CITY OF YUMA
AGUA VIVA WATER TREATMENT FACILITY GROUND WATER WELL PROJECT

WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Year 2021
Response to FOA No. BOR-DO-20-F002
Funding Group I

Prepared For:
BUREAU OF RECLAMATION
Financial Assistance Support Section
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August 5, 2020

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Attachments:

- **New Well 9E1 Tech Memo**
- **Resolution R2020-024**
- **Sept 2015 City of Yuma Water Conservation Plan**
- **Proposed CIP**
- **OE1 Tech Specifications**
- **2014 Drought Preparedness & Response Plan**

SECTION 1: TECHNICAL PROPOSAL AND EVALUATION CRITERIA

EXECUTIVE SUMMARY:

Date:	**July 8, 2020**	**Located on a Federal Facility: No**
Applicant:	**City of Yuma, Utilities Department**	**City: City of Yuma**
County:	**Yuma**	**Funding Group I**
State:	**Arizona**	

The City of Yuma is requesting $500,000 from the Bureau of Reclamation WaterSMART-Drought Response Program (Funding I Group) to build a new 3mgd ground water well at our Agua Viva Water Treatment Facility. The total project cost is approximately $1,849,815. The City of Yuma match portion is estimated to be $1,349,364.95. WaterSMART funds will be used in conjunction with City of Yuma funding to assist with the construction of a test well, along with the construction of a new well that will be associated with an iron and manganese treatment system. Benefits associated with the new Agua Viva Water Treatment Facility Ground Water Well Project will help build long-term resilience to periods of drought and help mitigate emergency response actions, while offering the following additional benefits:

- Provide the City of Yuma with greater capacity by making available an additional 3,360.43 acre feet of water per year
- Improve water management by enhancing the new well and piping system to tie into existing infrastructure
- Benefit the environment by reducing the volume of water we extract from the Colorado River
- Using ground water vs. surface water
- Secure water supplies for future generations
- Ensure long-term water sustainability by enabling the production, banking and use of additional safe, quality potable water during wet years
- Acquire more water independence

The Agua Viva Water Treatment Facility Ground Water Well project will require drilling a test well approximately 100’ west of a previously abandoned well (9E-1) the City of Yuma had at the Agua Viva facility. If the test well passes all testing, then a new well will be constructed at that site, utilizing the drilled hole, thereby decreasing overall cost to the Agua Viva Water Treatment Facility Ground Water Well Project.

The Project is not located on a Federal facility. This new well has a one-year implementation plan, and the project has already been designed. The necessary permits and approvals will be finalized after the project has gone out for bid. The construction of this new well will be started as early as July 1, 2021, and will be in our fiscal year 2021 budget.

BACKGROUND DATA:

Water Sources/Supply: The City of Yuma receives its water supply from two sources: the Colorado River and ground water. Water from these two sources supplies the City's water system which is divided into two primary water pressure zones. Zone 1 supplies water from the Main Street Water Treatment Facility to the general area of Yuma's north and west valley sections. Zone 2 water sources are the Agua Viva Water Treatment Facility and the 16th Street facility which includes a booster pumping station and 9 million gallons of potable water storage filled from the Main Street Water Treatment Facility. It covers the remaining east and southwest portions of the City. Zone 2 supplies water to Zone 1 through the use of pressure reducing valves (PRV). During peak demand periods, the Main Street facility has the ability to supplement the water supplied to Zone 1 when demand is greater than the PRV's can provide.

Colorado River water is diverted at Imperial Dam pursuant to the City's water rights, and has **Contract No. 4-07-30-W0055** in place with the Yuma County Water Users Association, the Gila Project and the United States Bureau of Reclamation (USBR). Water is delivered through the facilities of the Yuma County Water Users Association (YCWUA) and the Gila Gravity Canal System, USBR facilities. The City has a **Contract No. 14-06-W-106** with USBR that specifies providing water to the City for municipal and domestic use at a base amount of 50,000 acre-feet per year. In addition to the base allotment, the City has acquired delivery rights to 25,000 additional acre-feet of water making a total annual water allotment of approximately 75,000 acre-feet. The agreement also allows the City to convert agricultural allocations to municipal and industrial uses and to receive return flow credits. The City of Yuma receives approximately 85% of its raw water from the Colorado River; 50% is delivered to the Main Street Water Treatment Facility by the Yuma County Water Users Association, and 35% is delivered to the Agua Viva Water Treatment Facility by the Gila Gravity Canal System operated by the Yuma Mesa Irrigation District. The remaining 15% is a seasonal blend of ground water from the two (2) existing wells located at the Agua Viva Water Treatment Facility. (*See Attached Conservation Plan)

In today's world, it is vital to have the capacity to produce and deliver water quickly, while maintaining enough water for emergencies. The Environmental Protection Agency (EPA) conducts research and implements new regulations to help us keep our water safe. The Utilities Department has been diligently working on optimization of its water treatment process and water distribution system to deliver high quality water that meets or exceeds all regulatory requirements.

When the City of Yuma acquired property for the construction of the Agua Viva Water Treatment Facility (AVWTF), the land had an existing agricultural well (9E-1) drilled in 1966 on site. The City upgraded the well in an attempt to provide a potable water source for the treatment plant. During initial pump testing, Well 9E-1 experienced multiple issues associated with sanding at higher flow rates, and had several water quality issues including iron, manganese, and sulfides. The 50+ year-old well was so problematic, it was abandoned by the City of Yuma about 10 years ago due to the amount of corrosion, deterioration and lack of potable water quality. As a result, the discharge head and various parts were removed from the structure and used as replacement parts on the other two wells on site. It is basically stripped down to the straw and casing. Well 9E-1 will officially be abandoned according to the Arizona

Department of Water Resources (ADWR) Well Abandonment Handbook. Removing the old casing currently provides little benefit at this time, over abandoning the well in place as described.

The City had two primary concerns with the abandoned well that will be eliminated with the construction of a new well. The first concern will be the presence of sulfur reducing bacteria in the water, which impacts the water's taste and odor. Issues such as bad taste and odor in drinking water is unacceptable to the City of Yuma. The second concern is sanding in the wellhead, which greatly affects filtering and hydraulics. This issue will be readily addressed and eliminated with a properly designed filter pack.

Site of the Agua Viva Water Treatment Facility Abandoned Well (9E-1)

[Abandoned Well 9E-1 @ Agua Viva Site]

[Existing Chain Link Fence To Be Moved West 40']

Currently, "AVWTF" has two 3mgd groundwater wells (9E-2 & 9E-3), along with an associated iron and manganese treatment system. These wells are maintained as an important water resources management tool to blend water during the summer months when disinfection

byproduct formation potentially increases due to higher total organic carbon (TOC) concentrations in the surface water (canal) supply. The iron and manganese treatment system is equipped with two reaction vessels and three pressure filter vessels. Each filter vessel has a capacity of approximately 3 million gallons per day (3mgd) under the permitted loading rate.

The City of Yuma will be constructing a new well on a different site location at the Agua Viva facility. The new well will receive new piping, and hook into the existing infrastructure. It will flow through the AVWTP, through a PUREFLOW system where it is treated for iron and manganese, proceed to chlorination, after which it will be put into storage for distribution.

The City of Yuma has been proactively working to make this project a reality since 2017, when the Carollo Engineers, Inc. firm was contracted to perform a feasibility study on the Agua Viva New Well in July, 2017. This study addressed various water quality concerns. The City opted to abandon the well (9E-1), and drill a test well approximately 100 feet west of it in order to monitor water quality during the design and construction of the new well. In doing so, it will minimize any similar water quality concerns from the abandoned well. This alternative allows for the reuse of electrical equipment, conveyance piping,, pump to waste, etc.) providing us with a distinct cost savings. This test well has not been drilled yet.

[Approximate Site of the Test Well and New Well – 100' West of Abandoned Well 9E-1]

Prior to the construction of the new well, a test well will be drilled at the proposed new location in order to sample water quality at various depths/zones. This data will be used to design the final well, with the intent water will be drawn only from high quality zones. A 16.5 inch pilot test hole will be drilled. The project hydrogeologist will collect water quality and aquifer production data to design the ultimate well, which will be completed in the same hole. An

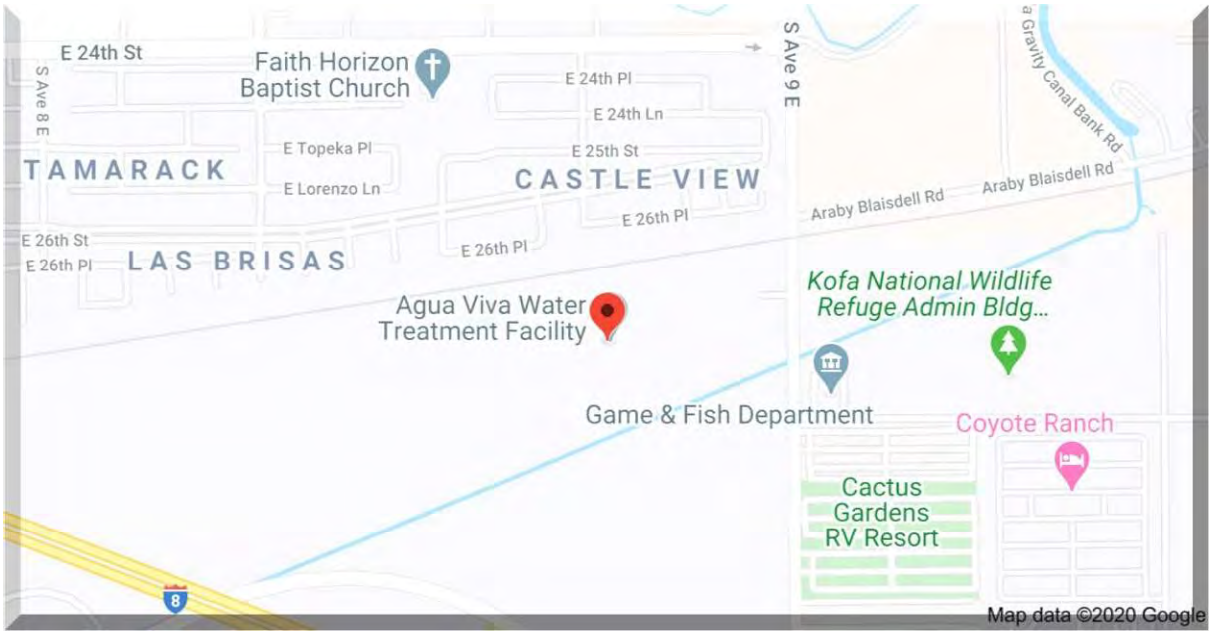
estimated cost for this will be approximately $300,000. This will ultimately be more cost effective than other options, since this hole will be the same hole used for the new well.

PROJECT LOCATION:

Nestled in the Yuma and Gila Valleys, the City of Yuma lies in the southwest corner of the United States' Lower Sonoran Desert on the California-Mexico-Arizona border, near the convergence of the Colorado and Gila rivers. With approximately 110,000 full time residents who live both inside and outside the City's boundaries, Yuma is the third largest metropolitan area in the State of Arizona, as well as Arizona's 11th largest city.

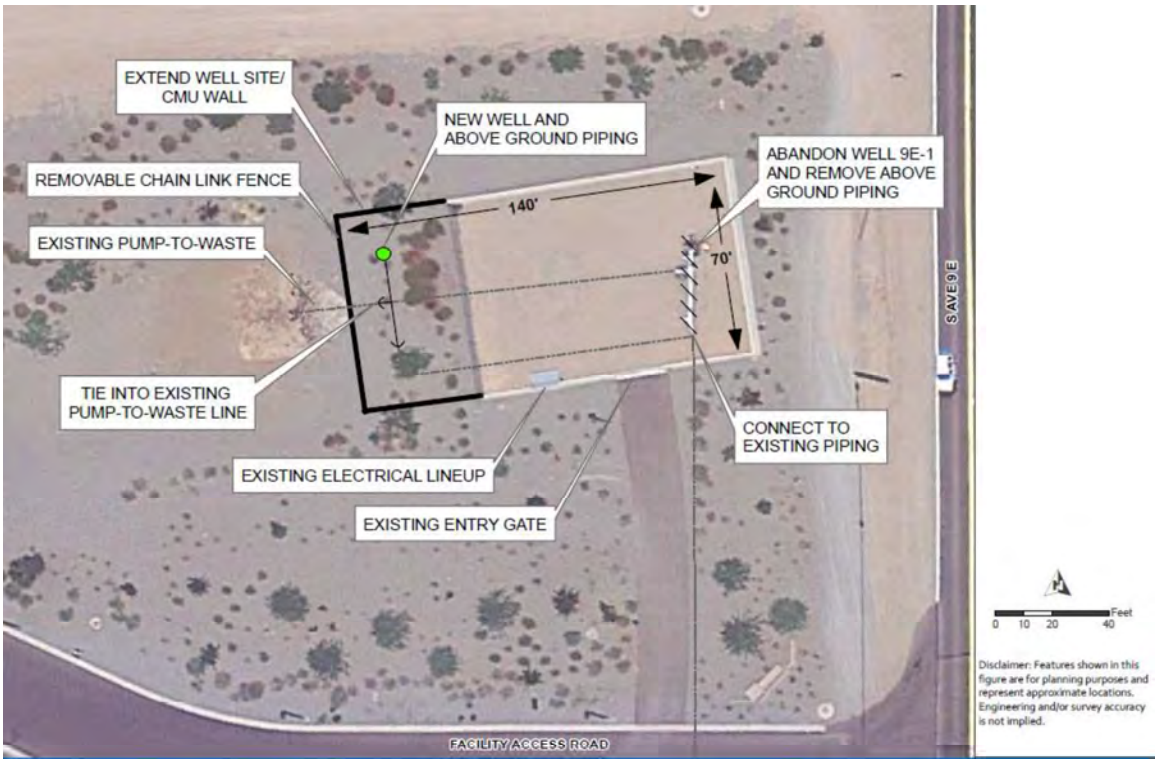
The City depends on ground water as a significant water source for municipal and industrial use in pressure zone 2. Groundwater is pumped from two wells located at the Agua Viva Water Treatment Facility on Avenue 9E. The City owns and operates the land around the wells and restricts any activities that might contaminate the groundwater. The treatment facility is located above the Basin and Range aquifers of the western United States. These aquifers cover most of Nevada, Eastern California; Southern Nevada, Western Utah, and small portions of New Mexico, Idaho and Oregon.

