



City of Grand Island Utilities Department Annual Report for 2019



Utilities Department – Highlights for 2019

Production Division

The Production Division includes Platte Generating Station and Burdick Generating Station which maintains the two generating stations and the Water Production System of three pumping stations and Reservoirs, the Wellfield and Water Tower. In 2019, staff completed 3,854 preventative maintenance work orders and 1,071 corrective work orders for a total of 4,925. The highlights for each area are listed below. Along with completing the work orders, personnel also worked on capital improvement projects that continue to improve plant performance or replaced equipment that has served its useful life. Looking back on 2019, a lot was accomplished, and some challenges were overcome from what Mother Nature sent our way. It was the efforts of every single employee that kept the lights on and the pipes full.

Platte Generating Station

- Beginning in February, coal was difficult to move due to the snow and ice on the coal pile. Train switching was delayed due to weather, making loading of coal into the plant difficult. Cold weather also hampered air inlet temperatures and soot blowing operations. The snowy and wet weather made the coal wet and caused the mills that grind the coal to plug. Operations and Maintenance fought to keep the mills unplugged and the plant on-line, but on March 15, three mills plugged, and Platte tripped off-line. The plant received a shipment of fresh coal and loaded it into the plant and quickly got the plant back on-line.
- A first ever chemical clean of the boiler was completed during the spring outage. Normally, a power plant boiler is cleaned every 10 – 15 years. Due to the diligent water chemistry control, this was the first in 37 years.
- Boiler tuning was completed. This required a boiler specialist and a controls tuner to be on-site and make changes to ensure the boiler is operating efficiently and within air permit limits.
- Silt was removed from “A” pond.
- This year, the number of cars that make up a coal train went from 125 cars to 150 cars. The additional cars will reduce the number of trips the railroad will make to keep Platte Generating Station supplied with coal.
- Platte Generating Station had some damage to the office and the north cell of the cooling tower from the windstorm in August. Damage was repaired and it did not affect the production of power.
- The bottom ash flushing pump breaker failed, causing a fire in the breaker. The fire was promptly extinguished. The only damage was to the breaker cubical. The plant has two pumps and was still able to operate at full capacity. The breaker was repaired during the fall outage.
- An inspection of the welds for the 60-foot-tall coal bunkers was completed during the fall outage and found to be in excellent shape.
- Inspection of the re-heat and super-heat temporators was conducted and all found to be in good condition.
- Pulverizer “D” was repaired after the shaft broke.
- A mechanical seal failed on the lime system. Operations and Maintenance personnel worked additional hours to keep the slaking system working properly and repaired the seal.
- One of the two air compressors that provides air to the AQCS system seized-up. The air compressor was rebuilt and placed back into service.

Burdick Station

- Preparation for major changes at Burdick Station occurred in 2019. The biggest challenge was the controls upgrade for the gas turbines. The existing controls were no longer going to be supported by the manufacturer and the need to be able to remotely operate the gas turbines from Platte Generating Station drove this project. It took three months to commission the new controls and successfully operate the gas turbines from Platte Generating Station.
- The remaining 50,000 gallons of #6 fuel oil was cleaned from the fuel oil tanks. This is the last of the #6 fuel oil that was once used as back-up fuel for the Burdick steam units.
- The cooling tower that was used for the steam unit #3 was demolished to make way for the new office and maintenance building that will serve the gas turbines. The building foundation was laid and building construction was started.
- The Burdick Cooling Water System was modified with piping changes at Wells #7 and #10 with the installation of new pumps at those two wells, along with Burdick Well #6. The pipe from Burdick Wells #2, 3 and 4 was plugged and these wells will be decommissioned.
- New air compressors for the gas turbines were connected into the existing air lines and were commissioned. This is one step of many to isolate from the existing steam unit building from the gas turbines that will be demolished in 2020.

Water System

- An ice jam occurred on the north middle channel of the Platte River causing water to flow over several wellfield roads. The City Water System was never in danger as the wells are built several feet above the highest recorded flood stage. Once the ice jam melted, the water receded, and the damaged roads were repaired.
- The #2 Wellfield pump motor failed. The motor was upgraded to operate with a variable frequency drive (VFD). The VFD allows the pump to vary the speed to what is needed to move water from the Wellfield to the in-town reservoirs, using less power.
- A check valve was added on the outlet of Olson Water Tower allowing for seamless filling and draining of water.
- Flow meters were installed in the water tower inlet and outlet lines to allow for monitoring flows. This will allow for better control of water entering and leaving the tower and the total amount of water being contributed to the water distribution system.
- The Wellfield's south basin was cleaned and inspected. This is completed every three years.

Water Department

- Statistics from the Water Shop Include:
 - 314 Work Orders opened, closed or pending
 - 64 Trouble calls after hours that the Water Department responded to
 - 3 Ludlow fire hydrants change out program
 - 3 New Fire hydrants Installed or relocated by the Water Department
 - 2,819 Fall hydrant checks were done
 - 949 Fire hydrants were painted
 - 70+ Dead end fire hydrants were flushed – Automatic flushers were placed on dead-ends on the outskirts of the system and moved weekly
 - 11 Fire hydrants were repaired or replaced that were damaged by hit & run drivers
 - 26 Broken water mains were repaired – 2” through 12”
 - 1 Water main and service was repaired that had been damaged by a contractor
 - 14 4” through 18” line valves were added or broken and replaced with new valves
 - 162 feet of 4” to 18” Water main was installed by the Water Department
 - 1,787 4” through 24” Main line valves were exercised
 - 24 Water mains/line valves were turned off and on for plumbers and contractors
 - 43 Broken water services were checked by the Water Department

- 13 Backflow preventers tested for all City departments
- 74 Hydrant meters with backflow assemblies were set out for contractors
- 2 Abandoned water main services were capped
- 4 Frozen water services were thawed
- 26 ¾" Service taps new/replacement
- 139 1" Service taps new/replacement
- 10 1 ½" Service taps
- 6 2" Water main taps
- 4 4" Water main taps
- 14 6" Water main taps
- 6 8" Water main taps
- 1 10" Water main tap
- 1 Line stop/"team" insert valve – a 20" valve was installed at the new water tower
- 50 1" Test taps were made for plumbers and contractors
- 118 New water meters were installed – 5/8" through 6"
- 259 Replacement meters were installed – 5/8" through 6"
- 18 Meters were repaired/rebuilt
- 95,575 Gallons of water sold to contractors/Trucking companies
- 5 Private Water Services were located/traced
- 261 Turn Water Services off and on per request from the customer service office
- 10,139 Locates performed that had been requested through Diggers Hotline of Nebraska

