corporation ("Wakeland"); RIVERSIDE TRANSIT AGENCY, a California joint powers authority ("Transit Agency"); GRID ALTERNATIVES, a California nonprofit corporation ("GRID"); RIVERSIDE UNIFIED SCHOOL DISTRICT, a California public school district ("District"); SAFE ROUTES TO SCHOOL NATIONAL PARTNERSHIP, a California nonprofit corporation ("Safe Routes"); SANTA ANA WATERSHED PROJECT AUTHORITY, a California joint powers authority ("SAWPA") (each a "Project Partner" and collectively the "Project Partners"); THE REGENTS OF THE UNIVERSITY OF CALIFORNIA, a California nonprofit corporation formed under Article IX of the California Constitution, as represented by University of California Riverside Center for Environmental Research and Technology ("UCR" or "Data Partner"); RIVERSIDE COMMUNITY HEALTH FOUNDATION, a California nonprofit corporation ("Foundation" or "Outreach Partner"); and COMMUNITY SETTLEMENT ASSOCIATION OF RIVERSIDE, a California nonprofit corporation ("CSA" or "Non-Displacement Partner"). Together, the Project Partners, Data Partner, Outreach Partner, and Non-Displacement Partner may hereafter be referred to individually as "Partner" and collectively as "Partners". Together, the City and Partners may hereafter be referred to individually as "Party" or collectively "Parties".

RECITALS

A. The California Strategic Growth Council (SGC) awards grants for the development and implementation of neighborhood-level climate sustainability plans as part of the Transformative Climate Communities (TCC) program.

B. The City is the Lead Applicant and Grantee applying to SGC for a grant ("TCC Grant") to fund a range of projects that will reduce greenhouse gas emissions, foster public health and environmental benefits, and catalyze economic opportunity and shared prosperity within the eastside community of the City of Riverside, as depicted in Exhibit "A" attached hereto and incorporated herein by this reference ("Eastside Neighborhood" or "Project Area"). The proposed program will hereafter be referred to as "Eastside Climate Collaborative."

C. The Partners are organizations or public entities, authorized to lead community-based projects, who have demonstrated the organizational capacity to support the City in the implementation of the Eastside Climate Collaborative.

D. The Parties have individually and collectively engaged the residents and stakeholders in the Eastside Neighborhood in multiple visioning and planning processes over the past decade, culminating in the public workshops which created the Eastside Climate Collaborative. The City and the Partners believe the Eastside Climate Collaborative can positively transform of the Eastside Neighborhood, achieving strong public health and economic goals and significantly reducing greenhouse gas emissions.

E. The Partners fully support the objectives, goals, strategies, and projects identified under the TCC grant application that was proposed by the City for approval by the SGC ("TCC Grant Application"), and the Partners agree to be Co-Applicants for the TCC Grant Application.

F. SGC requires this Partnership Agreement to set forth the agreed upon governance structure and terms of operation required to implement the Eastside Climate Collaborative, including but not limited to, the expectations and responsibilities of the Parties, legal and financial terms, and community engagement and decision-making processes.

G. The Parties desire to enter into a Partnership Agreement as hereinafter set forth in order to establish a collaborative stakeholder structure for matters pertaining to the TCC Grant and the implementation of the Eastside Climate Collaborative in the Project Area.

H. The Parties acknowledge and agree that other Partners may be added to this Partnership Agreement from time to time.

TERMS AND CONDITIONS

Section 1. DEFINITIONS.

1.1 General. The definitions set forth in the above recitals, in the TCC Guidelines, and otherwise indicated in parenthesis hereafter, shall apply to this Partnership Agreement.

1.2 AHSC. "AHSC" shall mean the Affordable Housing and Sustainable Communities Program.

1.3 AHSC Guidelines. "AHSC Guidelines" shall mean the 2019/2020 AHSC Final Guidelines.

1.4 Application. "Application" shall mean the TCC Grant Application for funding submitted by City.

1.5 Bi-monthly. "Bi-monthly" shall mean every other month.

1.6 Budget. "Budget" shall mean the budget for a particular CCI Project.

1.7 Budget Report. "Budget Report" shall mean the report containing the budget for a particular CCI Project, which breaks down cost by task and lien item.

1.8 Close-out Report. “Close-Out Report” shall mean the report submitted to the SGC at the conclusion of an individual CCI Project.

1.9 Critical Community Investment Project. “Critical Community Investment Project” or “CCI Project” shall mean a project implemented with TCC Grant Funds.

1.10 Community Engagement Plan. “Community Engagement Plan” shall mean the plan that sets forth the community outreach tools and goals of the City and Partners.

1.11 Data Collection Plan. “Data Collection Plan” shall mean the plan that codifies data collection methods and reporting requirements and identifies all metrics to be tracked pursuant to the requirements the TCC Grant Agreement and pursuant to the wishes of the Leadership Council.

1.12 Displacement Avoidance Plan. “Displacement Avoidance Plan” shall mean the plan that addresses the displacement prevention needs of the community.

1.13 Eastside Climate Collaborative Plan. “Eastside Climate Collaborative Plan” or “Plan” shall mean all aspects of the project plan required by the City and its Partners in the TCC Grant Agreement.

1.14 GHG. “GHG” shall mean “Green House Gas.”

1.15 Grant Term. “Grant Term” shall mean the term of the TCC Grant Agreement.

1.16 Hub. “Hub” shall mean a subcommittee or subset of the Leadership Council that is tasked with a particular area of focus, is responsible for in-depth study of that area, and reports back to the full Leadership Council with regard to this focus.

1.17 Indicator Report. “Indicator Report” shall mean a report that tracks and reports Indicator Tracking for a CCI Project.

1.18 Indicator Tracking. “Indicator Tracking” shall mean the tracking and assessment of certain elements to measure the overall impact of the CCI Project investments, as outlined in the TCC Guidelines.

1.19 Indicator Tracking Plan. “Indicator Tracking Plan” shall mean the plan that sets forth the community-driven Indicator Tracking guidelines that will govern data collection and progress tracking for CCI Projects.

1.20 Lead Applicant. “Lead Applicant” shall mean the City of Riverside.

1.21 Leadership Council. “Leadership Council” shall mean the advisory body to the Lead Applicant.

1.22 Leverage Funding. “Leverage Funding” shall mean the funding, other than TCC Grant funds, used to supplement TCC Grant funds for the completion of all or a portion of a CCI Project.

1.23 Notice to Proceed. "Notice to Proceed" shall mean the notice issued by the City to all Partners once the TCC Grant Agreement has been fully-executed by and between the City and SGC.

1.24 Performance Period. "Performance Period" shall mean the period of time beginning immediately upon the completion of a CCI Project and ending upon a date determined by the City, during which Partners will be required to complete additional Indicator Tracking.

1.25 Riverside Eastside Community. "Riverside Eastside Community" shall mean those residents and stakeholders in the Project Area.

1.26 Subcontractor. "Subcontractor" shall mean any third party used by any Partner to perform any work in furtherance of a CCI Project.

1.27 TCC Grant Agreement. "TCC Grant Agreement" shall mean the agreement entered into by and between the City and the SGC.

1.28 TCC Guidelines. "TCC Guidelines" shall mean the TCC Program Guidelines for 2019/2020 adopted on October 31, 2019.

1.29 Workforce Development Plan. "Workforce Development Plan" shall mean the plan that governs procurement and imposes local-hire requirements on Parties for CCI Projects.

