

CITY OF REDLANDS
MUNICIPAL UTILITIES/PUBLIC WORKS COMMISSION
MEETING AGENDA
MONDAY, JUNE 5, 2023

ADEKUNLE OJO
Chairperson

STEVE STOCKTON
Vice Chairperson

ROBERT MEALS
Commissioner

ZACHARY TRAVIS
Commissioner

THOMAS BREITKREUZ
Commissioner

DAVID GARCIA
Commissioner

**CHANDRASEKAR 'CV'
VENKATRAMAN**
Commissioner

4:00 PM Open Public Meeting
City Council Chambers
Civic Center
35 Cajon Street
Redlands, California

JOHN R. HARRIS
Municipal Utilities
& Engineering
Director

GOUTAM K. DOBEY
City Engineer

FERNANDO MATA
Wastewater Utility
Manager

Anyone desiring to speak on an agenda item at this meeting may do so during the consideration of that item. Due to time constraints and the number of persons wishing to give oral testimony, public comments will be limited to three (3) minutes.

- *To provide comment, simply raise your hand to speak*

The following comprises the agenda for the regular meeting of the Municipal Utilities/Public Works Commission of the City of Redlands.

CITY OF REDLANDS
MUNICIPAL UTILITIES/PUBLIC WORKS COMMISSION
MEETING AGENDA
MONDAY, JUNE 5, 2023

A. ATTENDANCE & CALL TO ORDER

B. PUBLIC COMMENT

(Any person wishing to provide public comment may do so at this time.)

C. APPROVAL OF MINUTES

- a. **April 3, 2023 Regular Meeting Minutes**

D. COMMUNICATIONS

- a. **Director's Report**
- b. **Solid Waste Program Update**

E. NEW BUSINESS

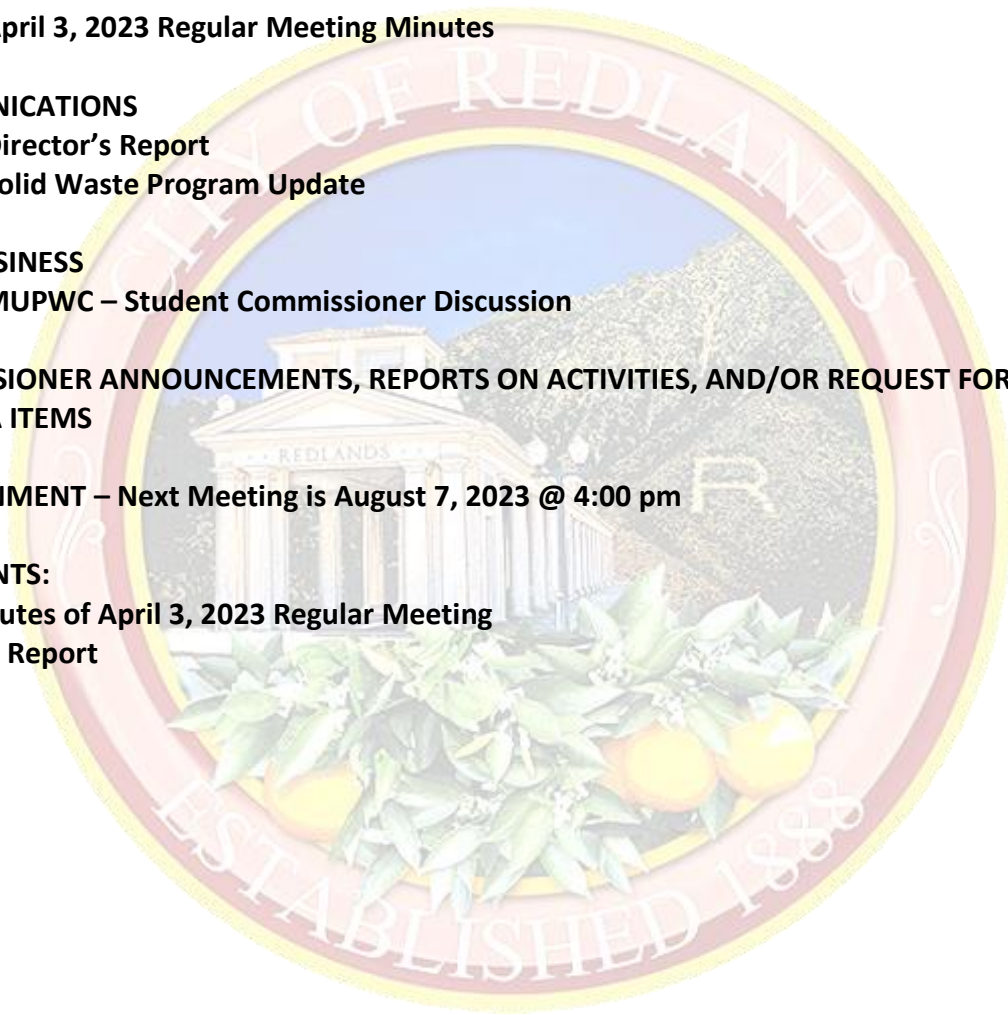
- a. **MUPWC – Student Commissioner Discussion**

F. COMMISSIONER ANNOUNCEMENTS, REPORTS ON ACTIVITIES, AND/OR REQUEST FOR FUTURE AGENDA ITEMS

G. ADJOURNMENT – Next Meeting is August 7, 2023 @ 4:00 pm

ATTACHMENTS:

- 1. Draft Minutes of April 3, 2023 Regular Meeting**
- 2. Director's Report**



In compliance with the Americans with Disabilities Act, if special assistance is needed to participate in this meeting, contact Goutam Dobey of Municipal Utilities/Engineering Department at (909) 798-7584 x2. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to this meeting. (28 CFR 35.102-35.104 ADA Title II) NOTE: Any writings or documents distributed to a majority of the Municipal Utilities/Public Works Commission regarding an open session agenda item less than 72 hours before this meeting are available for public inspection at: www.cityofredlands.org/municipal-utilitiespublic-works-commission, the Municipal Utilities & Engineering Department at 35 Cajon Street, Suite 15A, or calling (909) 798-7698.

DRAFT
(for MUPWC review on 6/5)
MINUTES

Regular meeting of the City of Redlands Municipal Utilities/Public Works Commission on April 3, 2023 at 4:00 PM in the Council Chambers at the Civic Center, 35 Cajon Street. The meeting was an in-person meeting with teleconferencing available via Zoom. Votes were conducted in person and by roll call.

A. ATTENDANCE & CALL TO ORDER

Present: Adekunle Ojo, Chairperson
Steve Stockton, Vice Chairperson
David Garcia, Commissioner
Chandrasekar 'CV' Venkatraman, Commissioner
Zachary Travis, Commissioner
Thomas Breitzkreuz, Commissioner
Robert Meals, Commissioner

Staff: John Harris, Municipal Utilities & Engineering Director; Goutam Dobey, City Engineer; Johana Silva, Commission Liaison/Assistant Engineer; Mario Saucedo, City Council Liaison; Fernando Mata, Wastewater Operations Superintendent

Chairman Ojo called the meeting to order at 4:00 PM.

B. PUBLIC COMMENT

John Burke, Resident/Civil Engineer, expressed his interest in volunteering to inspect the Zanja River.

C. APPROVAL OF MINUTES

Commissioner Garcia commented on grammatical errors within the minutes and clarification on the Student Commissioner's term of office. On the motion by Commissioner Garcia, seconded by Commissioner CV, the minutes of the regular meeting of February 6, 2023, were approved with stated corrections with Vice Chair Stockton abstaining.

Vote: 6 – 0 Passed

D. COMMUNICATIONS

a. Director's Report

Director Harris welcomed everyone to the meeting and provided highlights to his Director's Report.

Updates were provided on the following:

Groundwater Council Update: The first five (5) year term of the Groundwater Council is ending, and a "Renewal Committee" has been formed to update the Framework Agreement.

DRAFT
(for MUPWC review on 6/5)

MINUTES

Sunset Reservoir Replacement – Real Estate Acquisition: City Council approved of the Purchase and Sale Agreement to acquire approximately twenty-two (22) acres adjacent to the Sunset Reservoir site for \$1.4M on March 21, 2023. Staff submitted a \$24M grant application to fund the construction of a 10MG concrete reservoir.

Water Meter Replacement Project: Phase II of the five (5) year project is near completion. MUED is considering accelerating the remaining three (3) project phases to procure materials at current rates and reduce the impacts of supply chain delays.

Multi-Year Well Rehabilitation & Booster Pump Replacements: Seven (7) wells are being rehabilitated in FY 22/23.

Discussion ensued regarding the revenue stream for water meters and using sole source for meters. The commission requested background information on the County/Mentone/Redlands Paving Project and Alabama Street Septage Ponds Site Assessment.

