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**AGENDA  
JOINT PERSIGO WORKSHOP  
CITY OF GRAND JUNCTION, CITY COUNCIL  
MESA COUNTY, BOARD OF COUNTY COMMISSIONERS  
MESA COUNTY TRAINING ROOM A, 3<sup>RD</sup> FLOOR ANNEX  
544 ROOD AVENUE  
GRAND JUNCTION, COLORADO  
THURSDAY, SEPTEMBER 12, 2019  
2:00 PM**

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To become the most livable community west of the Rockies by 2025

- 1. Discussion Topics**
  - a. 2020 Recommended Budget
- 2. Next Meeting Topics**
- 3. Other Business**



**JOINT PERSIGO MEETING  
CITY OF GRAND JUNCTION, CITY COUNCIL  
MESA COUNTY, BOARD OF COUNTY COMMISSIONERS**

**Item #1.a.**

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**Meeting Date:** September 12, 2019  
**Presented By:** Randi Kim, Utilities Director  
**Department:** Utilities  
**Submitted By:** Randi Kim, Utilities Director

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**Information**

**SUBJECT:**

2020 Recommended Budget

**RECOMMENDATION:**

This presentation and discussion is for informational purposes.

**EXECUTIVE SUMMARY:**

The Persigo Wastewater Treatment System is jointly owned by the City of Grand Junction and Mesa County. The City of Grand Junction manages and operates the system. The purpose of this meeting is to present the 2020 Recommended Budget for the Joint Persigo Wastewater System.

**BACKGROUND OR DETAILED INFORMATION:**

The Persigo Wastewater Treatment System is jointly owned by the City of Grand Junction and Mesa County. The City of Grand Junction manages and operates the system.

The Persigo Board meets on an annual basis to review the status of the overall system and the recommended budget for the Joint Persigo Wastewater System for the forthcoming fiscal year.

The purpose of this meeting is to present the 2020 Recommended Budget for the Joint Persigo Wastewater System.

**FISCAL IMPACT:**

Recommended 2020 Budget information is included in this presentation and discussion.

**SUGGESTED MOTION:**

N/A

**Attachments**

1. 2020 Persigo Joint Sewer System Budget Transmittal Letter 090919
2. Persigo Joint Sewer System 2020 Preliminary Budget
3. Joint Sewer 2020 Recommended Capital Descriptions

September 9, 2019

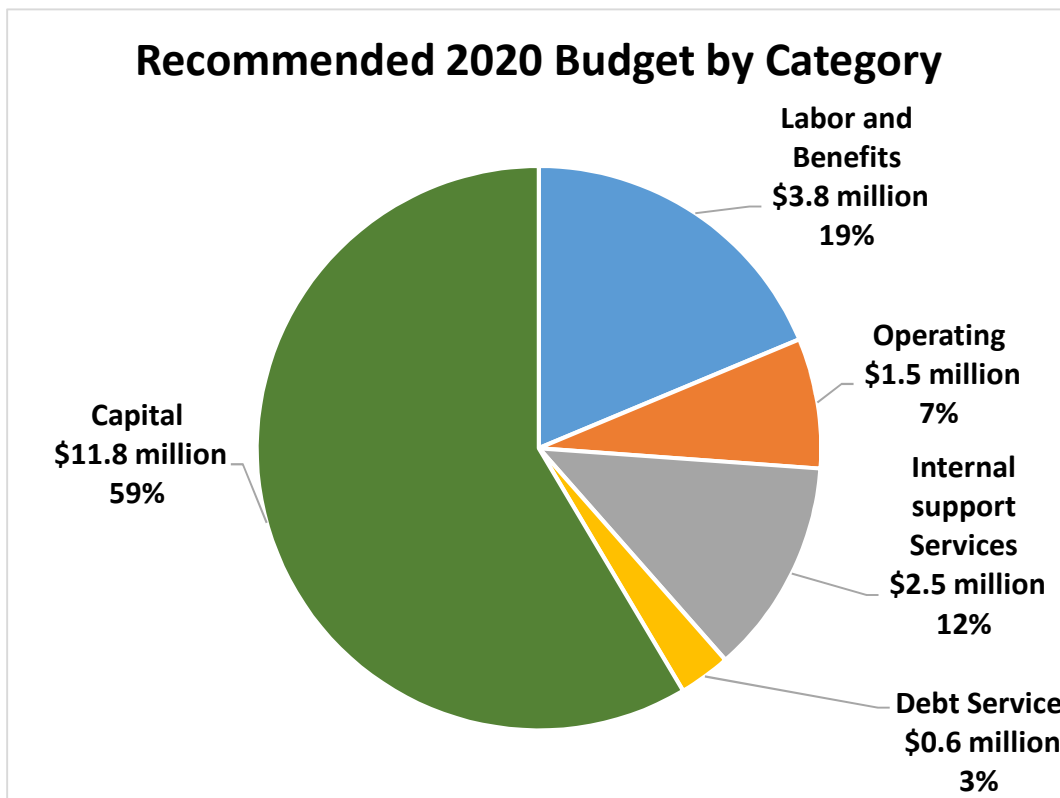
To the Honorable Members of Persigo Board:

It is our pleasure to present the Persigo recommended budget for 2020. The 2020 budget totals \$20.2 million, of which \$11.8 million is tied to Capital projects which have been planned for and are funded in the Wastewater Division’s Long-Range Financial Plan. The proposed budget represents the allocation of resources needed to operate the system in a manner that is consistent with industry standards and to ensure that the system will meet our community’s needs well into the future.

During 2015, the Persigo Board approved the Wastewater Division’s Annual budget which included funds for the completion of a rate study to be performed by a third-party consultant. This study not only evaluated the current financial stability of the operation, but also looked at the long-term system needs which included:

- > Regulatory Compliance
- > Growth Related Capital Expenditures
- > System Maintenance
- > System Operations & Staffing

The proposed 2020 budget is consistent with all recommendations included in the 2015 rate study. Following is a graph representing the 2020 Recommended budget by category showing the emphasis on capital infrastructure investment.



The combined funds for the Joint Persigo Sewer System are managed in two separate accounting funds; the operating fund and the sewer capacity fund. The first account funds operation and maintenance of the sewer collection and treatment system and planned infrastructure replacement and improvements. The second account receives revenue from plant investment fees that are accumulated for future expansion of the treatment system. The projected ending fund balance for the combined funds is \$20.6 million. This is well above the target operating fund balance of \$6.2 million, which represents a combination of one year of capital replacement costs for sewer mains and 30 percent of operations and maintenance cost, as recommended by the 2015 rate study. The remaining balance of \$14.4 million will continue to be reserved for future replacement and expansion projects.

### **Fiscal Responsibility**

The 2015 rate study valued the Persigo treatment facility at \$188 million, and the sewage collection system at \$83 million for a total system value of \$271 million. The majority of this infrastructure operates in an extremely corrosive environment and requires significant ongoing maintenance and rehabilitation efforts.

### **Collection System**

Ongoing efforts for the preservation and maintenance of the collection system include a 30-year replacement schedule for all portions of the collection system which have currently exceeded their useful life. The collection system is comprised of approximately 577 miles of pipe of which approximately 200 miles is scheduled for replacement over the next 30 years. The proposed expenditure for the collection system for 2020 is \$9.6 million which includes \$3.9 million for ongoing sewer line replacements, \$2.5 million to install a parallel forcemain to replace the Tiara Rado forcemain, \$3.0 million to eliminate or rehabilitate two lift stations, and \$160,000 for specialty collection system equipment. In addition to sewer line replacements, the budget includes \$60,000 to revitalize the incentive program for sewer improvement districts to eliminate septic tanks.