1.30 Working Group. "Working Group" shall mean a group consisting of the members of the Leadership Council and the Eastside Community, established for the purpose of facilitating discussion and information-sharing with regard to a particular task.

1.31 Work Plan. "Work Plan" shall mean a plan setting forth the timeline, discrete tasks, and detailed deliverables for a particular CCI Project.

1.32 Work Product. "Work Product" shall mean any writings, notes, memoranda, reports, research, and useable data, whether created or collected by a Partner or a Subcontractor of a Partner, generated in connection with the planning or implementation of the Eastside Climate Collaborative.

Section 2. INCORPORATION AND ACKNOWLEDGEMENT OF TERMS.

2.1 Incorporation. The City and its Partners intend that this Partnership Agreement shall conform to and satisfy all requirements of the TCC Guidelines, AHSC Guidelines, and the TCC Grant Agreement. Each Party's performance shall be conducted in accordance with the TCC Grant Agreement, the TCC Guidelines, the AHSC Guidelines, and this Partnership Agreement (hereafter collectively the "Performance Terms").

2.2 Acknowledgement. Each Party acknowledges that it has reviewed the Performance Terms, participated in the preparation of the Eastside Climate Collaborative Plan and the TCC Grant Application, and is fully committed to the goals and requirements of the Performance Terms.

Section 3. PURPOSE AND GOALS.

3.1 Purpose. The purpose of this Partnership Agreement is to formalize the partnership and understanding between the Parties and to set forth the terms by which the Parties will manage, coordinate, and administer TCC Grant-related activities within the boundaries of the Project Area. The Parties agree that the purpose for conducting the activities as a coordinated group shall include the following:

a. Implementing activities, programs, strategies, and projects as set forth in the TCC Grant Agreement;

b. Promoting the execution of objectives and goals set forth in the TCC Grant Agreement;

c. Providing a platform for community engagement and input into implementation of activities related to the TCC Grant; and

d. Performing such other functions as may be deemed necessary and appropriate to meet the objectives of this Partnership Agreement.

3.2 Goals. Each Party affirms that the Eastside Climate Collaborative is intended to create the necessary conditions for public and private investment in the Riverside Eastside Community to support the growth of community amenities and assets, such as increased public safety, quality educational facilities, improved infrastructure, increased mobility, reduced hazardous waste and carbon emissions, more affordable and stable housing, new local jobs, opportunities for business incubation, and other resources that are critical to the growth of a healthy and vibrant community.

Section 4. RESPONSIBILITIES OF ALL PARTIES.

4.1 Mutual Cooperation. Parties recognize that they have complementary expertise and common goals and interests. Parties shall endeavor to cooperate, work together, and share knowledge, expertise, and best practices with regards to the Plan and shall commit to working collaboratively with one another and with community stakeholders throughout the Grant Term. The Parties hereto agree that they will each provide such information and documentation as is reasonably necessary to fulfill the intent of this Partnership Agreement and make diligent efforts to respond to inquiries and requests for information from the other Parties. The Parties agree to provide all Project-related information and documents as requested by the other Party or the State of California, including all grant-related reporting and documentation.

4.2 Leveraging of Available Funds. Parties shall make good faith efforts, as appropriate, to leverage available federal, state, local, and private funds, and to assist other Parties in leveraging

available federal, state, local, and private funds, to support integrated strategic investment for the transformation of the Eastside Neighborhood.

4.3 Communication. Parties shall commit to the principle of good communication, especially when one's work may have some bearing on the responsibilities of the other. Parties shall seek to alert each other as soon as practical to relevant developments with regards to the Plan and its execution. Parties shall also ensure that it is clear who the appropriate contacts are for particular matters and that contact details are kept up to date.

Section 5. CITY – ROLE AND RESPONSIBILITIES.

5.1 Lead Applicant and Grantee. City shall be the Lead Applicant and Grantee and shall execute the TCC Grant Agreement, carry out all responsibilities of Grantee as described in the Performance Terms, and work closely with the Department of Conservation throughout the implementation of the Plan. City commits to all duties and responsibilities corresponding to the Lead Applicant's role under the Eastside Climate Collaborative Plan for the length of the TCC Grant Term. City acknowledges that it:

a. Has reviewed the FY2020 Transformative Climate Communities Grant Program NOFA, Final Guidelines, and related guidance from the State of California Strategic Growth Council;

b. Has participated in the preparation of the Eastside Climate Collaborative Plan and Application; and

c. Is fully committed to the goals and requirements of the NOFA, the Eastside Climate Collaborative Plan, the Application, the requirements of the Grant, and this Partnership Agreement.

5.2 Treasurer. City shall hold one seat on, and be Treasurer of, the Leadership Council.

5.3 Hub and Working Group Participation. City shall participate in every Hub and Working Group. In doing so, the City will have the responsibility of monitoring day-to-day activities and maintaining awareness of roadblocks, conflicts, and performance issues. For the City, responsibility will be borne by the Office of the City Manager and the Community and Economic Development Department.

5.4 Grant Administration. City shall serve as the administrator of the TCC Grant, including but not limited to, compiling all invoices, supporting documentation, and reporting materials for CCI Projects. City shall ensure compliance with all accounting, disbursement, recordkeeping, and all other compliance requirements of the Performance Terms with respect to the City and Partners.

5.5 Disbursement and Accounting of Funds. City shall be responsible for the disbursement of the TCC Grant funds in accordance with Performance Terms. Within sixty (60) days from the date that a Partner submits a request for disbursement, the City shall disburse the TCC Grant funding to Partners. In the event additional time is needed to allow the SGC to process the requesting

Partner's disbursement request, the City shall communicate to the requesting Partner the reason for the delay and the anticipated date for disbursement.

5.6 Financial Support. City shall leverage as appropriate, or assist in leveraging, available federal, state, local, and private funds as available to support integrated strategic investment for the transformation of the Project Area.

5.7 Oversight of Implementation. City shall supervise and coordinate the implementation of activities related to the TCC Grant, including the housing, urban greening, and transportation components of the Plan, and enter into any necessary additional agreements with the Project Partners, Data Partner, Outreach Partner, or Anti-Displacement Partner, outside of this Partnership Agreement, to facilitate the implementation of the Plan.

5.8 Workforce Development. City shall impose on Partners and monitor the local hire goals set forth in the Workforce Development Plan.

5.9 Community Engagement. City shall coordinate with the Partners in the implementation of the Community Engagement Plan and be responsive to the Outreach Partner's direction with regard to community outreach and the facilitation of local involvement.

5.10 Displacement Avoidance. City shall cooperate with Partners to implement the Displacement Avoidance Plan and address the displacement prevention needs of the community while focusing on key educational opportunities, encouraging advocacy, and facilitating accountability on behalf of the Riverside Eastside Community.

5.11 Indicator Tracking. City shall work with the Partners and the Leadership Council to develop a community-driven Indicator Tracking Plan and local monitoring guidelines and ensure that all Partners comply with the Indicator Tracking Plan.

5.12 Reporting. City shall be responsible for any and all required reports, including but not limited to Progress Reports, Indicator Reports, Budget Reports, and Close-Out Reports.

Section 6. PROJECT PARTNERS - ROLES AND RESPONSIBILITIES.

6.1 Co-Applicants. Each Project Partner shall be a Co-Applicant to the TCC Grant Application and shall carry out all responsibilities associated with its respective CCI Project(s) as directed by the City and in accordance with the Performance Terms.

