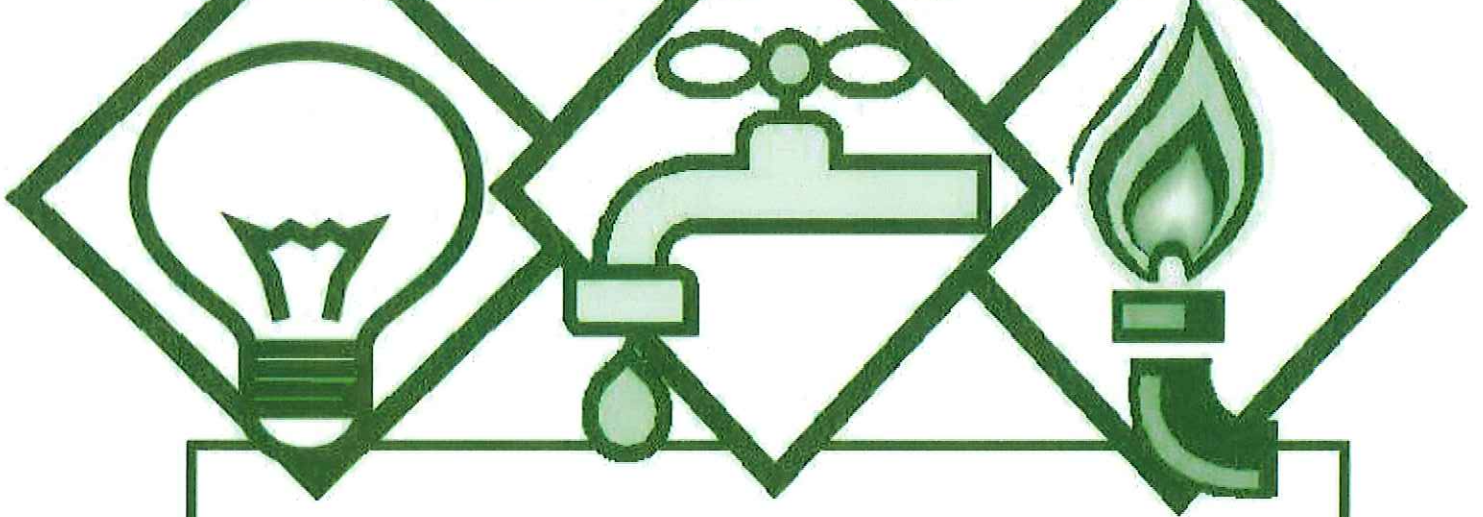


FALLS CITY



UTILITIES

FALLS CITY UTILITIES

10 YEAR

CAPITAL IMPROVEMENTS

PLAN

2020

TO

2030

Executive Summary 1

Electric Department – Power Plant 2

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Wastewater Department – Collection System 9

EXHIBITS

Exhibit A.....Project Priorities

Exhibit B.....Electric Department Photographs

Exhibit C.....Water Department Photographs

Exhibit D.....Gas Department Photographs

Exhibit E.....Wastewater Department Photographs

EXECUTIVE SUMMARY

This comprehensive plan was developed with the cooperation and assistance from the Utility Superintendent, Electric Distribution Supervisor, Power Production Supervisor, Gas Superintendent, Water Production Supervisor and Wastewater Supervisor. It is intended to inform and assist the Board Of Public Works (BOPW) in making educated crucial/critical decisions regarding infrastructure upgrades/replacement as well as critical equipment and facilities needs over the next ten (10) years.

Discussions with each department supervisor were held individually to use their expertise to help assess the specific issues that are very unique to their department with regards to infrastructure, critical equipment and facilities needs. As a result we have formulated a strategy and identified the area's of concern within each department that should be addressed over the next ten (10) years.

Each utility department operates as an independent enterprise fund, meaning it must fund itself for the proper operation, maintenance and capital improvements of that particular department. There are a limited amount of ways that each department can fund their department needs, 1. through established rates 2. grants 3. borrowing money – loans/bonds. The Board Of Public Works and the City Council has done an admirable job of balancing all three with regards to keeping our rates very competitive and in the best interest of the citizens of Falls City.

Falls City and the governing bodies find themselves in a situation that is definitely not unique to just our community. Municipalities across the state and nation are struggling with regards to aging utility infrastructure and the challenge of funding large capital improvements to sustain safe and reliable delivery of essential utility services.

The following is a starting point for the Board Of Public Works and the City Council to consider prioritizing and the potential funding for a substantial amount of work (both City Crews and Contractors) to be accomplished over the next ten (ten) years to help sustain and attract new industry, business and residential customers and enhance the overall quality of life in Falls City.

ELECTRIC DEPARTMENT – POWER PLANT

The Power Plant facility is extremely critical for the City of Falls City, it provides the City an emergency back up for electrical power (an insurance policy) to allow the City to continue to supply electrical power to the citizens of our community in situations which could range from maintenance on the OPPD transmission line, storm damage to the OPPD transmission line to being totally disconnected from the electric power grid and operating on our own. The power plant facility is quite old and in need of some substantial repairs and upgrades.

CONTROL ROOM:

The control room is the nerve center of the power plant, where most of the crucial controls are located for the nine (9) individual generators that the City currently owns as well as the five (5) individual 4.16 Kv distribution circuits that originate from the power plant.

Remodel:

The control room is in need of a remodel to include upgrading of all the meters and relays associated with the generator controls and the 4.16 Kv distribution circuits. **Est. cost of meters and relays \$150,000.**

The control room should also have an operations desk set up to allow the operators to view the SCADA (Supervisory Control And Data Acquisition) system while also being able to see all of the above mentioned meters and relays, this will make for a much more efficient operation. Also as part of the remodel it should include a new ceiling, floor, lighting and walls painted. **Est. cost of the remodel \$125,000.**

PLANT:

New windows and doors throughout the entire plant. **Est. cost \$125,000.**

A remodel of the office, kitchen and bathroom area's. **Est. cost \$60,000.**

A new electrical SCADA system (generation & distribution). **Est. cost \$400,000.**

A new security system including outdoor lighting, intrusion alarms, cameras both perimeter and internal. **Est. cost \$100,000.**

The circuit breakers in the substation at the power plant need to be repainted and labeled. **Est. cost \$5,000.00.**

UNIT #9:

Unit #9 is the City's newest and most efficient generator, it is rated at 9.3 Mw and is a dual fuel unit (light fuel oil, natural gas). This unit was a major investment for the City and thus we must continue to invest in upgrades and maintenance to insure its viability for years to come.

WECSplorer Workstation + UNIC C3 training is a Wartsila tool and hands-on training. The WECSplorer tool and license is offered as a preconfigured package. These tools will allow the power plant staff to do troubleshooting, software download, basic running and advance engine diagnostics. The diagnostics and trend data can be saved and sent to Wartsila for further analysis. **Est. cost \$22,000.** (every time we need to have a Wartsila technician come to the power plant it costs approximately \$10,000).

ELECTRIC DEPARTMENT – DISTRIBUTION

The Electric Distribution department is responsible for maintaining the City's electric distribution system in a safe and reliable manner. Currently the system serves approximately 2,700 electric meters serving residential, commercial and industrial customers. In 2017 Falls City contracted with Olsson Associates to have an extensive system analysis done on the existing electrical distribution system. In July 2017 Olsson Associates presented Falls City with the results of that analysis. The following is a statement from the Olsson Associates analysis report "The industry standard life span for overhead distribution construction is generally considered to be 40 to 50 years. Based on the information above almost all of Falls City's electrical distribution system is at or beyond the expected useful life of the construction. Two significant concerns related to the age of the electric distribution infrastructure are: (1) Reliability of service to customers, (2) Safety of staff and the general public".

DISTRIBUTION SYSTEM UPGRADES:

Complete the construction of the industrial feeder and transfer all industrial load to the dedicated industrial feeder. **Completed under the Probst Electric contract April 2020.**

Rebuild the south leg of the 13.8 Kv ring bus. Conductor shall be 477 Kcmil 18/1 ACSR (Aluminum Conductor Steel Reinforced), (14,500 feet). **Completed under the Probst Electric contract April 2020.**

Rebuild the 13.8 Kv south ring bus segment from 14th Street to the 28th Street and Barada substation. Conductor shall be 477 Kcmil 18/1 ACSR (10,550 feet). **Completed under the Probst Electric contract April 2020.**

Rulo distribution line from Hwy 159 to Rulo Water Treatment Plant – Add 1/0 ACSR neutral and replace pole mount transformers along existing 13.8 Kv 3-phase rural distribution pole line, approximately 5.6 miles. Rebuild approximately 3.0 miles of 13.8 Kv 3-phase rural distribution pole line conductor shall be 1/0 ACSR. **Completed under the Probst Electric contract April 2020.**

Rebuild the Harlan/Stone alley from 11th Street to 17th Street (2,500 feet alley rebuild). **Est. cost \$750,000.**

Rebuild the Stone/Chase alley from 11th Street to 19th Street (3,350 feet alley rebuild). **Est. cost \$1,000,000.**

Rebuild the north leg of the 13.8 Kv ring bus. Conductor shall be 477 Kcmil 18/1 ACSR (11,200 feet). **Est. cost \$825,000.**

Replace the underground segments of feeders #1 and #2 through Grandview Park with new 15 Kv, 4/0 AL URD construction directionally bored (500 feet each feeder) **Est. cost \$150,000.** *Circuit #1 failed and was replaced by City Electric Crew in 2020. Est. cost for circuit #2, \$75,000.*

Install new 13.8 Kv underground from 28th Street to 35th Street and east to Barada. Underground existing 13.8 Kv radial overhead line on Barada from 28th Street to 35th Street (10,000 feet). **Est. cost \$1,200,000.**

In a 5-year period complete the replacement of existing transformers with dual voltage high side transformers. **Est. cost \$1,500,000.** *Approximately \$300,000 per year for 5 years.*

Replace outdoor 4.16 Kv circuits #1 thru #5 takeoff structure outside the power plant with a new outdoor 15 Kv rated switchgear with 5 – 15 Kv circuit breakers for converting the 4.16 Kv circuits to 13.8 Kv Circuits. **Est. cost \$2,000,000.**

Continue replacing 45 plus year old poles on the rural distribution lines. **Est. cost \$100,000.**

Continue to underground existing overhead distribution circuits on a as practical basis. *City electric crew doing the work.* **Est. cost \$1,000,000.**

EQUIPMENT:

Replace 2002 Chevy Aerial Bucket Truck - **Est. cost \$175,000.**

Replace 1989 Chevy Digger Derrick Truck – **Est. cost \$150,000.**

Replace 2006 Ford F750 Bucket Truck – **Est. cost \$165,000.**

Replace 2008 F150 Pick Up Service Truck – **Est. cost \$40,000.**

Replace 1970 Baker 600 Forklift – **Est. cost \$25,000.**

Replace 1998 Vermeer Brush Chipper – **Est. cost \$30,000**

WATER DEPARTMENT – PRODUCTION

The Water Treatment Plant (WTP) is located 1 mile south of Rulo. The staff at the WTP is responsible for the pumping of water from the well field located next to the Missouri River up to the WTP, then through the treatment process which encompasses the following: the water is ran through an aerator, then to the solids clarifier (contraflo) where alum/lime is added to help soften the water, then to the settling/recarb basin flowing from there to the gravity filters and on to the baffled clearwells. Once leaving the clearwells it is injected with chlorine and through the high service pumps sent to Falls City and Rulo for distribution to customers. The WTP has had some major improvements made in the last few years including a new horizontal collector well and a new baffled clearwell. The WTP must meet strict state and federal requirements and regulations.

