

WaterSMART:

Water Recycling and Desalination Planning

NOFO: R23AS00076

The Town of Windsor

RECLAIMED WATER EXPANDED USE FEASIBILITY STUDY

Prepared For:

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February 28, 2023

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EXECUTIVE SUMMARY

Date: February 28, 2023

Applicant Name: Town of Windsor, Public Works Department, Wastewater Reclamation Facility

City, County, State: Town of Windsor, Sonoma County, CA

Application Type: Funding Group I

Project Summary. The Town of Windsor (Town), located in Sonoma County, California, with a population of 29,397, is requesting \$249,866 to conduct a feasibility study for a critical expansion of reclaimed water use and to increase its capacity to produce and store more recycled water while ensuring that it has the infrastructure necessary to efficiently produce tertiary-treated recycled water for beneficial reuse. The proposed study will evaluate the cost, system assessment, and feasibility of 1) consolidating the Sonoma Water's Airport-Larkfield-Wikiup Sanitation Zone Treatment Plant (ALWSZ) with Windsor's Water Reclamation Facility (WWRF) to increase the Town's recycled water reliability, storage, and supply, 2) expanding Windsor's recycling water system to the Sonoma County Regional Airport irrigation area, and 3) Phase One aeration basin upgrades to manage increasing flows from ALWSZ. A completed feasibility study that meets Bureau of Reclamation (BOR) WTR 11-01 requirements will position the Town to secure future BOR WaterSMART grant funding for design and construction. With the extra storage made available in combination with the increased flows through consolidation of Sonoma Water's ALWSZ Treatment Plant, the Town anticipates approximately 1,000 AFY of additional water would be made available for new and increased recycled water use. This proposed project is critically important to position the region with sustainable water sources as it grapples with diminishing supplies in the face of recurring drought and climate change.

Project Timeline. The Town is ready to begin the project immediately following the execution of the grant agreement, which is estimated to be October 2023. The Project can be completed within 24 months, with an estimated completion date of October 2025, and the grant closeout will be completed within the required performance period.

Federal Facility. The proposed project area is not located within a Federal facility. The treatment, reclamation, and disposal facility is permitted under RWQCB Order No. R1-2020-0010, National Pollutant Discharge Elimination System Permit No. CA0023345, and WDID No. 1B82037OSON. The permit allows the Town to provide recycled water for irrigation of rural pasture, crops, and vineyards and of parks, playgrounds, and commercial and residential landscaping inside Town limits, including permitted discharge to Geysers Geothermal Project for re-injection to create steam for green energy production, agricultural irrigation outside the Town limits, urban landscape irrigation within the Town limits, and, on a limited scale, toilet flushing at two sites near the wastewater reclamation facility.

Project Location - Town of Windsor. The Town of Windsor is located in northern California, in Sonoma County, immediately adjacent to Highway 101 between Santa Rosa and Healdsburg, 63 miles northwest of San Francisco, and 32 miles east of the Pacific Ocean. The Town was incorporated as a general law City in July 1992 and has a current population of approximately 29,397, according to the 2020 U.S. Census Bureau. Windsor is known as a family-friendly

destination, with a downtown area featuring many restaurants and shops, parks, and open spaces, including the 4.5-acre Town Green, and frequent community events and activities. Windsor draws visitors from around the world to enjoy the area's extraordinary natural beauty, top-notch lodging, and abundance of world-class wineries. Windsor was named one of California's "Most Charming Towns of 2022" by the travel website Strategistico. The Town's potable water source is the Russian River, which flows two miles to the west in a north-south direction. State Highway 101 cuts through the center of the town in a northwest-southeast direction. The Town is located at the north end of the Santa Rosa Plain Groundwater Basin, in the Russian River watershed, as shown in **Exhibit A. Project Location Map**.

Three major reservoir projects provide water supply for the Russian River watershed: Lake Pillsbury on the Eel River, Lake Mendocino on the East Fork of the Russian River, and Lake Sonoma on Dry Creek. Lake Mendocino and Lake Sonoma provide water for drinking water, agriculture, municipal and industrial uses, and maintain the minimum stream flows required by SCWA water rights permits. These minimum stream flows provide recreation and fish passage for salmon and steelhead. Streamflow in the Russian River during the summer is provided by releases from Lake Mendocino and Lake Sonoma, augmented by water imported from the Eel River. Since 1984, the Town's potable water supply has been provided primarily from water extracted at its Russian River Well Field under a Sonoma Water Russian River water right and a connection to Sonoma Water's aqueduct from which the Town purchases wholesale water. The watershed is extremely vulnerable to drought, especially in recent years. The decommissioning of the Potter Valley Project resulted in significantly reduced diversions from the Eel River, putting storage at Lake Mendocino at risk. Lake Sonoma provides only 2-3 years of water storage. Despite recent atmospheric rivers in the 2022-2023 wet season, these water stores are unreliable, and the region must always be prepared to respond to the risk of water scarcity.

Town of Windsor Water System. The Town receives all its potable water supply from the Russian River and serves approximately 9,000 residential, commercial, construction, and landscape irrigation connections in the Town and surrounding areas. The Town has five million gallons of potable water storage tank capacity to serve its primary pressure zone. A one-million-gallon tank and a two-million-gallon tank (Lakewood Hills 1 and 2) are located in the northeastern part of the Town, and two one-million-gallon tanks (Shiloh Ridge A and B) are located off of Shiloh Ridge Road in the hills east of



Figure 1. The Russian River near Windsor.

the Town. Additionally, three small pressure zones supply homes southeast of Windsor in the Shiloh Estates and Mayacama subdivisions. These subdivisions in unincorporated areas are provided water service by the Town through outside service area agreements. Currently, no wells or storage tanks are serving the Sonoma County Airport Service Area. The Town operates four pump stations in the Shiloh Estates subdivision east of the Town. 100% of the Town's

potable water is from surface supplies. Those supplies are threatened due to drought and climate change. Any expansion of recycled water use will have a direct reduced impact on the demand for potable supplies derived from the Russian River, which will benefit not only the Town but all entities that rely on the Russian River as their primary or only water source.

The Town owns and operates a wastewater treatment system that produces and supplies disinfected tertiary reclaimed water. Currently, approximately one-third of the tertiary treated water is reused in recycled water applications, one-third is sent to the Geysers for energy production, and one-third is discharged to Mark West Creek, an impaired water body. As such, the Town is in an excellent position to expand the quantity and beneficial uses of its valuable recycled water production capabilities. A feasibility study will pre-position the Town to move in that direction. The Town's water reclamation permits enable it to provide recycled water for irrigation of rural pasture, crops, and vineyards and non-potable use on in-Town parks, playgrounds, and commercial and residential landscaping. The Town's Water Reclamation Plant has a capacity of 2.25 million gallons per day (mgd), although current storage and/or total recycled water capacity limits the average dry weather flow to 1.9 MGD per Chapter III Section H of the current NPDES Permit. The current Water Reclamation Plant provides advanced wastewater treatment and has design capacities of 2.25 mgd, average dry weather flow (ADWF), and 7.2 mgd, peak weekly wet weather flow. The wastewater treatment facilities include biological secondary treatment utilizing extended air-activated sludge aeration basins and secondary clarifiers; advanced wastewater treatment (AWT) that includes chemical addition facilities, flocculation tanks, AWT clarifiers, and sand filters; ultraviolet (UV) disinfection; and, storage prior to reclamation and/or disposal. Six ponds provide 145 MG of storage capacity for the Town's advanced treated, UV-disinfected effluent. Two additional ponds provide an added 18 MG of high-flow storage volume when influent flows exceed the treatment capacity of the treatment plant. This combined storage volume of 163 MG is designed to handle an ADWF of up to 2.25 mgd. The effluent storage ponds allow the Town to balance influent flows with recycled water demand and its ability to discharge to receiving waters in compliance with discharge requirements. Please see Exhibit B. Service Area Map.

PROJECT DESCRIPTION

Applicant Category. Funding Group I

Applicant Eligibility. The Town, a municipal city in California, owns and operates The Windsor Water District (WWD), which serves as the water provider within the municipality's water service area.

Goals And Objectives. The overarching goals of the proposed feasibility study include identifying the best alternatives to increase its capacity to produce and store more recycled water and expand the distribution of tertiary-treated recycled water for beneficial use. The Town will procure a qualified and experienced consultant to lead and conduct a comprehensive feasibility study to determine the feasibility of the following projects:

a. Consolidation of Sonoma Water Treatment Plant into Windsor. Conduct a full feasibility analysis to determine true costs, assumptions, and system assessment for consolidating the ALWSZ. Consolidation would allow the region access to 500+ AFY of water to expand its recycled water service and increase recycled water storage

- availability to the Town, increasing recycled water storage availability and ensuring that recycled water can be provided to areas, including the airport irrigation area. Windsor would be able to recycle 100% of the WWRF flow during average, dry, and some wet years. This information will also be used to inform the Aeration Basin Project.
- b. **Expansion of the Recycled Water System to the Airport Irrigation Area**. There is the potential for approximately 400 acre-feet of direct, measurable potable water offset through this expansion project. The study will update project assumptions in preparation for the design phase.
- c. Aeration Basin Project. A feasibility study will assess the technical, economic, and environmental costs and assumptions needed to upgrade Windsor's Water Reclamation Facility (WWRF) plant facilities to manage increasing flows from population growth and potential absorption of the ALWSZ and increase the reliability of continuing to produce tertiary treated recycled water for non-potable reuse. However, the Town needs additional funding for feasibility and design to incorporate ALWSZ flows. The study will identify potential technologies to increase recycled water service from the existing aeration basin system and improve overall performance.