6.2 Representation on Leadership Council. Each Project Partner shall hold one seat on the Leadership Council.

6.3 Hub and Working Group Participation. Each Project Partner shall participate in one or more Hub or Working Group, based on the respective "project type" that it intends to implement, as outlined in Appendix B to the TCC Guidelines and as appropriate with regard to the size of its Project. Participation in a Hub or Working Group requires attendance at regular meetings, coordination with organizations doing like-projects in the Hub or Working Group, joint problem-

solving and resource-sharing, coordination of community engagement and outreach activities, joint development and input on data tools and metrics, the timely submission of data for reports to the Leadership Council, and preparation of materials for public dissemination. Project Partners may agree to lead a Hub or Working Group, taking on the relative duties required of that position.

6.4 Project Development. Each Project Partner shall develop ideas for programs and projects that directly impact neighborhood quality in the Project Area and shall create scope(s) of work for its respective CCI Project(s) in alignment with the vision of the Eastside Climate Collaborative Plan.

6.5 Implementation of CCI Project. Each Project Partner shall oversee the implementation of its respective CCI Project, in accordance with Performance Terms, and with respect thereto shall:

a. Secure all necessary governmental approvals, reviews, licenses, or permits;

b. Immediately notify the City and the Leadership Council of any change in schedule, design, or outcome so that the determination can be made as to whether State review and/or a change to the GHG calculation is required;

c. Prepare and propose solutions and an action plan to address any issues as they arise, working collaboratively with other Parties, subcontractors, and stakeholders to ensure that its CCI Project does not deviate from its intended purposes and the expectations of the Eastside Neighborhood;

d. Ensure that there are no conflicts between policies or restrictions on sources of funds needed to complete CCI Projects; and

e. Refrain from using TCC Grant Funding to supplant Leverage Funding.

6.6 Implementation Policies. Each Project Partner agrees to participate in and incorporate the following implementation policies, as appropriate to its respective project: the Community Engagement Plan, the Workforce Development Plan, and the Displacement Avoidance Plan. Project Partners agree to abide by the goals set forth in the Workforce Development Plan when procuring any portion of work associated with their respective CCI Project and when hiring any related temporary or permanent positions, unless the Project Partner is a public entity, in which case it is required to comply with its agency's applicable hiring and procurement statutes.

6.7 Hiring Subcontractors. Project Partners may contract with Subcontractors for needed administrative, design, construction, engagement, or implementation support for CCI Projects. City's obligation to pay the Project Partner is an independent obligation from the Project Partners' obligations to pay their respective Subcontractors. With regard to Subcontractors:

a. Project Partners are entitled to make use of their own staff and Subcontractors as identified in their respective Budget and Work Plan.

b. Project Partners shall manage, monitor, and accept responsibility for the performance of

their own respective staff and Subcontractors and shall conduct their respective project activities and services consistent with professional standards for the industry and type of work being performed under this Partnership Agreement.

c. Nothing in this Partnership Agreement or otherwise shall create any contractual relationship between the City and any Subcontractors retained by a Project Partner, and no Subcontractor will relieve the Project Partner of its obligations under the Agreement.

6.8 Reporting. Each Project Partner shall submit all required supporting documentation, as set forth in Section 10.5, to demonstrate that the work for which it is seeking reimbursement has been completed. Each Project Partner is responsible for its respective CCI Project and shall develop, prepare, and submit regular updates to the City and the Leadership Council regarding its progress toward CCI Project objectives, shall routinely update the information management platform regarding CCI Project schedule and objectives, and shall provide appropriate photos, stories, and meeting and event notices in a timely fashion to the City and Leadership Council.

6.9 Recordkeeping. Each Project Partner shall maintain its own records in accordance with Performance Terms and shall establish an official file for each CCI Project with adequate documentation supporting each action taken with respect to the Plan, including letters and email correspondence, financial records (including agreements and any associated documents with Subcontractors and receipts), engagement documentation, required reports, data, readiness and compliance documentation. Each Project Partner shall make such records available to the City for inspection. All such records shall be clearly identifiable. Each Project Partner and its Subcontractors shall allow inspection of all work, data, documents, proceedings, and activities related to the Partnership Agreement for a period of four (4) years from the day after the last day of the Performance Period.

Section 7. DATA PARTNER - ROLES AND RESPONSIBILITIES.

7.1 Co-Applicant. Data Partner shall be a Co-Applicant to the TCC Grant Application and shall hold the City and its Project Partners accountable to the specific impact goals of their respective CCI Project.

7.2 Representation on the Leadership Council; Reporting Role. Data Partner shall hold a seat on the Leadership Council and shall lead a discussion with the Leadership Council, quarterly, to review and analyze the Data Dashboard indicators to track Partners in connection with their respective performance goals and to help them understand initiative-wide progress toward their goals. If metric targets are not met, the Leadership Council will discuss potential issues, challenges, or barriers to success, and make recommendations for technical assistance, programmatic adjustments, or other interventions. Underperforming Partners will be asked to develop a program improvement plan for their respective project that identifies specific and measurable goals, outcomes, and indicators of success within a specific timeline.

7.3 Hub and Working Group Participation. As the objective data manager, the Data Partner shall coordinate with the Community Engagement Working Group, and any other Hub or Working Grouping wherein its expertise is needed, as assigned by the City.

7.4 Community Engagement. Data Partner, in coordination with the Outreach Partner, shall engage residents and businesses in an annual survey geared toward tracking communitywide indicators to determine if CCI Projects are changing attitudes, behavior, health, and circumstances for Riverside's Eastside Community. Data Partner shall identify publicly available data (e.g. Census, Bureau of Labor Statistics) for tracking neighborhood and community-level metrics, including stress levels, rates of chronic disease, and community cohesion.

7.5 Tracking. Data Partner shall be responsible for ensuring that all data that Parties are required to track pursuant the TCC Grant Agreement are tracked appropriately and reported on in the appropriate timeframe and format. Data Partner shall in the first quarter of the TCC Grant Term:

a. Work closely with the City, the Leadership Council, and community stakeholders to identify specific indicators that will be tracked over time to understand CCI Project quality and to assess public health, economic development, GHG reductions, and other project-specific outcomes above and beyond those required under a TCC Grant Agreement. The final list of additional indicators will be approved by the Leadership Council.

b. Inventory and analyze how indicators are used for decision-making or quality improvements, which indicators are governed by regulatory requirements, and how data variables are defined (i.e. a data dictionary). This process will allow the Data Partner to recommend common variables for easy data integration.

c. Create the Data Collection Plan.

d. Create a Data Dashboard that provides monthly, quarterly, and annual reports on key indicators that the Leadership Council defines and that are required by the State in the TCC Grant Agreement.

7.6 Training. Data Partner shall ensure that Project Partners are meeting their data collection requirements. Data Partner shall train all Project Partners as applicable on what data to collect and how to collect their assigned data and report the data to meet State requirements and the TCC Grant Agreement.

7.7 Support. Data Partner shall provide support to Project Partners if they are facing obstacles or challenges in their data collection efforts.

7.8 Data Sharing. Data Partner shall work to develop data share agreements that allow Partners to participate in a centralized data portal for inputting and accessing data and monthly data reports.

Section 8. NON-DISPLACEMENT PARTNER – ROLES AND RESPONSIBILITIES.

8.1 Co-Applicant. Non-Displacement Partner shall be a Co-Applicant to the TCC Grant Application and shall work under contract with the City to prevent displacement by actively assisting the residents in the Project Area in matters of foreclosure avoidance and tenants' rights.