Backflow Program

2018 Backflow Prevention Device Testing Statistics:

- ✓ 4,420 First Notice reminders were mailed
- ✓ 925 Certified Letters Delivered
- ✓ 213 48 Hour Notices left at the door
- ✓ 34 Water Services shut off for failure to test

Transmission – Phelps Control Center

- A Request for Proposal was developed for the purchase and implementation of an Outage Management System (OMS). An OMS will incorporate inputs from multiple systems to better determine the location of outages in order to improve response time. A contract was signed with OSI, Inc. The system is currently in development with plans to be fully utilized within the first or second quarter of 2020.
- The north transformer at Substation F located along Capital Avenue in northwest Grand Island began showing signs of impending failure during the past couple of years. With help from the manufacturer, it was decided to remove the unit from service and replace it with a spare transformer. This was done during the summer of 2019. The old unit was sent to a repair facility for inspection. Bids are being evaluated on whether to repair the old unit or buy a new one. A replacement should be onsite by the end of 2020.
- Design work to replace the original 1968 HVAC system at Phelps Control Center was completed in 2018. A contract was then signed with a local contractor in 2019 to install the system. The installation was completed in late 2019.
- Work is ongoing to evaluate and eliminate electrical connections between Phelps Control Center and Burdick Station next door. Plans are in place to demolish the majority of Burdick Station later in 2020. The existing three gas turbines will be controlled remotely from Platte Generating Station south of the City.
- The 115-kV transmission loop that surrounds the City incorporates 12 optical fibers within the top shield wire. This fiber provides communications for several systems. With the previously mentioned Burdick Station demolition and the plans to control the gas turbines from Platte Generating Station, additional fiber was required. Specifications were developed to replace

the existing shield wire around the entire transmission loop with a new cable that contains 96 fibers. A contract was signed with Watts Electric to do the work. A significant amount of preparation work was accomplished during the summer of 2019 with the actual installation to be done in early 2020.

- Repairs were made to the fence around Substation H and the exit gate for Phelps Control Center after an impaired motorist drove through the substation and gate.
- Midwest Reliability Organization (MRO) made the determination that Grand Island Utilities needed to become a registered Transmission Planner (TP). Due to a lack of manpower to comply with the requirements of TP, it was decided to hire an outside company to do the necessary analysis. An RFP was issued for this service. GDS Associates was hired with plans to be fully compliant by mid-2020.
- The Substation H north 13.8 kV bus was taken out of service and insulators were replaced and animal guards were installed to improve reliability.
- The Utilities Department assisted the new 911 Center in establishing both a fiber optic connection and a wireless connection to the City network.
- A Shared Facilities Agreement was signed with NPPD to ensure compliance with federal regulations regarding substations that contain jointly owned equipment.
- New automatic nitrogen systems were installed on the substation transformers to reduce the need for manual adjustment during temperature swings.
- A company was hired to perform a drone survey of the entire transmission system. A drone survey utilizes drones to inspect every transmission structure for damage and loose hardware. The repairs needed will be accomplished by the same contractor installing new fiber.
- The electric system sustained a moderate amount of damage during the August 7, 2019 storm that brought 90+ mph winds. Crews spent long hours and several days fixing damage and addressing service issues.
- The south transformer at Substation B on Faidley Avenue had to be taken out of service to replace a gasket in order to fix an oil leak.
- One of the auxiliary supply dry-type transformers for Burdick Station Gas Turbines 2 and 3 was damaged during the August 7, 2019 storm. It was replaced with a standard oil-filled transformer which required modifications to the foundation and electrical connections.
- Breaker F-30 at Substation F was replaced due to a failed mechanism. The new breaker uses a magnetic actuator that only has one moving part. Additional breakers are on order with plans to replace other similar breakers in the future.
- Substation J near Platte Generating Station was taken out of service so animal guards could be installed.

Underground Division

- **Rebuild needs were integrated with service upgrades being done by customers. Combining the two met the need of customers and maintenance of the system:**
 - Law Enforcement Training Academy at 3600 Academy Road – generator upgrade/pole riser rebuild.
 - West Park Plaza on West Highway 30 – lot redevelopment for all electric trailers and rebuild the overhead line to underground.
 - St. Mary's Cathedral – 207 S. Elm Street – New service for air conditioning of the Cathedral and pole mount transformers were replaced with a pad-mount system.
 - Berean Church – 4116 West Capital Avenue – Upsize service for cell tower. Replaced transformer to stainless steel and to meet capacity.
 - Senior High School Stadium – 2404 West College Street – New service for the new stadium. The live front transformer was replaced with a dead-front style.
 - Resurrection Catholic Church – 4130 Cannon Road – Upsized the service for building expansion, rebuilt the riser and replaced cable.

- Century Link building in the 200 block of West 1st Street – Switchgear and metering were replaced along with replacing the live-front transformer with a dead-front stainless steel transformer.
- Northwestern Energy – 3307 Island Circle – The service was upsized for building expansion with a stainless-steel transformer.
- Residences in the 2100 block of Stagecoach Road had their services upsized for a house addition and replaced with stainless steel.
- Residences and Century Link booster at 4015 Palace Drive – Added service point and replaced the old transformer with a stainless-steel transformer.
- Residence at 3823 East Highway 34 – Service was upsized for a home addition and replaced with a stainless-steel transformer.
- Bosselman Corporate Offices – 1607 S. Locust Street – Building redevelopment. A transformer pad was replaced, and a stainless-steel transformer was installed.
- Residence at 2120 Barbara Avenue – service upsized for house addition. Transformer was replaced with a stainless-steel transformer.
- Arbys – 2333 N. Webb Road – building relocation. The transformer pad was replaced and upgraded to a stainless-steel transformer.
- Spelts Truss Plant – 3522 West 2nd Street – Switchgear and metering was replaced, and the overhead line and pole mount transformers were replaced with a pad-mount system.

