



# WORK SESSION AGENDA



**Casper City Council**  
**LifeSteps Campus**  
**1514 East 12th Street, Building K**  
**Tuesday, September 11, 2018, 4:00 p.m.**

<b>Work Session Meeting Agenda Items</b>		<b>Recommendation</b>	<b>Allotted Time</b>	<b>Beginning Time</b>
Recommendations = Information Only, Move Forward for Approval, Direction Requested				
1.	LifeSteps Campus Tour	Information Only	30 min	4:00
2.	Sales Tax Issue Explanation (Dan Noble)	Information Only	40 min	4:30
3.	Accepting Natrona County Hazard Mitigation Plan & Emergency Response Plan (Lt. Harlin)	Move Forward for Approval	20 min	5:10
4.	Health Fund Update (Tom Pitlick, Tracey Belser)	Information Only	20 min	5:30
5.	Alcohol Sale Hours (John Henley)	Direction Requested	20 min	5:50
6.	Smart Water Meters (Darren Mizokami, Tom Pitlick)	Direction Requested	40 min	6:10
7.	Additional One Cent City Projects (Carter Napier)	Information Only	30 min	6:50
7.	Agenda Review		10 min	7:20
8.	Legislative Update		10 min	7:30
9.	Council Around the Table		20 min	7:40
Approximate Ending Time				8:00

July 20, 2018

MEMO TO: J. Carter Napier, City Manager   
FROM: Thomas Solberg, Fire Chief   
Daniel Griswold, Deputy Chief  
SUBJECT: Natrona County Hazard Mitigation Plan, 2017 Update

Meeting Type & Date

Regular Council Work Session

09/11/2018

Action Type

Move forward for approval.

Recommendation

That Council, provide feedback and direction to move the adoption of the Natrona County Hazard Mitigation Plan, 2017 Update to a regular meeting to be approved.

Summary

In accordance with Wyoming State Statute 19-13-108, each political subdivision of this state shall establish a local emergency management program in accordance with the State Emergency Management Plan Program. In 2017, the City of Casper participated in a comprehensive update to the 2010 Natrona County Hazard Mitigation Plan.

The 2017 Natrona County Hazard Mitigation Plan was approved by the Federal Emergency Management Agency (FEMA) in April of 2018. Adoption of the Plan would allow the City to apply for FEMA Hazard Mitigation Assistance grants.

Financial Considerations

No Financial Considerations

Oversight/Project Responsibility

Daniel Griswold, Deputy Chief

Attachments

Resolution

RESOLUTION NO. \_\_\_\_\_

A RESOLUTION ADOPTING THE 2017 NATRONA  
COUNTY HAZARD MITIGATION PLAN.

WHEREAS, THE City of Casper within Natrona County, Wyoming is a duly organized political subdivision in the State of Wyoming; and,

WHEREAS, pursuant to W.S. § 19-13-108, each political subdivision of this state shall establish a local emergency management program in accordance with the State Emergency Management Plan and Program; and,

WHEREAS, in 2017 the Natrona County Emergency Management Office, in conjunction with the Wyoming Department of Homeland Security and the Federal Emergency Management Agency (FEMA), prepared an update to the 2010 Natrona County Hazard Mitigation Plan; and,

WHEREAS, the City Council desires to adopt the 2017 Natrona County Hazard Mitigation Plan.

NOW, THEREFORE, BE IT RESOLVED BY THE GOVERNING BODY OF THE CITY OF CASPER, WYOMING:

Section 1:

That the City Council hereby adopts and incorporates the 2017 Natrona County Hazard Mitigation Plan, as part of the emergency management program for Casper.

Section 2:

That the Natrona County Emergency Management Office, a division of the Natrona County Sheriff's Office, is designated the Local Emergency Management Coordinator, pursuant to W.S. § 19-13-101 et seq.

Section 3:

That the 2017 Natrona County Hazard Mitigation Plan be submitted to show compliance with the FEMA requirement for hazard mitigation evaluation and review.

PASSED, APPROVED, AND ADOPTED on this \_\_\_\_ day of \_\_\_\_\_, 2018.