[Map of the Agua Viva Water Treatment Facility Surrounding Area]



[Agua Viva Water Treatment Facility Site located at 2670 S. Avenue 9E, Yuma, Arizona]

[Enlarged View of the Agua Viva Abandoned Well (9E-1) and New Well Site



The location of the new well will be adjacent to the existing 9E-1 abandoned well site. Under this scenario, all of the concrete masonry unit (CMU) perimeter wall can remain in place, while the chain link fence will be removed and relocated approximately 40 feet to the west to maintain the security of the site. The CMU perimeter wall will need to extend approximately 40 feet to the west. The existing electrical equipment can be re-used. New electrical conduit and wire are required from the existing electrical line-up to the new motor. The new pump-to-waste piping can tie into the existing pump-to-waste piping, and the new well discharge piping can tie into the existing well discharge piping.

[Electrical Panel By Abandoned Well]

The proposed 100 foot separation between the wells is anticipated to be sufficient to minimize the localized water quality issues at the existing abandoned Well 9E-1. It is anticipated that the proposed location will provide water quality more similar to Wells 9E-2 and 9E-3.

TECHNICAL PROJECT DESCRIPTION AND MILESTONES:

The City of Yuma strives to provide the highest level of service to its residents. Every day when citizens turn on a faucet, take out their trash, or drive down the street, it is testament to the hard work and dedication of our organization. Infrastructure is the foundation upon which the City delivers services. Addressing deteriorating, aging, and additional infrastructure needs is of utmost importance and is at the forefront of this project.

In April, 2018, the City of Yuma was provided a Draft of Technical Specifications for the drilling and installation of a new ground water well to be dug and constructed at the Agua Viva Water Treatment Facility as provided by Carollo Engineers, Inc. (See attachments) This draft addresses all technical specifications from start to finish including, but not limited to, design, piping, electrical, screens, material, equipment, components, etc. necessary for this entire project.

The design, engineering and permitting is funded by the City of Yuma. Assuming the bidding is awarded and permitting is entirely in place, the new well can be started any time after July 1, 2021. The overall project should take approximately eleven (11) months to complete if all goes as expected.

PERFORMANCE MEASURES:

The Agua Viva Water Treatment Facility offers the following performance measures to help quantify the project benefits once the new well is built and operating. These measurements will help to evaluate the efficiency of the water management effort. The performance measures are as follows:

1. Pumping Capacity. Construction of the Agua Viva Water Treatment Facility Ground Water Well will increase the City of Yuma's pumping capacity by 3 million gallons of water per day, or 3,360.43 acre-feet by year.
2. Cost savings. The new well at the Agua Viva Water Treatment Facility could save the City of Yuma from having to purchase 9.2 acre-feet per day of extracted Colorado River water. The additional pumping capacity of the new well will add 3,360.43 acre-feet per year. The cost savings could equate to an average of $21.40 per acre-foot.
3. Water Monitoring. The City of Yuma has a SCADA division responsible for monitoring both Zone 1 and Zone 2 systems. The data for the new well will be compared with historical system data of the prior abandoned well to determine the effectiveness of improving water quality and pressure in the vicinity.
4. The well is expected to have a capacity of 3mgd and will be metered. It could be expected to operate 24 hours per day.

EVALUATION CRITERIA:

Evaluation Criterion A – Project Benefits.

How does your project build long-term resilience to drought?

- ***Quantitative and Qualitative description of benefits***

The new well Project will build long-term resilience to drought by decreasing the City of Yuma's dependence on drought-stricken and over extended Colorado River water supplies, while continuing to maximize the use of local groundwater resources located at the City's Agua Viva Water Treatment Facility. The new well will return to service the water forfeited by the abandonment of an onsite well (9E-1) at a rate of 3 million gallons of water daily. With a capacity of an additional 3,360.43 acre-feet per year, the new well will increase the water supply in the Basin and Range aquifers of the western United States. The new capacity introduced into the distribution system will help service our growing community water needs.

The new well project will continue to provide benefits for upwards of 20 - 25 years or more. By increasing our groundwater supply and storage of water, the City of Yuma can help ensure the water supply and capability to respond to a drought or other water emergency.

Will the project make additional water supplies available?

Below is a table illustrating current Agua Viva Flows (MGD)

	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
2017	**232.341**	**225.982**	**259.066**	**227.440**	**226.482**	**253.447**	**265.252**	**279.344**	**240.098**	**247.317**	**252.282**	**246.113**
2018	**241.381**	**220.598**	**244.236**	**229.236**	**237.810**	**254.632**	**263.511**	**272.192**	**254.979**	**223.356**	**248.833**	**235.502**
2019	**227.054**	**225.875**	**256.015**	**248.682**	**233.325**	**258.884**	**271.000**	**282.280**	**255.353**	**244.813**	**254.626**	**258.905**
2020	**250.8109**	**230.4255**	**238.1128**	**227.262**	**262.224**	**258.884**						

The new Agua Viva Water Treatment Facility Ground Water Well could produce 1 billion, 95 million extra gallons of potable drinking water per year, equivalent to (3,360.43 acre-feet). This will be in addition to the other two wells located at the Agua Viva facility of which each of those wells respectively pump 3 million gallons of water daily.

Yuma residents will benefit from the additional water source in a cost efficient manner that will be local and high quality potable water.

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)?

The City of Yuma will improve water management efficiency and quantity by adding 3 million gallons of water per day, and allow the City to control the groundwater source. The well could run 24 hours a day and will be metered. Although our drought situation has changed somewhat in that Yuma, Arizona is not currently in drought status, it changes from year to year. Weather trends generally result in drought, as Yuma is a hot, arid environment with minimal rainfall average. The City of Yuma's other water source (the Colorado River) is in the midst of a long drought period. In 2019, we were in a drought, and should the need arise in the future, we would have more local water reserved for drought years to come by storing it during our wet years such as 2020.

Will the project have benefit to fish, wildlife, or the environment?

The Project will indirectly impact local fish or wildlife. By building a new 3mgd well, the environment could be impacted by leaving approximately 9 acre-feet of water per day in the Colorado River. This extra preserved water could be used to help sustain life, agriculture, private gardens, fish and animals from Yuma to Southern California to Mexico.
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Evaluation Criterion B – Drought Planning and Preparedness.

- **Projects specifically identified in a drought plan* with a high importance/priority are prioritized**

- **Drought plan is not an eligibility requirement, but referencing a drought plan where the project originated will help the score.**
- **Attach a copy of the plan as an appendix**
- **Explain how the plan addresses drought**
- **Explain the plan process, collaborative stakeholder involvement**

The City of Yuma has a formal Drought Preparedness and Response Plan (See Attachments) that lists steps to be taken in the event of a water shortage. It is the City's policy to ensure that water is allocated for public health and fire protection in the event of a shortage.

From an operational perspective, the most effective drought management comes from having adequate well and wellhead treatment capacity to meet water demands when surface water supplies are reduced. The City's Agua Viva Water Treatment Facility currently includes a well field that enables the City to supplement surface water supplies during times of drought or other surface water related emergencies. The City also has a Capital Improvement Project to study and site new ground water wells to mitigate periods of prolonged drought. The Agua Viva Water Treatment Facility Ground Water Well Project is supported by the City's Drought Preparedness and Response Plan under the provision as a solution to produce greater improved water capacity, as well as improved potable water. In an effort to engage our citizens in the management of water resources, the City of Yuma actively promotes and encourages voluntary water conservation regardless of the amount of water available.

EXISTING DROUGHT CONTINGENCY PLAN

Drought in the Lower Sonoran Desert at Yuma has occurred many times in the past and will occur again. Hence, planning for and management during a drought must be an ongoing process. The City of Yuma has planned for drier years through careful management of its water resources. As part of its efforts to prepare for and manage drought, the City of Yuma has developed a Drought Preparedness and Response Plan that provides a framework for:

- Managing drought conditions when they occur
- Preventing the need to implement drastic water use reduction measures including water rationing
- Planning for future droughts.

The City of Yuma's Drought Management Plan is designed to complement its ongoing water resource management and operational planning with projects such as this ground water well project. It is intended to be a flexible tool for the planning, response and mitigation of drought conditions. Central to the management of drought is the Drought Management Team. Members of this team include as a minimum:

- The Director of Utilities
- The Utilities Division Manager - Treatment
- The Utilities Division Manager - Systems
- The Water Quality Assurance Supervisor
- Members of the Public Affairs staff
- Members of the Finance staff

- The Assistant City Attorney assigned to Utilities.

Mandatory water use restrictions for Yuma residents and businesses will only be implemented when the City anticipates that it cannot meet its projected demand. The following criteria will be used when mandatory restrictions are implemented:

- Municipal outside water use restrictions will be implemented prior to mandatory water use restrictions for residents and businesses (for water other than reclaimed water).
- Outside water use reductions will be shared equitably among all City water users: municipal, residential, commercial and industrial (for water other than reclaimed water).
- Water users will be informed of the City's water supply condition.
- Automated Meter Reading (AMR) High Use and Leak Alert Reports will be produced. If available, electronic notices will be sent to those customers indicated. The accounts will be monitored to identify large water users and those with chronic leaks. Water use restrictions will be designed to achieve water use reductions required with the least possible impact on the local economy.
- Mandatory water use restrictions will cease when supplies are adequate to meet the following year's projected demands.
- Reclaimed water supplies are not reduced during times of drought; therefore reclaimed water use will not be restricted.
- The City will make every effort necessary to meet the requirements of water quality standards throughout any water supply reduction; however, it is noted that in drought conditions, source water quality degrades in relationship to the volume of water in the river.

CITY OF YUMA WATER CONSERVATION PLAN

The City also has a written formal policy and procedures regarding water shortage allocation. The City's **Water Conservation Plan,** as **required by Section 210(b) of the Reclamation Reform Act of 1982,** is consistent with the requirements of the Arizona Department of Water Resources and includes the four stages identified in the DWR guidance as well as consumption reduction goals, actions required, and user restrictions. It is important for the City to provide for equal sharing of the water supply during a shortage. If the proportion of rationing is not equal, an explanation of the reasons must be clearly communicated to the public. During a water shortage, it is also important for the City to discontinue all hydrant flushing and to intensify the distribution system leak detection and repair program. During an extreme shortage, voluntary rationing may not be enough and mandatory conservation may be required.

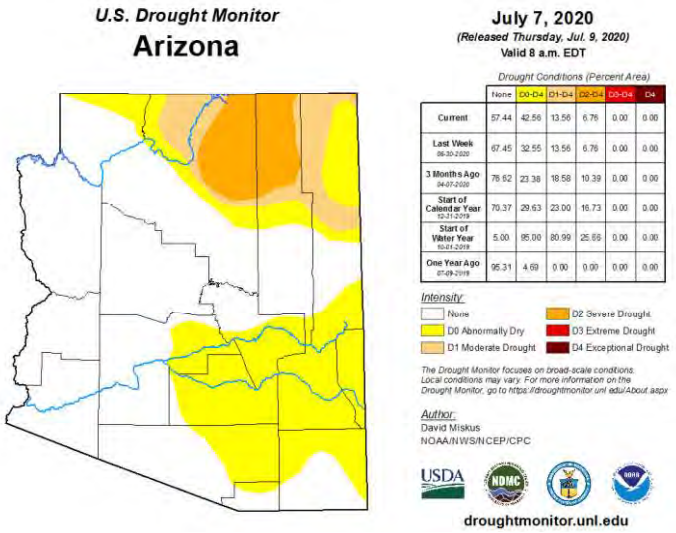
AMR High Use and Leak Alert reports will assist to identify accounts with chronic leaks for necessary action steps. Special ordinances may be used to enforce the mandatory conservation measures. To plan for the potential of a raw water supply shortage to Zone 2 due to canal outages, the City is in design phase for a new 3mgd well at the Agua Viva Water Treatment Facility so additional groundwater can be stored for current and future needs. Stakeholders are City of Yuma, Bureau of Reclamation and the public at large.

Evaluation Criterion C – Severity of Actual or Potential Drought Impacts to be addressed by the Project

- **Severity of Impacts and to which specific sectors**
  - **Public Health**
  - **Environmental**
  - **Economic**
  - **Conflict over limited water resources**
- **Existing or Potential Drought Conditions**
  - **Drought Monitor, droughtmonitor.unl.edu**
  - **Are conditions increasing the severity or duration of changes to water supply availability?**

One of the major impacts to be addressed is of course population growth. With that comes a major increased demand for water that can affect everything from life to farming to water supply. Public health will be impacted in a positive way in that the ground water that will be pumped and stored will be a quality potable water for an increased population. Ground water is very cheap, and economically it makes sense to pump it versus continue to pay to have it imported. Environmentally, the water from the US Bureau of Reclamation-managed Colorado River, normally imported, can stay in the Colorado River and help support the various cities, plants, fish and wildlife that depend on it. Currently there is no conflict over limited water resources. This is not to say there would not be in future drought years. Although Yuma is "grandfathered" in to Colorado River rights, there is always the potential the users "upstream" could extrapolate more than their legal share, thereby causing hardships for those of us who are "downstream."

