Infrastructure and Utilities Policy Framework

Draft for Public Review

February 2024

CITY OF PETALUMA
GENERAL PLAN UPDATE

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Overview

This Public Draft Policy Framework was prepared for review by the Petaluma community. The first two sections provide important context and are identical in each of the draft policy frameworks. The "Introduction" section briefly explains general plans, Petaluma's General Plan Update project, policy frameworks, project next steps, and key terminology. The "Policy Framework Foundations" section summarizes the analysis and community input that informed this policy framework.

The remaining sections are the core of this document that the City would like the community to review. The first of these sections, "Summary of Framework Approach," summarizes the overall approach to the topic addressed by this framework. Next is the main body of the framework, the "Goals, Policies, and Actions" section, which is organized into several goals. Each goal, in turn, has several related policies. And many policies have actions that implement those policies.

Introduction

General Plans

State law requires that each city "adopt a comprehensive, long-term general plan for the physical development of the county or city." This general plan must contain an "integrated, internally consistent and compatible statement of policies" that appropriately responds to local conditions and circumstances. General plans are organized into different "elements," or chapters, like conservation, housing, and land use. There is no required time interval at which jurisdictions must update their general plans, though Housing Elements must be updated every eight years.

State law stipulates that capital improvements and certain other planning policies, such as specific plans, zoning actions, development agreements, and subdivisions, must be consistent with the general plan. The general plan also includes policies that relate to a wide variety of matters under local jurisdiction, which can guide future decision-making.

Petaluma's General Plan Update

The current Petaluma General Plan was adopted in 2008 and last updated in 2012, and it accounts for a planning period through 2025. Petaluma has experienced a great deal of change since then, so the City initiated an update to the General Plan internally in 2020, and brought a consultant team on to assist with the project in 2021.

Petaluma's updated General Plan will address many topics, including: natural environment, hazard mitigation, historic preservation, land use, urban design, housing, mobility, parks, facilities, the arts, economic development, and environmental justice. To meet State deadlines, the Housing Element was completed, adopted, and certified by the State in early 2023. Concurrently with the General Plan Update, the City is also developing a Climate Action Plan, the "Blueprint for Carbon Neutrality" (Blueprint); the team has worked to align the two concurrent efforts and will continue to align greenhouse gas reduction strategies with the General Plan elements as the Blueprint moves through the adoption process.

For more information about General Plans and Petaluma's General Plan Update process, go to https://www.planpetaluma.org/.

Policy Frameworks

Purpose and Structure

Policy frameworks such as this one outline the proposed General Plan goals, policies, and implementation actions for each topic addressed by the General Plan. They were developed based on:

- The existing General Plan (https://cityofpetaluma.org/general-plan/)
- Key findings from the Existing Conditions Reports (see the "Policy Framework Foundations" section below)
- State requirements and guidance
- Related technical, policy, and programmatic resources
- Extensive community input (https://www.planpetaluma.org/getinvolved)
- The Vision, Pillars, and Guiding Principles developed based on community input (see the "Policy Framework Foundations" section below)
- Input from the General Plan Advisory Committee (GPAC) (https://www.planpetaluma.org/gpac-page)
- Input from City committees, boards, and commissions, and
- Guidance from City staff and consultants.

Topics Covered

There is a draft Policy Framework for each of the following topics[1]:

- Natural Environment
- Safety
- Flood Resilience
- Land Use & Community Character
- Transportation
- Infrastructure & Utilities
- Public Facilities
- Parks & Recreation
- Historic Resources
- Arts, Culture, and Creativity
- Economic Development
- Noise
- Health Equity and Environmental Justice
- Implementation & Governance.

There are many connections among the topics covered in different frameworks. Generally, the following topics are addressed as follows. This list includes overarching topics and subtopics, and then lists the frameworks that address this topic in brackets. This is not a comprehensive list of topics covered or of intersections among frameworks:

Climate Change

- Greenhouse gas reduction (Blueprint for Carbon Neutrality, Parks & Recreation, Transportation, Infrastructure & Utilities)
- Mode shift, active transportation, EV charging, vehicle miles traveled (VMT) (Transportation)
- Green building[2] (Land Use & Community Character, Public Facilities, Infrastructure & Utilities)
- Low impact development[3] (Natural Environment, Infrastructure & Utilities)
- Climate adaptation (Safety, Flood Resilience, Land Use & Community Character, Health Equity & Environmental Justice)
- Just transition[4] (Economic Development)

Ecosystems

- Habitats, wildlife corridors, & open space (Natural Environment, Parks & Recreation, Transportation)
- Urban forestry[5] (Parks & Recreation, Health Equity and Environmental Justice)

Petaluma River and Tributaries

- Ecology, habitats, & wildlife corridors (Natural Environment)
- Flooding (Safety, Flood Resilience)
- Adjacent land uses (Land Use & Community Character, Parks & Recreation, Historic Resources)
- Trails and transportation (Transportation)
- River Access and Enhancement Plan (Parks & Recreation, Flood Resilience)

Stormwater, Water Supply, and Wastewater

- Watershed and river protection (Natural Environment)
- Flood control (Flood Resilience, Parks & Recreation, Safety)
- Public water, water conservation, drought, & wastewater systems (Infrastructure & Utilities, Safety)

Transportation

- Mobility network[6], accessibility[7], safety, and VMT (Transportation, Parks & Recreation, Economic Development, Safety)
- Public realm[8] (Land Use & Community Character, Noise)

15-Minute Neighborhoods

- Types, locations, and characteristics (Land Use & Community Character)
- Mobility networks, design, and safety (Transportation)

Equity (in addition to the Health Equity and Environmental Justice Framework)

- Tribal collaboration[9] (Natural Environment, Historic Resources)
- Equitable transportation (Transportation)
- Park and public facilities access (Parks & Recreation, Public Facilities)
- Recreation program access (Parks & Recreation)
- Cultural equity (Arts, Culture, & Creativity)
- Economic justice[10] (Economic Development)
- Community engagement (Parks & Recreation, Implementation & Governance).

Next Steps

The Public Draft Policy Frameworks will be reviewed by the public, Petaluma committees and commissions, the GPAC, and the City Council. Community input and related direction from the City will inform the Draft General Plan, which will also be reviewed by the community before it is presented to the City Council for adoption. A Program Environmental Impact Report (EIR) will be prepared and approved along with the updated General Plan. For the most up-to-date project information and schedule, go to https://www.planpetaluma.org/.

Key Definitions

When reviewing the Policy Frameworks, keep in mind these definitions:

- **Goal**: a general statement that expresses the outcomes towards which planning efforts are directed; often a topic-specific component of the Vision
- **Policy**: a statement of intent or direction that contributes toward achieving a goal and that guides decision-making
- **Action**: a specific activity, procedure, program, or project aimed at implementing a policy.

Policy Framework Foundations

Existing Conditions Key Findings

The Existing Conditions Reports for Petaluma's General Plan Update serve as the technical analysis of diverse dimensions of the city's status as evaluated in 2021. They provide a detailed analysis of current conditions and provide a data-based foundation for policymaking. The nineteen Existing Conditions Reports as well as a summary presentation can be downloaded from the "Plan Documents" section of the project website: https://www.planpetaluma.org/documents#ecr-final.