APPROVED AS TO FORM:

\_\_\_\_\_

ATTEST:

CITY OF CASPER, WYOMING  
A Municipal Corporation

\_\_\_\_\_  
Fleur D. Tremel  
City Clerk

\_\_\_\_\_  
Ray Pacheco  
Mayor

September 6, 2018

**MEMO TO:** J. Carter Napier, City Manager *JCN*  
**FROM:** Tracey L. Belser, Support Services Director *TLB*  
**SUBJECT:** Health Fund Update

**Meeting Type & Date**

Council Work Session, September 11, 2018

**Action type**

Information Only

**Summary**

The new health plan year started in January 2018. In January the employer, and retiree, premium increase of 14% took effect. Additionally a change in the prescription formulary plan took effect in January in an effort to save costs to the health plan. The summary below is from the second quarter reports received from the City's benefit consultants, GBS.

- Catastrophic claim spend (claims over \$50,000) is up 57% for this same period of time last year.
  - Top five claims over \$50,000, these are all over \$75,000 at this time:
    - Spinal Stenosis
    - Multiple Sclerosis
    - Pulmonary Hypertension
    - Gallbladder Infection
    - Osteoarthritis
- Non-Catastrophic claim spend is flat for this same period of time last year.
- Pharmacy claim spend year to date is down 19% (\$104,882 worth of savings).
  - Top five conditions for highest prescription costs at this time:
    - Pulmonary Arterial Hypertension
    - Diabetes
    - Multiple Sclerosis
    - Psoriasis
    - Rheumatoid Arthritis
- New programs to try to prevent high cost claims for preventable conditions:

**No 2 4 U Prediabetes Program-** Launched on June 19, 2018. There are six employees and spouses on the health plan at risk for developing diabetes working on

a weekly basis with a GBS Wellness Coordinator trained in the program by the Centers for Disease Control. The focus of the program is to learn about and incorporate healthy eating, exercise, and stress management to effectively delay or prevent the onset of diabetes, a costly and life altering disease.

**Nerd Wellness Center Program-** A six month program for employees and spouses on the City of Casper Health plan in conjunction with NERD Wellness Center located at Wyoming Medical Center. CIGNA wellness funds will be utilized to share the cost of the Nerd Wellness Center program with the participant. The participant will be required to meet certain utilization criteria to stay active in the program. Nerd Wellness Center has a holistic approach to wellness that includes meetings with a lifestyle medicine doctor, an exercise physiologist, and a health coach, biometric screenings upon entering and exiting the program, gym workout or group exercise classes. There are optional services such as acupuncture and massage therapy at the employee's cost. As of August 27, 2018 there are 16 participants enrolled.

**Omada Program-** Human Resources is gathering information and considering this software based program offered through CIGNA for pre-diabetes based on the same findings as the No 2 4 U program. The costs of the program are paid as a claim by the City of Casper Health plan. There is a setup fee of \$235 and a monthly fee based on a percentage of the member's base weight. The fee is \$13 per percentage unit and is only paid if the employee loses weight. The program can be a one year or a two year program. The average annual spend is \$16,000 for a person with diabetes, whereas it is \$5,000 an average annual spend for a person without diabetes. The Health Plan Design Committee will be provided an overview of this program on August 30, 2018.

The total amount added in the approved FY19 budget came to \$769,000 from several City funds. This will have some impact but does not fix the problem. In January 2019 there will be a premium increase of 10% only for the employer, and retirees on the City's Health Plan. This means the employer is now paying 84 – 89% of the premium for employees.

**Financial Considerations**

No considerations at this time



**Oversight/Project Responsibility**

Tracey Belser, Support Services  
Becky Nelson, Health and Safety Specialist

**Attachments**

No attachments.

September 6, 2018

MEMO TO: J. Carter Napier, City Manager   
FROM: John Henley, City Attorney   
SUBJECT: Amending Section 5.08.320 Ordinance

Meeting Type & Date:  
Work Session  
September 11, 2018

Action Type  
Confirmation of direction -Ordinance

Recommendation  
That Council approve an Ordinance to Amend Casper Municipal Code Section 5.08.320 – Hours of sale of alcoholic liquors or malt beverages, uniform for each day of the week.

