Well 32 Rehabilitation Improvements

WaterSMART: Drought Resiliency Project Grants for FY2018

Prepared For:
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SECTION 1: TECHNICAL PROPOSAL

A. Executive Summary

Due Date: February 13, 2018
Applicant: City of Santa Ana
City/County/State: Santa Ana/ County of Orange /California

Summary:
City of Santa Ana Water Well No. 32 was originally drilled in 1984 and had the capacity to produce up to 4000 acre feet of groundwater per year. Due to its later high nitrate concentrations and low operational deficiencies, the City discontinued groundwater production from Well 32 in 2004. With the goal of improving our drought resilience by reducing our reliance on imported water; the project proposes to use funding to offset the costs to rehabilitate Well 32 and return it to service, blend its high nitrate water with low nitrate level water from other city wells, and construct the pipeline and infrastructure needed to convey the pumped groundwater to the City reservoir. The Well 32 project helps to **build long-term resilience to drought and reduces the need for emergency response actions**, while offering the following benefits:

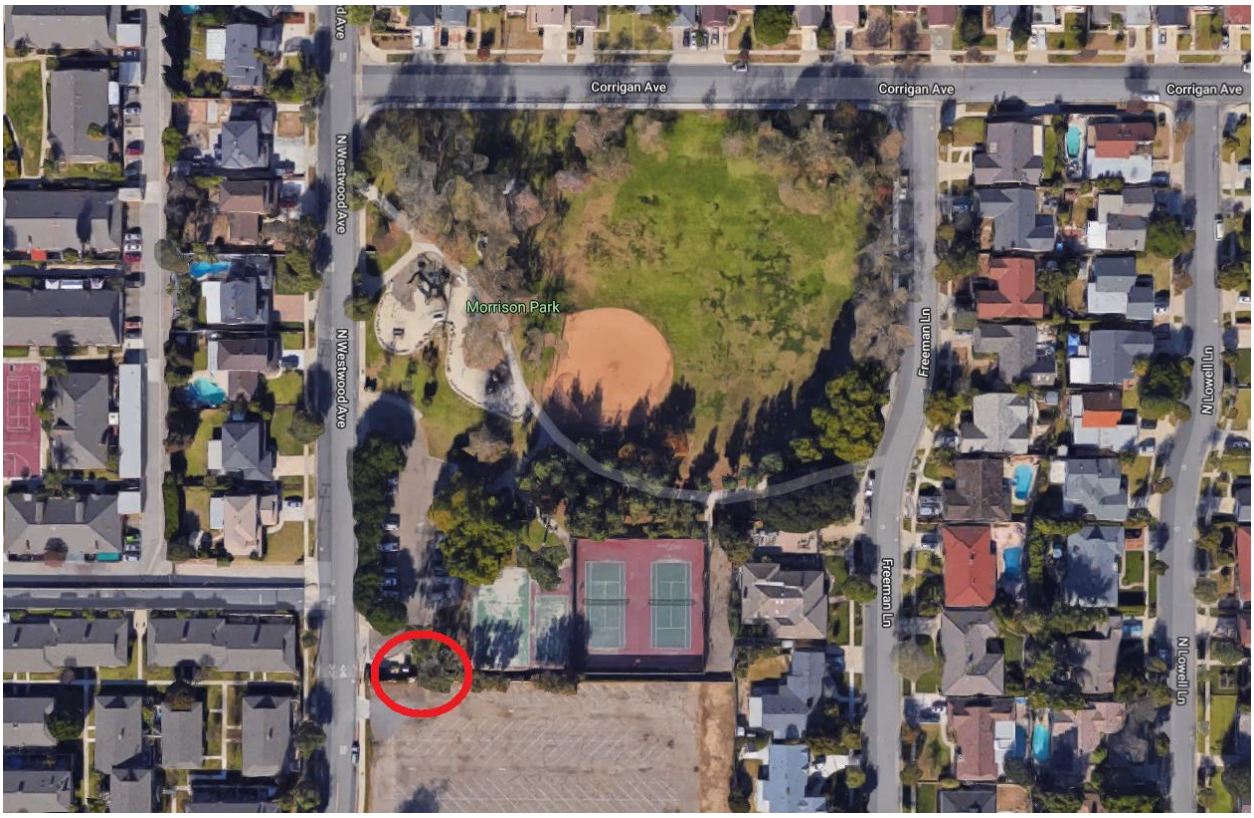
- **makes additional water supplies available** (adding approximately 2500 gallons per minute (gpm) to the City's pumping capacity)
- **improves water management** (by enhancing system flexibility)
- **benefits fish, wildlife and the environment** (by making the City less reliant on imported water, 4000 acre-feet yearly (AFY)

With an estimated three-year design/approval/construction schedule, the project is expected to be completed by October 2020. Not located on a Federal facility, the proposed Well 32 Project would help support the Department of the Interior's priorities to "**create a conservation stewardship legacy and modernize its infrastructure**."

B. Background Data

The proposed Well 32 project is located within the City of Santa Ana — the eleventh largest City in California, and the second largest in Orange County — with a latitude 33° 44' 44" N and 117° 52' 0" W longitude. Well No. 32 is located near the entrance to Morrison Park, approximately 45 feet east of Westwood Street and 200 feet south of Corrigan Street.

Figure 1: Project Location Map



Santa Ana provides water to a 27.5-square mile service area. In 2015, the City had a population of 335,299 and was nearly built out, with an anticipated growth to approximately 340,353 in 2030.

Founded in 1886, for many years the City was a ranching and farming community. To serve this growing agricultural and domestic community, a municipal water system was formed in 1886. In 1931, to tap into water sources from outside the area, the City joined with 12 other southern California cities to form and become an original member agency of the Metropolitan Water District of Southern California (MWD). As a regional wholesaler, MWD supplies imported water to southern California from the Colorado River and the State Water Project from Northern California which are directly influenced by climate conditions in northern California and the Colorado River Basin, respectively. Both regions have been suffering from multi-year drought conditions which directly impact water supplies to Santa Ana and southern California. MWD's primary purpose is to develop, store and distribute water at wholesale rates to its member public agencies for domestic and municipal uses.

In 1933, the Orange County Water District (OCWD) was formed by a special act of the State Legislature to manage Orange County's groundwater supply and protection of the County's

rights to water in the Santa Ana River. In 1953, the City of Santa Ana became a member of OCWD in 1953.

The City of Santa Ana obtains its water supply from two primary sources. Approximately 25-30 percent of the supply (60,580 gpm) comes from seven (7) import connections, which are managed by MWD. The remaining 70-75 percent of the water supply comes from a total of 21 groundwater wells which pump from the Lower Santa Ana River Groundwater Basin (also known as the Orange County Groundwater Basin (OC Basin) which is managed by the Orange County Water District (OCWD). The OC Basin is not adjudicated; pumping is managed by OCWD through financial incentives to encourage groundwater producers (such as the City of Santa Ana) to pump a "sustainable" amount of water, as determined by the District in their Basin Pumping Percentage (BPP) goals.

Currently, 44,551 service connections are within the City's water distribution system, all of which are metered. Approximately 66.8 percent of the City's overall demand is residential. The remaining 33.2 percent serves commercial (52 percent of non-residential), institutional (4 percent of non-residential) and industrial (44 percent of non-residential)

Based on 2012-2013 data, the City's most recent (2015) Urban Water Management Plan (UWMP) identifies the annual demand at 36,655 AFY. Below is a table illustrating the City's projected water demands through the year 2040.

Figure 2: Demand for Raw & Potable Water From Santa Ana's 2015 Urban Water Management Plan

Retail: Demands for Potable and Raw Water - Projected						
Use Type	Additional Description	Projected Water Use				
		2020	2025	2030	2035	2040
Single Family		14,092	15,137	15,241	15,237	15,259
Multi-Family		10,405	11,177	11,254	11,251	11,267
Other	(CII) Comm/Instit/Indust	12,033	12,925	13,014	13,010	13,030
Landscape	Large	148	158	160	160	160
	TOTAL	36,678	39,397	39,669	39,658	39,716
NOTES: Data retrieved from MWDOC Customer Class Usage Data and FY 2014-2015 Retail Tracking.						

As stated in the UWMP, the **City aims to mitigate short supply (resulting from drought) by decreasing its reliance on imported water.**

The City maintains approximately 480 miles of transmission and distribution mains, nine reservoirs with a storage capacity of 49.3 million gallons, seven pumping stations, 21 wells, and seven import water connections. Thirteen of the City wells pump into surface reservoirs with booster stations pumping the water into the distribution system. The remaining wells pump directly into the City's distribution system. Water pumped from these wells has been naturally filtered as it passes through underlying aquifers of sand, gravel, and soil. This well water only requires disinfectant treatment for system distribution.

The City maintains seven imported water connections to receive water through Metropolitan's Orange County and East Orange County Feeder pipelines. These seven metered connections transfer water into the City's distribution system with a total capacity of 60,580 gpm.

Other than submittal of an unsuccessful grant application in 2014, the City has not previously worked with the Bureau of Reclamation.

C. Project Description

Well No. 32 was originally drilled in 1984 to a depth of approximately 1060 feet below ground surface (bgs). The total length of screened interval is 290 feet. The static water level is at 116 feet and the pumped level is at 228 feet bgs. The well's design capacity is 2700 gpm; in 2001, the reported yield was 2127 gpm, as noted on page three of the 2013 Well 32 Nitrate Migration and Rehabilitation Study.

Like several of the City's groundwater wells, Well No. 32 has been inactive (since 2004) because of low operating efficiencies and high nitrate levels. In 2013, the City completed a study to review the nitrate levels present at Well No. 32 and evaluated alternatives for either treatment or blending with other sources. The result of that study is a recommended project that proposes to blend high nitrate water produced by Well 32 with low nitrate levels of groundwater produced by Santa Ana Wells 36 and 39, in the reservoirs located at the John Garthe Pump Station Complex. This recommended project would include the following improvements:

1. **Rehabilitate Well**. (chemical, mechanical, electrical). Well is currently located in buried vault. Project would raise the well head to meet current Dept. of Public Health recommendations. (Well casing, tubes, etc. need to be constructed to raise the well head to grade.)
2. **Discharge piping**. Construct approximately 3,250 lineal feet of new pipeline to convey flows from Well 32 to Garthe Reservoir.

3. **New Pumping Equipment** (may include: pump and motor, piping, valves, disinfection, monitoring equipment.)
4. **Electrical Equipment Replacement** (may include switchgear, control panel, variable frequency drive, telemetry, lighting, programming, etc.)
5. **Building Modifications**. (may include concrete slab, masonry walls and foundation, sound attenuation.)
6. **Site Improvements and Landscaping**

In the past, the area of the distribution system that Well 32 discharged to would experience low service pressure when the well in not operation. Restoring Well 32 back into service will improve the service pressure delivered to the City's customers. Thus, the recommended blending alternative achieves the following:

1. adds approximately 2500 gpm to the City's pumping capacity
2. mitigates the high nitrate levels
3. improves system flexibility; and
4. enhances the City's drought resiliency by reducing reliance on imported water

D. Performance Measures

The proposed project offers three significant and specific performance measures that will quantify the benefits of the project once implemented. In doing so, the relative efficiency of the water management effort can be evaluated. These performance measures are as follows:

1. **Pumping capacity.** Restoring Well 32 to service is expected to increase the City's pumping capacity by approximately 2500 gpm. This equates to approximately 4000 Acre Feet less import required on an annual basis.
2. **Nitrate level.** The primary water quality goal of the project is to reduce the nitrate levels in Well 32 to below the State of California Dept. of Public Health threshold of 45 mg/L. The nitrate level data is captured by the City through well discharge sampling. A goal performance measure would be the collection of data revealing measured nitrate levels below the threshold of 45 mg/L, ideally at the goal of approximately 20 mg/L.
3. **Cost savings.** The expected cost savings of restoring Well 32 to service with the proposed blending alternative is two-fold. First, the expected added pumping capacity of 2500 gpm equates to approximately 4000 AF yearly that would not have to be imported. The difference in cost between pumped and import water is currently $570 per AF. Secondly, by blending the raw high nitrate water from Well 32 into the system (rather than pumping it to waste), the City avoids wasting up to 2.7 million gallons of pumped water (at a current value of $3,687) each time the well is brought into service, which historically has been at least once a month. The cost savings for the proposed project is significant and easily quantifiable through this performance measure.

