UTILITIES ADVISORY COMMISSION
Special Meeting
Monday, June 03, 2024
Community Meeting Room & Hybrid
6:00 PM

Utilities Advisory Commission meetings will be held as "hybrid" meetings with the option to attend by teleconference/video conference or in person. To maximize public safety while still maintaining transparency and public access, members of the public can choose to participate from home or attend in person. Information on how the public may observe and participate in the meeting is located at the end of the agenda. Masks are strongly encouraged if attending in person. The meeting will be broadcast on Cable TV Channel 26, live on YouTube https://www.youtube.com/c/cityofpaloalto, and streamed to Midpen Media Center https://midpenmedia.org.

VIRTUAL PARTICIPATION **CLICK HERE TO JOIN** (https://cityofpaloalto.zoom.us/j/96691297246)
Meeting ID: 966 9129 7246 Phone: 1(669)900-6833

PUBLIC COMMENTS
Public comments will be accepted both in person and via Zoom for up to three minutes or an amount of time determined by the Chair. All requests to speak will be taken until 5 minutes after the staff's presentation. Written public comments can be submitted in advance to UACPublicMeetings@CityofPaloAlto.org and will be provided to the Council and available for inspection on the City's website. Please clearly indicate which agenda item you are referencing in your subject line.

PowerPoints, videos, or other media to be presented during public comment are accepted only by email to UACPublicMeetings@CityofPaloAlto.org at least 24 hours prior to the meeting. Once received, the Clerk will have them shared at public comment for the specified item. To uphold strong cybersecurity management practices, USB's or other physical electronic storage devices are not accepted.

Signs and symbolic materials less than 2 feet by 3 feet are permitted provided that: (1) sticks, posts, poles or similar/other type of handle objects are strictly prohibited; (2) the items do not create a facility, fire, or safety hazard; and (3) persons with such items remain seated when displaying them and must not raise the items above shoulder level, obstruct the view or passage of other attendees, or otherwise disturb the business of the meeting.

TIME ESTIMATES
Listed times are estimates only and are subject to change at any time, including while the meeting is in progress. The Commission reserves the right to use more or less time on any item, to change the order of items and/or to continue items to another meeting. Particular items may be heard before or after the time estimated on the agenda. This may occur in order to best manage the time at a meeting to adapt to the participation of the public, or for any other reason intended to facilitate the meeting.

CALL TO ORDER 6:00 pm – 6:05 pm

AGENDA CHANGES, ADDITIONS AND DELETIONS 6:05 pm – 6:10 pm
The Chair or Board majority may modify the agenda order to improve meeting management.

PUBLIC COMMENT 6:10 pm – 6:25 pm
Members of the public may speak to any item NOT on the agenda.

APPROVAL OF MINUTES 6:25 pm – 6:30 pm

1. Approval of the Minutes of the Utilities Advisory Commission Meeting Held on May 1, 2024

UTILITIES DIRECTOR REPORT 6:30 pm – 6:45 pm

NEW BUSINESS *(a 10 minute break will be imposed during this section)*

2. City of Palo Alto Utilities Wildfire Mitigation Plan (WMP) Annual Update *(**ACTION** 6:45 PM – 7:15 PM)* Staff: Tomm Marshall

3. Staff Recommends that the Utilities Advisory Commission Recommend the City Council Adopt the 2024 Annual Water Shortage Assessment Report *(**ACTION** 7:15 PM – 7:35 PM)* Staff: Lisa Bilir

4. City of Palo Alto One Water Plan: Presentation of Initial Results *(**DISCUSSION** 7:35 PM – 8:30 PM)* Staff: Lisa Bilir

COMMISSIONER COMMENTS AND REPORTS FROM MEETINGS/EVENTS

FUTURE TOPICS FOR UPCOMMING MEETING July 3, 2024

ADJOURNMENT

SUPPLEMENTAL INFORMATION
The materials below are provided for informational purposes, not for action or discussion during UAC Meetings (Govt. Code Section 54954.2(a)(3)).

INFORMATIONAL REPORTS

12-Month Rolling Calendar

Public Letter(s) to the UAC

PUBLIC COMMENT INSTRUCTIONS

Members of the Public may provide public comments to teleconference meetings via email, teleconference, or by phone.

1. **Written public comments** may be submitted by email to UACPublicMeetings@cityofpaloalto.org.
2. **Spoken public comments using a computer** will be accepted through the teleconference meeting. To address the Council, click on the link below to access a Zoom-based meeting. Please read the following instructions carefully.
    - You may download the Zoom client or connect to the meeting in- browser. If using your browser, make sure you are using a current, up-to-date browser: Chrome 30 , Firefox 27 , Microsoft Edge 12 , Safari 7 . Certain functionality may be disabled in older browsers including Internet Explorer.
    - You may be asked to enter an email address and name. We request that you identify yourself by name as this will be visible online and will be used to notify you that it is your turn to speak.
    - When you wish to speak on an Agenda Item, click on "raise hand." The Clerk will activate and unmute speakers in turn. Speakers will be notified shortly before they are called to speak.
    - When called, please limit your remarks to the time limit allotted. A timer will be shown on the computer to help keep track of your comments.
3. **Spoken public comments using a smart phone** will be accepted through the teleconference meeting. To address the Council, download the Zoom application onto your phone from the Apple App Store or Google Play Store and enter the Meeting ID below. Please follow the instructions B-E above.
4. **Spoken public comments using a phone** use the telephone number listed below. When you wish to speak on an agenda item hit *9 on your phone so we know that you wish to speak. You will be asked to provide your first and last name before addressing the Council. You will be advised how long you have to speak. When called please limit your remarks to the agenda item and time limit allotted.

CLICK HERE TO JOIN **Meeting ID: 966 9129 7246** **Phone:1-669-900-6833**

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CITY OF PALO ALTO

Utilities Advisory Commission
Staff Report

From: Dean Batchelor, Director Utilities
Lead Department: Utilities

Meeting Date: June 3, 2024
Staff Report: 2405-3026

TITLE
Approval of the Minutes of the Utilities Advisory Commission Meeting Held on May 1, 2024

RECOMMENDATION
Staff recommends that the UAC consider the following motion:

Commissioner _____ moved to approve the draft minutes of the May 1, 2024 meeting as submitted/amended.

Commissioner _____ seconded the motion.

ATTACHMENTS
Attachment A: 05-01-2024 DRAFT UAC Minutes

AUTHOR/TITLE:
Jenelle Kamian, Program Assistant I

UTILITIES ADVISORY COMMISSION MEETING
MINUTES OF MAY 1, 2024 REGULAR MEETING

CALL TO ORDER

Chair Scharff called the meeting of the Utilities Advisory Commission (UAC) to order at 6:00 p.m.

Present: Chair Scharff, Vice Chair Mauter, Commissioners Croft, Forssell (joined at 6:05 p.m.), Metz and Phillips

Absent: Commissioner Segal

AGENDA CHANGES, ADDITIONS AND DELETIONS

None

PUBLIC COMMENT

None

APPROVAL OF MINUTES

ITEM 1: ACTION: Approval of the Minutes of the Utilities Advisory Commission Meeting Held on April 3, 2024

Chair Scharff asked for a motion to approve the April 3, 2024 UAC draft meeting minutes.

ACTION: Commissioner Metz moved to approve the draft minutes of the April 3, 2024 meeting as submitted.

Commissioner Mauter seconded the motion.

The motion carried 4-0 with Chair Scharff, Vice Chair Mauter, Commissioners Metz and Phillips voting yes.

Commissioner Croft abstained.

Commissioner Forssell absent.

UTILITIES DIRECTOR REPORT

Utilities Director Dean Batchelor delivered the Director's Report.

Water Supply Update: SFPUC, Palo Alto's water supplier, confirmed water supply is in a solid position this year. SFPUC increased rates by 8.8% to $5.67. This change resulted in a proposed CPAU water rate

increase of 11%. Last week, staff met with Finance regarding the proposed rates. Finance recommended lowering the CPAU water rate increase to 9.5%; therefore, staff will use funds from the Rate Stabilization Account. The proposed rate increase will be in the Financial Plan presented to Council in June and in the Proposition 218 notices.

Heat Pump Water Heater (HPWH) Program Update: As of March 7, the State's TECH Clean HPWH incentives were fully reserved. On April 15, City Council adopted the HPWH program budget with new pricing. A new 65-gallon HPWH installed through the full-service program is $2300. The City will provide a credit up to $1000 for site preparation work such as plumbing for the condensate line. There is a City rebate up to $3500 for customers who use their own contractor for HPWH installation. As of April 25, 237 HPWHs were installed through the full-service program and 70 HPWHs were installed through the rebate program. Staff is in the process of selecting one or more vendors to implement an Emergency Water Heater Replacement Pilot Program.

Facilities Managers Meeting: Last Tuesday, the Commercial team hosted a Facilities Managers Meeting at the Cabana Crown Plaza Hotel. There were 20 participants. Staff presented a case study on the HPWH installation at City Hall, electrification incentives, landscape rebates and AMI. The meeting culminated with a tour of the heat pump HVAC system installed at the hotel.

Earth Day Event at Hewlett Packard: The City's Sustainability and Key Account Program Managers participated in a tabling event for HP's Earth Day Event to share information about the City's energy efficiency and electrification programs along with available rebates. City staff and HP's facility and sustainability staff explored potential partnerships and ways the City can support HP's sustainability initiatives and educational endeavors.

Commercial Energy Efficiency Webinar: Last Thursday, staff hosted its first Commercial Energy Efficiency Webinar. The discussion led by industry experts and engineers discussed strategies for making commercial buildings more energy-efficient, particularly through HVAC and lighting advancements. After the webinar, one attendee signed up for the Business Energy Advisor program and was interested in pursuing energy efficiency projects. With close to 60 RSVPs for this session and the success of this workshop, staff plans to put together other webinar opportunities for our commercial customers.

EV Charger Program: The EV Charger Program has 15 sites in the permitting or installation phase. Most of these projects will be completed by the end of the year. More than 30 additional properties are in earlier project phases, including site assessment, bidding and vendor selection.

EV Technical Assistance Program (EVTAP): The three-year extension with CLEAResult began April 16 to provide technical assistance to sites in the pipeline. The extension guarantees a minimum of 19 additional sites going live within the life of the contract. It takes at least two years on average to complete an EV charger project.

Events: The Commercial team attended an Earth Month Celebration at Stanford Research Park and a Sustainability Fair at Hewlett Packard. Staff tabled at the Downtown Palo Alto Farmers Market to promote the HPWH Program. On April 13, staff hosted an in-person workshop entitled "Tips & Tricks for Successful Turf Conversion" attracting over 60 people. On April 21, staff from Utilities, Public Works, Community Services and the Office of Transportation hosted the City's Earth Day Festival at Rinconada Library and had over 700 attendees. On April 23, Utilities staff participated in the Palo Alto High School

Earth Day event. More than 30 students came to the Utilities table to play an interactive game and learn about heat pump water heaters, EVs and PV systems.

The UAC will have tables at the park for the May Fete Parade this weekend. The yearly MSC open house is on July 27 from 10 to 2. Jenelle Kamian sent an email to the UAC about rescheduling the next UAC meeting to Monday, June 3 in the Community Room. Commissioners will receive a poll regarding not having a UAC meeting this August.

NEW BUSINESS

ITEM 2: ACTION: Recommendation to Retain the Current WAPA Hydroelectricity Base Resource Contract Allocation From 2025-2030

Sr. Resource Planner Lena Perkins, PhD, delivered a slide presentation on the WAPA contract background, history and recommendation. Dr. Perkins addressed commissioners' questions. The Valuation Estimate for WAPA Base Resource chart shows annual net value decreasing over time due to decreasing power market prices and increasing cost projections. The 20-year contract expires December 31, 2024 with five-year off-ramps. Western does not produce energy in the middle of the day when there is a surplus of solar and is paid for doing so.

ACTION: Vice Chair Mauter moved to approve Staff's recommendation that the UAC recommend that the City Council keep the City of Palo Alto's full share of its allocated hydroelectric resource under the current hydroelectricity supply contract, the 2025 Base Resource Contract from Sierra Nevada Region of the Western Area Power Administration (2025 WAPA Contract), as approved by Council in February of 2021 (Staff Report #11679).

Commissioner Phillips seconded the motion.

The motion carried 6-0 with Chair Scharff, Vice Chair Mauter, Commissioners Croft, Forssell, Metz and Phillips voting yes.

Commissioner Segal absent.

The UAC took a break at 6:38 p.m. and resumed at 6:43 p.m.

ITEM 3: DISCUSSION: Discussion of the Northern California Power Agency Issuing Bonds to Prepay for the Energy Received Under the 2025-2037 Geysers Power Purchase Agreement

Sr. Resource Planner Shiva Swaminathan addressed the UAC. In early 2023, the UAC recommended and the Council approved Palo Alto's participation in the 12-year PPA for Geysers Power Company. Staff anticipated receiving 5% of Palo Alto's energy from this geothermal PPA starting in January 2025 and up to 10% of our needs by 2027 at an annual cost of approximately $7M ($6M for energy products and $1M for capacity products). The energy component is prepaid and was expected to yield 5% to 8% of energy cost savings at prevailing interest rate spreads, yielding a savings equivalent for Palo Alto of about $300,000 to $400,000 per year over 12 years. Staff seeks the UAC's input on this deal structure. Staff will seek the Finance Committee's input in June. If the consensus among NCPA member governing bodies is to proceed with the prepayment, staff will return to the UAC for formal approval to participate.

PFM Financial Advisors Managing Director Michael Berwanger explained the energy prepayment structure. Northern California Power Agency (NCPA) CFO Monty Hanks stated the PPA participants were Palo Alto 10%, Santa Clara 70%, Lodi 10% and five other entities totaled the remaining 10%.

Mr. Hanks stated that staff would seek input from the Finance Committee at their June 4 meeting. Approximately August 2024, NCPA will provide an informational update to the UAC, including the status of the CEC discussions, the result of Anaheim Electric's prepay transaction, the status of bond financing documents, an estimated savings update, market conditions and review of the schedule. Higher interest rates generate greater savings. In fall or winter 2024, Geysers PPA participants will seek their respective City Council approvals and NCPA will seek approval from their commission to issue bonds.

Mr. Swaminathan addressed commissioners' questions. As the community expressed concerns with past structures and this is Palo Alto's first prepay, staff was seeking the UAC's input today. In August, staff will ask the UAC to act. There is minimal or no financial risk. There is a regulatory risk. An interest rate risk does not exist after the deal is done.

Mr. Berwanger stated a custodian bank would bundle the separate payments and send one check to Geysers. Geysers is not prepaid for energy. Mr. Hanks remarked that Geysers would receive a check of $2.5M per month paid from funds in a custodian account funded by a combination of the participants paying a premium with the discount and the prepaid counterparty paying the difference.

Mr. Berwanger explained the worst-case scenario was if the transaction terminates and participants no longer received expected savings; otherwise, this nonrecourse transaction does not financially harm participants. NCPA's obligation is take and pay. The debt does not come back to NCPA or any of the project participants.

There are contract provisions allowing the remarketing of energy to other municipal entities if there is too much energy coming off the project or if a project participant fails to pay or cannot take the energy. The first step is to look to the other participants within the project or other NCPA members to see if they can take the energy.

As this is a nonrecourse transaction, there is no obligation on NCPA to repay the debt. It is a take-and-pay obligation, meaning that as you take energy you need to pay for it.

Commissioner Phillips expressed his concern with the Bucket 1 risk from the CEC; however, he would recommend Council approval if Anaheim's prepay transaction was successful and Palo Alto does not have any risk.

Utilities Director Dean Batchelor commented that staff previously evaluated this option when interest rates were low but did not proceed because there was not much savings. In August, depending on interest rates, staff will evaluate the risks and savings.

ACTION: None

ITEM 4: ACTION: Utilities Advisory Commission Recommendation to Adopt a Resolution Amending the Gas Utility Long-term Plan (GULP) Objectives, Strategies and Implementation Plan; Amending the Gas Utility Reserves Management Practices, Amending the FY 2025 Gas Fund Budget, and Amending Rate Schedules G-1 (Residential Gas Service), G-2 (Residential Master-Metered and Commercial Gas Service),

G-3 (Large Commercial Gas Service), and G-10 (Compressed Natural Gas Service). CEQA status: Not a project under Public Resources Code 15378(b)(5) and exempt under Public Resources Code 15273(a).

Resource Management Acting Assistant Director Karla Dailey and Resource Planner Jason Huang delivered a slide presentation and proposed a strategy for mitigating a short-term natural gas price spike.

Mr. Huang stated that Council approved a capped-price winter gas purchasing strategy for winter 2023-2024 and a $0.15/therm maximum gas commodity charge impact to purchase the price caps. Staff purchased $2/therm price caps for half of Palo Alto's expected load for December 2023, January 2024 and February 2024 at a total cost of about $1.5M. A $0.055/therm adder was included in the gas commodity charge from November 2023 through October 2024, representing an increase of about $1.80/month on a typical residential bill or a 2.8% increase, not including the underlying commodity price which is still based on the market index. Gas prices remained below $2/therm during December 2023, January 2024 and February 2024, so the City did not use the price caps it purchased. Council directed staff to evaluate alternatives.

Staff recommended purchasing gas based on the monthly market price in addition to funding a reserve to offset future short-term price spikes. To fund the Gas Rate Stabilization Reserve, staff recommended an adder of $0.103/therm to the gas commodity charge, representing an estimated 5.2% increase on the median monthly residential customer bill. Staff estimated $2.8M would accrue each year up to a total of $11.3M by November 2028. The reserve would have funds to maintain the gas commodity charge at $2/therm for one month even if there were a price spike up to $5/therm for that month. Staff proposed reducing the maximum commodity charge to $3.50/therm in Fiscal Year 2026-2027, $2.75/therm after three years, and $2/therm after four years.