Summary  
Section 5.08.320 of the Casper Municipal Code currently provides that hours of sale for alcoholic beverages are generally 6:00 a.m. to 2:00 a.m., but on Sundays the hours are curtailed to between 10:00 a.m. to 10:00 p.m. The Council wishes to make uniform the hours for selling, serving, or dispensing alcoholic liquors or malt beverages for all seven days of the week.

The proposed changes to Section 5.08.320 would expand the hours of sale of alcoholic beverages on Sundays to be consistent with the other days of the week – 6:00 a.m. to 2:00 a.m. regarding the selling, serving, or dispensing of alcoholic liquor or malt beverages.

Financial Considerations  
The proposed Ordinance does not directly impact the City's budget, but an increase in calls for emergency services may be experienced.

Attachments  
Ordinance

ORDINANCE NO. \_\_\_\_

AN ORDINANCE AMENDING SECTION 5.08.320 OF THE  
CASPER MUNICIPAL CODE

WHEREAS, THE City Council of Casper, Wyoming, has determined that creating an exception for hours of sale for Sunday is unnecessary and incongruent; and,

WHEREAS, the City's Ordinance regulating hours of sale of alcoholic beverages should be amended to provide for all seven days of the week to have uniform serving hours; and,

NOW, THEREFORE, be ordained by the governing body of the City of Casper, Wyoming: that Casper Code Section 5.08.320 Hours of sale generally – Exceptions – Designation of dates for unrestricted operation, is hereby amended as follows:

The fifth and sixth words, in line one, paragraph 1 “except Sunday,” are deleted;

The last word in paragraph “1,” “and,” is deleted.

Current paragraph “2” is deleted.

Current paragraph “B” shall be designated as paragraph “2”.

Current paragraph “C” shall be designated as paragraph “3”.

Current paragraph “C”, to be designated paragraph “3,” shall have the phrase at the end of that paragraph “on days other than Sunday, and beginning at ten a.m. on Sundays” deleted.

The Code Section 5.08.320 shall now read:

5.08.320 – Hours of sale generally – Exceptions – Designation of dates for unrestricted operation.

- A. All licensees except club licensees holding liquor licenses shall be controlled by the following schedule for operating hours:
  - 1. On all days, a licensee may commence the selling, serving, or dispensing of alcoholic liquors or malt beverages at six a.m. and shall cease the sale of both alcoholic liquor and malt beverages promptly at the hour of two a.m. the following day. Any portion of any building used by the licensee for the selling, serving, dispensing, or consumption of alcoholic liquors or malt beverages shall be cleared of all persons other than the employees by two-thirty a.m.



The licensee shall ensure that all consumption of alcoholic liquors or malt beverages has ceased by two-thirty a.m. within all areas of the licensed building, or in the case of resort licensees, within the boundary of the lot or lots under the ownership or lease by the licensee, other than in private hotel or motel rooms.

2. Clubs holding a limited retail liquor license may commence the selling, serving, or dispensing of alcoholic liquors or malt beverages each day at nine a.m. and shall cease sales of alcoholic liquor and malt beverages promptly at the hour of two a.m. of the following day and shall clear the licensed building of all persons other than employees by two-thirty a.m. Clubs holding a limited retail liquor license may remain open past two a.m. on the morning of January 1<sup>st</sup>.
3. The hours of operating designated in subsection A of this section may be modified on no more than four days each calendar year by a resolution of the city council, designating those dates during city or county fairs, rodeos, pageants, jubilees, special holidays or similar public gatherings when all licensees may continuously operate their licensed building, or licensed resort or club premises for a period of twenty-four hours beginning at six a.m.

This Ordinance shall become effective on \_\_\_\_\_, 2018.

PASSED on 1<sup>st</sup> reading the \_\_\_\_ day of \_\_\_\_\_, 2018.

PASSED on 2<sup>nd</sup> reading the \_\_\_\_ day of \_\_\_\_\_, 2018.

PASSED, APPROVED AND ADOPTED on 3<sup>rd</sup> and final reading the \_\_\_\_ day of \_\_\_\_\_, 2018.