E. Evaluation Criteria

E.1 Evaluation Criterion A — Project Benefits

How will the project build long-term resilience to drought? How many years will the project continue to provide benefits?

Currently the city relies on approximately 70 percent of its supplies from MWD imported water connections that receive water from the Colorado River and the State Water Project from northern California, which are directly influenced by climate conditions in northern California and the Colorado River Basin, respectively. Both regions have been suffering from multi-year drought conditions which directly impact water supplies to southern California. The City's ability to pump from Well 32 reduces the City's dependence on the drought-stricken states' limited water supplies, offering long-term drought resilience benefits (both quantifiable and qualitative) by providing an additional water supply, improving water management and indirectly benefitting fish, wildlife and the environment.

The proposed project is expected to increase the City's pumping capacity by approximately 2500 gpm, thus reducing the City's reliance on imported water by 4000 AF annually. As stated in the City's 2016 Agreement with OCWD (for a partial Basin Equity Assessment (BEA) exemption), the Well 32 improvement project is expected to provide benefits for at least 20 years, and most likely for 50 years, following successful completion of the project.

Will the project make additional water supplies available? If so, what is the estimated quantity of additional supply the project will provide and how was this estimate calculated? What percentage of the total water supply does the additional water supply represent? How was this estimate calculated?

With a goal additional pumping capacity of 2500 gpm, the project proposes to add approximately 4000 AF of additional supply to the City on an annual basis. According to the City's most recent (2015) Urban Water Management Plan (UWMP), the City annually supplies 36,655 AFY to its residents. A simple mathematic calculation reveals that the proposed project will therefore increase the City's current supply by approximately 11 percent.

Provide a brief qualitative description of the degree/significance of the benefits associated with the additional water supplies.

The ability to create any additional water supplies is extremely significant to the City and the state, as we continue to build long-term resilience to drought, by reducing our dependence on severely drought-stricken imported water supplies. The anticipated benefits associated with

the additional water supply that will result from bringing Well 32 back into service include the following:

- increasing the City's pumping capacity (2500 gpm) or approximately 11 percent by providing an additional groundwater source;
- providing a more drought resilient water supply alternative (4000 AFY)
- providing a more economical water supply alternative
- allowing the City to more efficiently distribute pumped groundwater throughout the municipal system
- reducing wear and tear on other City wells (energy and capital cost savings)
- reducing need for emergency response actions (demand for immediate alternate supply)

The great significance of these benefits is underscored with OCWD's execution of an Agreement with the City to remove pumping limits and partially exempt the City from the Basin Equity Assessment (BEA) fees for the proposed project. OCWD executed this Agreement with the City of Santa Ana in January 2016, recognizing the proposed project's potential to build long-term resilience to drought and reduce the need for emergency response actions. OCWD recognizes the importance of retail agencies such as the City of Santa Ana increasing the reliability of their water supplies and becoming more efficient with stressed water supplies, particularly as changes in climate continue to impact rainfall in the southern California region.

Will the project improve the management of water supplies? For example, will the project increase efficiency, increase operational flexibility, or facilitate water marketing (e.g., improve the ability to deliver water during drought or access other sources of supply)? If so, how will the project increase efficiency or operational flexibility?

Restoring Well 32 back into service will improve the management of water supplies on **both a local (City) and state-wide level**. Because it proposes to provide an alternative supply of 4000AF less imported water supplies annually, it will improve the state's ability to better manage its imported water supplies, as well as allowing the City to gain better control of its local resources.

In addition, the proposed project will improve the management of our local water supplies by **increasing efficiency and operational flexibility**. Well 32 was removed from service in 2004 due to high nitrate levels in the groundwater. Consequently, the immediate and primary water quality goal of the project is to reduce the levels of nitrates in Well 32 to levels that are less than half of the MCL; or approximately 20mg/L.

If the City continued to operate Well 32 as it had in the past, it would be necessary for the well to pump to waste until the nitrate level dropped to an acceptable level before the groundwater could enter the distribution system. City records show that this discharge ranged between 900,000 and 2,700,000 gallons of wasted groundwater each time it was put into service.

Additionally, this high nitrate groundwater would then discharge to Santiago Creek and ultimately to the Santa Ana River, impacting the wildlife in the river and the operations of the Riverview Golf Course, located downstream.

Currently the Garthe Reservoir facility provides storage capacity for a total of 16 million gallons. The facility includes a nitrate blending treatment process whereby high nitrate water from Wells 18 and 24 are blended with low nitrate water from Wells 36 and 39.

The proposed project improves the management of water supplies by using Well 32 to augment the pressure in the local area to fill the Garthe Reservoirs, allowing the 16 million gallons of storage to be used to blend various combinations and qualities of water from the various wells.

In summary, besides the cost savings anticipated by eliminating the wasted water discharge (more than 2 million gallons, each occurrence) and impact to the wildlife and environment downstream of Well 32, **the proposed project moves toward achieving the City's conservation goal, maintains the additional desired pumping capacity of 2500 gpm, and minimizes the negative impact to the community at large.**

What is the estimated quantity of water that will be better managed because of this project? How was this estimate calculated?

According to the 2013 "*Well 23 Nitrate Mitigation and Rehabilitation Study*" prepared by Tetra Tech, Inc., a link to which can be found in Section 8, the proposed project is expected to conserve between 900,000 and 2,700,000 gallons each time the well is brought into service, approximately at least once a month. (This equates to up to 32 million gallons each year.) Additionally, with the anticipated reduction in the City's demand for imported water of an estimated 4000 AFY, the quantity of water that will be better managed because of this project is more than 4000 AFY, as just described.

What percentage of the total water supply does the water better managed represent? How was this estimate calculated?

The quantity of water that will be better managed because of this project is more than 4000 AF annually. According to the City's most recent (2015) Urban Water Management Plan (UWMP), the City annually supplies 36,655 AFY to its residents. A simple mathematic calculation reveals that the proposed project anticipates that in excess 11 percent of the City's total water supply will be better managed, as a result. A link to the City's UWMP can be found in Section 8.

Provide a brief qualitative description of the degree/significance of anticipated water management benefits.

In addition to providing an additional pumping capacity of 2500 gpm to the City, the proposed project offers the following anticipated water management benefits, which collectively offers benefits of great significance:

- Conserves more than 2 million gallons of water (each occurrence) otherwise pumped to waste
- Eliminates the detrimental impact to the wildlife and environment downstream of Well 32, because of high nitrate discharge
- Provides enhanced flexibility in the distribution system by using Well 32 to augment the pressure in the local area to fill the reservoirs,
- Allows the 16 million gallons of storage in the Garthe Reservoir to be utilized to blends various combinations and qualities of water for various wells.
- Minimizes negative impact to the community at large.

Will the project make new information available to water managers? If so, what is that information and how will it improve water management?

Water quality samples at the well discharges are typically collected by the City's water quality inspectors and contract testing labs, as well as by OCWD. Because Well 32 is currently non-operational, no samples are being collected at this time. The project will provide water quality samples from the rehabilitated well for improved monitoring of the nitrate in the groundwater by both the City and OCWD. In addition, other necessary data such as total water use, change in groundwater storage, and elevation data can be obtained. This data will be made available to local (City) and regional (OCWD and their member agencies) users. **It is the intent of this project to improve water management through the examination of the water quality data it will provide**.

Will the project have benefits to fish, wildlife, or the environment? If so, please describe those benefits.

On a local and regional level, the project will benefit fish, wildlife and the environment by not exposing them to high nitrates in the natural channels downstream of Well 32, including Santiago Creek and the Santa Ana River. Additionally, by providing an alternate source of water, thus making the City less reliant on State Water Project (surface) water; fish, wildlife, and the environment will benefit from the protection of that water supply.

If the proposed project includes any of the following components, please provide the applicable additional information: Wells. What is the estimated capacity of the new well(s), and how was the estimate calculated? How much water do you plan to extract through the well(s)? Will the well be used as a primary supply or supplemental supply when there is a lack

of surface supplies? Please provide information documenting that proposed well(s) will not adversely impact the aquifer it/they are pumping from (overdraft or land subsidence). At a minimum, this should include aquifer description, information on existing or planned aquifer recharge facilities, a map of the well location and other nearby surface water supplies, and physical descriptions of the proposed well(s) (depth, diameter, casing description, etc.). If available, information should be provided on nearby wells (sizes, capacities, yields, etc.), aquifer test results, and if the area is currently experiencing aquifer overdraft or land subsidence. Please describe the groundwater monitoring plan that will be undertaken and the associated monitoring triggers for mitigation actions. Describe how the mitigation actions will respond to or help avoid any significant adverse impacts to third parties that occur due to groundwater pumping.

The proposed project will not involve drilling a new well, but rather restoring an existing (non-producing) well and putting it back into service. Because it is not a new well, it's expected impact on the aquifer is not significant. In fact, the project is expected to improve water quality in the basin by pumping out and making use of poor quality groundwater. Additional information concerning the aquifer and basin management can be found in OCWD's Annual Engineering Report. A link to this document can be found in Section 8.

According to the "Well No. 32 Nitrate Mitigation and Rehabilitation Study" prepared by Tetra Tech, Inc. for the City of Santa Ana in 2013, the estimated additional pumping capacity of the Well 32 Rehabilitation project is 2500 gpm. Well 32 will be used as a primary supply to the extent allowed by OCWD; in the City's allowed BPP. Well 32 could also be considered a supplemental supply in response to a lack of surface supplies and/or emergency response, if allowed by OCWD.

E.1.2. Evaluation Criterion B — Drought Planning and Preparedness

As per the instructions in Section E 1.2 (A), the City of Santa Ana's DROUGHT ACTION PLAN is included in Appendix 1 of this report.

B. Explain how the Drought Action Plan addresses drought. Explain whether the drought plan was developed with input from multiple stakeholders. Was the drought plan developed through a collaborative process? Does the drought plan include consideration of climate change impacts to water resources or drought?

The City of Santa Ana hired a consultant to develop the Drought Action Plan with input from multiple stakeholders including the Planning, Parks, and Finance Departments. The Drought Action Plan addresses drought by implementing citywide conservation. The proposed project will reduce the city's dependence on imported water and allow the city to utilize a resource already available within the city. The City of Santa Ana has a long history of collaborating with

stakeholders on water conservation, including the Orange County Water District, Municipal Water District of Orange County and Metropolitan Water District of Southern California. The goal of each, is to reduce demand on drought-stricken import supplies, through conservation and the implementation of alternate local sources.

C. Describe how your proposed drought resiliency project is supported by and existing drought plan. Does the plan identify the proposed project as a potential mitigation or response action? Does the proposed project implement a goal or need identified in the drought plan? Describe how the proposed project is prioritized in the referenced drought plan?