According to the current drought monitor map, Yuma, Arizona is not currently showing a drought condition this year. However, the potential for drought can and does change on a yearly basis. During 2019, Yuma was in a state of drought. During the early months of January and February, 2020, we received our annual rainfall. Once we construct a new 3mgd well, it will help realize the City of Yuma's goal to mitigate imported water from the Colorado River, and use local ground water during our wet years, while banking ground water for future droughts.



Evaluation Criterion D – Project Implementation

IMPLEMENTATION SCHEDULE PRIOR TO CONSTRUCTION

Task	High Level Activities/Milestones	Lead	Deliverable	Dates
1	Preliminary Studies for a New Well to include water quality, sampling, testing	City	Studies on file	2017
2	Design for proposed New Well Project	City	Design on file	2017
3	Obtain Permits	City/Cont.	Pending	2021
4	Submit to CIP Projects for Approval	City	In Capital Improvement Plan	2020
5	CIP Approval and Budget for FY 2021	City	In CIP Budget	2021
6	Apply for Bureau of Reclamation Grant	City	In progress	2020
7	RFP Submittal for Construction	City	Waiting	2021
8	Construction Bid Award	City	Waiting	2021
9	Execution of Bid Contract	City	Waiting	2021
10	Construction Management	City	Waiting	2021/2022
11	Complete Site work including clearing, grading And fencing	Contractor	Waiting	2021/2022
12	Drill test well and sampling	Contractor	Waiting	2021/2022
13	Drill and construct New Well over Test Site	Contractor	Waiting	2021/2022
14	Grant Award and Fully Executed Grant Agreement	BOR/City	Waiting	2020
15	Grant Administration	City	Successful audit	2021/ 2022
16	Submit quarterly program performance reports	City	Quarterly Reports Submitted by City	2021/ 2022
17	Submit requests for reimbursement	City	Requests for Reim-bursements	2021/ 2022
18	Submit financial reports including required Federal Forms	City	Financial Reports Submitted	2021/ 2022
19	Complete final report including project evaluation and final payment request	City	Final Report Submitted	2022

Well-supported budget – table and narrative

The proposed project is able to proceed into a grant agreement with the Bureau of Reclamation. The total project cost is estimated to be $1,849,815 with $500,000 in Federal Funds provided through the WaterSmart Drought Response Program: Drought Resiliency Projects for Fiscal

Year (FY) 2021 if awarded. The City match portion of $1,350,364.95 is allocated from the City of Yuma's Capital Improvement Budget.

- **Identification of necessary permits and regulatory compliance**

The Production Well Site Budget has built in a cost of $10,000 to cover any necessary permits and regulatory compliance costs.

ANTICIPATED PERMIT	PROCESS FOR APPROVAL/ISSUANCE
Utilities Department approval of plans/specifications submitted by Carollo Engineers, Inc.	Plans & Specifications to be reviewed by the City of Yuma engineering staff, and approved by the Director of Utilities/City Engineer
City of Yuma Department of Community Development to issue appropriate building permits	Plans & Specifications to be reviewed and approved by the City Building Department staff, and issue appropriate building permits
City's RFP public bid process for lowest responsible bidder	Compliance with State of Arizona Public Contracts Code. Award the bid.
Apply to Arizona Department of Environmental Quality for Approval to Construct	Contractor to apply for this permit.
Apply to Arizona Department of Environmental Quality for Approval of Construction Permit	Contractor to apply for this permit.
Apply to Arizona Department of Water Resources for Notice of Intent to Drill Permit (Form 55-40).	Contractor/Well driller to apply for and receive approval from the Arizona Department of Water Resources prior to commencement of any drilling operations
Storm Water Pollution Prevention Plan Permit (SWPPP) required	Contractor to apply to Arizona Department of Environmental Quality

- **Engineering and design work**

In 2017, the City of Yuma hired Carollo Engineering, Inc. to prepare a Water Quality Feasibility Study for the design of a test well and a new well to be drilled at the Agua Viva Water Treatment Facility. (See attachments) The Feasibility Study addressed and reviewed the water quality concerns and any emerging contaminants, compliance and treatment alternatives, equipment requirements, preliminary sizing and layouts, environmental requirements and permitting, cost estimates, alternatives, evaluation, recommendations. Once the City of Yuma issues a construction permit, the City of Yuma will begin the process of preparing an RFP to select design firms based on their qualifications and experience of similar projects to proceed with the construction of the test well and the new 3mgd well at the Agua Viva Facility.

- **Detailed, thorough schedule**

The detailed Bid Schedule for the Drilling and Installation of the Agua Viva Water Treatment Facility Ground Water Well has not gone through the City of Yuma's RFP process yet, nor has this project been awarded to a construction company. However, attached is a draft of the Technical Specifications for the Drilling and Installation of the City of Yuma Well that includes a detailed draft Bid Schedule without costs attached. This document includes all materials,

equipment, specifications and anything related to the construction of this well. It is too extensive to list in this 20 page application. (See Attachments).

Evaluation Criteria E – Nexus to Reclamation.

- **Reclamation project or activity (i.e. Basin Study)?**

The City of Yuma is reliant on the U.S. Bureau of Reclamation Colorado River systems to deliver surface water to its two primary water treatment facilities as indicated in its water delivery contract with **Reclamation Contract No. 14-06-W-106**. The City of Yuma lies within an area that is highly susceptible to strong seismic activity. Due to the age of the canal systems, there is a greater degree of probability of severe damage in the event of a large earthquake. In addition, annual maintenance requires taking the canals out of service for as long as 5 to 7 days. The City has a responsibility to develop and provide a reliable supply of water to their citizens. Currently the City has diminished means to pump ground water in the event of disruption of delivery via the canal systems.

- **Tribal benefit?**

The proposed project will not benefit tribes directly, but pumping additional ground water from Zone 2 (Agua Viva Water Treatment Facility) and sending it to Zone 1 (Main Street Water Treatment Plant) will indirectly allow our reclamation facilities to better meet our responsibilities to local tribes such as the Quechuan and Cocopah.

- **Reclamation project water?**

Yes, the City of Yuma receives a portion of its water from the U.S. Bureau of Reclamation Colorado River management systems to deliver surface water to its two primary water treatment facilities, per **Reclamation Contract No. 14-06-W-106**.

- **Reclamation lands or facilities?**

While the Project is not on Reclamation lands, the City does receive diverted water through the Imperial Dam (which is a Reclamation facility), through the Gila Gravity Canal System **(Contract No. 4-07-30-W0055)** (another Reclamation facility), which is part of the Yuma Project, (yet another Reclamation Project). The additional new well at Agua Viva Water Treatment Facility will directly benefit reclamation facilities due to a decreased dependence on the Colorado River, and increased use of the City of Yuma's own ground water sources. The City of Yuma receives approximately 85% of its raw water from the USBR-managed Colorado River; 50% is delivered to the Main Street Water Treatment Facility by the Yuma County Water Users Association, and 35% is delivered to the Agua Viva Water Treatment Facility by the Gila Gravity Canal System **(Contract No. 4-07-30-W0055**) operated by the Yuma Mesa Irrigation District. The remaining 15% is a seasonal blend of ground water from the two (2) existing wells located at the Agua Viva Water Treatment Facility

- **Co-located in Reclamation basin?** No.

Evaluation Criteria F – Department of the Interior and Reclamation Priorities

- **Describe connection to applicable priorities**

a. The City of Yuma is attempting to create a conservation stewardship legacy second only to Teddy Roosevelt's land/water development through the US Bureau of Reclamation. The Agua Viva Water Treatment Facility will be using engineering, technology and science to identify best practices to manage land and scarce water resources. The new well project implements low impact and cost effective design to utilize local ground water near the source, and treat contaminated water – recognized as a best management practice by local, regional, state and federal water authorities. This Project will lead to conserved water as it will reduce reliance on the Colorado River. Community trust is key to assuring water needs are met within the Yuma area during drought and non-drought times. By building a 3rd 3mgd well, we are able to secure and store a substantial amount of clean, potable water for a growing community surrounding our state-of-the-art water treatment facility. We encourage educating our community as to all aspects of the Utilities Department and the services we provide. When our new well is constructed and in use, we will be notifying the community at large of this additional potable water for use during regular and drought times to boost public trust.
b. This Project will build long-term resilience to drought because it will add a net production of 3mgd of ground water available for potable and emergency use. The new well has an expected life of 20 - 25 years or more, and can make additional water available to both the City of Yuma residents, as well as the Yuma area.
c. By modernizing our infrastructure, we will be using a combination of local and Federal monies. The new well will produce clean, potable water and will tie into existing piping infrastructure.

SECTION 2: PROJECT BUDGET:

FUNDING PLAN:

Water Utility: Water Utility funds are not supported by taxes. Revenues are generated through water sales and capacity charges. Capacity charges are paid when construction permits are issued. Water Utility Fund revenues are primarily utilized to support operations related to water activities, debt payment related to the MPC2007 Utility Series bond, and a small portion is dedicated to capital projects.

In the City of Yuma's Capital Improvement Program for years 2021 - 2025, on Page 119, effective July 1, 2022, the Agua Viva Water Treatment Plant New Well Project is listed for $2,275,000 to be funded under the Water Utility Fund. The Project Number for this is 0056-WATER3. Although the CIP book has been approved, the Project is unfunded until Year 2022. A preliminary budget is proposed below by Carollo Engineers, Inc.

BUDGET PROPOSAL:

Costs: The preliminary cost for the new well is outlined in Table 1.

Table 1: BUDGET FOR PRODUCTION WELL SITE

	Qty	Unit	Material - $	Labor/Equip $	Installed Cost/Unit	Total Cost
SITE WORK						
Grading	1	LS			$ 5,000.00	$ 5,000.00
CMU Wall	125	LF			$ 80.00	$ 10,000.00
Access Gates	1	EA	$ 5,000.00	$2,000.00		$ 7,000.00
Concrete Slabs	10	CY			$ 350.00	$ 3,500.00
Subtotal						$ 25,500.00
RECOVERY WELL SITE						
Well Drilling	1	EA	$750,000.00			$ 750,000.00
Well Pump & Motor	1	EA	$ 75,000.00			$ 75,000.00
Well Pipe, Valves & Appurtenances	1	EA	$ 25,000.00			$ 25,000.00
Discharge Pipeline	0	LF	$ 60.00	$ 50.00		$ 0
EI & C	1	LS			$125,000.00	$ 125,000.00
Subtotal						$ 1,000,500
Contingency (25% of Subtotal)	1	LS			$250,125.00	$ 250,125.00
Markups (30% of Subtotal)	1	LS			$300,150.00	$ 300,150.00
Permitting	1	LS			$ 10,000.00	$ 10,000.00
Total Recovery Well Site						$1,560,775.00
Current Engineering Fee	1	LS				$ 269,040.00
Start-up Engineering Fee	1	LS				$ 20,000.00
Total Project Costs						$1,849,815.00

**** Markups include: General Contractor Overhead & Profit, Performance Bond and Builder's Risk Insurance, Sales Tax, and Escalation to the mid-point of construction.**

**** Permits include: Notice of Intent to Drill Permit (Form 55-40) with ADWR and Approval to Construction Permit with ADEQ**

BUDGET NARRATIVE

The Agua Viva Water Treatment Facility Ground Water Well Project has been addressed as Project #0056-WATER3 in the Capital Improvement Program FY 2021 – FY 2025. (Effective July 1, 2020), (Page 119) The Project Justification is that the Agua Viva Water Treatment Plant wells are the City of Yuma's primary emergency water supply if the Colorado River supply were to be disrupted.

Building a new well is of utmost importance to increase capacity and water quality. This Project will have no impact on the operational budget, and is designated to commence construction in FY Budget 2021. Since ***the funding is committed, and the CIP budget has been approved***, still

there is no actual itemized budget for this project yet, other than an approved lump sum entered in the FY 2021 – FY 2025 CIP book.

Design New Well

The new well will be located approximately 100 feet west of the abandoned Well 9E-1. The existing CMU wall around Well 9E-1 will be extended 40 feet to the west to provide the required security. Existing piping and electrical conduit/wires will be re-used where possible. The proposed 100-foot separation between the wells is anticipated to be sufficient to minimize the localized water quality issues from the abandoned well.

- An estimated cost is $289,000.

Test Well

A test well will be drilled at the proposed new location to sample the water quality at various depths/zones. This data will be used to design the final well, with the intent that water will be drawn only from high quality zones. The project hydrogeologist will collect water quality and aquifer production data to design the ultimate well, which will be completed in the same hole.

- An estimated cost for this is $300,000.

Abandonment of Existing Well

Well 9E-1 will be officially abandoned according to the Arizona Department of Water Resources (ADWR) Well Abandonment Handbook. Following this abandonment method, the entire casing should be either removed or perforated from 20 feet above the highest historic water level to the full depth of the well. The well is then completely filled with grout, which prevents contaminates moving vertically from one zone to another.

- An estimated cost for this is $150,000.

New Production Well

As described previously, the new production well will be drilled approximately 100 feet to the west of the abandoned well following completion of the aforementioned test well tasks. Filter pack design of the new well will help to reduce sanding issues previously experienced with the abandoned well, similar to what was done with Wells 9E-2 and 9E-3. The new well will be screened to draw only water from areas with acceptable water quality, based on information obtained from the test well.

- An estimated cost for this option is $1,110,815.

	Year		2022	2023	2024	2025	Out Years	Total
Design								
Construction			$2,275,000					$2,275,000
Total			**$2,275,000**					**$2,275,000**

Funding Sources	Previous Year	2021	2022	2023	2024	2025	Out Years	Total
Water Utility Fund			$2,275,000					$2,275,000
Total			**$2,275,000**					**$2,275,000**

SECTION 3: ENVIRONMENTAL AND CULTURAL RESOURCES COMPLIANCE:

If necessary or applicable, the City of Yuma will work with the Bureau of Reclamation – Yuma Area Office on any NEPA compliance needed for this project. Our new well project is not expected to impact the surrounding environment other than some dust and noise during construction. The contractor will be required to follow City ordinances to reduce impact on the community.