WELLFIELD:

Decommission water production wells #4,#9,#10 and #11. **Completed under Layne Christensen contract October 2020, \$8,403.08**

Install underground electric to water production well #12,#13 and #14 (*emergency backup wells to the horizontal collector well*) and remove existing overhead electric line. **Est. cost \$35,000. Will be done by the City electric crew.**

Install isolating valves on horizontal collector well laterals. **Est. cost \$150,000.**

WATER TREATMENT PLANT:

Replace old existing lime slaker machine. **Purchased and on site \$160,000. Still needs to be installed and put into service. Est. cost \$10,000.**

Replace the existing solids clarifier (contraflo), the existing contraflo is 50 years old and the solids scrapper is no longer functionable and can not be repaired. A contract is currently in place with Olsson Engineering to spec and have delivered the mechanical portion of the contraflo, as well as design, bid and project manage the construction of a completely new contraflo including a new building and piping. Also included is the demolishing of the existing contraflo. **Est. cost \$3,000,000. (Contract awarded to BRB Construction)**

Repair or Replace the high service pumps. **Est. cost \$85,000.**

New SCADA system. **Est. cost \$150,000.**

Add lights at horizontal collector well and south side of WTP. **Est. cost \$2,500.**

Lime dewatering basins (*will need research to see if viable*). **Est. cost \$200,000.**

EQUIPMENT:

Replace Massey Tractor. **Est. cost \$75,000.**

WATER DEPARTMENT – POWER PLANT

Once the WTP has completed the treatment process it is pumped to Falls City to the Power Plant and into the clearwell at the power plant. The power plant staff injects additional chlorine and fluoride as needed and pumps the water from the clearwell through the high service pumps to the 1 million gallon water tower located at 25th and Abbott, from there the water remains pressurized and is distributed to our customers.

POWER PLANT – WATER:

New SCADA system. **Est. cost \$150,000.**

Repair or Replace high service pumps. **Est. cost \$50,000.**

WATER DEPARTMENT – DISTRIBUTION

The Water Department Distribution crew is responsible for maintaining and operating the Falls City water distribution system in a safe and reliable manner. The water mains (infrastructure) in Falls City are very old and we have issues with leaks and main breaks.

DISTRIBUTION:

Replace old iron water mains. **Est. cost \$2,000,000.**

Replace old valves. **Est. cost \$100,000.**

Install new PVC water lines for new development. **Est. cost \$250,000.**

EQUIPMENT:

Valve turning machine. **Est. cost \$45,000.**

Replace 1996 John Deere Back Hoe. **Est. cost \$75,000.**

GAS DEPARTMENT – DISTRIBUTION

The Natural Gas Distribution crew is responsible for operating and maintaining the City's natural gas distribution system in a safe and reliable manner adhering to all State and Federal rules and regulations. The gas mains (infrastructure) in Falls City are very old and a large portion of the system is bare steel which needs to be replaced with poly (plastic) mains and services. While the City gas crew has done an excellent job in the past few years of replacing several blocks of bare steel main with poly, the system is just to large to get it all replaced in a reasonable amount of time with just the use of the City crew.

DISTRIBUTION:

Continue replacing bare steel/cast iron mains utilizing City Crew. **Est. cost \$1,250,000.**

Replace bare steel/cast iron mains utilizing contractors. **Est. cost \$3,500,000.**

Replace service/yard lines as part of system upgrade utilizing contractors. **Est. cost \$500,000.**

Install 20 isolation valves utilizing City Crew. **Est. cost \$35,000.**

Replace 35th & McLean St. rectifier & anode bed. **Est. cost \$15,000.**

New SCADA system. **Est. cost \$250,000.**

EQUIPMENT:

Construction Truck. **Est. cost \$75,000.**

Poly fusion equipment. **Est. cost \$7,500.**

Steel welder. **Est. cost \$7,500.**

Tamper. **Est. cost \$3,500.**

WASTEWATER DEPARTMENT – TREATMENT PLANT

The Wastewater Treatment Plant is a highly technical and critical facility in the Utility Department. Through a complex process it takes raw sewage from Falls City and after treatment is discharged into the Nemaha River. The treatment plant operates under our State of Nebraska issued NPDES (National Pollutant Discharge Elimination System) permit. Under the NPDES permit the treatment plant is required to meet or exceed many contaminate levels as well as monitor several contaminate levels as outlined in the permit. The staff operates and maintains the treatment plant in a safe and reliable manner while adhering to very stringent State and Federal rules and regulations. Wastewater treatment plants are typically designed for a useful operating life of 20 years, Falls City's wastewater treatment plant is currently 16 years old and thus is in need of a large amount of upgrades to continue operating in compliance with the NPDES permit. The environment the equipment must operate in is very caustic and requires heavy duty equipment in some instances.

WASTEWATER TREATMENT PLANT:

Clean out and replant existing reed beds. **Est. cost \$100,000.**

Replacement of raw sewage pumps & controls. **Est. cost \$125,000.** (*Influent pump replacement contract awarded to Allied Systems Inc.*)

Replace Biolac air chains & diffuser. **Est. cost \$100,000.**

New SCADA system. **Est. cost \$200,000.**

Insulate interior of UV building. **Est. cost \$5,000.**

Replace roof on clarifiers. **Est. cost \$10,000.**

Depending on the NPDES permit and possible process changes plant upgrades. **Est. cost \$5,000,000.**

EQUIPMENT:

Replace the existing tractor. **Est. cost \$75,000.**

Replace 1- ton truck. **Est. cost \$45,000.**

COLLECTION SYSTEM:

Replace Northeast lift station. **Est. cost \$460,000.** (*Contract awarded to Midlands Contracting Inc.*)

Kirkham Michael Sanitary Sewer Rehabilitation Improvements:

- Site 2 – Wilson St. – 13th st to 12th st.
- Site 3 – Lane/Morton St. – 11th st to 9th st.
- Site 4 – Morton St. – 9th st to 7th st.
- Site 5 – MH 1B-67 to MH 1B87.
- Site 6 – MH 1B87 to MH 1B-93.
- Site 7 – 14th st MH 3b-4 to MH 3b-5. **Total Est. Cost for 6 Projects \$500,000**

Identify and repair I & I issues (sewer mains & manholes). **Est. cost \$3,000,000.**

- **Up to \$500,000 per year possible.**

Manhole lids and rings. **Est. cost \$24,000.**

EQUIPMENT:

Nozzles for jetter machine. **Est. costs \$10,000.**

CONCLUSION:

As stated in the beginning this report is a starting point for the BOPW and City Council to help prioritize the needed infrastructure improvements needed throughout the City in the Utility Departments. It is understood that this is a living document and as emergencies arise priorities may change and projects may have to be shuffled. It is also necessary for all Utility Departments, Staff, BOPW and City Council to review the report and adjust as necessary at least each year.

I hope you find this report helpful and educational with regards to the City's aging infrastructure, facilities and equipment needed to help the City deliver safe and reliable utility services to our citizens.

Ray Luhring
Utility Superintendent

**FCU – 10 YEAR
CAPITAL IMPROVEMENTS PLAN**

ELECTRIC DEPARTMENT

Power Plant	\$965,000	
Distribution	\$8,450,000	TOTAL ELECTRIC DEPARTMENT \$10,000,000
Equipment	\$585,000	

WATER DEPARTMENT

Well Field	\$185,000	
WTP Rulo	\$3,447,500	
Equipment	\$75,000	
Power Plant	\$200,000	TOTAL WATER DEPARTMENT \$6,377,500
Distribution	\$2,350,000	
Equipment	\$120,000	

GAS DEPARTMENT

Distribution	\$5,550,000	
Equipment	\$93,500	TOTAL GAS DEPARTMENT \$5,643,500

SEWER DEPARTMENT

WWTP	\$5,540,000	
Equipment	\$120,000	
Collection System	\$3,984,000	TOTAL SEWER DEPARTMENT \$9,540,000
Equipment	\$10,000	

GRAND TOTAL FALLS CITY UTILITIES - \$31,675,000

EXHIBIT - A

PROJECT PRIORITIES

ELECTRIC

WATER

GAS

SEWER

ELECTRIC DEPARTMENT Project Priorities

POWER PLANT:

<u>PRIORITY</u>	<u>DESCRIPTION</u>
#1	The control room remodel to include upgrading of all of the meters and protection relays that are associated with the generator controls and 4.16 Kv distribution circuits. Est. cost \$150,000.
#2	The control room should have an operations desk that is set up to allow the operators to view the SCADA (Supervisory Control And Data Acquisition) system while also being able to see all of the above mentioned meters and relays, this will allow for a much more efficient up to date operation. Also as part of the remodel it should include a new ceiling, floor, lighting and the walls painted. Est. cost \$125,000.
#3	A new security system including outdoor lighting, intrusion alarms, cameras both perimeter and interior. Est. cost \$100,00.
#4	Remodel of the office, kitchen and restroom area's. Est. cost \$60,000.
#5	A new electrical SCADA system (generation & distribution). Est. cost \$400,000.
#6	New windows and doors throughout the entire plant. Est. cost \$125,000.
#7	The circuit breakers in the substation at the power plant need to be repainted and labeled. Est. cost \$5,000.

ELECTRIC DISTRIBUTION:

<u>PRIORITY</u>	<u>DESCRIPTION</u>
#1	Rebuild the Stone/Chase alley from 14 th Street to 19 th Street (3,350 feet alley rebuild). Est. cost \$1,000,000.
#2	Rebuild the Stone/Harlan alley from 14 th Street to 17 th Street (2,500 feet alley rebuild). Est. cost \$750,000.
#3	Replace the outdoor 4.16 Kv circuits #1 thru #5 takeoff structure outside the power plant with a new modular outdoor 15 Kv rated switchgear with 6 – 15 Kv circuit breakers for converting the 4.16 Kv circuits to 13.8 Kv circuits. Est. cost \$2,000,000.

**Electric Department
Project Priorities Continued**

<u>PRIORITY</u>	<u>DESCRIPTION</u>
#4	Rebuild the north leg of the 13.8 Kv ring bus. Conductor shall be 477 Kcmil 18/1 ACSR (11,200 feet). Est. cost \$825,000.
#5	Replace the underground segment of circuit #2 through Grandview Park with new 15 Kv, 4/0 AL URD cable (500 feet). <i>Will be done by City Crew.</i> Est. cost \$75,000.
#6	Install new 13.8 Kv underground from 28 th Street to 35 th Street and east to Barada Street. Underground existing 13.8 Kv radial overhead distribution line on Barada Street from 28 th Street to 35 th Street (10,000 feet). Est. cost \$1,200,000.