Description of Project Approach. The Town of Windsor requests BOR WaterSMART funding to conduct the Reclaimed Water Expanded Use Feasibility Study. The Town will procure a qualified and experienced consultant to conduct the feasibility study. The Town will use the results of this study to develop a plan for implementing these projects, as well as strategies for financing them. This feasibility study will assist the Town in meeting its recycled water program goals identified in its 2020 Recycled Water Storage and Use Study, including 1) maximizing recycled water use, 2) reducing discharge to Mark West Creek, 3) pursuing reliable/adaptable disposal options, 4) maintaining permit compliance, 5) demonstrating fiscal responsibility, and 6) developing regional partnerships as appropriate. The study will meet the Bureau of Reclamation (BOR) WTR 11—01 requirements and position the Town to secure future BOR WaterSMART grant funding for design and construction.

This feasibility study is also part of the Town's broader commitment to sustainability, water conservation, climate change adaptation, and water reuse efforts. By investing in sustainable infrastructure projects and pursuing innovative approaches to recycled water storage, the Town seeks to ensure a reliable supply of recycled water that meets regulatory requirements while protecting its natural resources. By working with its community partners and stakeholders, the Town plans to create a shared vision for water conservation, reuse, and sustainability that will serve as a model for other local municipalities. Ultimately, this planning grant gives the Town an opportunity to take meaningful steps toward ensuring its future water security. With comprehensive analysis and strategic planning, the Town is poised to become a leader in sustainable water management practices. In partnership with the Bureau, the Town of Windsor can become a model for other agencies and small municipalities to follow in investing in cost-effective recycled water projects to increase water supply sustainability.

EVALUATION CRITERIA RESPONSES

Evaluation Criterion 1: Project Planning and Analysis (30 points)

Subcriterion 1.A. Water Recycling Needs and Opportunities (15 points). Extreme and recurring drought conditions threaten the Town of Windsor's current and future water sources. The Town (ten percent of which is considered a disadvantaged community) must reduce its reliance on the Russian River and safeguard the community's sustainable access to adequate quantities of quality water by securing additional off-river water supplies to offset potable water use. Recycled water is a reliable, sustainable source of water that can protect valuable urban green spaces and meet other water needs so that potable water is available to support health and human safety.

Sonoma County and the Town of Windsor are grappling with persistent drought conditions, devastating wildfires, and water supply vulnerability as a result of climate change. Since the beginning of 2020, conditions have ranged from "Abnormally Dry" to the crisis level of "Exceptional Drought." The region has been relentlessly impacted by fires, including the 2019 Kincade Fire, which directly impacted Windsor and required the entire Town to be evacuated. Despite heavy rains in January 2023, long-term drought indicators show no relief for the Town of Windsor, with severe to extreme drought conditions predicted for years to come (https://drought.gov). As drought conditions persist, drinking water from the Russian River—fed by Lake Sonoma and Lake Mendocino sources—is in question. Both lakes have recently been at historically low levels. In November 2021, Lake Sonoma was at 49.1% of supply capacity, and Lake Mendocino was at 32.6% of supply capacity. Please see Exhibit C. Windsor's Current Drought Classification.

Town of Windsor Water Sources. The Town's primary source of drinking water is surface water diverted at the Russian River Well Field (Well Field). The Well Field is Town-owned; however, water pumped from the Well Field is diverted under Sonoma Water's surface water rights. Typically, Windsor uses approximately 3,200 acre-feet per year of water from the Well Field, comprising approximately 85% of the Town's total drinking water supply. The Russian River well field was established in 1984 and includes five Windsor-owned production wells. These wells are relatively shallow and pull the Russian River underflow through layers of gravel and sand as a natural filtration system. The remaining 15% of Windsor's drinking water supply is derived from wholesale surface water purchased from Sonoma Water, which is also diverted directly from the Russian River, a few miles downstream from the Town's river wells. Sonoma Water is a partner in managing two reservoirs on the Russian River for flood control and water supply, Lake Sonoma and Lake Mendocino. Sonoma Water determines the amount of water released from each reservoir when the lake levels are in the water supply pools. The U.S. Army Corps of Engineers (USACE) determines the amount of water to be released when the lake levels are above the water supply pools and in the flood control pools. The Russian River is rain-fed and dependent on precipitation events rather than snowmelt. Lake Sonoma and Lake Mendocino also rely on year-to-year rainfall to support adequate levels to allow for water releases to support Russian River flows. The Town of Windsor's dependency on these three water sources means the residents are extremely vulnerable to drought.

The Town of Windsor's 2020 Urban Water Management Plan (UWMP) addresses climate change and its immediate and growing threat to the Town's water system. Windsor is most susceptible to more extreme hot days, more frequent and intense droughts and wildfires, and a greater risk of extreme floods. The Town must find alternative water sources to meet a portion of future demands, particularly in drought conditions. Reclaimed water is more important than ever as its use in California will become increasingly vital to offset potable water availability. Windsor is well-positioned to expand its reclaimed water production and use. A planning initiative and feasibility study will advance this effort.

Climate Change Impacts on Water System. The Town's 2020 UWMP addresses climate change and its immediate and growing threat to the Town's water system. Windsor is most susceptible to more extreme hot days, more frequent and intense droughts and wildfires, and greater risk of extreme floods. The primary risks associated with climate change on the Town's water supplies are related to increased dependence on groundwater by urban areas and agriculture. The Town is planning on the use of off-river groundwater supplies to meet a portion of future demands, particularly in drought conditions, and this supply will become increasingly important over time.

Changes in the Sierra snowpack are not expected to directly affect the Town's water supply as the Russian River is not driven by springtime snowmelt and use of snowpack as water storage. However, changes in the snowpack water storage and runoff timing could indirectly impact the Town by affecting the overall statewide demand for water. Impacts from the variability in precipitation predictions cannot be evaluated at this time, but decreases in precipitation will result in decreased Russian River runoff, directly affecting the Town's main water source, perhaps leading to increased future water shortages.

Windsor is in the midst of a "Moderate Drought." As drought conditions persist, increased water restrictions will continue to reduce the availability of water supplies through currently utilized Russian River, Lake Sonoma, and Lake Mendocino sources. As water levels in the Town's waters sources decrease, additional state-mandated water restrictions can be expected. The Town has suffered from ongoing drought since 2020, increasing the threat of wildfire and impacting water supplies. Furthermore, mechanical failures at the Potter Valley Project have diminished water diversions to the Russian River by almost 85%. This could substantially diminish inflow to Lake Mendocino by approximately 8,000 acre-feet, severely impacting water supplies. Regulatory droughts to protect endangered wildlife further constrict the Town's water supply. Wildfires can threaten the Town's water supplies by adversely affecting the quantity and quality of available water.

Other potential impacts on supplies due to climate change were reported in the Town's *Climate Action 2020 and Beyond* Report (RCPA, 2016). These include 1) Surface water shortages from more frequent and intense droughts; 2) Increased pumping of groundwater leading to well failure and degraded water quality; 3) Increased evapotranspiration from open water sources and reservoirs; 4) Risk of lost connections to energy and water from more frequent and intense wildfires; and 5) Less predictable reservoir operation from extreme floods.

Planning Activities. The proposed project will investigate expanded potential uses for irrigation (airport, farms, parks, schools, greenways, groundwater recharge, and the Geysers Geothermal Project). This priority Project is supported by and meets the goals of the Town's 2020 Urban Water Management Plan (UWMP), 2013 Urban Recycled Water Facilities Planning Study, and 2001 Water Reclamation Master Plan. These documents represent an overarching priority of water conservation, reliability, treatment, storage, and **reuse** in the Town of Windsor.

Town of Windsor 2020 Urban Water Management Plan. The Town's UWMP provides detailed information on water supplies, water demands, and management for the Windsor Water District's water utility, and is intended as a planning tool for long-term supply and resource management. A thorough description of the current system is provided and discussed in terms of capacity and reliability.

Town of Windsor 2020 Recycled Water Use and Storage Study. In 2020, the Town expanded its earlier 2013 Urban Recycled Water Facilities Planning Study plan to evaluate the Town's existing recycled water system and define a path forward based on recycled water goals established by the Town Council and memorialized in the Master Plan.