The following key findings from Existing Conditions Reports informed the preparation of this policy framework:

Water Supply

- The average age of a water main in the City water system is 51 years; the planned life cycle is 100 years.
- 90-100% of the City's water supply comes from Sonoma Water; the remaining 0-10% comes from municipal groundwater wells that are used as emergency backup supply only to supplement a reduced imported water supply.
- The City of Petaluma implemented its Water Shortage Contingency Plan (WSCP) between May 2021 through April 2023 due to historic drought conditions that resulted in a reduced allocation of water from Sonoma Water. Between July 2021 through December 2022, Petaluma reduced water use by 26% compared to 2020. Due to a recovered water supply, the City rescinded its WSCP in April 2023.
- The City provides recycled water for public and private landscape irrigation on the majority of the east side of the City area which serves as a potable offset. The City does not currently provide recycled water to residential customers or for interior uses.
- The City's water service system encompasses the Planning Area as well as a handful of parcels outside the Urban Growth Boundary and served 6,544 acre-feet of potable water to approximately 61,304 people in 2022.
- The City delivers potable water to the United States Coast Guard Training Center, which is outside the City's water service area and operates its own water distribution system.
- The City's water system is fully metered by automated meter reading (AMR) technology and is implementing an advanced metering infrastructure (AMI) pilot project, with plans to install AMI citywide by the end of 2025.

Sewage and Wastewater

- The average age of a sewer main in the City system is 41 years; the planned life cycle is 100 years.
- Unlike the water supply system, the sewer system also serves Penngrove and unincorporated areas outside City limits.
- In 2022, the Ellis Creek Water Recycling Facility distributed 456.4 million gallons of recycled water for agricultural and golf course irrigation outside the City's potable water service area, and 65 million gallons for landscape irrigation within the potable water service area.

- Sanitary Sewer Overflow events (SSOs) still occur within the wastewater distribution system but have been decreasing in quantity and severity. Generally, these SSOs occur in a few low-lying areas located within the west side collection system. Regulatory updates to the City's Sewer System Management Plan are available on the City's website which details SSOs.

Surface and Stormwater

- The City does not currently divert, clean, or filter stormwater within the piped storm drain network. The City has used flood terraces and detention ponds along segments of our natural channels to reduce flooding and allow the settling of sediment and trash.
- To comply with the statewide 2015 Trash Provisions, the City must demonstrate full trash capture equivalency as a Traditional Track 2 Permittee, by December 2, 2030.
- As of March 2020, the deferred maintenance required for the stormwater system was estimated at $37 million. The City currently contributes less than $0.5 million per year to maintenance and lacks a dedicated utility funding stream. Sonoma Water undertakes maintenance along segments of creeks for which they hold a hydraulic maintenance easement; funding is garnered from the Zone 2A property assessment. Sonoma Water holds the regulatory permits necessary to perform the annual work within these creek segments.
- A Bacteria Total Maximum Daily Load (TMDL) was established for the Petaluma River on June 2, 2020, by the San Francisco Regional Water Quality Control Board Basin Plan amendment (Resolution No. 2020-0018).
- The City is an active participant in the Federal Emergency Management Agency (FEMA), National Flood Insurance Program (NFIP), and Community Rating System (CRS) and has achieved a Class 6, resulting in a 20% discount to federally-insured flood insurance policies for properties located within the Special Flood Hazard Area (SFHA) and a 10% discount for properties outside of the SFHA. Expansion of our work efforts include the adoption of higher regulatory standards for the protection of the natural waterways and habitat within our River, creek corridors, and adjacent floodplains for storm flows has been initiated to move the City toward achieving a Class 5 within the CRS program, thereby adding another 5% to the available discount for flood insurance policies.
- The City has initiated and completed flood reduction and habitat enhancement projects within the Payran and Denman Reaches of the River and on Capri Creek. Additional flood reduction and habitat enhancement projects are being investigated and pursued for Lynch Creek and Corona Creek. These projects will continue the City's past efforts to partner with organizations and agencies at the local, County, State, and federal levels.

Solid Waste

- Trash, recycling, bulky items, street sweeping, used oil collection, and debris box service are all currently offered by Recology, the waste management contractor for the City.
- The Redwood Landfill outside Novato, which currently accepts the City's solid waste, will close in 2036.
- The City has committed to a 90% reduction in solid waste relative to 2003 disposal data, or 1.4 pounds per person of disposal per day on average.

Energy

- Although all electricity is transmitted and distributed by Pacific Gas and Electric (PG&E), residents have the option to source electricity from Sonoma Clean Power.

- The City is building 4 solar arrays which are projected to offset 83% of the annual energy demanded by those associated public facilities (Community Center, Community Sports Field, Police Department, and Swim Center).
- The ECWRF has backup emergency generator power to run the facility in the event of a planned electrical outage.
- An agreement for a developer to install a floating photovoltaic solar array was approved by the City Council in late 2022. The solar project is not intended to provide emergency backup power.
- No natural gas is produced within the City; new and remodeled buildings are required to be all-electric.

Telecom and Broadband

- No service is currently provided by the city.
- Installation of cell tower facilities requires obtaining City permits.
- Providers serving the City of Petaluma are shown in Table 1 and include:

Table 1: Telecom Providers in Petaluma, 2024

Provider	Residential Internet	Commercial Internet	Mobile Service
AT&T	Yes		Yes
T-Mobile	Yes		Yes
Comcast/Xfinity	Yes	Yes	Yes
EarthLink	Yes		
Sonic	Yes	Yes	
HughesNet	Yes	Yes	
Viasat	Yes	Yes	
Easy Internet Now	Yes	Yes	
Ooma		Yes	
Allstream		Yes	
Zayo Group		Yes	
Vista Broadband Networks		Yes	
Verizon			Yes
Mint			Yes
Visible			Yes

Notes:
Sources: InMyArea.com, accessed February 2024.

Related Vision, Pillars, and Guiding Principles

The Vision Statement, Pillars, Guiding Principles, and Supporting Concepts reflect community engagement input that occurred during the Visioning Phase of the General Plan Update in 2021. On February 17, 2022, the GPAC voted unanimously to recommend that the City Council accept these Vision materials as the guidance for the ongoing General Plan Update planning process, and the City Council accepted them on March 21, 2022.

- The Vision Statement describes the desired future conditions and characteristics of the city.
- The Pillars are the core community values.
- The Guiding Principles and Supporting Concepts provide the broad direction and pathways to achieve the vision and honor community values, with a focus on the community's specific challenges and opportunities.

The Vision Statement, Pillars, and Guiding Principles and Supporting Concepts can be downloaded from the "Plan Documents" section of the project website: https://www.planpetaluma.org/documents#gpuvision. Together, the Vision Statement, Pillars, and Guiding Principles and Supporting Concepts provide the basis for the goals, policies, and programs included in the General Plan Public Draft Policy Frameworks.

The following verbatim excerpts from the Vision Statement, Pillars, and Guiding Principles informed the preparation of this policy framework:

Vision

We are prosperous. We support our local businesses that provide jobs for our own residents and services to our City and region. Our economy is localized and self-reliant and builds wealth for residents of all socioeconomic backgrounds. We invite new businesses and development to join in our vision. Our City infrastructure and facilities are sustainably financed, resilient, and well-maintained.

We are forward-thinking leaders. By achieving carbon neutrality in 2030, we demonstrate that equitable, carbon-neutral, regenerative communities and economies are possible through action and collaboration with other cities, communities, and our region. We have adapted to climate change with a community-driven, whole systems, and nature-based approach to development.