### **Treatment Plant Operations**

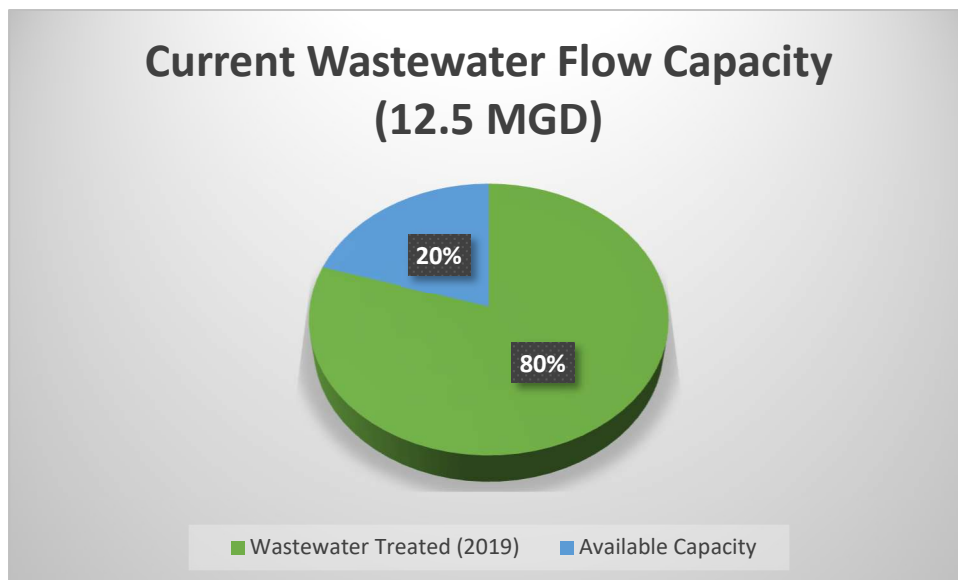
The Persigo Treatment Facility was designed during the late 1970's and went on line in 1984. Although this facility is over 30 years old, it is operating very well and is currently maintaining compliance with all regulatory requirements. Construction of the effluent diffuser outfall to the Colorado River was completed in March 2019 and the facility meets all permitted effluent limitations.

Recommended infrastructure improvement projects at the Persigo wastewater treatment plant include \$1.1 million for ongoing asset rehabilitation/replacements to replace aging infrastructure and/or improve operation of the plant; implement recommended improvements resulting from the 2019 odor control study; and initiating an arc flash and electrical safety study.

In 2015, the Persigo wastewater treatment plant commissioned a first-of-its-kind project that beneficially recaptures waste biogas produced as a byproduct of the treatment process and converts it into compressed natural gas (CNG) which is used as a vehicle fuel. Recommended funding of \$1.0 million would be used to design and construct improved biogas storage and upgraded instrumentation and automation on the fleet fueling system to maximize CNG delivery for vehicle fuel. Due to existing storage constraints, approximately 21 percent or 25,500 gasoline gallon equivalents (GGE) of CNG are flared to the atmosphere per year. With a \$0.5 million grant request from the Colorado Department of Local Affairs' Renewable/Clean Energy Challenge grant program, the proposed project would have a 10-year payback and allow opportunity for increased CNG production.

### **Future Wastewater Treatment System Expansion**

The existing wastewater treatment plant capacity is 12.5 million gallons a day. On an annual average basis, the plant received 8.8 million gallons per day in 2019 representing 70 percent of the permitted capacity. However, due to seasonal fluctuations, the maximum average monthly flow to the plant was almost 10 million gallons per day representing 80 percent of its hydraulic capacity. As required by permit, reaching this 80 percent milestone requires that we initiate engineering and financial planning for expansion of the wastewater treatment plant.



A wastewater master planning study was initiated in 2019 to update the 2008 Wastewater Basin Study in coordination with the City's Comprehensive Plan update and to develop a master plan for system expansion to satisfy permit requirements. Construction of wastewater treatment plant expansion will need to commence whenever throughput reaches 95 percent of the treatment capacity. Current projections indicate that the Persigo wastewater treatment plant will reach 95 percent capacity between 2029 and 2032. Initiating the master planning effort in 2019 provides enough time for planning, updating construction cost estimates, financing, engineering design, permitting, construction, and commissioning by this projected date. Early planning will also allow



for potential phasing of the project in concert with rehabilitation/replacement of existing infrastructure.

### **Summary**

The Persigo wastewater treatment system is operating very well and continues to be the benchmark for other municipalities for operational excellence and innovation. The Persigo biogas project fueled 69 City and County vehicles in 2019. The project received additional media recognition both locally through KAFM radio and statewide through a Water Education Colorado webinar. These innovations and many others that have been implemented over the years, would not have been possible without the continued support of the Persigo Board.