ONGOING

In a 5-year period complete the replacement of existing transformers with dual voltage high side transformers. *A large portion of the existing transformers will need to be changed out to accommodate Priority #3. Will have to evaluate to see if we can dedicate a City Crew for this amount of work or contract it out.* **Est. cost \$1,500,000.**
Approximately #300,000 per year for 5 years.

Continue replacing 45 plus year old poles on the rural distribution lines. **Est. cost \$100,000.**

Continue to underground existing overhead distribution circuits and services on a practical basis. *City Crew doing the work.* **Est. cost \$1,000,000.**

WATER DEPARTMENT **Project Priorities**

WATER TREATMENT PLANT:

<u>PRIORITY</u>	<u>DESCRIPTION</u>
#1	Replace the existing solids clarifier (contraflo), the existing contraflo is 50 years old and the solids scrapper is not longer functionable and can not be repaired. A contract is currently in place with Olsson Engineering to spec and have delivered the mechanical portion of the contraflow (<i>contract awarded to Envirodyne System Inc</i>) as well as design, bid and provide project management for the construction of an entirely new contraflo including a new building an piping. Also included is the demolishing of the existing contraflo. Est. cost \$2,250,000. (<i>Contract awarded to BRB Construction</i>).
	Replace existing lime slaker machine. Purchased and on site \$160,000. <i>Still need to be installed and put into service. Est. cost \$10,000.</i>
#2	New SCADA system. Est. cost \$150,000.
#3	Repair or replace the high service pumps. Est. cost \$85,000.
#4	Add lights to south side of WTP and horizontal collector well. Est. cost \$2,500.
#5	Lime dewatering basins (<i>will need to research to see if viable</i>) Est. cost \$200,000.

WELL FIELD:

<u>PRIORITY</u>	<u>DESCRIPTION</u>
#1	Install underground electric to water production wells #12,#13 and #14 (<i>emergency backup wells to the horizontal collector well</i>) and remove existing overhead electric line. Est. cost \$35,000. <i>Will be done by City Crew.</i>
#2	Install isolating valves on the horizontal collector well laterals. Est. cost \$150,000.

POWER PLANT:

<u>PRIORITY</u>	<u>DESCRIPTION</u>
#1	New SCADA system. Est. cost \$150,000.
#2	Repair or replace high service pumps. Est. cost \$50,000.

WATER DEPARTMENT
Project Priorities Continued

WATER DISTRIBUTION:

<u>PRIORITY</u>	<u>DESCRIPTION</u>
#1	According to the supervisor approximately 65% to 75% of the existing water valves are not operational. This is a major concern as it does not allow for the crew to isolate water lines to make repairs in a timely manner. It has been recommended that we divide the City into 4 sections and replace the main valves in each section. Est. cost \$100,000.
#2	After the main valves have been replaced start in section 1 and continue thru section 4 throughout the City replacing water mains as needed. Est. cost \$2,000,000.
#3	Install new PVC water mains for new development. Est. cost \$250,000.

GAS DEPARTMENT **Project Priorities**

GAS DISTRIBUTION:

The goal of this 10 year plan is to complete the “Steel Main Replacement Project” by the year 2031. This plan will require the resources of both City crew and contractors. To help with funding we propose to use contractors every other year and during the idle year of construction with contract crews we will have the engineering done for the following years project. The City crew will continue to do construction every year during the project. Please refer to the Gas Department “Steel Main Replacement Project” zone map to associate the location of the zone and if the zone is being completed by City crew or contractor.

CONSTRUCTION TIME LINE:

<u>YEAR</u>	<u>CREW</u>	<u>ZONE</u>
2021	City	#7
2022	City Contractor	#7 & #9 #8
2023	City	#9 & #11
2024	City Contractor	#12 #10 & #13
2025	City	#15
2026	City Contractor	#15 #14 & #16
2027	City	#18
2028	City Contractor	#23 & #21 #17 & #19
2029	City	#21
2030	City Contractor	#22 #20
2031	City	#22

GAS DEPARTMENT
Project Priorities Continued

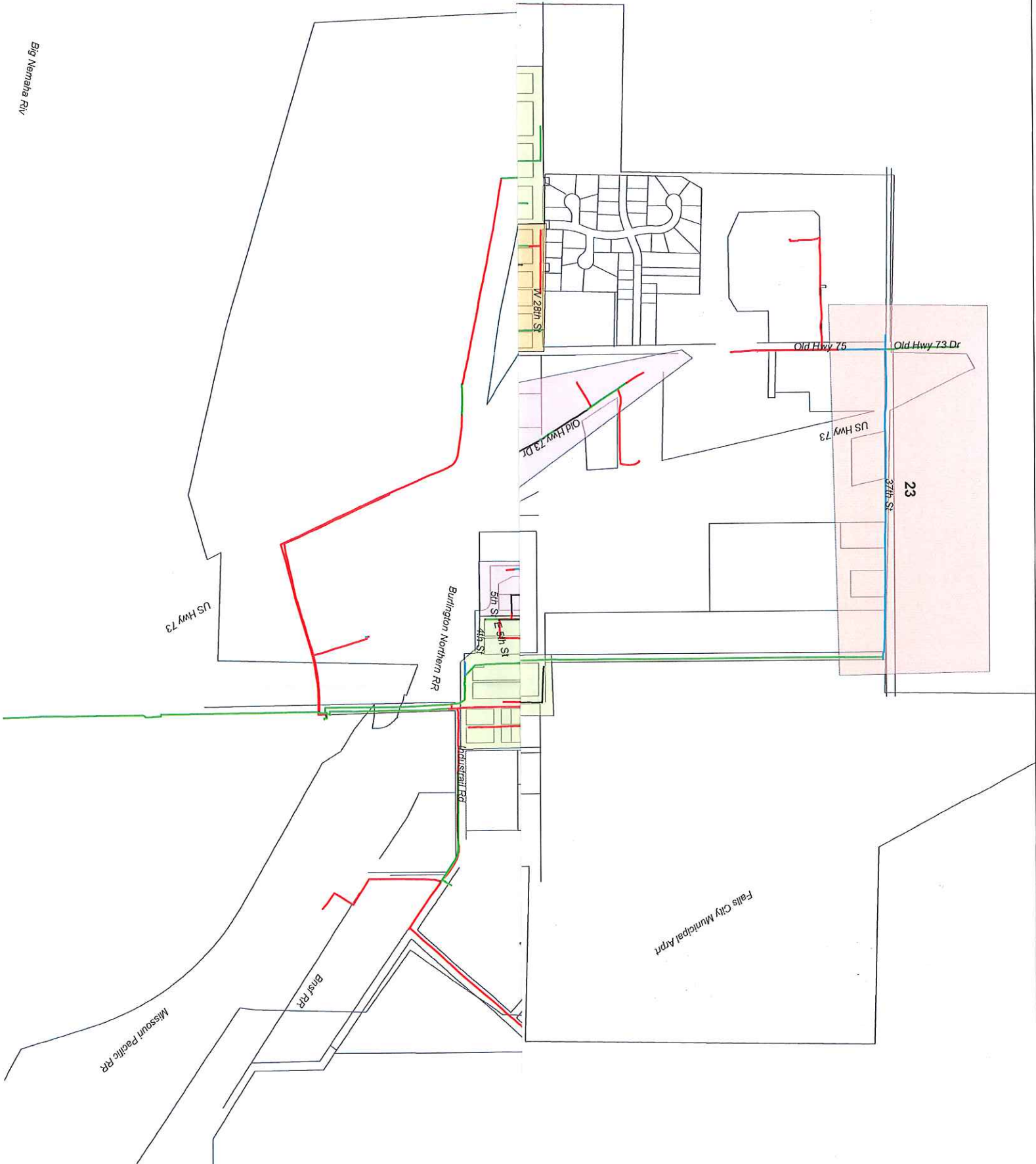
Cost associated with the above table

CITY CREW: **Est. cost \$1,250,000**

CONTRACTOR: **Est. cost \$3,500,000**

<u>PRIORITY</u>	<u>DESCRIPTION</u>
#2	Install 20 isolation valves utilizing City Crew. Est. cost \$35,000
#3	Replace 35 th & McLean St. rectifier & anode bed. Est. cost \$15,000
#4	Replace service/yard lines as part of system upgrade. Est. cost \$500,000
#5	New SCADA system. Est. cost \$250,000

Big Nemaha Riv



Falls City Municipal Arprt

23

Missouri Pacific RR

Blair R.R.

Burlington Northern RR

Industrial Rd

US Hwy 73

Old Hwy 75

Old Hwy 73 Dr

Old Hwy 73 Dr

W 28th St

5th St

4th St

US Hwy 73

SEWER DEPARTMENT **Project Priorities**

WASTEWATER TREATMENT PLANT:

<u>PRIORITY</u>	<u>DESCRIPTION</u>
#1	Replacement of raw sewage pumps & controls. Est. cost \$125,000. (<i>Influent pump replacement contract awarded to Allied Systems Inc.</i>)
#2	Clean out and replant existing reed beds. Est. cost \$100,000.
#3	New SCADA system. Est. cost \$200,000.
#4	Replace Biolac air chains & diffuser. Est. cost \$100,000.
#5	Replace roof on clarifiers. Est. cost \$10,000.
#6	Insulate the interior of the UV building. Est. cost \$5,000.
#7	Depending on the NPDES (National Pollutant Discharge Elimination System) permit and possible process changes resulting in plant upgrades. Est. cost \$5,000,000.

SEWER COLLECTION SYSTEM:

<u>PRIORITY</u>	<u>DESCRIPTION</u>
#1	Replace Northeast lift station. Est. cost \$460,000. (<i>Contract awarded to Midlands Contracting Inc.</i>)
#2	Kirkham Michael Engineering Sanitary Sewer Rehabilitation Improvements Study: <ul style="list-style-type: none">➤ Site 2 – Wilson St. 13th St. to 12th St.➤ Site 3 – Lane/Morton St. 11th St. to 9th St.➤ Site 4 – Morton St. 9th St. to 7th St.➤ Site 5 – MH 1B-67 to MH 1B-87➤ Site 6 – MH 1B-87 to MH 1B-93➤ Site 7 – 14th St. MH 3b-4 to MH 3b-5. Total Est. cost \$500,000.
#3	Identify and repair I & I issues (sewer mains & manholes). Est. cost \$3,000,000.
#4	Manhole lids and rings. Est. cost \$24,000.