E. NEW BUSINESS

a. MUPWC – Student Commissioner

Mr. Harris stated the City is supportive of adding a student commissioner which will require an amendment to the Chapter 2.38 of the Municipal Code. Mr. Harris recommended not to increase the MUPWC membership and instead delay the Student Commissioner appointment until a future vacancy exists.

Discussion ensued whether a student commissioner should be added, including student candidates from all high schools in Redlands, allowing voting rights to the student, the amounts of members in the commission, and the timing of when a Student Commissioner would join. The commission asked for research on Student Commissioners in other cities. A general consensus was reached to continue the discussion to the next meeting.

b. AB-2449 Meeting Attendance Discussion

Mr. Harris gave a summary of Assembly Bill 2449 which authorizes a local agency to use teleconferencing without complying with the teleconferencing requirements of the Brown Act under certain circumstances.

F. COMMISSIONER ANNOUNCEMENTS, REPORTS ON ACTIVITIES, AND/OR REQUESTS FOR FUTURE AGENDA ITEMS

Items requested for the next regular Commission meeting agenda were as follows:

Surface Water Recharge – Update on the amount of water captured from recent storm events.

Water Rights in Yucaipa Basin – Discussion on water rights in Yucaipa Basin.

Student Commissioner – Continued discussion on adding a Student Commissioner to MUPWC.

DRAFT
(for MUPWC review on 6/5)

MINUTES

Commissioner Garcia requested updates from FSC on solid waste. Discussion ensued on which commission should review solid waste rates, updating the commission's municipal code and the upcoming criteria for PFAS.

G. ADJOURNMENT – Next regular meeting is August 7, 2023 at 6:00 PM

There being no further business the meeting adjourned at 4:59 PM. The next regular meeting of the City of Redlands Municipal Utilities/Public Works Commission is scheduled for August 7, 2023.

DRAFT



City of
REDLANDS
Incorporated 1888
Municipal Utilities & Engineering Department

JOHN R. HARRIS
Director

MEMORANDUM

TO: Adekunle Ojo, Municipal Utilities/Public Works Commission Chair

FROM: John R. Harris, Municipal Utilities & Engineering Department Director

DATE: May 25, 2023

SUBJECT: June 5, 2023 Director's Report

Hello and thank you for serving the Redlands community as a Municipal Utilities/Public Works Commissioner (MUPWC)! City of Redlands Municipal Code Chapter 2.38 establishes the responsibilities of the MUPWC as follows:

"The commission is a resource for the City Council and City staff and buffer with the general public. In its advisory capacity, the commission shall be knowledgeable of all public works, utilities and engineering programs. The commission shall, through the individual and collective expertise of its members, provide advice to the Public Works and Municipal Utilities Departments regarding the public acceptability of proposed plans, programs and projects."

Upcoming City Council Meeting Agenda Items

- SB-1 Project List (June 6)
- 2022 Sidewalk & ADA Ramp Replacement Project Extension (June 6)
- Well & Booster Pump Rehabilitation Project (June 6)
- Laboratory Expansion Preliminary Design (June 6)
- Groundwater Council Framework Agreement Extension (June 6)
- Redlands Country Club Drainage Study Amendment (June 20)
- Recycled Water Reservoir Engineering Extension (June 20)
- 2022 Sewer Pipeline Replacement Project (June 20)
- Alabama Septage Ponds Site Assessment Amendment (July 18)
- Measure I 5-Year CIP (July 18)

USFS/San Manuel Tribe Land Swap

The February 24, 2023 issue of the San Bernardino County Sentinel included an article summarizing a potential land exchange between the U.S. Forest Service and the San Manuel

Band of Mission Indians. If approved, the USFS would acquire several parcels from the Tribe totaling 1,533.92 acres, and the Tribe would acquire two (2) parcels from the USFS totaling 1,475.90 acres. The parcels currently owned by the Tribe are located along SR-18 between Lake Arrowhead and Running Springs and along SR-38 near Onyx Summit, and the parcels currently owned by the USFS are located near the Arrowhead Springs Hotel. A Location Map is included as Attachment "B".

Portions of Strawberry Creek, East Twin Creek, and Waterman Canyon drain through the parcels currently owned by the USFS and there is some concern that the Tribe would divert water from these drainages for their own beneficial use if the land exchange is approved. These drainages percolate into the Bunker Hill Basin and ultimately discharge into the Santa Ana River southwest of the San Bernardino International Airport. Any diversion of water from these drainages would likely reduce percolation into the Bunker Hill Basin and would directly impact East Valley Water District, San Bernardino Valley Municipal Water District, and San Bernardino Municipal Water Department operations. Redlands would be indirectly impacted if additional imported water is necessary to maintain sustainable yield levels within the basin. MUED will work with our regional partners to bring these concerns to light at the appropriate time during the environmental impact analysis process.

EPA PFAS Rule Impact

The city has been regularly monitoring local groundwater sources for the presence of Per- and Polyfluoroalkyl Substances (PFAS) in accordance with the SWRCB DDW PFAS General Order since 2021. The order required that four (4) groundwater wells (Orange Street, Church Street, North Orange Street #1, and North Orange Street #2) be monitored quarterly and MUED has done so since the end of 2021. A new order was issued in October 2022 with a revised well monitoring list (Orange Street, Well #38, Well #39) and quarterly monitoring of these groundwater wells began in early-2023. It is possible that the Orange Street well remained on the revised monitoring list due to its proximity to the Alabama Street percolation ponds, the former Norton Air Force Base, and the City landfill, which are all suspected sources of PFAS. To date, all sampling and testing results have either been non-detectable or significantly below the PFAS MCL proposed in the U.S. EPA March 29, 2023 rule making process. We will continue monitoring local groundwater sources and frequently communicate with neighboring water districts and water retailers who are doing the same.

Sale of South Mountain Water Company Shares

The City produces and distributes recycled water, drinking water, and non-potable water to more than 23,000 customers within the cities of Redlands and Loma Linda, and unincorporated areas within San Bernardino County. Water is typically produced from surface water diversions from the Santa Ana River and Mill Creek, and extractions from the Bunker Hill and Yucaipa groundwater basins. This water is either treated and disinfected at a City water treatment facility or at the wellhead site prior to distribution as drinking water, or is directly distributed for non-potable uses such as landscape irrigation.



The City owns shares in several local mutual water companies and well companies with various entitlements that provide access to raw surface and groundwater. One such company is the South Mountain Water Company (SMWC), which extracts water from the Yucaipa groundwater basin through two (2) well sites located in the Yucaipa area. SMWC has issued 993 stock shares and retains seven (7) additional treasury shares. The City owns 911 SMWC shares.

Two (2) City non-potable water customers located along Sand Canyon Road are the only users of water produced directly from the SMWC system and they received a combined total of approximately 150 acre-feet of water in 2022. The Yucaipa Sustainable Groundwater Management Agency recently imposed a 518 acre-feet extraction cap (based on a rolling 5-year average) on SMWC. In 2022, SMWC significantly exceeded this cap and extracted approximately 900 acre-feet, which reduces the volume of groundwater extractions for the next four (4) years in order to remain within the imposed cap. Additionally, the City's Water Production staff operates and maintains the SMWC system without reimbursement, which includes two (2) groundwater wells, a booster pump station, and approximately 3.5 miles of distribution piping. The City's super-majority share ownership position also obligates Redlands to absorb more than ninety percent (90%) of all direct financial costs associated with operating SMWC in the form of assessments. At a cost of more than \$1,200/AF, which is approximately ten (10) times the cost of SWP water and SBVWCD groundwater pumping charges, this has become the most expensive source of water within the region. Due to this financial liability, concerns with SMWC's management of its water resources, and the small amount of water delivered to the City's two (2) non-potable water customers, it is no longer practical for the City to retain all of its SMWC shares.

On February 21, 2023, City Council authorized the City Manager or his designee to solicit purchase offers and terms for the sale of all or a portion of its 911 SMWC shares. A potential buyer is currently conducting due diligence and will likely purchase all the shares. Agreement(s) regarding the sale(s) of the City's SMWC shares will be scheduled for City Council approval consideration at future City Council meetings.