The proposed project will provide an additional 2500 gpm (4000 AFY) to the City's groundwater supplies, resulting in the City's equivalent reduction in demand for imported water and allowing the city to utilize a resource already available within the city, which is consistent with the City's Drought Action Plan. In August 1999; MWD adopted a "Water Surplus and Drought Management Plan", and in 1996 adopted an evolving long-term water strategy known as the Integrated Water Resources Plan, or IRP. The IRP was updated in 2004, 2010, and 2015. Like the 2010 IRP Update, the 2015 IRP Update "looks to local solutions to close any potential gap between supply and demand," representing a refinement — not an overhaul — of Southern California's water management strategy. The 2015 IRP Update projects a need for more than 723,000 AF of growth in imported and local supplies and reduced water demands from conservation within the 25-year horizon of the plan and is expected to frame future Implementation Policy discussions with MWD and its member agencies. **The proposed Well 32 project offers a local supply to help to close the projected gap between future demand and available supply, consistent with both City of Santa Ana and MWD drought management policies.**

E.1.3. Evaluation Criterion C — Severity of Actual or Potential Drought Impacts Addressed by the Project

Describe the severity of the impacts that will be addressed by the project. What are the ongoing or potential drought impacts to specific sectors in the project area if no action is taken (e.g., impacts to agriculture, environment, hydropower, recreation and tourism, forestry), and how severe are those impacts? Impacts should be quantified and documented to the extent possible.

The recent severe drought in California has put tremendous pressure on the state's water allocation systems and shown that they are simply not capable of adapting to a sustained drought cycle. According to the University of Nebraska–Lincoln Drought Monitor, Orange County was declared a D5 "Exceptional Drought Area", widespread water shortages or restrictions; widespread crop and pasture losses; shortages of water supply in reservoirs, streams and wells creating water emergencies. State-wide droughts have severely impacted both local water supplies as well as imported supplies from the Colorado River and northern

California, from which the City of Santa Ana currently relies on for approximately 30 percent of its water supply.

The California drought has had a devastating impact on all aspects of the state. The **economic impact** of the drought to **agriculture** in California was an estimated $2.7 billion and 21,000 total **job losses,** in 2015, alone**.** The **loss of hydropower** between October 2011 and October 2014 cost Californians approximately $1.4 billion, as hydropower in the state was roughly cut in half. This lost hydropower was made up with the purchase and combustion of additional natural gas. The electricity ratepayers spent an additional $1.7 billion to purchase natural gas over the drought period, which resulted in an additional 13 million tons of CO2 emitted into the air—about a 10 percent increase in total annual CO2 emissions from California power plants, thus having a detrimental impact on the state's **air quality**.

In an L.A. Times editorial published in March 2017, Jay Famiglietti, Senior Water Scientist at the NASA Jet Propulsion Laboratory and a professor of Earth System Science at University of California, Irvine, stated that California has only one year of water stored in its reservoirs. The severe drought has depleted snowpack, lakes and rivers — affecting our water supply and the **recreational** opportunities and related **tourism** sectors (lodging, food, retail) that these resources provide.

A recent study from The Ecological Society of America (December 2016) states that declining streamflow and the accompanying rising stream temperatures have immediately threatened the provision of drinking water, hydropower generation and threatened the **health of ecosystems** that rely on water. Governor Jerry Brown declared an end to California's historic five-year drought in April 2017, and the record rainfall in that year brought some relief to most of California. However, the City of Santa Ana and Orange County remain in "D1 Moderate Drought Status" for the foreseeable future (based on the January 25, 2018 map by The United States Drought Monitor). Additionally, there are long term impacts from the drought that will require more than one wet season to resolve.

The California drought **severely affected forestry** and the **wildlife** that inhabits that **environment**. Of the 85 million acres in California classified as wildlands, nearly 17 million are commercial forest land, approximately half of which are owned by the government. New research using high-tech tools to measure the moisture in trees found that 120 million trees across nearly every part of California are at risk of dying. The California Department of Forestry and Fire Protection (CAL FIRE), reported **29 million confirmed dead trees**. Governor Jerry Brown has issued a state of emergency *in California because* trees *are* dying, creating more fuel for wildfires. A census by the U.S. Forest Service found 22 million trees are dead because of the drought, greatly **increasing the risk of wildfire**. CAL FIRE has determined that trees and vegetation play an important role in the vitality of California urban communities, affecting **property values, energy consumption, air quality, noise pollution, and wildlife**.

There is no question that drought has severely impacted the City of Santa Ana's imported water supplies from the Colorado River and northern California. Drought resiliency for the City can best be provided by becoming less reliant upon imported water. By increasing its groundwater pumping capacity, the proposed Well 32 project will accomplish exactly that: allow the City of Santa Ana to be less reliant on import water. **Without the Well 32 project, the City of Santa Ana will continue to contribute to the demands on the limited and crucial supply of imported water that has already been severely compromised by drought in California, from which the City and much of the region has not yet fully recovered.**

Are there public health concerns or social concerns associated with current or potential drought conditions (e. g., water quality concerns including past or potential violations of drinking water standards?

According to the Centers for Disease Control and Prevention (CDC), severe drought conditions can negatively affect **air quality**. During drought, there is an increased risk for wildfires and dust storms. Particulate matter suspended in the air from these events can irritate the bronchial passages and lungs. This can make chronic **respiratory illnesses** worse and increase the risk for respiratory infections like bronchitis and pneumonia. Some drought-related health effects are experienced in the short-term and can be directly observed and measured. However, the slow rise or chronic nature of drought can result in longer term, indirect health implications that are not always easy to anticipate or monitor.

The **public health and social concerns associated with drought conditions** may include the following:

- compromised quantity and quality of drinking water;
- increased recreational risks;
- effects on air quality;
- diminished living conditions related to energy, air quality, and sanitation and hygiene;
- compromised food and nutrition; and
- increased incidence of illness and disease.

Does the community have another water source available to them if their water service is interrupted?

The City of Santa Ana has only two sources of water: groundwater and imported water. There are no other sources, should water service be interrupted. The proposed Well 32 project is intended specifically to provide an enhanced alternate water source to relieve some of the demand for imported water, so that the City becomes more drought resilient.

According to the January 12, 2018 report from the California Department of Water Resources, the current statewide storage supply is at 109 percent of average due to the 2017 rainy season, however water storage is still only at 63 percent of capacity. While state-wide projects like the California WaterFix are critical to the long-term reliability and stability of our imported supply,

upon which we will likely always be partially reliant, it is the City's goal to have local, reliable and drought-proof water projects be our primary supply.

Are there ongoing or potential environmental impacts (e.g., impacts to endangered, threatened or candidate species or habitat)?

There has been a tremendous environmental impact from the recent drought conditions. According to the Pacific Institute, many of the state's environmental flows went unmet during the drought period, **affecting aquatic ecosystems** and decreased protections for endangered species. The **increased salinity levels in the Bay Delta** (caused by less rainwater diluting the salinity of the water) have affected waterfowl, wildlife refuge and fisheries habitat. The recent drought has caused losses or destruction of fish and wildlife habitat, loss of wetlands, more wildfires and lower water levels in reservoirs, lakes, and ponds. Dry creeks and rivers led **18 fish species to diminish to near extinction**. According to The Public Policy Institute of California, a priority of the Proposition 1 water bond are California's ecosystems, which have been hit hard by the drought; 45 projects address water supply and habitat to support native species around the state. Wildlife that have thrived in urban habitats have also struggled to adapt as state and local conservation regulations force California homeowners to let their lawns and gardens dry and die.

Are there ongoing, past or potential, local, or economic losses associated with current drought conditions (e.g., business, agriculture, reduced real estate values)?

In 2015, the drought in California cost the state's economy $2.7 billion and nearly 21,000 jobs according to a study from the University of California-Davis. In 2014, California voters passed Proposition 1, which is a $7.5 billion water bond intended to provide significant investments in the state's drought-challenged water systems.

During the recent drought, the state handed down mandatory water restrictions. The water rationing measures imposed by the state ironically made the per-unit cost of water higher since the "fixed costs" of the pipes and pumps did not change, but the amount of water sold went down. In order for water districts to recover their costs, they needed to charge the ratepayers more per unit for water.

Are there other drought-related impacts not identified above (e.g., tensions over water that could result in a water-related crisis or conflict)?

Water is a precious commodity in naturally semi-arid southern California. Over the past 100 years, the "Lower Basin" states of the Colorado River Compact (which include Nevada, Arizona, and California) have long battled over water rights to the Colorado River. A prime example of these tensions were the conflicts between the city of Los Angeles and the farmers and ranchers in the Owens Valley of Eastern California. Since 1913, the Owens River had been diverted to Los Angeles, causing a severe decline in the valley's economy. So much water was being diverted

from the Owens Valley that the farmers tried to destroy the aqueduct in 1924. Tensions continued, and as late as 1979, they sued the Los Angeles Department of Water and Power (LADWP) over its excessive water diversion from Mono Lake. As water becomes more scarce tensions such as these are expected to escalate.

Describe existing or potential drought conditions in the project area.

The years 2012 to 2015 marked the driest four-year period in 120 years of historical records, along with historic high temperatures (California Department of Water Resources, 2015). Additionally, between 1976 and 2016, California's population has almost doubled, from 22 million to 40 million; increasing pressure and demand on limited existing resources.

The City of Santa Ana, County of Orange is currently in a D1 (Moderate Drought) area based on the latest map released January 25, 2018, by The United States Drought Monitor. The latest NOAA report dated January 18, 2018, shows that the "drought persists" in Southern California, and "drought development" is expected to expand to the north in the immediate future.

Is the project in an area that is currently suffering from drought or which has recently suffered from drought? Please describe existing or recent drought conditions, including when and the period that the area has experienced drought conditions (please provide supporting documentation, [e.g., Drought Monitor, droughtmonitor.unl.edu]).

According to University of Nebraska–Lincoln Drought Monitor, The City of Santa Ana has been in a continuous drought status beginning in February 2012, ranging from a D1 (Moderate Drought) area to D5 (Exceptional Drought), up to the present day (five years).

On April 1, 2015, Governor Jerry Brown issued an executive order to cities across California to cut water use by 25 percent as part of a sweeping set of mandatory drought restrictions, the first in state history. On April 14, 2015, the governing board of the Metropolitan Water District (MWD) acted to reduce water deliveries to its member agencies, including the City of Santa Ana. Beginning July 1, 2015, the City's water deliveries were reduced by 15 percent.

Describe any projected increases to the severity or duration of drought in the project area resulting from climate change. Provide support for your response (e.g., reference a recent climate change analysis, if available)

According to the Intergovernmental Panel on Climate Change (IPCC), the warming of the climate system is unequivocal. The period from 1983 to 2012 was likely the warmest 30-year period of the last 1400 years in the Northern Hemisphere (IPCC, 2014). California's temperature record reflects global temperature trends.

The NOAA Climate Divisional Data-set is a long-term dataset used to generate historical (1895-2016) climate analyses for the contiguous United States. In the most recent report covering California, within Climate Division 2 (Sacramento Drainage), the long-term record depicts a

dramatic shift in annual average temperature. The data points from the 21st century indicate an overall shift in climate compared to the historical record. The past three years are depicted as outliers, being some of the warmest and driest years on record. Data from NOAA Climate Divisional Data-set, Division 6 (South Coast Drainage, including the City of Santa Ana) depicts even more annual precipitation variation from 5 to 40 inches per calendar year. The past 15 years since the turn of the century are also extremely warm and dry, indicating a change in climate. The past three years are depicted as being some of the warmest and driest years on record, with the warmest on record occurring in 2015, and the second warmest in 2016. (Hydroclimate Report Water Year 2016)

E.1.4. Evaluation Criterion D — Project Implementation

Describe the implementation plan of the proposed project. Include an estimated project schedule that shows the duration of the proposed work, major tasks, milestones, and dates.

The **Estimated Project Schedule** has been prepared Tetra Tech, Inc., the project design engineer of record). Below is a summary of the stages and duration of the proposed work, including major tasks, milestones, and estimated dates.