New Customer Services or Developing Areas

- Sterling Estates 10th Subdivision – north side of Monarch
- Rodney Leon Subdivision – along Little Bluestem
- Copper Creek 10th Subdivision – along Sunflower Drive and Coneflower Drive
- Copper Creek 13th Subdivision – along Buffalo Grass Circle
- Comfort Suites – Kings Crossing Subdivision – Lake Drive and Highway 34 and South Locust Street
- Prairie Commons Subdivision – Grand Island Regional Hospital at Husker Highway and Highway 281
- Residential lot development – 3521 Conrad Road
- Truck Storage and Fast Track Construction lots at 3216 and 3230 East Highway 34
- Development of the K-Mart building area – 3535 West 13th Street
- Fed Ex parking lot – 4305 Gold Core Drive
- Eight-plex apartments at 1411 S. Adams Street
- Rhoads Subdivision – 13th & Carol Streets
- Culvers Restaurant – 2285 Diers Avenue
- Preferred Pump – 4804 Gold Core Drive
- Midlands Truck Wash – 2030 East Highway 30
- Burger King Restaurant – 2624 S. Locust Street
- St. Francis Cancer Treatment Center – 2620 Faidley Avenue
- Audiology Hearing Center – 659 Orleans Drive
- Residence at 550 Midaro Drive – lot development

Underground conduit and cable runs for open loop feeds

- Jefferson Street between Koenig and Charles Streets
- 13th and Sagewood to feed Millennial Estates and the area between 13th & State Streets
- The overhead system was converted to underground along Husker Highway to the Schimmer Drive area
- A pad-mounted capacitor bank was added in the JBS/Alvery area
- Two sections of cable at Fonner Park were added
- Between State Street and Capital Avenue between Custer, Howard, Sherman and Sheridan Avenue

Street lighting underground was installed or serviced at:

- 2nd Street between Cleburn and Walnut Streets
- Along Highway 2 and Highway 281 and the Highway 30 off-ramp to Highway 281
- Hall County Administration building block
- Hidden Point Subdivision and 3114 Memphis
- Alley lights on the back of the Independent Newspaper building
- Highway 281 and Capital Avenue
- Highway 281 and Husker Highway
- Christmas lighting control on the south side of 2nd Street from Cleburn Street to Walnut Street
- 550 Midaro Drive
- Highway 281 gap lighting project between Stolley Park Road and Highway 30 and North Broadwell to the Veterans Ballfield Complex
- Kaufman Avenue, Old Potash and Rue-de-College
- 4700 block of Juergen Road
- Highway 281 and 13th Street in coordination with traffic signal and street light conduit systems

Replaced transformers and cables due to degradation of the transformer cabinets and electrical components or incidents

- Francis Court Condo's in the 1300 block of West Charles Street
- 1918 Aspen Circle
- Residence at 1504 Meadow Road
- The Nebraska Veterans Home area
- West Park Plaza – 120 North Lane and 117 Center Lane
- Texas Roadhouse – 232 Wilmar Avenue
- Residence at 817 Sunvalley Place
- Grand West Subdivision along Mansfield Road, Allen Avenue and Craig Drive
- Residence at 1810 Rainbow Road
- 2nd half of Holiday Gardens – 2004 North Wheeler
- Westgate Subdivision – 3700 and 3800 Westgate Road area (Central Nebraska Bobcat, Hydraulic Store and Anderson Auto Parts)
- Ruby Tuesday building – 3429 West 13th Street
- Dobish Landleveling – 3700 West 2nd Street
- Burdick Station reserve supply transformer for GT's 2 & 3

Staff Training and Grade School Safety Program

- Electrical Safety presentations were conducted for 4,171 grade school students
- Safety Data Sheets and regulations concerning hazardous materials information and communication
- Attended Digger's Hotline Stakeholder meeting to review changes in the 811 Program

Equipment and Building & Grounds Maintenance

- Additional data lines were pulled inside the east truck storage buildings at the Service Building at 1116 West North Front Street and 1306 West 3rd Street (Customer Service Center)
- Snow and ice abatement were done at utility building parking lots and sidewalks
- Gaskets were replaced on overhead transformers brought in for servicing
- A phone system receptacle was installed at the Water Shop
- Accessible connection points were installed for locating fiber run conduits at 13th Street and North Road in the area of the new Emergency Management Center
- Limestone was put down and graded at the east and west entry drives to the transformer yard

- The parking lots at the Utility Office Complex at 3rd and Jefferson Streets were swept, and fencing was removed, and crushed concrete was spread
- A review of portable computers and tablets used in the field was done with Utility I.T. staff
- Traffic control barricades were rebuilt with stronger bases and uprights
- Sod was replaced along the east drive of Phelps Control Center
- Lamps, ballast and the exhaust fan timer were replaced in various areas of the service building.
- Crews performed and documented 6,134 requests for locating of underground electric lines.

Assisted other Departments or Divisions

- In the replacement of the cooling tower pump at Platte Generating Station
- With the adjustment of a traffic signal arm at Highway 281 and Stolley Park Road
- Riser connections were re-terminated, and related cables and terminations were changed out and load tested for connections on J-34
- Breaker F30 was changed out at the substation
- Terminations were extended on the pole riser along Public Safety Drive as part of the alumna-form bracket replacement program
- The meter socket replacement at 2328 North Locust as part of a meter upgrade
- The installation of fiber optic lines in the Burdick Station area
- In the cleaning of the cooling tower screens at Platte Generating Station
- Changes to customers current transformer (CT) transformer metering
- Pole setting in preparation for the Nebraska State Fair's Lineman Rodeo on the east side of Fonner Park.
- With the annual off-site generation of the Mobile Generating Station (MGS)
- Substation F transformer replacement
- Circulating pump motors for the PGS cooling tower

Overhead Division

- In 2019 the Overhead Division maintained and upgraded the overhead distribution lines which entailed 5,680 linear feet of single-phase line and 9,050 linear feet of 3-phase line being rebuilt. These upgrades eliminated old primary lines and secondary service wires to provide safer and more reliable service to utility customers and to keep the interruption indices (SAIDI) and (SAIFI) well below national averages.
- In addition to normal line maintenance, 6,440 linear feet of 336.4 ACSR wire was converted to 4/0 T2 on feeders C23 and C33 to prevent galloping during icing conditions.
- There was a major wind storm in August which contributed to a series of outages and the loss of seven poles. The majority of the outages were related to individual secondary services to residences caused by trees being damaged by high winds.
- Crews removed 9,190 linear feet of primary 3-phase line and 1,822 linear feet of single phase wire this past year as the result of converting areas to underground.
- A 3-phase line upgrade was completed from Locust Street to Madison Street on Koenig which allowed for an additional feeder tie between Feeders H-24 and H-25 and replaced old #6 copper primary.
- A distribution reclosure was installed on F-31 to help in isolating primary issues during storms on the rural section.
- Crews installed 700 linear feet of 3-phase primary at 1400 E. 4th Street to service a new business and to allow for a future primary tie.
- Two 480 volt dewatering banks were installed for sewer installation at 8th and Howard Streets.
- Line crews assisted with the removal and re-installation of shield wires and switching feeders for the Substation F transformer replacement.
- Twenty secondary pedestals were installed for secondary service upgrades.