Student Commissioner

There are a couple options for adding a Student Commissioner to the MUPWC: 1) Restricted to High School students, and 2) Open to University students. Both options would require an amendment to Chapter 2.38 of the RMC. The Human Relations Commission, Traffic and Parking Commission, and the Parks and Recreation Advisory Commission include Student Commissions. The Redlands Municipal Code (RMC) includes similar membership language for each of these commissions. Here is an example for the Human Relations Commission:

“The human relations commission shall consist of nine (9) members who shall each, with the exception of the student member, serve for a four (4) year term and until his or her successor is appointed. Vacancies on the commission shall be filled by members of the city council on a rotational basis and the term of a commissioner appointed to fill a vacancy shall be for a four (4)

*year period. No person shall serve more than two (2) consecutive terms unless appointed to an additional term by a four-fifths (4/5) vote of the city council. The commission members shall serve without compensation, shall each be a resident of the city, with the exception of the student member, and shall be neither a member of any other standing commission, board, or committee of the city nor an employee thereof. **One commission member appointed by the city council shall be from the junior class of a Redlands high school. The student member's term shall be for one year, beginning January 1 when the student is a junior and ending December 31 when the student is a senior. The student member shall be considered one of the nine (9) members of the commission with full voting powers.** Five (5) members of the commission shall constitute a quorum. (Ord. 2895 §1, 2019)”*

These Student Commissioners are appointed by the City Council to serve one (1) year terms beginning January 1 of their Junior year and ending December 31 of their Senior year of High School, have full voting powers, and their meeting attendance is counted when determining a quorum. The intent of this concept is to expose High School students to local government participation and to enhance their resume and college application. The City Manager’s Office works with local High School Guidance Counselors to advertise these and fill these positions.

If the MUPWC wishes to allow University students to apply for a Student Commissioner position, the Commission would need to formally justify the reasons for this recommendation to the City Council and the following questions should be considered:

1. Would the position be open to all college students or restricted to local colleges within a defined area?
2. For how long would the Student Commissioner serve?
3. What qualifications are important to the MUPWC?
4. Does the MUPWC have suggestions for advertising this position?

In either case, adding a Student Commissioner would increase the total MUPWC membership to eight (8) with the potential for tie vote(s). City staff is not supportive of increasing the MUPWC membership. This could be resolved by delaying the Student Commissioner appointment until a future vacancy exists. This is the option recommended by City staff. Alternatively, the RMC could be amended to increase the MUPWC membership to nine (9), including a Student Commissioner. City staff is not supportive of increasing the MUPWC membership. As you know, the MUPWC duties are very technical in nature. I encourage you to discuss and carefully consider the merits of adding a Student Commissioner prior to developing a City Council recommendation. It would also be appropriate to solicit input from the City Council’s liaison to the MUPWC.

The following nearby communities do not have commissions or committees similar to the MUPWC:

- City of Rancho Cucamonga
- City of Fontana



- County of Riverside
- County of San Bernardino
- City of Perris
- City of Ontario
- City of Claremont

The following nearby communities have commissions or committees similar to the MUPWC:

- City of Riverside – Board of Public Utilities
- City of Moreno Valley – Utilities Commission
- City of San Bernardino – Water & Wastewater Commission
- City of Rialto – Utilities Commission
- City of Montclair – Public Works Committee

None of these commissions or committees include a designated student or youth member. The City of Pomona has a Youth Commission that appears to be similar to the Redlands Youth Council.

Groundwater Council Update

The first five (5) year term of the Groundwater Council (GC) is ending, and a “*Renewal Committee*” has been formed to update the *Framework Agreement*. The *Renewal Committee* anticipates recommending adoption of the First Amendment to the *Framework Agreement* to the GC in late-June. The most substantive revision potentially affecting Redlands is how the City is credited for unused surface water entitlements. Last year, Redlands received full credit for all surface water entitlements, including those that were not diverted. At question is how much of this water would have naturally percolated into the groundwater basin as it flowed through the Santa Ana River and Mill Creek. Geoscience is currently modeling both scenarios (diverted entitlements vs. non-diverted entitlements) to estimate this value. The outcome is that the Redlands surface water entitlements credit will be reduced by fifty percent (50%).

Update WWTP P2 Project Update

Parsons Engineering continues to develop and refine the WWTP Improvement Project Phase 2 design, and has made significant progress toward completion of the following design elements:

Task 1 – Conduct Facility Condition Assessment	P1 = 100%/P2 = 99%
Task 2 – Develop Multipurpose Project Report/Implementation Plan	100% Complete
Task 3 – Provide Engineering Design Services	P1 = 100%/P2 = 95%
Task 4 – PM, Communication, QC	P1 = 100%/P2 = 95%



Completion of the Engineering Phase of the project is currently delayed pending review and approval of emergency generator equipment layout. MUED submitted a \$45M State Revolving Fund (SRF) loan application for construction of these improvements prior to the December 31, 2021 submittal deadline and learned that the application was not selected for full or partial funding. The application will be reconsidered during the next SRF cycle. Parsons recently provided a Class 1 Construction Cost Estimate with the 90% design plans for all project elements totaling approximately \$110M, which includes indirect costs, direct costs, and allowances. MUED is evaluating opportunities to fund and construct the project in phases.

Sunset Reservoir Replacement – Real Estate Acquisition

On March 21, 2023, City Council approved a Purchase and Sale Agreement to acquire approximately twenty-two (22) acres adjacent to the Sunset Reservoir site for \$1.4M. This acquisition will end the \$1,500/month land lease for a portion of the property that was intended to be used to construct a temporary 750,000 gallon reservoir prior to replacing the Sunset Reservoir. It will also allow the existing Sunset Reservoir to remain in service while a new reservoir is constructed on the newly acquired property, eliminating the need for a temporary reservoir. MUED received bids from Contractors to supply and construct this temporary reservoir and the lowest bid was approximately \$2.5M. Soon after, DDW required a more extensive environmental analysis than anticipated and bidders were unwilling to hold their bid pricing for a lengthy period of time. City Council recently rejected all bids. Acquiring this property results in net savings of more than \$1.1M. It is anticipated that this acquisition will close Escrow in late-May and the property will be owned by Redlands at that time.

MUED also recently submitted a \$24M grant application to fund the Sunset Reservoir Replacement Project. If awarded, the funding may be used for engineering, permitting, and construction of a 10 MG concrete reservoir. Although some members of the MUPWC would prefer to expand storage elsewhere within the water distribution system, other sites would not have been competitive for this grant funding opportunity. Additionally, Brady and Associates recently completed a Condition, Structural, and Seismic Assessment of Redlands' water reservoirs and pump stations that identified the Sunset Reservoir as the highest asset replacement priority and MUED budgeted the full estimated construction cost in FY 23/24. If the City's grant application is fully funded, the larger replacement reservoir may be constructed and the City's budgeted funds may be used to meet the grant match requirement. If the grant application is not fully funded, the City's budgeted funds may be used to replace the Sunset Reservoir with a similarly sized reservoir.

Water Meter Replacement Project

We have begun a five (5) year project to replace all potable and non-potable water meters within the Redlands service area. Ferguson Waterworks was selected to supply and install the water meters, meter box lids, and Automated Metering Infrastructure (AMI) hardware for use in the future. Ferguson recently completed Phase II of the project, which focused on residential and small

diameter commercial water meter replacements and AMI hardware retrofits. MUED and Ferguson are currently scoping Phase III of this project.

PMP Update

MUED recently issued a bid notice for construction of the FY 22/23 project. Three (3) bids were received and Match Corporation submitted the lowest bid of approximately \$4.9M, which is approximately \$1M lower than the second lowest bid. Project construction began on May 15, 2023. A project location map is provided as Attachment “C”.

Annual Citywide Sidewalk/ADA Ramp Replacement Project Update

Tryco General Engineering was recently awarded a project Construction Contract totaling \$945,630. A project location map is provided as Attachment “D”.

Q3 Capital Improvement Project Update

The MUPWC is charged with, among other things, “*annually reviewing the City CIP under the purview of the Public Works and Municipal Utilities Departments*” (Municipal Code 2.38.030). However, during the December 7, 2020 MUPWC meeting, the Commission asked the MUED staff to provide quarterly CIP updates. A summary and status of CIP projects is provided in Attachment “E”. Highlights of current projects are provided below:

1. Multi-Year Well Rehabilitation & Booster Pump Replacements – Four (4) potable water wells and three (3) non-potable water wells are being rehabilitated in FY 22/23. This work is prioritized to occur during our typical low water demand season. Six (6) of these seven (7) wells are currently temporarily removed from service for rehabilitation and the remaining well is scheduled for rehabilitation in the near future. Following is a short list of specific groundwater wells scheduled for rehabilitation with this project:
 - a. Task 2.1 - Madeira Well (potable)
 - b. Task 2.2 - Mentone #2 Well (potable)
 - c. Task 2.3 - Well #38 (potable)
 - d. Task 2.4 - Well #39 (potable)
 - e. Task 2.5 - New York Street Well (non-potable)
 - f. Task 2.6 - Well #11 (non-potable)
 - g. Task 2.7 - Well #36 (non-potable)

2. Recycled Water Reservoir Engineering – This project is underway and Carollo Engineers recently submitted a 30% Plans, Specifications, and Construction Cost Estimate for construction of a single 2.5 MG concrete reservoir and several distribution system improvements.