Pillars

Climate Action, Resilience, and Sustainability. Petaluma is committed to bold action to achieve carbon neutrality by 2030 and to building resilience to climate change impacts, including sea level rise, increasing temperatures, drought, and wildfire intensity. The General Plan must build climate-ready communities using science, technology, and bold ways of thinking to advance change in our relationship with the natural environment and to plan for current and future impacts.

Guiding Principles

There are a total of sixteen Guiding Principles, each with multiple, lettered Supporting Concepts. The following Guiding Principles and Supporting Concepts informed this policy framework:

1. Achieve carbon neutrality by 2030 and equitably foster a sustainable and resilient community in which today's needs do not compromise the ability of the community to meet its future needs.

h. Take bold measures to address watershed management, water use and expected long-term drought conditions.

k. Increase self-sufficient production of and equitable access to basic needs like food, shelter, energy, and communications.

13. Ensure infrastructure supports infill development and addresses the impacts of climate change.

a. Maintain and continually improve the City's infrastructure to support the evolution of the City and ensure a high quality of life in Petaluma.

b. Co-plan infrastructure improvements with urban development patterns and the preservation and enhancement of the natural environment.

c. Incorporate new (and potential) climate impacts and hazards into the design of infrastructure systems so that infrastructure is resilient and "climate-ready."

d. Expand equitable broadband access.

e. Prioritize the use of sustainable materials in infrastructure.

16. Be a leader in advancing these guiding principles within the region and beyond.

d. Encourage the exploration of "experimental" policies, ordinances, infrastructure.

Summary of Framework Approach

This framework consolidates several topics focused on city infrastructure systems: water (Goals 1-5), waste (Goals 6 and 7), energy (Goal 8), and communications (Goals 9 and 10). These topics are critical to Petaluma residents' quality of life and will require improvements as the city grows and adapts to climate change. Additionally, State and regional mandates for water conservation, waste diversion, and decarbonization provide critical opportunities to improve the resilience and sustainability of city systems.

Notes on Interpreting GP

This Section is focused on concepts and ideas that are relevant to, and flow through, the entire General Plan update process. Key concepts should be incorporated at a top level of the new General Plan.

- Define a culture of flexibility where the goals and policies in the General Plan are assessed in a holistic and cohesive manner.
- Advocacy for approval, or rejection, of a proposal or project should not be based on a limited number of elements of a framework/general plan (e.g., goal, policy). Advocacy should understand and acknowledge the comprehensive nature of the City's General Plan.
- When evaluating a proposal/project, City staff should identify the goals/policies that support as well as the goals/policies that conflict with the proposal/project. The evaluation of goals/policies should be a transparent assessment of the tradeoffs between these various goal/policies that apply to a proposal/project.
- Repetition is a good thing! Referencing policy threads that touch multiple frameworks/elements of the General Plan is expected and reinforces policy direction. We would expect to see echoes of important policies and actions across various subject matter areas.
- The City needs to recognize, and expand on, its "sense of place." Creating a sense of place is not limited to downtown and the areas that lead to the downtown area. The concept should imbue any development throughout the entire City.
- Where appropriate, reference relevant planning documents and technical manuals as they are updated more frequently than the GP and can have much higher levels of specificity in the subject matter they focus on. Use references to said documents in lieu of diving into too much detail in GP.
- What does success look like for Goals and Policies and what is the best way to measure outcomes in context of the GP? (ie. measuring percentages)

General Comments

1. Need to make references to water supply, storm water and wastewater explicit throughout
2. Highly technical area, so make sure we list of supporting/reference documents & technical manuals (ie. Department of Water Resources approved Groundwater Sustainability Plan) as well as supporting agencies (ie. GSA)
3. Any action items that relate to groundwater should include "Collaborate with the Petaluma Valley Groundwater Sustainability Agency to consider impacts to groundwater levels, sea water intrusion, groundwater dependent ecosystems, and land subsidence."
4. Should dedicated city rights of way, roads and highways be considered as Infrastructure as well as Transportation? The whole public corridor, travel lanes, sewer and water, overhead or underground electricity, pedestrian and bicycle trails, paths and street trees, should be reflected in the infrastructure system. Maybe we feel adequately addressed in other areas? Worth mentioning again here?
    a. Due to the fact that they both happen in the public right of way, there is a lot of overlap between Utilities and Roads - is there a way to incorporate or build a stronger relationship together between transportation and infrastructure?
5. There is also a lot of overlap between Land Use & Community Character and Transportation and

Infrastructure.

a. The city has managed them as separate topics and administrative management responsibilities, resulting in the lack of cohesive planning. - is this due to different internal funding sources?

Goals, Policies, and Actions

Goal IU-1: Sustainable Water Supply

The community has access to safe, clean, affordable, accessible, and sustainable supplies of water.

Goal IU-1 Discussion Points:

DP IU-1.1: Recycled Water & Purple Pipe Infrastructure

Think about context: how recycled water is used/can be used, how is capacity generated, etc.

Cost/Benefits of expanding purple pipe network and how do we bring it to the West side of the city? How should purple pipe use cases be expanded or how should the supply from purple pipe be prioritized?

DP IU-1.2: References to Existing Framework ((Master Plans, Ongoing Studies & Regulatory Agencies)

There are existing plans like the Integrated Water Master Plan and Stormwater Management Plan. Should we defer as much specificity as possible regarding water system to the overlapping Master Plans (IWMP) and Management Plans for different water, storm water and wastewater systems that are updated more frequently than the GP and can be much more technical? How do we best make those broad references while still having enough in the GP to indicate policy and action directions meeting stated goals?

Where appropriate, we should reference existing water quality, water conservation and other standards both within the City and as provided by relevant regional agencies.

DP IU-1.3: Water vs. Storm water vs. Wastewater

We need to make sure references to water supply, storm water and wastewater are explicit throughout as the systems to eliminate confusion and better tailor policies and actions to the relevant system

Policy IU-1.1: Complete an Integrated Water Master Plan

Complete an Integrated Water Master Plan (IWMP) that identifies opportunities to increase water supplies locally and reduces flood risk. The IWMP will identify, screen, and analyze water supply alternatives such as urban recycled water, agricultural recycled water, recycled water storage, groundwater well expansion, groundwater recharge and banking, regional projects, brackish desalination, and options for stormwater capture, storage, and treatment.

Action IU-1.1.1: Require implementation of adopted Integrated Water Master Plan and distribution program improvements through conditions of approval for all public and private development.

Policy IU-1.2: Develop alternative local water sources

Develop alternative local sources of water to at least the extent indicated in the Sonoma Water Restructured Agreement for Water Supply.

Action IU-1.2.1: Assess the potential supply of all waters available to the City (Sonoma Water,

recycled water, groundwater, stormwater, private onsite reuse, water use efficiency measures, and more).

Action IU-1.2.2: Optimize investments that reduce water costs, sequester carbon, provide resilience to climate change, allow future adaptation, and provide multi-benefit outcomes.

Action IU-1.2.3: Evaluate the available water supply volume from roof and impervious surface runoff within City limits and the available runoff from natural areas. Calculate the available increased supply to the City from centralized and decentralized capture or infiltration.

Action IU-1.2.4: Consider pursuing potential regional water supply projects.

Action IU-1.2.5: Continue participation in Sonoma Water Regional Water Supply Resiliency Study.