There are no known species listed as a Federal threatened or endangered species in the project area.

There are no wetlands or other surface waters inside the project boundaries.

The water delivery system that will be the focus of the proposed project was constructed in the 1970's and upgraded in the 1980's and 1990's.

The proposed project will not result in any modification of individual features of an irrigation system such as head gates, canals, or flumes.

There are no buildings, structures, or features in the proposed project area that are listed or eligible for listing on the National Register of Historic Places within this project area.

There are no known archeological sites in the proposed project area.

The proposed project will have a highly positive effect on all residents of the City of Yuma and its surrounding areas. The project will produce a new source of safe drinking water locally, replacing lost ground water production from the old abandoned well.

The project will not have any impacts on sacred sites or tribal lands.

The proposed project will not contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species.

SECTION 4: REQUIRED PERMITS AND APPROVALS:

The technical design and construction of the new well was submitted by Carollo Engineering Inc. to the City of Yuma for an Approval to Construct Permit, but it is currently awaiting approval once the actual bid process has been initiated for the Project.

ANTICIPATED PERMIT	PROCESS FOR APPROVAL/ISSUANCE
Utilities Department approval of plans/specifications submitted by Carollo	Plans & Specifications to be reviewed by the City of Yuma engineering staff, and approved by the Director of Utilities/City Engineer
City of Yuma Department of Community Development to issue appropriate building permits	Plans & Specifications to be reviewed and approved by the City Building Department staff, and issue appropriate building permits
City's RFP public bid process for lowest responsible bidder	Compliance with State of Arizona Public Contracts Code. Award the bid.
Apply to Arizona Department of Environmental Quality for Approval to Construct	City/Contractor to apply for this permit.
Apply to Arizona Department of Environmental Quality for Approval of Construction	City/Contractor to apply for this permit.
Apply to Arizona Department of Water Resources for permit to drill.	City/Contractor/Well driller to apply for and receive approval from the Arizona Department of Water Resources prior to commencement of any drilling operations
Storm Water Pollution Prevention Plan Permit (SWPPP) required	Contractor to apply to Arizona Department of Environmental Quality

SECTION 5: OFFICIAL RESOLUTION

The City of Yuma Council has finalized Resolution R2020-024 to authorize grant applications on the June 17th Council Meeting. This Resolution is for the Final Budget Adoption for Fiscal Year 2021. The official 2022 Resolution has not been developed yet.

PROJECT MEMORANDUM

AQUA VIVA WTF NEW WELL 9E-1 - FEASIBILITY STUDY

City of Yuma

Date: May 16, 2017
Project No.: 8126J00

Prepared By:	Nathan Nutter, P.E.
Reviewed By:	Willie Farmer, P.E. and Dave Sobeck, P.E.
Subject:	New Well 9E-1 - Feasibility Study

1.0 Background

The City of Yuma Agua Viva Water Treatment Facility (AVWTF) (Figure 1) is equipped with three groundwater wells (9E-1, 9E-2, and 9E-3) and an associated iron and manganese treatment system (Figure 2). The wells were used to address short term production needs during construction of the water treatment facility, and are currently maintained as an important water resources management tool to provide blending water during summer months when disinfection byproduct formation potential increases due to higher total organic carbon (TOC) concentrations in the surface water (canal) supply.

Wells 9E-2 and 9E-3 were drilled and equipped as part of the construction of the treatment facility in the mid 2000s. Both wells have been operated regularly since their construction and have not experienced notable water quality or operational issues.

Well 9E-1 was an existing agricultural well that was rehabilitated and upgraded to provide a potable water source for the treatment plant. During initial pump testing, Well 9E-1 experienced issues associated with sanding at higher flow rates. In addition, the water produced by the well had water quality issues including iron, manganese, and sulfide.

While Well 9E-1 has provided adequate service since its rehabilitation, the City of Yuma (City) has indicated that the well has experienced significant corrosion/deterioration and is in need of replacement. This Feasibility Study is intended to evaluate alternatives for abandoning and replacing Well 9E-1.

2.0 Well 9E-1 Existing Hydrogeologic Information and Water Quality

Well 9E-1 was drilled as an agricultural well in 1966 to a depth of 605 feet (Appendix A). 22-inch blank casing was installed from 0 foot - 200 feet, and 16-inch casing was installed with a screened interval to a depth of 250 feet - 600 feet. The original specific capacity of the well was 106 gallons per minute per foot (gpm/ft).

The performance of the well has decreased over the past 50 years. A variety of attempts were made to improve the water quality produced by the well, including modifying the screened intervals of the well casing, adding a surface seal, and limiting the flow rate to minimize sanding. In addition, a new pump with more corrosion resistant materials replaced the previous pump. An oxidation/filtration treatment system was also added to improve finished water quality prior to distribution. However, as noted previously, the well is now experiencing significant corrosion problems, increased sanding, and needs to be replaced.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

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Figure 1
Location Map

Last Revised: April 14, 2017
File Path: M:\Client\Yuma\8126Joo\GIS\mxd\Fig_01 - Location.mxd

Legend

- Well

N

Feet

0 75 150 300

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

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Last Revised: April 14, 2017
File Path: M:\Client\Yuma\8126.00\GIS\mxd\Fig_02 - Agua_Viva.mxd

Figure 2
AVWTF Aerial

3.0 Existing Infrastructure

3.1 Well Site

The existing Well 9E-1 site is located in the northeast corner of the AVWTF (Figure 3). Access to the well site is from the south off of the main plant entry road.

The well pump, discharge head, and motor have been removed from the site. The motor was reinstalled at Well 9E-2. The discharge, pump-to-waste piping, and electrical panel has been left in place.

3.2 Connecting Piping

Well 9E-1 has a 12-inch discharge line that runs south from the wellhead for approximately 225 feet, then west for approximately 285 feet before connecting to the 16-inch raw groundwater discharge pipeline from Wells 9E-2 and 9E-3 (Figure 4).

Well 9E-1 is equipped with a 16-inch pump-to-waste line that conveys water to Retention Basin No. 1, located approximately 140 feet west of the well site.

3.3 Treatment System

To address the potential maintenance issues and aesthetic concerns associated with iron and manganese water quality issues, water from all three wells is pumped through a Filtronic's Electromedia® I treatment system. The system is designed to reduce high levels of iron and manganese through a precipitation/coagulation process. The treated water from the Filtronic system is conveyed to the adjacent finished water reservoirs.

3.4 Well System Hydraulics

The iron and manganese treatment system is equipped with two reaction vessels and three pressure filter vessels. Each filter vessel has a capacity of approximately 3 million gallons per day (mgd) under the permitted loading rate. With one filter out of production for backwash, the treatment system has a "firm" design capacity of 6 mgd (4,200 gpm).

Each well pump is sized to produce 3 mgd or 2,100 gpm. If all three filters are in service, the treatment system can accommodate flow from all three wells within the permitted filter loading rate. However if one filter is taken out of production for backwash or maintenance, only two of the three wells can be operated at any given time without exceeding the design capacity of the system.

3.4.1 Well 9E-1 Hydraulics

City staff has indicated that when Well 9E-1 pumps in conjunction with either Well 9E-2 or 9E-3, there is a significant drop in flow. Since Well 9E-1 has a smaller discharge pipe than the other wells (12-inch vs 16-inch), the friction losses are greater and some loss in flow would be expected. While the flows will decrease when another pump runs with Well 9E-1, the drop in flow rate should be no more than 10% of when it is operating alone (Note: This is only true if the vessels are clean. If the vessels are clogged, this ratio will be higher). Assuming the tie-in point to the shared pipeline remains the same for the new Well 9E-1, it is reasonable to expect a similar reduction in performance when pumped in conjunction with either Well 9E-2 or Well 9E-3. Alleviating this issue would require a separate, dedicated discharge pipeline for Well 9E-1. While this could be accommodated as part of the new design, the additional costs may not be offset by the moderate increase in production.

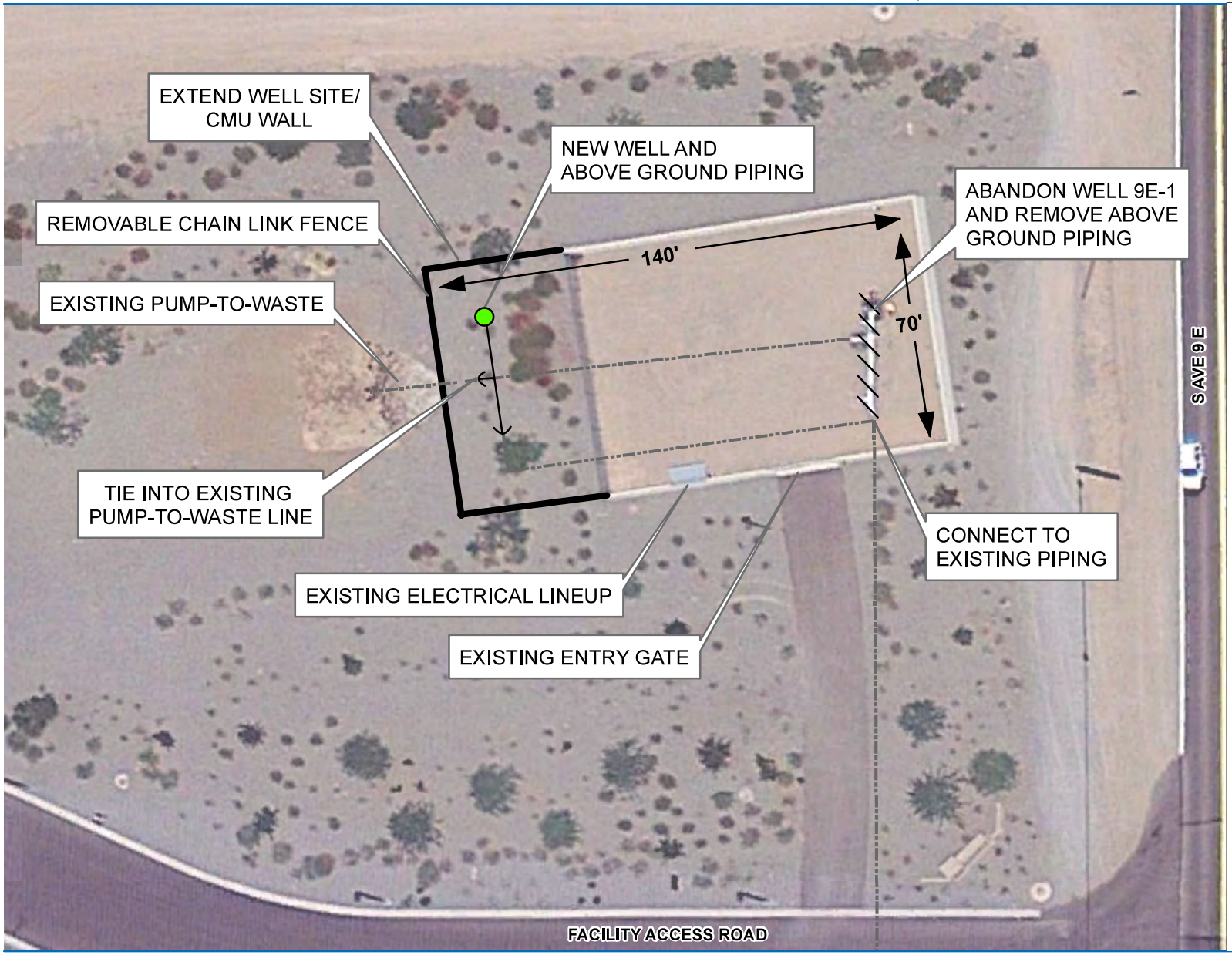

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Figure 3

Well 9E-1 Existing Site Plan and Proposed Site Modifications

Last Revised: April 26, 2017
File Path: M:\Client\Yuma\8126Joo\GIS\mxd\Fig_03 - Well 9E-1.mxd

Legend

- Well

Well Piping, in.

- 12
- 16
- 20
- 30
- PTW

N

Feet

0 75 150 300

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

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Last Revised: April 26, 2017
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Figure 4
Existing Well Discharge Piping Alignment

3.4.2 Wells 9E-2 and 9 E-3 Hydraulics

On March 29, 2017, City staff performed hydraulic testing for Wells 9E-2 and 9E-3. At the time of the testing, Well 9E-1 was inoperable. The hydraulic testing consisted of gathering pressure and flow data associated with running the wells under three scenarios. Scenario 1 consisted of running only Well 9E-2 until a constant pressure and flow was achieved by the well pump. Scenario 2 consisted of running both Wells 9E-2 and 9E-3 at the same time until constant pressured and flows were achieved by the well pumps. Scenario 3 consisted running only Well 9E-3. During testing, the following pressures and flows were noted as described in Table 1.

Table 1 AVWTF Well Discharge System Pressure and Flow Scenarios

Location	Scenario 1 Well 9E-2 Only	Scenario 2 Both Wells	Scenario 3 Well 9E-3 Only
Well 9E-2	20 psi / 2,400 gpm	27 psi(1) / 2,177 gpm(2)	----
Well 9E-3	----	27 psi / 2,366 gpm(2)	20 psi / 2,590 gpm
Filter Inlet	10 psi / 2,400 gpm	12 psi / 4,583 gpm	10 psi / 2,590 gpm
Filter Outlet	8 psi / 2,400 gpm	15 psi / 4,583 gpm	8 psi / 2,590 gpm

Notes:
(1) This pressure reading is interpolated from two separate pressure readings on different days.
(2) Flows are approximate since no flowmeter exists at the well site. They are based on projected flow splits according to ratios of original flow rates for each well.