EXHIBIT – B

*ELECTRIC DEPARTMENT
PHOTOGRAPHS*

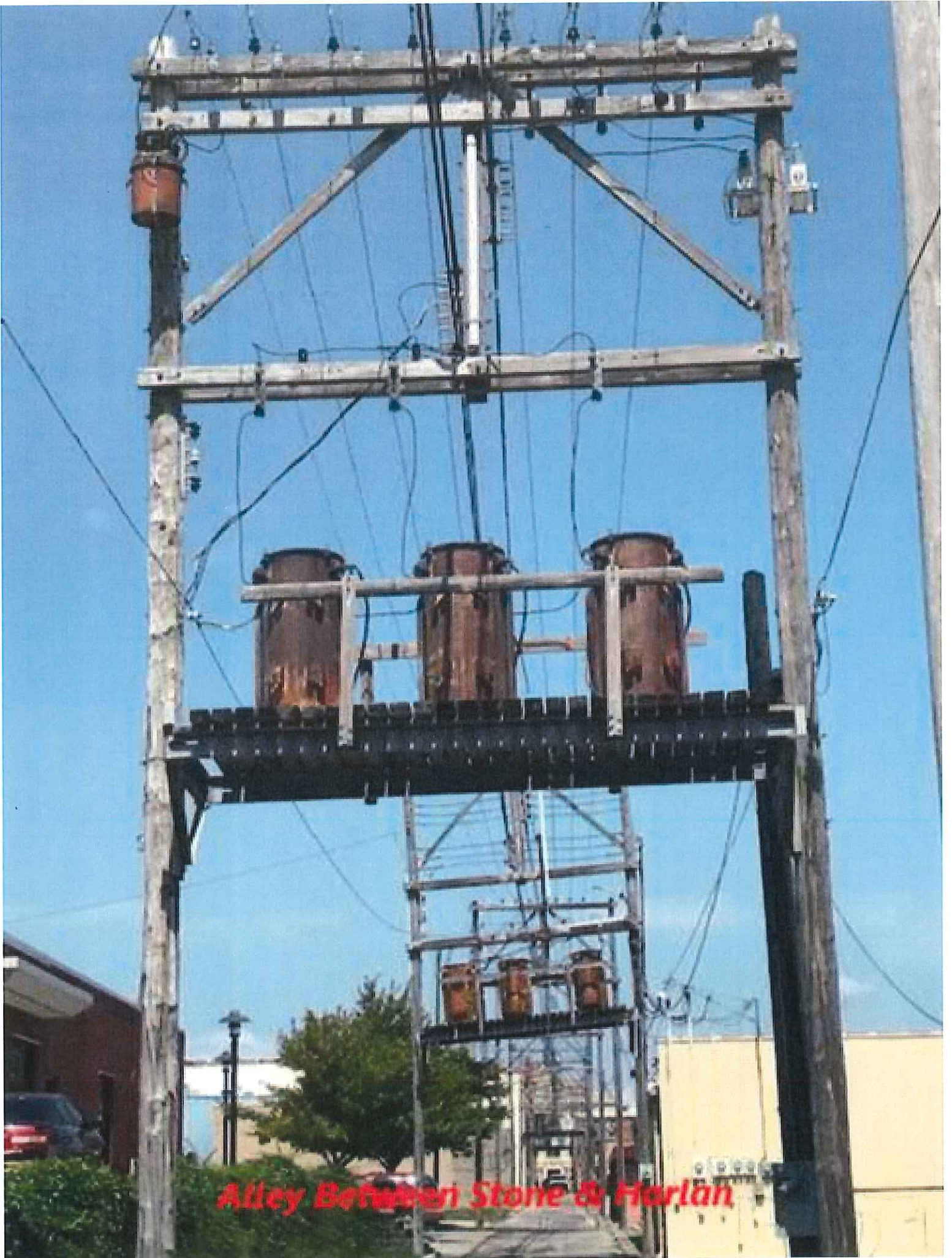
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19