Table 1: Estimated Project Schedule

Estimated Project Schedule			
No.	**Task / Milestone**	**Start Date**	**Completion Date**
1.	**Preliminary Design**	July 2017	April 2018
2.	**Environmental Review**	Feb. 2018	July 2018
3.	MND Approval		July 2018
4.	**Design Period**	Dec. 2017	December 2018
5.	30% Design Submittal		April 2018
6.	60% Design Submittal		August 2018
7.	Building Department Review	July 2018	August 2018
8.	OC Flood Control Review	July 2018	Sept. 2018
9.	100% PS&E Submittal		Oct. 2018
10.	**PS&E Approval**		Dec. 2018
I11.	**Public Bid Process**	Jan. 2019	February 2019
12.	**Award Construction Contract**		March 2019
13.	**Construction Period**	May 2019	Sept. 2020
14.	Project Complete		October 2020

Describe any permits that will be required, along with the process for obtaining such permits.

Anticipated permits (and the process for their approval/issuance) is expected to include the following:

Table 2: Anticipated Permits and Processes for Approval

Anticipated Permit	Process for Approval or Issuance
Public Works approval of plans and specifications	Plans and Specifications to be reviewed by City engineering staff and approved by the Director of Public Works/City Engineer
City of Santa Ana Building Department to issue appropriate building permits	Plans and Specifications to be reviewed and approved by City Building Department staff and issue appropriate building permits
City's public bid process for lowest responsible bidder	Compliance with State of California Public Contracts Code
State of California Department of Public Health approvals for acceptable drinking water standards	Water Quality reports will be submitted for approval
Southern California Edison (SCE) permit for electrical service	City to apply for issuance by SCE
State Water Resources Control Board approval for storm water and test pumping discharge	City to apply for issuance by SWRCB
Orange County Flood Control District permit for any work in County right-of way	City/contractor to apply for issuance by Orange County Flood Control District

Identify and describe any engineering or design work performed specifically in support of the proposed project.

In February 2013, Tetra Tech, Inc. completed the "Well No. 32 Nitrate Mitigation and Rehabilitation Study" for the City of Santa Ana. This study recommends the proposed project. Implementation of the proposed project will require preparation of engineering plans and specifications for approval by the Director of Public Works, for the public bidding process. These engineering plans will include the following:

1. **Rehabilitate Well**. (chemical, mechanical, electrical). Currently well is in buried vault. Project would raise the well head to meet current Dept. of Public Health recommendations. (Well casing, tubes, etc. will need to be constructed to raise the well head to grade.)

2. **Discharge piping**. Construct approximately 3250 lineal feet of new pipeline to convey flows from Well 32 to Garthe Reservoir.
3. **New Pumping Equipment** (May included: pump and motor, piping, valves, disinfection, monitoring equipment.
4. **Electrical Equipment Replacement** (May include switchgear, control panel, Variable frequency drive, telemetry, lighting, programming, etc.)
5. **Building Modifications**. (May include concrete slab, masonry walls and foundation, sound attenuation.)

Describe any new policies or administrative actions required to implement the project.

There are no new policies required to implement the project; the following administrative actions required:

1. Public Works approval of plans and specifications.
2. Public Bid process to determine the lowest responsible bidder
3. Santa Ana City Council to award construction contract (to the lowest responsible bidder) and approve project funding.
4. City of Santa Ana Building Dept. to issue appropriate building permits.
5. City of Santa Ana Public Works Dept. to issue Public Encroachment Permit(s)
6. Southern California Edison (SCE) to issue permit for electrical service.
7. State Water Resources Control Board to issue permit for storm water and test pumping discharge.
8. Orange County Flood Control District to issue permit for work in County right-of way.
9. Construction Management will comprise of City staff and support from design engineering firm.
10. Grant Compliance: The City of Santa Ana has professional grant consultants on contract that will utilize to assure all the Bureau of Reclamation requirements are met in a timely manner.

Describe how the environmental compliance estimate was developed. Has the compliance costs been discussed with the local Reclamation office?

The task for preparation of the environmental and regulatory compliance was included as part of the scope of work for the selected design team and the cost is included as part of the awarded amount to Tetra Tech, Inc. The estimated compliance costs have been considered in the overall project budget, however, costs have not been discussed with the local reclamation office.

E.1.5. Evaluation Criterion E — Nexus to Reclamation

How is the proposed project connected to a Reclamation project or activity?

As noted earlier, the City of Santa Ana receives approximately 70 percent of its water from the Metropolitan Water District of Southern California, which is the designated contractor for the Colorado River Project and the Cal Fed Bay Delta Project (State Water Project). **This project proposes to reduce the City's use of imported water and establish a sustainable local water source.**

SECTION 2: PROJECT BUDGET

Standard Form 424 Budget Information A or C

This document is included in the separate submission with all of the City of Santa Ana's completed Standard Form 424 copies.

A. Funding Plan and Letters of Commitment

The City of Santa Ana does not have any third-party funding sources, or expected Federal funding sources outside of this application for assistance. Currently, the City does not have any pending funding requests for this project outside of this application, and will provide the funding from the Water Utility Capital Project Funds and will be allocated as part of the Capital Improvement Program for the proposed project.

Table 3: Funding Sources for Proposed Project

Funding Sources	Amount
City of Santa Ana - Cash Contributions	$4,080,000
City of Santa Ana value of in-house resources*	$460,000
Other Federal Entities	$0
Bureau of Reclamation	750,000
Total:	**$5,290,000**

*10% of the total project is considered as recommended by the grant guidelines

No Letters of Commitment are included as there are no third-party funders for this project.

B. Budget Proposal

Well 32 is located in Morrison Park, and is a City asset currently valued at $3.5 million. The project elements for Well No. 32 will cost about $4,600,000. The City has awarded the design contract and is pursuing this grant opportunity to assist with the construction cost.

Table 4: Sources of Budgeted Funding

Budget Item	Amount	Source
Planning & Design	$777,700	Design contract awarded using Water Utility Capital Project Fund & City CIP Program
Construction Funds Requested	**$750,000**	**Bureau of Reclamation**
Construction	$2,152,300	Water Utility Capital Project Fund
Contingency	$920,000	Water Utility Capital Project Fund
Design Support during construction	$230,000	Water Utility Capital Project Fund
Project administration during design and construction (10%)	$460,000	City of Santa Ana in-house resources
Total:	**$5,290,000**	

Matching Fund note: The in-house project management during design and construction have not been included as part of the matching fund.

C. Budget Narrative

Well 32 is located in Morrison Park, and is a City asset currently valued at $3.5 million. The project elements for Well No. 32 will cost about $5,290,000. The City has awarded the design contract and is pursuing this grant opportunity to assist with the construction cost. As noted

above, in-house project management during design and construction have not been included as part of the matching fund.

Salaries and Wages & Fringe Benefits

The Program Manager for this project will be Nabil Saba, PE and the direct City Project Manager will be Rudy Rosas, PE, throughout design and construction. They will be assisted with support from construction management team including supervisor, inspector, and clerical staff.

The salary rates for all positions is available below:
http://www.ci.santa-ana.ca.us/personnel/documents/salary_schedule.pdf

The City is considering the deminimus amount of 10% of the construction cost as recommended by the grant guidelines.

Travel

There will not be any travel expenses incurred as part of this project

Equipment

The cost of all equipment needed is included in the construction cost. The equipment needed will be identified once the design has been completed.

Materials and Supplies

The cost of all equipment needed is included in the construction cost. The equipment needed will be identified once the design has been completed.

Contractual

The planning and design of the project was awarded to Tetra Tech, Inc. on June 20, 2017, and is currently in process. Design consultant was selected based on issuance of a formal Request For Proposal to the engineering community where the City received two proposals.

The construction contract will be awarded pursuant final completion of advertising for bids following the public contract code requirements once the construction documents have been completed.

The City of Santa Ana will perform the construction management of the project in-house with support from Tetra Tech, Inc. for design-related issues. The design support cost during construction is estimated at 6 percent which is considered an industry standard for this kind of project.

Table 5: Task Timing, Cost, and Responsibility

Task	Amount	By	Duration
Planning & Design	$777,700	Tetra Tech, Inc.	July 2017 - Oct 2018
Construction including Contingency	$3,822,300	Lowest Responsive Responsible Bidder	May 2019 - October 2020
Design Support During Construction	$230,000	Tetra Tech, Inc.	May 2019 - October 2021
Design and Construction Management	$460,000	City of Santa Ana Water Resources and Construction Management Staff	July 2017 - Oct 2020
Total:	**$5,290,000**		

Environmental and Regulatory Compliance Costs

As noted here, costs to cover environmental compliance are included in the project budget. The task for preparation of the environmental and regulatory compliance was included as part of the scope of work for the selected design team and the cost is included as part of the awarded amount of $777,700. to Tetra Tech, Inc.

Other Expenses

City of Santa Ana has not received federal negotiated indirect cost rate and as recommended in guidelines has used a deminimus rate of 10% to account for its contribution. City of Santa Ana will use in-house resources for project administration during development and construction and will not account these as matching funds for the project. All project costs are listed in table 4.

Indirect Costs

These costs are included in the item above.

Total Costs

The proposed project's total cost is $5,290,000, including the Federal Assistance Grant requested in this document.

SECTION 3: ENVIRONMENTAL AND CULTURAL RESOURCES COMPLIANCE

Included below is the list of questions that all applicants must respond to, with the answers below each question.

Will the proposed project impact the surrounding environment (e.g., soil [dust], air, water [quality and quantity], animal habitat)? Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.

It is anticipated that the project will be a Mitigated Negative Declaration for CEQA, at the conclusion of the review currently in process.

Other than typical dust and noise generated from construction activity, the project is not expected to have any impact on the surrounding environment. Dust control will be mitigated through compliance with local Air Quality Management District (AQMD) requirements. Construction noise is not expected to exceed that allowed by local code.

Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?

There are no known species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area.

Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as "Waters of the United States?" If so, please describe and estimate any impacts the proposed project may have.

The pipeline from Well 32 to the Garthe Reservoir, where the water blending will occur, must cross Santiago Creek. The City will hang the pipe off of the existing Bristol St. bridge that crosses the creek.

When was the water delivery system constructed?

Well 32 was originally drilled in 1984. The majority of the City's water delivery system was constructed before that time.

Will the proposed project result in any modification of or effects to, individual features of an irrigation system (e.g., head gates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously.

No; the proposed project will not result in any modification of or effects to, individual features of an irrigation system (e.g., head gates, canals, or flumes).

Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? A cultural resources specialist at your local Reclamation office or the State Historic Preservation Office can assist in answering this question.

No; there are no buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places within the proposed project area.

Are there any known archeological sites in the proposed project area?

No; there are no known archeological sites in the proposed project area.

Will the proposed project have a disproportionately high and adverse effect on low income or minority populations?

No; the proposed project will NOT have a disproportionately high and adverse effect on low income or minority populations. In fact, the proposed project will have a **POSITIVE** effect on the local (and statewide) population, including low income and minority populations, of which Santa Ana has historically had one of the lowest per capita incomes in all of Orange County. The local population (of which more than 78 percent was of Hispanic or Latino race in 2010) will benefit from high quality, cost effective drinking water and the drought stricken state-wide population will benefit from the increased availability of imported water.

Will the proposed project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?

No; the proposed project will NOT limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands.

Will the proposed project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?

No; the proposed project will NOT contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area.

SECTION 4: REQUIRED PERMITS OR APPROVALS

All proposed work shall comply with all local, state, and federal requirements. Other than environmental process, the anticipated permits and approvals include the following:

Anticipated Permits	Process for Approval or Issuance
Public Works approval of plans and specifications	Plans and Specifications to be reviewed by City engineering staff and approved by the Director of Public Works/City Engineer
City of Santa Ana Building Department to issue appropriate building permits	Plans and Specifications to be reviewed and approved by City Building Dept. staff and issue appropriate building permits
City's public bid process for lowest responsible bidder	Compliance with State of California Public Contracts Code
State of California Department of Public Health approvals for acceptable drinking water standards	Water Quality reports will be submitted for review and approval
Southern California Edison (SCE) permit for electrical service	City to apply for issuance by SCE.
State Water Resources Control Board approval for storm water and test pumping discharge	City to apply for issuance by SWRCB.
Orange County Flood Control District permit for any work in County right-of way	City/contractor to apply for issuance by Orange County Flood Control District.