8.2 Representation on Leadership Council; Reporting Role. Non-Displacement Partner shall hold a seat on the Leadership Council and shall lead efforts to implement the Displacement Avoidance Plan, analyze the effectiveness of existing policies and programs on residents and businesses, make modifications as necessary, and report regularly to the Leadership Council on related non-displacement efforts.

8.3 Services and Programs. Non-Displacement Partner shall:

a. Maintain active certification with the Department of Housing and Urban Development (HUD);

b. Assist households with foreclosure prevention;

c. Provide tenant advocacy and referrals to low cost legal representation, including conducting intake and evaluations, and helping with transportation, translation, and general advocacy obligations; and

d. Conduct a series of workshops focusing on financial education, homeownership, tenants' rights, and local resources.

8.4 Reporting. Non-Displacement Partner shall keep a database of all clients and the services that it receives and shall provide quarterly updates to the Leadership Council. Non-Displacement Partner shall meet the following reporting requirements:

a. General Reporting Requirements.

(1) All reports must be completed using the templates attached to the TCC Grant Agreement or provided by the City.

(2) The first reporting period will begin on the start date of the TCC Grant Agreement by and between the City and SGC.

(3) All reports must be submitted to the City on the due date specified by the City. When the report due date falls on a weekend or state recognized holiday, reports will be due on the first working day that follows.

(4) All reports must be signed by the signatory to this Partnership Agreement.

(5) City and SGC may request to verify reports through methods that include, but are not limited to: supporting documentation, site visits, conference calls or video conferencing.

b. Bi-Monthly Progress Reports. Non-Displacement Partner shall complete Bi-Monthly Progress Reports using the template attached to a TCC Grant Agreement.

c. Annual Reports. Non-Displacement Partner shall complete an annual progress report, an annual leverage funding report, in accordance with Performance Terms, an Indicator Tracking Report, and a detailed Work Plan and Budget using the templates included in a TCC Grant Agreement, once per year.

Section 9. OUTREACH PARTNER – ROLES AND RESPONSIBILITIES.

9.1 Co-Applicant. Outreach Partner shall be a Co-Applicant to the TCC Grant Application and shall be responsible for the development of community outreach tools and the facilitation of local participation.

9.2 Representation on Leadership Council; Implementation of Community Engagement Plan. Outreach Partner shall hold a seat on the Leadership Council and shall lead efforts to implement the Community Engagement Plan.

9.3 Community Engagement. Outreach Partner shall coordinate and support resident involvement in major decisions, develop and manage a coalition of stakeholders in support of the Plan, and work with relevant stakeholders to increase the involvement of neighborhood residents, businesses, nonprofits, and grassroots and faith-based organizations.

9.4 Reporting. Outreach Partner shall track all outreach efforts and provide quarterly updates to the Leadership Council.

Section 10. COLLABORATIVE STRUCTURE.

10.1 General. Parties shall actively promote community engagement and shall work in conjunction through the Leadership Council. Leadership Council shall be entitled to make recommendations about, provide input into, and assist the Parties in the implementation of activities under the TCC Grant, but the Leadership Council does not have any final decision-making abilities. Leadership Council shall have the organization and powers specified below and shall use the framework, attached hereto in the Organizational Chart in Exhibit "B", to govern the implementation of the TCC Grant, to make decisions related to the Project, and to recommend any necessary changes to the Eastside Climate Collaborative Plan during implementation.

10.2 Membership. Leadership Council shall consist of sixteen (16) seats. Each of the ten (10) Parties to this Partnership Agreement shall designate one individual to represent that Party on the Leadership Council. Additionally, five (5) seats shall be "Community Seats", filled by individuals or organizations who reside or do business in the Project Area, and one (1) seat shall be a "Youth Seat", filled by an individual or organization from the Project Area representative of the youth demographic. As it concerns the Community Seats and the Youth Seat, individuals or community organizations from the wishing to serve on the Leadership Council must submit a request to the City for appointment onto the Leadership Council. City shall be responsible for appointing representatives to the Community Seats and Youth Seat. All representatives on the Leadership Council will hereafter be referred to as "Members."

a. Adding or Removing Members. Any organization or individual that is a party to this Partnership Agreement will be a member on the Leadership Council, so removal or addition of a party to this Partnership Agreement will likewise remove or add a member to the Leadership Council. As it concerns the Community Seats and the Youth Seat, the City may, at any time, increase the number of Community Seats and Youth Seats, but may not otherwise decrease the number of Community Seats and Youth Seats below that which is set forth in this Partnership Agreement. Members in the Community Seats and Youth Seat(s) may resign, at any time, upon written notice to the City.

10.3 Meetings. To establish order and efficiency, upon the City's issuance of the Notice to Proceed, the Leadership Council shall meet once a month until all Hubs, Working Groups, and communication processes are fully-established ("Establishment Phase"). In no event shall the Establishment Phase be shorter than six (6) months. After the completion of the Establishment Phase, the Leadership Council shall conduct meetings at least on a quarterly-basis, as follows:

a. Location. Meetings shall be held within the Project Area, at a time and location previously determined by the Parties.

b. Open and Public. Meetings shall be open and public and shall be facilitated in a manner that promotes equity, respect, and resident empowerment. To maximize public participation, the Leadership Council shall not discuss any item not appearing on the duly-noticed and published agenda, as set forth in subsection (c). Each meeting agenda shall include an item at the beginning of the agenda for public comment for items not on the agenda so that the public has an opportunity to address the Leadership Council regarding all matters within the Leadership Council's purview. Additionally, the public shall have the opportunity to speak on any item on the agenda prior to the Leadership Council's discussion of or decision on that item.

c. Notice. City shall ensure that meeting agendas and materials are published and made accessible to the public at least seventy-two (72) hours before a meeting. Agendas shall contain item descriptions that set forth the matter to be discussed with reasonable particularity so that the public is able to understand the subject to be discussed and the action to be taken. Parties shall make reasonable efforts to provide the agendas and presentation materials in Spanish and English. In order to facilitate greater public participation, the Leadership Council shall also make efforts to forward the agenda and materials to specific residents and businesses in the Project Area who have particular interests in an agenda item. Notwithstanding the foregoing, the Parties recognize that in some circumstances decisions and changes related to TCC Grant implementation may require more expedient action. In the case of an emergency decision, discussion and notification may be made via email to the Leadership Council members and a recommendation formed with the necessary affirmative votes via email. Such decisions shall be reported and revisited at the next regular Leadership Council meeting.

d. Decision-Making and Dispute Resolution. All substantive changes or material issues related to implementing the Eastside Climate Collaborative Plan shall be presented to the Leadership Council at a regularly scheduled meeting. If the Leadership Council is unable to reach consensus on a matter, the City should pursue conflict resolution and address the division before moving forward. Addressing the division may include further community outreach, modification of the proposal, and further reporting to the Leadership Council. It is the goal of the process to have all recommendations be supported by the majority of the Leadership Council.

e. Bylaws. At its first meeting, the Leadership Council shall discuss governance procedures and set key priorities for managing future meetings. At the conclusion of the first meeting, the Leadership Council, by affirmative vote of the majority of Members present at the meeting, shall appoint five (5) Members to draft bylaws for the collaborative stakeholder structure and set the priorities of the Leadership Council. The bylaws and priorities shall confirm to the general terms and intent of this Partnership Agreement and shall become effective upon adoption by the Leadership Council.

f. Officers. At its first meeting, the Leadership Council, by affirmative vote of a majority of Members present at the meeting, shall appoint members to serve as Chair, Vice Chair, and Secretary of the Leadership Council. The Treasurer shall be the City.