Policy IU-1.3: Maintain and expand water infrastructure

- These are all good projects that should be defined in the IWMP. Is this level of detail more appropriate for the IWMP because it can be more easily updated over time as projects are completed? And should the General Plan include broader goals? Consider wrapping many of the actions in this policy into one action like: "Implement infrastructure replacement, water distribution improvements, and water storage strategies identified in the updated Water Distribution System Master Plan." **(DP IU-1.2)**
- Reference bringing Purple pipe to the West side of town and should we include any ideas for expanded use cases? **(DP IU-1.1)**

Maintain and expand as needed the City's potable, non-potable, and wastewater storage, distribution, collection, and reuse systems with minimal or no adverse impact on the environment.

Action IU-1.3.1: Maintain a model of the City's potable water infrastructure to utilize in planning and operational efforts.

Action IU-1.3.2: Develop and maintain a utility map with a planning overlay to help identify where further development/densification can occur with minimal water main Capital Improvement Plan (CIP) cost.

Action IU-1.3.3: Collaborate with Sonoma Water and contractors to identify projected obstacles to providing adequate potable water and plan to overcome them.

Action IU-1.3.4: Fund pipeline infrastructure replacement based on a lifecycle appropriate to the project lifespan.

Action IU-1.3.5: Design and construct additional water storage facilities and explore options for regional water storage as defined by the IWMP recommendations.

Action IU-1.3.6: Implement water distribution improvements identified in the updated Water Distribution System Master Plan to provide design pressure and flows to each part of the City's existing and planned water distribution system.

Action IU-1.3.7: Explore options for surface water and stormwater storage as identified in the IWMP.

Action IU-1.3.8: Upgrade tertiary treatment capacity at Ellis Creek Water Recycling Facility to provide additional tertiary recycled water to help meet peak summer and dry weather demands.

Action IU-1.3.9: Optimize investments in the "purple pipe" network, dual plumbing, and blackwater systems to provide recycled water for potable water offset as identified in the IWMP.

Action IU-1.3.X: "Explore strategies to bring purple pipe infrastructure under 101 and under the river connecting to the West side" / "prioritize purple pipe extension to provide recycled water to areas west of US 101 and the Petaluma River and explore capacity to provide irrigation for public lands and public right of way" **(DP IU-1.1)**

Purple Pipe Notes:

- Purple pipe as supporting ag and city uses.
- Along with city-managed parks & open space can purple pipe be used to support street tree infrastructure? Dedicated capacity for agricultural and supporting uses?
- context needed: lifecycle of recycled water and other potential uses? (difference between seasons, etc)
- context needed: map of current purple pipe system
- context needed: volumetric calculations of generation capacity, storage capacity, current distribution, required volume for desired uses of city & ag

Action IU-1.3.10: Explore expansion of recycled water storage facilities to reduce winter season discharge and increase the ability to meet summer demands.

Action IU-1.3.11: Fund and perform condition assessment of existing water distribution and wastewater facilities on a regular 5-year cycle.

Action IU-1.3.12: Perform regular inspections and repairs as needed to help eliminate sanitary sewer overflows and reduce currently significant inflow and infiltration (I&I) flows.

Action IU-1.3.13: Fund stormwater collection system infrastructure replacement where required. Evaluate opportunities for deferred replacement/upgrade through decentralized reuse.

- For this action item and IU-1.3.13 (maybe IU-1.3.15?) could be replaced with a more general statement to refer to the Sewer System Master Plan as the mechanism for achieving these goals. Perhaps something like "Implement collection system inspection and repair to reduce sanitary sewer overflow consistent with the City's updated Sewer System Master Plan." The SSMP is required by the state and updated every 5-years so this way the General Plan action will continue to be applicable into the future as the SSMP is regularly updated. **(DP IU-1.2)**

Action IU-1.3.14: Evaluate fiscal feasibility in constructing treatment facilities for using local groundwater sources, as well as impacts of drawdown and land subsidence.

- Confusing if this is referring to water, stormwater or recycled water (this distinction should be made clear throughout this section.) **(DP IU-1.3)**
    - Any action items that relate to groundwater should include "Collaborate with the Petaluma Valley Groundwater Sustainability Agency to consider impacts to groundwater levels, sea water intrusion, groundwater dependent ecosystems, and land subsidence."

Action IU-1.3.15: Regularly update the sanitary sewer flow model and make improvements necessary to support development.

Action IU-1.3.16: Implement asset management software for optimization and analysis of utility systems (water, sewer, recycled water, and stormwater) operations and maintenance

Policy IU-1.4: Maintain water quality

Maintain exceptional potable and recycled water quality as determined by local, State, and federal standards.

Action IU-1.4.1: Perform routine directional water main flushing and testing in a manner that utilizes the available flush water.

Action IU-1.4.2: Operate and maintain the Ellis Creek Water Recycling Facility to produce recycled water to meet or exceed current regulatory standards.

Action IU-1.4.3: Develop, implement, and maintain a cross-connection control program that meets or exceeds state regulatory requirements, ensuring safe potable water for the City's residents.

Policy IU-1.5: Maintain customer service

Maintain a high level of customer service and satisfaction.

Action IU-1.5.1: Assess water supply inequity considering geography and demographics and provide for sufficient localized backup supply and storage.

Action IU-1.5.2: Upgrade utility billing software as necessary to provide the ability to efficiently track and project water demand trends including, but not limited to, the following parameters:

- Land use categories.
- Customer classifications.
- Occupancy.
- Landscape Area.

Action IU-1.5.3: Provide additional information in plain language to customers on their water use through utility billing and new technology, such as web-based service programs. Additional information should include:

- Amount of water used by tier for the current billing period.
- Water use per occupant.
- Leak detection.
- Charge for each tier.
- Amount of water used for wastewater charge during the current billing period.
- Recent water use history.

Action IU-1.5.4: Expand community service programs such as:

- Conducting customer statistical analyses.
- Conducting consumer surveys.
- Providing customer leak detection services.
- Participating in the Business Water Project by the Business Environmental Alliance.
- Developing a community recognition program that recognizes efforts to implement Best Management Practices.

Action IU-1.5.5: Convert the City's water service meters to an automated meter infrastructure (AMI) to allow customers to track and monitor water use. AMI will also reduce carbon emissions, improve staff safety, and increase transparency.

Policy IU-1.6: Implement a progressive fee structure

Implement a progressive fee structure that provides for long-term infrastructure maintenance and

improvements, promotes water use efficiency, and maintains affordability for disadvantaged communities.

Action IU-1.6.1: Reassess the current recycled water rate to incentivize agricultural and vineyard customers to purchase off-season recycled water for onsite storage.

Action IU-1.6.2: Reassess the current recycled water rate and consider creating a separate urban customer rate and agricultural customer rate.

Action IU-1.6.3: Evaluate the costs of water supply to the City's disadvantaged communities to ensure their Human Right to Water per California Water Code Chapter 1 Section 106.3.

Action IU-1.6.4: Explore Prop. 218 compliant fee structures which ensure inefficient water users bear the burden of costly or new water supplies and efficient water users pay the least per gallon.

- Do we have a definition of “efficient” vs “inefficient”? Will AMI allow us better visibility on water volume usage to make this determination?
- Ongoing fee studies for any proposed increases or rate changes
- This action seems too specific about how to meet the goal of water conservation and "wasteful use of water." consider an action that refers to existing state and local regulation pertaining to efficient water use and for the city to explore fee structures and regulations to incentivize conservation practices.

Goal IU-2: Integrated Water Resources Management

The City and its inhabitants adopt an integrated water resources management approach to managing all available water resources for long-term resilience and reliability, meeting both community and environmental needs.