Town of Windsor 2019 Water Reclamation Master Plan. The Town of Windsor 2001 Water Reclamation Master Plan was prepared to provide a comprehensive description and background for the phased implementation of the Town's adopted Water Reclamation Master Plan. The Master Plan was adopted by the Town Council to meet wastewater treatment, storage, and reclamation needs to serve the Town through projected build-out. In 2019, the Town updated the plan to inform the upcoming Financial Plan and Rate Study, update demand and supply projections ahead of the Airport Area Specific Plan Water Supply Assessment, and line up demands and supplies ahead of the mandated 2020 Urban Water Management Plan.

Water Sources. The Town collects its wastewater and treats it to disinfected tertiary levels at its Wastewater Reclamation Plant. The wastewater treatment plant is designed with a capacity of 2.25 million gallons per day (MGD) average dry weather flow and 7.2 MGD peak weekly wet weather flow. The entire reclamation system consists of the treatment plant, storage ponds, a discharge point to Mark West Creek (MWC), and a distribution system. The beneficial uses of the Town's recycled water include delivery to the Geysers Geothermal Project for re-injection to create steam for green energy production, agricultural irrigation outside the Town limits, urban landscape irrigation within the Town limits, and, on a limited scale, toilet flushing at two sites near the wastewater treatment plant.

As described in the Town's *Recycled Water Storage and Use Study* (Woodard & Curran; Brelje & Race, 2020), the Town's wastewater collection system consists of 94 miles of public sewer lines, one mile of private branch sewers, 1,728 manholes, 525 cleanouts, and approximately 6,100 private sewer laterals. Over 90% of the wastewater flow reaches the treatment plant entirely by gravity flow. The remainder requires two lift stations to convey it to the plant. These stations, owned and operated by the Town, are located at Vintage Greens and Shiloh Greens. All wastewater collected into the system is treated to a tertiary level and is appropriate for use as non-potable recycled water. An estimated 1,643 AF of wastewater was collected by the

treatment plant in the calendar year 2020. The Town's Recycled water distribution system consists of six recycled water storage ponds with a combined volume of 145 MG (441 AF), two separate pump stations, one for urban and agricultural recycled water customers and one for distribution to the Geysers pipeline, and 17.3 miles of distribution pipeline.

Of the 1,825 acre-feet collected of the Town's recycled water in 2020, 208 AF were discharged to Mark West Creek, 1,064 AF were recycled within the Town's potable water service area, and 540 AF were recycled outside the potable water service area, leaving a 13 AF remaining in storage for the new year. The recycled water within the service area is used for the golf course and landscape irrigation, institutional use (i.e., high school and fire department), for maintenance of the wastewater treatment plant. Recycled water outside the service area is discharged to the Geysers pipeline for geothermal use and agricultural irrigation outside the Town's service area. The Town distributes this water for agricultural and urban irrigation, the Santa Rosa Geysers Recharge Project (Geysers), and a small amount for toilet flushing for Windsor High School and a Town fire station. Of these beneficial uses, a portion of the recycled water use offsets potable water demand. The recycled water directed to agricultural fields and to the Geysers, though beneficial, does not offset the Town's potable use and is utilized outside of the Town's water service area. The Town expects that its contribution to the Geysers Geothermal plant may increase substantially between 2020 and 2025 and then again between 2035 and 2040 based on the agreements between the Town, the City of Santa Rosa, and the Geysers plant.

The Town currently depends almost wholly on surface water supplies obtained directly or indirectly from the Russian River—via the Russian River Well Field or imported surface water from Sonoma Water. The Russian River is a rain-fed river, depending on the timing and magnitude of precipitation events for its flows (unlike snow-fed rivers that rely on Sierra snow melt for seasonal flows). As such, flows in the Russian River, and subsequently, the ability to divert those flows, may be affected by climate change impacts on precipitation which are generally believed to result in shorter periods of more intense flows in the future.

The North Coast Integrated Water Management Plan, Phase III (NCIRWMP) report (NCRP, 2014) assessed climate change vulnerability for regions encompassing the Russian River and its tributaries. A primary conclusion is that climate change could lead to an increased dependence on groundwater. In addition to climate change, the Town can also experience "regulatory droughts." Sonoma Water manages the two reservoirs on the Russian River (Lake Mendocino and Lake Sonoma) and determines the amount of water to be released from each reservoir when the lake levels are in the water supply pools. The U.S. Army Corps of Engineers (USACE) determines the amount of water to be released when the lake levels are above the water supply pools and in the flood control pools. Therefore, surface water supplies to the Town can be limited by ecological regulations, reservoir operations, and rule curves. However, Forecast-Informed Reservoir Operations (FIRO) are being considered for implementation on Lake Mendocino, which could increase the flexibility of reservoir operations, potentially supplementing water supplies and reducing flood risk.

Subcriterion 1.B. Evaluation of Project Alternatives (15 points). The feasibility study will identify alternatives for expanding recycled water use that can be linked to the WWRF and ALWSZ, including 1) take no action alternative; 2) upgrading existing recycled water treatment and distribution system to increase the volume of recycled water available for reuse; and 3) identifying potential new recycled water users and establishing mutual partnerships. The water sources must be safe for use in irrigation and for other approved industrial or other applications, according to the standards set by Title 22 and the State of California. In addition, the sources must be accessible to the WWRF from an institutional and engineering perspective. The Consultant will evaluate the potential reclaimed water market, including barriers to using water, required permits for completing the project, utilizing reclaimed water upon project completion, and identifying and evaluating feasible alternatives. The study will identify the considerations for airport plant consolidation and its impact on the WWRF, including the aeration basin upgrade and expansion of the recycled water system out to the airport irrigation area, which has already been identified as the best next phase for recycled water expansion.

Project Alternative Development. The proposed feasibility study and potential project alternatives will be informed by previous studies, including a previous 2021 Aeration Basin Study and Concept Design Report, which evaluated alternative technologies for the Windsor Water Reclamation Facility (WRF) to comply with effluent limits, including nutrient limits, through the year 2040 (planning horizon year). A conceptual design of the recommended alternative is also provided. This feasibility study will build upon the Aeration Basin Study by including an evaluation of airport flows. Additionally, the Urban Recycled Water Facilities Planning Study targets nine areas to increase the Town's recycled water service. Alternatives to improving the recycled water system and consolidating the ALWSZ with WWRF will be included in the feasibility study. The Consultant will investigate distribution systems and identify potential sites for reclaimed water use along the proposed expansion airport irrigation area site, among other areas that could be supported by the recycled water system expansion. In addition to irrigation uses, the feasibility study will examine the potential for reclaimed water to be used for other industrial applications, potable reuse, groundwater basin recharge, improving flows, and preserving habitats for native species.

Selected Project Description. The regionally significant planning activities will analyze alternatives and assess the feasibility of various ways to expand the quantity and reach of recycled water use. The planning effort will meet all the U.S. Bureau of Reclamation Feasibility studies and will have three primary focus areas:

- Consolidation of Sonoma Water's Airport-Larkfield-Wikiup Sanitation Zone Treatment Plant (ALWSZ) with Windsor's Water Reclamation Facility (WWRF): full feasibility analysis is required for a multi-jurisdiction approach to maximize recycled water benefits.
- Aeration Basin Expansion: Windsor must evaluate the best ways to upgrade the existing
 plant facilities to manage increasing flows from population growth and the potential
 absorption of a neighboring facility, the Sonoma Water Treatment Plant.
- Recycled water system use to airport irrigation area: The Sonoma County Airport currently uses approximately 400 AFY of potable water to sustain green spaces

- surrounding the airport. Additional analysis, updated assumptions, and design work are necessary to advance this beneficial use of recycled water that will have the immediate benefit of "freeing up" significant amounts of potable water.
- Other Uses: The study will also evaluate other uses of recycled water, such as farms, vineyards, parks, and greenways.

Project Tasks. The proposed Project will be completed within the 24-month Project performance period. While details regarding specific Project tasks and activities will be refined by the Consultant selected through the RFP process, it is anticipated that Project Tasks will include, but are not limited to, the following activities listed in **Exhibit D. Project Tasks.**

Estimated Project Schedule. The proposed feasibility study will be conducted during a 24-month period ending with a completion date of October 2025. Please see Exhibit E. Estimated Project Schedule.

Permits/Permit Process. No permits or approvals are required to perform the feasibility study.

TOWN OF W	INDSO	R FE	ASIB	LITY	STU	DY			
Project Schedule									
Timeline/Workflow	2023		20	24		2025			
	Q4	Q1 Q2 Q3 Q4				Q1	Q2	Q3	Q4
Award Notification									
Execute Grant Agreement									
RFP Process/Contract Negotiations									
and Approvals									
Grant Project Management									
Kick-off Meeting w/ Consultant									
Consultant Conducts Feasibility Study									
Consultant to Prepare Draft Report									
Consultant to Prepare Final Report									
SF-425 Bi-annual Financial Report									
Administration Reports to BOR									
Final Performance Report to BOR									

Engineering and Design Work. The

proposed Project will include preliminary engineering design work.

Environmental Assessments. The proposed project will include an initial phase of CEQA+ and greenhouse gas (GHG)/sustainability analysis.