10.4 Hub Implementation. Leadership Council, in accordance with this Partnership Agreement, shall assign Members to work within the following Hubs: (1) Sustainable Housing, (2) Urban Greening, (3) Active Transportation, and (4) Low Carbon Transportation. Any recommendation to change the number or type of Hubs should be brought before the Leadership Council for discussion. Hubs shall otherwise operate as follows:

a. Meetings and Structure. Each Hub will be convened initially by the City, and shall establish its meeting schedule, meeting guidelines, agenda, and structure at its first meeting. Because the work of each Hub is so complex and involves its own set of Partners and constituencies, each Hub should have its own organizational structure, with one or two Partners agreeing to act as the lead ("Hub Lead"). Hub Leads are required to commit to managing the Hub for a minimum of one year. Unless the Hub establishes co-leads, if more than one organization wants to lead the Hub, then the members in the Hub shall vote, one vote per member, and the member receiving the majority vote shall become the Hub Lead. In order to ensure consistency in messaging, access to the same high-level advice, funding and tools, and expediency in implementation, the City shall participate in all Hub meetings, and the Hubs shall report about and receive guidance on their work at each Leadership Council meeting.

b. Subcontractor Participation. Subcontractors are strongly encouraged to participate in the Hub meetings. Subcontractors play a critical role in assisting the Project Partners in reaching their goals and should be part of the cross-pollination process.

10.5 Working Group Implementation. Each Hub shall designate at least one representative to sit on each of the following Working Groups: City Oversight Working Group, the Community Engagement Working Group, the Workforce Working Group, and the Displacement Avoidance Working Group. The composition and operations of each Working Group shall be as follows:

a. City Oversight Working Group. In order to effectively resolve issues among and between Project Partners and community stakeholders related to implementing work, City agencies necessary for plan implementation (e.g, Public Works, Parks and Recreation, Community and Economic Development, and Public Utility) shall form a Working Group to meet on a Bi-monthly basis to collaborate, prioritize, streamline and track the overall progress of the Eastside Climate Collaborative Plan. Other departments and resources will be called in on an as-needed basis to ensure problems are solved rapidly and thoughtfully. This Working Group will advise the Leadership Council on critical issues related to project feasibility and implementation and provide suggestions for how to resolve issues or expedite project completion. The Community & Economic Development Department will convene and lead this working group.

b. Technical & Design Review Working Group. To evaluate potential changes to the Plan through the implementation process, a technical and design review working group shall be formed. This Working Group is available to the Hubs and shall meet with Partners who are requesting changes or modifications to their respective projects for the purpose of evaluating the feasibility and challenges related to the request. This Working Group will be responsible for communicating with the City on potential changes or feedback on implementation challenges. The City will share this information with SGC. This Working Group shall report to the Leadership Council on recommendations for modifications to the Eastside Climate Collaborative Plan. The City will be responsible for convening this working group.

c. Community Engagement Working Group. Community Engagement Working Group shall be led by the Outreach Partner and shall include a representative from each Hub, a team of community members hired to do community engagement work, the City, and all communication-related Subcontractors hired to work on the Eastside Climate Collaborative. This Working Group shall coordinate and plan outreach/engagement activities and efforts, craft communication messages, provide input on website and other social media design, ensure community engagement and participation for planning and implementing larger community events in the Project Area, and recruit grassroots organizations and networks to assist in community -based data collection, and dissemination of information and notices.

d. Workforce Working Group. Workforce Working Group shall be established by the County and utilized by all Partners as necessary for advice and coordination on all training and hiring opportunities within each Project Type. Workforce Working Group will assist in job mapping, local labor force referrals, developing and

advising on training modules, and connecting Partners to education and workforce partners.

e. Displacement Avoidance Working Group. Displacement Avoidance Working Group shall be overseen by the Non-Displacement Partner. This Working Group will allow the Non-Displacement Partner to coordinate its displacement avoidance efforts and to make sure that a lens of anti-displacement is incorporated in the implementation of all Eastside Climate Collaborative CCI Projects.

10.6 Community Representation. Parties acknowledge that community representation throughout the process is integral for the success of the Eastside Climate Collaborative, and Parties take all reasonable measures to engage the public, including but not limited to the following:

a. Working Groups, Hubs, and the Leadership Council will be forums wherein community stakeholders and Partners are able to participate in the discussion and decision-making process.

b. City will use existing local community groups and resident organizations to publicize meetings and utilize its Partners to assist in community outreach and engagement.

c. The determination and implementation of some Projects (specifically in the Urban Greening and Active Transportation Hubs) require more design, and Partners have committed to robust community participation in all aspects of design and location.

d. City shall consult with the Partners and community stakeholders privately and in Working Group settings to ensure clear messaging and communication on goals and requirements, address conflicts and roadblocks as they arise, and ensure that decisions are well-informed and made quickly to guarantee success.

10.7 Accountability. City shall work with Partners and stakeholders to engage them on what measures the community would like to see to ensure accountability throughout the process, including but not limited to the following:

a. In order to be accountable to the community, the City and the Co-Applicants commit to regular tracking of project metrics.

b. If metric targets are not met, the Leadership Council will discuss potential issues, challenges, or barriers to success, and make recommendations for technical assistance, programmatic adjustments, or other interventions. Underperforming Partners will be asked to develop a program improvement plan, for their respective project, that identifies specific and measurable goals, outcomes, and indicators of success within a specific timeline.

c. All CCI Projects will include strong levels of community engagement and input and are required to report out to their respective Hubs, allowing for peer-to-peer accountability and evaluation as well as direct community accountability.

d. Data Partner will engage residents and businesses in a survey geared towards developing communitywide indicators that can be tracked to determine if the TCC investments are changing attitudes, behavior, health, and circumstances for the Project Area.

e. Leadership Council meetings will be open to the public, with clear agendas, minutes and a record of attendance to ensure regular accountability.

f. City is responsible for ensuring the accountability of its Co-Applicants, Partners, and Working Groups to meet their responsibilities and implement their Projects in a timely fashion, in accordance with their Work Plan and within their budget allocation.

g. City will dedicate staff to monitor all Projects, participate in Hubs and Working Groups, and track progress through data dashboards and utilization of specific project management software and smart sheets that create charts and allow for task collaboration. Utilizing this software allows the City to measure progress and determine early on when tasks and timelines are not being met.

h. City, as Lead Applicant, will meet with Co-Applicants when items begin to get flagged as late and develop appropriate work plans to address issues as they arise.

i. City and Hub Leads will engage in site visits to visually inspect progress and build out of all projects and will utilize its Technical and Design Working Group with all accountability steps.

Section 11. TERM AND TERMINATION.

11.1 Term. This Partnership Agreement shall become effective as of the date on which the last Party executes this Partnership Agreement ("Effective Date"). The Term shall commence on the Effective Date and continue for five (5) years thereafter and shall automatically terminate unless otherwise extended by a written amendment to this Partnership Agreement executed by all of the Parties.

11.2 Termination. City reserves the right to terminate this Partnership Agreement for convenience upon thirty (30) days' written notice to the Co-Applicants. Co-Applicants reserve the right to terminate their participation in this Partnership Agreement for convenience upon thirty (30) days written notice to the City. This Partnership Agreement shall automatically terminate if the Eastside Climate Collaborative Application does not receive a grant award based on its response to the FY2019 NOFA.