As expected, when both wells are running, there are greater friction losses (higher recorded pressure) and a lower cumulative flow rate. However, it appears that the well pumps are producing more water than what the filter vessels are designed/permitted to accommodate. Therefore, it is recommended that the next time the bowl assemblies are replaced, each pump should be sized to produce 2,100 gpm or 3 mgd for a total of 4,200 gpm or 6 mgd. This would assist in ensuring that the treatment system is not being operated outside of design and permitting parameters during a backwash.

4.0 New Well 9E-1

4.1 Summary

The goal of this evaluation is to use the best engineering judgment to provide a new source of acceptable quantity and quality of groundwater to replace Well 9E-1 at the most economical price.

4.2 Future Site Plan

Carollo has identified three areas within the AVWTF where the new well could be located (Figure 5).

4.2.1 Alternative 1

Alternative 1 is located adjacent to the existing 9E-1 Well Site (Figures 3 and 5). Under this scenario, all of the concrete masonry unit (CMU) perimeter wall could remain in place, while the chain link fence would be removed and relocated approximately 40 feet to the west to maintain the security of the site. The CMU perimeter wall will need to extend approximately 40 feet to the west. The existing electrical equipment can be reused. New electrical conduit and wire are required from the existing electrical lineup to the new motor. The new pump-to-waste piping could tie into the existing pump-to-waste piping and the new well discharge piping could tie into the existing well discharge piping.

This alternative provides a distinct cost advantage in that many of the well site components can be reused.

Legend

- Existing Well
- New Well Alternative
- New Piping

N

Feet

0 75 150 300

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

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Last Revised: April 14, 2017
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Figure 5
Well Location Alternatives

4.2.2 Alternative 2

Alternative 2 is located in the southwest corner of the facility as shown in Figure 5. To maximize use of existing infrastructure and minimize capital costs, the discharge piping from the new well could connect with the existing Well 9E-3 discharge piping. However, it should be noted that this approach would decrease efficiency when both the new well and Well 9E-3 are running (due to higher flows and associated friction losses). A new electrical service and associated equipment would be needed, resulting in a lengthy conduit/wire run.

4.2.3 Alternative 3

Alternative 3 is located in the south-central portion of the facility as shown in Figure 5. The discharge piping would be routed through the existing facility roadway and buildings to connect with the inlet side of the filter building. Routing a new pipeline through the existing treatment facility would be challenging due to the number and depth of existing underground pipes and duct banks in the area. Existing asphalt and other roadway features will be impacted, as will the normal traffic circulation through the facility during the construction.

A new electrical service would be needed, as well as a retention basin/discharge location for pump-to-waste flow. Depending on future land use in this area (i.e. Reservoir No. 3), a retention basin may not be feasible. Also, if a tank or building will be located in this area in the future, saturating the soil with discharge water may increase the likelihood of ground settling.

4.2.4 Summary of Alternatives

Alternative 1 would allow much of the existing underground pipeline, pump-to-waste piping, perimeter fencing, and electrical feed to be reused. This would essentially result in drilling a new well and tying into existing features (pipes, fence, electrical, etc.) at the site.

Alternatives 2 and 3 would require long connections across the facility to tie into existing pipelines, as well as long conduit runs and new electrical equipment at each site. Access through the site would be impacted with Alternative 3.

4.3 Water Quality Projections

Based on the water quality produced from Wells 9E-2 and 9E-3, it is anticipated that a new well drilled at either Alternative 2 or 3 will produce similar high quality and quantity water. While Well 9E-1 has exhibited high sand content, and high iron and manganese levels, the well is over 50 years old and in bad condition.

Based on information received from Clear Creek Associates, there is a high probability that a new well could be drilled near the existing Well 9E-1 and produce adequate water quantity and quality. As seen during test pumping for the existing wells, the formation is capable of producing much greater than 3 mgd (the target production rate), providing flexibility in the well design to address potential zone specific water quality impacts. During drilling, zonal samples should be taken to identify both water quality and formation potential yield. A strategic screen design would be implemented to mitigate the risks of sanding and poor water quality.

4.4 Cost Estimate

Preliminary construction costs for the proposed new well site are presented in Table 2. Costs for this estimate were developed according to the Association for the Advancement of Cost Engineering International (AACEI) Class 5 standards, with a level of accuracy range of approximately plus 50 percent to minus 30 percent, as is standard for the level of detail provided within this report.

Table 2 Preliminary Cost Evaluation

Item	Alternative 1	Alternatives 2 & 3
Drilling	$750,000	$750,000
New Well Site Construction		
Site Work (Grading, wall, gate, concrete)	$25,000	$100,000
Mechanical	$100,000	$125,000
Electrical and I&C	$125,000	$250,000
Piping	N/A(1)	$100,000
Zonal Sampling	$60,000	$60,000
Subtotal	$1,060,000	$1,385,000
Contingency (15% of Subtotal)	$160,000	$208,000
Markups (30% of Subtotal)	$320,000	$415,000
Total	$1,540,000	$2,000,000

Notes:
(1) Not applicable to this alternative.

Alternatives 2 & 3 are approximately 30% more expensive than Alternative 1. While the well drilling costs would be the same for each alternative, the greater costs associated with Alternatives 2 & 3 are primarily a result of having to run new electrical service and connecting pipeline to the new sites. Minor costs increases were also a result of a new CMU wall and gate around the new sites.

Another way to analyze the cost associated with each project is to take out the drilling work and just analyze the site construction. If drilling were eliminated from the analysis, the site work alone would result in Alternatives 2 & 3 being approximately 150% more expensive than Alternative 1.

5.0 Recommendations

The driving factors in selecting an alternative location for the new well are water quantity and quality and overall capital cost. Based on the production of the aquifer, it is expected that all three locations could generate the required 3 mgd of water. Regarding water quality, the previous drilling of Well 9E-2 and Well 9E-3 indicate that new wells at the site can be designed to optimize water quality and minimize operational concerns through careful selection of materials of construction, screened intervals, etc. Consequently, it is anticipated that all three alternatives will result in adequate water quality (especially with consideration for the existing iron and manganese treatment system). Zonal sampling is recommended to assist with identifying screened intervals to provide the best water quality. This work can be done prior to drilling the well.

Regarding overall capital cost, Alternative 1 presents a significant savings in cost. Furthermore, this site is located outside of the treatment facility and therefore, will have minimal impact on plant operating procedures (including guard gate) during drilling or construction. Based primarily on the associated capital cost benefits, Carollo recommends Alternative 1 as the location for the new well site.

The existing Well 9E-1 should be abandoned according to the Arizona Department of Water Resources Well Abandonment Handbook. The link to the PDF version is provided below:
http://www.azwater.gov/azdwr/WaterManagement/Wells/documents/AbandonmentHandbook2008.pdf

Appendix A

ORIGINAL WELL 9E-1 ADWR WELL COMPLETION PERMIT

1. OWNER State of Arizona Yuma, AZ
Name
Well @ 9E Water Treatment Plant
Address
A. Overby
BASIC DATA, DWR

2. Lessee or Operator Carl C. Anderson
Name
2113 Melody Lane - Yuma, Arizona 85364
Address

3. DRILLER Hamilton & Hood
Name
P. O. Box 628, Yuma, Arizona
Address

4. Location of well: Twp. 9-S Rge. 22-W Section 2 NE ¼ SE ¼ NE ¼
10-acre subdivision

5. Intention to Drill File No. C(9-22)2 ada - Permit No.

DESCRIPTION OF WELL

6. Total depth of hole 605 ft.

7. Type of casing Steel Line Pipe

8. Diameter and length of casing 22 in. from 0 to 200, 16 in. from 200 to 600, in. from to

9. Method of sealing at reduction points Welded

10. Perforated from 250' to 600', from to, from to, from to

11. Size of cuts 1/8" Number of cuts per foot 45

12. If screen was installed: Length ~~250~~ 350 ① ft. Diam. 16 in. Type Roscoe-Moss ①

13. Method of construction Drilled
drilled, dug, driven, bored, jetted, etc.

14. Date started Sept. (Month) 29 (Day) 1966 (Year)

15. Date completed Oct. (Month) 4 (Day) 1966 (Year)

16. Depth of water 81 ft.
If flowing well, so state.

17. Describe point from which depth measurements were made, and give sea-level elevation if available
All measurements taken from 2' above ground level

18. If flowing well, state method of flow regulation

19. REMARKS: This well test pumped 5180 gals per minute w/a pumping level of 130'.

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Received 10-26-66 by fc
Filed 10-26-66 by fc
File No. C(9-22)2 ~~ada~~ ada

(Well Log to Appear on Reverse Side)

WD FORM G-301
REV. 4-27-63

① from video looks like manufactured louvered screens, from depth 250' to 600' (total 350' of screen).

RESOLUTION NO. R2020-024

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF YUMA, ARIZONA, ADOPTING ESTIMATES OF PROPOSED EXPENDITURES BY THE CITY OF YUMA FOR THE FISCAL YEAR 2021 BEGINNING JULY 1, 2020 AND ENDING JUNE 30, 2021; AND DECLARING THAT SUCH SHALL CONSTITUTE THE ADOPTED BUDGET OF THE CITY OF YUMA FOR FISCAL YEAR 2021; AND DECLARING NECESSITY OF BOARDS AND COMMISSIONS

WHEREAS, in accordance with the provisions of Title 42, Ch. 17, Art. 1-5 Arizona Revised Statutes (A.R.S.), the City Council did, on June 3, 2020, make and tentatively adopt an estimate (proposed Budget for the Fiscal Year beginning July 1, 2020 and ending June 30, 2021) of the different amounts required to meet the public expenditures/expenses for the ensuing year, also an estimate of revenues from sources other than direct taxation, and the amount to be raised by taxation upon real and personal property of the City of Yuma; and,

WHEREAS, in accordance with said chapter of said title, and following due public notice, the City Council met on June 17, 2020, at which meeting any taxpayer was privileged to appear and be heard in favor of or against any of the proposed expenditures/expenses or tax levies; and,

WHEREAS, it appears that publication has been duly made as required by law, of said estimates together with a notice that the City Council would meet on June 17, 2020 at 5:30 pm at One City Plaza for the purpose of hearing taxpayers and making tax levies as set forth in said estimates; and,

WHEREAS, the sums to be raised by taxation, as specified therein, do not in the aggregate exceed that amount as computed in A.R.S. §42-17051(A); and,

WHEREAS, Article IX, Section 1 of the Yuma City Charter requires that the City Council annually review all current Boards and Commissions and determine whether such are necessary,

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Yuma as follows:

SECTION 1: The City Council has determined the final estimates of expenditures which will be required of the City of Yuma for the Fiscal Year 2021 beginning July 1, 2020 and ending June 30, 2021.

SECTION 2: The purposes of expenditure and the amount finally established for each purpose as set forth in the estimates of revenues and expenditures/expenses shown on the attached and incorporated Schedules A through H, as now increased, reduced, or changed, are hereby adopted as the official and final adopted budget of the City of Yuma and the Main Street Mall and Offstreet Parking Maintenance District No. 1 for the Fiscal Year 2021 beginning July 1, 2020 and ending June 30, 2021, as subject to State law.

SECTION 3: Money from any fund may be used for any of the purposes set forth in Section 2 of this Resolution, except money specifically restricted by State law or the City Charter, Ordinance or Resolutions.

SECTION 4: All current City Boards and Commissions are necessary for the public health, safety and welfare of the City and should be continued.

Adopted this 17th day of June, 2020.

APPROVED:

Douglas J. Nicholls
Mayor

ATTESTED:

Lynda L. Bushong
City Clerk

APPROVED AS TO FORM:

Richard W. Files
City Attorney

CITY OF YUMA BUDGET SCHEDULES
Finance Department
One City Plaza
Yuma, AZ 85364
928-373-5106

Notice is hereby given that the Yuma City Council will hold a public hearing in the Council Chambers, City Hall, One City Plaza, Yuma, Arizona, on Wednesday, June 17,2020, at 5:30 P.M., for the purpose of (1) hearing taxpayers in favor of or against any proposed expenditure or tax levy and (2) finally determining and adopting estimates of proposed expenditures for the various purposes as set forth in the estimates and tentatively adopted. This final determination shall constitute the budget of said City for fiscal year 2020-2021. At this same time and place, the Yuma City Council will meet for the purpose of introducing the 2020-2021 tax levy. Final adoption of the tax levy will occur on July 15, 2020. The proposed Budget may be examined in the office of the City Clerk located at One City Plaza, Yuma, Arizona, at the Yuma County Library located at 2951 S 21st Drive, Yuma, Arizona, or may be viewed online at www.yumaaz.gov.