SECTION 5: EXISTING DROUGHT CONTINGENCY PLAN

Article VI of the City of Santa Ana's Code of Ordinances is considered to be the City's "drought contingency plan." As requested, it is attached to this report in Appendix 2.

SECTION 6: LETTER OF SUPPORT

Per Reclamation's application guidelines in Section D.2.2.9. Letters of Support, all statements of support from interested stakeholders are included in Appendix 3.

SECTION 7: OFFICIAL RESOLUTION

The City of Santa Ana Council approved a resolution to authorize grant applications for water recycling and WaterSMART Drought Response Programs on February 6, 2018. Below is the staff report and the resolution that was included as part of the Council Agenda. The approved resolution is currently in the process of full execution and was not ready to submit with this grant application. The full resolution will be submitted as soon as possible.

Video of the resolution being passed is available online at
http://santaana.granicus.com/MediaPlayer.php?view_id=2&clip_id=1706

REQUEST FOR COUNCIL ACTION

CITY COUNCIL MEETING DATE:

FEBRUARY 6, 2018

TITLE:

ADOPT RESOLUTIONS AND AUTHORIZE GRANT APPLICATIONS FOR WATER RECYCLING FUNDING & WATER SMART DROUGHT RESPONSE PROGRAMS (NONGENERAL FUND) {STRATEGIC PLAN NO. 6, 1G}

CITY MANAGER

CLERK OF COUNCIL USE ONLY:

APPROVED

- ☐ As Recommended
- ☐ As Amended
- ☐ Ordinance on 1st Reading
- ☐ Ordinance on 2nd Reading
- ☐ Implementing Resolution
- ☐ Set Public Hearing For_____

CONTINUED TO _____

FILE NUMBER _____

RECOMMENDED ACTION

1. Adopt Resolutions agreeing to the terms of participation in the California State Water Resources Control Board Water Recycling Funding Program and Bureau of Reclamation WaterSMART Drought Response Program for one planning project and one capital improvement project:

   a. Recycled Water Master Plan
   b. Well #32 Rehabilitation

2. Authorize the Executive Director of Public Works to submit a grant application for the California State Water Resources Control Board's Water Recycling Funding Program for the Recycled Water Master Plan in the amount of $75,000.

3. Authorize the Executive Director of Public Works to submit a grant application for Department of the Interior, Bureau of Reclamation's WaterSMART Drought Response Program for Well #32 Rehabilitation Project in the amount up to $750,000.

DISCUSSION

The City of Santa Ana receives recycled water from the Orange County Water District (OCWD) recycled water system called the Green Acres Project (GAP). GAP is a water reuse effort that provides recycled water for landscape irrigation at parks, schools, and golf courses; industrial uses, such as carpet dying; toilet flushing; and cooling for power generation. Currently, recycled water use in Santa Ana is limited but includes the irrigation of some City parks, schools, street medians, green belts, and commercial-industrial uses. Only about one percent of the City's total water demand (350 acre-feet) is supplied by recycled water. The recycled water consumed

directly supplants potable water use, which reduces the demand on the groundwater basin and preserves potable supplies for other uses.

The existing recycled water distribution system exists in only a small portion of the City, and is solely owned and operated by OCWD. In order for the availability and use of recycled water to expand in the community, the City would need to build and operate its own recycled water system. There are many environmental and economic benefits of expanding recycled water use throughout the community, including providing a source of lower-cost water, saving local resources, and the ability to irrigate landscapes in times of drought.

A Recycled Water Master Plan is utilized by municipalities and water agencies as a systematic means to identify and assess the best and most efficient method of developing a recycled water system that meets the demands and expectations of the community. The proposed Recycled Water Master Plan will include the development of a computerized hydraulic model, identification of recycled water demand in the community, identification of recycled water sources, and establishment of an ordered list of capital improvement projects and costs. As the City's first Recycled Water Master Plan, this document will serve as the basis for future decisions regarding the potential expansion of recycled water in the City and will assist the City in obtaining available grant funding for the identified projects.

The California State Water Resources Control Board offers grant funding for this type of plan under their Water Recycling Funding Program. The program allows for a maximum grant award amount of $75,000, but not to exceed of 50% of the total study cost.

In October 2017, staff issued a Request for Proposals to solicit proposals from consulting firms to prepare a Recycled Water Master Plan. The estimated cost of preparing the desired plan for the City is approximately $200,000. If a Water Recycling Funding Program grant application is successful, the grant funding would offset a significant portion of the cost of the Plan.

The City's potable water comes from an underground basin and is pumped through 21 existing wells. One of the wells is located at Morrison Park (Well #32) and has been inactive for about 10 years. The well was taken off line due to low operating efficiencies and high nitrate levels. Rehabilitating Well #32 in order to put it back in service would improve the City's water system efficiency and would reduce the burden on other water production facilities.

The City completed a Well Nitrate Mitigation and Rehabilitation Study in February 2013. The City has contracted with a consulting firm that is currently preparing construction documents (Plans, Specifications & Estimates) for Well #32 rehabilitation. The construction cost for this project is estimated to be $4,600,000.

The Department of the Interior offers grants through its Bureau of Reclamation's WaterSMART (Sustain and Manage America's Resources for Tomorrow) Drought Response Program to develop and update comprehensive drought plans and implement projects that build long term

resiliency to droughts. The program provides up to a maximum of $750,000 in grant funding, but not to exceed 50% of the total project cost.

STRATEGIC PLAN ALIGNMENT

Approval of this item supports the City's efforts to meet Goal #6 - Community Facilities & Infrastructure, Objective #1 (establish and maintain a Community Investment Plan for all City assets), Strategy G (develop and implement the City's Capital Improvement Program in coordination with the Community Investment and Deferred Maintenance Plans).

ENVIRONMENTAL IMPACT

There is no environmental impact associated with this action.

FISCAL IMPACT

There is no fiscal impact associated with this action. Staff will return to Council with a request for approval to accept any award under these applications and programs and will indicate the fiscal impact of any such awards and associated expenditures at that time.

FOR F.M.

Fred Mousavipour
Executive Director
Public Works Agency

FM/NS/RR

Exhibit: 1. Resolution: Recycled Water Master Plan
2. Resolution: Well #32 Rehabilitation Project

55B-3

jmf 1/24/18

RESOLUTION NO. 2018-XXX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA ANA AUTHORIZING CITY PARTICIPATION IN THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD'S WATER RECYCLING FUNDING PROGRAM FOR THE CITY'S RECYCLED WATER MASTER PLAN

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF SANTA ANA AS FOLLOWS:

Section 1. The City Council of the City of Santa Ana hereby finds, determines and declares as follows:

A. The City of Santa Ana is working on developing a Recycled Water Master Plan.

B. The California State Water Resources Control Board offers financial assistance in the form of grant funding through its Water Recycling Funding Program for this type of plan.

C. The maximum grant amount that the Water Recycling Funding Program may award is $75,000 per application.

D. The Water Recycling Funding Program requires that at least half of the total cost of the plan be provided by the requesting agency.

E. The City desires to fund part of the cost of the Recycled Water Master Plan with grant funding from the State's Water Recycling Funding Program.

Section 2. The City Council of the City of Santa Ana hereby authorizes and directs the Executive Director of Public Works, or his or her designee, to sign and file, for and on behalf of the City of Santa Ana, a Financial Assistance Application for a grant agreement from the California State Water Resources Control Board's Water Recycling Funding Program for the Recycled Water Master Plan in the amount of $75,000.

Section 3. The Executive Director of Public Works, or his or her designee, is designated to provide the assurances, certifications, and commitments required for the financial assistance application, including executing a financial assistance agreement with the State Water Resources Control Board and any amendments or changes thereto.

Section 4. The Executive Director of Public Works, or his or her designee, is designated to represent the City of Santa Ana in carrying out the City's responsibilities under the grant agreement, including certifying disbursement requests on behalf of the City and compliance with applicable state and federal laws.

jmf 1/24/18

Section 5. If a grant award is made by the California State Water Resources Control Board, the City of Santa Ana commits to provide the match for the amount of $75,000 in funding from the City's Water Enterprise Fund for the Recycled Water Master Plan plus any remaining balance.

Section 6. This Resolution shall take effect immediately upon its adoption by the City Council, and the Clerk of the Council shall attest to and certify the vote adopting this Resolution.

ADOPTED this ____ day of _____, 2018.

_____
Miguel A. Pulido
Mayor

APPROVED AS TO FORM:
Sonia R. Carvalho, City Attorney

By: John M. Funk
John M. Funk
Assistant City Attorney

AYES: Councilmembers _____

NOES: Councilmembers _____

ABSTAIN: Councilmembers _____

NOT PRESENT: Councilmembers _____

CERTIFICATE OF ATTESTATION AND ORIGINALITY

I, Maria D. Huizar, Clerk of the Council, do hereby certify the attached Resolution No. 2018 -_____ to be the original resolution adopted by the City Council of the City of Santa Ana on _____, 2018.

Date: _____

_____
Clerk of the Council
City of Santa Ana

jmf 1/24/18

RESOLUTION NO. 2018-XXX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA ANA AUTHORIZING CITY PARTICIPATION IN THE BUREAU OF RECLAMATION'S WATERSMART DROUGHT RESPONSE PROGRAM FOR THE WELL #32 REHABILITATION PROJECT

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF SANTA ANA AS FOLLOWS

Section 1. The City Council of the City of Santa Ana hereby finds, determines and declares as follows:

A. The City of Santa Ana completed a Well Nitrate Mitigation and Rehabilitation Study for Well #32 in February 2013.

B. The City currently has a consulting firm preparing construction documents (Plans, Specifications & Estimates) for the Well #32 Rehabilitation Project.

C. The United States Department of the Interior offers financial assistance in the form of grant funding through its Bureau of Reclamation's WaterSMART (Sustain and Manage America's Resources for Tomorrow) Drought Response Program for this type of project.

D. The maximum grant amount that the Drought Response Program may award is $750,000 per application.

E. The Drought Response Program requires that at least half of the total cost of the project be provided by the requesting agency.

F. The City desires to fund part of the construction cost of the Well #32 Rehabilitation Project with grant funding from the WaterSMART Drought Response Program.

Section 2. The City Council of the City of Santa Ana hereby authorizes and directs the Executive Director of Public Works, or his or her designee, to sign and file, for and on behalf of the City of Santa Ana, a grant application from the Bureau of Reclamation's WaterSMART Drought Response Program for the Well #32 Rehabilitation Project up to the amount of $750,000.

Section 3. The Executive Director of Public Works, or his or her designee, is designated to provide the assurances, certifications, and commitments required for the grant application, including executing a financial assistance or similar agreement with the Bureau of Reclamation and any amendments or changes thereto.

jmf 1/24/18

Section 4. The Executive Director of Public Works, or his or her designee, is designated to represent the City of Santa Ana in carrying out the City's responsibilities under the grant agreement, including certifying disbursement requests on behalf of the City and compliance with applicable state and federal laws.

Section 5. If a grant award is made by the Bureau of Reclamation, the City of Santa Ana commits to providing up to $750,000 in funding from the City's Wastewater Enterprise Fund for the Well #32 Rehabilitation Project plus any remaining balance.

Section 6. This Resolution shall take effect immediately upon its adoption by the City Council, and the Clerk of the Council shall attest to and certify the vote adopting this Resolution.