3. Tate WTP Raw Water Influent Pipeline Engineering – This project is underway and Carollo Engineers recently submitted the 30% design plans for review. MUED staff reviewed these plans and submitted comments back to Carollo.
4. Hinckley WTP Sludge Press Engineering – This project is underway and Dudek recently submitted the 30% design plans for review. MUED staff reviewed these plans and submitted comments back to Carollo.
5. Well Perchlorate Treatment Evaluation – This project is underway and Dudek is developing 30% design plans.
6. University Street/Brockton Avenue Traffic Signal - Currently in construction. Project completion is anticipated in late-September.
7. FY 22/23 Waterline Replacement Project – A Construction Contract was recently awarded to Tryco General Engineering and construction began in early-May. A Project Location Map is provided as Attachment “F”.
8. Phase II & III Water Distribution SCADA Upgrade - Materials have been ordered. Installations began recently and will continue through December 2023.
9. 2022 Orange Blossom Trail Phase 3 Project – Complete. We are currently researching funding opportunities to complete the missing link trail section between California Street and I-10.
10. Alley Paving Project – The FY 22/23 project was awarded to Onyx Paving and construction will begin in early-June. A project location map is provided as Attachment “G”.
11. Sewerline Replacement Project – City Council will consider a construction contract with CEM for the FY 22/23 project. If approved, the project will begin in early-July. A project location map is provided as Attachment “H”.
12. The 2022 HSIP Cycle 8 Ped Heads, 2022 HSIP Cycle 8 EVP, and 2022 Senior Outdoor Dining projects and all nearly complete.

As always, feel free to contact me anytime to discuss MUED issues, programs, projects, or concerns.

John R. Harris

jharris@cityofredlands.org

(909) 725-1963

Attachments:

A – Acronym List

B – USFS/San Manuel Land Exchange Location Map

C – FY 22/23 PMP Location Map

D – FY 22/23 Sidewalk & ADA Ramp Replacement Project Location Map

E – CIP Status List

F – FY 22/23 Waterline Replacement Project Location Map

G – FY 22/23 Alley Paving Project Location Map

H – FY 22/23 Sewerline Replacement Project Location Map



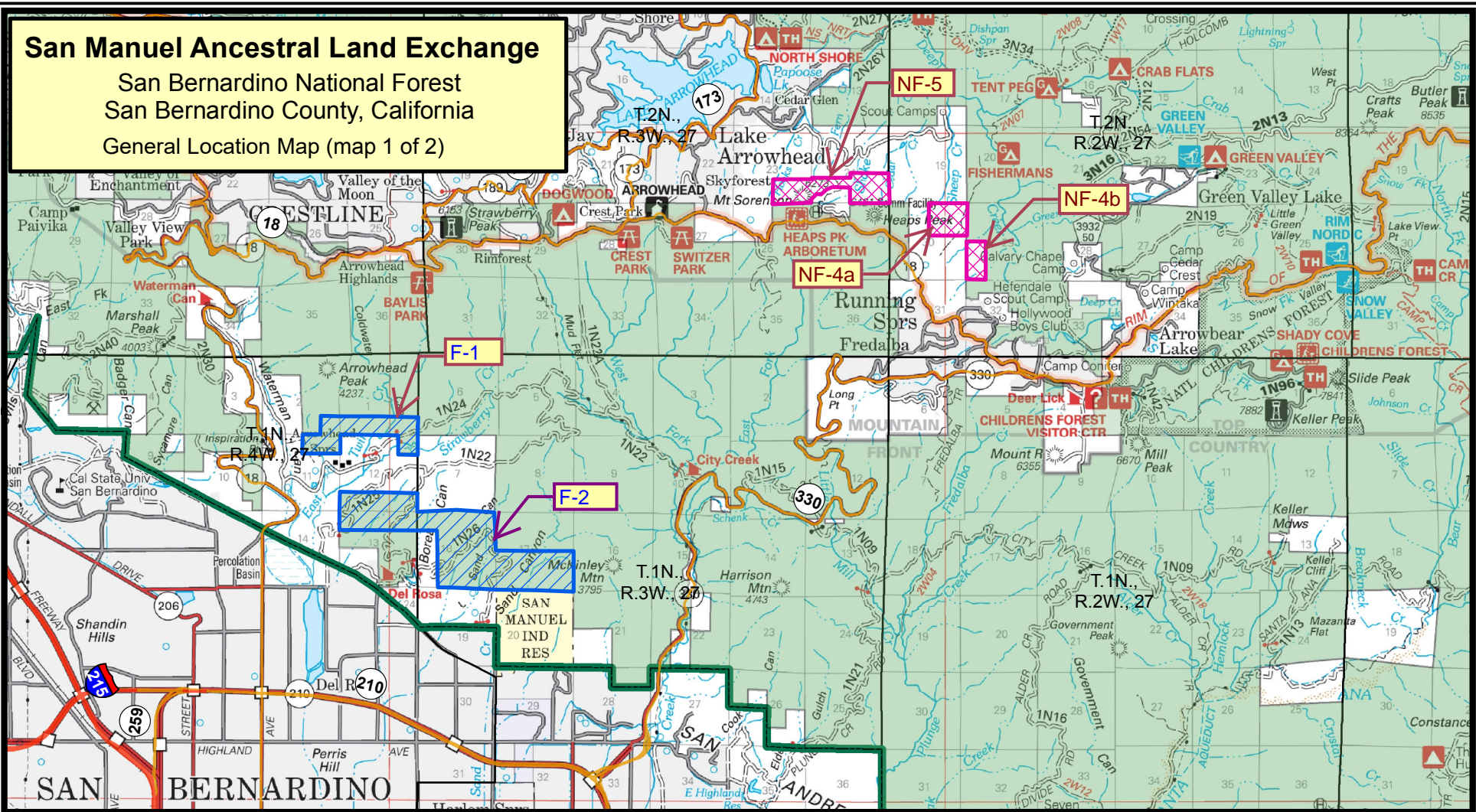
ACRONYMS

AACE	Association for the Advancement of Cost Engineering
AF	Acre-Feet
AFD	Acre-Feet per Day
AFY	Acre-Feet per Year
ADD	Average Day Demand
AMI	Advanced Metering Infrastructure
AMR	Automated Meter Reader
APWA	American Public Works Association
ASCE	American Society of Civil Engineers
ASL	Above Sea Level
AWWA	American Water Works Association
BOD	Biological Oxygen Demand
BVMWC	Bear Valley Mutual Water Company
CalOSHA	California Division of Occupational Safety and Health Agency
CalWARN	California's Water/Wastewater Agency Response Network
CCR	Consumer Confidence Report
CIP	Capital Improvement Program
CWC	Crafton Water Company
DDW	Division of Drinking Water
DIF	Development Impact Fees
DU	Dwelling Unit
EOPC	Engineer's Opinion of Probable Cost
EPA	Environmental Protection Agency
EPS	Extended Period Simulation
ERNIE	Emergency Response Network of the Inland Empire
ES	Equalizing Storage
EVWD	East Valley Water District
FCS	Facilities and Community Services Department
FPS	Feet Per Second
FSS	Fire Suppression Storage
FY	Fiscal Year
GIS	Geographical Information System
GPCD	Gallons per capita day
GPD	Gallons per day
GPM	Gallons per minute

Hinckley WTP	Horace P. Hinckley Water Treatment Plant
HP	Horsepower
HSIP	Highway Improvement Safety Program
I-10	Interstate 10
I-210	Interstate 210
MCL	Maximum Contaminate Level
MDD	Maximum Day Demand
MG	Million Gallons
MGD	Million Gallons per Day
mg/L	Milligrams per Liter
MUED	Municipal Utilities and Engineering Department
NPW	Non-Potable Water
NTU	Nephelometric Turbidity Unit
O&M	Operations and Maintenance
OS	Operational Storage
PFAS	Per- & Polyfluoroalkyl Substances
PHD	Peak Hour Demand
PMP	Pavement Management Program
PPM	Parts Per Million
PRS	Pressure Reducing Stations
PSI	Pounds per Square Inch
PW	Potable Water
RW	Recycled Water
SAR	Santa Ana River
SB	Stand-by Storage
SBBA	San Bernardino Basin Area
SBV	San Bernardino Valley (formerly San Bernardino Valley Municipal Water District)
SCADA	Supervisory Control and Data Acquisition
SCE	Southern California Edison
SOC	Synthetic Organic Compounds
SOP	Standard Operating Procedure
SWP	State Water Project
SWRCB-DDW	State Water Resources Control Board – Division of Drinking Water
Tate WTP	Henry Tate Water Treatment Plant
TBD	To be determined

TDS	Total Dissolved Solids
TSS	Total Suspended Solids
TTHM	Trihalomethanes
U.S.	United States
UWMP	Urban Water Management Plan
VOC	Volatile Organic Compounds
WD	Water Distribution
WP	Water Production
WSCP	Water Shortage Contingency Plan
WSMP	Water System Master Plan
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant

San Manuel Ancestral Land Exchange
 San Bernardino National Forest
 San Bernardino County, California
 General Location Map (map 1 of 2)

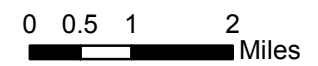


References






Data acquired from a variety of sources of differing accuracy, precision and reliability. Features represented by the data may not represent accurate geographic locations.