CITY OF YUMA, ARIZONA
SCHEDULE OF ESTIMATED REVENUES AND EXPENDITURES/EXPENSES
Fiscal Year 2020-2021

Fiscal Year		Sch	FUNDS							
			General Fund	Special Revenue Fund	Debt Service Fund	Capital Projects Fund	Permanent Fund	Enterprise Funds Available	Internal Service Funds	Total All Funds
2020	Adopted/Adjusted Budgeted Expenditures/Expenses*	E	71,732,785	56,880,908	11,460,461	3,038,000	-	67,806,328	10,037,964	220,956,446
2020	Actual Expenditures/Expenses**	E	70,127,711	36,325,697	11,442,361	2,535,173	-	50,739,666	6,577,438	177,748,046
2021	Fund Balance/Net Position at July 1***		20,248,868	12,620,183	22,344	9,572,190	-	84,250,990	18,737,855	145,452,430
2021	Primary Property Tax Levy	B	14,215,783	-	-	-	-	-	-	14,215,783
2021	Secondary Property Tax Levy	B	-	110,000	-	-	-	-	-	110,000
2021	Estimated Revenues Other than Property Taxes	C	59,337,935	70,409,426	373,578	1,347,467	-	54,531,844	7,036,319	193,036,569
2021	Other Financing Sources	D	-	-	-	-	-	-	-	-
2021	Other Financing (Uses)	D	-	-	-	-	-	-	-	-
2021	Interfund Transfers In	D	-	121,478	11,069,931	-	-	267,854	582,314	12,041,577
2021	Interfund Transfers Out	D	4,613,456	5,522,999	-	555,141	-	345,990	3,991	12,041,577
2021	Reduction for Amounts Not Available:									
LESS:	Amounts for Future Debt Retirement:		-	-	-	-	-	-	-	-
2021	Total Financial Resources Available		89,189,130	76,738,088	11,465,853	10,364,516	-	138,704,698	26,352,497	352,814,782
2021	Budgeted Expenditures/Expenses	E	74,145,750	72,992,355	11,444,259	1,123,000	-	67,980,283	9,410,504	237,096,151

EXPENDITURE LIMITATION COMPARISON	2020	2021
1. Budgeted expenditures/expenses	$ 220,180,841	$ 237,096,151
2. Add/subtract: estimated net reconciling items		
3. Budgeted expenditures/expenses adjusted for reconciling items	220,180,841	237,096,151
4. Less: estimated exclusions	101,437,275	110,382,364
5. Amount subject to the expenditure limitation	$ 118,743,566	$ 126,713,787
6. EEC expenditure limitation	$ 138,878,783	$ 144,790,225

* Includes Expenditure/Expense Adjustments Approved in the current year from Schedule E.
** Includes actual amounts as of the date the proposed budget was prepared, adjusted for estimated activity for the remainder of the fiscal year.
*** Amounts on this line represent Fund Balance/Net Position amounts except for amounts not in spendable form (e.g., prepaids and inventories) or legally or contractually required to be maintained intact (e.g., principal of a permanent fund).

CITY OF YUMA, ARIZONA

SUMMARY OF TAX LEVY AND TAX RATE INFORMATION

Fiscal Year 2019-2020

		2020 FISCAL YEAR		2021 FISCAL YEAR
1.	Maximum Allowable Primary Property Tax Levy. A.R.S. 42-17051(A)	$ 13,724,824	$	14,240,309
2.	Amount Received from Primary Property Taxation in the 2019-2020 Fiscal Year in Excess of the Sum of that Year's Maximum Allowable Primary Property Tax Levy. A.R.S. 42-17102(A)(18).	-		
3.	Property Tax Levy Amounts			
	A. Primary Property Taxes	$ 13,724,824	$	14,215,783
	B. Secondary Property Taxes (City-wide)	-		-
	C. Special Assessment District (Downtown Mall District)	120,000		110,000
	C. Total Property Tax Levy Amounts	$ 13,844,824	$	14,325,783
4.	Property Taxes Collected*			
	A. Primary Property Taxes			
	(1) 2019-2020 Levy	12,896,610		
	(2) Prior Years' Levies	220,000		
	(3) Total Primary Property Taxes	$ 13,116,610		
	B. Secondary Property Taxes (City-wide)			
	(1) 2019-2020 Levy	-		
	(2) Prior Years' Levies	-		
	(3) Total Secondary Property Taxes	-		
	C. Special Assessment Districts (Downtown Mall District)			
	(1) 2018-2019 Levy	110,000		
	(2) Prior Years' Levies	5,000		
	(3) Total Primary Property Taxes	115,000		
	D. Total Property Taxes Collected	$ 13,231,610		
5.	Property Tax Rates			
	A. City of Yuma Tax Rate			
	(1) Primary Property Tax Rate	$ 2.3185	$	2.3185
	(2) Secondary Property Tax Rate	-		-
	(3) Total City of Yuma Tax Rate	$ 2.3185	$	2.3185
	B. Special Assessment District (Downtown Mall District)	$ 4.7398	$	3.4152

Secondary property tax rates - As of the date the proposed budget was prepared, the City of Yuma will be operating five additional special assessment districts for which secondary property taxes will be levied. For information pertaining to these special assessment districts and their tax rates, please contact the City of Yuma.

*Includes actual property taxes collected as of the date the proposed budget was prepared, plus estimated property tax collections for the remainder of the fiscal year.

CITY OF YUMA, ARIZONA
SCHEDULE OF REVENUES OTHER THAN PROPERTY TAXES
Fiscal Year 2019-20

SOURCES OF REVENUES	ESTIMATED REVENUES 2020	ACTUAL REVENUES 2020*	ESTIMATED REVENUES 2021
GENERAL FUND			
Local Taxes:			
Sales tax (1%)	$ 23,280,408	$ 22,643,230	$ 21,508,400
Franchise tax	3,509,327	3,417,000	3,345,900
Government Lease Property Excise	10,000	7,002	7,002
Delinquent property tax	175,000	220,000	220,000
Intergovernmental Revenues:			
State revenue sharing	12,640,427	12,640,427	14,220,248
State sales tax	9,500,000	9,450,000	8,075,000
Auto in-lieu tax	4,387,934	4,200,000	3,400,000
Tribal contribution	35,000	40,167	36,000
Licenses and Permits:			
Business licenses	259,000	268,500	246,150
Liquor licenses	38,100	39,700	35,460
Animal Control licenses	90,000	70,000	67,500
Building permits	1,291,000	1,280,000	1,152,000
Electrical permits	270,000	280,000	261,000
Plumbing permits	75,000	85,000	81,000
Mechanical permits	75,000	87,000	81,000
Charges for Services:			
Zoning and subdivision fees	65,950	82,362	71,100
Plan check fees	350,000	450,000	360,000
Other development fees	2,100	3,570	2,790
Swimming fees	180,000	163,000	154,800
Recreation fees	204,500	173,325	168,750
Art Center fees	500	-	-
Ambulance Service fees	4,197,000	3,995,700	3,651,300
Other charges	94,100	71,000	64,440
Police services	756,500	710,000	675,000
Use of Money and Property:			
Investment income	230,000	250,000	225,000
Recreation facility rentals	222,984	243,595	215,505
Misc Rentals	18,000	18,000	17,100
Fines, Forfeitures, Penalties:			
Vehicle code fines	655,000	576,000	527,400
Parking & other fines	530,000	392,000	364,500
Miscellaneous Revenues:			
Sale of property	20,100	7,500	9,000
Unclassified revenues	140,000	98,100	94,590
Total General Fund	$ 63,302,930	$ 61,962,178	$ 59,337,935

CITY OF YUMA, ARIZONA
SCHEDULE OF REVENUES OTHER THAN PROPERTY TAXES
Fiscal Year 2019-20

SOURCES OF REVENUES	ESTIMATED REVENUES 2020	ACTUAL REVENUES 2020*	ESTIMATED REVENUES 2021
SPECIAL REVENUE FUNDS			
Highway User Revenue Fund			
State gasoline tax	$ 8,123,924	$ 8,300,000	$ 7,055,000
Investment income	50,000	130,000	91,000
Unclassified revenues	-	311,141	2,430
Total	$ 8,173,924	$ 8,741,141	$ 7,148,430
City Road Tax Fund			
Sales tax (1/2%)	$ 11,638,004	$ 11,883,650	$ 10,752,092
Charges for services	10,000	17,698	20,000
Investment income	150,000	280,000	196,000
Rental income	133,726	143,456	143,456
Sale of property	50,000	-	-
Unclassified revenues	49,950	326,536	51,500
Total	$ 12,031,680	$ 12,651,340	$ 11,163,048
Public Safety Tax Fund			
Sales tax (0.2%)	$ 4,653,681	$ 4,751,320	$ 4,298,450
Misc Rentals	33,379	-	-
Investment income	65,000	92,000	64,400
Unclassified revenues	-	6,000	6,000
Total	$ 4,752,060	$ 4,849,320	$ 4,368,850
Two Percent Tax Fund			
Sales tax (2%)	$ 6,285,373	$ 5,786,520	$ 4,870,500
Theatre Revenue	45,320	90,000	67,500
Liquor sales	121,140	177,000	95,251
Concession stand sales	159,625	90,000	67,500
Other sales	292,676	174,600	52,201
Commissions & fees	44,623	59,100	44,325
Investment income	47,265	35,000	26,250
Room rents	133,620	155,000	116,250
Equipment rents	36,270	57,000	42,750
Other rents	-	766	-
Unclassified revenues	4,374	4,000	3,000
Total	$ 7,170,286	$ 6,628,986	$ 5,385,527
Downtown Mall District Fund			
Delinquent property tax	$ 3,500	$ 5,000	$ 5,000
Unclassified revenues	1,980	2,500	2,500
Total	$ 5,480	$ 7,500	$ 7,500
Federal & State Grant Funds			
Grants	$ 18,798,917	$ 4,161,064	$ 42,336,071
Total Special Revenue Funds	$ 50,932,347	$ 37,039,351	$ 70,409,426

CITY OF YUMA, ARIZONA
SCHEDULE OF REVENUES OTHER THAN PROPERTY TAXES
Fiscal Year 2019-20

SOURCES OF REVENUES	ESTIMATED REVENUES 2020	ACTUAL REVENUES 2020*	ESTIMATED REVENUES 2021
DEBT SERVICE FUND			
Special Assessments:			
Principal	$ 350,000	$ 350,000	$ 365,000
Interest	25,380	25,380	8,578
Investment income	-	-	-
Total	$ 375,380	$ 375,380	$ 373,578
CAPITAL PROJECTS FUNDS			
Pro-rata/Impact Fees	$ 1,275,575	$ 1,247,825	$ 1,148,017
Developer deposits	-	-	-
Investment income	159,900	89,700	199,450
Unclassified revenue	-	-	-
Total	$ 1,435,475	$ 1,337,525	$ 1,347,467
ENTERPRISE FUNDS			
Water Fund			
Residential water fees	$ 15,468,198	$ 14,250,000	$ 13,050,000
Commercial water fees	10,618,600	9,648,000	8,777,700
Fire hydrant fees	407,650	420,140	379,485
Delinquent fees	864,300	850,000	765,000
Service establishment fees	370,312	347,000	313,200
Investment income	700,000	720,000	648,000
Unclassified revenues	207,762	203,704	187,390
Total	$ 28,636,822	$ 26,438,844	$ 24,120,775
Wastewater Fund			
Residential sewer fees	$ 10,825,940	$ 10,440,000	$ 9,450,000
Commercial sewer fees	7,279,300	7,187,000	6,594,300
Investment income	610,000	675,000	607,500
Unclassified revenues	33,670	47,780	34,650
Total	$ 18,748,910	$ 18,349,780	$ 16,686,450
Water and Wastewater Restricted			
Water capacity fees	$ 3,812,200	$ 2,325,000	$ 2,137,500
Sewer capacity fees	3,341,100	2,722,000	2,494,800
Water system development fees	150,020	143,500	133,650
Sewer system development fees	262,520	203,250	182,925
Water transfer fees	-	-	-
Investment income	497,795	532,400	438,470
Unclassified revenues	209	-	-
Total	$ 8,063,844	$ 5,926,150	$ 5,387,345
Solid Waste Fund			
Collection fees	$ 4,097,300	$ 4,285,000	$ 4,142,400
Receptacles sales	143,300	110,000	110,400
Unclassified revenues	31,018	40,500	38,880
Total	$ 4,271,618	$ 4,435,500	$ 4,291,680

CITY OF YUMA, ARIZONA
SCHEDULE OF REVENUES OTHER THAN PROPERTY TAXES
Fiscal Year 2019-20

SOURCES OF REVENUES	ESTIMATED REVENUES 2020	ACTUAL REVENUES 2020*	ESTIMATED REVENUES 2021
Yuma Regional Communications System Fund			
Radio Repair Fees	$ 1,876,581	$ 2,088,069	$ 2,084,614
Federal contributions	1,000,000	696,597	1,000,000
Interest income	50,000	25,000	25,000
Sale of property	32,500	22,900	16,500
Unclassified revenues	-	-	-
Total	$ 2,959,081	$ 2,832,566	$ 3,126,114
Desert Hills Golf Course Fund			
Green fees	$ 699,394	$ 711,726	$ 569,280
Merchandise sales	155,920	129,000	103,200
Concession stand sales	273	1,250	1,000
Range fees	53,000	50,000	40,000
Equipment rents	175,090	195,000	157,040
Restaurant Rental	150,000	55,000	44,000
Unclassified revenues	4,223	6,200	4,960
Total	$ 1,237,900	$ 1,148,176	$ 919,480
Total Enterprise Funds	$ 63,918,175	$ 59,131,016	$ 54,531,844
INTERNAL SERVICE FUNDS			
Equipment Replacement Fund			
Equipment rentals	$ 1,789,897	$ 1,789,897	$ 2,071,900
Investment income	-	400,000	-
Unclassified revenue	-	-	-
Total	$ 1,789,897	$ 2,189,897	$ 2,071,900
Equipment Maintenance Fund			
Guaranteed maintenance	$ 2,320,151	$ 2,320,150	$ 2,659,428
Non-guaranteed maintenance	358,790	250,000	350,000
Fuel Sales	-	-	-
Sale of property	2,500	3,218	-
Unclassified revenue	220	-	-
Total	$ 2,681,661	$ 2,573,368	$ 3,009,428
Insurance Reserve Fund			
Insurance premiums	$ 1,937,973	$ 1,937,973	$ 1,937,973
Investment income	-	5,000	-
Unclassified revenue	-	38	-
Total	$ 1,937,973	$ 1,943,011	$ 1,937,973
Workers Comp Fund			
Workers Comp charges	$ 1,590,900	$ 1,590,900	$ 17,018
Investment income	-	3,000	-
Unclassified revenue	-	7,902	-
Total	$ 1,590,900	$ 1,601,802	$ 17,018
Total Internal Service Funds	$ 8,000,431	$ 8,308,078	$ 7,036,319
Total All Funds	$ 187,964,738	$ 168,153,528	$ 193,036,569

*Includes actual revenues recognized on the modified accrual or accrual basis as of the date the proposed budget was prepared, plus estimated revenues for the remainder of the fiscal year.

