

## **MINUTES OF THE USDA RURAL DEVELOPMENT PUBLIC HEARING OF THE CITY OF POLO HELD IN CITY HALL ON SEPTEMBER 8, 2015.**

### **PLEDGE OF ALLEGIANCE:**

Mayor Knapp led the Pledge of Allegiance.

### **CALL TO ORDER:**

Mayor Knapp called the regular Public Hearing of the Polo City Council to order at 6:30p.m. on Tuesday, September 8, 2015.

**PRESENT:** Alderman Phillip Peterson, Alderman Troy Boothe, and Alderman Randy Schoon.

Also present was Mayor Doug Knapp and City Clerk Susie Corbitt.

**ABSENT:** Alderman David Ackeberg, Alderman Jim Busser and Alderperson Cheryl Galor.

Alderperson Cheryl Galor arrived at 6:34pm.

Alderman Dave Ackeberg arrived at 6:53pm.

### **INTRODUCTION**

The purpose of this Public Hearing is to satisfy a public participation requirement for eligibility in the USDA Rural Development Water & Waste Disposal Loan & Grant program.

A sign-in sheet is being circulated to complete the minutes for this meeting, please sign the roster.

The USDA Rural Development has review the Preliminary Engineering Report for the wastewater treatment plant sludge drying bed improvements, the S. Congress Avenue lift station rehabilitation and the sanitary sewer replacement and lining and has determined the project to be technically sound and cost effective. Unless new information gained from the public cause's reconsideration, the City will be applying for a USDA Rural Development for these improvements.

### **PROBLEMS**

#### **1. Wastewater Treatment Plant Sludge Drying Beds**

The problem with the sludge drying beds is insufficient capacity to dry all of the sludge being generated from the WWTP and the condition of the sludge drying beds are poor. Originally there were five (5) sludge drying beds used to dry the sludge so it could be land applied on agricultural fields. Currently there is only 1-1/2 sludge drying beds in operation.

The City staff tries to dry as much of the sludge as they can so they can land apply the sludge with their own equipment. The City has to contract out the hauling and land application of the liquid sludge which can be a costly expense.

## 2. South Congress Avenue Lift Station

The South Congress lift station was constructed in 1948. The lift station was originally designed as a vacuum prime lift station with a building enclosure over the structure. The vacuum prime pumps have been replaced with submersible pumps. The building structure is in poor condition, and the lift station controls are out dated and unreliable. The wet well is accessible from inside the building, which makes the building a Class 1 Division 1 Hazardous area. The building does not have the required ventilation for a Class 1 Division 1 area, so the City staff is not adequately protected against hydrogen sulfide gas when doing the daily checks and any maintenance. Also the check and isolation valves are located in the wet well, which is not in compliance with the IEPA regulations.

## 3. Sanitary Sewer System

The City has implemented a sanitary sewer cleaning and televising program to assess the structural and operational condition of the sanitary sewers and try to locate any infiltration and inflow sources. The City has cleaned and televised over 14,000 feet of sanitary sewers that are tributary to the S. Congress Avenue and Prairie Avenue lift stations.

The existing sanitary sewers on Maple Avenue, Oregon Street and Division Avenue were constructed in 1948. The sanitary sewer was constructed with clay pipe with pipe joints every three (3) feet. The sanitary sewer has sloped and sag issues which can cause sewer backups. The sanitary sewer televising camera was under water for most of the length of the sewer on Oregon Street from Maple Avenue to South Congress Avenue due to a major sag in the sanitary sewer line. The Division Avenue sanitary sewer had a severe offset joint in the line which is located underneath the pavement.

The existing sanitary sewer in the alley between Division Avenue and South Congress Avenue from the lift station to Aplington Street and the easement between the lift station and Division Street were constructed in 1948. The sanitary sewer was constructed with clay pipe with pipe joints every three (3) feet. The pipe had a severe root issue in the pipe joints. The roots in a sanitary sewer pipe can cause sewer backups.

## **SERVICE AREA**

The projects are located at the following locations and shown on the attached Exhibit A map:

1. City of Polo Wastewater Treatment Plant – 2307 Galena Trail Road, Polo, IL
2. Maple Avenue – Buffalo Street to Oregon Street
3. Oregon Street – Maple Avenue to South Congress Avenue
4. Division Avenue – South of Dement Street
5. Alley between Division Avenue and South Congress Avenue and from South Congress Avenue lift station to Aplington Street
6. S. Congress Avenue Lift Station – Just east of the south end of South Congress Avenue

## **ALTERNATIVES**

### 1. Wastewater Treatment Plant Sludge Drying Beds

#### Present Worth Analysis:

The alternatives evaluated for the wastewater treatment plant sludge drying bed problem to determine the most feasible and cost effective solution were as follows:

- A. Existing Sludge Drying Bed Replacement – Gravity dewatering of the sludge
- B. Sludge Screw Press Dewatering – Mechanical dewatering of the sludge
- C. Sludge Belt Filter Press Dewatering – Mechanical dewatering of the sludge

The 20 year present worth analysis for the alternatives is as follows:

#### **Sludge Drying Beds Alternatives Present Worth Analysis**

	Alternative A	Alternative B	Alternative C
Initial Capital Cost	\$620,000	\$844,000	\$747,000
Annual O&M Cost	\$ 8,870	\$ 16,784	\$ 6,971
Salvage Value	\$237,190	\$246,625	\$234,225
Present Worth of O&M Value	\$156,886	\$296,625	\$123,298
Present Worth of Salvage Value	\$186,847	\$194,279	\$184,511
Total Present Worth Value	\$590,039	\$946,584	\$685,787

Total Present Worth Value = Initial Capital Cost + Present Worth of O&M Value – Present Worth of Salvage Value.

Recommended Alternative:

The recommended alternative is the Sludge Drying Bed Improvements and will include the construction of the following items and is shown on the attached Exhibit K map.

- Construct 2 – 20’x40’ drying beds using a plastic media filter.
- Construct 1 – 40’x40’ dried sludge storage area.
- Construct a 3,600 square foot pole barn type building to enclose the sludge drying bed and sludge storage area.
- Construct new sludge piping and valves to distribute the sludge over the beds.
- Construct under drain piping to collect water from the sludge dewatering process.
- Furnish and install a polymer feed system.
- Construct a 3” non-potable water line from the new water treatment plant site to the polymer feed system.

2. South Congress Avenue Lift Station

Present Worth Analysis:

The alternatives evaluated to correct the South Congress lift station deficiencies are as follows:

- A. Rehabilitate Existing Lift Station – Make improvements to the existing lift station
- B. Construct New Lift Station – Relocate and construct a new submersible lift station
- C. Eliminate Lift Station –Construct a sanitary sewer to eliminate the need for the lift station.

The 20 year present worth cost analysis for the alternatives is a follows:

**South Congress Avenue Lift Station  
20-Year Present Worth Analysis**

	Alternative A	Alternative B	Alternative C
Initial Capital Cost	\$288,000	\$531,400	\$1,436,300
Annual O&M Cost	\$ 6,224	\$ 6,224	\$ 2,235
Future Salvage Value	\$ 52,105	\$128,215	\$ 943,545
Present Worth of O& M Value	\$110,086	\$110,086	\$ 39,531
Present Worth of Salvage Value	\$ 41,046	\$101,002	\$ 743,280
Total Present Worth Value	\$357,040	\$540,484	\$ 732,551

### Recommended Alternative:

The recommended alternative is the rehabilitation of the existing lift station and includes the following modifications as shown on the attached Exhibit N map:

- Removal of the lift station building structure and floor slab
- Removal of the electrical system and pump control panel
- Removal of the pumps and piping
- Install a new concrete flat top on the lift station structure with access hatches for installation and removal of the submersible pumps
- Construct a new valve vault
- Construct a new flow meter vault
- Furnish and install two (2) new submersible pumps with accessories
- Furnish and install piping, valves and fittings for pump discharge system
- Furnish and install a bypass pump riser to allow the contractor to bypass pump during the construction and the City to bypass pump if there is a pump failure
- Furnish and install new electrical and pump control panel.

### 3. Maple Street and Oregon Street Sanitary Sewer

#### Present Worth Analysis:

The Oregon Street and Maple Street sanitary sewer deficiencies were sags in the sanitary sewer line and substandard sanitary sewer slope. Sanitary sewers can be rehabilitated by sanitary sewer replacement or lining. Sanitary sewer lining is a method of rehabilitating an existing sanitary sewer in place by inserting a liner inside the sanitary sewer and curing it in place with hot water or steam. The liner will restore the structural integrity of the host pipe and provide a joint less liner on the inside of the pipe which will eliminate infiltration and root penetration. Sanitary sewer lining does not correct sag and grade deficiencies so sanitary sewer on Maple Avenue and Oregon Street must be replaced a new sanitary sewer to correct the sags and slope deficiencies.

#### Recommended Alternative:

The sanitary sewer replacement includes the open cut construction of 750 feet of 12” diameter sanitary sewer on Maple Avenue to the 1<sup>st</sup> sanitary manhole south of Oregon Street and then construct 1,780 feet of 10” diameter sanitary on the rest of Maple Avenue to Oregon Street and then east on Oregon Street to S. Congress Avenue. The sanitary sewer replacement layout is shown on the attached Exhibit Q map. The probable construction cost estimate is \$545,300.