Disclaimer

The USDA Forest Service makes no warranty, expressed or implied regarding the data displayed on this map, and reserves the right to correct, update, modify, or replace this information without notification.



Legend

-  Federal Lands Proposed for Exchange
-  Non-Federal Lands Proposed for Exchange
-  Non-Forest Service Lands
-  National Forest System Lands
-  Proclaimed Forest Boundary

Sheet 1 of 2

Map Creation Date - 03/07/22, rev. 01/09/23

San Manuel Ancestral Land Exchange

Assembled Land Exchange

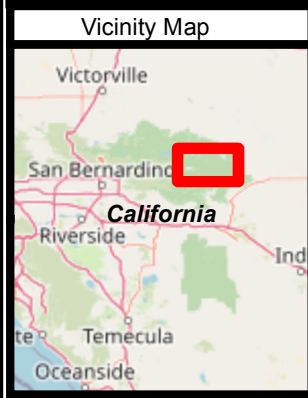
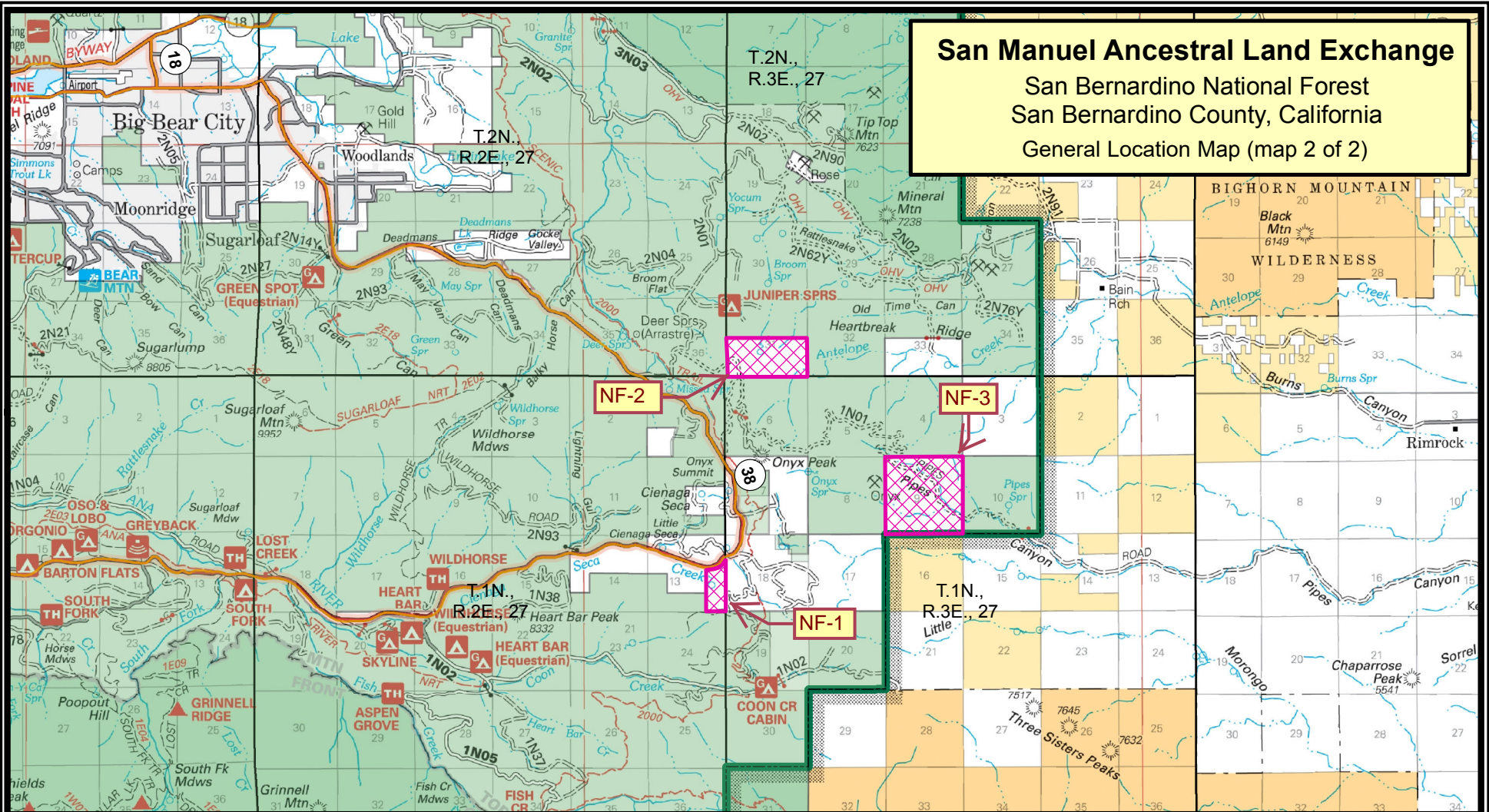
Federal Lands - 1,475.90 acres, T.1N., R.3W, T.1N., R.4W.;
 Non-Federal Lands - 1,533.92 acres, T.1N., R.2E, T.1N., R.3E.,
 T.2 N., R.3E., T.2N., R.2W., T.2N., R3W.,
 San Bernardino Meridian, San Bernardino County, CA
 (Acreages are preliminary and subject to further review.)

U.S. Forest Service - Pacific Southwest Region
 San Bernardino National Forest
 U.S. Congressional District No. 23

Copies of this map are available for public inspection in the Office of the Regional Forester, Pacific Southwest Region, Vallejo, CA ,

San Manuel Ancestral Land Exchange

San Bernardino National Forest
San Bernardino County, California
General Location Map (map 2 of 2)

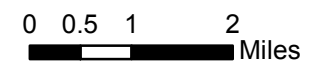


References

Data acquired from a variety of sources of differing accuracy, precision and reliability. Features represented by the data may not represent accurate geographic locations.

Disclaimer

The USDA Forest Service makes no warranty, expressed or implied regarding the data displayed on this map, and reserves the right to correct, update, modify, or replace this information without notification.



Legend

- Federal Lands Proposed for Exchange
- Non-Federal Lands Proposed for Exchange
- Non-Forest Service Lands
- National Forest System Lands
- Proclaimed Forest Boundary