Goal IU-2 Discussion Points:

DP IU-2.1: References to Existing Framework (Master Plans, Ongoing Studies & Regulatory Agencies)

There are existing plans like the Integrated Water Master Plan and Stormwater Management Plan. Should we defer as much specificity as possible regarding water system to the overlapping Master Plans (IWMP) and Management Plans for different water, storm water and wastewater systems that are updated more frequently than the GP and can be much more technical? How do we best make those broad references while still having enough in the GP to indicate policy and action directions meeting stated goals?

Where appropriate, we should reference existing water quality, water conservation and other standards both within the City and as provided by relevant regional agencies.

DP IU-2.2: Centralized City Water Treatment Systems vs. Building Decentralized Capacity (Wastewater & Storm Water)

Throughout the framework there is a analysis proposed to compare continued investment into centralized city wastewater and storm water systems vs, requiring or incentivizing/supporting buildout of decentralized storm water and wastewater capacity. Should a specific Goal be created to analyze cost/benefits of continuing to invest in CIP and build out of centralized city wastewater and stormwater treatment vs decentralized capacity (onsite & other solutions)?

Is comparing and choosing between the options a direction we want to go? We can allow for and incentivize on-site treatment, but we should also invest in centralized city storm water & wastewater management capacity at the same time.

DP IU-2.3: Standards/Goals for Commercial / Industrial / Residential

Policy IU-2.1: Require efficient water use

- Context needed: existing water calculations that occur during project review (Planning & Building) **(DP IU-2.1)**
- Are there other items worth mentioning in this Policy (ie. Requirements around landscaping? ("low water use" requirements, WUCOLS targets?)

During the environmental review and entitlement process, require efficient use of City-supplied potable and non-potable water, including onsite reuse where feasible, to balance new demand with future water needs. Discuss water supply with the developer for each new development early in the planning process and inform Water Resources staff of upcoming demands as provided by the applicant.

Action IU-2.1.1: Maintain a tiered development record to monitor pending and projected developments to allow a reasonable forecast of projected water demand.

Action IU-2.1.2: Develop a permitting process that enforces a water budget applicable to the project's size and use. As part of this enforcement, develop Property Service Agreements that penalize water use above the project water budget during water shortage periods.

- Consider revising to something more like: "Include water budget analysis in planning permit applications to ensure that proposed land uses include water conservation practices to minimize water demand of new development. Include water allocations, informed by city staff's (ie. water dept, public works, or the right expert) analysis of the application's water budget, in project conditions of approvals and develop an enforcement process to ensure adherence to approved water budgets."

Action IU-2.1.3: Develop policy and/or incentive for existing commercial and industrial water users to reduce indoor water demand through increased water use efficiency.

Action IU-2.1.4: Update municipal codes to require dual plumbing for non-potable water uses and dual waste/greywater drainage plumbing.

- This action is problematic because dual plumbing is regulated by the Division of Drinking Water. **(DP IU-2.1)** Perhaps something like "Explore programs and policies to increase the use of greywater and recycled water for commercial and residential non-potable uses, such as landscape irrigation, playing fields, and toilet flushing."

Policy IU-2.2: Promote effective water use

Promote effective use of existing potable and recycled water supply by providing developers and land use planners with information on the capacity of water supply and wastewater infrastructure.

Action IU-2.2.1: In conjunction with other water planning efforts, ~~Develop a~~ provide a geospatial water balance map ~~that evaluates parcel-specific estimates of~~ to estimate potable and non-potable water demands on a parcel-specific basis.

- What does this project look like? Already part of a larger plan or ongoing study? If so, should be referenced **(DP IU-2.1)**

Action IU-2.2.2: Create public maps which indicate locations of potential connection to non-potable water supplies, and areas where City utilities would benefit from collaboration with private onsite water reuse systems.

Policy IU-2.3: Reduce water demand

- Should actions that intimate a buildout of decentralized water treatment be separated out? **(DP IU-2.2)**

Reduce potable water demands by converting existing potable water uses to tertiary water and promoting private onsite reuse where feasible.

Action IU-2.3.1: Perform a fee study that evaluates how the City can financially incentivize existing and proposed facilities for optimizing water use through impact fees and connection rates.

- This seems similar to the fee study item above who's goal is conservation

Action IU-2.3.2: ~~Require~~ Encourage new development to install a separate recycled water/onsite reuse system, or connect to existing recycled water system where feasible, as deemed necessary and feasible by the City to offset potable demand.

- Requirement can be too onerous as many developments will not be of scope to consider onsite systems. Depends on how powerful the caveat is at end of this action
- Should there be different standards Industrial vs. Commercial vs. residential/housing? **(DP IU-2.3)**

Action IU-2.3.3: Provide education and guidance on optimizing water use, and other water supply options available such as greywater, recycled water, and onsite reuse.

- Anything here in terms of incentives for converting existing rentals and/or other building uses to greywater?

Policy IU-2.4: Allow onsite reuse of wastewater

- Good to allow for onsite reuse of waster and stormwater, should we be comparing it against centralized city systems or saying "yes, and" **(DP IU-2.2)**
- Any incentive / encouragement ideas for new developments to include these onsite recycling systems (as compared to "allowing" or "requiring")?

Create a regulatory framework to allow onsite reuse of wastewater in private developments.

Action IU-2.4.1: Investigate opportunities for onsite reuse in irrigation of landscaped areas such as golf courses and parks.

Action IU-2.4.2: Explore City administering the local regulation of onsite reuse permits, through 2018 State Bill (SB) 966 for Onsite Treated Non-potable Water Systems.

Action IU-2.4.3: Coordinate with the State and local jurisdictions to unify and streamline the regulations, permit process, and permit exemptions of onsite systems such as blackwater reuse, graywater, condensate, and rainwater harvesting.

Action IU-2.4.4: Perform a fee study that evaluates City Public Works CIP and maintenance financial savings from reducing sewer and water supply flows. Consider increased efficiency, increased demand as well as increased infrastructure for recycled water and other potential water supply facilities.

- Not sure that fits here. Again, combining sewer and water in a way that is confusing. Can this be combined in the other items that deal with fees (see above).
- More elegant way to analyze/compare cost/benefits of continuing to invest in CIP and build out centralized city water recycling vs decentralized capacity (onsite & other solutions), maybe we could lump together multiple policies that get to this issue? **(DP IU-2.2)**
    - not sure we agree with this direction - city should have CIP/investment to expanding our storm water and waste water management/recycling while allowing/incentivizing for private property owners to develop on-site capacity

Goal IU-3: Water Conservation

Water conservation measures continue to improve water use efficiency and reduce overall water demands.

Goal IU-3 Discussion Points:

DP IU-3.1: References to Existing Framework (Master Plans, Ongoing Studies & Regulatory Agencies)

There are existing plans like the Integrated Water Master Plan and Stormwater Management Plan. Should we defer as much specificity as possible regarding water system to the overlapping Master Plans (IWMP) and Management Plans for different water, storm water and wastewater systems that are updated more frequently than the GP and can be much more technical? How do we best make those broad references

while still having enough in the GP to indicate policy and action directions meeting stated goals?

Where appropriate, we should reference existing water quality, water conservation and other standards both within the City and as provided by relevant regional agencies.

Policy IU-3.1: Reduce total demand

Reduce total (potable and non-potable) demand through conservation measures, building standards, land use and density planning, incentives, and progressive fee structures.