Policies and Administrative Actions. By BOR requirements, this Project will require approval of a Resolution by the Town of Windsor Town Council. The Resolution is on the Agenda for the March Town Council meeting. The Town will provide a signed resolution within 30 days of executing a grant agreement.

Evaluation Criterion 2: Stretching Water Supplies (20 points). A 2006 Restructured Agreement between Sonoma Water and the Town commits that by 2036, water contractors shall take steps to reduce withdrawal from Windsor's Russian River wells by at least 7,500 AFY per year, with approximately 50 percent resulting from recycled water projects. Currently, Sonoma Water provides 900 AF from the Santa Rosa Aqueduct and 4,725 AF from Russian River Diversions. Upgrading reclamation facilities can be an effective way to reduce or postpone the need for new or expanded non-recycled water supplies. Reclaimed wastewater is a valuable resource that can be used for multiple purposes, including irrigation, industrial cooling, and offsetting potable water demand. By investing in the latest technologies for treating wastewater, the Town can ensure that reclaimed water meets high standards of safety and quality. In addition to providing a reliable source of clean water, this can also help conserve natural resources by

reducing reliance on fresh groundwater sources. Furthermore, upgrading existing infrastructure can create jobs in local communities while ensuring that public health remains protected.

Potential Water Supply Impacts. The upgraded reclamation facilities will decrease pressure on existing water supplies and facilities. By reusing treated wastewater for non-potable applications, such as irrigation and industrial cooling, the demand for potable water can be lessened. Furthermore, as more water is recycled rather than discharged into rivers or streams, it reduces the loading of pollutants from urban runoff that can compromise aquatic ecosystems. The use of advanced treatment processes also ensures that quality standards are met while providing additional benefits such as reduced energy requirements and cost savings associated with reuse operations compared to traditional methods. All these factors combine to create a much higher value proposition for the project regarding sustainability and environmental stewardship. Potable water demand is projected to increase to 6,258 AFY by 2040, which is a 46% increase over 2020 water demand. Recycled water demand is projected to increase to 2,370 AFY by 2040, an 88% increase over the 2020 recycled water demand. Potable water demand projections are 46% higher than 2015 UWMP projections for 2040, and recycled water demand projections are 47% higher than those projected in the 2015 UWMP for the same year (Windsor, 2021). The Town anticipates an additional 1,000+ AFY of recycled water will be available as a result of this proposed expanded use feasibility study and the projects it leads to.

Water Supply Shortages. The Town of Windsor and most of California are facing an increasing water supply shortage due to drought. The Town is committed to upgrading its reclamation facilities to expand potable and non-potable reuse services and increase storage availability. This feasibility study is an important step in securing sustainable water supplies for the region. Upgrades to the reclamation facilities will help provide a reliable source of recycled water, while also working towards reducing dependence on imported water sources. This will not only benefit local communities but will also help conserve regional water resources and reduce reliance on non-renewable energy sources such as fossil fuels used to transport harvested water. Investing in this critical planning project reflects the Town's commitment to meeting current and future water needs for the region for years to come. The advancements made here serve as an example of how other communities can address their own water challenges.

Water Supply Reliability. The planning for expanding recycled water services and storage capacity is aimed at bolstering the reliability of Windsor's overall water supply. The expanded non-potable reuse services will allow more efficient recycling of treated wastewater into useful products like irrigation water, industrial process water, and drinking water. The additional storage capacity created by these upgrades will provide a buffer against droughts or other periods of low rainfall. This increased water storage can help prevent potential shortages while also providing a reserve in emergency situations. Windsor's renewed commitment to water reliability is an important step forward in the Town's efforts to provide a secure, abundant supply of recycled water. By expanding its wastewater reclamation facilities and upgrading services, the Town can improve its water resiliency and reliability.

Groundwater Depletion. The Town has been experiencing groundwater depletion due to moderate drought (D1) as a result of climate change, population growth, and other factors. In response, the Town is prioritizing this study and subsequent upgrades to its water reclamation facilities to expand recycled water services and storage capacity. These improvements will help to reduce the reliance on diminishing groundwater supplies while providing more reliable and sustainable sources of regional drinking water.

By consolidating the ALWSZ and WWRF and implementing upgrades to its reclamation facilities, the Town can reclaim far more of its wastewater than before. This reclaimed water can be used for various purposes, including irrigation, and industrial processes. By expanding the use of reclaimed water, the Town can reduce its dependence on groundwater supplies and help conserve this valuable resource. Construction projects based on the feasibility study's recommendations will also allow for greater storage capacity of recycled water, which is essential during periods of drought or other emergency situations. This increased storage will provide a reliable water source when needed and reduce the need to tap into diminishing groundwater reserves. With these improvements in place, the Town will be better prepared to manage its water needs even under extreme conditions.

Water Quality Issues. Expanding Windsor's reclamation facilities will aid in addressing water quality issues by providing additional non-potable reuse services and storage. Increased capacity will enable the Town to store reclaimed water for use during periods of low supply or high demand, reducing the need to rely on more expensive alternatives, including imported water. Additionally, introducing advanced treatment processes that further purify and disinfect reclaimed water can provide a higher quality product that is safe for use in meeting non-potable demands. Since treated wastewater is already free of many contaminants, technological advances can ensure even greater safety and protection against potential health risks. By investing in identified infrastructure improvements, Windsor will be better equipped to ensure clean, recycled water for years to come.

WWRF has recently undertaken a project to upgrade its aeration basins. These upgrades are designed to improve water quality by addressing effluent and influent flows in accordance with state-mandated regulations. The upgraded secondary treatment system ensures that wastewater is properly treated before being released into local waterways and minimizes pollutants from entering the environment. These changes not only ensure compliance with environmental standards but also provide a healthier ecosystem for wildlife and people in Windsor and beyond. The goal of these upgrades is to create an overall cleaner environment and preserve natural resources by reducing the amount of contaminants in local waterways. Making these upgrades to the aeration basins is just one step forward in improving water quality and creating a better environment for everyone. The improved infrastructure will ensure that Windsor can continue to adhere to environmental standards while preserving natural resources.

Combatting Wildfires. The Town is extremely vulnerable to rising temperatures and increasing occurrence of wildfires. Recycled water and subsequent additional water storage will be critical to ensuring the Town has an adequate firefighting supply if water systems are damaged during the fire.

Potential for Addressing Drought. By upgrading Windsor's reclamation and treatment facilities, the Town helps create additional flexibility for water resources to be utilized during droughts. These improvements enable more efficient management of stored water reserves and allow changes to be made more quickly in response to drought-related challenges. Reclamation facilities provide an important source of supplemental water that can help ensure a reliable supply during dry periods when other sources may not be available. Upgrades also allow for greater control over the quality of reclaimed water, reducing risks associated with its use. With the additional flexibility created by these improvements, it is possible to increase resource efficiency and conserve valuable supplies even during times of drought. Ultimately, this will help create a secure water future for Windsor and the region. Furthermore, investing in reclamation consolidation and upgrades can also reduce the need for water transfers during dry periods. By improving the efficiency of existing infrastructure, there is potential to reduce pressures on the Russian River watershed and ensure that resources are prioritized for local use first. These improvements not only benefit Windsor but can also contribute to a sustainable regional water management strategy. Through thoughtful planning and investments in reclamation facilities, it is possible to create additional flexibility to address drought conditions and improve long-term water security.

Evaluation Criterion 3: Environment and Water Quality (20 points). Upgrading reclamation facilities is a key step to improving the quality of surface water or groundwater. With advances in technology, these upgrades can help reduce pollutants and contaminants that pose safety hazards in both water sources. For example, new filtration systems can be installed to capture sediment, oils, and other pollutants before they enter the water source. Advanced treatment processes such as reverse osmosis can also be used to remove any remaining contamination from the water. Additionally, upgraded infrastructure such as pumps and pipes can help circulation and distribution of treated water back into the environment. Altogether, these improvements will have a positive effect on local ecosystems by providing cleaner sources of drinking water for wildlife and humans alike. Ultimately, upgrading reclamation facilities is essential to protect surface water and groundwater from degradation. It is an important step to ensure the long-term safety and quality of our precious water resources.

Potential to Improve Effluent Quality. Windsor's reclamation upgrades identified in the proposed study have the potential to greatly improve effluent quality beyond current State and Federal discharge requirements. These upgrades can provide additional environmental benefits, such as improved water quality in rivers and streams, cleaner air, and reduced runoff of pollutants into local waterways. The upgraded facilities will help to protect public health by reducing exposure to contaminants from untreated wastewater. Additionally, with bettertreated wastewater released into the environment, aquatic life is supported more robustly, including a wider variety of native plants that rely on nutrient-rich waters for their growth.

Thus, Windsor's reclamation upgrades have the potential to bring about a wide range of positive effects on both the environment and human health.

Potential to Improve Flow Conditions in Natural Stream Channel. The resulting projects culminating from the proposed feasibility study could expand reclaimed water use, thereby keeping more water in the Russian River and improving flow conditions. By eliminating the discharge of treated wastewater and reducing water temperatures, nutrient loading to the river can be lessened, which improves water quality and aquatic habitat and supports a wider variety of species. Windsor's reclamation projects are essential for maintaining and restoring the health of stream channels and their ecosystems in the area. By improving flow conditions, these projects will advance a long-term sustainability plan for the region.