ADOPTED this ____ day of _____, 2018.

_____
Miguel A. Pulido
Mayor

APPROVED AS TO FORM:
Sonia R. Carvalho, City Attorney

By: _____
John M. Funk
Assistant City Attorney

AYES: Councilmembers _____

NOES: Councilmembers _____

ABSTAIN: Councilmembers _____

NOT PRESENT: Councilmembers _____

jmf 1/24/18

CERTIFICATE OF ATTESTATION AND ORIGINALITY

I, Maria D. Huizar, Clerk of the Council, do hereby certify the attached Resolution No. 2018 -_____ to be the original resolution adopted by the City Council of the City of Santa Ana on _____, 2018.

Date: _____

_____
Clerk of the Council
City of Santa Ana

SECTION 8: LIST OF SUPPORTING DOCUMENTS AND APPENDICES

Appendix	Supporting Document
Appendix 1	Santa Ana Drought Action Plan
Appendix 2	Drought Contingency Plan
Appendix 3	Letter of Support
Appendix 4	Copy of SAM Proof of Enrollment
Supporting Documents for Online Reference	
Well 32 Nitrate Migration and Rehabilitation Study https://www.dropbox.com/s/bdf6t4di2uyv90o/Well%2032%20Final%20Report.pdf?dl=0	
OCWD Annual Engineering Report https://www.ocwd.com/media/5396/2015-2016-engineers-report.pdf	
City of Santa Ana 2015 Urban Water Management Plan http://www.ci.santa-ana.ca.us/pwa/documents/DRAFTSantaAnaUWMPApril2016.pdf	
United States Drought Monitor | University of Nebraska – Lincoln, USDA, NOAA http://droughtmonitor.unl.edu/Data/Timeseries.aspx	
Economic Analysis of the 2015 Drought for California Agriculture | University of California - Davis https://watershed.ucdavis.edu/files/biblio/Economic_Analysis_2015_California_Drought__Main_Report.pdf	
Impacts of California's Ongoing Drought: Hydroelectricity Generation | Pacific Institute https://www.pacinst.org/wp-content/uploads/2015/03/California-Drought-and-Energy-Final1.pdf	
California has about one year of water stored. Will you ration now? Los Angeles Times 03/12/15 http://www.latimes.com/nation/la-oe-famiglietti-drought-california-20150313-story.html	
Climate change and water-related ecosystem services: impacts of drought in California, USA | Ecological Society of America http://onlinelibrary.wiley.com/doi/10.1002/ehs2.1254/full	
The California Drought's Alarming Toll on Forests | HuffPost 02/19/2016 https://www.huffingtonpost.com/entry/california-drought-dying-trees_us_56c78f0fe4b0ec6725e2a1a0	
Resource Management | California Department of Forestry and Fire Protection http://www.fire.ca.gov/resource_mgt/downloads/ResourceMgmt.pdf	
Drought and Your Health | Centers for Disease Control and Prevention https://www.cdc.gov/features/drought/index.html	
California Data Exchange Center | Department of Water Resources http://cdec.water.ca.gov/cgi-progs/reservoirs/STORAGEW	

California Drought Impacts Full Report | Pacific Institute www.pacinst.org/reports/california_drought.../ca_drought_impacts_full_report.pdf
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Appendix 1: Santa Ana Drought Action Plan

CITY OF SANTA ANA
DROUGHT ACTION PLAN

Deepening drought conditions in California called for Governor Brown to issue an executive order earlier this year to reduce statewide water use by 25 percent from 2013 levels. The State Water Resources Control Board followed the executive order with expanded emergency regulations to safeguard the state's remaining water supplies. The City of Santa Ana has been under a **Phase 2 Water Supply Shortage Emergency** since the City Council's approval of Resolution No. 2015-025 (June 2, 2015). By this resolution, the City Council declared that a water shortage exists throughout the area served by the City of Santa Ana Water Resources Division and ordered that water customers must reduce their monthly total potable water consumption by **12%**, using 2013 as the base year. The Phase 2 Water Supply Shortage Resolution implements additional regulations and restrictions on the delivery of the water and the consumption within the City of water supplied for public use with the goal of conserving water supply for the greatest public benefit with particular regard to domestic use, sanitation, and fire protection.

The City of Santa Ana Water Resources Division has prepared the following Drought Action to assist in the meeting of the state's mandatory 12% reduction in water use. The following recommended Drought Action Plan summarizes: the reason for the state's mandatory reduction in water use; the permanent water conservation requirements found in Section 39-106 of the Santa Ana Municipal Code; the mandatory water requirements that apply during a declared **Phase 2 Water Supply Shortage**; and the additional short term and long term City action items being recommended to be implemented by the City of Santa Ana.

DROUGHT ACTION PLAN

Due to the following, the City of Santa Ana has established a Drought Action Plan to meet the state's mandatory 12% reduction in water use:

A. The State of California is in its fourth year of severe drought conditions.

B. On April 1, 2015, Governor Jerry Brown issued an executive order to cities and towns across California to cut water use by 25% as part of a sweeping set of mandatory drought restrictions, the first in state history.

C. On April 1, 2015, State water officials measured the lowest April 1 snowpack in more than 60 years of record-keeping in the Sierra Nevada.

D. On April 14, 2015, the Governing Board of the Metropolitan Water District ("MWD") took action to reduce water deliveries to its member agencies, including the City of Santa Ana, effective July 1, 2015.

E. Because of the action taken by the MWD, beginning July 1, 2015, the City's water deliveries will be reduced by 15%.

F. The MWD action also includes heavy surcharges for member agencies that exceed their allocations. The surcharge will be roughly four times the normal price of an acre foot of water for use beyond the allocated amount.

G. The State of California's Drought Emergency Water Conservation regulations provide that the City of Santa Ana must reduce its monthly total potable water production by **12%**, using 2013 as the base year.

H. On May 19, 2015, the City Council amended Chapter 39, Article VI of the Santa Ana Municipal Code's to include "Water Shortage Contingency Plan". Pursuant to Santa Ana Municipal Code section 39-105 and Water Code sections 350 and 353, the City Council shall adopt such regulations and restriction on the delivery of water and the consumption within said area of water supplied for public use as will in the sound discretion of the Council conserve the water supply for the greatest public benefit with particular regard to domestic use, sanitation, and fire protection.

I. By Resolution No. 2015-025, the City Council of Santa Ana declared that a water shortage now exists through the area served by the City of Santa Ana Water Resources Division and is ordering that water customers must reduce their monthly total potable water consumption by **12%**, using 2013 as the base year; and pursuant to Santa Ana Municipal Code section 39-105, the City Council declared a **Phase 2 Water Supply Shortage** that implements additional regulations and restrictions on the delivery of water and the consumption within said area of water supplied for public use as will conserve the water supply for the greatest public benefit with particular regard to domestic use, sanitation, and fire protection.

The following is the recommended City of Santa Ana ***Drought Action Plan,*** based on the **Phase 2 Water Supply Shortage**:

Per Section 39-106 of the Santa Ana Municipal Code, the following water conservation requirements are effective at all times and are permanent (these requirements are found in section 39-106 of the Santa Ana Municipal Code and are repeated here for convenience):

(1) Washing down sidewalks, walkways, driveways, parking areas or other paved surfaces, except as is required to dispose of dangerous liquids or alleviate safety or sanitary hazards and then only by use of a hand-held bucket, or hand-held hose equipped with a positive self-closing water shut-off device is prohibited.

(2) The use of water to clean, fill or maintain levels in decorative fountains, ponds, lakes or other similar aesthetic structures unless such water is part of a recirculating system is prohibited.

(3) No restaurant, hotel, café, cafeteria or other public place where food is sold, served or offered for sale shall serve drinking water to any customer unless expressly requested.

(4) Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, is prohibited, except by use of a hand-held bucket or hand-held hose equipped with a positive self-closing water shut-off nozzle or device.

(5) Hotels, motels and other commercial lodging establishments must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clean and easily understood language.

(6) Food preparation establishments such as restaurants or cafes, are prohibited from using non-water conserving dish wash spray valves.

(7) Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley gutter or ditch is prohibited.

(8) The use of water to irrigate outdoor landscapes during or within 48 hours after measurable rainfall is prohibited.

(9) The irrigation with potable water of ornamental turf on public street medians is prohibited.

(10) The irrigation with potable water outside of landscapes outside of newly constructed homes and buildings in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission and the Department of Housing and Community Development is prohibited (must be delivered by drip or micro-spray systems).

Per Section 39-108 of the Santa Ana Municipal Code, the following mandatory water conservation requirements apply during a declared **Phase 2 Water Supply Shortage**. These requirements are found in section 39-108 of the Santa Ana Municipal Code and are repeated here for convenience:

(1) Watering lawn, landscape or other turf area shall be modified to prohibit watering more often than two days per week or Monday and Thursday. Such areas shall only be watered between the hours of 6:00 p.m. and 6:00 a.m. This provision shall not apply to commercial nurseries and golf courses.

(2) It is prohibited to water lawn, landscape or other turf areas of commercial nurseries or golf courses more often than every other day and watering shall only occur between the hours of 6:00 p.m. and 6:00 a.m. There shall be no restriction on watering utilizing reclaimed water.

(3) It is prohibited to use water from fire hydrants except for firefighting and related activities. Other uses for municipal purposes shall be limited to activities necessary to maintain the public health, safety and welfare.

(4) No customer shall make, cause, use or permit the use of water for any purpose in excess of the applicable percentage of the amount used in the customer's premises during the corresponding billing period of the base year as set by the City Council, such percentage to be determined by City Council and set forth in the resolution declaring Phase 2 water supply shortage. This percentage has been set at 12%. There shall be no restriction on the use of reclaimed water under this provision.

(5) All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within forty-eight (48) hours of notification by the City, unless other arrangements are made with the City.

(6) Re-filling of more than one foot and initial filling of residential swimming pools or outdoor spas with potable water is prohibited.

In addition to the permanent water conservation requirements and the Phase 2 requirements stated above, the City's Drought Action plan includes the implementation of following action items:

Short Term Action Items

1. Intensify Drought Outreach Campaign: media relations (press releases & news articles); bill inserts; website and social media; outdoor advertising; education programs; community and school events; and business outreach programs.

2. Focus outreach campaign on identified areas within the City with higher outdoor irrigation usage. This will include performing community outreach efforts to discuss the importance of water conservation and help customers convert to more efficient irrigation systems.

3. Continue to support and promote water conservation incentive programs: turf removal rebate program; MWD BeWaterWise program, and SoCal WaterSmart program (high-efficiency clothes washers and toilets, rotating sprinkler nozzles, weather-based irrigation controllers, soil moisture sensory systems, rain barrels, etc.). This includes providing staff resources to assist in and speed up various rebate programs. See Santa Ana's Water Conservation Page at santa-ana.org/waterconservation/.

4. Continue implementation of Water Wasting Reporting Program (Water Hotline, e-mail at conservewater@santa-ana.org, or use City MySantaAna smart phone app).

5. Continue enforcement: water wasting violations and pending violation of 12% use reduction.

6. Specific short term action plans to be implemented by the City and City Departments:

   - Upgrade the City Corporation Yard car wash;
   - Reduce watering in passive areas of parks, continue watering active areas (sports fields);
   - Amend the Zoning Code to update the City's Water Efficient Landscape Standards;
   - Continue to update and amend the Citywide Design Guidelines to reflect the new water efficient technologies; and
   - Upgrade the Planning Division webpage to provide examples of drought tolerant landscaping and water efficient water systems;

Long Term City Action Items

1. Implement a lawn replacement program (replace with drought tolerant plants) at all City Water Production Facilities.

2. Remove ornamental turf on all street medians and replace with drought tolerant planting, gravel or other water efficient landscapes.