- Crews installed 2,360 feet of ADSS fiber from 1909 Blake Street to the Utilities Engineering office to complete the fiber loop to increase reliability.
- In cooperation with the Hall County Historical Society, eight high pressure sodium lights were converted to denotative LED fixtures at Pioneer Park.
- Ten deteriorated services poles and four deteriorated streetlight poles were replaced.
- In an ongoing effort to maintain reliability with primary feeders, 15 switches/fuse disconnects were installed or upgraded.
- Eight primary poles and 13 streetlight poles were replaced that had been damaged by motor vehicles.
- Four Lineworkers competed in the 2019 Nebraska Lineworkers Rodeo and all four won trophies.
- The Overhead Division continued its efforts to keep vegetation clear of power lines. This was accomplished with the division's own tree trimming crew and the use of a contractor clearing six sections of lines and removing approximately 136 trees.
- In 2019, 1,187 high pressure sodium lights were converted to LED lights in our service area.
- In addition to the conversions, 36 new LED fixtures and poles were installed in the new Prairie Commons Subdivision; 24 new poles and lights on Highway 281 between Stolley Park Road and Highway 30, and at the entrance to Eagle Scout Lake. Five new poles and lights were installed in the Copper Creek Subdivision and three new poles were installed in the Nelson Subdivision.
- Line crews installed or replaced 255 transformers. This has improved system reliability and power quality for utility customers as load continues to increase.
- A new steel pole and collector was installed at Substation C to enhance the AMI mesh reliability.
- The automated meter infrastructure project continues to be a success. There are currently 10,007 electric AMI meters in the system. The daily read percentage has been 99.5%. The system has been useful for meter readings, performing disconnects and troubleshooting for both water and electric service.
- In 2019, 4,526 AMI meters were installed of which 565 were installed on delinquent accounts. In the process, 3,433 disconnect/connect commands were performed without rolling a truck.

Utility Warehouse Division

- The Utility Storeroom quoted, purchased, received and stocked \$3,219,001.48 worth of materials in 2019. This represents only the material that is on the inventory system.
- The Storeroom issued \$3,626,180.29 worth of materials while salvaging, cleaning and restocking \$426,529.90 worth of materials.
- The Storeroom purchased \$1,344,432.53 worth of items that were not put into our inventory system for the Overhead, Underground and Storeroom divisions.
- The current balance for all inventoried materials, transformers, conduit and poles is \$7,165,505.23.
- The Utility Storeroom came through the 2019 audit with no problems noted.

Utilities Engineering Division

The Utilities Engineering Division provided full engineering services for the department's electrical and water infrastructure projects. The work involves research, design, plans and specifications, construction surveys, inspection, observation, and maintaining accurate maps and data records of the related infrastructure activities. Over the past year, work consisted of the following:

- Over 45 separate overhead and underground power line projects to provide service for upgrades, new residential and commercial developments.

- Fifteen public and 13 commercial water system projects were placed in service after being inspected and tested for compliance by the division's staff. These projects totaled over 11,250 linear feet of new water mains and service lines.
- Drafted, edited, and revised CAD files and GIS related database files.
- Prepared 24 easement and/or permit documents for department projects.
- Prepared six contracts and or requests for proposals.
- Reviewed plans for nine public water main projects and 14 commercial water service projects.
- Performed project related construction surveys using high-accuracy GPS.
- Assisted in the City/County low distortion projection (LDP) project conversion.
- Upgraded the Engineering File Server.
- Assisted in the redundant fiber connection to the 1306 building.
- Water service card, fire hydrant flow test, fire hydrant maintenance, and fire hydrant maintenance dashboard applications were developed.
- Maintained mobile technology resources for the Electric Overhead, Underground, and Water Divisions.
- Implemented the new GIUD subsite.
- Hosted the Heartland Community Food Bank's monthly distribution.

LOCAL GENERATION	2019
SUB E SOLAR FARM	1,879.650 MWh

BURDICK STATION, STEAM UNIT AUXILIARIES	
GROFF ST. SUB. RESERVE SUPPLY	546.900 MWh
UNIT #3 RESERVE SUPPLY	195.900 MWh
BURDICK COOLING WATER	91.585 MWh
OIL FACILITIES	5.817 MWh
BURDICK STEAM NET TOTAL:	-840.202 MWh

BURDICK STATION, COMBUSTION TURBINES:	
GT-1, PCC METER	611.900 MWh
GT-2, PCC METER	3,828.000 MWh
GT-3, PCC METER	2,623.100 MWh

BURDICK STATION, COMBUSTION TURBINE AUXILIARIES	
GT-1, AUXILIARIES	137.440 MWh
GT-2 & GT-3 AUXILIARIES	1,610.200 MWh
BURDICK COMBUSTION TURBINE NET TOTAL:	5,315.360 MWh

PLATTE GENERATING STATION:	
UNIT #1, SUB D METER	505,226.300 MWh

PLATTE GENERATING STATION AUXILIARIES	
RESERVE SUPPLY TRANSFORMER	2,091.500 MWh
WAREHOUSE	247.640 MWh
PGS COOLING WATER	592.744 MWh
PLATTE GENERATING STATION NET TOTAL:	502,294.416 MWh

Copies:

Tim Luchsinger	Jeff Mead
Ryan Schmitz	Keith Pobanz
Darrell Dorsey	Darren Buettner
Larry Keown	Pat Gericke
Karen Nagel	Kathy Nelson
Cindy Martin	Phelps Control
Travis Burdett	

PARTICIPATION SHARES	2019
WAPA HYDRO	34,458.138 MWh
WIND PROJECTS	108,442.600 MWh
NEBRASKA CITY UNIT #2	243,880.000 MWh
WHELEN UNIT #2	77,707.600 MWh

INTERCHANGE & CITY DEMAND	
INTEGRATED MARKETPLACE	
IMPORT	753,974.780 MWh
EXPORT	512,201.400 MWh
NET MARKET IMPORT	241,773.380 MWh