CITY OF YUMA, ARIZONA
SUMMARY BY FUND TYPE OF OTHER FINANCING SOURCES AND INTERFUND TRANSFERS
FISCAL YEAR 2019-20

FUND	OTHER FINANCING *SOURCES* 2021	INTERFUND TRANSFERS *2021* IN	(OUT)
GENERAL FUND	$ -	$ -	$ 4,613,456
SPECIAL REVENUE FUNDS			
Highway User Revenue Fund	$ -	$ -	$ 128,484
City Road Tax Fund	-	-	4,489,179
Public Safety Tax Fund	-	-	947,371
Two Percent Tax Fund	-	-	957,966
Yuma Mall Maintenance Fund	-	121,478	-
Total Special Revenue Funds	$ -	$ 121,478	$ 6,522,999
DEBT SERVICE FUNDS	$ -	$ 11,069,931	$ -
CAPITAL PROJECTS FUNDS	$ -	$ -	$ 555,141
ENTERPRISE FUNDS			
Water Fund	$ -	$ -	$ 77,445
Water Transfer Fund	-	17,854	-
Wastewater Fund	-	-	65,970
Solid Waste Fund	-	-	176,950
Desert Hills Golf Course Fund	-	250,000	25,625
Total Enterprise Funds	$ -	$ 267,854	$ 345,990
INTERNAL SERVICE FUNDS	-	582,314	3,991
Total All Funds	$ -	$ 12,041,577	$ 12,041,577

CITY OF YUMA
SUMMARY BY DEPARTMENT OF
EXPENDITURES/EXPENSES WITHIN EACH FUND TYPE
FISCAL YEAR 2019-20

FUND/DEPARTMENT	ADOPTED BUDGETED EXPENDITURES EXPENSES 2020	EXPENDITURE/ EXPENSE ADJUSTMENTS APPROVED 2020	ACTUAL EXPENDITURES EXPENSES 2020*	BUDGETED EXPENDITURES EXPENSES 2021
GENERAL FUND				
Mayor & Council	$ 348,362	$ 1,924	$ 320,588	$ 986,004
Municipal Court	1,904,430	50,755	1,898,002	2,052,520
City Administration	3,662,554	(10,357)	3,426,732	7,469,565
City Attorney	1,602,318	46,773	1,591,414	1,420,766
Information Technology Services	3,055,907	161,280	3,010,132	3,336,181
Finance	2,332,525	63,476	2,216,313	2,363,057
Human Resources	1,154,821	40,980	1,150,935	1,321,894
General Government	4,163,117	(2,280,738)	971,899	(1,057,779)
Community Development Services	3,468,876	83,426	3,305,242	3,551,636
Engineering	380,492	14,046	376,852	486,626
Parks & Recreation	8,666,192	243,255	8,658,315	6,949,131
Police Department	30,589,114	855,737	29,111,933	31,713,823
Fire Department	17,884,159	729,443	17,851,054	18,604,580
Intergovernmental Service Charges	(3,938,433)	-	(3,938,433)	(5,107,254)
Capital Improvements	198,392	-	176,733	55,000
Total	$ 75,472,826	$ -	$ 70,127,711	$ 74,145,750
SPECIAL REVENUE FUNDS				
Highway User Revenue Fund				
Mayor & Council	$ -	$ -	$ -	$ 78,772
Public Works	7,324,791	102,843	6,649,361	9,383,561
General Government	102,843	(102,843)	-	(103,838)
Capital Improvements	5,530,000	-	3,349,701	1,299,864
Total	$ 12,957,634	$ -	$ 9,999,062	$ 10,658,359
City Road Tax Fund				
City Administration	$ 27,684	$ 1,253	$ 29,006	$ 29,078
City Attorney	51,420	1,160	42,261	-
Public Works	922,729	15,004	1,028,307	1,252,598
Engineering	2,530,012	48,281	2,213,004	2,334,930
General Government	181,073	(65,698)	10,000	(31,995)
Capital Improvements	7,606,000	-	6,457,545	6,646,500
Total	$ 11,318,918	$ -	$ 9,780,123	$ 10,231,111
Public Safety Tax Fund				
Police Department	$ 2,007,922	$ -	$ 2,385,790	$ 1,996,584
Fire Department	1,085,760	-	1,056,390	1,097,516
General Government	137,500	-	135,000	134,869
Capital Improvements	2,675,000	-	2,467,426	751,000
Total	$ 5,906,182	$ -	$ 6,044,606	$ 3,979,969
Two Percent Tax Fund				
Mayor & Council	$ -	$ -	$ -	$ 622,024
City Administration	481,489	10,968	445,721	256,408
General Government	564,023	(104,398)	458,968	281,221
Engineering	17,190	613	13,187	-
Parks and Recreation	6,190,886	92,817	5,312,693	4,313,214
Capital Improvements	285,000	-	25,000	75,000
Total	$ 7,538,588	$ -	$ 6,255,569	$ 5,547,867

CITY OF YUMA
SUMMARY BY DEPARTMENT OF
EXPENDITURES/EXPENSES WITHIN EACH FUND TYPE
FISCAL YEAR 2019-20

FUND/DEPARTMENT	ADOPTED BUDGETED EXPENDITURES EXPENSES 2020	EXPENDITURE/ EXPENSE ADJUSTMENTS APPROVED 2020	ACTUAL EXPENDITURES EXPENSES 2020*	BUDGETED EXPENDITURES EXPENSES 2021
Yuma Mall Maintenance Fund				
Parks and Recreation	$ 245,151	$ 6,000	$ 248,977	$ 242,726
General Government	6,000	(6,000)	-	(3,748)
Total	$ 251,151	$ -	$ 248,977	$ 238,978
Improvement Districts Funds				
Public Works	$ 109,518	$ -	$ -	$ -
Grant Funds				
City Administration	$ 4,355,500	$ (1,677,477)	$ 23,327	$ 3,969,575
Community Development	3,075,135	(483,815)	1,267,966	2,990,303
Parks And Recreation	282,591	106,823	57,758	5,196,516
Municipal Court	137,000	27,932	31,432	135,000
City Attorney's Office	-	7,010	11,420	10,000
Information Tech Services	55,950	158,282	95,530	100,000
Human Resources	-	3,760	-	-
Public Works	200,000	-	-	200,000
Police	2,674,300	1,142,779	955,654	3,540,389
Fire	3,748,090	69,109	1,147,192	3,140,000
General Government	70,351	(70,351)	-	-
Capital Improvements	4,200,000	715,948	407,081	23,054,288
Total	$ 18,798,917	$ -	$ 3,997,360	$ 42,336,071
Total Special Revenue Funds	$ 56,880,908	$ -	$ 36,325,697	$ 72,992,355
CAPITAL PROJECT FUNDS				
Capital Improvements	$ 3,038,000	$ -	$ 2,535,173	$ 1,123,000
Total	$ 3,038,000	$ -	$ 2,535,173	$ 1,123,000
DEBT SERVICE FUNDS				
Special Assessments	$ 376,130	$ -	$ 361,130	$ 374,328
Municipal Property Corporation Bonds	11,084,331	-	11,081,231	11,069,931
Total	$ 11,460,461	$ -	$ 11,442,361	$ 11,444,259
ENTERPRISE FUNDS				
Water:				
Mayor & Council	$ -	$ -	$ -	$ 53,000
City Administration	16,918	749	17,980	17,770.00
City Attorney's Office	3,266	73	2,684	-
Engineering	401,671	13,681	383,988	415,230
Utilities	22,928,669	208,757	21,215,678	22,739,469
General Government	240,448	(223,260)	-	(190,215)
Capital Improvements	10,702,200	-	2,722,885	10,246,500
Total	$ 34,293,172	$ -	$ 24,343,215	$ 33,281,754
Wastewater:				
City Administration	$ 13,840	$ 609	$ 14,818	$ 14,538
City Attorney's Office	2,451	54	2,012	-
Engineering	286,222	8,602	270,583	298,526
Utilities	16,103,796	146,981	15,400,925	16,096,255
General Government	173,433	(156,246)	-	(153,840)
Capital Improvements	7,675,000	-	2,117,424	8,193,000
Total	$ 24,254,742	$ -	$ 17,805,762	$ 24,448,479

CITY OF YUMA
SUMMARY BY DEPARTMENT OF
EXPENDITURES/EXPENSES WITHIN EACH FUND TYPE
FISCAL YEAR 2019-20

FUND/DEPARTMENT	ADOPTED BUDGETED EXPENDITURES EXPENSES 2020	EXPENDITURE/ EXPENSE ADJUSTMENTS APPROVED 2020	ACTUAL EXPENDITURES EXPENSES 2020*	BUDGETED EXPENDITURES EXPENSES 2021
Yuma Regional Comm. System Fund				
Information Tech Services	$ 3,339,971	$ 17,221	$ 2,929,994	$ 4,182,370
General Government	17,221	(17,221)	-	(23,146)
Total	$ 3,357,192	$ -	$ 2,929,994	$ 4,159,224
Solid Waste Fund				
City Administration	$ 3,847	$ 170	$ 4,574	$ 4,036
Public Works	4,057,137	35,744	4,002,386	4,478,524
General Government	35,914	(35,914)	-	(41,829)
Total	$ 4,096,898	$ -	$ 4,006,960	$ 4,440,731
Desert Hills Golf Course Fund				
Parks and Recreation	$ 1,770,881	$ 33,443	$ 1,653,735	$ 1,676,550
General Government	33,443	(33,443)	-	(26,455)
Total	$ 1,804,324	$ -	$ 1,653,735	$ 1,650,095
Total Enterprise Funds	$ 67,806,328	$ -	$ 50,739,666	$ 67,980,283
INTERNAL SERVICE FUNDS				
Equipment Maintenance Fund:				
General Government	$ 43,544	$ (43,544)	$ -	$ (42,163)
Public Works	2,696,332	43,544	2,589,342	2,853,201
Total	$ 2,739,876	$ -	$ 2,589,342	$ 2,811,038
Insurance Reserve Fund:				
City Attorney	$ 866,847	$ 8,176	$ 392,534	$ 460,000
General Government	1,222,658	(8,176)	999,063	1,380,607
Total	$ 2,089,505	$ -	$ 1,391,597	$ 1,840,607
Equipment Replacement Fund:				
Finance	$ -	$ -	$ -	$ -
Human Resources	-	-	-	-
Community Development	-	-	-	-
Public Works	2,828,437	-	1,196,100	-
Utilities	704,132	-	-	-
Engineering	-	-	-	-
Parks and Recreation	423,515	-	375,600	-
Police Department	-	-	-	-
Fire Department	-	-	-	-
Equipment Replacement	23,499	-	23,499	3,523,499
Total	$ 3,979,583	$ -	$ 1,595,199	$ 3,523,499
Workmans' Comp Fund	1,229,000	-	1,001,300	1,235,360
Total Internal Service Funds	$ 10,037,964	$ -	$ 6,577,438	$ 9,410,504
Total All Funds	$ 224,696,487	$ -	$ 177,748,046	$ 237,096,151

*Includes actual expenditures/expenses recognized on the modified accrual or accrual basis as of the date the proposed budget was prepared, plus estimated expenditures/expenses for the remainder of the fiscal year.

CITY OF YUMA
SUMMARY BY DEPARTMENT OF EXPENDITURES/EXPENSES
FISCAL YEAR 2019-20

DEPARTMENT/FUND	ADOPTED BUDGETED EXPENDITURES EXPENSES 2020	EXPENDITURE/ EXPENSE ADJUSTMENTS APPROVED 2020	ACTUAL EXPENDITURES EXPENSES 2020*	BUDGETED EXPENDITURES EXPENSES 2021
MAYOR & COUNCIL				
General Fund	$ 348,362	$ 1,924	$ 320,588	$ 986,004
Special Highway Users Fund	-	-	-	78,772
Two Percent Tax Fund	-	-	-	622,024
Water Fund	-	-	-	53,000
Total	$ 348,362	$ 1,924	$ 320,588	$ 1,739,800
MUNICIPAL COURT				
General Fund	$ 1,904,430	$ 50,755	$ 1,898,002	$ 2,052,520
Grant Funds	137,000	27,932	31,432	135,000
Total	$ 2,041,430	$ 78,687	$ 1,929,434	$ 2,187,520
CITY ADMINISTRATOR'S OFFICE				
General Fund	$ 3,662,554	$ (10,357)	$ 3,426,732	$ 7,469,565
City Road Tax Fund	27,684	1,253	29,006	29,078
Two Percent Tax Fund	481,489	10,968	445,721	256,408
Grant Funds	4,355,500	(1,677,477)	23,327	3,969,575
Solid Waste	3,847	170	4,574	4,036
Water Fund	16,918	749	17,980	17,770
Wastewater Fund	13,840	609	14,818	14,538
Total	$ 8,561,832	$ (1,674,085)	$ 3,962,158	$ 11,760,970
CITY ATTORNEY'S OFFICE				
General Fund	$ 1,602,318	$ 46,773	$ 1,591,414	$ 1,420,766
City Road Tax Fund	51,420	1,160	42,261	-
Grant Funds	-	7,010	11,420	10,000
Water Fund	3,266	73	2,684	-
Wastewater Fund	2,451	54	2,012	-
Insurance Reserve Fund	866,847	8,176	392,534	460,000
Total	$ 2,526,302	$ 63,246	$ 2,042,325	$ 1,890,766
INFORMATION TECH SERVICES				
General Fund	$ 3,055,907	$ 161,280	$ 3,010,132	$ 3,336,181
Yuma Regional Comm. System Fund	3,339,971	17,221	2,929,994	4,182,370
Grant Funds	55,950	158,282	95,530	100,000
Total	$ 6,451,828	$ 336,783	$ 6,035,656	$ 7,618,551
FINANCE				
General Fund	$ 2,332,525	$ 63,476	$ 2,216,313	$ 2,363,057
Equipment Replacement Fund	-	-	-	-
Total	$ 2,332,525	$ 63,476	$ 2,216,313	$ 2,363,057
HUMAN RESOURCES				
General Fund	$ 1,154,821	$ 40,980	$ 1,150,935	$ 1,321,894
Grant Funds	-	3,760	-	-
Total	$ 1,154,821	$ 44,740	$ 1,150,935	$ 1,321,894