Respectfully submitted,

Kurt Carson, P.E.  
Wastewater Services Manager

Randi Kim, P.E.  
Utilities Director

Greg Caton, ICMA-CM  
City Manager

Persigo Joint Sewer System 2020 Preliminary Budget September 12, 2019						
Line No.	Account	2019 Adopted	2019 Amended	2020 Recommended	2019 Adopted to 2020 Recommended	2019 Amended to 2020 Recommended
1	Beginning Fund Balance:	20,045,153	25,836,046	22,650,553		
2	<b>Revenue</b>					
3	Capital Proceeds	2,865,726	2,865,726	3,074,685	208,959	208,959
4	Charges for Service	13,544,525	13,544,525	13,864,412	319,887	319,887
5	Fines and Forfeitures	1,000	1,000	1,000	-	-
6	Interest	467,165	467,165	406,953	(60,212)	(60,212)
7	Interfund Revenue	165,000	165,000	131,862	(33,138)	(33,138)
8	Intergovernmental	16,023	16,023	595,000	578,977	578,977
9	Other	24,801	24,801	9,252	(15,549)	(15,549)
10	<b>Revenue Total</b>	<b>17,084,240</b>	<b>17,084,240</b>	<b>18,083,164</b>	<b>998,924</b>	<b>998,924</b>
11	<b>Expenditures</b>					
12	Labor and Benefits	3,725,488	3,725,488	3,767,834	42,346	42,346
13	Benefits	927,321	927,321	948,351	21,030	21,030
14	Full Time	2,627,632	2,627,632	2,671,108	43,476	43,476
15	Insurance	95,435	95,435	58,091	(37,344)	(37,344)
16	Other Compensation	3,645	3,645	2,928	(717)	(717)
17	Overtime	35,000	35,000	46,175	11,175	11,175
18	Seasonal	36,455	36,455	41,182	4,727	4,727
19	<b>Operating</b>	<b>1,236,136</b>	<b>1,246,117</b>	<b>1,503,618</b>	<b>267,482</b>	<b>257,501</b>
20	Charges and Fees	312,383	312,383	349,296	36,913	36,913
21	Contract Services	66,575	76,556	51,144	(15,431)	(25,412)
22	Equipment	16,600	16,600	15,960	(640)	(640)
23	Equipment Maintenance	11,000	11,000	9,910	(1,090)	(1,090)
24	Grants and Contributions	3,500	3,500	3,150	(350)	(350)
25	Operating Supplies	82,368	64,368	75,710	(6,658)	11,342
26	Professional Development	33,000	33,000	54,680	21,680	21,680
27	Repairs	440,750	397,750	568,525	127,775	170,775
28	System Maintenance	247,000	308,000	351,799	104,799	43,799
29	Uniforms and Gear	4,460	4,460	4,014	(446)	(446)
30	Utilities	18,500	18,500	19,430	930	930
31	<b>Interfund Charges</b>	<b>2,564,441</b>	<b>2,564,441</b>	<b>2,491,518</b>	<b>(72,923)</b>	<b>(72,923)</b>
32	Administrative Overhead	667,000	667,000	692,346	25,346	25,346
33	Facility	548,581	548,581	576,274	27,693	27,693
34	Fleet	280,042	280,042	312,295	32,253	32,253
35	Fuel Charges	46,269	46,269	42,724	(3,545)	(3,545)
36	Information Technology	285,100	285,100	253,936	(31,164)	(31,164)
37	Liability Insurance	86,094	86,094	111,814	25,720	25,720
38	Medical Programs	51,594	51,594	51,992	398	398
39	Utility Services	599,761	599,761	450,137	(149,624)	(149,624)
40	<b>Debt Service</b>	<b>1,684,398</b>	<b>1,684,398</b>	<b>596,884</b>	<b>(1,087,514)</b>	<b>(1,087,514)</b>
41	Interest Expense	194,398	194,398	131,884	(62,514)	(62,514)
42	Principal	1,490,000	1,490,000	465,000	(1,025,000)	(1,025,000)
43	<b>Capital Outlay</b>	<b>7,685,100</b>	<b>11,049,289</b>	<b>11,797,000</b>	<b>4,111,900</b>	<b>747,711</b>
44	Capital Equipment	100,000	100,000	-	(100,000)	(100,000)
45	Utility Systems	7,585,100	10,949,289	11,797,000	4,211,900	847,711
46	<b>Expenditure Total</b>	<b>16,895,563</b>	<b>20,269,733</b>	<b>20,156,854</b>	<b>3,261,291</b>	<b>(112,879)</b>
47	<b>Net Source (Use) of Funds</b>	<b>188,677</b>	<b>(3,185,493)</b>	<b>(2,073,690)</b>	<b>(2,262,367)</b>	<b>1,111,803</b>
48	Ending Fund Balance:	20,233,830	22,650,553	20,576,863	(2,262,367)	1,111,803