APPROVED AS TO FORM:

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CITY OF CASPER, WYOMING

A Municipal Corporation

ATTEST:



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Fleur D. Tremel  
City Clerk

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Ray Pacheco  
Mayor

8/30/18

MEMO TO: J. Carter Napier, City Manager   
FROM: Tom Pitlick, Finance Director   
Darren Mizokami, Meter Services Supervisor  
SUBJECT: Smart Water Meters

Meeting Type & Date  
Work Session  
September 11, 2018

Action type  
Direction Requested

Recommendation

That Council review information provided on smart meters technology, and provide direction to staff.

Summary

A smart water meter is a measuring device that has the ability to store and transmit consumption data through the web. The smart meter technology allows City staff and the homeowner to access readings from anywhere. Smart meters allow Meter Services staff to collect billing data without physically visiting the home, and they allow homeowners to have more detailed information regarding their personal water consumption.

The City of Casper has been exploring smart meter technology for several years. Staff has reached the point of establishing Orion Cellular Beacons as a workable and reliable smart metering system. Sixty-seven of these smart meters are currently in use in and around Casper. Some of these were deployed for testing purposes, but most of them were installed at key locations where a smart meter was thought to be particularly helpful for operational purposes, such as remote addresses that are far outside of the city limits. Additional smart meters are being installed at similar remote sites, or at other special locations. At this time, no plan exists to roll out smart meters citywide.

The city has also begun testing a smart meter with an integrated shut off valve. The Badger E-Series Ultrasonic Plus is a new device that allows city staff to take meter reading remotely, but it also allows for shutoff from a City computer. The City of Casper currently has three units installed for a Beta test program.

Financial Considerations

Financial considerations are outlined in detail in the Description on current water Meters/Smart meter memo.

Oversight/Project Responsibility

Darren Mizokami for contracting.

Attachments

Description on current water Meters/Smart meter memo

# **City of Casper Water Meters:**

## **A Review of Current Meter Technology versus Tested Options for Smart Meters and Remote Shutoff Valves**

8/24/18

**This report is a discussion of various water meter technologies that are currently in use in the City of Casper, including smart meters. It also includes information on the smart meter system that was recently implemented in the City of Sheridan.**

### **Typical Meter and Shutoff Valve in the City of Casper:**

The standard water meter that is currently in use in the City of Casper is a mechanical meter connected to an ERT device (Encoder Receiver Transmitter.) Once a month, Meter Services personnel will drive past every home and business throughout the City of Casper. The meter measures the amount of water used, and the ERT will transmit that reading (total used by that point in time) to the passing truck. In this way, Meter Services staff can calculate how much water was used since the last reading, but this system does not provide information on how much water was used on any one day within that time period.

The City's standard meters have a functional lifespan of 25 years, so roughly 1/25<sup>th</sup> of these meters must be replaced each year.

For most homes and businesses, the water shutoff valve is located at the curb stop in front of the building. When water needs to be turned off because the customer is moving, or because the customer hasn't paid a water bill, then a Meter Services employee will visit the home and shut off the water with a curb key. The employee will have to revisit that location once it's time to turn the water back on again.

### **New Technology:**

Newer technologies are also being explored.

- The City of Casper currently has 67 smart meters installed at various locations. The smart meters allow for minute-to-minute water usage monitoring from anywhere, either by the customer or by Meter Services staff. A few additional smart meters are being installed every month. Since they cost more than the standard meter (\$247 versus \$227), smart meters are only being installed at locations that are difficult to read with a standard ERT.

- The city has experimented with remote shutoff valves. Some homes need to have the water shut off and turned on repeatedly, and a remote shutoff valve would allow Meter Services staff to handle this without having to visit and then revisit the property. Standalone remote shutoff valves add \$379 to the price of each installation, so the total cost to install a standard meter, standard ERT, and a remote shutoff valve would be \$606. Only five of these devices have been installed anywhere in Casper, and no additional remote shutoff valves are currently being installed.
- The smart meter vendor that the City is currently using has announced that the City of Casper would be part of the Beta testing program. The city has installed 3 smart meters with an integrated remote shutoff valve. It will allow for the remote-read capability of a smart meter along with the remote-shutoff capability. We have been testing for about three weeks and have had some issues with the older CDMA endpoint. They are sending us new ones with the LTE technology, so we can continue with the testing. The price per installation is expected to be \$345 for meters with an integrated remote shutoff valve, along with \$104 for Orion LTE Cellular Endpoint with 10 year cellular subscription. Total for meter and endpoint would be \$449.00.