Ms. Dailey stated that staff would address the Finance Committee on June 4 and the Council in August. Implementation of the strategy would start in October 2024 for gas year November 2024-October 2025.

The Commission discussed alternatives as well as the importance of transitioning from gas to electricity, assisting low-income customers, an information campaign, and the possibility of using the Outage Management System to provide immediate notifications to customers of price spikes.

Ms. Dailey addressed commissioners' questions about neighboring communities. Long Beach and Vernon have gas utilities. PG&E passes the market price through every month. The CPUC requires PG&E to have storage, which in a normal year costs more money because storage is expensive. Usually, PG&E is around 6% higher than CPAU, although PG&E was lower than CPAU in January 2023 for an unknown reason but staff believed PG&E had some hedging in place.

Ms. Dailey reminded the UAC it could not build a reserve for low-income customers because of Proposition 26; however, the General Fund could help. ProjectPLEDGE allows customers to donate money into a fund that provides one time bill payment assistance.

Chair Scharff recommended that staff calculate the cost to protect low-income consumers who are unable to pay a one to three-month spike. Vice Chair Mauter wondered if CPAU saw a large increase in unpaid bills during the price spike. Utilities Strategic Manager Dave Yuan responded that there have been many unpaid bills accumulating since COVID but staff could do some research if the UAC wanted

an answer. Mr. Yuan pointed out that CPAU's Rate Assistance Program had about 500 participants in gas and 700 in electric. Staff can use the Rate Assistance Program to identify low-income customers.

The Commission's consensus was to assist low-income customers but not protect the broad populace against volatility in gas market prices over which Palo Alto has no control. Discussion ensued on the wording of the motion.

ACTION: Vice Chair Mauter moved to recommend the City Council advise Staff to investigate options to protect low-income customers and provide additional price spike informational campaigns and to consider the following:

1. Maintain the maximum gas commodity charge of $4 per therm with the $0.06 adder for 3 years, and for Staff to return for review in two years, or
2. Raise the maximum of the gas commodity charge to $5 per therm with no adder.

Commissioner Forssell seconded the motion.

The motion carried 6-0 with Chair Scharff, Vice Chair Mauter, Commissioners Croft, Forssell, Metz and Phillips voting yes.

Commissioner Segal absent.

ITEM 5: ACTION: Staff Recommends That the Utilities Advisory Commission Recommend the City Council Adopt the Proposed Operating and Capital Budgets for the Utilities Department for the Fiscal Year 2025

Sr. Business Analyst Anna Vuong delivered a presentation. Next week, staff will seek the Finance Committee's recommendations. In June, staff will seek Council approval.

Projected FY 2025 rate increases in residential median bills: Electric Utility 9% increase, Gas Utility 9% increase, Wastewater 15% increase and Water Utility 9.5% increase for a total increase of about $33 in the median monthly bill.

Ms. Vuong displayed slides on FY 2024 Department accomplishments, FY 2024 staffing report and Electric FY 2024 accomplishments. Electric FY 2025 initiatives included electrification-related business processes, efficiency programs and TOU rates; rebalance the electric supply portfolio; design and identify pilot area for residential whole-home electrification and gas decommissioning; enhance and accelerate HPWH installations.

The Commission provided feedback on the presentation slides. Accomplishments do not need to be included in budgeting unless it is an ongoing project. Have a more detailed discussion on initiatives. When making budgeting decisions, what were the first two or three things below the line and why did staff decide not to include them? If you had an additional $5M, what would you do? Utilities Director Dean Batchelor responded that there was nothing below the line for Electric. When discussing the other funds, staff will mention any unbudgeted items.

Commissioner Metz asked when the UAC would have more details on grid modernization, which was about 80% of the total budget. Utilities Strategic Business Manager Dave Yuan replied that the City was using existing vendors for the pilot project. After the pilot, the City will issue an IFP (invitation for bid) for the construction project and would have a list of all line items and costs from vendors or suppliers.

Mr. Batchelor remarked that components of the large dollar amounts included building the hardware; costs for poles, wires, transformers and labor. Almost all the secondary needed replacement. Some of the feeder had to be replaced coming out of the substations. The substations needed upgrades. Oil breakers have to be replaced to harden the system.

In response to Commissioner Croft's question, Mr. Yuan explained why expenses exceeded revenues. The electric fund did not fully budget the bond financing. After the IFB and cost estimate, staff will perform a midyear (or later) revenue adjustment to account for the remaining bond finance.

Ms. Vuong outlined the preliminary plan for the FY 2024-2030 grid modernization project. Purchase equipment and construction to upgrade all overhead areas in Years 1 through 4. Purchase equipment in Year 3 for construction to upgrade substation transformers in Years 5 and 6. Purchase equipment in Year 5 for construction to upgrade all underground areas in Years 6 and 7. As pilots are completed, staff will bring forth information to the UAC for review, comments and recommendations.

The Fiber Fund FY 2025 initiatives included expanding the fiber backbone network into the foothills, conducting cost and benefit analysis study, as well as launching Palo Alto Fiber Internet in the pilot area.

Mr. Yuan remarked that the fiber pilot would launch in CY 2025 Q1 or Q2. After CEQA approval in June, construction and material purchasing can begin.

Gas initiatives for FY 2025 included Gas Main Replacement 24B, Cross-bore Phase IV, as well as conducting a study and identifying proof of concept area for downsizing the gas system.

Ms. Vuong explained the Customer Connection Project. Customers fully pay for gas connections but the City pays for the portions of work needed to meet the customer's needs in the public right of way or that benefit the City's gas distribution system.

Wastewater Fund FY 2025 initiatives included completing the Sewer Master Plan Study. Vice Chair Mauter was curious about the Sewer Master Plan Study objectives around changes in the magnitude of precipitation and if it's tied into resiliency work the City might be doing on flooding. Ms. Vuong was not familiar with the goals or scope other than flow analysis of the system and recalibrating the sewer system hydraulic model. Mr. Batchelor remarked Utilities was working with Public Works to evaluate what needed to be done in the flooding areas. A full hydraulic model of the sewer system is updated periodically.

Water Fund FY 2025 initiatives included Water Main Replacement Project 29, Water Seismic Project for Park and Dahl Reservoirs, as well as completion of alternative water resource approaches for the One Water Plan.

Discussion ensued regarding backflow devices. Mr. Batchelor stated that about 80% of customers have their backflow device inspected; however, 20% were repeatedly not in compliance. Staff addressed this problem with Legal. CPAU was advised they did not have the right to shut off water. Those 20% are causing us to be out of compliance with the State for the last four or five years. Staff discussed charging $50 to $60 for the City to certify backflow devices and have parts for making repairs if needed. CPAU will shut off service if the backflow is nonfunctional. There are 7800 backflow devices in Palo Alto.

ACTION: Commissioner Phillips moved to approve Staff recommendation the Utilities Advisory Commission recommend the City Council adopt the Proposed Operating and Capital Budgets for the Utilities Department for Fiscal Year 2025.

Chair Scharff seconded the motion.

The motion carried 6-0 with Chair Scharff, Vice Chair Mauter, Commissioners Croft, Forssell, Metz and Phillips voting yes.

Commissioner Segal absent.

COMMISSIONER COMMENTS and REPORTS from MEETINGS/EVENTS

Council Liaison Vice Mayor Lauing reported the Finance Committee approved Utility's rate proposals with one minor change. Last night, Council interviewed candidates for the UAC. One candidate was out of town, so Council will finalize their decision after meeting with the final candidate on Monday night.

FUTURE TOPICS FOR UPCOMING MEETINGS

Vice Chair Mauter asked what was the appropriate way of addressing separate meters for ADUs and/or bringing the topic onto the agenda for a future meeting. Utilities Director Dean Batchelor replied it was complicated because our Utilities rules and regulations do not allow two meters on one property. Staff had some discussions on engineering and Development Center permitting. Mr. Batchelor offered to provide an answer by the next UAC meeting or he could write up a short report and include the rules and regulations. Chair Scharff stated the UAC could recommend to Council that they change the rules and staff could provide their input.

Commissioner Phillips noted the UAC spent very little time on electric power service to business but spent a lot of time on residential, which was approximately 20% of the load. He would appreciate more than just the segmentation of the businesses and he urged staff to schedule an informational item.

In view of the court cases, Commissioner Metz wondered what were staff's views on the electrification strategy and its impact on the Gas Utility. Mr. Batchelor responded that Utilities would devise a strategy. The Development Center may change the Reach Code. Five cities use the Source Energy Margin model, including San Jose, San Luis Obispo and Santa Cruz. Those Cities have high goals for appliance efficiency that gas appliances are unable to meet. The courts or residents have not challenged the model. In response to Council's request for staff to come back to Council, staff is moving forward with a similar recommendation. If Council provides approval in June, staff will return to the UAC in July for a discussion.

NEXT SCHEDULED MEETING: June 3, 2024

ADJOURNMENT

Chair Scharff moved to adjourn.

Vice Chair Mauter seconded the motion.

The motion carried 6-0 with Chair Scharff, Vice Chair Mauter, Commissioners Croft, Forssell, Metz, and Phillips voting yes.

Commissioner Segal absent.

Meeting adjourned at 10:13 p.m.

Utilities Advisory Commission
Staff Report

From: Dean Batchelor, Director Utilities
Lead Department: Utilities

Meeting Date: June 3, 2024
Staff Report: 2404-2905

TITLE
City of Palo Alto Utilities Wildfire Mitigation Plan (WMP) Annual Update.

RECOMMENDATION
Staff recommends the Utilities Advisory Commission accept and approve the updated 2024 Wildfire Mitigation Plan (WMP or Plan).

EXECUTIVE SUMMARY
The purpose of this report is to present to the UAC the updated annual Plan. Each year, electric utilities are required to update their Wildfire Mitigation Plans, present the Plan in a noticed public meeting, then submit the Plan annually by July 1 of to the California Wildfire Safety Advisory Board (WSAB).[1]

BACKGROUND
California law requires all electric Utilities (Investor and Publicly-Owned Utilities) to annually update and submit a WMP to the WSAB, and to perform a comprehensive revision of the Plan at least once every three years.[2] The Plan outlines specific ways in which the utility will prepare for and mitigate against possible wildfire ignition from electric equipment. The WMPs are limited in geographic scope to the areas previously identified as a high fire threat area by the California Public Utilities Commission's State Fire map. For Palo Alto, this is the Foothills area.

The City of Palo Alto Utilities Department (CPAU) submitted its initial Plan on January 21, 2020 (Staff Report ID 10670[3]). As required by law, staff has updated the Plan in subsequent years

[1] California Wildfire Safety Advisory Board https://energysafety.ca.gov/wp-content/uploads/2023/12//wsab-2024-wmp-pou-advisory-opinion.pdf
[2] Public Utility Code 8387 https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=8387.&lawCode=PUC
[3] Staff Report ID 10670 https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/reports/city-manager-reports-cmrs/year-archive/2020/id-10670-mini-packet-01212020.pdf?t=53268.17

2021 (Staff Report ID 12190[4]), 2022 (Staff Report ID # 14175[5]), and performed a "comprehensive revision of the Plan" last year in 2023 (Staff Report ID #2301-0900).[6]

Palo Alto Utilities' primary mitigation activity is undergrounding eleven miles of overhead electric lines in the Foothills area. This project involves installing substructure work, including boxes for electric and fiber lines; removing electric lines and fiber lines from overhead poles; and installing pad-mounted equipment where possible. This project consists of multiple phases and is expected to be complete in 2025. We have completed the substructure portions for Phase 1, Phase 2, and currently wrapping up Phase 3. We will then be moving onto Phase 4, which is the last phase of the project. Please see Appendix A within the 2024 Plan for a listing of mitigation activities and status.

FISCAL/RESOURCE IMPACT

Neither the UAC presentation nor the Wildfire Mitigation Plan itself have any immediate resource impacts besides the staff time to monitor, review, and update the Plan and the corresponding presentation. Ongoing and proposed activities listed in the Plan are and will be approved annually through the Capital and Operating Budget processes.

STAKEHOLDER ENGAGEMENT

The annual presentation of the Plan in a publicly noticed meeting provides an opportunity to hear and accept comments from the public, other local and state agencies, and interested parties. Additionally, all versions of the plan are posted on the Utilities Department website for public review.

ENVIRONMENTAL REVIEW

The UAC's receipt of this WMP is not a project requiring California Environmental Quality Act review, because it is an administrative governmental activity which will not cause a direct or indirect physical change in the environment. To the extent proposed activities in the WMP require CEQA review, environmental review will be addressed when the City reviews the proposed project.

ATTACHMENTS

Attachment A: Updated 2024 Wildfire Mitigation Plan

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[4] Staff Report ID 12190 https://www.cityofpaloalto.org/files/assets/public/utilities/id-12190-item-2.pdf

[5] Staff Report ID 14175 https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/agendas-minutes/utilities-advisory-commission/archived-agenda-and-minutes/agendas-and-minutes-2022/06-08-2022/06-08-2022-id-14175-item-3-wildfire.pdf

[6] Update" and "comprehensive revision" are undefined in the statute. Palo Alto staff and other POUs interpret "update" to mean bringing the original plan up to date with limited to no significant changes, and "comprehensive revision" to mean an in-depth review of each plan element, with significant changes made as needed to the original plan. Staff report ID 2301-0900 https://cityofpaloalto.primegov.com/meetings/ItemWithTemplateType?id=1404&meetingTemplateType=2

APPROVED By:
Dean Batchelor, Director of Utilities
Staff: Tomm Marshall, Assistant Director, Electric & Fiber Utilities

CITY OF
PALO ALTO
UTILITIES

WILDFIRE MITIGATION PLAN

JUNE 2024

TABLE OF CONTENTS

I. UTILITY OVERVIEW AND CONTEXT

A. Context table

City of Palo Alto	
Size in Square Miles	26 square miles
Assets	Distribution
Number of Customers Served	29,849 residential and business customer accounts
Customer Classes	Residential and Small/Medium Business
Location/Topography	Urban
Percent Territory in CPUC High Fire Threat Districts	Tier 3 - 0% Tier 2 - 40%
CAL FIRE FRAP Map Fire Threat Zones	40% High *Approx. based on visual interpretation of* CPUC ArcGIS map.[1]
Existing Grid Hardening Measures	Undergrounding
Impacted by another utility's PSPS?	Yes, as a transmission dependent utility, Palo Alto could be impacted by a PG&E PSPS.
Mitigates impact of another utility's PSPS?	Yes
Expects to initiate its own PSPS?	Factors used to identify possible need for PSPS are based on weather forecast and field conditions. Refer to the PSPS Policy and Process.
Prevailing wind directions & speeds by	Please refer to Cal Fire's *Santa Clara Unit 2023 Strategic Fire Plan* for information about wind regional wind conditions. [2]

B. Statutory cross-reference table

Code section	Requirement	Page
8387(b)(2)(A)	Accounting of responsibilities	5
8387(b)(2)(B)	Plan objectives	3
8387(b)(2)(C)	Preventive strategies and programs to minimize risk	7
8387(b)(2)(D)	Metrics used to evaluate Plan's performance	11
8387(b)(2)(E)	Current Plan informed by previous Plan's metrics	11
8387(b)(2)(F)	Protocols related to deenergizing and public safety impacts	8
8387(b)(2)(G)	Customer notification around deenergizing	6
8387(b)(2)(H)	Vegetation management	7
8387(b)(2)(I)	Electrical infrastructure inspection plans	10
8387(b)(2)(J)	A list of wildfire risks and drivers	7
8387(b)(2)(K)	Area that is a particularly high wildfire threat	4
8387(b)(2)(L)	Wildfire and safety risk methodology	7
8387(b)(2)(M)	Restoring service after a wildfire	9
8387(b)(2)(N)	Process to monitor Plan, identify any execution deficiencies, and audit inspection effectiveness	10

[1] CPUC ArcGIS map @ https://www.arcgis.com/home/webmap/viewer.html.

[2] CAL Fire's Santa Clara Unit 2023 Strategic Fire Plan @ https://cdnverify.osfm.fire.ca.gov/media/aw4hpsgj/2023-santa-clara-unit-fire-plan

8387(b)(3)	Present Plan in an appropriately noticed public meeting	2

C. Process for WMP adoption

Palo Alto is unique among POUs because it has a Utilities Advisory Commission (UAC), an advisory Commission to the City Council. This commission is comprised of Council-appointed residents who meet monthly to provide advice to City Council and staff on utilities-related matters, including the City's Wildfire Mitigation Plan (Plan). A Brown Act body, the UAC publishes agendas in advance of each public meeting and provides opportunities for public comment at each meeting. Each year, Palo Alto staff presents the Plan at a UAC meeting where staff accept any public comments and receive feedback from Commissioners.[3] Minutes and videos of past meetings are available on the City's website.

D. Plan location on the website

Palo Alto's Plan is the first substantive item found on the Utilities Department safety webpage. Navigating to this page from the Department's main page takes only two clicks and is intuitive. Users click on "Utilities Services and Safety," then "Wildfire Mitigation." [4] Because the City also has a Fire Department and an Office of Emergency Services that respond to fires and other emergencies, this report briefly notes how this wildfire Plan differs from other City emergency response plans.

II. PLAN PURPOSE AND OBJECTIVES

A. Purpose

This Plan is written in compliance with Public Utilities Code section 8387 and describes how the City of Palo Alto's Utilities Department (CPAU) maintains and operates its electrical lines and equipment in a manner that minimizes the risk of wildfire posed by those lines and equipment.

B. Scope

The scope of this Plan is limited to providing information about mitigating the risk of wildfires from electric lines and equipment. It distinguishes between mitigating risks of possible electric line-ignited wildfires versus wildfires or wildfire suppression generally. The latter topics are in the scope and under the purview of trained fire experts, such as the city's Fire Department, and not within the expertise of utility engineers and technicians. The former is within the scope of CPAU responsibilities and is the subject of the state code section mandating this Plan; therefore, it is the *sole focus* of this Plan.