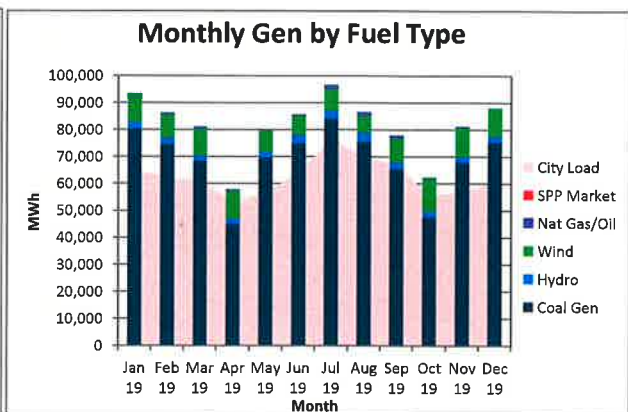
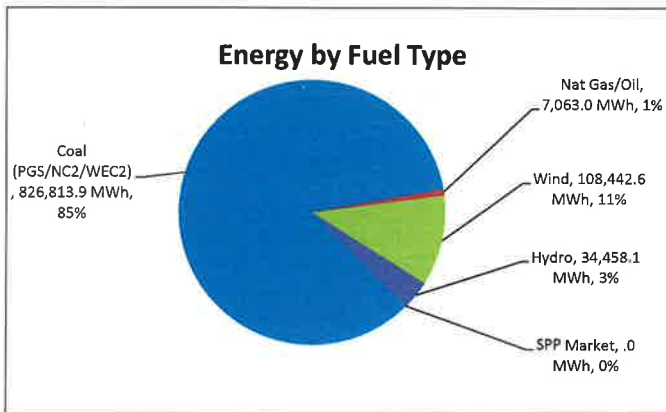
METERED ENERGY IMPORT TO GRAND ISLAND	
LINE 1093	208,908.576 MWh
LINE 1145A	148,569.500 MWh
LINE 1145B	18,065.300 MWh
LINE 1149	8,789.544 MWh
LINE 1369	81,972.780 MWh
TOTAL TO GRAND ISLAND	466,305.700 MWh

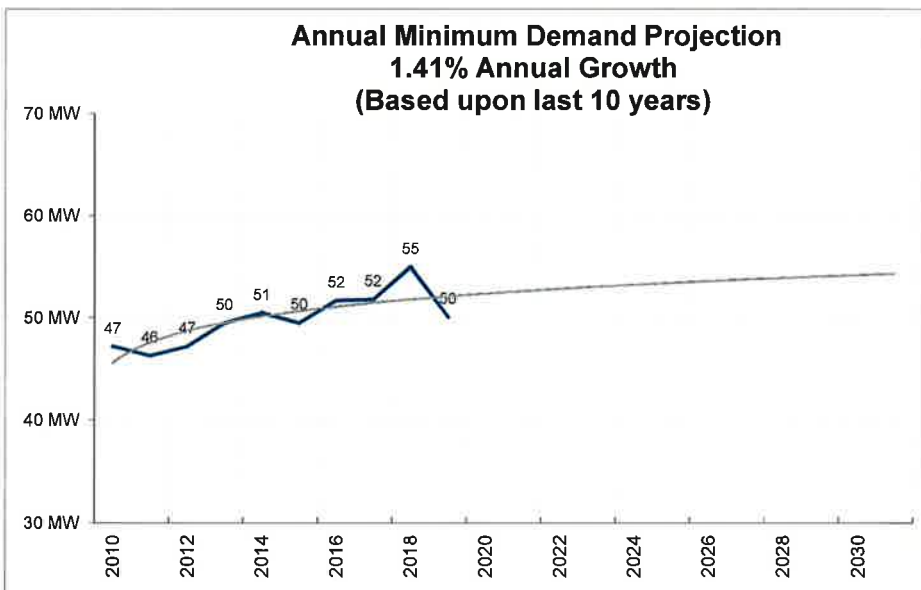
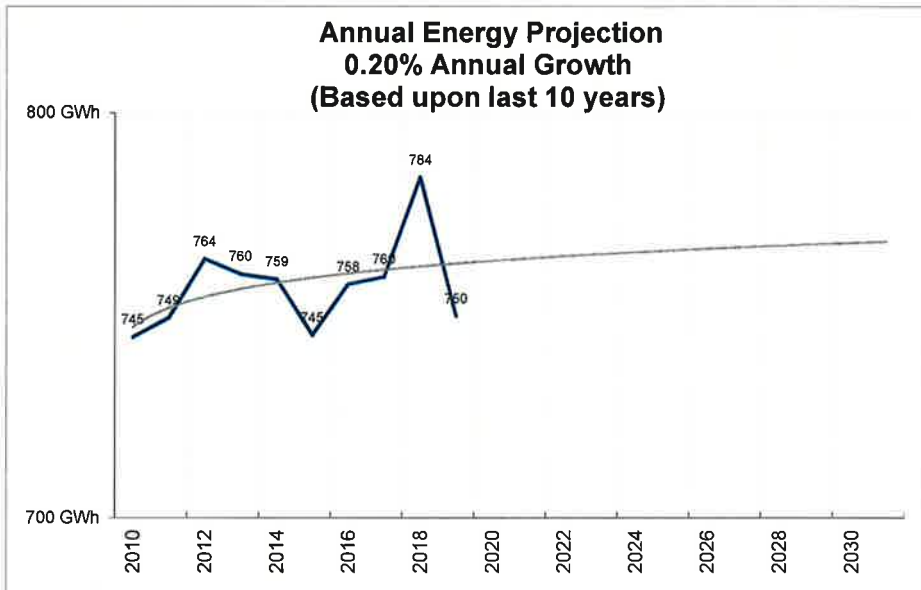
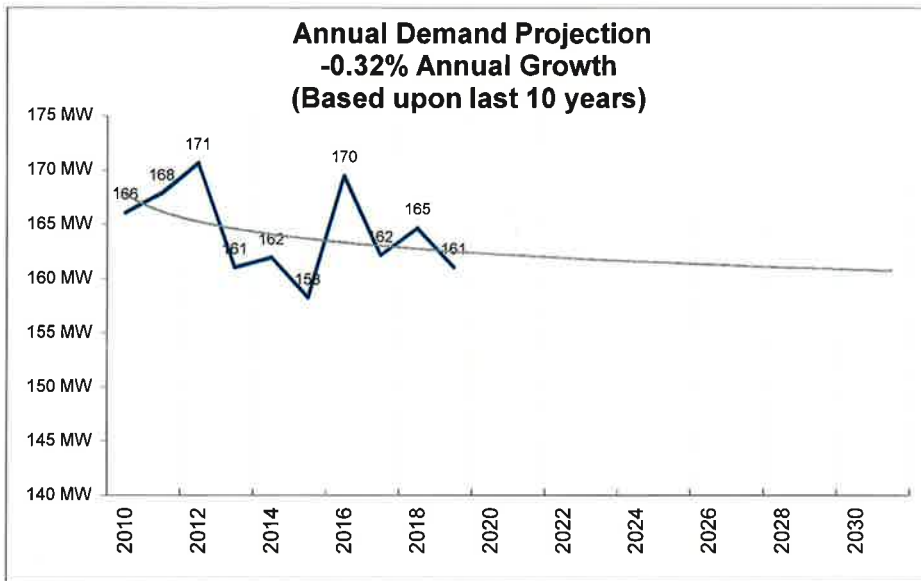
METERED ENERGY EXPORT FROM GRAND ISLAND	
LINE 1093	770.400 MWh
LINE 1145A	20,348.400 MWh
LINE 1145B	95,021.100 MWh
LINE 1149	89,606.808 MWh
LINE 1369	19,321.140 MWh
TOTAL FROM GRAND ISLAND	225,067.848 MWh