## 2020 Recommended Capital Project Descriptions September 12, 2019

### JOINT SEWER OPERATIONS FUND

- 1. Sewer Line Replacement/Rehabilitation (F0016), \$3,870,000 (\$4.5M planned for 2021)** – Funds are budgeted through 2029 to replace/rehabilitate existing sewer mains within the Persigo 201 service area collection system. The collection system is comprised of approximately 577 miles of pipe of which approximately 200 miles is scheduled for replacement over the next 30 years. This replacement schedule was recommended in the 2015 independent rate study and approved by the Persigo Board. The above requested funds are consistent with Board approval.
- 2. Sewer Improvement Districts (F0034), \$60,000 (\$100K planned for 2021)** – In 2000, the City and the County passed a joint resolution establishing the septic system elimination program to provide incentives to property owners to eliminate septic systems. There are still approximately 1,500 properties that remain on septic systems within the Persigo 201 sewer boundary. The program has not yet achieved the goal of eliminating septic systems and making available connection to the sewer system to all properties within the service area. The last sewer improvement district was completed in 2010. Recommended funding for 2020 is to revitalize the incentive program by targeting completion of existing and new sewer improvement districts over the next 10 years.
- 3. Lift Station Elimination/Rehabilitation (F1704), \$3,000,000 (\$50K planned for 2021)** – The 2020 requested funds will be used to eliminate the River Bend Lift Station and eliminate or replace the Ridges Lift Station. Both lift stations have surpassed their design lives and it is recommended that these lift stations be replaced due to existing deficiencies regarding their condition, capacity, and long-term reliability. Funding planned for 2021 and beyond are focused on the continued implementation of predictive and preventative maintenance programs for the 29 lift stations in the collection system.
- 4. Collection System Equipment (F1006), \$160,000 (\$50K planned for 2021)** – These funds are recommended to purchase specialty equipment needed to efficiently operate and maintain the sewer collection system. Funds planned for 2020 will be used to purchase new camera equipment to remotely inspect manholes and sewer lines.
- 5. Wastewater Treatment Plant Improvements and Asset Replacement (previously called “Plant Backbone Improvements”) (F0010-F00100), \$577,000 (\$606K planned for 2021)** – These expenditures are associated with plant backbone improvements and ongoing asset replacement needs at the wastewater treatment plant. The funds planned for 2020 will be used for asset replacement in the headworks, power supply redundancy in disinfection, automation of the septic and grease receiving stations, and several other smaller projects.
- 6. Plant Studies, \$50,000** – This expenditure is proposed for the completion of an Arc Flash and Electrical Safety study to be completed in 2020.
- 7. Odor Control Improvements, \$500,000 (\$500K planned for 2021)** – An odor control study for the wastewater treatment plant and the sewer collection system is currently underway and will be completed in 2019. The recommended funds for 2020 are to design and construct odor control improvements. A three-year phased construction approach was assumed at \$500,000 per year from 2020 through 2022.
- 8. CNG Gas Storage/Enhanced Fueling Station, \$1,080,000** – In 2015, the Persigo wastewater treatment plant commissioned a first-of-its-kind project that beneficially recaptures waste methane gas (biogas) produced as a byproduct of the treatment process and converts it into compressed natural gas (CNG) which is used as a vehicle fuel. Recommended funding would be used to design and construct improved biogas storage and upgraded instrumentation and automation on the fleet fueling system that will maximize the amount of methane biogas used as vehicle fuel, instead of flaring it to the atmosphere. Due to existing constraints with biogas storage and fueling automation approximately 21% or 25,500 gasoline gallon equivalents (GGE) of CNG are flared to the atmosphere per year. The improvements from this project will allow nearly 100% of the CNG produced to be used as vehicle fuel and will result in an additional reduction of over 500,000 lbs-CO<sub>2</sub>/year.

## 2020 Recommended Capital Project Descriptions September 12, 2019

9. **Parallel Tiara Rado Force Main (F1910), \$2,500,000** – A design of a new force main for the Tiara Rado Lift Station is funded and will be initiated in 2019. Recommended 2020 funds are to construct a parallel force main from the Tiara Rado lift station, across or under the Colorado River, to the River Road Interceptor east of the Persigo wastewater treatment plant. The existing force main from the lift station is ductile iron and was installed during the 1980's. A section of this pipe has failed in the past and has been repaired. This parallel line will allow an alternative discharge option from the lift station. Once the new line is placed into service; the existing line can be inspected to determine if it can be rehabilitated to serve as a redundant pipeline or if the line should be taken out of service.