4. Division Avenue Sanitary Sewer

Present Worth Analysis:

The Division Avenue sanitary sewer deficiency was a severe offset joint in the sanitary sewer line and it's located underneath the pavement. Sanitary sewer lining cannot correct a severe offset joint so the sanitary sewer must be replaced with a new sanitary sewer.

Recommended Alternative:

The sanitary sewer replacement includes the open cut construction of 60 feet of 8" diameter sanitary sewer on Division Avenue just south of Dement Street. The Division Avenue sanitary sewer replacement is shown on the attached Exhibit R map. The probable construction cost estimate is \$53,200.

5. Alley Between Division Avenue and South Congress Avenue and Easement From Lift Station to Division Avenue

Present Work Analysis:

The alternatives evaluated for the sanitary sewer rehabilitation in the alley and easements are as follows:

- A. Sanitary Sewer Replacement – Open cut excavation and install new sanitary sewer
- B. Sanitary Sewer Lining – Install liner inside existing sanitary sewer.

The 20 year present worth cost analysis for the alternatives is a follows:

**Alley and Easement  
20-Year Present Worth Analysis**

	Alternative A	Alternative B
Initial Capital Cost	\$247,000	\$89,600
Annual O&M Cost	\$ 600	\$ 600
Future Salvage Value	\$123,620	\$52,710
Present Worth of O& M Value	\$ 10,612	\$10,612
Present Worth of Salvage Value	\$ 97,382	\$41,522
Total Present Worth Value	\$160,230	\$58,690

Recommended Alternative:

The recommended alternative is the Sanitary Sewer Lining and includes the lining 1,030 feet of 8" diameter sanitary sewer and 170 feet of 10" diameter sanitary sewer. The sanitary

sewers to be lined are shown on the attached Exhibit S map. The probable cost estimate is \$89,600.

**ENVIRONMENTAL IMPACTS**

None of the projects will impact any floodplains, wetlands, endangered species or any historical or archaeological properties. The sludge drying bed improvements, the South Congress lift station rehabilitation and the sanitary sewer replacement on Maple Avenue, Oregon Street and Division Avenue will require underground excavation to complete the required work. Erosion control devices will be used to collect sediment during the construction. After the construction is completed, the surface will be restored to its original condition.

**PROJECT COST**

The probable cost estimate for the entire project is summarized in the table below.

Item	Total Cost
Construction	
Existing Sludge Drying Bed Replacement	\$ 563,420
S. Congress Lift Station Rehabilitation	\$ 261,600
Maple Ave. and Oregon St. Sanitary Sewer Replacement	\$ 495,790
Division St. Sanitary Sewer Replacement	\$ 48,390
Sanitary Sewer Lining	\$ 81,480
Total Estimate Construction Cost	\$1,450,680
Contingency (10%)	\$ 145,581
Design Engineering <sup>(1)</sup>	\$ 149,099
Construction Services <sup>(2)</sup>	\$ 112,640
Geotechnical Services	\$ 15,000
Legal Services	\$ 30,000
Preliminary Engineering Report	\$ 12,000
Environmental Report	\$ 7,000
Interest During Construction	\$ 55,000
Total Project Cost	\$1,977,000

**FINANCING AND USER CHARGE**

The City is applying for a \$1,977,000 USDA Rural Development loan. The loan will be a 40 year loan at 2.75% interest with annual loan payment of \$84,513. Based the on Sewer Department’s revenue and expenses, the sewer rate will have to be increased by \$3.50/User/Month to repay the USDA Rural Development loan.

## **IMPLEMENTATION**

The tentative schedule for the project is as follows:

Event	Date
Engineering Design	October 2015 – December 2015
Advertise for Bids	February 2016
Award Contracts	March 2016
IEPA Construction Permit	March 2016
Construction	May 2016 – November 2016

All the costs have been left in for now to see if we can get any Federal assistance after October 1, 2015. If there are no Federal Funds there then we will need to fund it by the City.

## **PUBLIC COMMENTS OR QUESTIONS**

Mr. Mark Scholl questioned a Capitol Fund that possibly the City set up when the new waste water treatment plant was constructed and could these funds be used to offset the cost if a grant is not received. The Council informed Mr. Scholl that there is an equipment replacement fund with a good amount of savings that we may have to tap into if the Federal Funds are not there.

Alderman Schoon stated part of the reason for the water line on the south side of the West Oregon Street hooking into the six inch main on the north side of the street is this would be the time when the road is tore up. The cost savings are significant to do this when the street is open.

Alderman Randy Schoon made a motion to adjourn at 7:06pm, seconded by Alderperson Cheryl Galor. Ayes 5, nays 0. The motion carried by voice vote.

Respectfully Submitted,  
Susie Corbitt, MMC

(Seal)