3. Within city parks and facilities, remove grass where possible and install drought tolerant plants or install synthetic turf, where feasible.

4. At City parks, install master control valves, flow and moisture sensors, and weather-based irrigation controllers.

5. Within City buildings and facilities, continue the replacement of plumbing fixtures (toilet and sink valves) with low water use (water efficient) fixtures.

6. Convert large water irrigation customer's old meters to AMI meters (which allow real-time monitoring of water use for precise irrigation practices).

7. Continue the feasibility study for City-wide AMI meter replacement implementation program.

8. Conduct recycled water feasibility study in conjunction with OCWD.

Appendix 2: Drought Contingency Plan

ARTICLE VI. - WATER SHORTAGE CONTINGENCY PLAN[2]

DIVISION 1. - GENERALLY

Sec. 39-84. - Purpose.

The purpose of this article is to prevent the waste or unreasonable use of water and to provide a mandatory water conservation plan during a proclaimed water shortage. Because of the water supply conditions prevailing in the city and in the area of this state from which the city obtains a portion of its supply, the general welfare requires that the conservation of such water be practiced for the benefit of the people of the city and for the public welfare.

(Ord. No. NS-2073, § 1, 9-4-90)

Sec. 39-85. - Authorization.

The director of public works is authorized and empowered to enforce and administer the provisions of this article.

(Ord. No. NS-2073, § 1, 9-4-90)

Sec. 39-86. - Public health and safety not to be affected.

Nothing in this article shall be construed to require the department to curtail the supply of water to any customer when such water is required by that customer to maintain an adequate level of public health and safety.

(Ord. No. NS-2073, § 1, 9-4-90)

Sec. 39-87. - Environment.

This article and the actions hereafter taken pursuant thereto are exempt from the provisions of the California Environmental Quality Act of 1970 as a project undertaken as immediate action necessary to prevent or mitigate an emergency pursuant to Section 507(c) of the State EIR Guidelines.

(Ord. No. NS-2073, § 1, 9-4-90)

DIVISION 2. - DEFINITIONS

Sec. 39-88. - General.

The words and phrases used in this article shall be construed as defined in section 39-15, unless separately defined in this article or the context clearly requires otherwise. Unless a different definition is set forth in section 39-15 or elsewhere in this article, the definitions set forth in the other provisions of this Code shall likewise apply.

(Ord. No. NS-2073, § 1, 9-4-90)

Sec. 39-89. - Phasing.

Phasing shall refer to the city council action of declaring water conservation Phase 1, 2, or 3 by resolution.

(Ord. No. NS-2877, § 6, 5-19-15)

Editor's note— Ord. No. NS-2877, § 6, adopted May 19, 2015 , set out provisions for use herein as § 39-89. Prior to the adoption of those provisions § 39-89 was repealed by Ord. No. NS-2781, § 3, adopted April 20, 2009. Former § 39-89 pertained to phasing, and was derived from Ord. No. NS-2073, § 1, adopted September 4, 1990.

Sec. 39-90. - Billing unit.

Billing unit means the unit of water rates for purpose of calculating water charges for a person's water usage and equals one hundred (100) cubic feet or seven hundred forty-eight (748) gallons of water.

(Ord. No. NS-2877, § 7, 5-19-15)

Sec. 39-91. - Base year.

Base year is the twelve (12) month period designated by council to be the reference period for the water consumption reduction goal.

(Ord. No. NS-2877, § 8, 5-19-15)

Sec. 39-92. - Measurable rainfall.

For the purpose of this article, measurable rainfall is defined as a rain storm that causes one-half (½) inches of precipitation over a twenty-four (24) hour period on all or a portion of the city.

(Ord. No. NS-2877, § 9, 5-19-15)

Sec. 39-93. - Newly constructed homes and buildings.

Newly constructed homes and buildings means homes and buildings that have been issued a building permit by the city after May 31, 2015.

(Ord. No. NS-2877, § 10, 5-19-15)

Secs. 39-94, 39-95. - Reserved.

DIVISION 3. - RESERVED[3]

Secs. 39-96—39-104. - Reserved.

DIVISION 4. - REGULATIONS GOVERNING WATER CONSERVATION PHASES[4]

Sec. 39-105. - Determination of conservation phase.

The city council shall make findings of water supply shortage and declare the applicable water conservation phase by resolution.

The implemented phase of the water supply shortage shall be in effect until the city council declares that the water supply shortage has ended or until another phase has been implemented.

(Ord. No. 2781, § 7, 4-20-09; Ord. No. NS-2877, § 11, 5-19-15)

Editor's note— Ord. No. NS-2877, § 11, adopted May 19, 2015, amended the title of § 39-105, to read as set out herein. Previously § 39-105 was titled "Determination of conservation level."

Sec. 39-106. - Permanent water conservation requirements—Prohibition against water wasting.

The following water conservation requirements are effective at all times and are permanent. Violations of this section will be considered waste and an unreasonable use of water:

(1) Washing down sidewalks, walkways, driveways, parking areas or other paved surfaces, except as is required to dispose of dangerous liquids or alleviate safety or sanitary hazards and then only by use of a hand-held bucket, or hand-held hose equipped with a positive self-closing water shut-off device is prohibited.

(2) Watering of lawn, landscape or other turf areas except between the hours of 6:00 p.m. and 9:00 a.m. is prohibited, except by use of a hand-water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.

(3) The use of water to clean, fill or maintain levels in decorative fountains, ponds, lakes or other similar aesthetic structures unless such water is part of a re-circulating system is prohibited.

(4) No restaurant, hotel, café, cafeteria or other public place where food is sold, served or offered for sale shall serve drinking water to any customer unless expressly requested.

(5) Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, is prohibited, except by use of a hand-held bucket or hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This subsection does not apply to any commercial car washing facility.

(6) Hotels, motels and other commercial lodging establishments must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clean and easily understood language.

(7) Food preparation establishments such as restaurants or cafes are prohibited from using non-water conserving dish wash spray valves.

(8) All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within seventy-two (72) hours of notification by the city, unless other arrangements are made with the city.

(9) No installation of single pass cooling system. Installation of single pass cooling systems is prohibited in buildings requesting new water service.

(10) Commercial car wash system. Effective on January 1, 2012, all commercial conveyor car wash systems must have installed operational re-circulating water systems, or must have secured a waiver of this requirement from the city.

(11) Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley gutter or ditch is prohibited.

(12) No installation of non-recirculating in commercial car wash and laundry systems. Installation of non-re-

circulating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems.

(13) The use of water to irrigate outdoor landscapes during or within forty-eight (48) hours after measurable rainfall.

(14) The irrigation with potable water of ornamental turf on public street medians.

(15) The irrigation with potable water outside of landscapes outside of newly constructed homes and buildings in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission and the Department of Housing and Community Development.

(Ord. No. 2781, § 8, 4-20-09; Ord. No. NS-2877, § 12, 5-19-15)

Editor's note— Ord. No. NS-2877, § 12, adopted May 19, 2015, amended the title of § 39-106, to read as set out herein. Previously § 39-106 was titled "Permanent water conservation requirements."

Sec. 39-107. - Phase 1 water supply shortage.

Upon the declaration by the council of a Phase 1 water supply shortage, council will implement the mandatory Phase 1 conservation measures identified in this section. In addition to the prohibited uses of water identified in section 39-106, the following water conservation requirements apply during a declared Phase 1 water supply shortage:

(1) Restrictions on watering lawn, landscape or other turf areas shall be modified to prohibit watering more often than every other day or Monday, Thursday, and Saturday. Such areas shall only be watered between the hours of 6:00 p.m. and 6:00 a.m. This provision shall not apply to commercial nurseries and golf courses.

(2) The watering of lawn, landscape or other turf areas of commercial nurseries or golf courses shall be allowed between the hours of 6:00 p.m. and 6:00 a.m. There shall be no restriction on watering utilizing reclaimed water.

(3) No customer shall make, cause, use or permit the use of water for any purpose in excess of the applicable percentage of the amount used in the customer's premises during the corresponding billing period of the base year as set by council, such percentage to be determined by city council and set forth in the resolution declaring Phase 1. There shall be no restriction on the use of reclaimed water under this provision.

(4) All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within seventy-two (72) hours of notification by the city, unless other arrangements are made with the city.

(Ord. No. 2781, § 9, 4-20-09; Ord. No. NS-2877, § 13, 5-19-15)

Editor's note— Ord. No. NS-2877, § 13, adopted May 19, 2015, amended the title of § 39-107, to read as set out herein. Previously § 39-107 was titled "Water conservation level 1 water shortage."

Sec. 39-108. - Phase 2 water supply shortage.

Upon the declaration by the council of a Phase 2 water supply shortage, council will implement the mandatory Phase 2 conservation measures identified in this section. In addition to the prohibited uses of water identified in section 39-106 and section 39-107, the following water conservation requirements apply during a declared Phase 2 water supply shortage:

(1) Watering lawn, landscape or other turf areas shall be modified to prohibit watering more often than two (2) or Monday and Thursday. Such areas shall only be watered between the hours of 6:00 p.m. and 6:00 a.m. Th shall not apply to commercial nurseries and golf courses.

(2) It is prohibited to water lawn, landscape or other turf areas of commercial nurseries or golf courses more often than every other day and watering shall only occur between the hours of 6:00 p.m. and 6:00 a.m. There shall be no restriction on watering utilizing reclaimed water.

(3) It is prohibited to use water from fire hydrants except for firefighting and related activities. Other uses of water for municipal purposes shall be limited to activities necessary to maintain the public health, safety and welfare.

(4) No customer shall make, cause, use or permit the use of water for any purpose in excess of the applicable percentage of the amount used in the customer's premises during the corresponding billing period of the base year as set by council, such percentage to be determined by city council and set forth in the resolution declaring Phase 2 water supply shortage. There shall be no restriction on the use of reclaimed water under this provision.

(5) All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired with forty-eight (48) hours of notification by the city, unless other arrangements are made with the city.

(6) Re-filling of more than one (1) foot and initial filling of residential swimming pools or outdoor spas with potable water is prohibited.

(Ord. No. 2781, § 10, 4-20-09; Ord. No. NS-2877, § 14, 5-19-15)

Editor's note— Ord. No. NS-2877, § 14, adopted May 19, 2015, amended the title of § 39-108, to read as set out herein. Previously § 39-108 was titled "Water conservation level 2 water shortage."

Sec. 39-109. - Phase 3 water supply shortage—Emergency condition.

Upon the declaration of a Phase 3 water supply shortage, the council will implement the mandatory Phase 3 conservation measures identified in this section. In addition to the prohibited uses of water identified in section 39-106, section 39-107 and section 39-108, the following water conservation requirements apply during a declared Phase 3 water supply shortage:

(1) Watering or irrigation of lawn, landscape or other vegetated area with potable water is prohibited. The restriction does not apply to the following categories of use, unless the council has determined that recycled water is available and may be applied to use:

a. Maintenance of vegetation, including trees and shrubs, that are watered using a hand-held bucket or similar container, hand-held hose equipped with a positive self-closing water shut-off nozzle or devise;

b. Maintenance of existing landscape necessary for fire protection;

c. Maintenance of existing landscape for soil erosion;

d. Maintenance of landscape within active public parks and playing fields, day care centers, golf course greens, and school grounds, provided that such irrigation does not exceed two (2) days per week according to the schedule and time restriction established in section 39-108.

(2) All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within twenty-four (24) hours of notification by the city, unless other arrangements are made

with the city.

(3) No new potable water service will be provided, no new temporary meters or permanent meters will be provided and no statement of immediate ability to serve or provide water service (such as, will-serve letters, certificates, or letters of availability) will be issued, except under the following circumstances:

a. A valid, unexpired building permit has been issued for the project; or

b. The project is necessary to protect the public health, safety, or welfare; or

c. The applicant provides substantial evidence of an enforceable commitment that water demands for the project will be offset prior to the provision of a new water meter(s) to the satisfaction of the city.