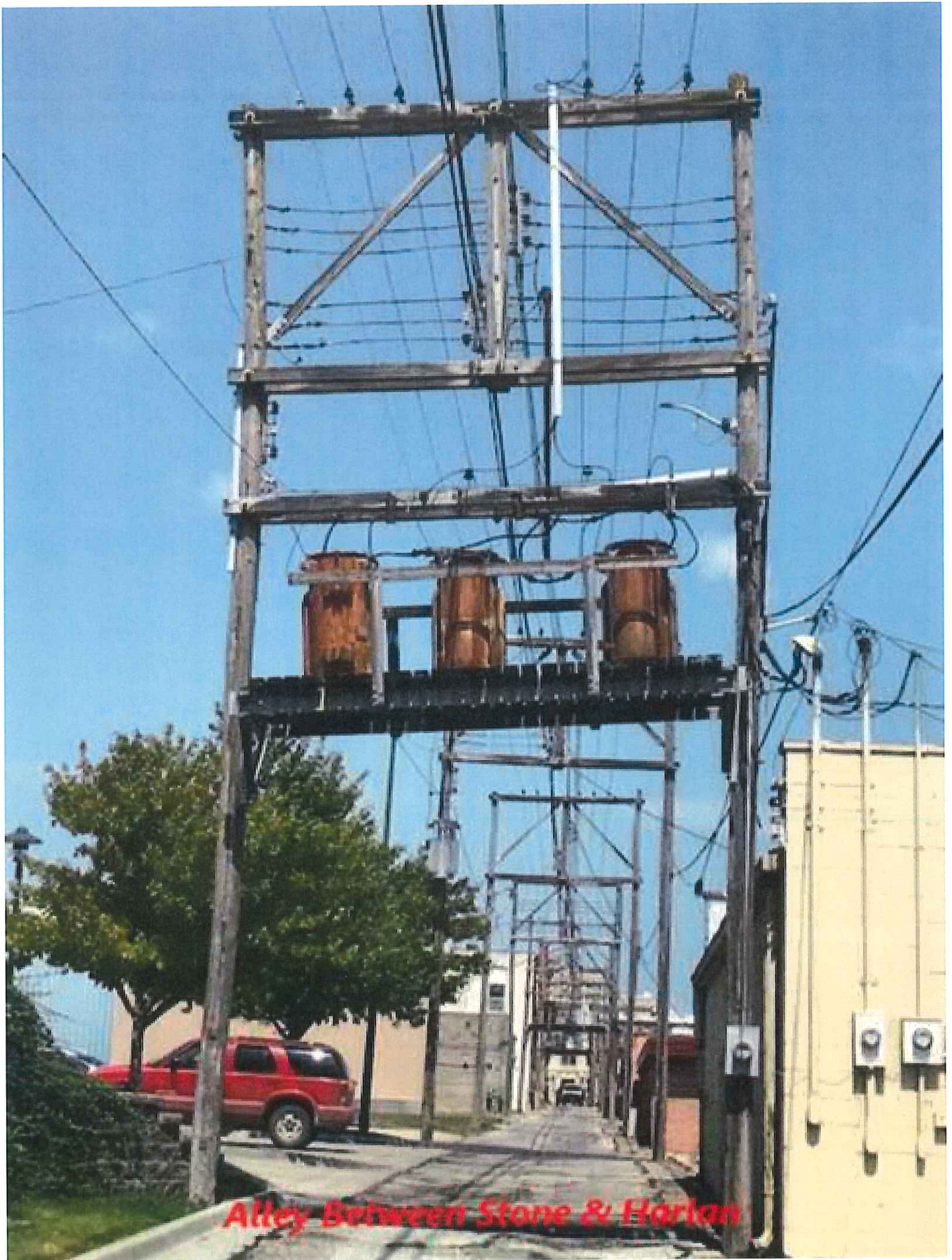
FALLS CITY

18

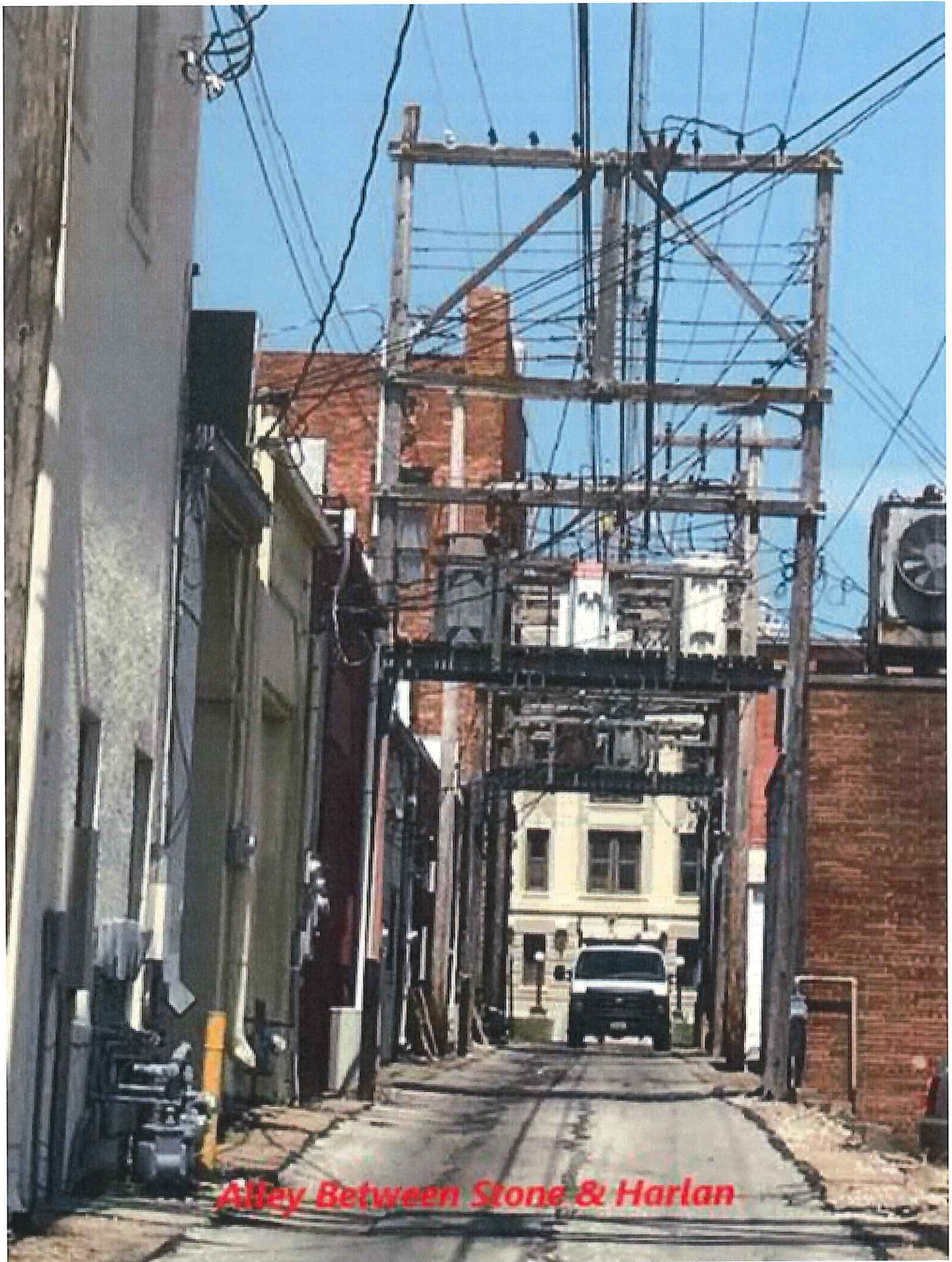
Power Plant Bldg Date



Alley Between Stone & Harlan



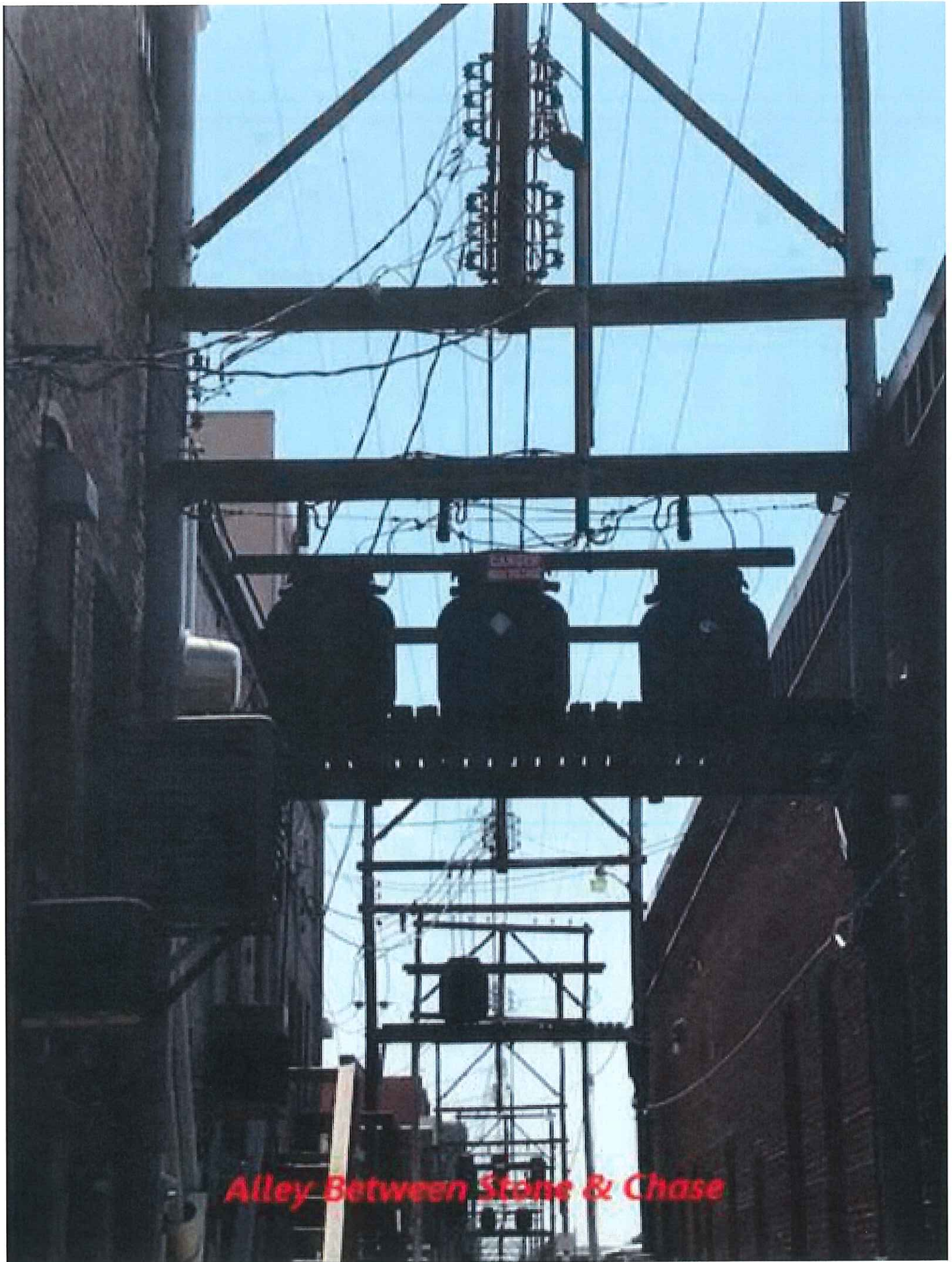
Alley Between Stone & Harlan



Alley Between Stone & Harlan



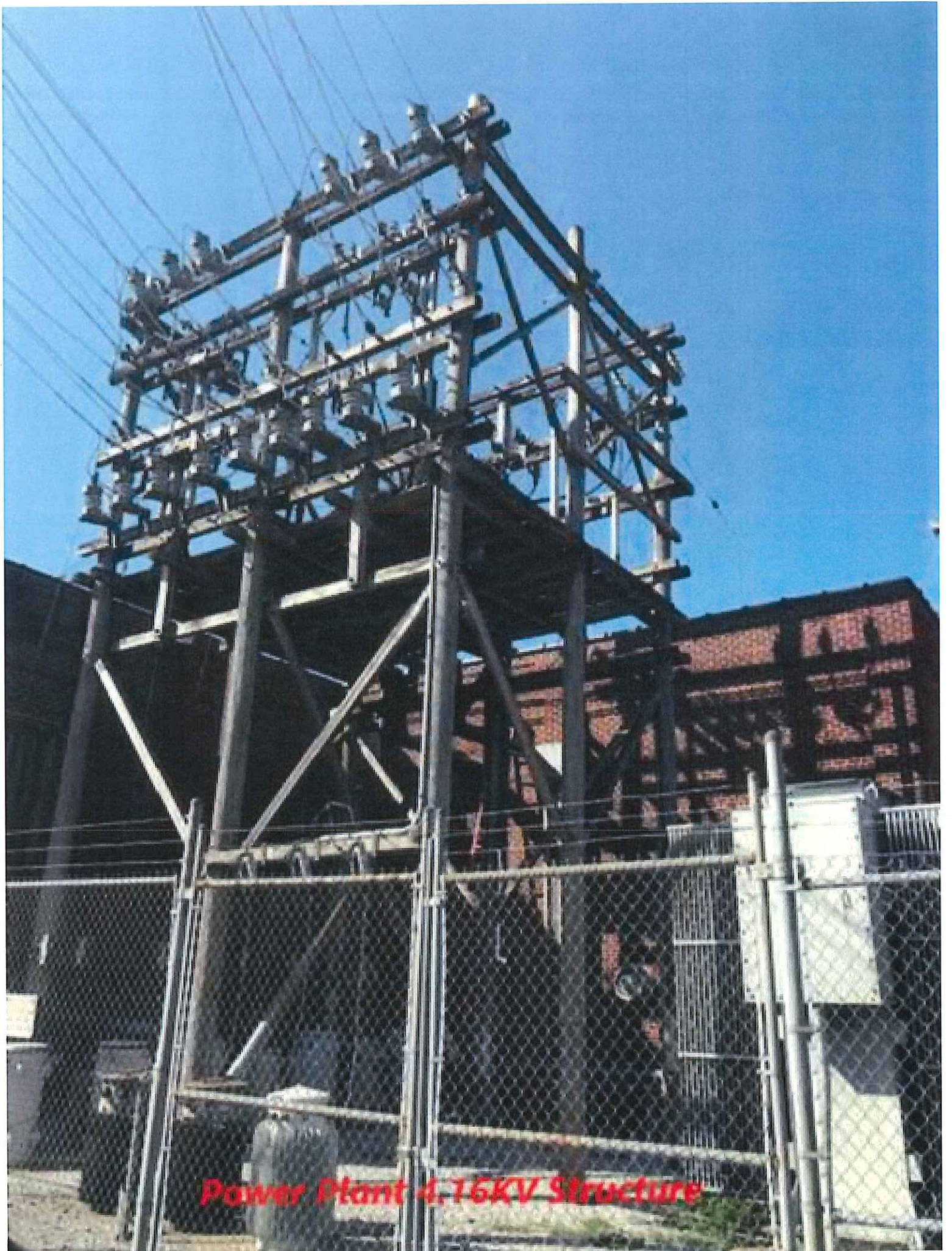
Alley Between Stone & Chase



Alley Between Stone & Chase



Alley Between Stone & Chase



Power Plant 4, 16KV Structure