[3] PUC 8783(b)(3) requires a POU to "present its wildfire mitigation plan in an appropriately noticed public meeting…[and] accept comments on its wildfire mitigation plan from the public…." While not the governing board of the utility, the UAC review satisfies the legal requirement of presenting the Plan at a noticed public meeting where comments from the public are accepted.

[4] Utilities Department safety webpage @ https://www.cityofpaloalto.org/Departments/Utilities/Utilities-Services-Safety/Safety/Utilities-Wildfire-Safety.

Additionally, this Plan applies to the only area in the City of Palo Alto identified as a high fire threat area in the California Public Utilities Commission (CPUC) State Fire Map. As of 2023, the high fire threat area in Palo Alto includes all areas with the City limits west of Highway 280, referred to as the Foothills Area. (See below, Figure 1). This area is about eight square miles, is sparsely populated, and consists primarily of open space.

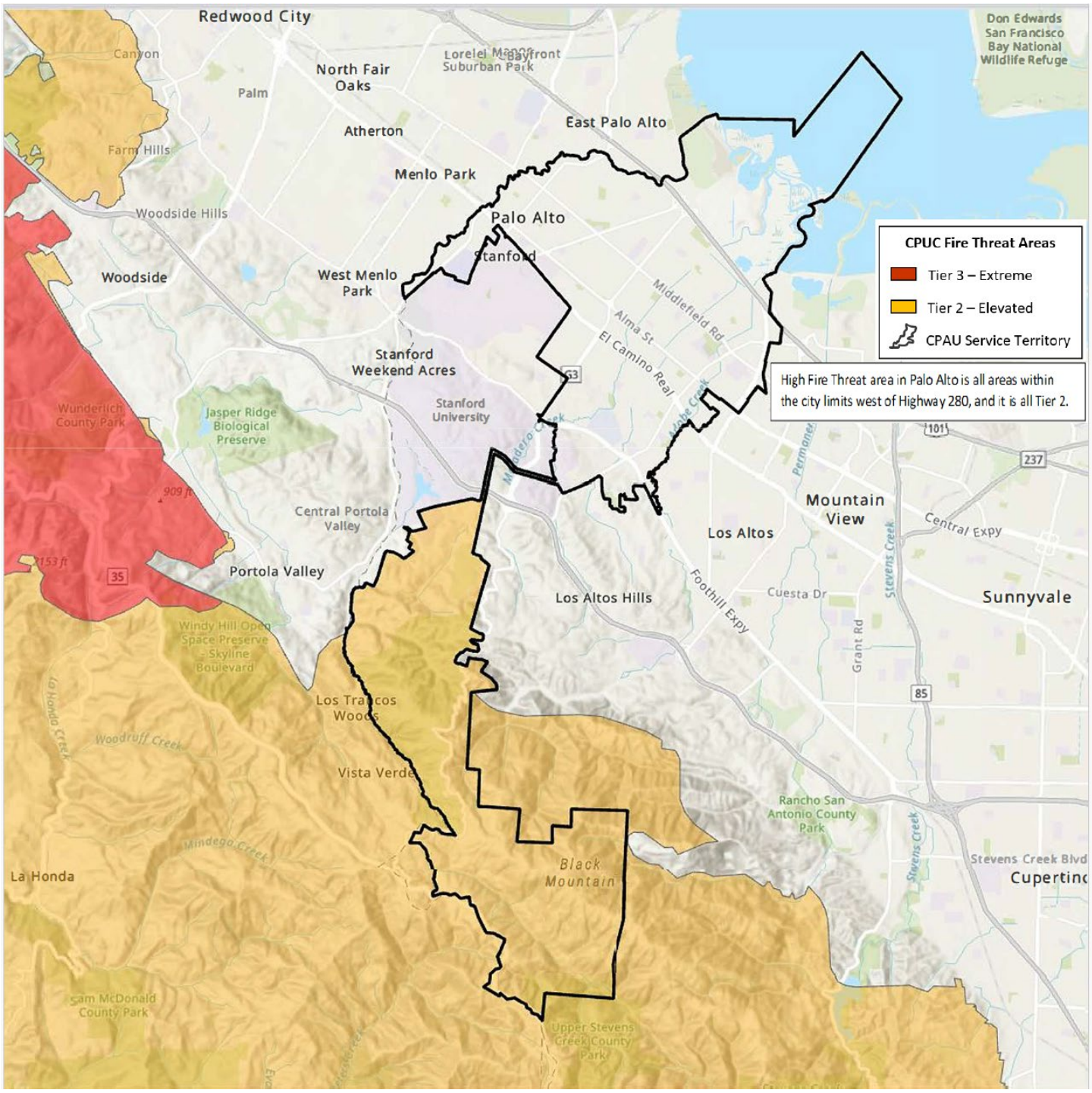
Lastly and per the Board's request of all POUs, this updated Plan deliberately omits general information the Board already understands in favor of specific information about the City's territory, infrastructure, and mitigation projects. For example, the Board already knows that CPAU, and other POUs, meet all applicable GO 95 standards so it is not reiterated here. To avoid redundancy, the Plan omits appendices submitted in prior years, although there may be references to information from prior Plans. This is intended to acknowledge that both CPAU and the Board have limited resources to write and review Plans, the Board has already reviewed the appendices and offered guidance, and recycling past information is not as helpful as providing new information.

C. Plan objectives

The Plan's primary objective is to guide CPAU staff in minimizing the probability that the City's distribution system may be an original or contributing source for wildfire ignition. The City strives to ensure that its infrastructure is safe and resilient by taking proactive actions to maintain its equipment, refine the existing Public Safety Power Shutoff (PSPS) protocols as needed, and underground the electric lines in the only high fire threat area.

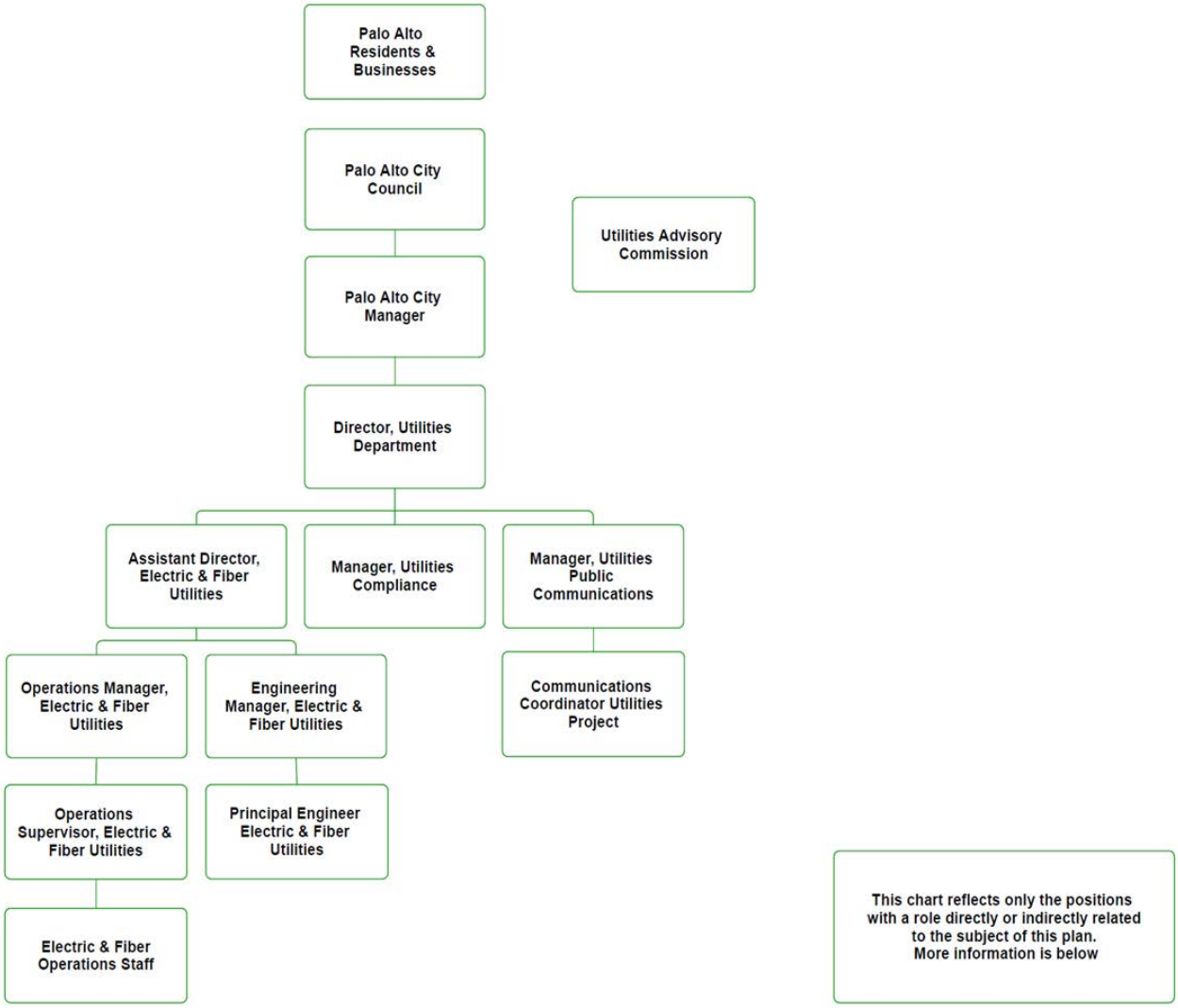
A secondary objective is to improve the resiliency of the City's distribution system and to measure the efficacy of the mitigation strategies.

Fig. 1: CPAU electric service area, showing high fire threat “Foothills Area”.



III. ROLES AND RESPONSIBILITIES

A. City of Palo Alto Utilities Department



In Palo Alto, the City Council is the governing body of all City functions including the City's utilities. As noted above, the UAC is a Brown Act body that provides advice on utilities-related matters. CPAU operates and maintains all the utilities in the City, including electric, water, gas, fiber, and wastewater. CPAU also employs communications staff to engage with the community and a Compliance Manager who, among other duties, ensures reports such as this Plan are completed timely and appropriately.

CPAU's electric and fiber staff noted above all play a role in mitigating wildfire risk from electric lines and equipment. Specifically, CPAU engineers produce safe and resilient designs, and oversee wildfire mitigation projects such as undergrounding electric lines.

Electric Operations staff inspect, repair, and maintain equipment while flagging any potential causes for concern. The CPAU Communications team produces safety communication material to the community, and the Compliance Manager ensures CPAU meets or exceeds laws and regulations.[5]

B. Coordination with other departments

As one division of the City's utilities department, CPAU's Electric Utility staff works closely with other utilities divisions and other City departments. These include the Public Works Department and its Urban Forestry and Environmental Services Divisions, the Fire Department, the Office of Emergency Services, and the water utility Engineering and Operations team. Together, these departments and divisions proactively prepare for wildfires, act to mitigate climate and fire-related risks, maintain electric and water infrastructure, develop plans for deenergization events, ensure appropriate vegetation management, and lead Palo Alto's robust climate action efforts. As these divisions, departments, and teams are under the umbrella of one City, there is a strong history of working together closely.

C. Deenergization-related communication

CPAU's Communications staff is responsible for engaging the community about deenergization events. In doing so, and in deciding whether to deenergize lines, CPAU utilizes the "Utilities Wildfire Mitigation Response and Communications Procedure for Public Safety Power Shutoff."[6] This procedure includes proactively sending a specific recorded message to customers living in the Foothills area, and a more general but still targeted message to all electric customers. These messages are sent prior to deenergizing lines, to allow residents time to act, if necessary.

Palo Alto also sends emails to Foothills residents, with specific information about conditions that may prompt deenergization, the anticipated dates and times of a shutoff, how to prepare, and where to find more information. During a deenergization event, CPAU continues to email and call customers.

The calls and emails prior to and during any shutoffs are supplemented with frequent information posted on CPAU's website and social media accounts.

[5] To keep the public informed of CPAU's capital improvement projects (CIPs), CPAU places CIP-related information @ https://www.cityofpaloalto.org/Departments/Utilities/Utilities-Services-Safety/Utilities-Projects/Foothill-Fire-Mitigation-Project. This information includes primary staff contact information for the projects.

[6] This document was previously provided to the Board as Attachment G in Palo Alto's 2022 Plan. As a newer procedure that remains accurate, it has not been updated since that submi

IV. ELECTRIC-LINE IGNITED WILDFIRE RISK DRIVERS WITH PREVENTION AND MITIGATION EFFORTS

A. Primary risk drivers and specific mitigation efforts

Palo Alto recognizes that the Board is most interested in specific risks unique to each POU and its service territory, rather than general risks carried by all electric utilities. As such, and because Palo Alto is in the process of undergrounding the lines in its single high fire threat area, this Plan notes only the risk associated with electric equipment in the Foothills area. The more general risks Palo Alto regularly mitigates, but does not specifically address in this Plan, include:

- Electric system operating, management, and construction practices outside the Foothills area
- Weather including high winds outside the Foothills area
- Extended drought

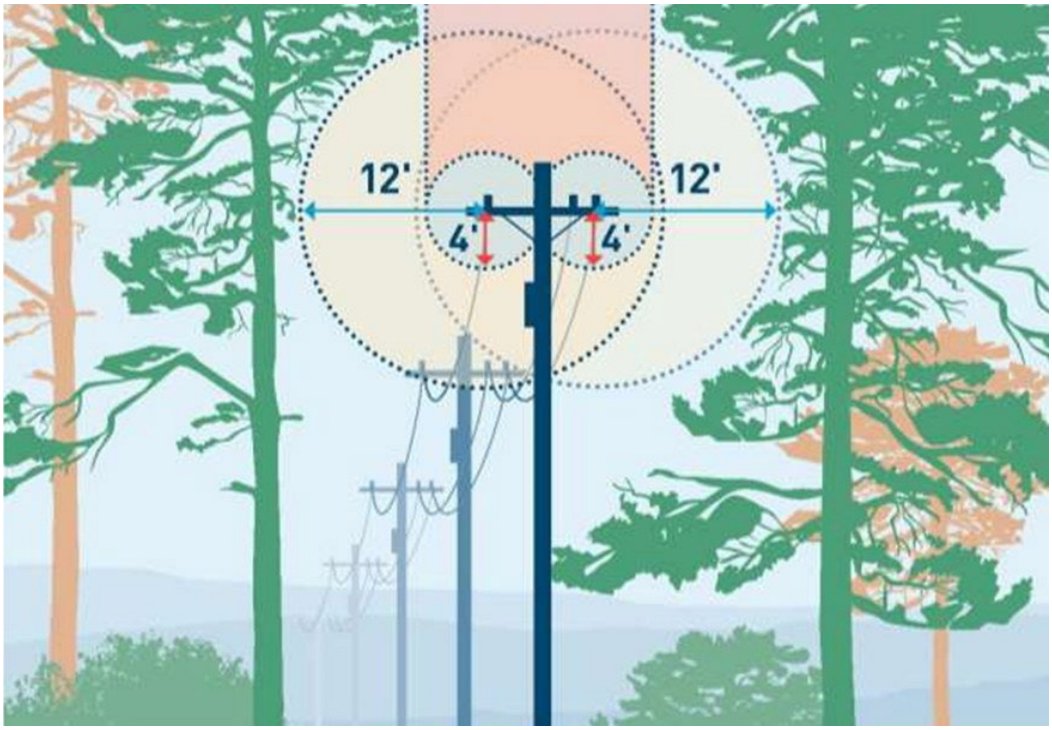
With regard to weather monitoring, Palo Alto installed a weather station in the Foothills area, allowing staff direct, localized weather data. CPAU staff also monitor regional conditions, receive red flag warnings, and communicate with first-responder departments on any actions needed due to weather conditions.

B. Primary risk drivers and specific mitigation efforts: Vegetation type, density, and management practices.

Wildfire risks from electric lines and equipment include vegetation intruding into power lines, falling onto lines, or roots damaging undergrounded equipment. Mitigation efforts include ongoing physical inspections, ensuring the proper type of vegetation is placed at the correct distance from equipment, and adherence to the City's Line Clearing Program and Tree Technical Manual for proper care of trees. Palo Alto is fortunate to have a dedicated Urban Forestry Division within the Public Works Department, staffed by trained and experienced urban foresters. Twice a year, these individuals evaluate every line-adjacent tree in the high fire threat area with a potential for contact with CPAU electric lines.

Palo Alto utilizes a variety of vegetation treatment methods to reduce the risk of wildfire, including tree or branch removal, trimming, mowing, brush cutting, discing, and herbicide use. The Urban Forestry Department is planning a program to help remove potential fall-ins from trees outside of Palo Alto's maintenance envelope of line-adjacent trees. In the future, to help staff track and manage flammable new growth, Palo Alto may utilize GIS and growth modeling. Currently, this work is performed manually with physical inspections.

In addition, for the Foothills area, Urban Forestry uses an enhanced vegetation management buffer as shown in the diagram below:



This practice exceeds GO 95 minimum clearance standards for the line voltage. Specifically, a 4-foot radial clearance is the minimum required in high fire danger areas for lines between 750 volts and 300kv; Palo Alto maintains a minimum of 10 feet and a target of 12 feet radial clearance for all circuits in the Foothills area.