Potential to Restore or Enhance Non-Listed Fish and Wildlife Species Habitats. Windsor's reclamation upgrades and consolidation of the Sonoma County Water Treatment Plant present a unique opportunity to restore or enhance habitats for non-listed fish and wildlife species in the Russian River. These projects can improve water quality by reducing nutrient loading, increasing dissolved oxygen levels, and providing essential habitats for threatened species. The upgrades can also help to reduce sedimentation caused by upstream development, which can be damaging to aquatic life. Additionally, these projects could increase riparian vegetation along the river banks, providing shade from summer temperatures and essential food sources for wildlife species. By investing in these projects, the Town is taking an important step towards protecting endangered fish and wildlife in our region. With the potential to improve water quality, provide suitable habitats, and increase food sources for non-listed species, Windsor's reclamation upgrades and consolidation of the ALWSZ are critical investments in the local and regional environment. The Russian River is federally identified as an impaired water body for nutrients and sediment. Achieving 100% recycled water means that there is zero discharge from the WWRF, eliminating Windsor's nutrient contributions to the river.

Potential to Provide Water or Habitat for Federally-listed Threatened or Endangered Species. Local wildlife protection plays a crucial role in water availability for the Town of Windsor. Water releases from Lake Mendocino support flows in the Russian River for the threatened Chinook salmon and Steelhead trout during the fall and winter seasons. Lake Sonoma supports a dynamic and fragile ecosystem in Dry Creek that includes the endangered Coho salmon and threatened Steelhead trout. When tributary stream flows are low, Sonoma Water releases water stored in the reservoirs to supplement the natural flows in the Russian River to provide adequate flows for aquatic habitat. State Water Resources Control Board mandatory minimum streamflow requirements exist for these watercourses. This results in "regulatory droughts" where water exists in Lake Sonoma, but extraction for municipal uses is restricted to protect wildlife. Additionally, wastewater management can serve as a tool for enhancing water quality within the river system, helping ensure healthy environments that can support diverse aquatic species, including those listed under federal protection guidelines.

Evaluation Criterion 4: Department of the Interior Priorities (15 points)

Climate Change. Upgrading wastewater reclamation facilities can have a positive effect on the environment by reducing water waste and addressing climate change. Increased recycled services enable more efficient wastewater reuse, reducing the strain on natural resources. By conserving precious resources such as water, energy, and other raw materials, this initiative will help reduce the amount of carbon dioxide released into the atmosphere, an important factor when considering global warming and its effects on our environment. Moreover, recycling wastewater can help reduce pollution in rivers and streams by eliminating the need to treat heavily polluted waters. The resulting clean water can then be used for irrigation or agricultural purposes. This reduces fertilizer runoff that would otherwise pollute waterways and decrease our marine life populations. Furthermore, utilizing reuse of treated wastewater can help save costs associated with providing additional freshwater sources while reducing risks associated with environmental hazards like floods or droughts.

Increasing water storage helps to capture stormwater runoff, which can then be reused for irrigation or other applications. Additionally, stored water from reclaimed sources can help reduce flood risks caused by extreme weather events. By increasing the amount of recycled water available and capturing stormwater, these upgrades not only decrease emissions but also reduce the demand for energy required to continually process new supplies of freshwater. Ultimately, upgrading wastewater reclamation facilities is an important step in protecting our planet's precious natural resources and combating the effects of climate change.

Water Supply Sustainability. One of the most effective ways to improve climate change resiliency is by making upgrades to wastewater reclamation facilities, which will allow for an increase in recycled services. The primary benefit associated with this action is that it allows for a greater amount of water reuse and recycling, thereby reducing the demand for imported water sources. Additionally, this approach can help conserve energy and prevent runoff pollution from entering our water sources. This can be especially important in areas where the water supply is limited or otherwise vulnerable to contamination.

By utilizing efficient technologies, the Town can ensure that the quality of reclaimed water remains high enough for use in irrigation and other non-potable applications. Not only does this provide a cost-effective alternative to utilizing recycled water, but it ensures that a greater percentage of the available water supply is being used for its intended purpose. Furthermore, this approach can increase water availability by reducing evaporation and storage costs associated with rainwater catchment systems. Making upgrades to wastewater reclamation facilities can be an important part of improving climate change resiliency by allowing for increased recycling services and better utilization of existing resources. This not only aids in conserving energy and preventing runoff pollution but also provides a cost-effective alternative to conserving water resources.

Disadvantaged or Underserved Communities. By investing in reclamation consolidation and upgrades, Windsor is helping to ensure clean water for all its citizens regardless of their economic status or background. This is critical because wastewater can contain various contaminants potentially harmful to human health if not properly treated. The upgrades will

allow for more efficient and effective treatment processes, ensuring that only safe and clean water is released into the environment. Additionally, this investment will help create jobs and stimulate local economies by bringing new technologies into play while providing employment opportunities for residents. This ultimately leads to increased financial stability and improved quality of life for disadvantaged communities. Reclaimed water will sustain urban green spaces and help keep potable water rates lower. These upgrades are an essential part of Windsor's commitment to providing equitable access to clean water and a better quality of life for all its citizens.

Ten percent of Windsor's population is identified as disadvantaged or severely disadvantaged based on low-income levels. Despite its picturesque setting in Sonoma County wine country, several factors contribute to Windsor's disadvantaged status. One of the primary challenges facing Windsor is poverty. According to the US Census Bureau, the poverty rate in Windsor was 4% in 2020. This means that a portion of the population struggles to make ends meet and may not have access to basic resources and services. The Town has a relatively homogenous population, with most residents identifying as White. This means that people of color may experience social and economic barriers, including limited access to quality education and healthcare services. Linguistic isolation is also a concern, with a sizable population of Spanish speakers. Many of these individuals may not be fluent in English, which can create challenges in accessing services and resources. The cost of housing in the Town is relatively high compared to the median income. This means that many households are spending a significant portion of their income on housing, leaving little room for other necessities. Limited water and sanitation access is also a challenge in some areas of Windsor. Some residents may not have access to clean drinking water or may not have adequate sanitation facilities. This can create health and safety risks for those affected.

One of the key environmental stressors facing Windsor is its proximity to wildfire-prone areas. In recent years, the Town has been affected by several large wildfires, including the 2019 Kincade Fire. These fires can pose a significant threat to public health and safety and can also cause damage to property and infrastructure. Another environmental stressor facing Windsor is its location in a region prone to drought. The Town relies on the Russian River for its water supply, and its flow can be significantly reduced during dry periods. This can lead to water shortages, which can have economic and social impacts on the community. In addition to these environmental stressors, Windsor residents face a high energy cost burden. The Town has a relatively high cost of living, and many households may struggle to pay their water and energy bills. This can lead to insecurity, which can have negative impacts on health and well-being.

Town and Disadvantaged Community Characteristics. The population of the Windsor service area grew from 27,486 in 2015 to 29,397 in 2020, with an average growth rate of 1.5% per year. The Town has a population density of approximately 3,890 people per square mile. The median household income is \$106,899, and the poverty rate is approximately 4.0% (United States Census Bureau, 2021). The five largest ethnic groups in Windsor are White (Non-Hispanic) (59.4%), White (Hispanic) (14.5%), Other (Hispanic) (14.2%), Multiracial (Hispanic) (3.65%), and Asian (Non-Hispanic) (3.04%). About 74% of the Windsor population speaks only English, and

Spanish is the second most common spoken language (United States Census Bureau, 2019). The median property value in Windsor (2018) is \$563,800, and the homeownership rate is 75.8% (Data USA, 2021). Compared to the state average, the age of housing in Windsor is younger. 21% of homes were built after 2000, 70.9% between 1970 and 1999, and 8.1% before 1970 (United States Census Bureau, 2019). The project will benefit these "underserved communities" as defined by Executive Order 13985, including those who have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life. The project promotes equitable access to recycled water supplies for all individuals, including underserved populations.

The Windsor Water District (WWD) operates the Town's water utilities for its 28,397 residents, providing water primarily for residential and commercial use. Approximately 10% of the Town's Service Area is categorized as a Disadvantaged Community, and 4% of the Town's Water Service Area is designated an Economically Distressed Area. These underrepresented communities are disproportionately affected by drought conditions and water restrictions. Furthermore, according to the Department of Water Resources EDA Mapping Tool (2016 data), there are three Economically Distressed Areas (EDA) that fall fully or partially within the Town's service area. Combined, the proposed drought relief projects will provide 500+ AFY recycled water, thus increasing water supply reliability and relieving water insecurity for these underrepresented communities. For more information on Windsor's disadvantaged communities, please see **Exhibits F-I** in the attachment section.

