Sanitary Sewer Collection System Evaluation Preliminary Engineering Report

prepared for Huerfano County for Gardner Public Improvement District



### Overview

- Background
- Evaluation of Existing Sanitary Sewer Collection System
- WWTF Modifications
- Recommendations
- Existing Financial Status
- Financial Impacts of Recommended Improvements
- Plan of Action



## Background

- The Preliminary Engineering report includes general background information of the community which includes discussion on the following:
  - Floodplain
  - Vegetation
  - Wildlife
  - Wetlands
  - Population Trends
- Information is utilized in the funding process and the environmental process.



# Background





• Existing Sewer is comprised of Armco Truss Pipe installed in the mid 1970's. Truss Pipe was common in the 1970's prior to wide use of PVC.





Picture is not of GPID system but of truss pipe for illustration purpose only.

• Field inventory of the system occurred by videoing the lines, surveying manholes, and measuring manhole depths.





Pictures of two different manhole bases in GPID system



MH-13B – Hydrogen Sulfide



MH-14B- Service lines into manhole





Another manhole in GPID system



Picture of a new manhole base





Debris between MH-H8 to MH-H9





#### Sag between MH-H2 to MH-H3



Sag with debris between MH-14B to MH-14A



#### **Recommended Improvements**





#### **WWTF Effluent Pipe Modifications**

- The CDPHE reviewed the current discharge permit.
- Will not allow GPID to discharge at the current point without increasing treatment.
- Can move the location of the discharge and no change in treatment will be required.
- Any change in treatment will be costly to construct and operate. This is the most cost effective solution both long term and short term.



#### **WWTF Modifications**





#### **Proposed Cost Estimate**

#### **Priority One Improvements**

GM

Description	Cost
Sanitary Sewer Replacement and Rehabilitation	\$970,300
Remove and Replace 7,144 lineal feet of 8" sanitary sewer, remove and replace existing bridge suspended 8-inch sanitary sewer, remove and replace 23 manholes, reconnect 63 service lines to main, traffic control, four 16-inch steel pipe casing, asphalt removal and replacement, and seeding.	
WWTF Outfall Extension	\$61,220
Install new 260 lineal feet 8-inch PVC effluent pipe extension, new manhole, new outfall structure with rip rap protection, erosion control, and seeding.	
Subtotal preliminary cost	\$1,031,520
Project contingencies (15%)	\$155,039
Engineering design/contract administration	\$100,900
Construction observation based on 120 calendar days	\$120,000
Other engineering <sup>1)</sup>	\$109,500
Administrative expenses (advertising, legal counsel, bond counsel, etc.)	\$11,141
Total preliminary construction cost estimate	\$1,528,100

NSULTING GINEERS

#### Priority Two Improvements

Description	Cost
Sanitary Sewer Replacement and Rehabilitation	\$335,150
Remove and Replace 2,626 lineal feet of 8" sanitary sewer for non-highway right-of-way, remove and replace 12 manholes, reconnect 19 service lines to main, traffic control, asphalt removal and replacement, and seeding.	
Install manholes at dead end sewer mains	\$18,025
Install three manholes at dead end sewer mains and reconnect service lines	
Maintenance related repairs	\$3,200
Remove and replace service connections	
Subtotal preliminary cost	\$356,375
Project contingencies (15%)	\$54,225
Engineering design/contract administration	\$38,900
Construction observation based on 120 calendar days	\$30,000
Other engineering <sup>1)</sup>	\$43,000
Administrative expenses (advertising, legal counsel, bond counsel, etc.)	\$6,500
Total preliminary construction cost estimate	\$529,000

## **Existing Financials**

- \$25 per month for sewer availability
- \$3 per month for Plant Investment Fee
- Gardner School Charge \$50 per month
- Income met estimated expenditures; expenditures were estimated to sewer system from GPID staff since combined with water.
- No current debt on system



### **Potential Project Financing Scenario**

Component	Priority No. 1
Project Cost	\$1,528,000
DOLA CDBG Grant	\$600,000
WPCRF DAC D&E Grant	\$180,000
WPCRF Principal Forgiveness	\$595,000
WPCRF Loan	\$153,000
Current O&M Expense (customer/mo.)	\$26.81
New Debt Service (customer/mo.)	\$6.41
Added Reserve Requirement (customer/mo.)	\$0.64
Needed Average Monthly Bill (customer/mo.)	\$33.86
Current Average Revenue (customer/mo.)	\$28.00
Estimated Required Rate Increase	\$5.86

**DOLA-** Department of Local Affairs

CDBG-Community Development Block Grant

DAC- Disadvantaged Community

D&E- Design and Engineering Grant

WPCRF- Water Pollution Control Revolving Fund

CWR&PDA- Colorado Water Resources and Power Development Authority



Final rate increase will depend on grants received, this is a projection only. County will contribute American Rescue Plan Act Funds amount will be dependent on the amount of the grant awards to minimize burden to the community.

### Plan of Action and Implementation Schedule

Scheduled Event	Date
Submit DOLA CDBG funding application	February 2022
Submit Preliminary Engineering Report to GPID and discuss with funding agencies	March 2022
Authorize design	April 2022
Submit Site Application Amendment	May 2022
Obtain DOLA CDBG grant determination	June 2022
Initiate WPCRF process	April 2022
Submit final design to CDPHE	February 2023
Submit WPCRF loan application	February 2023
Obtain CWR&PDA funding commitment	April 2023
Obtain CDPHE approval of final design	April 2023
Loan and grants executed	June 2023
Advertise project for bid	July 2023
Bid opening	August 2023
Project award	August 2023
Initiate construction	September 2023
Complete improvements	February 2024

GN

DOLA- Department of Local Affairs

CDBG-Community Development Block Grant

WPCRF- Water Pollution Control Revolving Fund

CWR&PDA- Colorado Water Resources and Power Development Authority

## Questions?