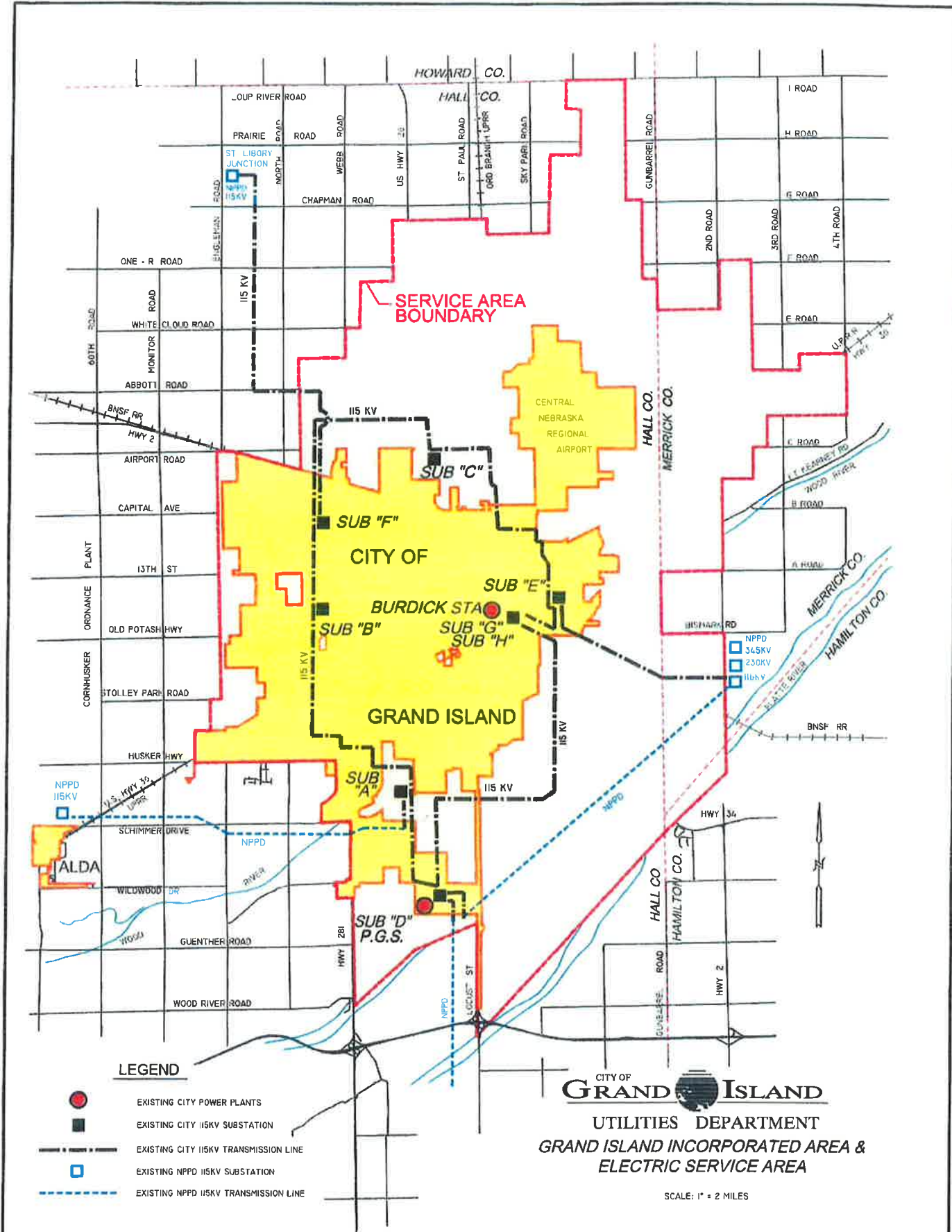
SPP Meter Calibration / Station Aux (Record Only)	535.528 MWh
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HOURLY PEAK DEMAND:	161.100 MW
DATE & TIME OF PEAK:	July 18, 1700
HOURLY MINIMUM DEMAND:	50.100 MW
DATE & TIME OF MINIMUM:	May 26, 0700




SYSTEM NET GENERATION:	508,649.224 MWh
NET METERED IMPORT:	241,237.852 MWh
SYSTEM NET DISTRIBUTION:	749,887.076 MWh







LEGEND

-  EXISTING CITY POWER PLANTS
-  EXISTING CITY 115KV SUBSTATION
-  EXISTING CITY 115KV TRANSMISSION LINE
-  EXISTING NPPD 115KV SUBSTATION
-  EXISTING NPPD 115KV TRANSMISSION LINE

CITY OF
GRAND ISLAND
 UTILITIES DEPARTMENT
 GRAND ISLAND INCORPORATED AREA &
 ELECTRIC SERVICE AREA

SCALE: 1" = 2 MILES



2019 Electrical Feeder Summary

Distribution Lines

Line Type	Total (ft)	Total (mi)
OHL 3 Phase	1,563,434	296.1
OHL 1 Phase	463,402	87.8
OHL Unknown Phase	0	0.0
UGL 3 Phase	420,612	79.7
UGL 1 Phase	529,103	100.2
UGL Unknown Phase	746	0.1

Transformers

Polemount Transformers	Count	KVA
1 Phase	9,490	305,991
3 Phase	3	32,000
N/A	0	0
	9,493	337,991