This provision does not preclude the resetting or turn-on of meters to provide continuation of water service or the restoration of service that has been interrupted for a period of one (1) year or less.

(4) No customer shall make, cause, use or permit the use of water for any purpose in excess of the applicable percentage of the amount used in the customer's premises during the corresponding billing period of the base year as set by council, such percentage to be determined by city council and set forth in the resolution declaring Phase 3. There shall be no restriction on the use of reclaimed water under this provision.

(Ord. No. 2781, § 11, 4-20-09; Ord. No. NS-2877, § 15, 5-19-15)

Editor's note— Ord. No. NS-2877, § 15, adopted May 19, 2015, amended the title of § 39-109, to read as set out herein. Previously § 39-109 was titled "Emergency condition, level 3 water shortage."

Sec. 39-110. - Implementation of water conservation phases.

(a) Each month the department shall monitor and evaluate the demand for water by customers and the projected available supply. Upon determination of potential or actual water supply shortage, the director of public works shall recommend to the city council the extent of the conservation phase required by customers in order for the department to prudently supply water to customers.

(b) The city council shall make findings of shortage and declare the conservation phase by resolution. Said resolution shall specify the start date of the conservation phase. The resolution shall be published once in a daily newspaper of general circulation within the city and shall become effective immediately upon such publication

(c) The provision of section 39-107(3) and 39-108(4) and 39-109(4) requiring curtailment in the use of water shall be effective the first full billing period commencing on or after the date of such publication.

(d) For the purpose of determining compliance with the water use reductions in sections 39-107(3), 39-108(4), and 39-109(4), commercial, industrial and institutional users can request that water use reduction is calculated on an aggregate basis on all accounts owned by the same user. The request shall be considered and approved by the director of the public works agency.

(e) For new water accounts and accounts without historical water use in the base year, water use reduction level shall be based on the average base year use of similar types of users in the city.

(Ord. No. 2781, § 12, 4-20-09; Ord. No. NS-2877, § 16, 5-19-15)

Sec. 39-111. - Cumulative penalties.

Notwithstanding any other provision of this Code, the penalties set forth in section 39-112 for violations relating to the curtailment in the use of water shall be cumulative with any other section of this Code or state law.

All monies collected by the city pursuant to any of the penalty provisions of this article shall be deposited in the water stewardship fund, to be used for water conservation outreach and education activities.

(Ord. No. 2781, § 13, 4-20-09; Ord. No. NS-2877, § 17, 5-19-15)

Editor's note— Ord. No. NS-2877, § 17, adopted May 19, 2015, amended the title of § 39-111, to read as set out herein. Previously § 39-111 was titled "Exclusivity of penalties."

Sec. 39-112. - Enforcement and penalties for violation of water allocation requirements.

Violation by any customer of sections 39-107(3) and 39-108(4) and 39-109(4) requiring curtailment in the use of water shall be penalized as follows:

(1) *First violation.* The director of public works or his designee shall issue a written notice in the utility bill of the fact of a first violation to the customer.

(2) *Second and subsequent violations.* The director of public works or his designee shall issue a written notice in the utility bill of the fact of a second and subsequent violation to the customer. For violations, within the preceding twelve (12) calendar months, the director of public works or his designee shall impose a surcharge in an amount, set by the city council, on the water use in excess of the water allocation requirements.

(3) *Gross violations.* Customers who have three (3) violations within a twelve (12) month period shall be deemed gross violators and shall be subject to the installation of a flow restrictor device as determined by the director of public works or his designee. The charge for installing and removing a flow-restricting device and any other penalties or charges due the city from the customer or due from any person who has applied for water service, shall be paid before normal service can be restored.

(Ord. No. 2781, § 14, 4-20-09; Ord. No. NS-2877, § 18, 5-19-15)

Sec. 39-113. - Relief from compliance.

(a) A customer may file an application for relief from any provision of this article. The director of public works shall develop such procedures as necessary to determine such application and shall, upon the filing by the customer of an application for relief, take such steps as reasonably necessary to determine the application for relief.

(b) The application for relief may include a request that the customer be relieved, in whole or in part, from the water use curtailment provisions of sections 39-96 through 39-109 and shall contain the basis for such request.

(c) In determining whether to grant relief and the nature of any relief, the director of public works shall take into consideration all relevant factors including, but not limited to:

(1) Whether any additional reduction in water consumption will result in unemployment;

(2) Whether additional members have been added to the household;

(3) Whether any additional landscaped property has been added to the property since the corresponding billing period of the prior calendar year;

(4) Changes in vacancy factors in multifamily housing;

(5) Increased number of employees in commercial, industrial and governmental offices;

(6) Increased production requiring increased process water;

(7) Water uses during new construction;

(8) Adjustments to water use caused by emergency health or safety hazards;

(9) First filling of a permit-constructed swimming pool; and

(10) Water use necessary for reasons related to family illness or health.

(d) In order to be considered, an application for relief from a resolution must be filed with the department within fifteen (15) days from the date of receipt of the most recent water bill following adoption of such resolution. No relief shall be granted unless the customer shows that he has achieved the maximum practical reduction in water consumption other than in the specific areas in which relief is being sought. No relief shall be granted to any customer who, when requested by the department, fails to provide any information necessary for resolution of the customer's application for relief.

(e) The decision of the director of public works shall be final.

(Ord. No. 2781, § 15, 4-20-09)

Sec. 39-114. - Exemption.

Single-family residential customers shall not be required to reduce consumption below eighteen (18) billing units per bi-monthly billing period during water supply shortage Phase 1. Multi-family residential customers shall not be required to reduce consumption below eighteen (18) billing units per bi-monthly billing period for each dwelling unit during water supply shortage Phase 1.

For water shortage Phases 2 and 3, the bi-monthly exemption amount for single family and multi-family customers shall be determined by the city council as set forth in the resolution declaring a water supply shortage Phase 2 or 3.

(Ord. No. 2781, § 16, 4-20-09; Ord. No. NS-2877, § 19, 5-19-15)

Sec. 39-115. - Notice of violation of provisions other than water allocation requirements.

For violations of this article not related to sections 39-107(3) and 39-108(4) and 39-109(4) requiring curtailment in the use of water, the director of public works or his designee shall give notice of violation to the customer committing the violation as follows:

(1) Notice of violation shall be given in writing in the following manner:

a. By giving the notice to the customer personally; or

b. If the customer is absent from or unavailable at the premises at which the violation occurred, by leaving a copy with some person of suitable age and discretion at the premises and sending a copy through the regular mail to the address at which the customer is normally billed; or

c. If a person of suitable age or discretion cannot be found, then by affixing copy in a conspicuous place at the premises at which the violation occurred and also sending a copy through the regular mail to the address at which the customer is normally billed.

(2) The notice shall contain a description of the facts of the violation, a statement of the possible penalties for each violation and a statement informing the customer of his right to a hearing on the merits of the violation pursuant to section 39-116.

(3) A second and subsequent violation, within the preceding twelve (12) calendar months of the first notice of violation, is punishable by a fine not to exceed five hundred dollars ($500.00) per notice.

(Ord. No. 2781, § 17, 4-20-09; Ord. No. NS-2877, § 20, 5-19-15)

Sec. 39-116. - Hearing regarding violation.

(a) Any customer receiving notice of a second or subsequent violation shall have a right to an informal hearing by the director of public works or his designee, provided that a written request for hearing is filed within fifteen (15) days from the date of the notice of violation and the customer deposits with the city a sum equal to the billed surcharge and pays all other outstanding water charges.

(b) The customer's timely written request for a hearing shall automatically stay installation of a flow-restricting device on the customer's premises until the department renders a decision.

(c) If it is determined that the surcharge was wrongly assessed, the city will refund any money deposited to the customer.

(d) The decision of the director of public works or his designee shall be final.

(Ord. No. 2781, § 18, 4-20-09)

Appendix 3: Letter of Support

DIRECTORS
PHILIP L. ANTHONY
DENIS R. BILODEAU, P.E.
SHAWN DEWANE
CATHY GREEN
DINA NGUYEN
VICENTE SARMIENTO
STEPHEN R. SHELDON
JAMES VANDERBILT
BRUCE WHITAKER
ROGER C. YOH, P.E.

ORANGE COUNTY WATER DISTRICT
ORANGE COUNTY'S GROUNDWATER AUTHORITY

OFFICERS
President
DENIS R. BILODEAU, P.E.
First Vice President
PHILIP L. ANTHONY
Second Vice President
SHAWN DEWANE
General Manager
MICHAEL R. MARKUS, P.E., D.WRE

January 25, 2018

Mr. Kevin Connolly
Grants Management Specialist
Bureau of Reclamation
Financial Assistance Support Section
P.O. Box 25007
Mail Code: MS 84-27814
Denver, CO 80225

Re: **WaterSMART Drought Response Program Grant Application**
Water Well No. 32 Rehabilitation Project
City of Santa Ana, CA

Dear Mr. Connolly:

The Orange County Water District (OCWD) supports the City of Santa Ana's WaterSMART Drought Response Program grant application that seeks funds to bring Water Well No. 32 back into service.

OCWD manages the local groundwater basin located in the northern half of Orange County, California. The City of Santa Ana is one of 19 cities and retail water districts served by OCWD and can pump about 75% of its water needs from the groundwater basin. 75% equates to about 300,000 to 330,000 acre-feet per year of groundwater pumping.

Water Well No. 32 is a city asset currently valued at approximately $3.5 million. This groundwater well was taken out of service over ten years ago due to water nitrate levels that exceeded the maximum level established by the California Department of Public Health.

In 2013, the City of Santa Ana procured an engineering/economic study to investigate the alternatives for bringing Well 32 back into service. This study resulted in the recommendation of a "blending alternative" as the most cost-effective alternative, and one that utilizes the technologies accepted by the California Department of Public Health. This alternative proposes the rehabilitation of the well, reconstruction of the well house, new electrical and mechanical appurtenances, and construction of a water transmission pipeline to a nearby pump station. The estimated costs of these improvements is $4.6 million, which the City is expected to fully recover within a four-year period.

PO Box 8300
Fountain Valley, CA 92728-8300
18700 Ward Street
Fountain Valley, CA 92708
(714) 378-3200
(714) 378-3373 fax
www.ocwd.com

Mr. Kevin Connolly
January 24, 2018
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The benefits of bringing Well 32 back into service include the following:

- providing a more drought resilient water supply alternative
- providing a more economical water supply alternative
- increasing the City's pumping capacity by providing an additional groundwater source;
- allowing the City to better distribute pumped groundwater throughout the municipal system
- reducing wear and tear on other City wells.

Following the recommendations of the study, the City requested that OCWD consider and support the proposed Well 32 Rehabilitation Project. The OCWD Board of Directors responded in a strong show of support and commitment, by directing the preparation of an Agreement with the City to remove pumping limits and partially exempt the City from the Basin Equity Assessment (BEA) fees for the proposed project. OCWD executed this Agreement with the City of Santa Ana in January 2016, recognizing the proposed project's potential to build long-term resilience to drought and reduce the need for emergency response actions.

OCWD recognizes the importance of retail agencies such as the City of Santa Ana increasing the reliability of their water supplies and becoming more efficient with stressed water supplies, particularly as changes in climate continue to impact rainfall in the Southern California region. The proposed Water Well No. 32 Rehabilitation Project aligns with the mission of the OCWD, which is to provide reliable, adequate, high-quality water, at the lowest reasonable cost in an environmentally responsible manner.

We urge you to support this grant application.

Sincerely,

Michael R. Markus, P.E., D.WRE, BCEE, F.ASCE
General Manager

Appendix 4: Copy of SAM Proof of Enrollment