Power Plant 4. 16KV Circuit Breaker



Power Plant 4.16KV Switchgear



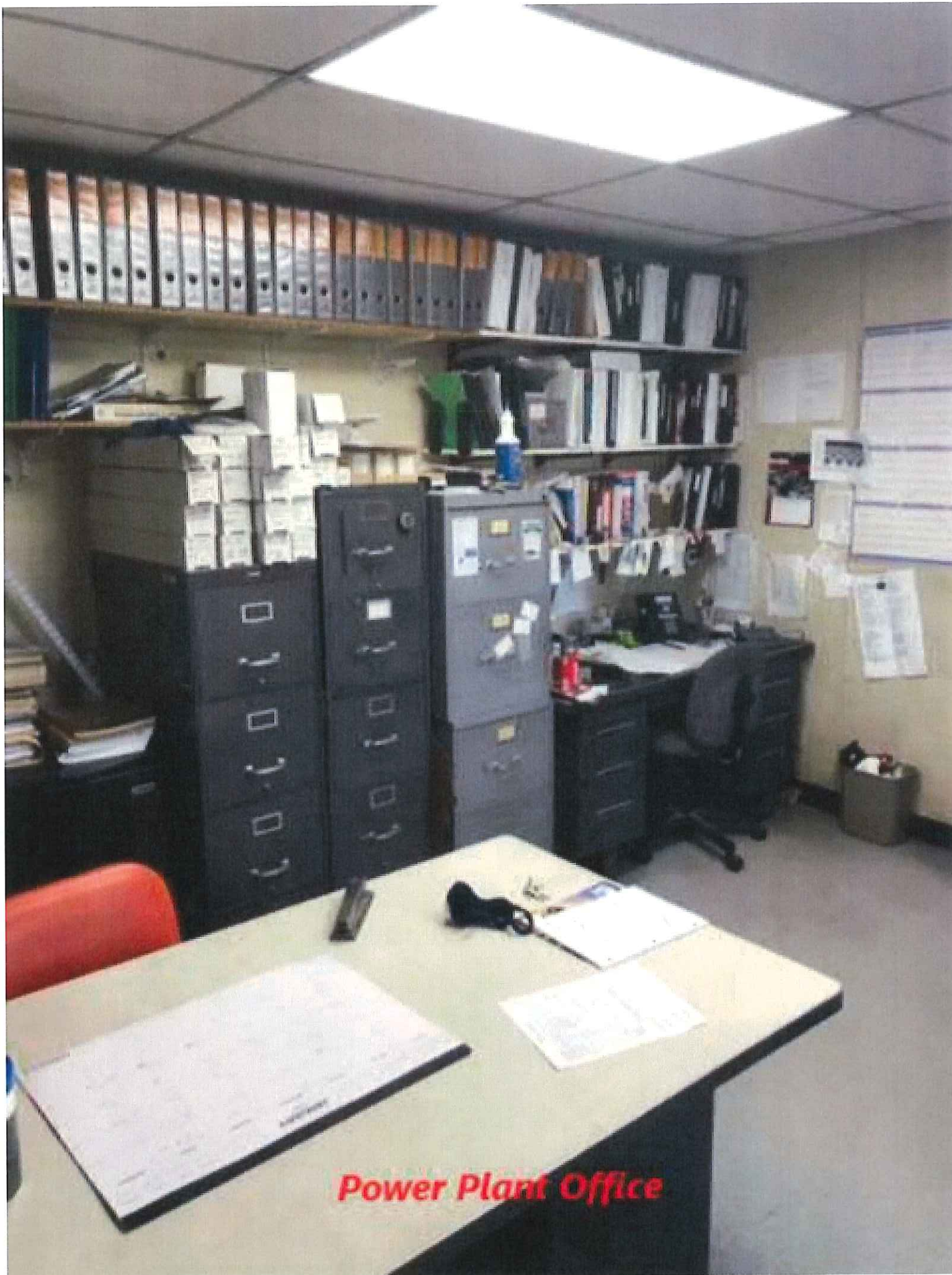
Power Plant Control Room



Power Plant Control Room



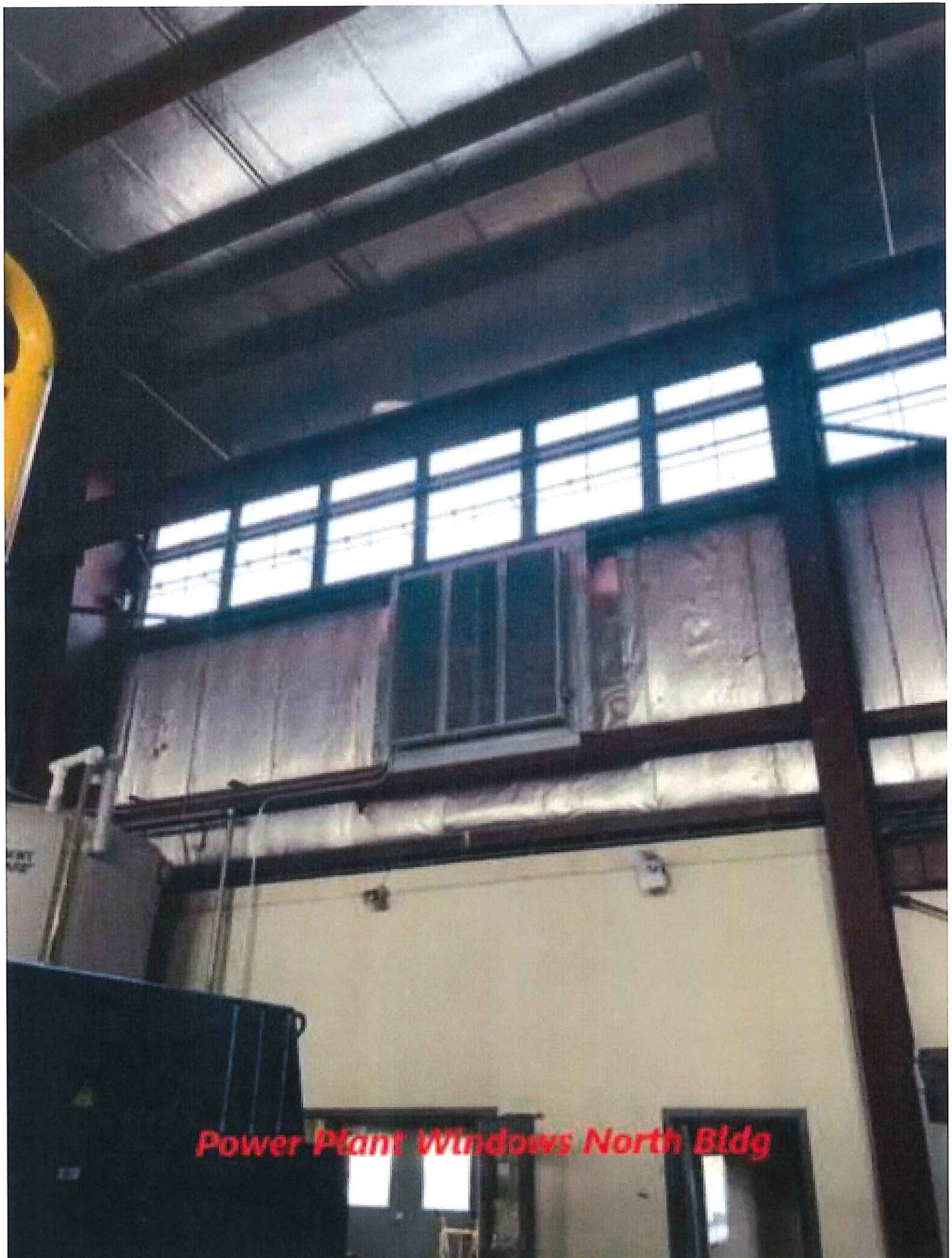
Power Plant Kitchen



Power Plant Office



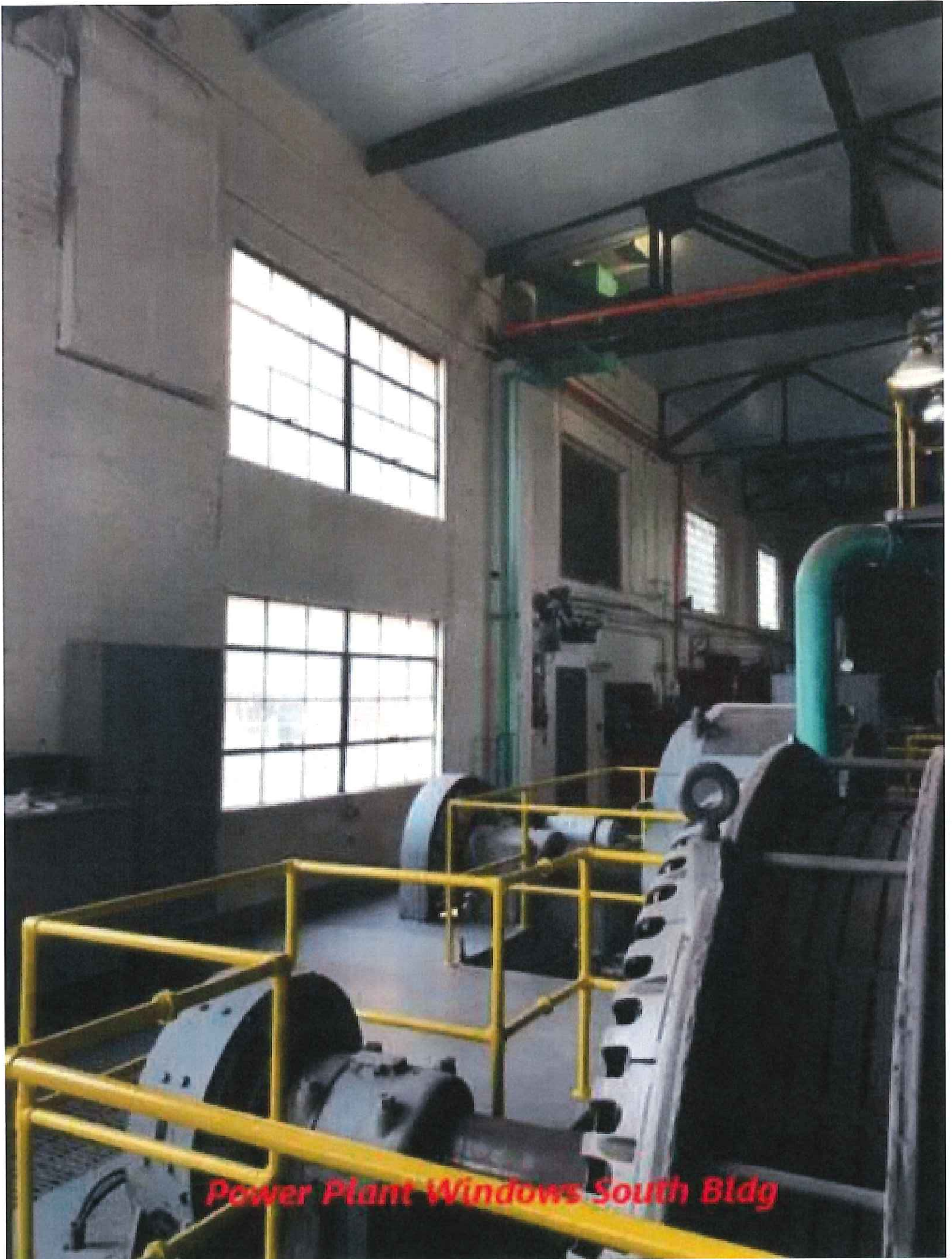
Power Plant Windows North Bldg



Power Plant Windows North Bldg



Power Plant Windows South Bldg



Power Plant Windows South Bldg

EXHIBIT – C

*WATER DEPARTMENT