C. Other electric equipment-specific mitigation strategies

- *Disabling certain reclosures*. In the Foothills area, CPAU has two reclosers on the distribution line that automatically open when they sense a large amount of current flowing due to a fault. After a preset delay, they both can automatically reclose; however, as a method to minimize fire risk, the reclosing function is permanently disabled on both reclosures and at the circuit breaker of the substation serving this area. Restoring service requires manual reclosing, which occurs only after staff have physically inspected the lines, performed any needed repairs, and ensured that the outage cause is removed. While this practice means potentially longer outage times, it is an important risk mitigation activity.
- *Utilizing specific fuses*. CPAU utilizes non-expulsion fuses in the high fire threat area. Specifically, CPAU utilizes Eaton's Cooper PowerE series ELFE fuse, a full range, current-limiting dropout fuse with a self-contained design that eliminates noise and expulsive showers. If these fuses explode, any hot metal is contained within the fuse holder, preventing contact with vegetation.
- *Deenergizing, then reenergizing when prudent*. CPAU considers deenergizing electric lines as a last resort, realizing that while the lack of power could be an

inconvenience for some customers, it could cause significant health and safety concerns for others. However, CPAU will utilize this option when necessary to minimize the risk of an electric-line ignited wildfire in the high fire threat area. Factors CPAU considers when determining whether to deenergize include:

- The possible safety impacts to City customers
- Any fire activity in the vicinity
- Any evacuation orders and other information from emergency personnel
- Information from local fire agencies, vegetation staff, and CPAU electric operators
- Local and regional weather conditions including wind, humidity, precipitation and any red flag warnings
- The state of vegetation in the area (i.e. very dry)

- *Restoring power after a wildfire or deenergization event.* Lines will only be reenergized when (1) the risk has passed, (2) the lines are inspected, and (3) any needed repairs are complete. CPAU utilizes a Public Safety Power Shutoff (PSPS) policy and procedure when determining whether to deenergize lines because of a wildfire risk. The written protocol also includes customer notification procedures and reenergization information.[7] In addition to customer notification from the Utilities Department, PSPS communication is also coordinated with Palo Alto's Office of Emergency Services. The decision to institute a PSPS also includes working with CPAU's water utility staff to determine if the City should pump water up to the reservoirs located in the Foothills area in advance of shutting off power, to ensure there is sufficient water and water pressure for any firefighting activities.
- *Coordination with PG&E.* As a transmission-dependent utility, CPAU communicates with PG&E regarding their potential deenergization events that may impact the City's service territory.
- *Studying device coordination strategies*. Staff has engaged in protective device coordination studies to ensure that any fault is isolated quickly and any impact limited. Based on these studies, CPAU changed the fuse type and size, as noted above, on Foothills area distribution lines and changed relay settings for reclosers and a station circuit breaker.

D. Enterprise-wide Safety Risks

Palo Alto's protocol for identifying and addressing enterprise-wide safety risks is a collaborative effort with various City departments. Together the goal is to prevent, protect from, mitigate, respond to, and recover from a broad range of potential hazards and threats. The City's Office of Emergency Services (OES) leads that coordination with the goal of developing, maintaining, and sustaining a citywide, comprehensive, all hazard, risk-based emergency management program that engages the whole

[7] The PSPS Policy and Process was included as Appendix F in the City's 2022 update and has not been updated since then. Information on PSPS events can also be found on the website @ https://www.cityofpaloalto.org/Departments/Utilities/Utilities-Services-Safety/Outages/Public-Safety-Power-Shutoffs.

community. The City maintains and updates the following reports and plans that provide information regarding the risks in Palo Alto and the necessary actions to take.

- *Threat and Hazard Identification and Risk Assessment Report*[8] - The result of the THIRA process is an organized evaluation of vulnerability and implementation measures based on the necessary capabilities to deal with the natural and non-natural hazards and threats of most concern.
- *Local Hazard Mitigation Plan*[9] - Identifies and prioritizes potential and existing hazards across jurisdictional borders, including hazards that may be further amplified by climate change, and provides mitigation objectives with prioritized actions.
- *Foothills Fire Management Plan*[10] - Addresses a broad range of integrated activities and produced planning documents to address and mitigate the impacts of fire hazards in the Palo Alto Foothills Area.

E. Current and prior activities

CPAU's earlier Plans note mitigation tasks the City has already completed, such as preparing a Foothills Fire Mitigation Plan and acting as "territory lead" for the CPUC's fire threat map. Additionally, prior Plans note ongoing efforts, which continue. These include regular vegetation management, inspection and maintenance of the electric system, and electric infrastructure designs that consider fire safety. Attachment A shows the status of CPAU's mitigation-related activities.

V. MONITORING THE PLAN

A. Measuring Plan and inspection performance

In preparing annual Plans, CPAU takes the opportunity to evaluate the current Plan for any deficiencies, or if any best practices have changed. In doing so, CPAU considers what, if anything, related to wildfires occurred in the high fire threat area. Any events related to wildfires or City electric infrastructure in the Foothills area could inform future Plans and help understand the effectiveness of the current Plan. Since CPAU began submitting these annual reports, there have been no wildfires in the high fire threat area.

With regard to inspections, CPAU examines its electric equipment in the high fire threat area more frequently than in other areas of the service territory. Staff strive to ensure that all inspections are completed by June, before the historic start of fire season, or earlier, depending on drought conditions. Inspections are completed manually. Staff analyzes the results of the inspections for trends of any failures or maintenance needs,

[8] The Threat and Hazard Identification and Risk Assessment Report can be found @ https://www.cityofpaloalto.org/files/assets/public/oes/plans/unrestricted_palo_alto_thira_report_final_april-2017.pdf.

[9] The Local Hazard Mitigation Plan can be found @ https://www.cityofpaloalto.org/files/assets/public/oes/lhmap/paloalto_separateannex_march2017.pdf.

[10] The Foothills Fire Management Plan can be found @ https://www.cityofpaloalto.org/files/assets/public/oes/plans/foothills-fire-management-plan-update-2016-final.pdf .

which can inform future design changes. Staff also monitors the performance of equipment during windy and raining weather as described in the metrics below.

B. Performance and outcome metrics

CPAU audits the effectiveness of the Plan's mitigation and prevention efforts by using two broad metrics: performance and outcomes. Information specific to each are below:

i. Performance metrics

a. Vegetation management. This metric includes the amount of vegetation cleared or number of trees trimmed in the high fire threat area.

b. Infrastructure maintenance in high fire threat area. This metric includes the amount of equipment and number of lines inspected and repaired (if needed) in the high fire threat area.

c. Project status. This metric involves monitoring the progress of any projects related to mitigating wildfires from electric equipment or lines in the high fire threat area and ensuring that projects progress on the proper timeline.

ii. Outcome metrics

a. Electric-line ignited wildfire. This metric includes any fire started by CPAU's electric equipment in the high fire threat area that traveled greater than one linear meter from the ignition point. In at least the past 20 years, there have been zero such fires.

b. Downed lines in the high fire threat area. For purposes of this Plan, a wires-down event includes any instance where an electric line in the high fire threat area of the service territory falls to the ground or onto a foreign object. CPAU will not normalize this metric by excluding unusual events, such as severe storms. Instead, staff will supplement this metric with a qualitative description of any such unusual events.

C. Applying previous Plan metrics to this Plan

CPAU's initial Plan specified two metrics for evaluating performance, each discussed below, and noting how they have informed this revised Plan:

i. Outages to the overhead lines in the high fire threat area

In the 2020 Plan, staff described how CPAU would evaluate any outages in the high fire threat area. (Page 21). It also noted a related project in Appendix F, rebuilding the overhead lines, the status of which is presented below in Appendix A. CPAU's evaluation of any outages in the high fire threat area described in 2020 remains: Determine if CPAU's activities (a) should have prevented any outages, (b) were adequate to prevent an outage, (c) could be improved, and (d) could not have prevented an outage. Both the evaluation and metric remain for this Plan because they properly inform CPAU efforts in preventing outages.

Since January 1, 2020, CPAU has had 10 outages in the Foothills area. None were a result of a PSPS event or weather-related. Most were caused by animal activity in this heavily wooded area or a car hitting a pole.

ii. Fire ignitions

An important metric, CPAU stated in the 2020 Plan that staff would provide the number of fires occurring in the high fire threat area that were less than 10 acres in size, specifically describing any fires larger than 10 acres. Since January 1, 2020, CPAU has had zero wildfires in the high fire threat area over 10 acres with no calls to 911 to report of a fire of any size.

If CPAU experiences any wildfires in this area, whether ignited by electric infrastructure or not, CPAU will work with the Fire Department, Office of Emergency Services, and any related local government agency to review the cause, how or if CPAU equipment related to the cause or was impacted and collaborate on any after-action activities.

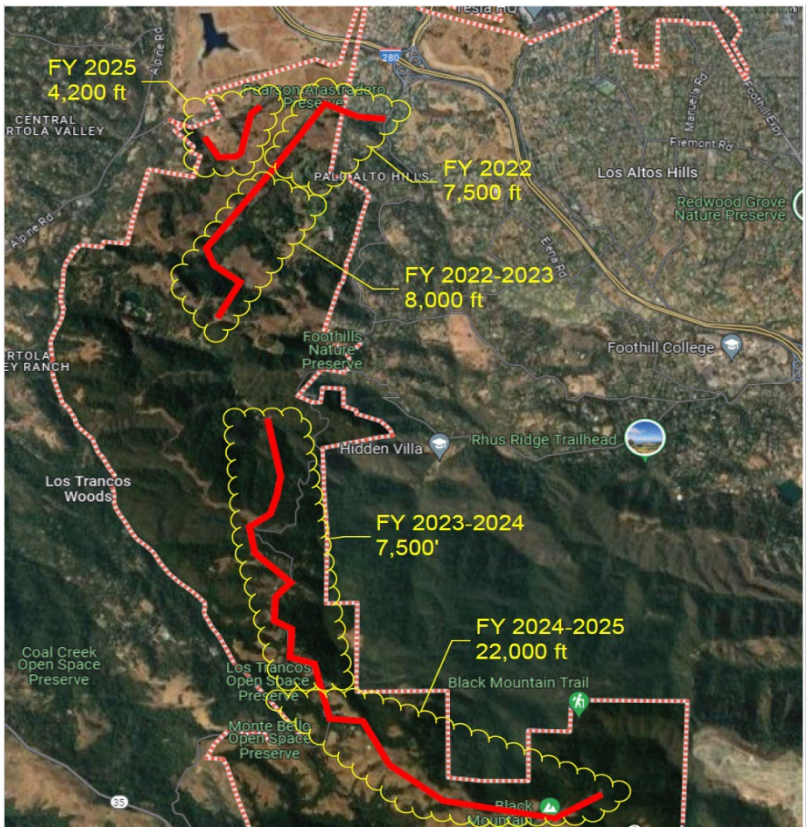
iii. Wires down

This metric includes instances of any electric lines or conductors that fall to the ground or come into contact with a foreign object in the high fire threat area. For each wires-down event, CPAU will utilize an evaluation system similar to CPAU's outage evaluation: reviewing the cause, what actions may have prevented the event, and if there are areas for improvement.

APPENDIX A: WILDFIRE MITIGATION ACTIVITIES

The City's key mitigation activity is undergrounding eleven miles of overhead electric lines in the Foothills area. This project involves installing substructure work, including boxes for electric and fiber lines; removing electric lines and fiber lines from overhead poles; and installing pad-mount equipment where possible.

This iterative project consists of multiple phases (Phases 1-4) and is expected to be complete in 2025. CPAU already installed three of four required substructures.



This image is a high-level visual representation of the project area, timeline, and how many feet below the surface equipment will be placed.

WILDFIRE MITIGATION ACTIVITIES			
Activity	**Description**	**Status**	**Projected completion date**
Undergrounding Phase 1 and Phase 2	Substructure work, installing boxes and padmount equipment, pulling cable, energizing electric lines, and removing electric facilities off of overhead poles.	Substructure work for Phases 1 and 2 in Foothills Park is done. Electric lines are now underground, and facilities are energized.	Completed 2024
Utilizing Fiberglass	Some poles will remain in the high fire threat area once lines are underground. CPAU will use new fiberglass crossarms when replacement is needed to enhance resiliency.	Staff completed the fiberglass crossarms design, ordered materials, but faced shipping delays. Materials arrived in Spring 2023.	Completed 2023
Outage Management System (OMS)	Updating the Outage Management System to provide enhanced customer communication during outages and improve customer service.	Implementation upgrades now offer enhanced functionalities, enabling customer notifications and resource mobilization for outages and emergencies, with updates via email, text, and social media.	Completed 2023
Overhead Pole Removal and Fiber Transfer	Full removal of aerial facilities in Phases 1 and 2 by the end of the Summer.	Fiber cable is still aerial due to long lead times for material, however that material has been received and staff anticipate the full removal of aerial facilities in Phases 1 and 2 by then end of the Summer 2024.	Fall 2024

Activity	Description	Status	Projected completion date
Undergrounding Phase 3	Substructure work, installing boxes and padmount equipment, pulling cable, energizing electric lines, and removing electric facilities off of overhead poles.	Substructure for Phase 3 has been completed on Pony Tracks Fire Road and Page Mill Road.	Fall 2024
SCADA switch to facilitate deenergization	To facilitate the ability to quickly shut off power on the line serving the high fire threat area, CPAU staff will install a remotely operable switch, providing Electric Dispatch Operators at the Utility Control Center the capability to deenergize the line immediately.	CPAU selected the location of the remote switch and will install it while completing the above- mentioned undergrounding project	Spring 2025
Fiber Optic Extension	CPAU will design and install new fiber optic cable to enhance the communications capability in the high fire threat area.	Segments of underground communication conduit are being installed along with the electric substructure work, phase by phase.	Summer 2025
Undergrounding Phase 4	Substructure work, installing boxes and padmount equipment, pulling cable, energizing electric lines, and removing electric facilities off of overhead poles.	Phase 4 substructure is under construction along Page Mill Road and Montebello Road. It is expected to reach Montebello Reservoir by year-end. Staff is discussing relocating the Public Utility easement with Mid-Peninsula Open Space to extend installation along Montebello Road beyond Montebello Reservoir.	Spring 2025

Utilities Advisory Commission
Staff Report

From: Dean Batchelor, Director Utilities
Lead Department: Utilities

Meeting Date: June 3, 2024
Staff Report: 2402-2691

TITLE
Staff Recommends that the Utilities Advisory Commission Recommend the City Council Adopt the 2024 Annual Water Shortage Assessment Report

RECOMMENDATION
Staff requests the Utilities Advisory Commission (UAC) recommend the City Council adopt the 2024 Annual Water Shortage Assessment Report.

EXECUTIVE SUMMARY
Beginning in 2022, every urban water supplier in California must conduct an Annual Water Supply and Demand Assessment as required by California Water Code Section 10632 (a). Each urban water supplier must also submit an Annual Water Shortage Assessment Report to the Department of Water Resources (DWR) on or before July 1, as required by California Water Code Section 10632.1. The City's Annual Water Shortage Assessment Report (Attachment A, Tables 1-5) shows that there is no water shortage anticipated for Fiscal Year 2025. On April 15, 2024, the San Francisco Public Utilities Commission (SFPUC), Palo Alto's water supplier, provided Palo Alto with the Water Supply Availability Update indicating for the current water year, Hetch Hetchy watershed has experienced nearly average conditions for precipitation and snowpack. The City of Palo Alto encourages continued water conservation efforts and the City's website contains more information about available water conservation programs.[1]

DISCUSSION
To prepare the 2024 Annual Water Shortage Assessment Report, staff followed the procedures outlined in its Water Shortage Contingency Plan, contained in Section 7 of the City's 2020 Urban Water Management Plan (UWMP).[2] Palo Alto's 2024 Annual Water Shortage Assessment Report uses the DWR-developed Optional Annual Assessment Tool format. This format includes the 5 tables shown in Attachment A. Staff will submit the standard tables to DWR by July 1, 2024.

[1] Water Conservation Programs https://www.cityofpaloalto.org/Departments/Utilities/Sustainability/Ways-to-Save
[2] UWMP https://www.cityofpaloalto.org/files/assets/public/v/1/utilities/uwmp/2020-uwmp_final-submission-to-dwr.pdf

"Table 1. Annual Assessment Information" (Table 1) provides required overview information. The remaining tables project water supply and demand for FY 2025 under dry conditions, as required, and finds that there is no projected water shortage.

After Palo Alto and other urban water suppliers report to DWR on the 2024 Annual Water Shortage Assessment Reports, DWR will prepare a summary report on its review of the Annual Water Supply and Demand Assessment results and provide it to the State Water Resources Control Board (State Board) by September 30. The DWR report will include water shortage information at the supplier level, as well as regional and statewide analysis of water conditions as required by California Water Code Section 10644 (c)(1)(B).

Potable Water

Palo Alto receives 100% of its potable water supply from the SFPUC Regional Water System and staff used the SFPUC's April 15, 2024 Water Supply Availability Update to determine water supply.

- "Table 2: Water Demands" (Table 2) provides a demand projection for each month of FY 2025;
- "Table 3: Water Supplies" (Table 3) notes that there is sufficient supply to meet Palo Alto's demand and projects supply equal to the demand projection since there is no projected water shortage in FY 2025;
- "Table 4(P): Potable Water Shortage Assessment" (Table 4(P)) compares projected FY 2025 demand with supply and illustrates that there is no shortage projected for FY 2025;
- "Table 5: Planned Water Shortage Response Actions" (Table 5) shows no triggered water shortage actions.

Palo Alto's eight permanent water use regulations remain in effect (see Palo Alto Municipal Code Section 12.32.010).

Non-Potable Water

For non-potable recycled water, Table 2 provides the demand projection and Table 3 notes that there is sufficient supply to meet Palo Alto's non-potable recycled water demand in FY 2025. For that reason, the supply is set to equal demand and there is no shortage of non-potable water projected in Table 4(NP), "Non-Potable Water Shortage Assessment".

ANALYSIS

Upon review, discussion, and action by the UAC, staff will bring the Annual Water Shortage Assessment Report to the City Council to consider its adoption on June 19, 2024. California Water Code Section 10632.1 requires the Annual Water Shortage Assessment Report to be submitted to DWR by July 1 each year.