11.3 Co-Applicant Substitution. City, as the Lead Applicant, may remove and substitute individual Co-Applicants to this Partnership Agreement on an as needed basis, without the prior approval of other Co-Applicants.

11.4 Work Product. Each Co-Applicant shall deliver its Work Product to the City in Event of Termination.

11.5 Reimbursement. A Co-Applicant may submit a final request for reimbursement within sixty (60) days of termination. City shall review and seek reimbursement for all Co-Applicant sums for services actually performed and properly accounted for prior to the effective date of termination. No reimbursement submittals will be processed if received more than sixty (60) days after termination. Requests for reimbursement shall include invoices and any other necessary documentation, as determined by subsequent agreement between the City and the Co-Applicant.

Section 12. INDEMNIFICATION.

Each Partner shall indemnify, defend, and hold the City and the City's officers, agents, and employees harmless from all damages, costs and expenses, including reasonable attorneys' fees, in law or equity, that may arise or be incurred due to the intentional or negligent acts, errors, or omissions of that Partner, its officers, agents, or employees, in the performance of this Partnership Agreement.

City shall indemnify, defend, and hold each Partner harmless from all damages, costs and expenses, including reasonable attorneys' fees, in law or equity, that may arise or be incurred due to intentional or negligent acts, errors, or omissions of the City, its officers, agents, or employees, in the performance of this Partnership Agreement.

Section 13. INSURANCE.

13.1 General Provisions. Immediately upon the City's issuance of the Notice to Proceed, Co-Applicants shall provide satisfactory evidence of, and shall thereafter maintain during the term of this Partnership Agreement, such insurance policies and coverages in the types, limits, forms and ratings required herein. The rating and required insurance policies and coverages may be modified in writing by the City's Risk Manager or City Attorney, or a designee, unless such modification is prohibited by law. Any Party that is an authorized self-insured public entity for purposes of Professional Liability, General Liability, and Workers' Compensation warrants that it has the equivalent of the following coverages adequate to protect against liabilities arising out of the performance of the terms, conditions, or obligations of this Partnership Agreement and shall provide a self-insured affirmation letter to the City immediately upon the City's issuance of the Notice to Proceed.

a. Limitations. These minimum amounts of coverage shall not constitute any limitation or cap on a Co-Applicant's indemnification obligations.

b. Ratings. Any insurance policy or coverage provided by a Co-Applicant or Subcontractors as required by this Partnership Agreement shall be deemed inadequate and a

material breach of this Partnership Agreement unless such policy or coverage is issued by insurance companies authorized to transact insurance business in the State of California with a policy holder's rating of A or higher and a Financial Class of VII or higher.

c. Cancellation. The policies shall not be canceled unless thirty (30) days' prior written notification of intended cancellation has been given to City by certified or registered mail, postage prepaid.

d. Adequacy. City, its officers, employees and agents make no representation that the types or limits of insurance specified to be carried by a Co-Applicant pursuant to this Partnership Agreement are adequate to protect that Co-Applicant. If Co-Applicant believes that any required insurance coverage is inadequate, Co-Applicant will obtain such additional insurance coverage as Co-Applicant deems adequate, at Co-Applicant's sole expense.

13.2 Workers' Compensation Insurance. By executing this Partnership Agreement, Co-Applicant certifies that Co-Applicant is aware of and will comply with Section 3700 of the Labor Code of the State of California requiring every employer to be insured against liability for workers' compensation, or to undertake self-insurance before commencing any of the work. Co-Applicant shall carry the insurance or provide for self-insurance required by California law to protect said Co-Applicant from claims under the Workers' Compensation Act. Immediately upon the City's issuance of the Notice to Proceed, Co-Applicant shall file with City either 1) a certificate of insurance showing that such insurance is in effect, or that Co-Applicant is self-insured for such coverage, or 2) a certified statement that Co-Applicant has no employees, and acknowledging that if Co-Applicant does employ any person, the necessary certificate of insurance will immediately be filed with City. Any certificate filed with City shall provide that City will be given ten (10) days' prior written notice before modification or cancellation thereof.

13.3 Commercial General Liability and Automobile Insurance. Immediately upon the City's issuance of the Notice to Proceed, Co-Applicant shall obtain, and shall thereafter maintain during the term of this Partnership Agreement, commercial general liability insurance and automobile liability insurance as required to insure Co-Applicant against damages for personal injury, including accidental death, as well as from claims for property damage, which may arise from or which may concern operations by anyone directly or indirectly employed by, connected with, or acting for or on behalf of Co-Applicant. The City, and its officers, employees and agents, shall be named as additional insureds under the Co-Applicant's insurance policies.

a. Co-Applicant's commercial general liability insurance policy shall cover both bodily injury (including death) and property damage (including, but not limited to, premises operations liability, products-completed operations liability, independent contractor's liability, personal injury liability, and contractual liability) in an amount not less than $1,000,000 per occurrence and a general aggregate limit in the amount of not less than $2,000,000.

b. Co-Applicant's automobile liability policy shall cover both bodily injury and property damage in an amount not less than $1,000,000 per occurrence and an aggregate limit of not less than $1,000,000. All of Co-Applicant's automobile

and/or commercial general liability insurance policies shall cover all vehicles used in connection with Co-Applicant's performance of this Partnership Agreement, which vehicles shall include, but are not limited to, Co-Applicant owned vehicles, Co-Applicant leased vehicles, Co-Applicant's employee vehicles, non-Co-Applicant owned vehicles and hired vehicles.

c. Immediately upon the City's issuance of the Notice to Proceed, copies of insurance policies or original certificates along with additional insured endorsements acceptable to the City evidencing the coverage required by this Partnership Agreement, for both commercial general and automobile liability insurance, shall be filed with City and shall include the City and its officers, employees and agents, as additional insureds. Said policies shall be in the usual form of commercial general and automobile liability insurance policies, but shall include the following provisions:

> It is agreed that the City of Riverside, and its officers, employees and agents, are added as additional insureds under this policy, solely for work done by and on behalf of the named insured for the City of Riverside.

d. The insurance policy or policies shall also comply with the following provisions:

(1) If the policy is written on a claims made basis, the certificate should so specify and the policy must continue in force for one year after completion of the services. The retroactive date of coverage must also be listed.

(2) The policy shall specify that the insurance provided by Co-Applicant will be considered primary and not contributory to any other insurance available to the City and Endorsement No. CG 20010413 shall be provided to the City.

Section 14. EFFECT OF THIS PARTNERSHIP AGREEMENT.

14.1 Parties acknowledge and agree that nothing contained in this Partnership Agreement shall be deemed a covenant, promise, or commitment by the City to enter into any other agreement on any particular terms or conditions, in furtherance of any the CCI Projects in the TCC Grant Application if not selected for TCC Grant funding. Partners further understand and agree that the State of California retains the ultimate discretion to approve or deny TCC Grant funding. Each Party's execution of this Partnership Agreement is merely an agreement to the terms of the collaborative stakeholder structure, contingent upon TCC Grant funding and award.

14.2 Nothing contained in this Partnership Agreement shall be construed to require, or have the effect of requiring, the City to take any action inconsistent with any applicable law, rule or regulation which governs the City's actions.

Section 15. NON-DISCRIMINATION.