Action IU-3.1.1: Develop a conservation guidance memo based on an evaluation of the expected supply during drought allocation scenarios, as calculated by the Water Shortage Methodology defined in the Restructured Agreement in addition to the maximum sustainable groundwater yield from City wells. Given the increasing prevalence of severe drought, this should be considered the available water supply to guide conservation standards and the potable water supply available for new development.

- context needed: Restructured Agreement for Water Supply
- This information should be contained in the City's Water Shortage Contingency Plan and Urban Water Master Plan that is requirede by the state and updated every 5 years. This policy should refer back to these documents. **(DP IU-3.1)**
    - "Develop a conservation guidance memo based on an evaluation of the expected supply during drought allocation scenarios following the calculations from the City's Water Shortage Contingency Plan and Urban Water Master Plan that is require by the state and updated every 5 years."

~~**Action IU-3.1.2:** Expand water conservation to further improve the efficient use of all water supplies~~.

- Is this worth naming? Seems lackluster and something restates goal. Wrap into vision statement

Action IU-3.1.3: Update the Water Conservation Plan, or create a new plan, as necessary, to assist with compliance with AB1668 and SB668.

- Refer to these by the name of the Act, since the bill numbers are changed every legislative session.

Action IU-3.1.4: Continue to expand the application of water conservation Best Management Practices in existing and new commercial, industrial, institutional, and residential settings in compliance with AB 1668 and SB 668 and to reduce overall potable demand.

Action IU-3.1.5: Continually update the City's Water Shortage Contingency Plan, as needed, to effectively reduce water use during water shortage periods.

- This can be included in the Action IU-3.1.1, as noted above

Action IU-3.1.6: Revise the City's Water Efficient Landscape Ordinance to require the use of water-efficient landscaping in new development, remodels, or other significant site modifications.

Action IU-3.1.7: Regularly update regulations, codes, and agreements to implement water conservation and discourage wasteful use of water.

Action IU-3.1.8: Enforce conservation measures that eliminate or penalize wasteful uses of water. Regularly revise and update the water waste ordinance.

Goal IU-4: Groundwater Sustainability

The City is a member agency of the Petaluma Valley Groundwater Sustainability Agency (GSA) and other regional agencies to improve the long-term resilience and natural function of groundwater resources.

Goal IU-4 Discussion Points:

DP IU-4.1: References to Existing Framework (Master Plans, Ongoing Studies & Regulatory Agencies)

There are existing plans like the Integrated Water Master Plan and Stormwater Management Plan. Should we defer as much specificity as possible regarding water system to the overlapping Master Plans (IWMP) and Management Plans for different water, storm water and wastewater systems that are updated more frequently than the GP and can be much more technical? How do we best make those broad references while still having enough in the GP to indicate policy and action directions meeting stated goals?

Where appropriate, we should reference existing water quality, water conservation and other standards both within the City and as provided by relevant regional agencies.

DP IU-4.2: GW Recharge Areas

The GSA does not have specified recharge areas at this time. How can the city undertake a process of collaboration with GSA and other relevant expertise to identify GW recharge areas in the city? Is it worth making a policy or action about the city identifying areas with high GW recharge potential? Or do we want to keep references to GSA-defined areas assuming they will be defined in the future?

Policy IU-4.1: Manage groundwater resources

Manage groundwater as a valuable and limited shared resource by protecting groundwater recharge areas and stream sides from urban encroachment, enacting stormwater standards to reduce runoff inside the City, and enacting watershed restoration efforts within the greater Petaluma watershed.

Action IU-4.1.1: Develop additional wells to supply the average minimum water demand for emergency use, without impacting other groundwater users or groundwater-dependent ecosystems.

Action IU-4.1.2: Collaborate with private and public entities within and outside City limits to preserve oak woodlands, upland native grassland, riparian, and wetland areas identified as contributing to groundwater recharge.

Action IU-4.1.3: Regulate construction of impervious surfaces to match predevelopment recharge rates. Potential recharge area protection measures at sites in groundwater recharge areas include, but are not limited to:

- Restrict coverage by impervious materials
- Limit building or parking footprints.
- Encourage drainage features that promote infiltation

- Context needed: how difficult are GW recharge calculations? Do tables already exist given different land use, surface coverages, etc. Does the city have these already **(DP IU-4.1)**
- Updated Guidance/Standards for Permeable Surfaces? - reality of permeable surfaces given compaction under parking and roads (RM)
- Should there be another action to incentivize GW recharge uses that add capacity?

- Should we keep this much less prescriptive and not focus on regulating surfaces so long as recharge goals are met (ie. “Employ groundwater recharge strategies with the goal of a final development that matches predevelopment GW recharge rates”)

Action IU-4.1.4: Require construction of Low Impact Development (LID) components or offsite recharge offsets as guided by the most recent The Regional Board stormwater permit (or other watershed publication that may have a guidance document for LID to refer to here) **(DP IU-4.1)**

- Confirming includes features like Bioswales?
- Should we specify definite site-specific metric and/or how do we guide placement on-site? (too detailed for this stage?)

~~**Action IU-4.1.5:** Develop a local guide of LID strategies that protect recharge during development.~~

- combine with previous

Action XXX: Review development applications and specific plans to evaluate impacts of planned land use and water demand to ensure that individual projects and overall development is consistent with the Department of Water Resources approved Groundwater Sustainability Plan, would not contribute to exceedances of groundwater sustainability indicators, and would not contribute to undesirable results in the Petaluma Valley groundwater subbasin. **(DP IU-4.1)**

Action IU-4.1.6: Support projects and policies that increase groundwater recharge and absorption of water in the upper watershed, including outside City limits.

Action IU-4.1.7: Support policies and programs in ~~GSA-designated areas~~ areas with high recharge potential ~~which~~ that promote enhancement of infiltration and groundwater recharge. **(DP IU-4.2)**

Action IU-4.1.8: Collaborate with the County when reviewing development applications to examine the combined impacts of new septic tanks and other potentially contaminating activities, and the ability to maintain adequate protection of groundwater resources. Collaborate with the County on implementing the most recent/updated ~~2022~~ Well Ordinance.

Policy IU-4.2: Explore groundwater banking

Explore the use of surface water and stormwater for groundwater banking through continued use and expansion of detention/retention basin placement for groundwater recharge, reduction of out-of-bank storm flows, and/or spring agricultural use.

- Explore Recharge pipes/other direct recharge strategies?
- Action: Identify areas with high groundwater recharge potential in city limits for groundwater banking? **(DP IU-4.2)**

Policy IU-4.3: ~~Preserve~~ Emergency groundwater resources

Should this section be renamed? The goal seems to be making sure we have GW resources for emergency use, not just broadly preserving GW. Broad conservation and management of GW is mentioned in prior policies so this name may be confusing.

Preserve groundwater resources to meet emergency needs and multiyear drought supply reductions.

Action IU-4.3.1: Continue to ~~use~~ evaluate the use and availability of groundwater to meet emergency water supply needs.

- Another action directly related to preserving GW resources? ie. limiter on how much can be used from backup

wells or policy around when/how much can be used from back-up wells.
- Limiting GW well usage in city limits?

Goal IU-5: Zero-Emission Water and Wastewater

City- and privately-owned water supply and wastewater systems produce zero net operational carbon emissions, and new water supply facilities are optimized for a low embodied carbon footprint during normal operations.