FISCAL/RESOURCE IMPACT

There is no fiscal impact from Council approving the 2024 Annual Water Shortage Assessment Report.

STAKEHOLDER ENGAGEMENT

Staff encourages interested parties to comment or provide feedback on the draft Annual Water Shortage Assessment Report at the UAC or Council meeting where the report will be considered for approval, or to submit written comments prior to those meetings.

ENVIRONMENTAL REVIEW

Adoption of the 2024 Annual Water Shortage Assessment Report is exempt from California Environmental Quality Act's (CEQA) review pursuant to Water Code Section 10652.

ATTACHMENTS

Attachment A: 2024 Annual Water Shortage Assessment Report Tables
Attachment B: Presentation

AUTHOR/TITLE:

Dean Batchelor, Director of Utilities
Staff: Lisa Bilir, Senior Resource Planner

Attachment A: 2024 Annual Water Shortage Assessment Report Tables

Table 1. Annual Assessment Information	
Annual Assessment Information	
Year Covered By This Shortage Report (Required)	
Start: July 1,	2024
End: June 30,	2025
Volume Unit for Reported Supply and Demand: *(Must use the same unit throughout)*	AF
Supplier's Annual Assessment Planning Cycle (Required)	
Start Month:	July
End Month:	June
Data Interval:	Monthly (12 data points per year)
Water Supplier's Contact Information (Required)	
Water Supplier's Name:	City of Palo Alto
Contact Name:	Lisa Bilir
Contact Title:	Senior Resource Planner
Street Address:	250 Hamilton Avenue, Palo Alto
ZIP Code:	94301
Phone Number:	(650)329-2543
Email Address:	lisa.bilir@cityofpaloalto.org
Report Preparer's Contact Information *(if different from above)*	
Preparer's Organization Name:	
Preparer's Contact Name:	
Phone Number:	
Email Address:	
Supplier's Water Shortage Contingency Plan	
WSCP Title	2020 Water Shortage Contingency Plan of the City of Palo Alto
WSCP Adoption Date	6/7/2021
Other Annual Assessment Related Activities	
Activity	**Timeline/ Outcomes / Links / Notes**
Annual Assessment/ Shortage Report Title:	Optional
Annual Assessment / Shortage Report Approval Date:	6/19/2024
Other Annual Assessment Related Activities:	The 2020 Water Shortage Contingency Plan of the City of Palo Alto states that Palo Alto will utilize the BAWSCA Regional Reliability Model to evaluate water supply availability, however, the plan also permits the City to use SFPUC data since SFPUC is the City's sole supplier. Specifically, the 2020 Water Shortage Contingency Plan states: "Because Palo Alto relies on only one potable water supply source, SFPUC RWS water, the Annual Assessment will rely on key data inputs from the SFPUC." Palo Alto used the SFPUC's April 15, 2024 Water Supply Availability Update to determine water supply.
(Add rows as needed)	

= From prior tables
= Auto calculated

Table 2: Water Demands[1]

Use Type			Start Year:	2024			Volumetric Unit Used[2]:			AF				
Drop-down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool (Add additional rows as needed)	Additional Description (as needed)	Level of Treatment for Non-Potable Supplies **Drop-down list**	Projected Water Demands - Volume[3]												
			Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total by Water Demand Type
Demands Served by Potable Supplies															
All Demands			1309	1284	1306	1087	929	685	653	574	660	697	969	1134	11287
															0
															0
															0
															0
															0
															0
															0
															0
															0
Total by Month (Potable)			1309	1284	1306	1087	929	685	653	574	660	697	969	1134	11287
Demands Served by Non-Potable Supplies															
All Demands		Tertiary	54	53	35	22	11	2	2	11	9	24	42	50	315
															0
															0
															0
															0
Total by Month (Non-Potable)			54	53	35	22	11	2	2	11	9	24	42	50	315

Notes: Potable unconstrained customer demand determined using the end-use model described in the 2020 UWMP Section 4. Non-potable unconstrained customer demand determined based on 2020 UWMP projection.

[1]Projections are based on best available data at time of submitting the report and actual demand volumes could be different due to many factors.
[2]Units of measure (AF, CCF, MG) must remain consistent.
[3]When opting to provide other than monthly volumes (bi-monthly, quarterly, or annual), please see directions on entering data for Projected Water Demand in the Table Instructions.

Optional (for comparison purposes)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
Last year's total demand													0
Two years ago total demand													0
Three years ago total demand													0
Four years ago total demand													0

= From prior tables
= Auto calculated

Table 3: Water Supplies[1]

Water Supply		Start Year:	2024		Volumetric Unit Used[2]:		AF								
Drop-down List May use each category multiple times.These are the only water supply categories that will be recognized by the WUEdata online submittal tool (Add additional rows as needed)	Additional Detail on Water Supply	Projected Water Supplies - Volume[3]												Water Quality **Drop-down List**	Total Right or Safe Yield* (optional)
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total by Water Supply Type	
Potable Supplies															
Purchased/Imported Water	San Francisco Public Utilities Commission Regional Water Supply System	1309	1284	1306	1087	929	685	653	574	660	697	969	1134	11287	
														0	
														0	
														0	
														0	
														0	
														0	
														0	
														0	
														0	
Total by Month (Potable)		1309	1284	1306	1087	929	685	653	574	660	697	969	1134	11287	0
Non-Potable Supplies															
Recycled Water	Recycled Water from the Regional Water Quality Control Plant	54	53	35	22	11	2	2	11	9	24	42	50	315	
														0	
														0	
														0	
														0	
Total by Month (Non-Potable)		54	53	35	22	11	2	2	11	9	24	42	50	315	0

Notes: Palo Alto purchases 100% of its potable water from SFPUC; Palo Alto used the SFPUC's March 1, 2024 Water Supply Availability Update to determine water supply. Palo Alto supplies recycled water for irrigation of the municipal golf course, a park and some other minor applications. There is sufficient supply of both potable and recycled water to meet demand.

[1]Projections are based on best available data at time of submitting the report and actual supply volumes could be different due to many factors.

[2]Units of measure (AF, CCF, MG) must remain consistent.

[3]When opting to provide other than monthly volumes (bi-monthly, quarterly, or annual), please see directions on entering data for Projected Water Supplies in the Table Instructions.

Optional (for comparison purposes)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
eAR Reported Total Water Supplies													**0**

= Auto calculated
= From prior tables
= For manual input

Table 4(P): Potable Water Shortage Assessment[1] Start Year: 2024 Volumetric Unit Used[2]: AF

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun[3]	Total
Anticipated Unconstrained Demand	1309	1284	1306	1087	929	685	653	574	660	697	969	1134	11287
Anticipated Total Water Supply	1309	1284	1306	1087	929	685	653	574	660	697	969	1134	11287
Surplus/Shortage w/o WSCP Action	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Surplus/Shortage w/o WSCP Action	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
State Standard Shortage Level	0	0	0	0	0	0	0	0	0	0	0	0	0
Planned WSCP Actions[4]													
Benefit from WSCP: Supply Augmentation													0.0
Benefit from WSCP: Demand Reduction													0.0
Revised Surplus/Shortage with WSCP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Revised Surplus/Shortage with WSCP	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

[1]Assessments are based on best available data at time of submitting the report and actual volumes could be different due to many factors.

[2]Units of measure (AF, CCF, MG) must remain consistent.

[3]When optional monthly volumes aren't provided, verify Tables 2 and 3 use the same columns for data entry and are reflected properly in Table 4 and make sure to use those same columns to enter the benefits from Planned WSCP Actions. Please see directions on the shortage balancing exercise in the Table Instructions. If a shortage is projected, the supplier is highly recommended to perform a monthly analysis to more accurately identify the time of shortage.

[4]If you enter any WSCP Benefits, then you must enter the corresponding planned Actions into Table 5.

= Auto calculated
= From prior tables
= For manual input

Table 4(NP): Non-Potable Water Shortage Assessment[1] Start Year: 2024 Volumetric Unit Used[2]: AF

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun[3]	Total
Anticipated Unconstrained Demand: Non-Potable	54	53	35	22	11	2	2	11	9	24	42	50	315
Anticipated Total Water Supply: Non-Potable	54	53	35	22	11	2	2	11	9	24	42	50	315
Surplus/Shortage w/o WSCP Action: Non-Potable	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Surplus/Shortage w/o WSCP Action: Non-Potable	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Planned WSCP Actions[4]													
Benefit from WSCP: Supply Augmentation													0.0
Benefit from WSCP: Demand Reduction													0.0
Revised Surplus/Shortage with WSCP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Revised Surplus/Shortage with WSCP	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

[1]Assessments are based on best available data at time of submitting the report and actual volumes could be different due to many factors.

[2]Units of measure (AF, CCF, MG) must remain consistent.

[3]When optional monthly volumes aren't provided, verify Tables 2 and 3 use the same columns for data entry and are reflected properly in Table 4 and make sure to use those same columns to enter the benefits from Planned WSCP Actions. Please see directions on the shortage balancing exercise in the Table Instructions. If a shortage is projected, the supplier is highly recommended to perform a monthly analysis to more accurately identify the time of shortage.

[4]If you enter any WSCP Benefits, then you must enter the corresponding planned Actions into Table 5.

Table 5: Planned Water Shortage Response Actions			July 1, 2024		to June 30, 2025	
Anticipated Shortage Level Drop-down List of **State Standard Levels** (1 - 6) and Level 0 (No Shortage)	**ACTIONS[1]: Demand Reduction, Supply Augmentation, and Other Actions. (Drop-down List)** These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.	Is action already being implemented? **(Y/N)**	How much is action going to reduce the shortage gap? **(Optional)**		When is shortage response action anticipated to be implemented[2]?	
			Enter Amount	*(Drop-down List) Select % or Volume Unit*	*Start Month*	*End Month*
Add additional rows as needed						
NOTES: Notes Section to be used only for clarifying details, and not for listing specific actions. Actions must be entred into table rows	Palo Alto currently inplements permanent water use restrictions according to the Palo Alto Municipal Code Section 12.32.010 https://codelibrary.amlegal.com/codes/paloalto/latest/paloalto_ca/0-0-0-69362#JD_Chapter12.32. There is currently no water shortage projected for FY 2025 in Table 4(P).					

[1]If you plan Supply Augmentation Actions then you must enter WSCP Benefits from Supply Augmentation Actions into Table 4. If you plan Demand Reduction Actions then you must enter WSCP Benefits from Demand Reduction Actions into Table 4.

[2]If an Action is planned to be implemented in multiple non-contiguous periods of the year, please make separate entries on multiple rows for the same action spanning the different implementation periods.

CITY OF PALO ALTO

2024 Annual Water Shortage Assessment Report

Utilities Advisory Commission

June 5, 2024

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Annual Water Shortage Assessment Report

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- Beginning in 2022, every urban water supplier must:
  - 1) Conduct an Annual Water Supply and Demand Assessment; and
  - 2) Submit an Annual Water Shortage Assessment Report to the Department of Water Resources
- Required by the ***California Water Code Sections 10632(a) and 10632.1***
- There is no water shortage and no triggered water shortage actions
- SFPUC's April 15, 2024 Water Supply Availability Update indicates precipitation and snowpack close to long-term median levels; SFPUC does not anticipate any water shortage
- Palo Alto's temporary drought emergency water use restrictions expired June 10, 2023
- Permanent Water Use Restrictions (Palo Alto Municipal Code Section 12.32.010)

RECOMMENDED MOTION

The Utilities Advisory Commission recommends Council adopt the 2024 Annual Water Shortage Assessment Report.

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Questions

Utilities Advisory Commission
Staff Report

From: Dean Batchelor, Director Utilities
Lead Department: Utilities

Meeting Date: June 3, 2024
Staff Report: 2404-2968

TITLE
City of Palo Alto One Water Plan: Presentation of Initial Results

RECOMMENDATION
This item is for discussion and no action is requested. Staff seeks input from the Utilities Advisory Commission (UAC) on its initial results from the City of Palo Alto One Water Plan.

The attached presentation describes the One Water Plan background, goals, approach, overview and initial results. Staff also plans to return to the UAC with a complete One Water Plan in Fall 2024 before finalizing the One Water Plan for Council acceptance by the end of 2024. A conceptual list of water supply options (projects) was provided to the UAC in February 2023 and is available as an attachment to Staff Report 14974.[1] Attachment A provides a table of initial draft planning-level unit cost estimates for water supply projects; note that before Council approves any water supply project, additional studies would be necessary to explore information such as feasibility, engineering design and cost.

ATTACHMENTS
Attachment A: Unit Costs for Water Supply Options (Projects)
Attachment B: Presentation

AUTHOR/TITLE:
Dean Batchelor, Director of Utilities
Staff: Lisa Bilir, Senior Resource Planner

[1] Staff Report 14974 https://www.cityofpaloalto.org/files/assets/public/v/1/agendas-minutes-reports/agendas-minutes/utilities-advisory-commission/archived-agenda-and-minutes/agendas-and-minutes-2023/02-feb-2023/02-01-2023-id-14974-item-2.pdf

Attachment A – Initial Draft Planning Level Unit Cost Estimates of Water Supply Projects

Current Cost Basis **2023**

	Imported	Conservation		Groundwater					Water Reuse					Desalination	Other				Units
	SFPUC*	Enhanced Conservation, Phase 1*	Enhanced Conservation, Phase 2*	Irrigation Wells	Emergency Well Conversion Full Treatment*	Emergency Well Conversion (El Camino Only), Full Treatment	Emergency Well Conversion Blending	Emergency Well Conversion (El Camino Only) Blending	DPR, Palo Alto Facility*	DPR, Regional Facility*	DPR, Palo Alto Facility with SSRF*	IPR, Groundwater Injection*	Non Potable Reuse	Bay Water Desalination*	Multi Source Storage	Green Infrastructure	Graywater	Rain Barrels	
Total Capital Cost																			
Capital Cost	$0	$0	$0	$1,000,000	$49,760,760	$25,472,442	$1,532,363	$0	$105,257,000	$16,410,000	$48,900,000	$188,900,000	$148,510,000	$251,832,599	$22,630,000	$4,080,000	$0	$0	$
Land Acquisition Cost	$0	$0	$0	$0	$0	$0	$0	$0	$11,463,000	$0	$7,400,000	$7,400,000	$0	$43,560,000	$0	$0	$0	$0	$
Amortized Capital and Land Cost	$0	$0	$0	$65,051	$3,408,068	$1,788,376	$92,395	$0	$7,592,804	$1,067,494	$3,662,396	$12,769,597	$9,660,789	$19,215,712	$1,472,114	$265,410	$0	$0	$
Total Annual O&M Cost																			
Groundwater Production Charge	N/A	N/A	N/A	$93,096	$5,172,000	$4,137,600	$5,172,000	$4,137,600	$0	$0	$0	$5,671,960	$0	$0	$0	$0	$0	$0	$ per Year
O&M Cost	$24,267,125	$188,176	$639,142	$6,822	$1,811,749	$1,362,069	$212,010	$169,608	$9,305,267	$6,049,640	$1,897,644	$6,213,260	$992,271	$9,827,073	$60,000	$240,000	$46,650	$43,251	$ per Year
Energy Cost	$0	N/A	N/A	$3,276	$99,964	$74,426	$99,964	$74,426	$74,733	$270,999	$45,045	$1,054,780	$82,592	$1,281,486	$0	$0	$0	$0	$ per Year
Total Unit Cost																			
Total Annual Cost	$24,267,125	$188,176	$639,142	$168,246	$10,491,781	$7,362,471	$5,576,369	$4,381,634	$16,972,804	$7,117,134	$5,605,085	$25,709,597	$10,653,060	$30,324,272	$1,532,114	$505,410	$46,650	$43,251	$ per Yr
Project Yield	10,982	606	330	54	2,250	1,800	3,000	2,400	4,723	1,769	630	5,150	1,100	4,480	39	30	6	0.7	Acre Feet per Year
Capital Cost Unit Cost	$0	$0	$0	$1,205	$1,515	$994	$31	$0	$1,608	$603	$5,813	$2,480	$8,783	$4,289	$38,125	$8,847	$0	$0	$ per AF
GPC Unit Cost	$0	$0	$0	$1,724	$2,299	$2,299	$1,724	$1,724	$0	$0	$0	$1,101	$0	$0	$0	$0	$0	$0	$ per AF
O&M Unit Cost	$2,210	$310	$1,939	$126	$805	$757	$71	$71	$1,970	$3,420	$3,012	$1,206	$902	$2,193	$1,554	$8,000	$8,215	$58,321	$ per AF
Energy Unit Cost	$0	$0	$0	$61	$44	$41	$33	$31	$16	$153	$71	$205	$75	$286	$0	$0	$0	$0	$ per AF
Total Unit Cost	$2,210	$310	$1,939	$3,116	$4,663	$4,090	$1,859	$1,826	$3,594	$4,024	$8,897	$4,992	$9,685	$6,768	$39,679	$16,847	$8,215	$58,321	$ per AF