Tribal Benefits. The Lytton Rancheria is a federally recognized Pomo Indian Tribe from California's San Francisco Bay area. Lytton Rancheria has purchased lands near its former Rancheria in the Alexander Valley of Sonoma County (its original homeland). The Town is a direct neighbor of Lytton Rancheria, which is in the process of building a 124-acre residential development, community center retreat, and ceremonial Roundhouse. Although the tribe intends to provide its own water and sewer services, the recycled water expansion could position the Town to become a water service partner with Lytton, should their water services become compromised due to drought, fire, or other emergencies. Increasing water resiliency in the region will provide a benefit to all users reliant on water resources in the Russian River Watershed.

Evaluation Criterion 5: Watershed Perspective (15 points)

The purpose of this feasibility study is to expand the Town's capacity to provide recycled water services and storage for use in the region, thereby reducing reliance on the Russian River Watershed. The resulting projects from the feasibility study can potentially increase its water supplies by 500+ AFY. The proposed study is anticipated to provide the Town with a method for reclaimed water production and conveyance that will provide substantial cost savings.

In 2001, the Town prepared the Water Reclamation Master Plan - Treatment Storage, and Disposal (Recycled Water Storage and Use Study, Brelji & Race, 2020). The Master Plan described the Town's priorities in wastewater disposal, namely:

Priority 1: Reuse within Town limits or sphere of influence

- Priority 2: Agricultural reuse outside of Town limits
- Priority 3: Reuse at the Geysers geothermal project
- Priority 4: Discharge to Mark West Creek

In 2003, the Town and the Sonoma County Water Agency (SCWA) prepared a technical memorandum projecting the irrigation demand for recycled water within the Airport Area (Sonoma County Airport Area Recycled Water Project Planning, Kennedy/Jenks Consultants, 2003). In 2005, the Town and the Sonoma County Water Agency (SCWA) prepared a technical memorandum describing the potential for joint operations of a recycled water system that would serve the Airport/Larkfield/Wikiup Sanitation Zone service area, a portion of which (the Airport Area) is served potable water by the Town (Evaluation of Joint Operation of the Reclamation Systems of the Airport-Larkfield-Wikiup Sanitation Zone, the Town of Windsor, and the Santa Rosa Subregional Reclamation System, Brelje & Race Consulting Civil Engineers, August 2005).

The Town and the SCWA updated the 2003 technical memorandum in 2011 (Sonoma County Airport Area Recycled Water Project Planning Update, Kennedy/Jenks Consultants, September 13, 2011). This Study builds on and supplements these two earlier studies by:

- Developing recycled water demand projections for the Town plus the Airport Area
- Determining the highest priority target areas for expansion of the existing recycled water system
- Estimating the cost of the proposed infrastructure
- Prioritizing projects to achieve an offset of the Town's potable water demand
- Developing a construction financing plan
- Completing an initial environmental review of the proposed work

In 2012, the Town applied for and was awarded a \$75,000 grant from the State Water Resources Control Board (State Board) to prepare an Urban Recycled Water Facilities Planning Study (Study) in accordance with the Water Recycling Funding Program Guidelines. The purpose of this study was to develop priority recycled water projects for the Town and included a:

- Market assessment of recycled water demand in-Town and Outside Service Areas;
- Analysis of proposed recycled water project alternatives; and,
- Construction Financing Plan and Environmental Checklist for the priority projects identified.

Regional Water Demands. Upgrades to the WWRF, including expanding its recycled water system and consolidating the ALWSZ, provide numerous benefits to the Russian River Watershed and Sonoma County overall. By increasing recycled water and storage, this upgrade will help reduce the strain on local groundwater supplies by providing additional sources of water during dry periods. This, in turn, helps minimize the risk of low stream flows that can have a negative impact on fish populations and other aquatic life. In addition, increasing recycled water can potentially lead to increased agricultural production due to access to more reliable, high-quality irrigation water; improved water quality and reduced nutrient loads; and reduced pressure on local surface drinking water sources. In addition, expanding the Town of

Windsor's recycled water services and storage can help protect the Russian River Watershed by:

- Decreased demand for potable water: By using recycled water for irrigation, landscaping, and other non-potable uses, the demand for potable (drinking) water will decrease in the Town of Windsor, which will help to preserve the watershed for all users that rely on the Russian River as their primary water source.
- Improved water quality: Recycled water is treated to remove impurities and can be used to recharge groundwater aquifers, which can help maintain the overall water quality in the Russian River Watershed.
- **Drought protection:** In times of drought, recycled water can be a valuable source of water for agricultural, industrial, and municipal uses in the Town of Windsor. By having recycled water storage facilities in place, the Town can ensure a reliable source of water during dry periods, helping to protect the watershed from the impacts of drought.
- **Flood control:** Recycled water storage can also help with flood control in the Town of Windsor by capturing and storing excess water during periods of high flow, reducing the risk of flooding and helping to protect the watershed from the impacts of floods.
- **Fire Response:** Increasing recycled water storage will help reduce the amount of potable water needed to fight fires and helps replenish Lake Sonoma and Lake Mendocino while ensuring there are reliable water supplies during extreme weather events like wildfires and during periods of drought when lake storage is low.

Local/Regional Water Partners. The Town actively and regularly coordinates with other agencies for water efficiency and water supply planning. The Town is a member of the Sonoma-Marin Saving Water Partnership. This Partnership gathers resources to implement water efficiency programs. The Town also coordinates regularly with Sonoma Water and Sonoma Water's other municipal contractors under the Water Advisory Committee (WAC), and the Technical Advisory Committee (TAC). The Town is also a member of the Santa Rosa Plain GSA, which was formed in June 2017 under the SGMA of 2014. The Town is on the GSA Board of Directors and the WAC. Collaboration with Sonoma Water and the Town is also a key part of the recommendations. An agreement with Sonoma Water is needed to implement a consolidation project, and community outreach is needed to inform recycled water management opportunities that lead to future service and storage expansion projects.

Staff anticipates conducting public workshops regarding the results of the feasibility study and subsequent project recommendations to receive input from recycled water users and other stakeholders. Input and feedback will help inform future project design and construction phases. Public Works staff will continue to provide opportunities for public outreach and education on its recycled water initiatives. Outreach to customers is an important component of the proposed feasibility study. Reliance on storage requires receptors for the recycled water, and customer consumption is preferred over Town use of discretionary lands. Securing customer commitments through letters of intent or users' agreements would help substantiate recycled water demands and confirm facility sizing. The Town is also in the development phase of creating a regional partnership approach to addressing water supply, recycled water, and other water resource concerns. This regional partnership is titled the *Russian River Reuse*

Collaborative and includes six local cities and water utilities with the common goal of securing water resiliency for the Russian River Watershed.

Public Outreach. The Town reviewed its water demand and customer class profile to develop a communication plan that will be the most effective within these parameters. Based on 2020 demands, single-family residential customers used 60% of potable water volume, multi-family residential customers used 4%, commercial customers used 12%, industrial customers used 3%, irrigation accounts used 13%, and water system operations used 8%. Residents of Windsor are afraid. Afraid they will no longer have the water they need for domestic, agricultural, and recreational use. They have worked hard to reduce consumption, yet worsening drought conditions indicate that those efforts will not be good enough due to demand hardening. The Town's 28,397 residents have watched their main drinking water sources, the Russian River, Lake Sonoma, and Lake Mendocino, threatened by drought.

The Town of Windsor has long been a proponent of responsible water use and conservation. The Water Conservation Act of 2009, also known as SB X7-7, established new requirements for Urban Water Management Plans with the goal of reducing statewide water consumption on a per capita basis by 20% by the year 2020. In the 2015 UWMP, the Town demonstrated compliance with the established 2015 interim water use target of 143 gpcd (gallons per capita per day) and set a target of 130 gpcd for 2020. Water conservation efforts, including the Cash for Grass and Water Smart Home Programs, allowed the Town of Windsor to successfully meet and exceed that target by 9.2 percent with an actual 2020 daily water use of 119 gpcd.

Internal and External Stakeholders. The Town has identified stakeholders and customer categories for public outreach, including town staff and elected officials, business owners and local industries, environmental and public interest groups, and the general public.

The Town will inform, engage, and educate the public and its water customers about the benefits and importance of recycled water, including addressing safety concerns and the stigma regarding recycled water. The Town will utilize a comprehensive set of communication interface options and tools that include the following:

- Website information and social media outreach
- Publications and handouts
- Water bill pay portal communication (WaterSmart)
- Presence at local events and public service announcements during Council meetings

Widespread Project Support. The Town's application includes letters of support from key stakeholders, including Congressman Jared Huffman, Senator Alex Padilla, Russian River Water Association, Sonoma County Water Agency, Sonoma Water 4th District.

Significance of Collaboration/Support. Collaboration/support for this Project represents ongoing connections with municipalities, water partners, and community allies to achieve the common goals of drought resiliency, water conservation, and preserving our precious water supplies.