PHOTOGRAPHS*



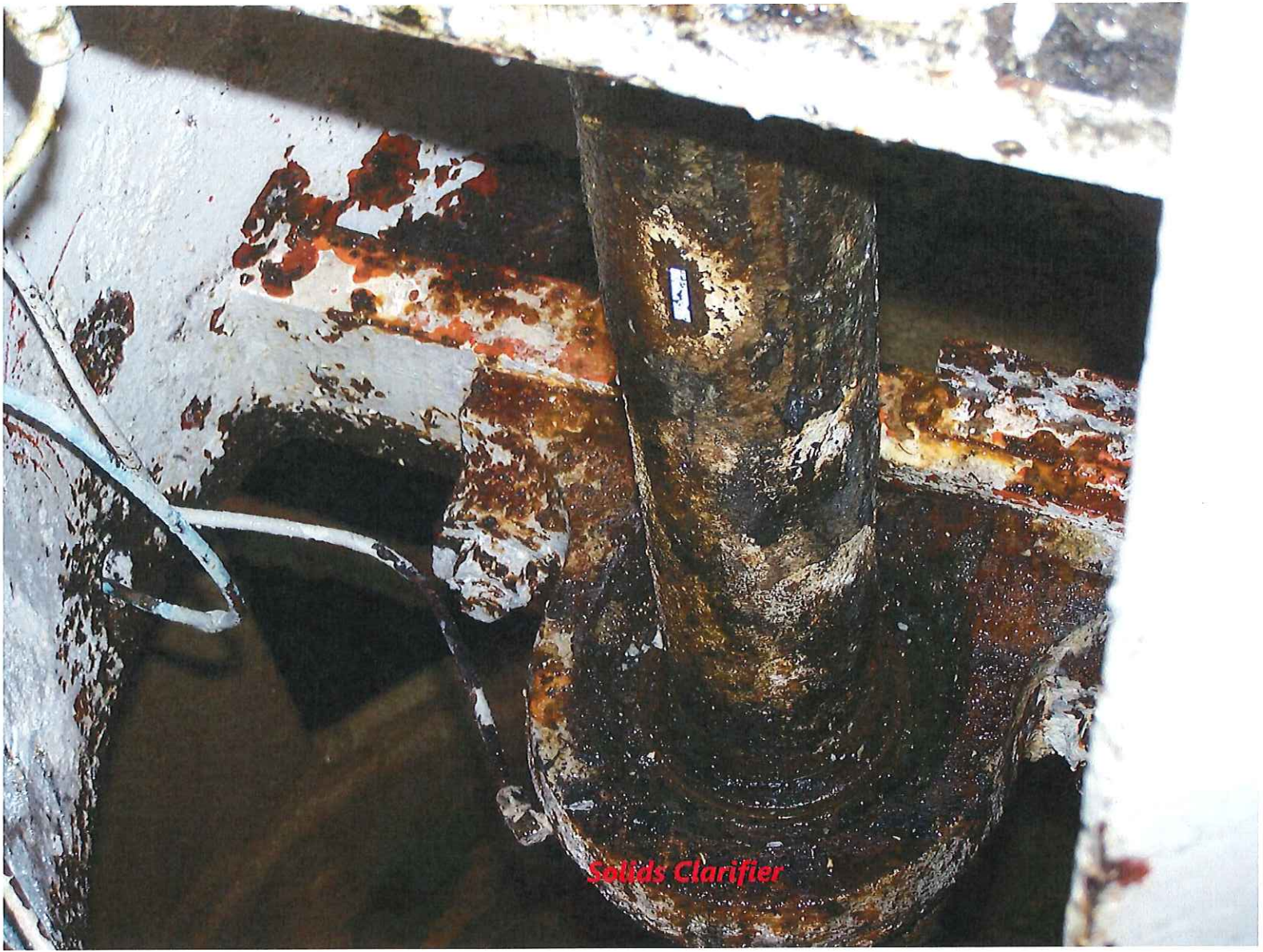
Solids Clarifier WTP, Aulo



Solids Clarifier



Solids Clarifier - WTP



Solids Clarifier



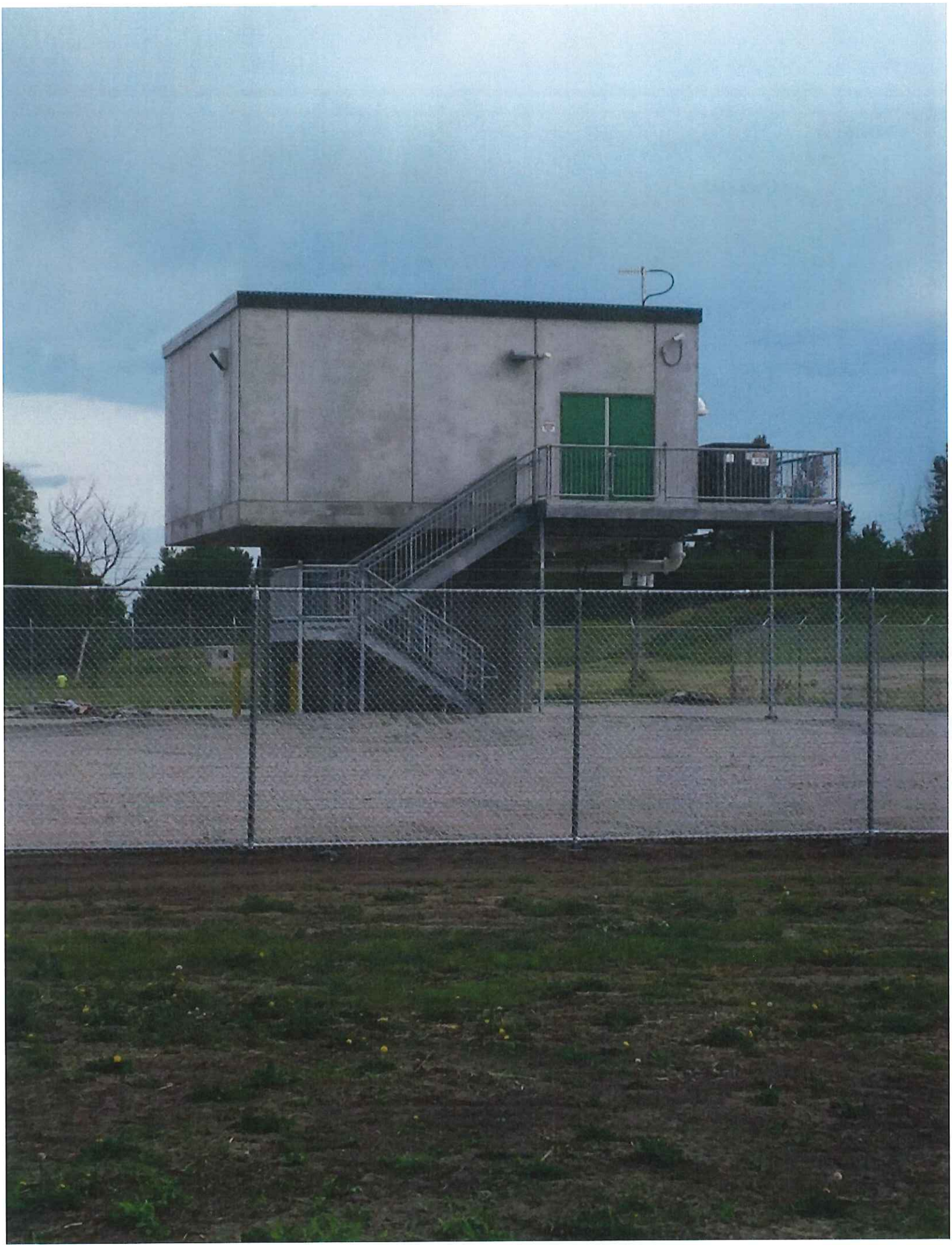
Old Lime Slaker WTP Rolo



New Lime Slaker WTP Rulo



Rulo HSP's







VFD - 1

VFD - 2

HSP - 1

HSP - 2

1

2

Power Plant High Service Pumps







EXHIBIT – D

*GAS DEPARTMENT
PHOTOGRAPHS*



Gas Main Replacement



Gas Main Replacement.