Future Cost Basis **2045**

	Imported	Conservation		Groundwater					Water Reuse					Desalination	Other				Units
	SFPUC*	Enhanced Conservation, Phase 1*	Enhanced Conservation, Phase 2*	Irrigation Wells	Emergency Well Conversion Full Treatment*	Emergency Well Conversion (El Camino Only), Full Treatment	Emergency Well Conversion Blending	Emergency Well Conversion (El Camino Only) Blending	DPR, Palo Alto Facility*	DPR, Regional Facility*	DPR, Palo Alto Facility with SSRF*	IPR, Groundwater Injection*	Non Potable Reuse	Bay Water Desalination*	Multi Source Storage	Green Infrastructure	Graywater	Rain Barrels	
Total Capital Cost																			
Capital Cost	$0	$0	$0	$1,071,225	$53,304,971	$27,286,717	$1,641,505	$0	$159,050,554	$29,450,626	$73,891,257	$240,333,553	$188,946,193	$380,536,347	$25,968,446	$4,681,894	$0	$0	$
Land Acquisition Cost	$0	$0	$0	$0	$0	$0	$0	$0	$17,321,380	$0	$11,181,908	$9,414,867	$0	$65,822,151	$0	$0	$0	$0	$
Amortized Capital and Land Cost	$0	$0	$0	$69,685	$3,650,808	$1,915,753	$98,976	$0	$11,473,247	$1,915,805	$5,534,131	$16,246,493	$12,291,221	$29,036,261	$1,689,285	$1,689,285	$0	$0	$
Total O&M Cost																			
Groundwater Production Charge	$0	$0	$0	$346,726	$19,262,570	$19,262,570	$19,262,570	$15,410,056	$0	$0	$0	$21,124,618	$0	$0	$0	$0	$0	$0	$ per Year
O&M Cost	$49,517,551	$418,502	$1,421,444	$15,173	$4,029,311	$3,029,227	$471,508	$377,206	$20,694,811	$13,454,332	$4,220,340	$13,818,221	$2,206,800	$21,855,303	$133,439	$533,757	$103,749	$96,190	$ per Year
Energy Cost	$0	$0	$0	$4,826	$159,607	$118,832	$159,607	$118,832	$119,323	$432,691	$71,921	$1,684,115	$131,871	$2,046,084	$0	$0	$0	$0	$ per Year
Total Unit Cost																			
Total Annual Cost	$0	$418,502	$1,421,444	$436,410	$27,102,295	$24,326,381	$19,992,661	$15,906,094	$32,287,381	$15,370,137	$9,826,392	$52,873,447	$14,629,892	$52,937,648	$1,822,724	$2,223,042	$103,749	$96,190	$ per Yr
Project Yield	12,113	606	330	54	2,250	1,800	3,000	2,400	4,723	1,769	630	5,150	1,100	4,480	39	30	6	1	Acre Feet per Year
Capital Cost Unit Cost	$0	$0	$0	$1,290	$1,623	$1,064	$33	$0	$2,429	$1,083	$8,784	$3,155	$11,174	$6,481	$43,749	$56,309	$0	$0	$ per AF
GPC Unit Cost	$0	$0	$0	$6,421	$8,561	$10,701	$6,421	$6,421	$0	$0	$0	$4,102	$0	$0	$0	$0	$0	$0	$ per AF
O&M Unit Cost	$4,088	$690	$4,313	$281	$1,791	$1,683	$157	$157	$4,382	$7,606	$6,699	$2,683	$2,006	$4,878	$3,456	$17,792	$18,271	$129,705	$ per AF
Energy Unit Cost	$0	$0	$0	$89	$71	$66	$53	$50	$25	$245	$114	$327	$120	$457	$0	$0	$0	$0	$ per AF
Unit Cost	$4,088	$690	$4,313	$8,082	$12,045	$13,515	$6,664	$6,628	$6,836	$8,689	$15,597	$10,267	$13,300	$11,815	$47,205	$74,101	$18,271	$129,705	$ per AF

Note: Projects identified with "*" in the tables were included as water supply and conservation options and proceeded through the project screen

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One Water Plan:

Initial Results

Utilities Advisory Commission

June 3, 2024

www.cityofpaloalto.org

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One Water Initial Results Outline

1. Goal, Overview & Approach
2. Supply and Conservation Projects
3. Water Supply & Conservation Portfolios
4. Initial Conclusions
5. Next Steps

Previous UAC Meetings on One Water Plan

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- July 7, 2021 – One Water Plan Draft Scope
- February 1, 2023 – One Water Plan Update; provided update on screening process, stakeholder engagement and portfolio approach

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One Water Plan: Goal

Council adoption of a One Water supply plan that is a 20-year adaptable roadmap for implementing prioritized portfolio alternatives for water supply and conservation

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One Water Plan: Approach

- Key Action in City's Sustainability and Climate Action Plan (SCAP)
- Long-term 20-year (through 2045) Water Supply Plan
- Addresses future uncertainties
- Includes robust and meaningful stakeholder engagement
- In collaboration with Carollo Engineers, a national One Water thought leader
- Builds on existing plans/work

One Water Plan does not directly address:

- Near-term drought
- Short-term emergencies such as earthquakes and wildfires – addressed under separate emergency plans
- Building codes

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Key Uncertainties

- Valley Water Transfer
  - About half of effluent from Regional Water Quality Control Plant
  - Option expires in 2033
  - Transfer incompatible with some Palo Alto water supply options
- Future Water Supply Availability (varies by water supply project)
  - Droughts
  - Climate Change
  - State regulations
  - SFPUC's alternative water supply implementation
- Cost

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One Water Plan: Overview

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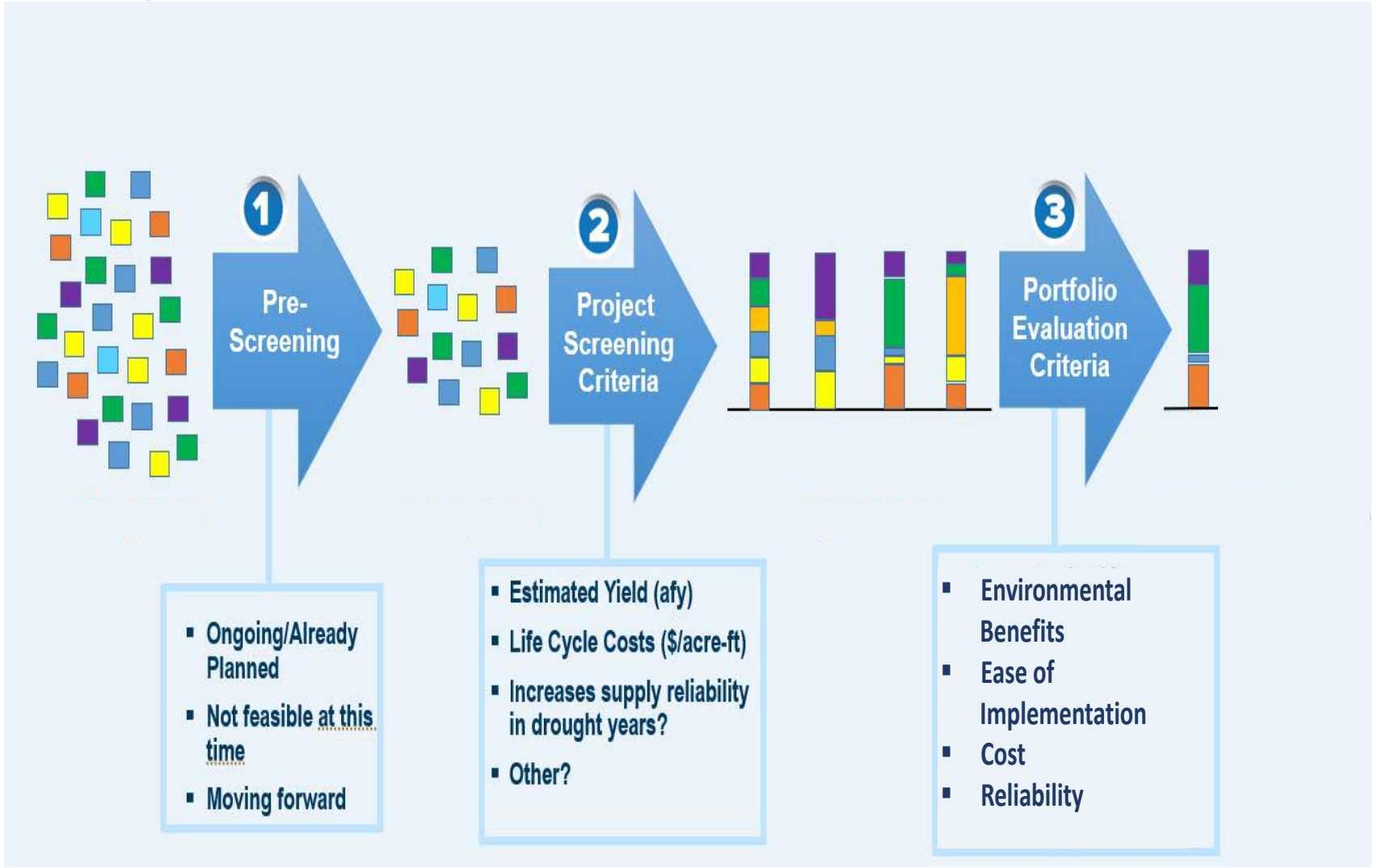
Water Supply and Conservation Project Screening



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Screening Results:
Top Water Supply Projects

Baseline - SFPUC (Regional Water System; Current Potable Water Supply)
Conservation Phase 1
Conservation Phase 2
Groundwater Full Treatment (Iron, Manganese, Total Dissolved Solids)
Groundwater Blending
Direct Potable Reuse - Palo Alto Facility
Direct Potable Reuse - Regional Facility
Direct Potable Reuse - Palo Alto Facility with Small Salt Removal Facility
Indirect Potable Reuse
Bay Water Desalination

Note: full list of water supply and conservation options attached to this presentation, and schematics on upcoming slides

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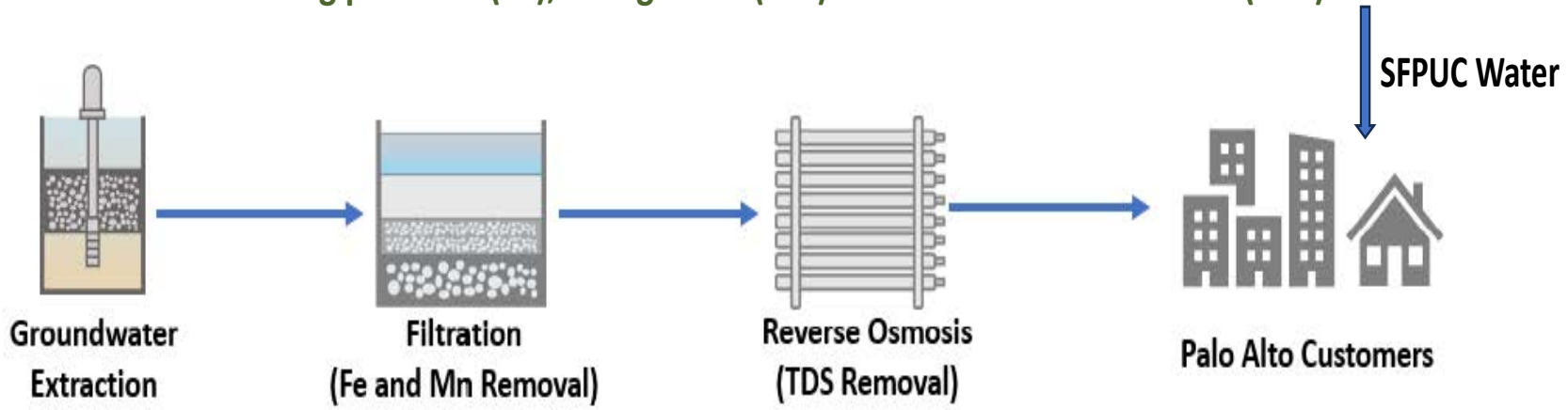
Enhanced Conservation Phase 1 & 2 Possible Measures

Conservation Phase 1	Conservation Phase 2
Outdoor irrigation assistance for commercial customers	High Efficiency Toilet direct install for commercial customers
Non- functional turf ban for commercial customers	Turf conversion support for residential customers
Front lawn limitation for residential new developments and major retrofits	Front lawn limitation for residential properties upon resale
Permanent 3-day watering week restriction	
Low-income residential High Efficiency Toilet direct install	

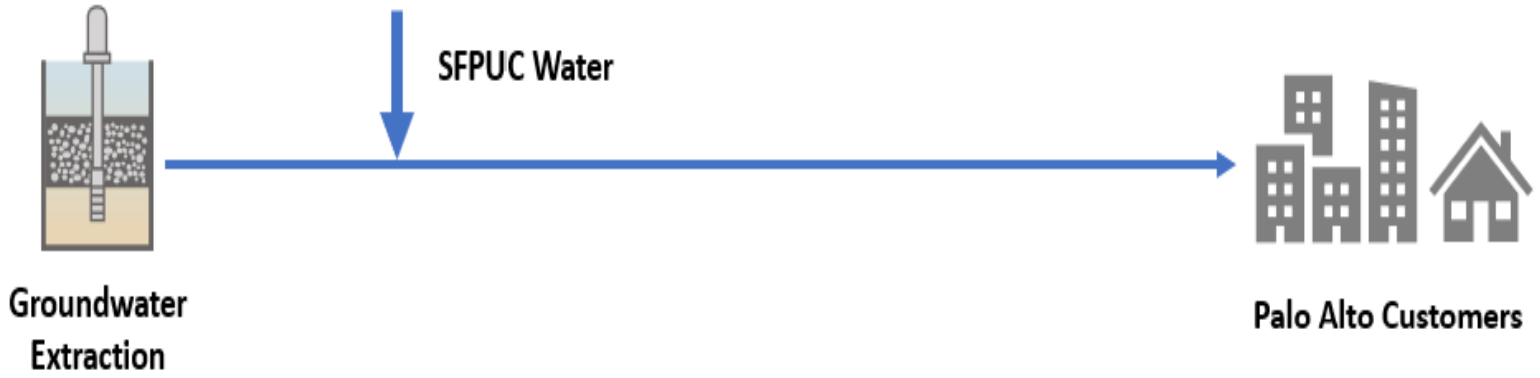
Groundwater Options

Groundwater with blending plus Iron (Fe), Manganese (Mn) and Total Dissolved Solids (TDS) treatment



Groundwater Blending Only (no treatment) –

not carried forward in One Water Plan, need to understand public acceptance



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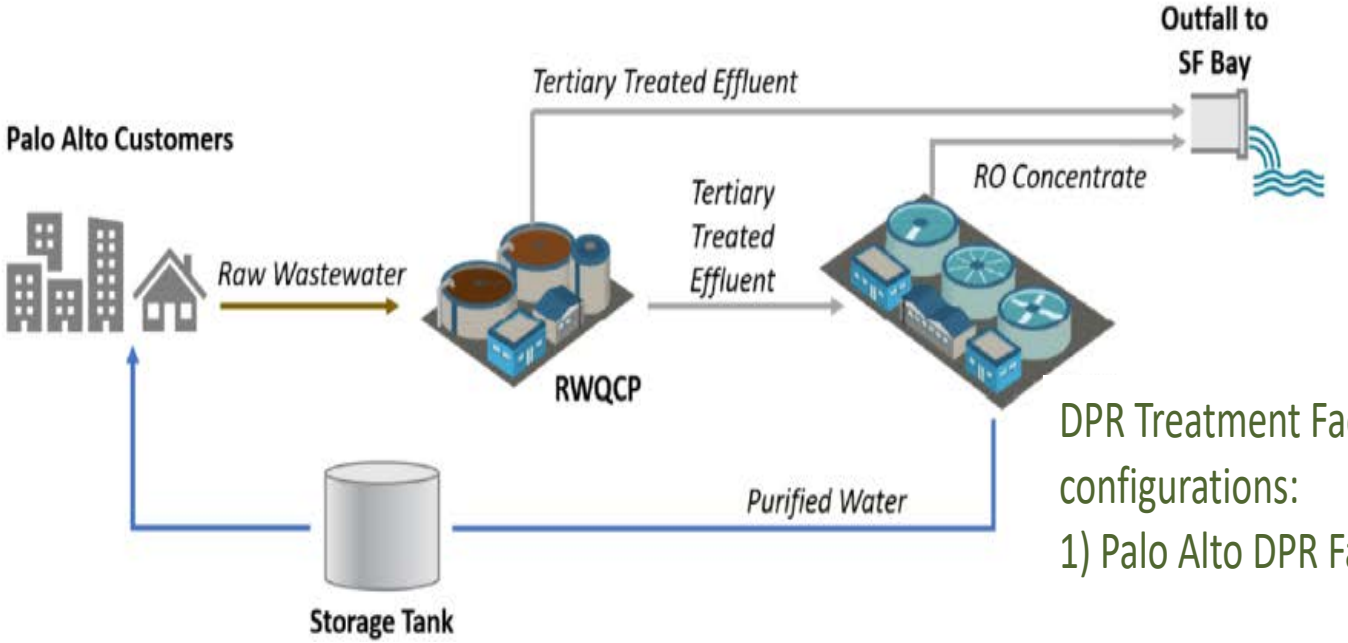
Direct Potable Reuse (DPR)



DPR Treatment Facility with three possible configurations:

1) Palo Alto DPR Facility

Or

2) Regional DPR Facility owned by Valley Water, if effluent transfer occurs

Or

3) Palo Alto DPR Facility that utilizes the Small Salt Removal Facility currently being built at the Regional Water Quality Control Plant