Padmount Transformers	Count	KVA
1 Phase	2,445	94,792
3 Phase	944	901,630
N/A	0	0
	3,389	996,421

Total Connected KVA **1,404,507**

Capacitor Banks

Bank Type	Count
Switched	62
Fixed	57

Utilities Department
 Platte Generating Station
 Fiscal Year Water Summary
October 1, 2018 - September 30, 2019

Report Totals

Water From Wellfield	3,545,267,074.94 Gals
High Pressure Wells	19,550,486.82 Gals
Burdick Wells	74,691,118.25 Gals
PGS Wells	643,094,318.00 Gals
Cleburn Well	0.00 Gals
Burdick Pumping Station	714,594,344.99 Gals
Pine Street Pumping Station	779,555,136.66 Gals
Rogers Pumping Station	2,018,791,687.85 Gals
Water Distributed to City	3,532,491,656.32 Gals
Water to Burdick Station	74,691,118.25 Gals
Water to PGS	643,653,118.00 Gals
Water Pumped - Permit 10266	3,545,267,074.94 Gals
Water Pumped - Permit 10302	737,335,923.07 Gals
Total Water Distributed	4,250,835,892.57 Gals
Total Groundwater Pumped	4,282,602,998.01 Gals
Water Unaccounted For	0.74%
Burdick Station City Water Use	17,179,316.00 Gals
Pine Street Station City Water Use	212,437.20 Gals

Daily Maximum

Permit No. 10266 (Wellfield)	18,786,678.42 Gals	on	7/15/2019
Permit No. 10302 (In-Town Wells)	2,293,911.01 Gals	on	6/4/2019
Total Groundwater Pumped	22,203,471.60 Gals	on	7/1/2019
Water Distributed to City	18,833,250.47 Gals	on	7/19/2019

Utilities Department
Platte Generating Station
Fiscal Year Fuel Summary
October 1, 2018 - September 30, 2019

Coal

Beginning Inventory	October 1, 2018	94,134.50 Tons
Total Coal Received		344,518.56 Tons
Total Coal Fired		-363,196.00 Tons
Total Cost Monthly Adjustments		-6,890.37 Tons
Coal Adjustments (Fiscal)		4,233.31 Tons
Final Coal Inventory	September 30, 2019	72,800.00 Tons
Average Coal Heat Value		8448 BTU/LB
Average Coal Sulfur		29.09%

PGS No. 2 Fuel Oil

Beginning Inventory	October 1, 2018	213,473.40 Gals
Total Fuel Oil Received		16,404.00 Gals
Total Fuel Oil Fired		-44,402.00 Gals
Other Fuel Oil Used		-6,928.00 Gals
Total Fuel Oil Adjustment		-21,169.20 Gals
Final Fuel Oil Inventory	September 30, 2019	157,378.20 Gals

BURDICK STATION

No. 2 Fuel Oil

Beginning Inventory	October 1, 2018	131,036.40 Gals
Total Fuel Oil Received		51,525.00 Gals
Total Fuel Oil Fired Gas Turbines		-55,262.69 Gals
Other Fuel Oil Used		0.00 Gals
Total Fuel Oil Adjustment		32,368.49 Gals
Final Fuel Oil Inventory	September 30, 2019	159,667.20 Gals