Gas Main Replacement



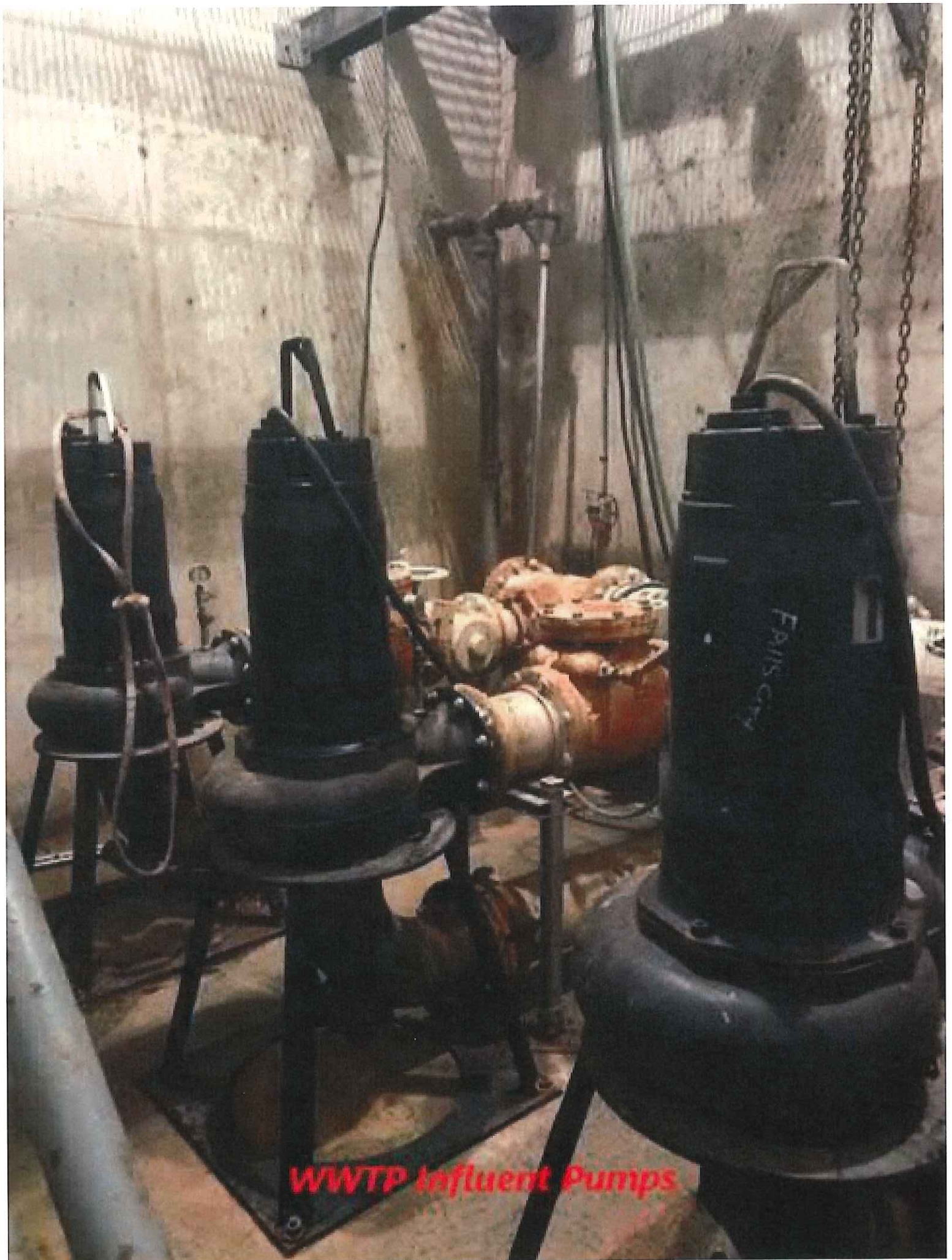
Gas Main Replacement



Gas Main Replacement

EXHIBIT – E

*WASTEWATER DEPARTMENT
PHOTOGRAPHS*



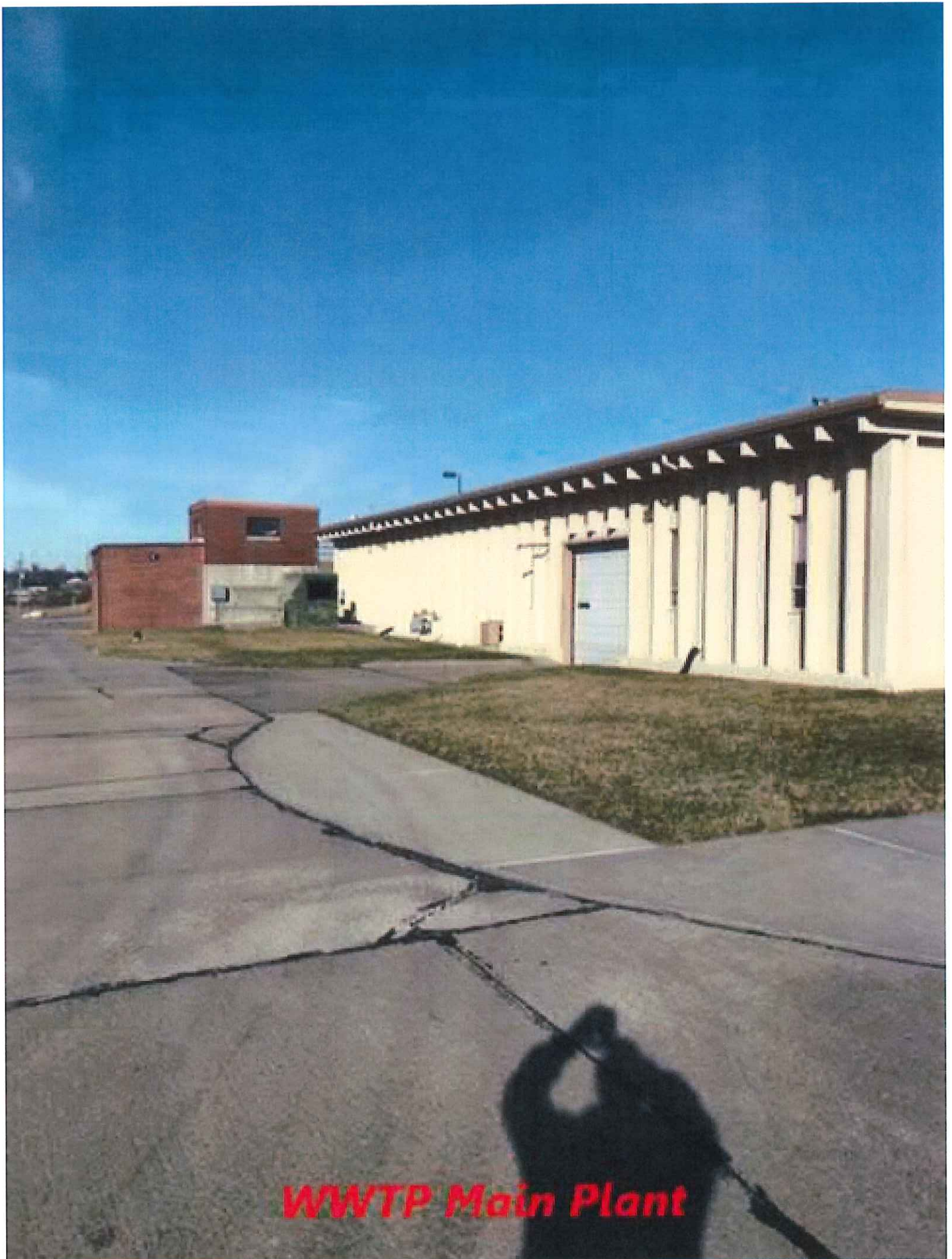
WWTP Influent Pumps



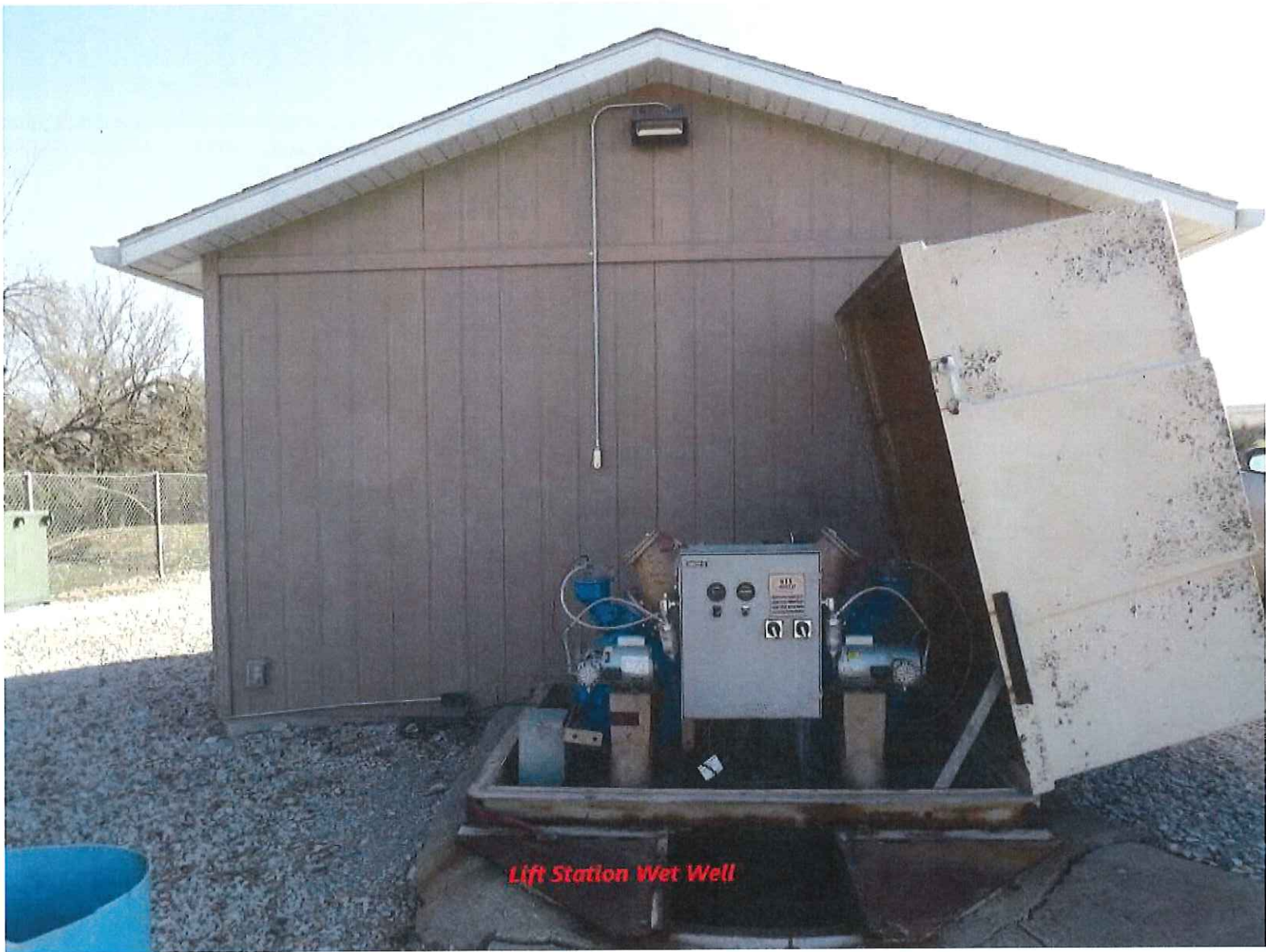
WWTP Influent Pumps



UV Building - WWTP

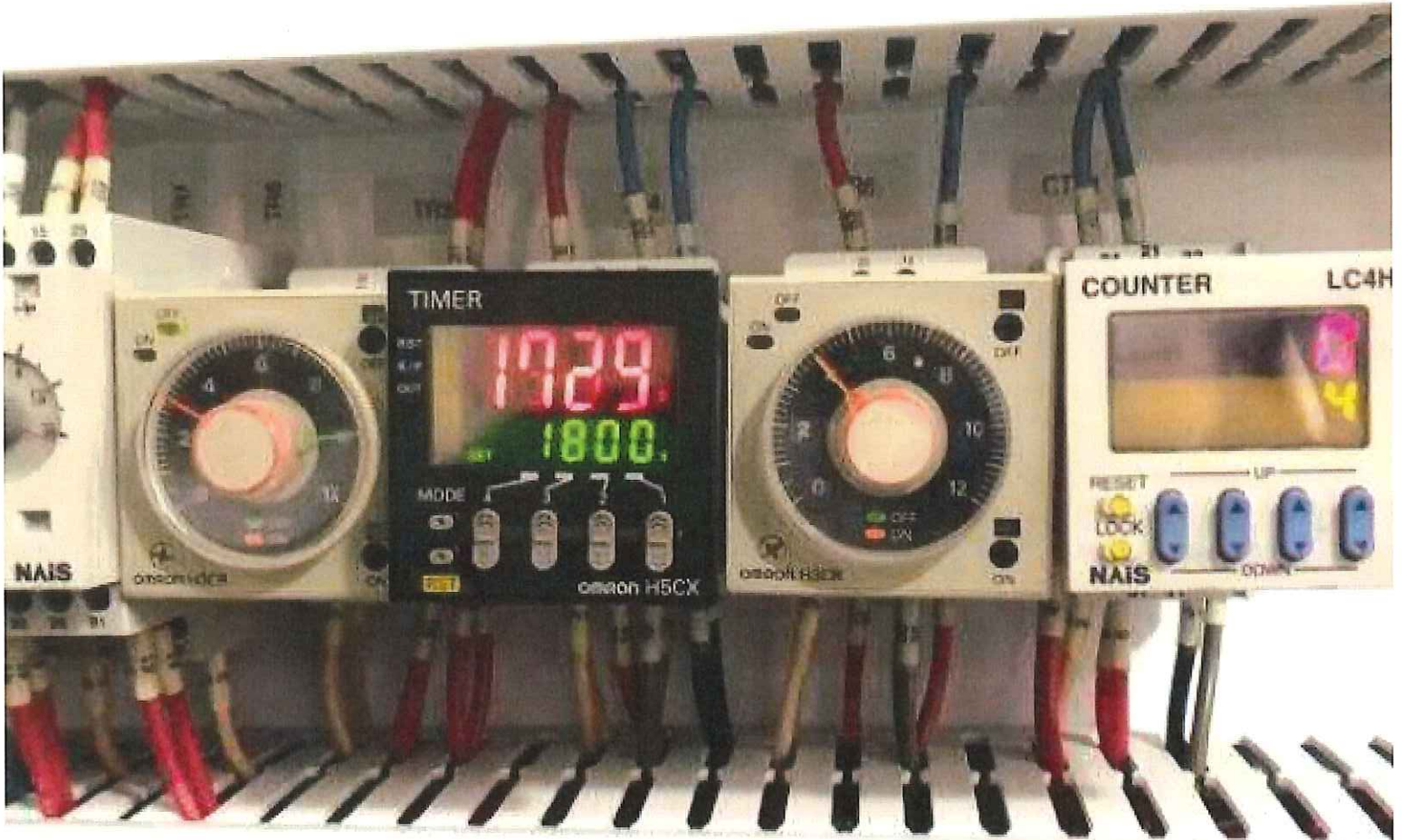
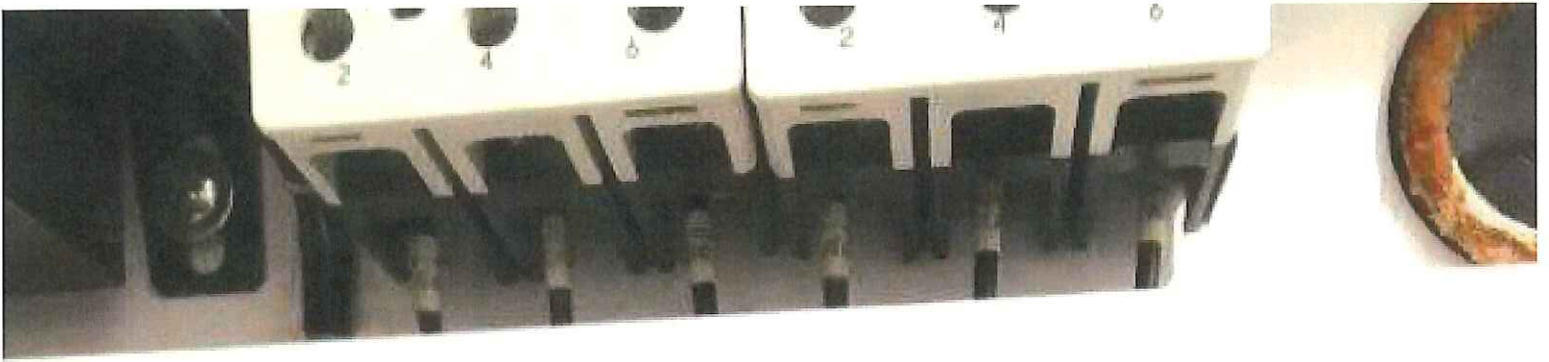


WWTP Main Plant



Lift Station Wet Well







Lift Station Control Panel





Sewer Main & Manhole Replacement



Sewer Main & Manhole Replacement