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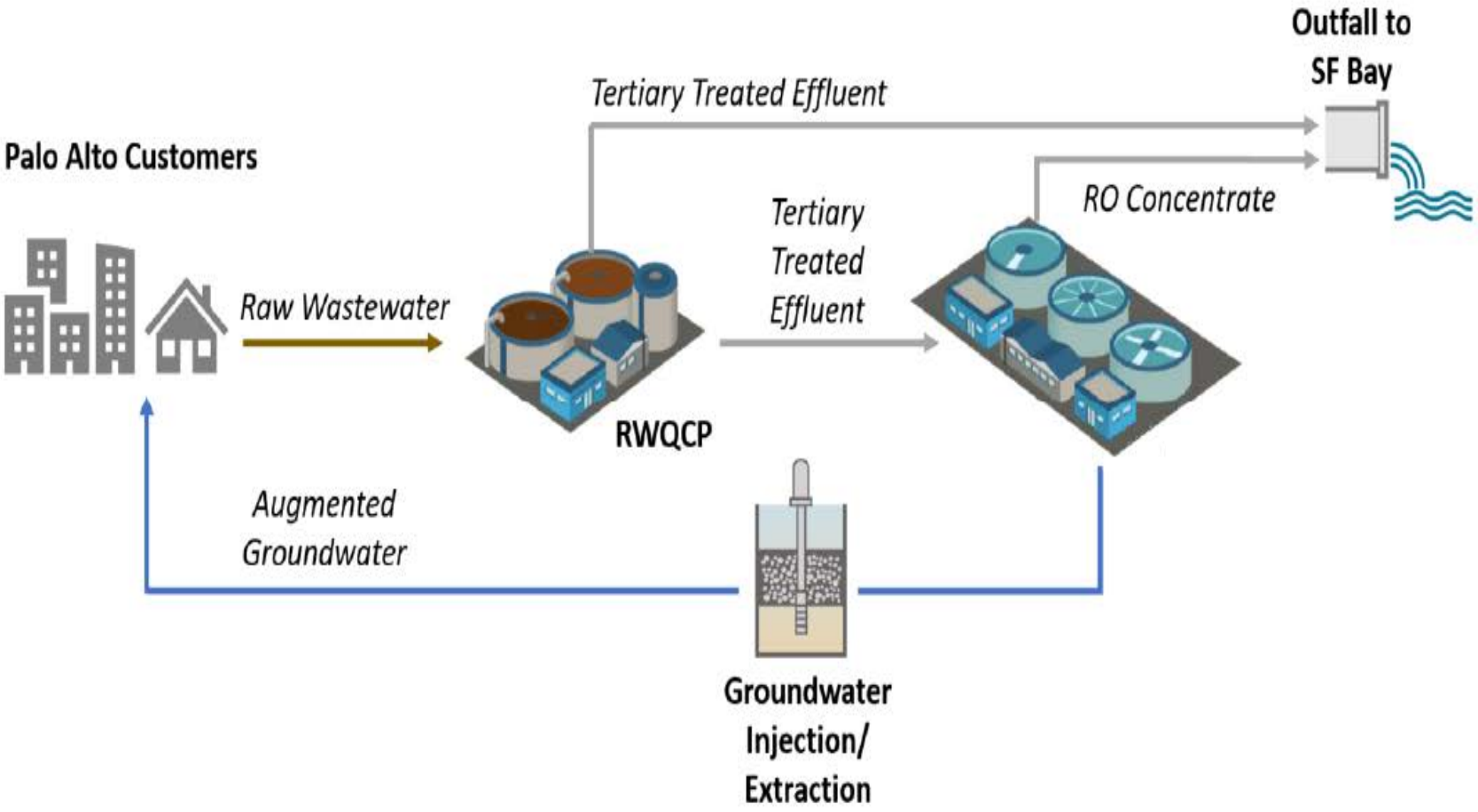
Indirect Potable Reuse (IPR)



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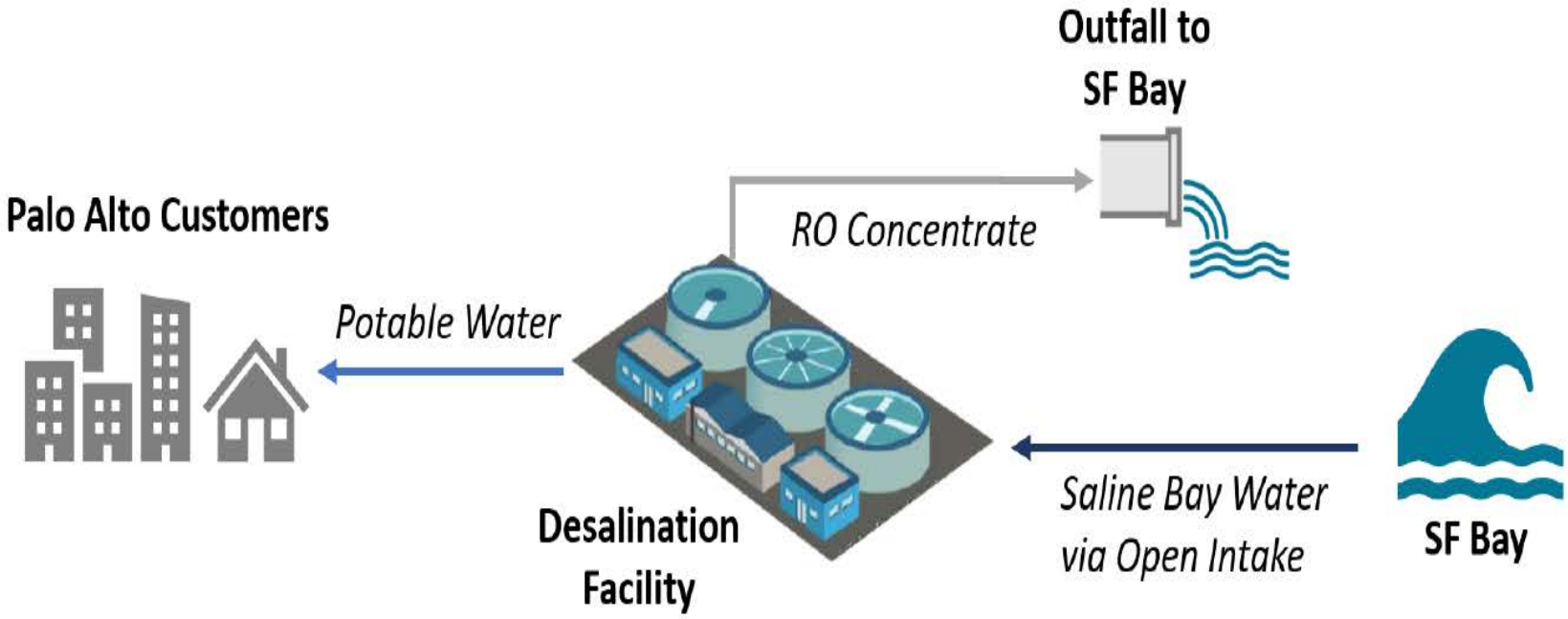
Baywater Desalination



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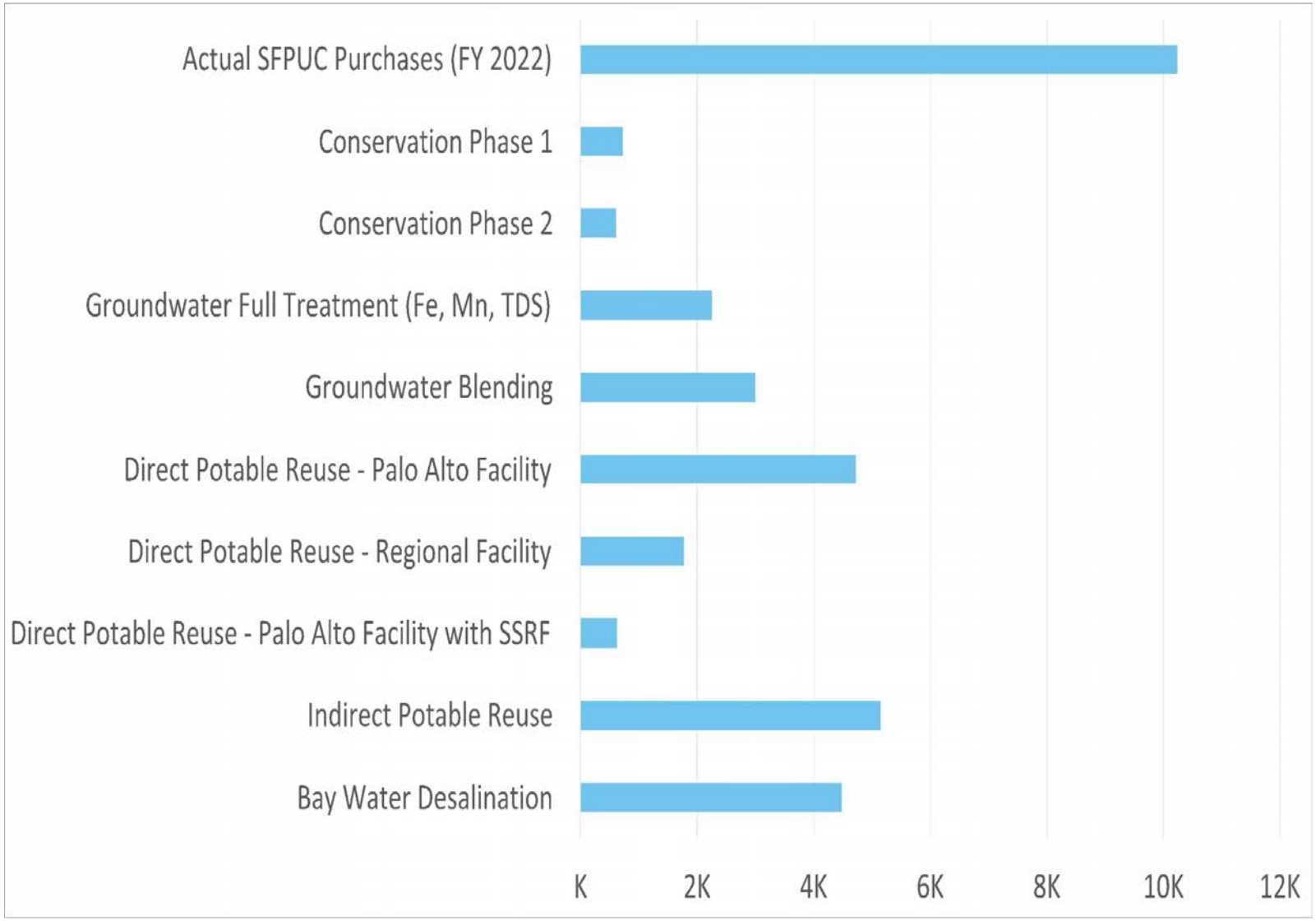
Project Normal Year Yield Comparison (Acre Feet per Year)



Project Unit Cost Per Acre Foot Comparison

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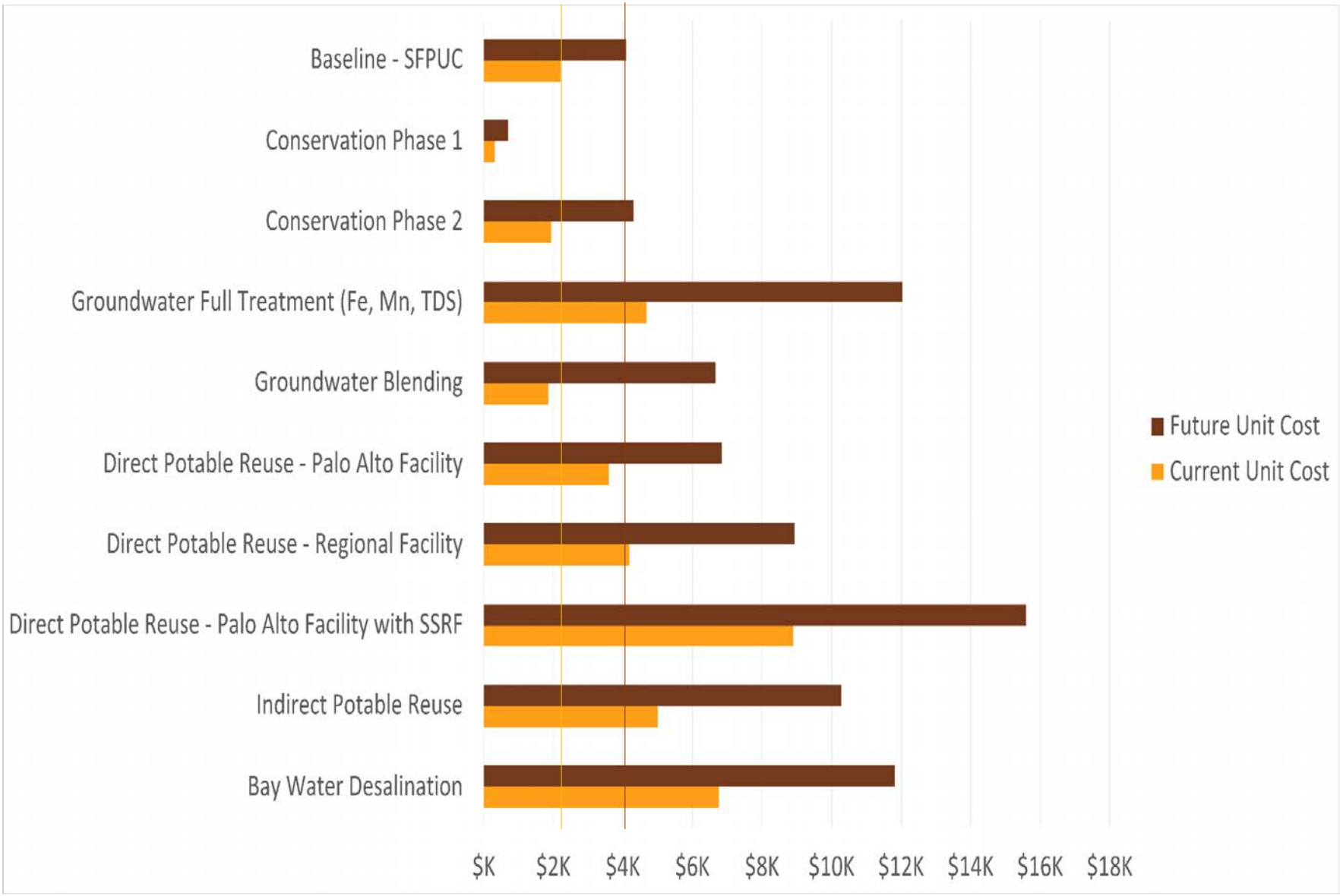

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Project Compatibility With Valley Water Effluent Transfer

	No Valley Water Transfer	With Valley Water Transfer
Baseline - SFPUC (Regional Water System; Current Potable Water Supply)	✓	✓
Conservation Phase 1	✓	✓
Conservation Phase 2	✓	✓
Groundwater Full Treatment (Fe, Mn, TDS)	✓	✓
Groundwater Blending	✓	✓
Direct Potable Reuse - Palo Alto Facility	✓	No
Direct Potable Reuse - Regional Facility	No	✓
Direct Potable Reuse - Palo Alto Facility with SSRF	✓	✓
Indirect Potable Reuse – Palo Alto Facility	✓	No
Bay Water Desalination	✓	✓

Note: list of water supply and conservation options attached to this presentation

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Water Supply and Conservation Tool & Portfolios

Tool for Water Supply Portfolio Analysis

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Data Inputs	User Selections	Outputs
Water Demand Forecast	Future Scenario Assumptions	Portfolio Supply Summary
Project Yields	Project Variables	
Project Cost Estimates	Portfolio Development	Portfolio Costs Estimates
Project Evaluation	Project Costs Estimates	Portfolio Evaluation
	Portfolio Evaluation	Graphical Outputs

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Water Supply Portfolio Evaluation Criteria & Suggested Weights

Evaluation Criteria		Weight
Reliability	Reliability	35%
Cost	Unit Cost	20%
Ease of Implementation	Implementation Timeline	5%
	Operational Complexity	5%
	Public Acceptance	5%
Environmental Benefits	Wise Use of Water	10%
	Ecological Benefit	10%
	Reliance on Tuolumne	10%

Suggested weights from stakeholder engagement meeting with community and interdepartmental staff as well as online survey

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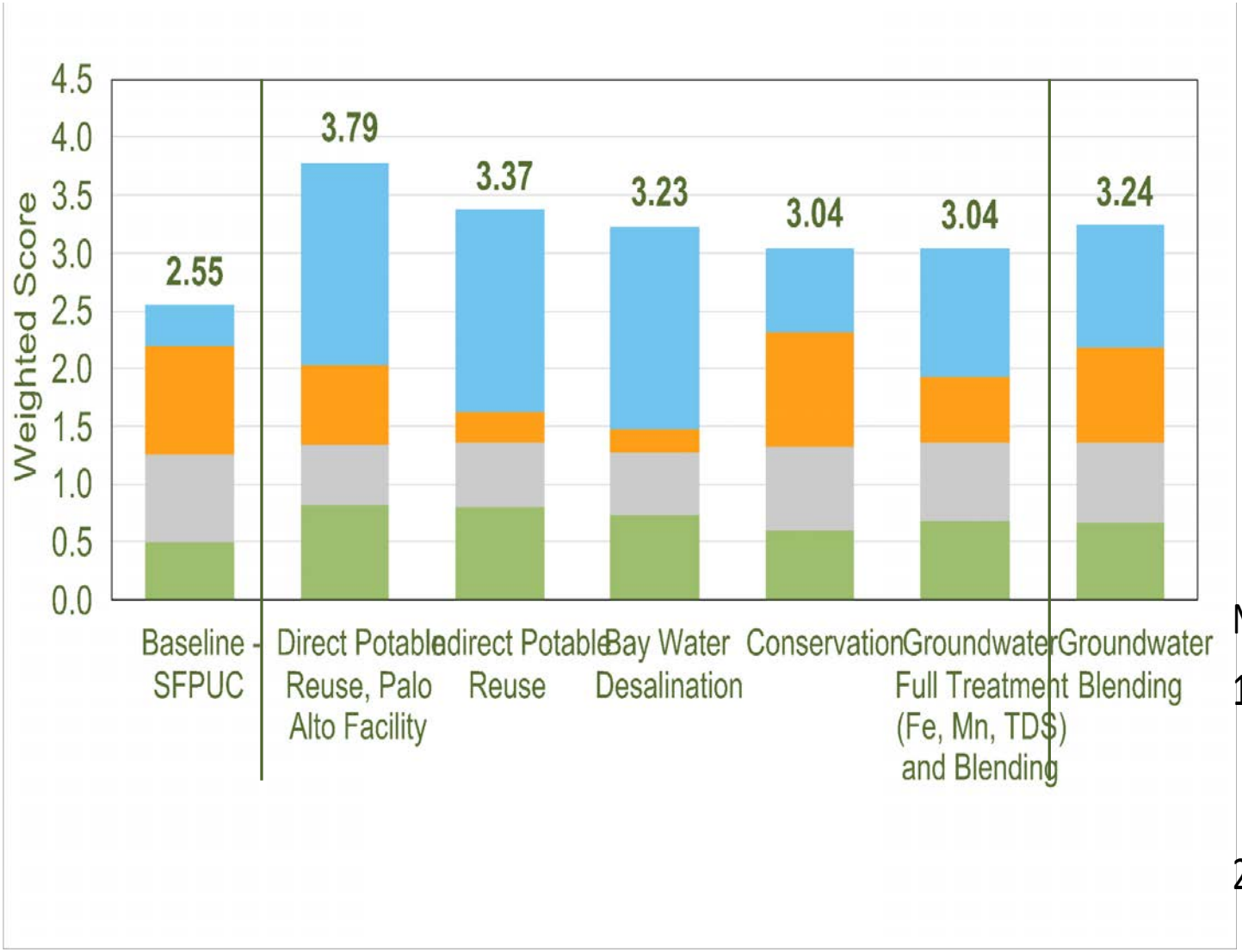
Initial Water Portfolio Evaluation Results