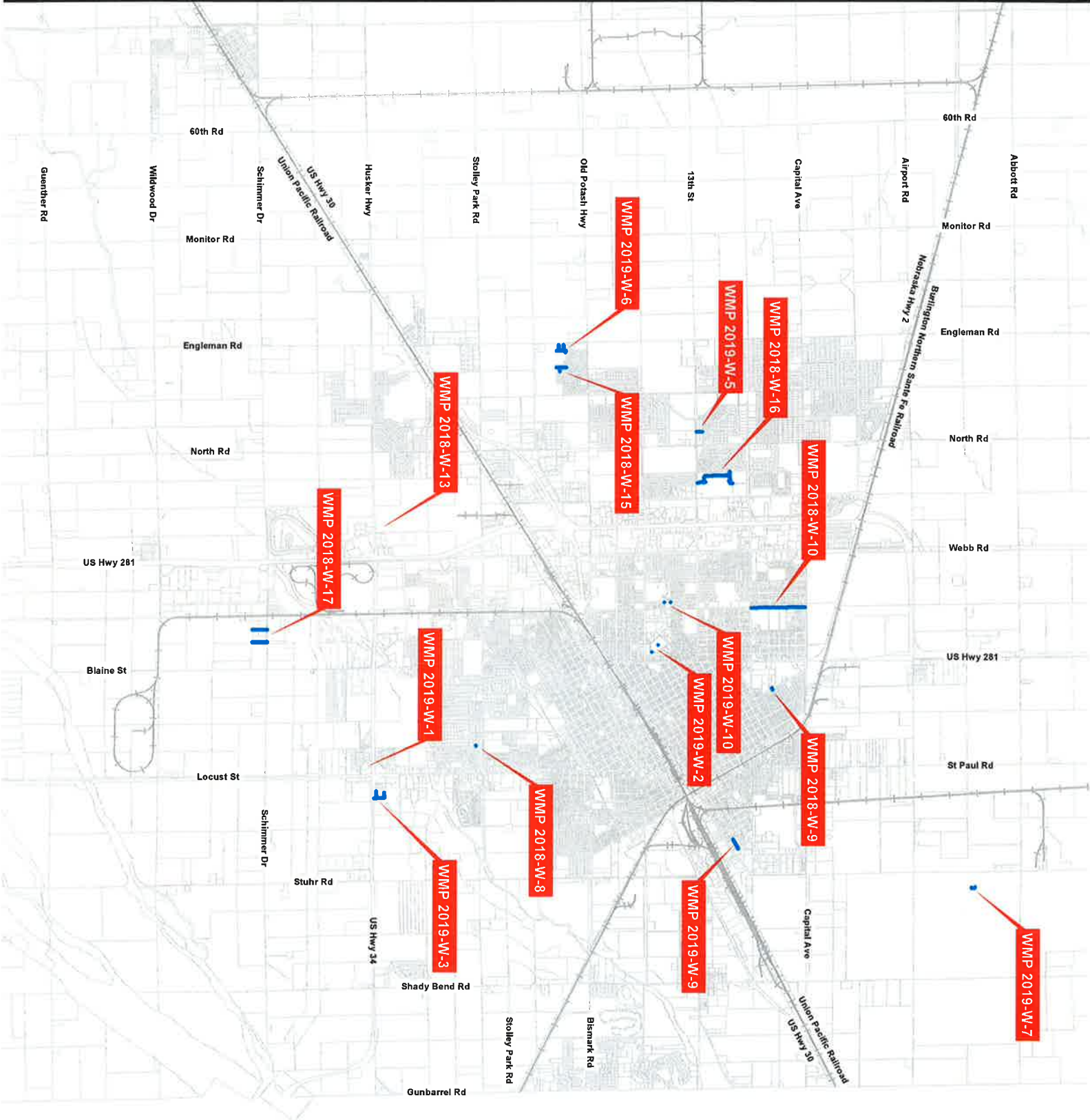
No. 6 Fuel Oil

Inventory	October 1, 2018	49,749.18 Gals
Total Fuel Oil Received		0.00 Gals
Total Fuel Oil Fired Unit 1		0.00 Gals
Total Fuel Oil Fired Unit 2		0.00 Gals
Total Fuel Oil Fired Unit 3		0.00 Gals
Total Fuel Oil Adjustment	No. 6 tanks emptied	-49,749.18 Gals
Final Fuel Oil Inventory	September 30, 2019	0.00 Gals
Total No. 6 Fuel Oil Fired		0

Natural Gas

Total Gas Fired Unit 1		0.00 MCF
Total Gas Fired Unit 2		0.00 MCF
Total Gas Fired Unit 3		0.00 MCF
Total Gas Turbine GT1		14,436.00 MCF
Total Gas Turbine GT2		52,972.54 MCF
Total Gas Turbine GT 3		37,299.92 MCF
Total Gas Fired		104,708.46 MCF

Revised 10/8/2019
Lynn M/Darrell D-PGS
Darren B-Finance
Pat G-Utilities Admin
Travis B/Keith P
Ryan Schmitz
Larry K/Cindy-Burdick



City of Grand Island
 Utilities Department

LEGEND

- New Watermain
- Property Lines

2019
 Construction
 Districts/Projects
 12/20/2019



2019 Pipe Totals (4" and Larger)

City

31-Dec-19

Distribution Length by Diameter (Includes Hydrant Assembly)		4	6	8	10	12	14	16	18	20	24	30	36	Total	Percent Growth
Year		24,745	719,963	221,431	119,711	197,813	17,284	115,557	54,135	71,645	7,335	787	11	1,550,417	N/A
2015		24,939	752,141	229,610	121,272	200,540	17,244	115,557	53,788	74,060	7,222	787	11	1,597,171	3.02%
2016		25,461	754,284	230,955	122,372	204,276	17,245	115,526	53,965	76,489	7,222	787	11	1,608,592	0.72%
2017		25,461	754,284	232,674	122,185	208,377	17,242	115,420	53,958	76,613	6,977	787	11	1,619,109	0.65%
2018		25,403	748,452	244,861	129,005	210,170	17,246	115,613	54,281	76,622	6,909	733	11	1,628,806	0.60%
2019															
Year		4	6	8	10	12	14	16	18	20	24	30	36	Total	Percent Growth
2013		0	0	0	0	0	0	0	0	0	0	78,391	25	78,416	
2014		0	0	0	0	0	0	0	0	0	0	78,425	12	78,437	
2015		0	0	0	0	0	0	0	0	0	0	78,425	12	78,437	
2016		0	0	0	0	0	0	0	0	0	0	78,502	12	78,514	
2017		0	0	0	0	0	0	0	0	0	0	78,496	12	78,508	
2018		0	0	0	0	0	0	0	0	0	270	78,498	12	78,780	
2019		0	0	0	0	0	0	0	0	0	270	78,508	23	78,801	

Transmission Length by Diameter		4	6	8	10	12	14	16	18	20	24	30	36	Total
Year		0	0	0	0	0	0	0	0	0	0	0	0	0
2015		0	0	0	0	0	0	0	0	0	0	0	0	0
2016		0	0	0	0	0	0	0	0	0	0	0	0	0
2017		0	0	0	0	0	0	0	0	0	0	0	0	0
2018		0	0	0	0	0	0	0	0	0	0	0	0	0
2019		0	0	0	0	0	0	0	0	0	0	0	0	0

Reservoir Length by Diameter		4	6	8	10	12	14	16	18	20	24	30	36	Total
Year		0	0	0	0	0	0	0	0	0	932	0	805	1,737
2015		0	0	0	0	0	0	0	0	0	932	0	858	1,790
2016		0	0	0	0	0	0	0	0	0	932	0	858	1,790
2017		0	0	0	0	0	0	0	0	0	932	0	858	1,790
2018		0	0	0	0	0	0	0	0	0	925	0	858	1,888
2019		0	0	0	0	0	0	0	0	384	778	0	835	2,167

Well Header Length by Diameter		4	6	8	10	12	14	16	18	20	24	30	36	Total
Year		0	139	0	17,749	913	3,233	0	7,856	3,553	5,974	3,440	2,049	44,506
2015		0	139	0	17,754	913	3,233	1,670	7,856	3,553	5,974	3,440	2,049	46,581
2016		0	131	0	17,754	913	3,233	1,670	7,856	3,553	5,974	3,440	2,049	46,585
2017		0	226	0	17,752	913	3,233	1,669	7,784	3,510	6,053	3,441	2,056	51,984
2018		0	154	65	22,740	927	3,515	1,669	7,784	3,510	6,053	3,441	2,056	51,984
2019		0	154	65	22,740	927	3,515	1,669	7,784	3,510	6,053	3,441	2,056	51,984

Total D-T-R-W		Year	Total (ft)	Total (mi)
2015		1,675,497	317	
2016		1,724,056	327	
2017		1,735,562	329	
2018		1,746,720	331	
2019		1,761,566	334	

Private		Year	Total (ft)	Total (mi)
2015		27,830	88,036	
2016		28,242	89,372	
2017		28,327	90,556	
2018		28,711	92,728	
2019		28,872	94,128	

Fire Protection Only/Service Length by Diameter		Year	Total (ft)	Total (mi)	Percent Growth
2015		1,892,224	358		N/A
2016		1,944,860	368		1.88%
2017		1,958,013	371		0.75%
2018		1,974,605	374		2.44%
2019		1,991,012	377		0.68%

Total (City/Private)		Year	Total (ft)	Total (mi)	Percent Growth
2015		1,920,054	395		N/A
2016		1,973,116	406		2.75%
2017		1,986,340	408		0.66%
2018		1,997,000	413		0.53%
2019		2,019,838	418		1.14%