Parties shall not discriminate on the grounds of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, including the medical condition of Acquired Immune Deficiency Syndrome (AIDS) or any condition related thereto, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military or veteran status in the selection and retention of employees and subcontractors and the procurement of materials and equipment, except as provided in Section 12940 of the California Government Code. Further, Parties agree to conform to the requirements of the Americans with Disabilities Act in the performance of this Partnership Agreement.

Section 16. DISPUTES.

Parties agree that before any Party commences any legal or equitable action, action for declaratory relief, suit, proceeding, or arbitration regarding the TCC Grant that the Parties shall first submit the dispute to mediation through a mutually acceptable professional mediator in Riverside County. Each Party shall bear its own expenses and costs associated with the mediation. Parties shall share the cost of a mediator equally.

Section 17. STATE DISCLAIMER.

Parties acknowledge that while the City has discussed the Project with the Strategic Growth Council, the State has not stated the conditions, if any, on which it would approve any approach to be funded pursuant to this Partnership Agreement. All terms and conditions stated in this Partnership Agreement or any other document regarding the Lead Applicant's or Co-Applicants' participation in the Project shall be modified as needed to meet all State requirements.

Section 18. MISCELLANEOUS.

18.1 Notices. Any notices, bills, invoices, or reports relating to this Partnership Agreement, and any request, demand, statement or other communication required or permitted hereunder shall be in writing to the addresses set forth on the signature pages , and shall be deemed to have been received on (a) the day of delivery, if delivered by hand during regular business hours or by confirmed facsimile during regular business hours; or (b) on the third business day following deposit in the United States mail, postage prepaid.

18.2 Conflict of Interest. No member, official or employee of the Parties shall have any personal interest, direct or indirect, in this Partnership Agreement nor shall any such member, official or employee participate in any decision relating to this Partnership Agreement which affects his or her personal interest or the interests of any corporation, partnership or association in which he or she is directly or indirectly interested.

18.3 Governing Law. This Partnership Agreement and any dispute arising hereunder shall be governed and interpreted in accordance with the laws of the State of California.

18.4 Venue. Any legal action related to the performance or interpretation of this Partnership Agreement shall be filed only in the Superior Court in Riverside County, California, and the Parties waive any provision of law providing for a change of venue to another location.

18.5 No Third-Party Beneficiaries. This Partnership Agreement is made and entered into for the sole protection and benefit of the Parties hereto and shall not create any rights in any third Parties. No other person or entity shall have any right of action based upon the provisions of this Partnership Agreement.

18.6 Section Headings. The Section headings herein are for the convenience of the Parties only and shall not be deemed to govern, limit, modify or in any manner affect the scope, meaning or intent of the provisions or language of this Partnership Agreement.

18.7 Compliance with Laws and Regulations; Legal Authority. By executing this Partnership Agreement, the Parties agree to comply with all applicable federal, state and local laws, regulations and ordinances. Nothing in this Partnership Agreement binds the Parties to perform any action that is beyond its legal authority.

18.8 Authority. The persons executing this Partnership Agreement or exhibits attached hereto on behalf of the Parties to this Partnership Agreement hereby warrant and represent that they have the authority to execute this Partnership Agreement and warrant and represent that they have the authority to bind the respective Parties to this Partnership Agreement to the performance of its obligations hereunder.

18.9 Assignment. The Parties shall not assign, transfer, or subcontract any interest in this Partnership Agreement without the prior written consent of the City. Any attempt to so assign, transfer, or subcontract any rights, duties, or obligations arising hereunder, without prior written consent of City shall be null, void and of no effect.

18.10 Counterparts. This Partnership Agreement may be executed in one or more counterparts, each of which shall be an original, but all of which shall constitute one and the same instrument.

18.11 Entire Agreement. This Partnership Agreement, including all exhibits and attachments hereto, is intended by the Parties hereto as a final expression of their understanding with respect to the subject matter hereof and as a complete and exclusive statement of the terms and conditions thereof and supersedes any and all prior and contemporaneous agreements and understandings, oral or written, in connection therewith. Any amendments to or clarification of this Partnership Agreement shall be in writing and acknowledged by all Parties to this Partnership Agreement.

[SIGNATURES ON FOLLOWING PAGES.]

IN WITNESS WHEREOF, the PARTIES hereto have caused this Partnership Agreement to be executed by their duly authorized representatives on the dates set forth below.

CITY OF RIVERSIDE,
a California charter city and municipal corporation

By:_____

Name:_____

Its:_____

Dated:_____

ATTESTED TO:

By:_____

APPROVED AS TO FORM:

By: _____

Address:

City of Riverside
Attention: Jeff McLaughlin
3900 Main Street
Riverside, CA 92522

THE COUNTY OF RIVERSIDE,
a political subdivision of the State of
California, through the County of Riverside
Economic Development Agency

By:_____

Name:_____

Its:_____

Dated:_____

By:_____

Name:_____

Its:_____

Dated:_____

WESTERN RIVERSIDE COUNCIL OF GOVERNMENTS, a California joint powers authority

By:_____

Name:_____

Its:_____

Dated:_____

By:_____

Name:_____

Its:_____

Dated:_____

WAKELAND HOUSING &
DEVELOPMENT CORPORATION,
a California nonprofit public benefit
corporation

By:_____

Name:_____

Its:_____

Dated:_____

By:_____

Name:_____

Its:_____

Dated:_____

RIVERSIDE COMMUNITY HEALTH FOUNDATION,
a California nonprofit corporation

By:_____

Name:_____

Its:_____

Dated:_____

By:_____

Name:_____

Its:_____

Dated:_____

RIVERSIDE TRANSIT AGENCY,
a California joint powers authority

By:_____

Name:_____

Its:_____

Dated:_____

By:_____

Name:_____

Its:_____

Dated:_____

GRID ALTERNATIVES,
a California nonprofit corporation

By:_____

Name:_____

Its:_____

Dated:_____

By:_____

Name:_____

Its:_____

Dated:_____

RIVERSIDE UNIFIED SCHOOL DISTRICT,
a California public school district

By:_____

Name:_____

Its:_____

Dated:_____

By:_____

Name:_____

Its:_____

Dated:_____

SAFE ROUTES TO SCHOOL NATIONAL PARTNERSHIP,
a California nonprofit corporation

By:_____

Name:_____

Its:_____

Dated:_____

By:_____

Name:_____

Its:_____

Dated:_____

SANTA ANA WATERSHED PROJECT AUTHORITY,
a California joint powers authority

By:_____

Name:_____

Its:_____

Dated:_____

By:_____

Name:_____

Its:_____

Dated:_____

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA,
a California nonprofit corporation formed under Article IX of the California Constitution, as represented by University of California Riverside Center for Environmental Research and Technology

By:_____

Name:_____

Its:_____

Dated:_____

By:_____

Name:_____

Its:_____

Dated:_____

COMMUNITY SETTLEMENT
ASSOCIATION OF RIVERSIDE,
a California nonprofit corporation

By:_____

Name:_____

Its:_____

Dated:_____

By:_____

Name:_____

Its:_____

Dated:_____

EXHIBIT "A"