Goal IU-5 Discussion Points:

DP IU-5.1: Centralized City Water Treatment Systems vs. Building Decentralized Capacity (Wastewater & Storm Water)

Throughout the framework there is a analysis proposed to compare continued investment into centralized city wastewater and storm water systems vs, requiring or incentivizing/supporting buildout of decentralized storm water and wastewater capacity. Should a specific Goal be created to analyze cost/benefits of continuing to invest in CIP and build out of centralized city wastewater and stormwater treatment vs decentralized capacity (onsite & other solutions)?

Is comparing and choosing between the options a direction we want to go? We can allow for and incentivize on-site treatment, but we should also invest in centralized city storm water & wastewater management capacity at the same time.

Policy IU-5.1: Consider embodied and operational carbon costs

- Policy seems to compare decentralized buildout of wastewater and stormwater treatment (cost borne by developers/property owners) against continued investment in centralized city-owned infrastructure, including recycling infrastructure like purple pipe. What is the choice PW/staff think we are being faced with? Is this establish an either/or scenario through various analyses of systems? Don't we want to incentivize decentralized systems put in place by property owners/developers AND build out city capacity? **(DP IU-5.1)**

When planning for water resources, consider and optimize for the embodied and operational carbon cost of existing and new water supply, storage, and distribution systems.

Action IU-5.1.1: Develop a public memo evaluating the operational energy, carbon, and financial cost per gallon of all water supplies available to the City.

Action IU-5.1.2: Develop an embodied carbon cost for different water supply strategies such as purple pipe expansion, Managed Aquifer Recharge, and decentralized reuse

- Does "decentralized reuse" imply network of property-owner controlled onsite capture or does it include decentralized city-owned facilities?

Action IU-5.1.3: Measure the carbon emissions in the immediate- and long-term lifecycle of all public infrastructure systems.

Action IU-5.1.4: Assess the current annual volume of recycled water provided by I&I. Evaluate the carbon and CIP cost of reducing I&I compared to the carbon and CIP cost of sourcing alternative water sources to make up for recycled water volume reduction and overflow protection improvements.

- Isn't recycled water embodying a direction we want to move toward? What are concerns

embodied here by PW and staff?

Action IU-5.1.5: Perform cost-benefit (C/B) analysis of package treatment as a method of reducing capital costs in sewer enhancements and expansion of the purple pipe network.

- Is “Package treatment” implying a per development requirement on property owner to maintain. Again, clarifying methodologies being compared: decentralized treatment across multiple sites vs centralized waste water investments?

Action IU-5.1.6: Develop a geospatial map of underserved water supply areas and at-capacity wastewater systems. Identify upstream supplies and downstream demands of CIP sewer projects to consider the efficacy of satellite decentralized sewer mining and other reuse facilities.

- Are these developer-led/property owner led treatment solutions on different sites?
- Are these satellite sewer mining solutions build and operated by city and then integrated into larger city water infrastructure?

Policy IU-5.2: Improve energy recovery and onsite energy production

Improve energy recovery and onsite energy production at the Ellis Creek Recycling Facility (ECRF) to achieve net zero carbon emissions.

Action IU-5.2.1: Optimize operations at ECRF to balance goals of recycled water production, reducing energy/carbon impacts, and resource recovery.

- Consider Action item for floating solar goal – 80% coverage of treatment pools?

Goal IU-6: Waste Reduction

The City and its inhabitants see opportunities for recycling and reuse in everything, sending 90% less to landfills than they did in 2003.

Goal IU-6 Discussion Points:

DP IU-6.1: Goal Metrics

Should we be setting targets for implementation of waste management practices and/or adoption by customers?

DP IU-6.2: Contract Negotiations

For contracted operators providing waste services, how specific do we get in GP about negotiations? Worth including more aspirational goals we want to push these operators towards?

Policy IU-6.1: Reduce solid waste

Reduce solid waste and increase reduction, reuse, and/or recycling in compliance with the Countywide Integrated Waste Management Plan (CIWMP).

Action IU-6.1.1: Require future waste contract negotiations to include the following:

- Disposal of City waste products at a site with the least potential for environmental impacts
- Discussion on resource recovery services for Petaluma waste
- The identification of recycling and waste stream diversion goals
- Hazardous waste collection
- Street and sidewalk cleaning
- Compost collection and distribution.

Action IU-6.1.2: Work with Zero Waste Sonoma to identify environmental and economical means to meet the need for solid waste disposal.

- Lacking specificity – how is this different than cumulative weight of other actions/vision statement?

Action IU-6.1.3: Require new or remodeled residential and all non-residential developments to incorporate sufficient, attractive, and convenient interior and exterior storage areas for three-stream waste disposal.

- context needed: aren't we doing this already?

Action IU-6.1.4: Continue to encourage waste reduction and recycling at home and in businesses through public education programs, such as informational handouts, on recycling, yard waste, wood waste, and hazardous waste collection.

Action IU-6.1.5: Work with Zero Waste Sonoma to increase producer-funded collection events in Petaluma.

Action IU-6.1.6: Support the residential and commercial food waste composting program.

- Should we set specific goals (ie. % of commercial food waste producers are part of the program)? **(DP IU-6.1)**

- Provide guidance/regulation for compost implementation

Action IU-6.1.7: Establish an environmental purchasing policy to maximize the percentage of goods purchased for City use containing recycled materials.

Action IU-6.1.8: Continue to cooperate, require, and/or support the operation of resource recovery facilities by the City waste hauler and the disposal site operators.

- Can we encourage toward environment-friendly operations?
    - Encourage them to implement policies that reduce idling

Action IU-6.1.9: Provide accessible water bottle filling stations at all public facilities and buildings to reduce bottled water use.

Action IU-6.1.10: Ensure that all public facilities have adequate and accessible depositories for recyclable and compostable materials.

Action IU-6.1.11: Investigate novel approaches to repurposing recyclable materials in public works projects, such as adding recycled paving materials. Use materials in public works projects that are compostable, reusable, or recyclable at the end of life

- Should we be naming a certain % goal or target for recyclable materials? Are we limited by feasibility including material storage? **(DP IU-6.1)**
- Can contracts for PW projects with private companies include these requirements? **(DP IU-6.2)**

Action IU-6.1.12: Empower local businesses to adhere to the plastic packaging ban and incorporate returnable/reusable packaging.

- Should we mention the city bringing in sustainability partners like the folks who wash all the cups for different businesses?
- City events provide the returnable/reusable packaging and mandate use of and/or supply returnable/reusable event materials.
- Does this imply some kind of educational materials to businesses?

Action IU-6.1.13: Determine where solid waste will be hauled once the Redwood Landfill is closed in 2036.

Goal IU-7: Zero-Emissions Waste Operations

The City's waste management program has drastically reduced its operational emissions and is on track to eliminate such emissions entirely by 2030.

Goal IU-7 Discussion Points:

DP IU-7.1: Goal Metrics

Should we be setting targets for implementation of waste management practices and/or adoption by customers?

DP IU-7.2: Contract Negotiations

For contracted operators providing waste services, how specific do we get in GP about negotiations? Worth including more aspirational goals we want to push these operators towards?

Policy IU-7.1: Promote composting within City limits

Promote processing and reuse of organic waste within City limits.

Action IU-7.1.1: Support the development of composting facilities within or adjacent to City limits.

- Goals around number or % of businesses and/or residences participating? **(DP IU-7.1)**

Policy IU-7.2: Prioritize maximum reuse and recycling of materials

- Can we include discussing circular energy waste management during contract negotiations with existing waste management companies and operators **(DP IU-7.2)**

Prioritize recycling service contracts that reduce emissions and maximize reuse and recycling of materials.