Weighted Criteria Ranking by Portfolio - No Valley Water Transfer - 2045



Evaluation Criteria

Evaluation Criteria	Weight
Reliability	35%
Cost	20%
Ease of Implementation	15%
Environmental Benefits	30%

Note:

1) Each portfolio includes Conservation Phase 1 and Phase 2, except Baseline SFPUC
2) Each portfolio includes SFPUC supply

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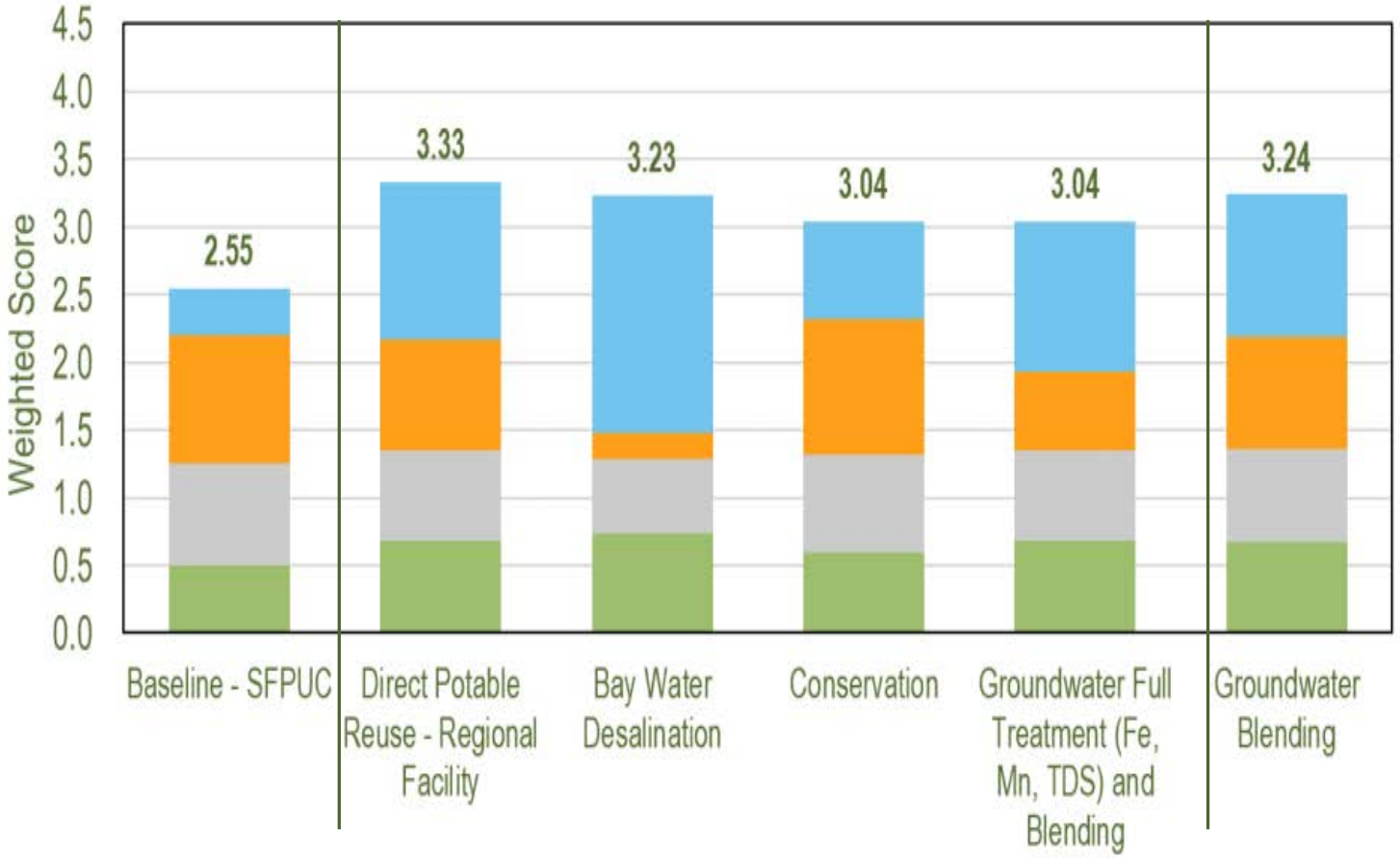
Initial Water Portfolio Evaluation Results

Weighted Criteria Ranking by Portfolio - With Valley Water Transfer - 2045



Evaluation Criteria

Evaluation Criteria	Weight
Reliability	35%
Cost	20%
Ease of Implementation	15%
Environmental Benefits	30%

Note:

1) Each portfolio includes Conservation Phase 1 and Phase 2, except Baseline SFPUC
2) Each portfolio includes SFPUC supply

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Initial Observations

- Conservation Phase 1 and Phase 2 score higher than "do nothing" and do not require large investment to proceed (included in every portfolio other than the SFPUC or "do nothing")

- Highest Scoring Portfolios:
  - ✓ **DPR - Palo Alto Only No Valley Water Transfer**
  - ✓ **DPR - Regional Facility with Valley Water Transfer**

- Both DPR portfolios contingent on Valley Water Effluent Transfer; resolved in nine years

- Baywater Desal is highest scoring portfolio not dependent on the Valley Water Effluent Transfer

- Other high scoring portfolio is emergency supply well conversion with blending only (no treatment); lower water quality so not included

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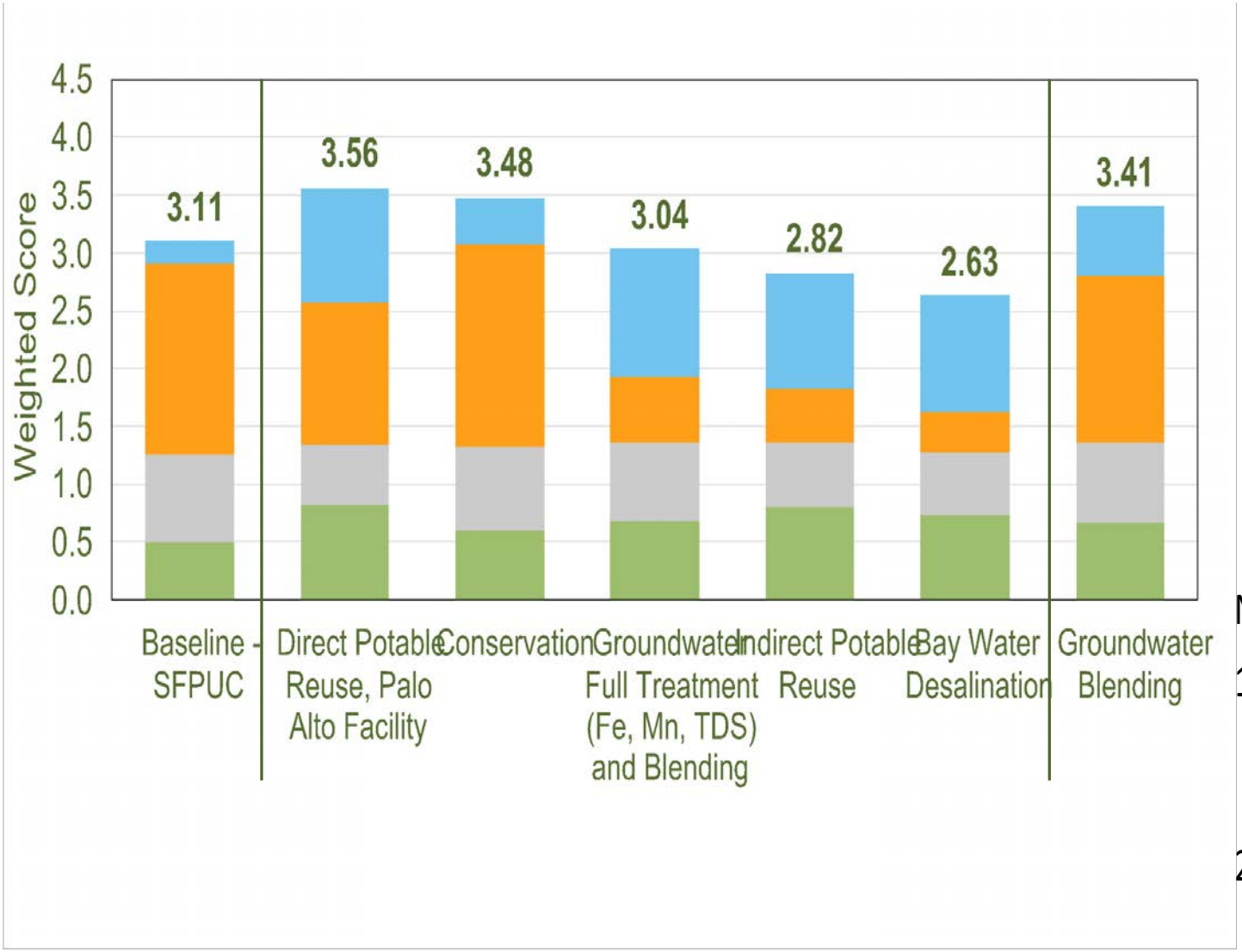
Sensitivity of Initial Results

Weighted Criteria Ranking by Portfolio - No Valley Water Transfer - 2045



Evaluation Criteria

Evaluation Criteria	Weight
Reliability	20%
Cost	35%
Ease of Implementation	5%
	5%
	5%
Environmental Benefits	10%
	10%
	10%

Note:

1) Each portfolio includes Conservation Phase 1 and Phase 2, except Baseline SFPUC
2) Each portfolio includes SFPUC supply

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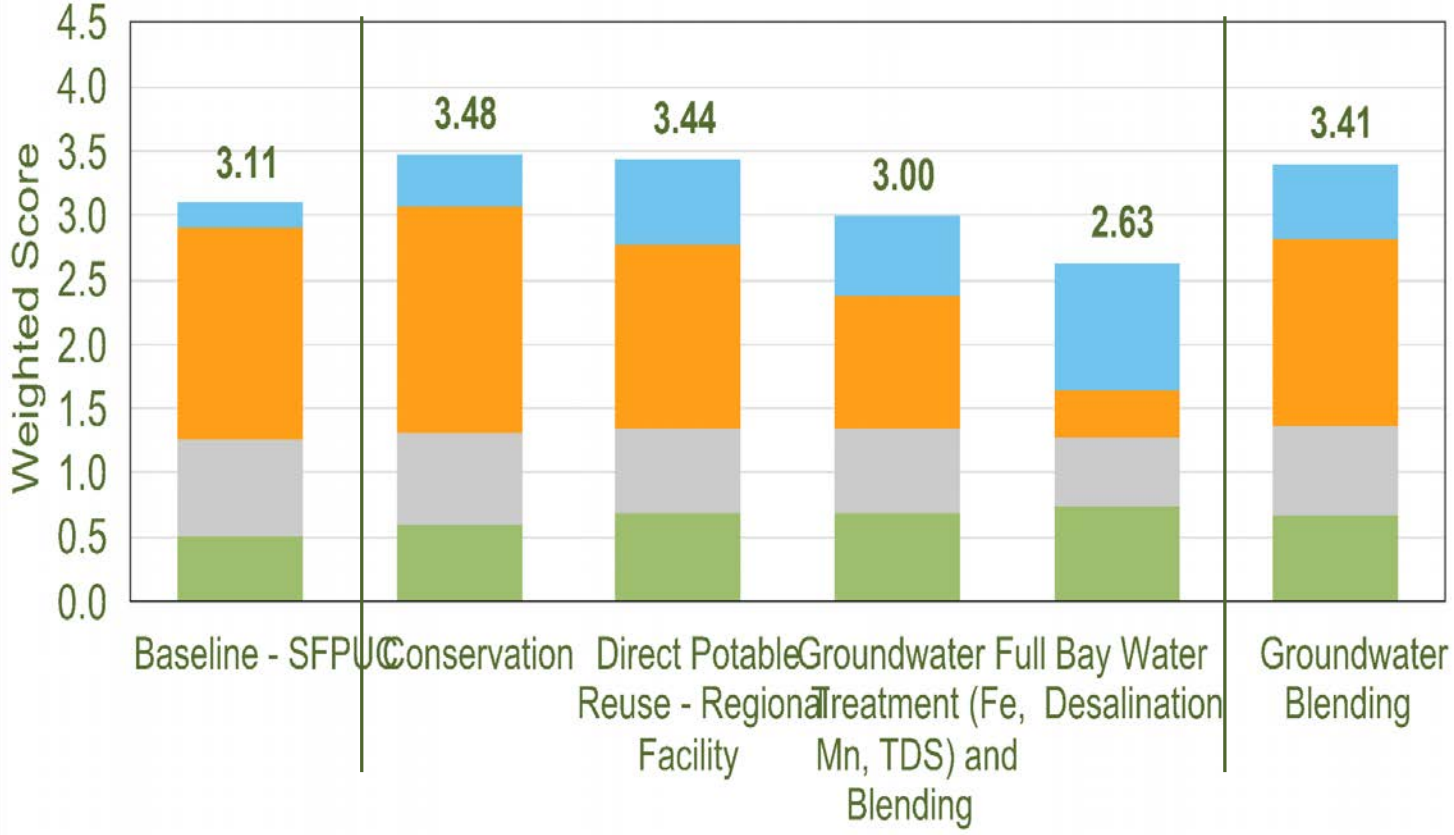
Sensitivity of Initial Results

Weighted Criteria Ranking by Portfolio - With Valley Water Transfer - 2045



Evaluation Criteria

Evaluation Criteria	Weight
Reliability	20%
Cost	35%
Ease of Implementation	5%
	5%
	5%
Environmental Benefits	10%
	10%
	10%

Note:

1) Each portfolio includes Conservation Phase 1 and Phase 2, except Baseline SFPUC
2) Each portfolio includes SFPUC supply

Initial Results Sensitivity to Cost Weighting

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- Top portfolios unchanged
  - ✓ DPR - Palo Alto Only No Valley Water Transfer
  - ✓ DPR - Regional Facility with Valley Water Transfer
- Conservation scores higher
- Only the top scoring portfolio and Conservation score higher than Baseline – SFPUC
- Groundwater blending only (no treatment) is second-highest scoring infrastructure project and scores higher than Baseline – SFPUC

Evaluation Criteria	Weight
Reliability	20%
Cost	35%
Ease of Implementation	15%
Environmental Benefits	30%

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Next Steps

UAC Final One Water Plan **(Fall 2024)**

- Recommended supply strategy
- Trigger-based implementation plan

City Council Final One Water Plan **(End of 2024)**

Future Activities

- *Funding Strategy*
- *Implementation*
- *Updating One Water Tool as conditions change*

Date: June 3, 2024

FORECAST
12-MONTH ROLLING CALENDAR

	Utilities Advisory Commission	City Council
June 2024	- One Water Update - Wildfire Mitigation Plan - Annual Water Shortage Assessment	* NCPA Transmission Owner Rate Case Program Agreement (C) * WGW Utility Standards (C) * Long Term Gas Hedging Policy (FCM) * WAPA Hydroelectricity Base Resource Contract (C) * Annual Water Shortage Assessment (C) * Financial Plans and Rates (C) * Contract Amendment for Grid Mod Pilot (C) * Fiber Hut Installation at Colorado Substation (C)
July 2024	- Approval of UAC Budget Subcommittee Members to Serve a Short Term - Separate Utility Meter for ADUs - Utilities Quarterly Report Q3	*No City Council Meeting*
August 2024	*No UAC Meeting*	* Long Term Gas Hedging Policy (C) * Cap-and-Trad Allowance Purchase (C)
September 2024	- Reserve Management Policy - "One Margin" Reach Code Discussion - Permitting Process - Approved UAC Workplan Info Report	* NCPA Prepayment for Geothermal PPA (FCM)
October 2024	- Second transmission line update	
November 2024	-	
December 2024	- Reliability and resiliency strategic plan update	
January 2025	-	
February 2025	-	
March 2025	-	
April 2025	-	
May 2025	-	
June 2025	-	

Reoccurring Items
- Educational Update on any Type of New Technology or Terminology
- Projects with a Resiliency Component
- Quarterly Reports (Q1-3 Info Rpts)(*Q4 Discussion Summary of the year*)

Financial Report
Utilities Programs Update
Informational EV Charger Installation Updates
Informational Bucket 1 REC Sales Updates
Informational Fiber Updates

To Be Scheduled
- 24/7 load following
- Dark fiber utility rates comparison
- Commercial electricity strategy