CITY OF YUMA
SUMMARY BY DEPARTMENT OF EXPENDITURES/EXPENSES
FISCAL YEAR 2019-20

DEPARTMENT/FUND	ADOPTED BUDGETED EXPENDITURES *EXPENSES* 2020	EXPENDITURE/ EXPENSE ADJUSTMENTS *APPROVED* 2020	ACTUAL EXPENDITURES *EXPENSES* 2020*	BUDGETED EXPENDITURES *EXPENSES* 2021
GENERAL GOVERNMENT				
General Fund	$ 4,163,117	$ (2,280,738)	$ 971,899	$ (1,057,779)
Highway User Revenue Fund	102,843	(102,843)	-	(103,838)
City Road Tax Fund	181,073	(65,698)	10,000	(31,995)
Public Safety Tax Fund	137,500	-	135,000	134,869
Two Percent Tax Fund	564,023	(104,398)	458,968	281,221
Mall Maintenance Dist Fund	6,000	(6,000)	-	(3,748)
Grant Funds	70,351	(70,351)	-	-
Debt Service Fund	11,460,461	-	11,442,361	11,444,259
Desert Hills Golf Course Fund	33,443	(33,443)	-	(26,455)
Water Fund	240,448	(223,260)	-	(190,215)
Wastewater Fund	173,433	(156,246)	-	(153,840)
Yuma Regional Comm. System Fund	17,221	(17,221)	-	(23,146)
Equipment Maintenance Fund	43,544	(43,544)	-	(42,163)
Solid Waste Fund	35,914	(35,914)	-	(41,829)
Insurance Reserve Fund	1,222,658	(8,176)	999,063	1,380,607
Equipment Replacement Fund	23,499	-	23,499	3,523,499
Workmans' Comp Fund	1,229,000	-	1,001,300	1,235,360
Intracity Cost Allocation	(3,938,433)	-	(3,938,433)	(5,107,254)
Total	$ 15,766,095	$ (3,147,832)	$ 11,103,657	$ 11,217,553
COMMUNITY DEVELOPMENT				
General Fund	$ 3,468,876	$ 83,426	$ 3,305,242	$ 3,551,636
Grant Funds	3,075,135	(483,815)	1,267,966	2,990,303
Equipment Replacement Fund	-	-	-	-
Total	$ 6,544,011	$ (400,389)	$ 4,573,208	$ 6,541,939
PUBLIC WORKS				
Highway User Revenue Fund	$ 7,324,791	$ 102,843	$ 6,649,361	$ 9,383,561
City Road Tax Fund	922,729	15,004	1,028,307	1,252,598
Improvement Districts Funds	109,518	-	-	-
Grant Funds	200,000	-	-	200,000
Solid Waste	4,057,137	35,744	4,002,386	4,478,524
Equipment Maintenance Fund	2,696,332	43,544	2,589,342	2,853,201
Equipment Replacement Fund	2,828,437	-	1,196,100	-
Total	$ 18,138,944	$ 197,135	$ 15,465,496	$ 18,167,884
ENGINEERING				
General Fund	$ 380,492	$ 14,046	$ 376,852	$ 486,626
City Road Tax Fund	2,530,012	48,281	2,213,004	2,334,930
Two Percent Tax Fund	17,190	613	13,187	-
Water Fund	401,671	13,681	383,988	415,230
Wastewater Fund	286,222	8,602	270,583	298,526
Equipment Replacement Fund	-	-	-	-
Total	$ 3,615,587	$ 85,223	$ 3,257,614	$ 3,535,312
UTILITIES				
Water Funds	$ 22,928,669	$ 208,757	$ 21,215,678	$ 22,739,469
Wastewater Funds	16,103,796	146,981	15,400,925	16,096,255
Equipment Replacement Fund	704,132	-	-	-
Total	$ 39,736,597	$ 355,738	$ 36,616,603	$ 38,835,724

CITY OF YUMA
SUMMARY BY DEPARTMENT OF EXPENDITURES/EXPENSES
FISCAL YEAR 2019-20

DEPARTMENT/FUND	ADOPTED BUDGETED EXPENDITURES EXPENSES 2020	EXPENDITURE/ EXPENSE ADJUSTMENTS APPROVED 2020	ACTUAL EXPENDITURES EXPENSES 2020*	BUDGETED EXPENDITURES EXPENSES 2021
PARKS & RECREATION				
General Fund	$ 8,666,192	$ 243,255	$ 8,658,315	$ 6,949,131
Two Percent Tax Fund	6,190,886	92,817	5,312,693	4,313,214
Mall Maintenance Fund	245,151	6,000	248,977	242,726
Grant Funds	282,591	106,823	57,758	5,196,516
Desert Hills Golf Course Fund	1,770,881	33,443	1,653,735	1,676,550
Equipment Replacement Fund	423,515	-	375,600	-
Total	$ 17,579,216	$ 482,338	$ 16,307,078	$ 18,378,137
POLICE DEPARTMENT				
General Fund	$ 30,589,114	$ 855,737	$ 29,111,933	$ 31,713,823
Public SafetyTax Fund	2,007,922	-	2,385,790	1,996,584
Grant Funds	2,674,300	1,142,779	955,654	3,540,389
Total	$ 35,271,336	$ 1,998,516	$ 32,453,377	$ 37,250,796
FIRE DEPARTMENT				
General Fund	$ 17,884,159	$ 729,443	$ 17,851,054	$ 18,604,580
Public SafetyTax Fund	1,085,760	-	1,056,390	1,097,516
Grant Funds	3,748,090	69,109	1,147,192	3,140,000
Equipment Replacement Fund	-	-	-	-
Total	$ 22,718,009	$ 798,552	$ 20,054,636	$ 22,842,096
CAPITAL PROJECTS				
Capital Projects Fund	$ 3,038,000	$ -	$ 2,535,173	$ 1,123,000
General Fund	198,392	-	176,733	55,000
Highway User Revenue Fund	5,530,000	-	3,349,701	1,299,864
City Road Tax Fund	7,606,000	-	6,457,545	6,646,500
Public Safety Tax Fund	2,675,000	-	2,467,426	751,000
Two Percent Tax Fund	285,000	-	25,000	75,000
Grant Funds	4,200,000	715,948	407,081	23,054,288
Water Funds	10,702,200	-	2,722,885	10,246,500
Wastewater Funds	7,675,000	-	2,117,424	8,193,000
Total	$ 41,909,592	$ 715,948	$ 20,258,968	$ 51,444,152
Total All Funds	$ 224,696,487	$ -	$ 177,748,046	$ 237,096,151

*Includes actual expenditures/expenses recognized on the modified accrual or accrual basis as of the date the proposed budget was prepared, plus estimated expenditures/expenses for the remainder of the fiscal year.

City of Yuma, Arizona
Full-Time Employees and Personnel Compensation
Fiscal Year 2019-20

FUND	Full-Time Equivalent (FTE) *	Employee Salaries and Hourly Costs**	Retirement Costs***	Healthcare Costs****	Other Benefit Costs	Total Estimated Personnel Compensation
GENERAL FUND	669.99	$ 42,264,681	$14,831,278	$6,013,363	$ 2,460,684	$65,570,006
SPECIAL REVENUE FUNDS						
Highway User Revenue Fund	44.00	2,118,798	253,985	391,983	160,020	2,924,786
City Road Tax Fund	23.31	1,374,444	163,857	208,900	103,667	1,850,868
Two Percent Tax Fund	36.88	2,003,786	219,362	296,397	148,063	2,667,608
Grants Fund	10.50	4,169,011	509,415	32,857	127,264	4,838,547
Mall Maintenance Fund	2.10	72,937	8,735	18,394	5,490	105,556
Total Special Revenue Funds	116.79	9,738,976	1,155,354	948,531	544,504	12,387,365
ENTERPRISE FUNDS						
Water Fund	85.42	4,250,690	509,589	752,162	320,176	5,832,617
Wastewater Fund	71.03	3,497,379	419,271	628,130	263,292	4,808,072
Sanitation Fund	18.37	876,328	98,001	137,563	66,285	1,178,177
Desert Hills Golf Course Fund	9.00	569,864	68,382	73,959	32,936	745,141
Yuma Reg Comm Sys Fund	6.40	494,133	56,534	64,072	37,210	651,949
Total Enterprise Funds	190.22	9,688,394	1,151,777	1,655,886	719,899	13,215,956
INTERNAL SERVICE FUNDS						
Equipment Maintenance Fund	18.00	857,575	102,793	162,665	64,536	1,187,569
Insurance Reserve Fund	-					
Total Internal Service Funds	18.00	857,575	102,793	162,665	64,536	1,187,569
TOTAL ALL FUNDS	995.00	$62,549,626	$17,241,202	$8,780,445	$3,789,623	$92,360,896

* Full-time employees only, including Elected Officials
** Includes full-time, part-time, overtime and standby pay
*** Includes Soc Sec/Medicare
**** Health/dental/life insurance

Schedule H
Capital Improvement Projects
2020 - 2021 Capital Budget

Bond 2015 Issue	Fleet Services Maintenance Shop	$110,000
	Public Works Yard Improvements	$100,000
	Water Supply - East Wetlands, PAAC	$354,000
		$564,000
Bond CIP Series B	CIP Software	$35,000
		$35,000
Bond Series D	16th Street Widening, 3rd Ave to Maple Ave	$174,000
		$174,000
City Road Tax	16th Street Widening, 3rd Ave to Maple Ave	$26,000
	North Frontage Road and Ave 10E Improvements	$2,012,500
	Catalina Dr & Palo Verde St Pavement Replacement	$1,785,000
	Arizona Ave Paving, Palo Verde to Country Club	$850,000
	Subdivision Material Testing	$50,000
	Citywide Safety Improvements	$40,000
	Spot Drainage Improvments	$25,000
	8th Street & Pacific Avenue Corridor Improvements	$15,000
	2nd Avenue Reonconstruction - 8th St to 13th St	$1,592,000
	Intelligent Transportation System Master Plan	$100,000
	Mesa Heights Street Light Expansion	$71,000
	Avenue 3 1-2 E Paving, 32nd St to 40th St	$80,000
		$6,646,500
Development Fee (Police)	Police Storage Facility	$350,000
		$350,000
General Fund	Regional Fiber Optic Infrastructure Master Plan	$55,000
		$55,000
Grant	Joe Henry Optimist Center Facility Improvements	$183,000
	Mesa Heights Street Light Expansion	$190,000
	Yuma Multimodal Center	$16,266,288
	Sewer Line Extension (Yuma Commerce Center)	$852,000
	Recreational Trails Program (Non-motorized)	$150,000
	Riverfront Regional Park Improvements	$500,000
	Woodland Urban Interface (WUI) Fire Control	$250,000
	Historical Parks Improvements	$3,500,000
	Historic Parks Improvements	$600,000
	Water Supply - East Wetlands, PAAC	$483,000
	PACC Marquee	$80,000
		$23,054,288

Capital Improvement Projects
2020 - 2021 Capital Budget

Highway Users Revenue Fund	8th Street & Pacific Avenue Corridor	$299,864
	Pavement Rehabilitation	$1,000,000
		$1,299,864
Public Safety Tax Fund	Replace Chiller #3 - PD/MC	$350,000
	Police Department/Municipal Court HVAC Controls	$226,000
	Repair and Maintain the Public Saftey Test Track	$175,000
		$751,000
Two Percent	Riverfront Regional Park Improvements	$50,000
	Parks and Recreation Emergency Contingency	$25,000
		$75,000
Wastewater Utility Fund	Manhole Rehabilitation/Reconstruction	$300,000
	Sewer Line Extension (Yuma Commerce Center)	$213,000
	Sewer Line Replacements/Improvements	$100,000
	4E Sewer Line Extension, 36th St to N Frontage Rd	$320,000
	Figueroa Laboratory Cooling System Replacement	$150,000
	Figueroa Ave WPCF Electrical Upgrades II	$2,200,000
	Figueroa Ave WPCF Colorado River Outfall	$200,000
	Desert Dunes Headworks Improvements	$70,000
	Desert Dunes WRF UV Disinfection System Upgrades	$70,000
	40th Street Liftstation Replacement	$820,000
	Thomas F. Allt Utilities Complex	$3,500,000
	Sewer Contingency	$250,000
		$8,193,000
Water Utility Fund	Main Street WTP Filter System Upgrade Phase II	$2,700,000
	MSWTP Basin 1 & 2 Renovations	$150,000
	Enhanced Coagulation Bench Scale	$20,000
	Figueroa Laboratory Cooling System Replacement	$150,000
	Agua Viva Water Storage Tanks Isolation Valve	$750,000
	Water Service Replacement	$60,000
	Ave C Waterline Replacment, 16th St to 18th St	$30,000
	Water Main Replacement Annual Project	$1,500,000
	3rd Avenue Waterline Replacement, 4th St to 5th St	$280,000
	Arizona Avenue Waterline Replacement	$750,000
	Thomas F. Allt Utilities Complex	$3,500,000
	8th Street & Pacific Avenue Corridor Improvements	$69,000
	Water Contingency	$250,000
	AWIA Risk & Resiliency Assessment	$37,500
		$10,246,500
Total		**$51,444,152**