Action IU-7.2.1: Explore the feasibility of local anaerobic digestion or other circular energy facility.

- Explore local/regional biochar facilities

Action IU-7.2.2: As waste management vehicles are decommissioned, replace them with zero emissions or renewable fuel alternatives.

- should this be under Goal 8?
- requirements in contracts with waste management operators? **(DP IU-7.2)**

Goal IU-8: Renewable and Resilient Energy

The community uses resilient, renewable energy sources.

Goal IU-8 Discussion Points:

DP IU-8.1: Defining "100% from Fossil Fuel Alternatives"

Need to be clear if references to meeting 100% of energy needs from fossil fuel alternatives refers to onsite generation via fossil fuel alternatives or sourcing all-electric from a provider like Sonoma Clean Power that uses fossil fuel alternatives. On-site generation for city and all projects is infeasible with current solar and wind technology.

DP IU-8.2: Utility Underground Goals

How can we set stronger goals for undergrounding utilities and is that realistic given reliance on PGE?

Policy IU-8.1: Encourage renewable energy sources

Encourage the use and development of renewable or otherwise nontraditional sources of energy.

Action IU-8.1.1: Participate in state and lead local efforts to develop appropriate policies and review procedures for the institution of renewable energy sources such as solar, wind, geothermal, and hydroelectric power.

Action IU-8.1.2: Implement green building codes to encourage the use of alternative building materials and methods.

- What are "green building codes"? Is this beyond CalGreen?

Action IU-8.1.3: Work with the Petaluma Area Chamber of Commerce, Sonoma Clean Power, and PG&E in encouraging local businesses to undertake energy audits and implement energy reduction improvements.

Action IU-8.1.4: Require all new developments and major renovations to meet 100% of their energy needs from fossil fuel alternatives (e.g., solar panels, etc.).

- Requiring buildout of 100% generation capacity onsite is seemingly infeasible with current technology **(DP IU-8.1)**

Action IU-8.1.5: Provide design guidance for developments of all sizes to meet 100% of their energy needs from fossil fuel alternatives.

- Would this kind of guidance be located in Green building codes referenced above?
- Implying on-site generation of all energy needs which seems infeasible depending on project size

Action IU-8.1.6: In line with the Climate Emergency Framework adopted in 2021, ensure all City operations rely on non-fossil fuel energy sources by 2030.

- Does this imply 100% **on-site** generation from renewable means? **(DP IU-8.1)**
  - Maybe for city operations have more robust requirements vs. private development.
- Is 2030 realistic?

Action IU-8.1.7: Consider revising zoning and building code requirements to take advantage of

passive solar shading, reducing heating and cooling loads for buildings.

- Is this an example of Green Building Codes?

Action IU-8.1.8: Investigate the use of alternate cooling systems over traditional air conditioning units.

- Either under this action or as a separate action: Natural Strategies to reduce heating and cooling loads
  - Canopy coverage goals of 30% to reduce heat loads. Tree planting on south exposure to reduce heat in summer

Policy IU-8.2: Underground public utility lines

Should we have more requirements for undergrounding public utility lines and should there be tangible goal-setting? **(DP IU-8.2)**

Pursue the undergrounding of public utility lines wherever appropriate, in high fire risk areas, conversion of overhead lines to underground in conjunction with public and private projects.

Action IU-8.2.1: Collaborate with other public and private entities to explore cost- and time-efficient alternatives to traditional trenching of utilities.

- Work with PGE to underground X% of electric utilities?
- Start with all NEW development needs to underground
- Develop a priority list of important streets for undergrounding utilities.
- Maintain accurate maps of underground infrastructure in coordination with PGE

Goal IU-9: Broadband Infrastructure

Everyone who lives, works, and studies in Petaluma has access to infrastructure that lets them communicate with individuals and institutions from the local to the global level.

Policy IU-9.1: Plan for the highest technology

Plan for the highest and best level of technology available given the purpose of the service, the ability to provide that service, and fiscal feasibility.

Action IU-9.1.1: Reassess the existing compensation structure for the use of the City right-of-way for communication systems.

Action IU-9.1.2: Provide public Wi-Fi at all public facilities and urban cores, as well as within walking distance of areas in the City without reliable Internet.

Action IU-9.1.3: Assess residents' access to and use of the internet.

Policy IU-9.2: Anticipate changes in technology

Anticipate, plan for, and adapt to changes in technology.

Action IU-9.2.1: Develop a telecommunications infrastructure that can adapt to advances in technology and is not dependent on any single medium or provider.

Action IU-9.2.2: Expand as necessary to ensure that adequate spectrum capacity is maintained for emergency management and disaster response services.

Action IU-9.2.3: Encourage the creation of public and private teleconferencing facilities.

Action IU-9.2.4: Encourage new industrial and business development to incorporate the highest level of electronic communication technology available.

Action IU-9.2.5: Encourage new residential development to provide for the maximum reasonable bandwidth connectivity to each unit.

Action IU-9.2.6: Consider amending City standards to ensure the highest level feasible of media is provided to new and existing development.

Action IU-9.2.7: Support County efforts to work with the technology industry and local media provider(s) to expand the service levels and growth potential in the community to obtain 100% geographical access. Consider participating in efforts to create a government-run broadband utility to serve areas overlooked by private vendors.

Policy IU-9.3: Ensure equitable internet access

Ensure equitable access to high-speed internet and telecommunications.

Action IU-9.3.1: Assess whether existing programs to offset the costs of in-home internet service are sufficient to meet the needs of lower-income households.

Action IU-9.3.2: Collaborate with partners such as the Sonoma Economic Development Board to supplement programs that support broadband access for lower-income households.

Action IU-9.3.3: Support the Sonoma County Library in offering laptop and hotspot kits for checkout to the public.

Goal IU-10: Resilient High-Speed Internet

Even during emergencies, the City and its inhabitants have access to redundant and resilient telecommunications systems.

Policy IU-10.1: Connect new developments

Ensure new development has adequate access to emergency telecommunications.

Action IU-10.1.1: Consider adopting requirements that all new telecommunication infrastructure include backup power systems to ensure continued operability during emergencies.

Action IU-10.1.2: Consider adopting an ordinance that requires all new subdivisions and multi-family housing developments to include access to hard-wired internet access.

Policy IU-10.2: Upgrade existing infrastructure

Enable existing infrastructure to upgrade and maintain resiliency.

Action IU-10.2.1: Collaborate with existing telecommunication providers to streamline and increase the speed of resiliency upgrades to the City's existing telecommunication systems.

Notes

[1] The Flood Resilience and Land Use policy frameworks will be released after the other frameworks. These Frameworks relied on the development of a comprehensive update to the City's floodplain model, which was completed in late 2023.
[2] Environmentally responsible and resource-efficient planning, design, construction, operation, maintenance, renovation, and demolition of buildings
[3] Techniques to increase water infiltration, reduce runoff, and improve water quality
[4] The protection of workers' rights and livelihoods while economies are shifting to sustainable production, combating climate change, and protecting biodiversity
[5] The management of trees in urban settings
[6] The system of streets, walkways, trails, and railroads used to move goods and people
[7] The ease of reaching destinations by people of all abilities
[8] Public space that is open and accessible to the general public, including roads, trails, public squares, and parks
[9] Communication and coordination among local government and Native American Tribes
[10] Creating opportunities for every person to have a dignified, productive, and creative life