REQUIRED PERMITS OR APPROVALS

No permits or approvals are required to perform the feasibility study. Title XII of the Town's Municipal Code describes the ordinances controlling the Windsor Water District, the entity that is responsible for the Town's water, sewer, and recycled water systems. Section 12-7-105-Policy indicates, "Where the use of recycled water is feasible, appropriate and acceptable to all applicable regulatory agencies for the purposes of landscape irrigation, or other uses permitted by the controlling regulatory agencies, it is the policy of the Town to require the applicant, owner, or user to use recycled water in lieu of potable water."

The Town's Municipal Code requires potential recycled water users to apply for a use permit, and comply with certain terms and conditions. Section 12-7-200-Application for Permit to Use Recycled Water describes the required permitting process. Permit Conditions describe the conditions on all permits to use recycled water issued by the Town:

- Any approval or conditional approval of an application for recycled water service shall, unless otherwise specified, be deemed to be an approval or conditional approval of recycled water service only for the recycled water use area; for the location, size, and type of all recycled water service connections and on-site facilities; and for the proposed use of recycled water described in the application.
- The use of recycled water service shall comply with all requirements of applicable federal, state, and local statutes, ordinances, and regulations, including the Recycling Criteria, and other requirements, including the payment of all fees required by the regulatory agencies.

OFFICIAL RESOLUTION

A draft official Resolution is included at the end of this document, as per NOFO instructions. The authorized Resolution will be brought to Town Council on March 15, 2023. A signed copy will be provided to the BOR within 30 days of applying. Please see **Exhibit K: Draft Resolution**.

LETTERS OF SUPPORT

Letters of Support for the Town's Feasibility Study Project are included as **Exhibit L: Letters of Support**. Letters of Partnership do not apply to this Project.

OVERLAP OR DUPLICATION OF EFFORT STATEMENT

There is no overlap or duplication for the Project.

UNIFORM AUDIT REPORTING STATEMENT

The Town submitted a Single Audit Report for the most recent fiscal year, 2021. The report was filed under TIN #68-0282543, and it is available through the Federal Audit Clearinghouse website.

CONFLICT OF INTEREST DISCLOSURE STATEMENT

No actual or potential conflicts of interest exist at the time of the submission of this application.

PROJECT BUDGET

Funding Plan and Letters of Commitment

The Town of Windsor commits to making \$249,866 from in-kind staff time and its Wastewater Enterprise Fund available as a non-federal funding match for the proposed Project. There are no time constraints on the availability of funds or any other contingencies associated with the funding commitment.

- Project funding will not include third-party in-kind costs or cash requested or received from other non-Federal entities.
- There are no pending funding requests (grants or loans) for this Project.
- Project funding will not include third-party sources, and as such, there are no required Letters of Commitment.
- The Town will assume any necessary staffing costs for project or grant management.
- The Town is not seeking reimbursement for any expenditures incurred prior to the award.

Table 1. Summary of Non Federal and Federal Funding Sources					
FUNDING SOURCES	AMC	UNT			
Non-Federal Entities					
Town of Windsor (In-Kind Staff					
Time/Fringe)	\$	29,066			
Local Cash Contribution - General Funds	\$	220,800			
Non-Federal Subtotal	\$	249,866			
REQUESTED RECLAMATION FUNDING	\$	249,866			

Table 2. Total Project Cost					
SOURCE	AMO	DUNT			
Costs to be reimbursed with the requested					
Federal funding	\$	249,866			
Costs to be paid by the applicant	\$	249,866			
Value of third-party contributions	\$	-			
TOTAL PROJECT COST	\$	499,731			

Budget Proposal

1	OWN O	F WIND	SC)R				
Table 3. Fea	asibility	Study	Pr	oject Bu	dge	t		
	Hourly						A	pplicant 50%
Salaries and Wages	Rate	Hours		Total	во	R Request		Match
Project Manager	\$64.29	520	\$	33,431	\$	16,716	\$	16,716
Senior Administrative Assistant	\$38.90	208	\$	8,091	\$	4,046	\$	4,046
Fringe Benefits	Fringe	Rate		Total	BOR Request		Applicant Match	
Project Manager	409	%	\$	13,373	\$	6,687	\$	6,687
Administrative Assistant	409	%	\$	3,236	\$	1,618	\$	1,618
Travel				Total	во	R Request	Apı	plicant Match
Not applicable			\$	-	\$	-	\$	-
Equipment				Total	во	R Request	Apı	plicant Match
Not applicable			\$	-	\$	-	\$	-
Supplies/Materials				Total	во	R Request	Apı	plicant Match
Not applicable			\$	-	\$	-	\$	-
Contractual				Total	ВО	R Request	Apı	plicant Match
Data Collection/Research Activities	160	170	\$	27,200	\$	13,600	\$	13,600
Water Reclamation and Reuse Opportunitie	160	200	\$	32,000	\$	16,000	\$	16,000
Reclaimed Water Sources and Recycled								
Water Background	160	200	\$	32,000	\$	16,000	\$	16,000
Recycled Water Supply Alternative								
Development and Analysis	160	250	\$	40,000	\$	20,000	\$	20,000
Cost and Benefits	160	200	\$	32,000	\$	16,000	\$	16,000
Energy Evaluation	160	200	\$	32,000	\$	16,000	\$	16,000
Environmental Considerations, Impacts,								
Compliance	160	250		40,000	\$	20,000	\$	20,000
Economic and Financial Impacts	160	250	_	40,000	\$	20,000	\$	20,000
Recommend Course of Action	160	250		40,000	\$	20,000	\$	20,000
Public Outreach	160	140	\$	22,400	\$	11,200	\$	11,200
Implementation and Funding Plan	160	150	\$	24,000	\$	12,000	\$	12,000
Prepare Draft Report	160	300	\$	48,000	\$	24,000	\$	24,000
Prepare Final Report	160	200	\$	32,000	\$	16,000	\$	16,000
Total Direct Costs				Total		R Request	App	plicant Match
		2760	\$	499,731	\$	249,866	\$	249,866
Indirect Costs				Total		R Request	Арј	plicant Match
Not applicable			\$		\$	-	\$	
Total Project Costs			\$	499,731	\$	249,866	\$	249,866

BUDGET NARRATIVE

Salaries, Wages, and Fringe Benefits

The total salaries for the proposed project are \$41,522 (12.5% FTE), including the following positions:

Deputy Director of Water and Environmental Compliance, Veronica Siwy

\$64.29/hour x 520 hours (12.5% FTE) = \$33,431

Ms. Siwy's annual salary in this capacity translates to an hourly rate of \$64.29 per hour. The Project Manager will be responsible for reviewing and signing contract and deliverable documents, soliciting and reviewing bids from qualified consultants, and reviewing and signing contract documents, including a categorical exemption under NEPA. The Project Manager will review data collection efforts and assist the consultant in obtaining necessary information, as well as review the Consultant's efforts to define and describe the project effort. She will review and provide assistance to the Consultant in their efforts to evaluate the potential reclaimed water market. The Project Manager will oversee efforts by the Consultant to develop and evaluate feasible alternatives and the water distribution system. She will also oversee efforts to evaluate environmental impacts. Similarly, she will review the Consultant's efforts to develop a course of action and a draft final report. Finally, the Project Manager will be responsible for reviewing and revising the final draft of the final report.

Senior Administrative Assistant (To be determined upon award)

The Senior Administrative Assistant will provide assistance as needed throughout the project in managing the reporting contracting documentation and reporting requirements, as well as managing the review process associated with the draft and final reports.

Fringe Benefits

The City's fringe rate is 40% and includes health, life, worker's compensation insurance, vacation, and sick leave benefits.

$$$41,522 \times .40 = $16,609$$

Travel

There are no travel expenses anticipated for the Project.

Equipment

There are no equipment costs for the Project.

Supplies and Materials

There are no materials and supplies costs for the Project.

Contractual

Reclaimed Water Expanded Use Feasibility Study - Contractual costs make up most of the budget for the Project, for a total of \$441,600. A Consultant will be determined by an RFP and bidding process. The Consultant will be responsible for carrying out all feasibility study activities.

All these items combined lead to a total of \$499,731 for the Project budget. The Town has committed to providing a 50% match of \$249,866, and the Town's Project funding request is for 50 percent or \$249,866.

RESOLUTION NO. XX-XXXX

A RESOLUTION OF THE TOWN COUNCIL OF THE TOWN OF WINDSOR AUTHORIZING THE SUBMISSION OF A GRANT APPLICATION TO THE UNITED STATES DEPARTMENT OF THE INTERIOR, BUREAU OF RECLAMATION, FOR THE 2023 WATERSMART WATER RECYCLING AND DESALINATION PLANNING GRANT PROGRAM AND AUTHORIZING THE TOWN OF WINDSOR, PUBLIC WORKS DIRECTOR, TO EXECUTE A GRANT AGREEMENT.