PROJECT AREA

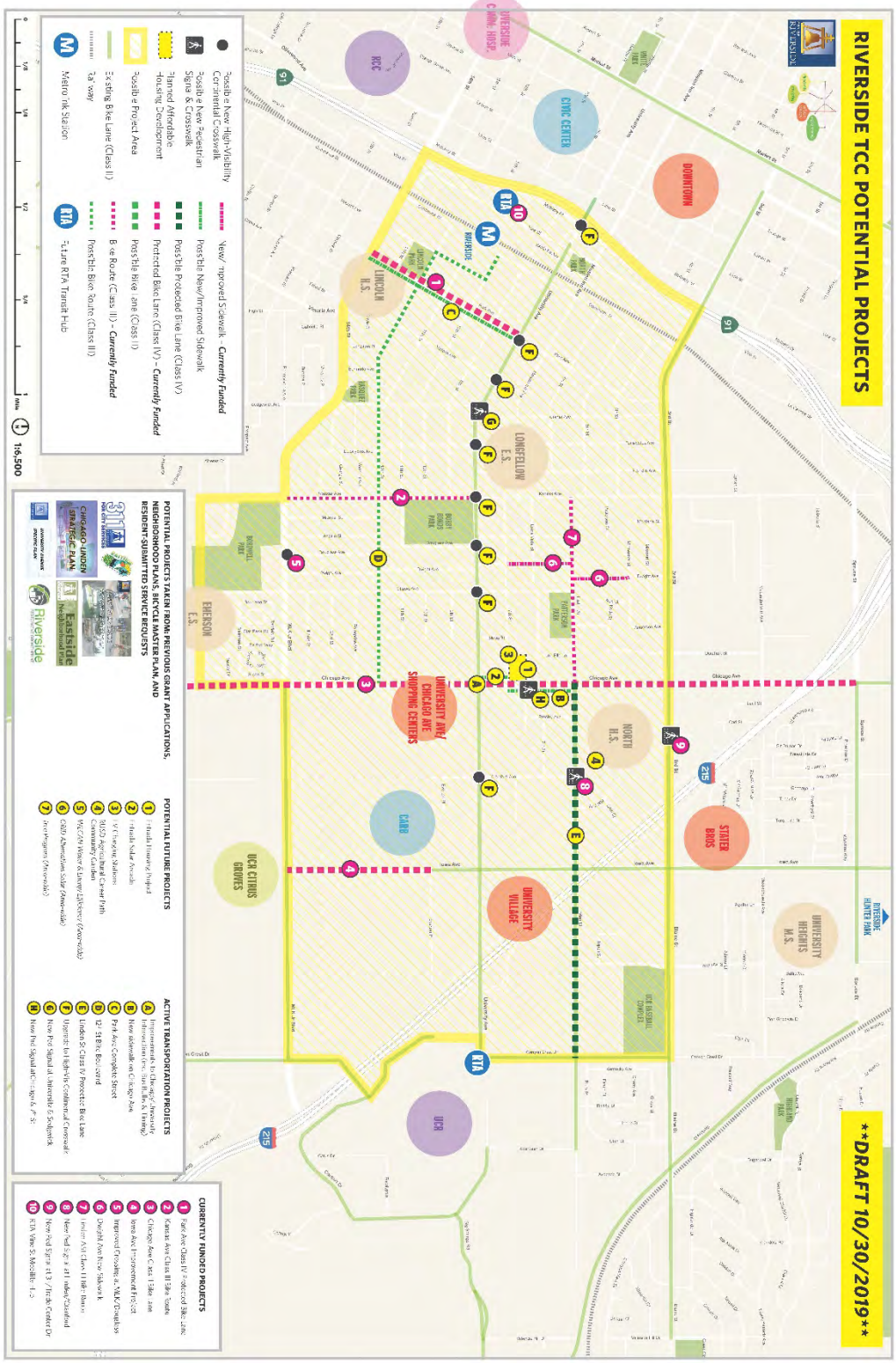
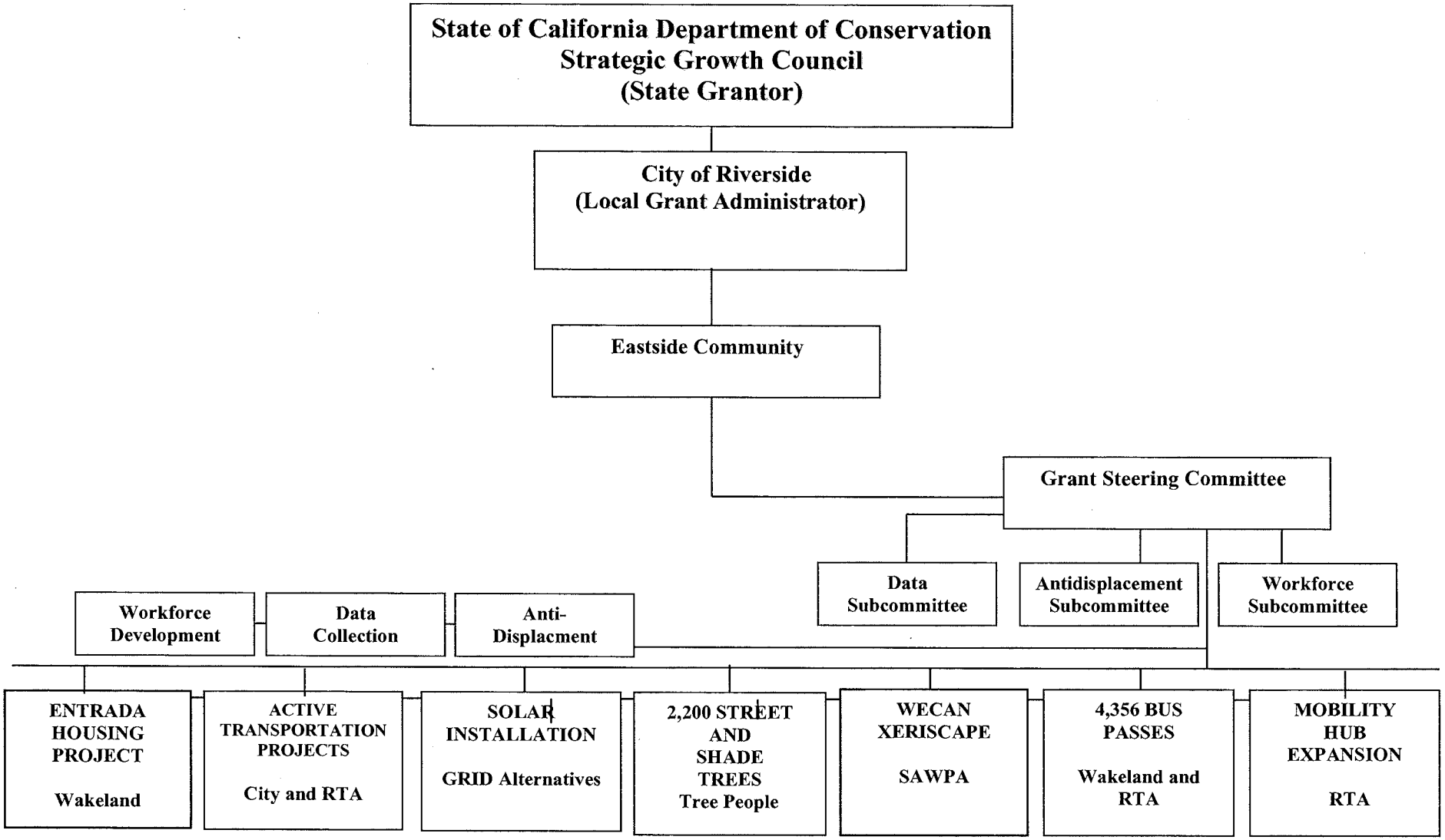


EXHIBIT “B”

ORGANIZATION CHART

Exhibit "B"
Eastside Climate Collaborative
A Transformative Climate Communities Implementation Grant



[Rev. 12/09/19]