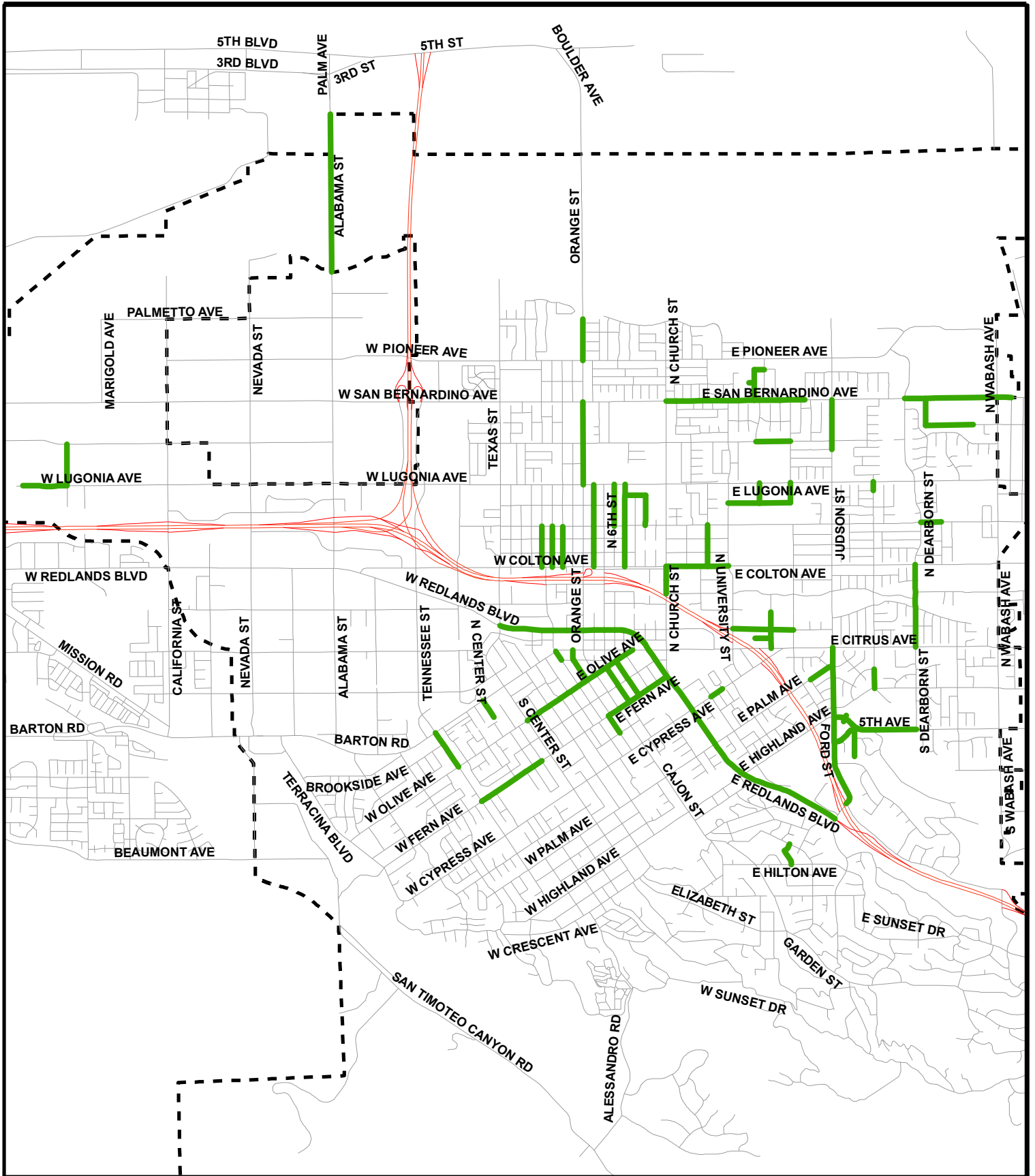
Sheet 2 of 2

San Manuel Ancestral Land Exchange

Assembled Land Exchange
Federal Lands - 1,475.90 acres, T.1N., R.3W, T.1N., R.4W.; Non-Federal Lands - 1,533.92 acres, T.1N., R.2E, T.1N., R.3E., T.2 N., R.3E., T.2N., R.2W., T.2N., R.3W., San Bernardino Meridian, San Bernardino County, CA (Acreages are preliminary and subject to further review.)
U.S. Forest Service - Pacific Southwest Region San Bernardino National Forest U.S. Congressional District No. 23

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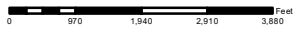
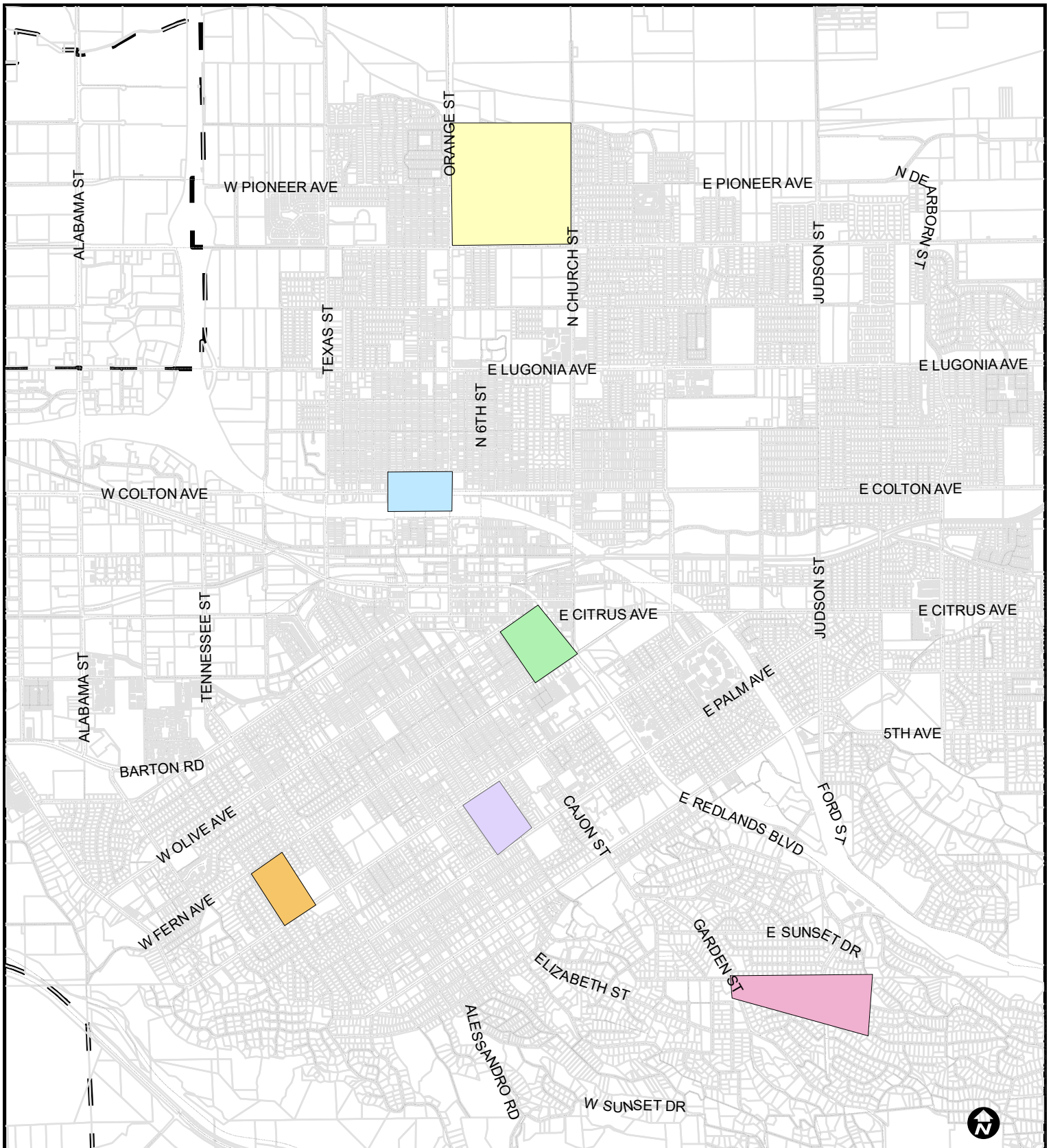
Map Creation Date - 03/07/22, rev. 01/09/23



— PMP 2022 STREETS

PMP 2022 STREET RESURFACING PROJECT LOCATION MAP





2022 Citywide Sidewalk and ADA Ramp Replacement Project Location Map

Legend:

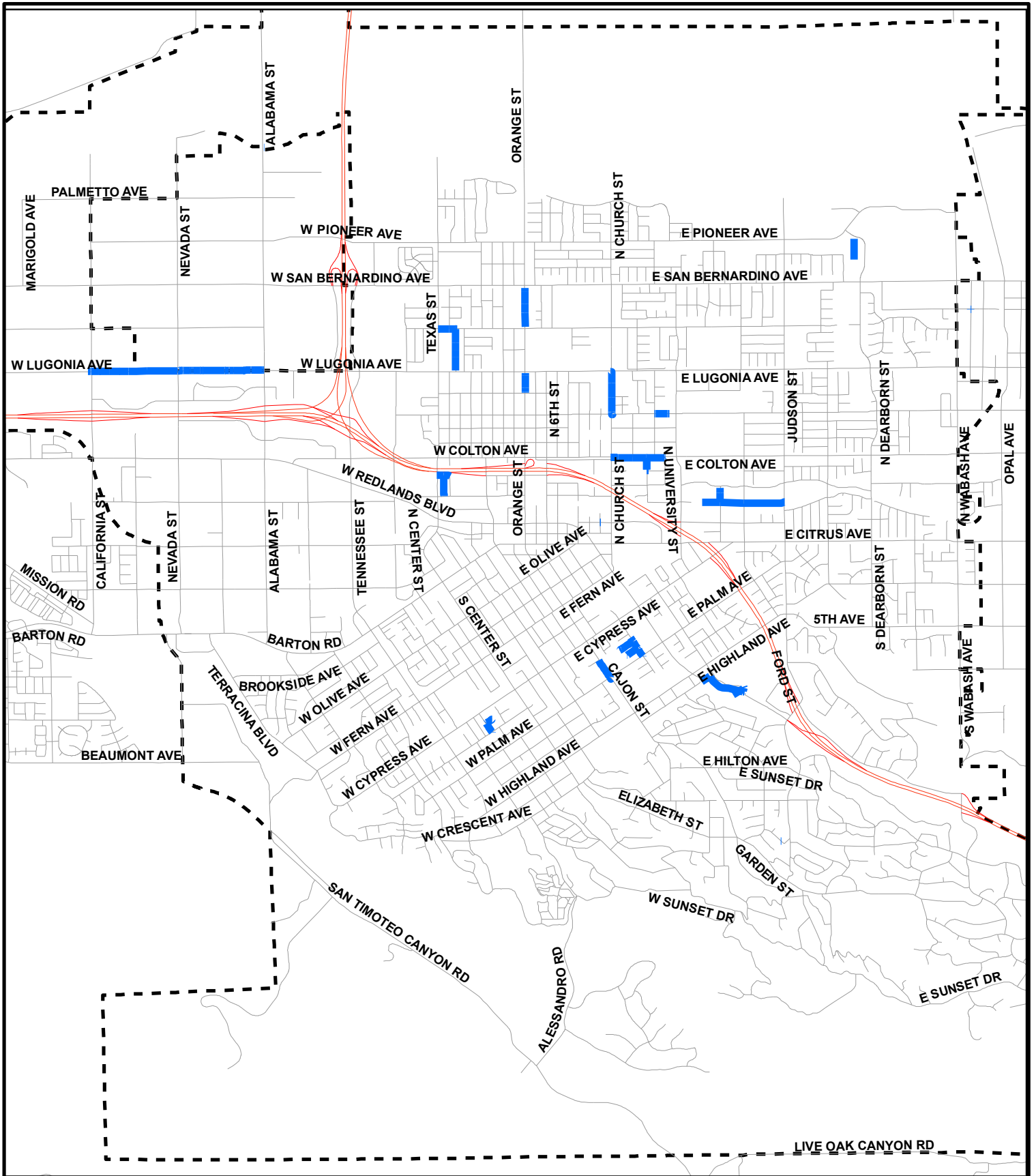
- Area A
- Area B
- Area C
- Area D
- Area E
- Area F

MUNICIPAL UTILITIES AND ENGINEERING DEPARTMENT
CIP PROJECTS LIST

PLANNING		Org Key	PL	Project Name	Project Phase	Progress	Consultant/Contractor	PM/Engineer	FY 2022-23
P1	WATER	501910	501063	2023 CIP Water Pipeline Replacement	PLANNING	0%			
P2	GENERAL	101400	400025	2023 Citywide Sidewalk & ADA Ramp Replacement	PLANNING	0%			
P3	WATER	501910	501019	HAWC Booster Pump Rehabilitation	PLANNING	0%			
P4	PMP	211910	211008	PMP 2023 Street Resurfacing Project	PLANNING	0%			
P5	WATER	501910	501059	Seismic Assessment Improvements - Texas Grove Reservoir	PLANNING	0%			
P6	WATER	501910	501055	Sunset Reservoir Replacement	PLANNING	0%			
P7	WATER	501910	501058	Tate Clarifier Coating & Covers	PLANNING	0%			
P8	WATER	501910	501040	Tate Transmission Line Replacement	PLANNING	0%			
P9	GENERAL/PMP	101/211	211009	2023 Alley Paving Improvements	PLANNING	0%			
P10	ARTERIAL	252400		California Street Widening at Lugonia Ave	PLANNING	0%			
P11	WASTEWATER	521910	521030	2023 CIP Sewer Pipeline Replacement	PLANNING	0%			
P12	WATER	501910	501057	WTP Mechanical & Electrical Equipment Replacement	PLANNING	0%			
P13	WATER	501910	501007	Agate #2 Well Rehabilitation	PLANNING	20%		Paul	\$175,000.00
P14	WATER	501910	501042	Tank Mixers	PLANNING	15%		Paul	\$150,000.00
Planning Projects - Cost Summary									\$325,000.00
DESIGN		Org Key	PL	Project Name	Project Phase	Progress	Consultant/Contractor	PM/Engineer	Current Budget
D1	WATER	501910	501028	Fixed Generators - Agate, 5th, Texas & Country Club	DESIGN	1%	Brady & Associates	Paul/Veronica	\$507,549.00
D2	HSIP C10	200400	S400021	Wabash & Highland Ave Enhanced Crosswalk	DESIGN	35%		Veronica	\$250,000.00
D3	TRAFFIC SIGNAL	243400		Traffic Signal Improvements at Cypress and Cajon	DESIGN	80%	KOA Consultants	Elva	\$600,000.00
D4	NON-POTABLE	531910		WWTP Recycled Water Reservoirs Design	DESIGN	50%	Carollo Engineers, Inc.	John	\$734,839.00
D5	WATER	501910		Hinckley WTP Sludge Press	DESIGN	35%	Dudek	Paul/John	\$700,000.00
D6	ARTERIAL	252400		California Street Widening at Redlands Blvd	DESIGN	60%	CASC Engineering and Consulting	Gerard	\$231,930.00
D7	WATER	501910	501050	Sunset Temporary Reservoir Replacement	DESIGN	100%		Veronica	\$2,500,000.00
D8	WATER	501910	501040	Tate WTP Influent Line Replacement	DESIGN	40%	Carollo Engineers, Inc.	Paul/John	\$835,549.00
D9	TDA	241400	S241005	2021 Transit Stop Improvement	DESIGN	95%		Veronica/Johana	\$46,340.00
D10	ATP C2	240400	C400005	Highland/Redlands Regional Connector - South	DESIGN	99%	KOA Consultants	Veronica	\$752,600.00
D11	ARTERIAL	252400	252001	Citrus Avenue Widening Project	DESIGN	95%		Elva	\$900,000.00
D12	ATP C3	200400	C400007	East Valley Corridor Bike Rte Interconnect - Alabama	DESIGN	95%	KOA Consultants	Veronica	\$2,112,000.00
Design Projects - Cost Summary									\$10,170,807.00
BID & AWARD		Org Key	PL	Project Name	Project Phase	Progress	Consultant/Contractor	PM/Engineer	Current Budget
B1	STORM DRAIN	405400	405003	Mission Zanja Channel Improvements Project	BID & AWARD	5%		Gerard	\$180,000.00
B2	HSIP C9	200400	F400003	Pedestrian In-Roadway Lights - Alabama/Tennessee	BID & AWARD	80%		Veronica	\$250,000.00
Bid & Award Project - Cost Summary									\$430,000.00
CONSTRUCTION		Org Key	PL	Project Name	Project Phase	Progress	Contractor	PM/Inspector	Contract Amount
C1	WASTEWATER	521910	521029	2022 CIP Sewer Pipeline Replacement	CONST	1%	CEM Construction Corp	Johana	\$3,314,268.00
C2	GENERAL/PMP/MT	101/211	211007	2022 Alley Paving Improvements	CONST	1%	Onyx Paving Company, Inc.	Elva/James	\$2,082,000.00
C3	PMP	211910	211006	PMP 2022 Street Resurfacing Project	CONST	1%	Matich Corporation	Gerard/Frannie	\$4,970,068.00
C4	WATER	501910	501062	2022 CIP Water Pipeline Replacement	CONST	10%	Tryco General Engineering	Gerard/Daniel	\$4,744,111.00
C5	PMP	211910	211004	SBCounty/Mentone/Redlands Paving Project	CONST	50%	SB County	Goutam/James	\$141,000.00
C6	GENERAL/MT	101400	400022	2022 Citywide Sidewalk & ADA Ramp Replacement	CONST	30%	Tryco General Engineering	Elva/Daniel	\$1,000,000.00
C7	HSIP C8	200400	F400003	HSIP Cycle 8 - Pedestrian Heads Project	CONST	90%	Econolite Systems, Inc.	Veronica/James	\$541,682.53