WHEREAS, The United States Department of the Interior, Bureau of Reclamation (USBR), released a Funding Opportunity Announcement (NFO: R23AS00076) WaterSMART Grants: Water Recycling and Desalination Planning for 2023;

WHEREAS, The Town of Windsor is a California township and, through its Public Works Department, has the authority to construct, operate, and maintain the water distribution system and is responsible for providing reliable, affordable, and sustainable water and electric services;

WHEREAS, The grant application requires the adoption of an authorizing resolution designating a representative to sign and file a financial assistance application and all necessary documents related to a grant agreement with the United States Department of the Interior, Bureau of Reclamation; and

WHEREAS, The Town of Windsor, if selected, will enter into a grant agreement with the United States Department of the Interior, Bureau of Reclamation to develop a multi-feasibility study for the 1) Consolidation of Sonoma Water Treatment Plant, 2) Aeration Basin Project, and 3) expansion of recycled water system to the airport irrigation area.

NOW, THEREFORE, BE IT RESOLVED by the Town Council of the Town of Windsor as follows:

- 1. The Public Works Director is hereby authorized and directed to sign, submit and file, for and on behalf of the Town, an application for a grant agreement with the United States Department of the Interior, Bureau of Reclamation for planning and pre-construction activities to facilitate development of water reuse and desalination projects.
- 2. The Public Works Director is designated to provide the assurances, certifications, and commitment required for the financial assistance application, including executing all documents in furtherance thereof, including but not limited to a grant or cooperative agreement with the United States Department of the Interior, Bureau of Reclamation and any amendments or changes thereto.
- 3. The Town of Windsor is capable of providing the matching funding and/or in-kind contributions specified in the grant application funding plan.
- 4. The Town Council of the Town of Windsor has reviewed and supports the application to be submitted to the United States Department of the Interior, Bureau of Reclamation.
- 5. The Town of Windsor will use reasonable efforts to work with the United States Department of the Interior, Bureau of Reclamation to meet established deadlines for entering into a grant or cooperative agreement, and

6.	The Public Works Director is designated to represent the Town of Windsor in carrying out the
	Town of Windsor's responsibilities under the grant agreement, including certifying disbursement
	requests on behalf of the Town and compliance with applicable state and federal laws.
CERT	IFICATION

•	ify that the foregoing is a full, true, and correct copy of a resolution duly and regularly eting of the Town Council held on this day of February 2023 by the following vote:
AYES:	COUNCIL MEMBERS
NOES:	
ABSTAIN:	
ABSENT:	
	Sam Salmon, Mayor
ATTEST:	
Irene Camacho-	-Werby, Town Clerk

FP 304-30



February 22, 2023

Secretary Deb Haaland U.S. Department of the Interior, Bureau of Reclamation Denver Federal Center Bldg. 67, Room 152 Denver, CO 80225

Subject: Town of Windsor's Multi-Feasibility Application to the Bureau of Reclamation

Dear Madam Secretary:

The Sonoma County Water Agency is pleased to support the Town of Windsor's application for funding from the Bureau of Reclamation to develop a water recycling feasibility study that will result in increased recycled water service and storage availability for the Town.

As General Manager of Sonoma Water, I am responsible for Sonoma Water's core functions of providing drinking water to 600,000 residents in portions of Sonoma and Marin counties and wastewater management for eight zones and districts throughout Sonoma County. Sonoma County Water Agency maintains nearly 100 miles of streams and detention basins for flood protection and manages a nationally recognized Russian River Watershed Restoration Program for the benefit of three federally listed fish species.

The proposed project aligns with our 2017 Strategic Plan to improve the efficient use of water in the Water Agency's service area, including optimizing and managing water supply sources and increasing recycled water storage, distribution, and use. By undertaking this feasibility study, the Town will gain the ability to apply for future WaterSMART funding to construct and implement projects that will increase the region's water resiliency and reliability.

We are excited to see this planning project come to fruition as it provides an innovative solution that will contribute to meeting the region's water demands for generations to come.

Sincerely,

Grant Davis General Manager

SCH: S:\Clerical\Pinks\02-20-23\Letter of Support TOW.docx

COUNTY OF SONOMA

BOARD OF SUPERVISORS

575 ADMINISTRATION DRIVE, RM. 100A SANTA ROSA, CALIFORNIA 95403

> (707) 565-2241 FAX (707) 565-3778



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DAVID RABBITT VICE CHAIR

SUSAN GORIN

JAMES GORE

LYNDA HOPKINS

February 17, 2023

Secretary Deb Haaland U.S. Department of the Interior, Bureau of Reclamation Denver Federal Center Bldg. 67, Room 152 Denver, CO 80225

Subject: Town of Windsor WaterSMART Water Recycling and Desalination Planning Grant Program

Dear Madam Secretary:

On behalf of Sonoma County Board of Supervisors, I am writing in support of the Town of Windsor's application to the Bureau of Reclamation (BOR) to conduct an in-depth feasibility study to increase its recycled water capabilities and storage through strategic infrastructure improvements.

Sonoma County is a regional leader in water resources management. Its mission is to effectively manage water resources in our care for the benefit of people and the environment through resource and environmental stewardship, technical innovation, and responsible fiscal management.

Despite the substantial increase in water levels due to the series of recent storms, the region continues to face long-term drought impacts and water quality issues. For these reasons, I commend the Town on its approach to implementing projects that significantly impact the region's water quality, resiliency, and reliability.

A key issue of the Sonoma County Legislative Platform is to promote efficient implementation of recycled water projects through California. I respectfully ask for your support of the Town's application for BOR funding to increase its recycled water services and help conserve water resources in the Town of Windsor and Sonoma County region. Thank you for your full and fair consideration of this grant request.

Sincerely,

Chris Coursey, Chair

Sonoma County Board of Supervisors

cc: Sonoma County Board of Supervisors

COUNTY OF SONOMA

BOARD OF SUPERVISORS

575 ADMINISTRATION DRIVE, RM. 100A SANTA ROSA, CALIFORNIA 95403

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LYNDA HOPKINS

February 15, 2023

Secretary Deb Haaland U.S. Department of the Interior, Bureau of Reclamation Denver Federal Center Bldg. 67, Room 152 Denver, CO 80225

RE: Support for the Town of Windsor's Application to the Bureau of Reclamation WaterSMART Water Recycling and Desalination Planning Grant Program

Dear Madam Secretary:

On behalf of Sonoma County's Fourth District, I want to express my support for the Town of Windsor's application to the Bureau of Reclamation (BOR) to conduct an in-depth feasibility study to increase its recycled water capabilities and storage through strategic infrastructure improvements.

Sonoma County is a regional leader in water resources management. Its mission is to effectively manage water resources in our care for the benefit of people and the environment through resource and environmental stewardship, technical innovation, and responsible fiscal management.

Despite the substantial increase in water levels due to the series of recent storms, the region continues to face long-term drought impacts and water quality issues. For these reasons, I commend the Town on its approach to implementing projects that significantly impact the region's water quality, resiliency, and reliability.

I respectfully ask for your support of the Town's application for BOR funding to increase its recycled water services and help conserve water resources in the Town of Windsor and Sonoma County region.

Sincerely,

James Gore

Fourth District County Supervisor

Sonoma Water Director



February 21, 2023

MEMBER AGENCIES

City of Cloverdale

- City of Cotati
- City of Healdsburg
- City of Santa Rosa
- City of Sebastopol
- City of Ukiah
- County of Mendocino
- County of Sonoma
- Sonoma County Water Agency
- Town of Windsor

ANDY RODGERS Executive Director

300 Seminary Avenue Ukiah, CA 95482 (707) 508-3670

info@rrwatershed.org www.rrwatershed.org Secretary Deb Haaland U.S. Department of the Interior, Bureau of Reclamation Denver Federal Center Bldg. 67, Room 152 Denver, CO 80225

SUBJECT: Support for the Town of Windsor's Multi-Feasibility Study to the BOR

SENT VIA: EMAIL

Dear Madam Secretary:

On behalf of the Russian River Watershed Association Board of Directors, I am pleased to offer our strong support for the Town of Windsor's application to the Bureau of Reclamation (BOR) to conduct a multi-feasibility study to expand its recycled water service and increase its recycled water storage availability to Windsor.

The Russian River Watershed Association (RRWA) is a coalition of ten cities, counties, and special districts in the Russian River watershed that have come together to coordinate regional programs for clean water, habitat restoration, and watershed enhancement. RRWA was formed in 2003 to create opportunities for our member agencies to expand their stewardship role in the watershed.

The Town of Windsor, California, is located within the Russian River Watershed, which is particularly vulnerable to the current megadrought that has been ravaging much of California for several years. By increasing its recycled water service, Windsor can help protect this important watershed from further strain. The proposed planning project would reduce the demand for groundwater and surface water sources from the watershed and ensure that the existing freshwater supply remains protected and undiminished.

The Town of Windsor has a responsibility to help protect the Russian River Watershed and taking measures like this feasibility study is an effective way to do so. Not only will it help to conserve freshwater resources, but it can also have other positive impacts, such as reduced pollution runoff. By taking this step now, future generations can enjoy a healthier and more sustainable environment. These efforts will help protect the Russian River Watershed from drought-related damage and ensure its sustainability for future generations.

We urge the BOR to fund this important initiative. If you have questions, please feel free to contact me.

Sincerely,

Andy Rodgers, Executive Director Russian River Watershed Association