MUNICIPAL UTILITIES AND ENGINEERING DEPARTMENT
CIP PROJECTS LIST

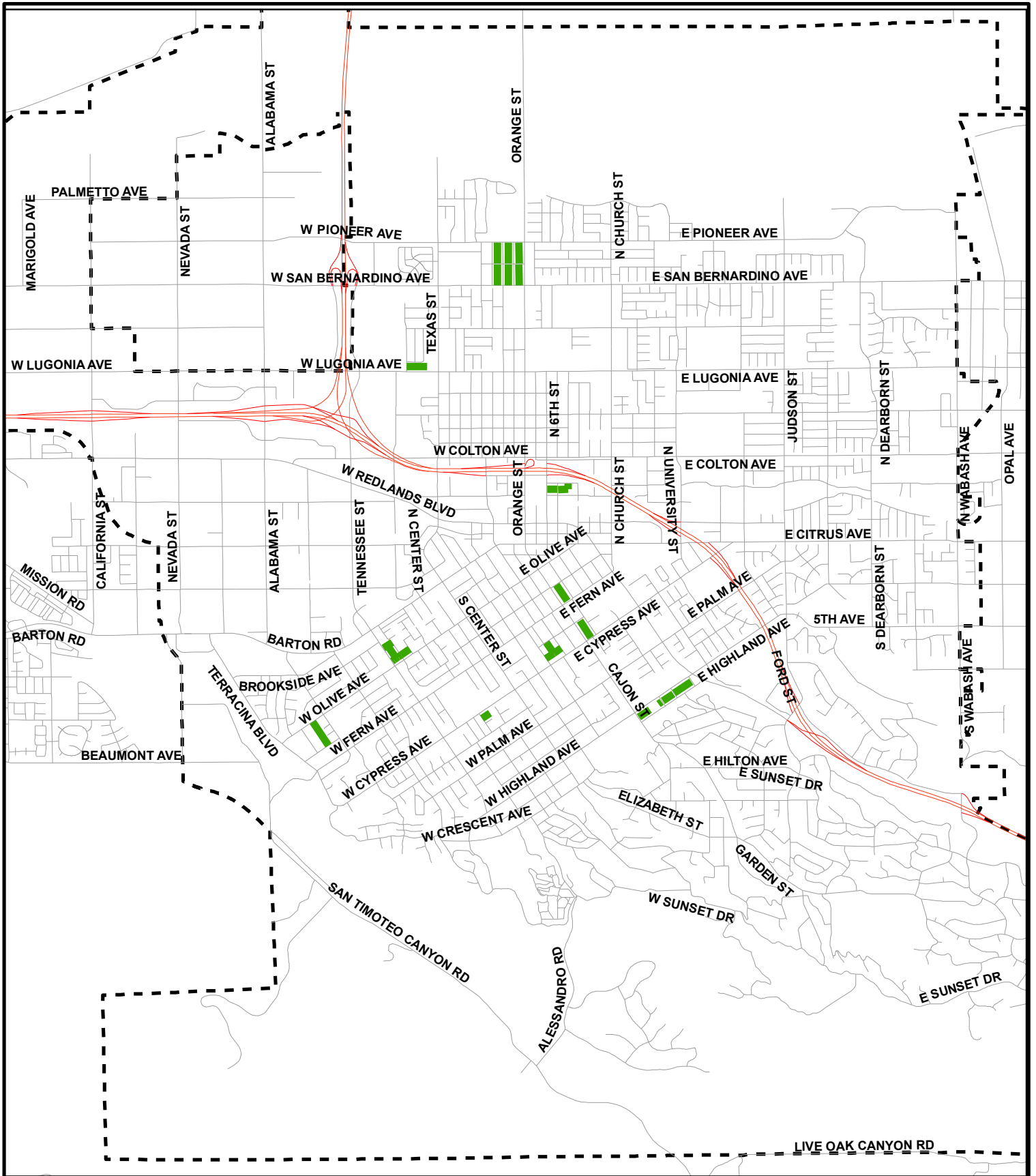
C8	HSIP C8	200400	F400001	HSIP Cycle 8 - Signal Preemption Project	CONST	99%	AGA Engineers, Inc./Baker Electric	Veronica/Daniel	\$937,418.00
C9	TDA	240400	S241001	Orange Blossom Trail - Phase 3	CONST	99%	Deark E&C, Inc.	Gerard/Frannie	\$782,396.00
C10	TRAFFIC SIGNAL	253400	253007	Traffic Signal Improvements (Brockton/University)	CONST	25%	Elecnor Belco Electric, Inc.	Elva/Daniel	\$507,745.00
C11	WATER	501910	501006	Water System SCADA Design & Integration - Phase 2 & 3	CONST	35%	TESCO Controls, Inc.	Paul/Daniel	\$5,579,420.00
C12	WATER	501910	501037	Citywide Water Meter Replacements	CONST	90%	Ferguson Enterprises, LLC	John/Aaron	\$1,815,000.00
C13	WATER	501910	501005	Wells and Booster Pump Maintenance	CONST	90%	General Pump Company, Inc.	Paul	\$641,212.00
Construction Projects - Cost Summary									\$27,056,320.53
Project Total Dollars									\$37,982,127.53



City of **REDLANDS** "A CITY THAT WORKS"

PROPOSED WATER PIPELINE REPLACEMENT
2022 CIP WATER PIPELINE REPLACEMENT PROJECT
LOCATION MAP



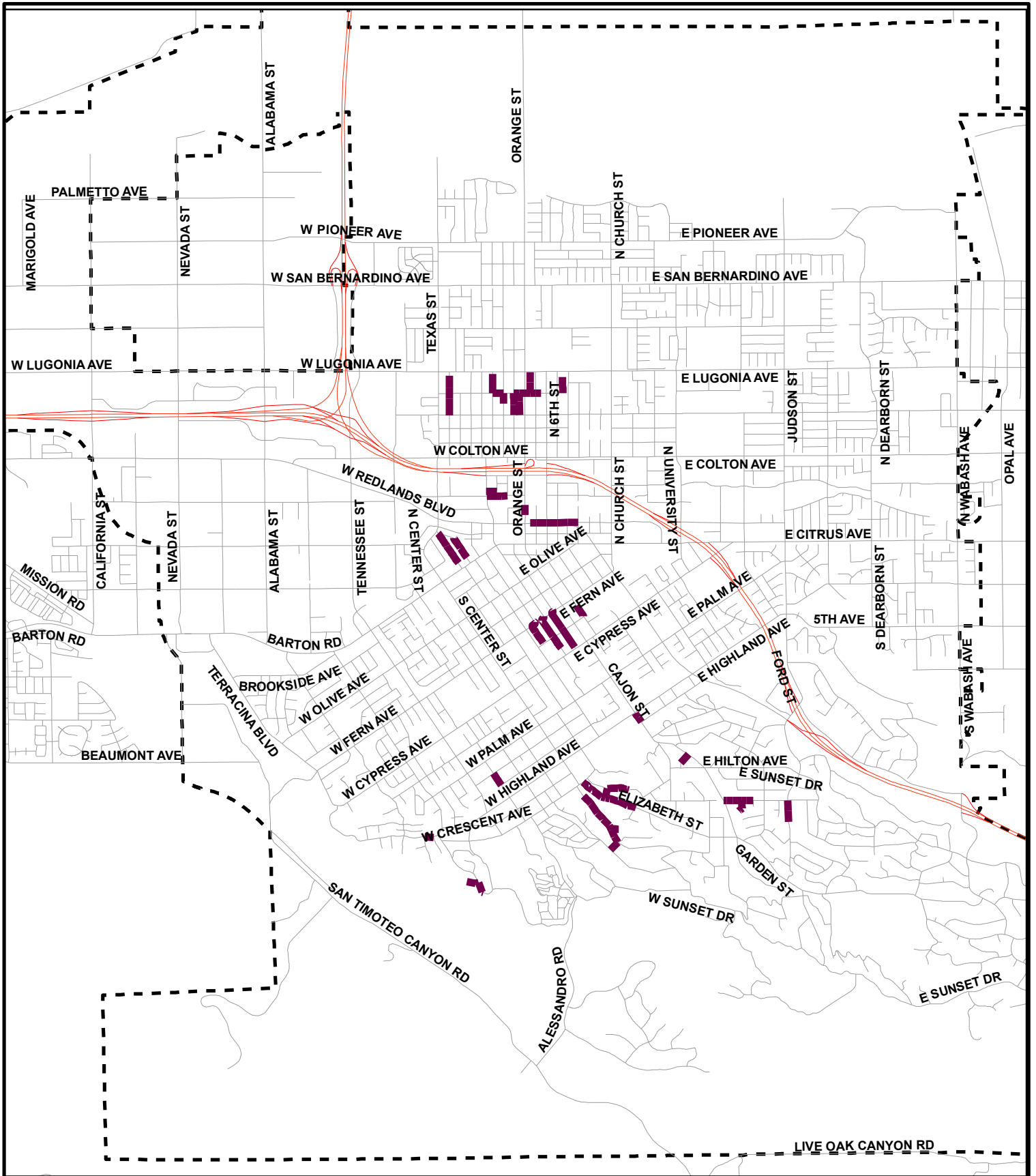


City of **REDLANDS** "A CITY THAT WORKS"

— PROPOSED ALLEY PAVING

2022 ALLEY PAVING PROJECT LOCATION MAP





— PROPOSED SEWER PIPELINE REPLACEMENT

2022 CIP SEWER PIPELINE REPLACEMENT PROJECT LOCATION MAP