### **Volunteering for a Smart Meter and/or a Remote Shutoff Valve**

It has been suggested that certain customers might want to buy their own smart meter. The City does not currently have a program that would let people volunteer for a smart meter, but this could be established. Volunteers would presumably be charged for the cost of the meter (\$247). Like all meters, the meter would legally remain the property of the City, and it would have to remain with the home after the home has been sold.

It has also been suggested that certain customers might like to have a remote shutoff valve so that they could turn off their own water. Remote shutoff valves would certainly make it easier for Meter Services personnel to manage the system because it would allow personnel to turn on or turn off the water at any particular location, either because someone has moved in, moved out, or failed to pay their bill. However, letting homeowners control their own shutoff valve is not recommended by staff. The ability to turn off the water would probably mean that homeowners would also have the ability to turn the water back on, even if the water had been shut off for nonpayment.

### **Making Smart Meters and/or Remote Shutoff Valves Available Citywide**

The City does not currently have a plan to install smart meters citywide. A rough budget estimate for a project of this sort would be \$5 - \$6 million. This would include the cost of the cellular transmitter (Orion device), along with a new meter (or an upgrade to the existing meter), and it would include installation. Meter replacement is currently done by Meter Services staff, but staff would not be able to install all of the 22,000 meters that would need to be upgraded.

Upgrading to smart meters also would require after 10 years you would have to replace batteries and update 10 year cellular plan subscription. The current meters are replaced every 25 years, but smart meters have a limited battery life, and they only come with a 10 year cellular plan subscription. A plan would need to be in place so that the smart meters could be replaced (or have their batteries replaced) every ten years. Also, an additional cellular subscription would need to be purchased every ten years.

In order to avoid having all meters fail all at in the same year (all 22,000 meters, every tenth year), staff would recommend a citywide rollout over a three year period. This would mean that no more than one third of the city's homes would need a battery upgrade or meter replacement in any given year.

### **Citywide Smart Meters in Sheridan, Wyoming**

The City of Sheridan has installed a citywide smart meter network for its 9,500 customers. The technology used in Sheridan is a mix of Kamstrup FlowIQ smart water meters and Mueller smart water meters. Unlike the cellular smart meters that are being tried out here in Casper, Sheridan's devices use a fixed network. Instead of collecting data through cell phone towers, the City of Sheridan has installed its own antennas throughout the city to communicate with the water meters. These antennas relay the information back to the city through an internet connection.

Sheridan's customers can monitor their water usage online. So far, only 6% of Sheridan's customers have chosen to access this service.

The City of Sheridan has also installed Mueller 420RDM remote shutoff valves at certain locations where one water service line is split to serve more than one customer. These shutoff valves allows city staff to remotely turn the water on or off for either customer. The remote shutoff is only used by city staff; Sheridan citizens have not been allowed to access this technology themselves.

## Casper Meter Options Chart

Detailed Chart on the City of Casper’s Meter and Shutoff Valve types, including information on functionality and cost

*Casper Meter Options Chart, page 1 of 4*

Meter Type	Total Purchase Price	Useful Life (Years)	Basic Functionality	Meter Reading Process	Shut Off Process	Usage Information Made Available to Homeowner	How Many Currently in Service in Casper
<b>1. TYPICAL METER INSTALLATION IN CASPER: Mechanical Meter with ERT Device</b>	<b>\$227.50</b>  Neptune T-10 E- Code 5/8" x 3/4", \$142.50  Itron 100w ERT, \$85.00	25 Year replacement program for the meter  15-20 Years on battery for the ERT.	Mechanical water meter measures the volume of water used by residential and commercial buildings. 110 w ERT transmits usage data to a truck-based or handheld receiver.	Meter Services personnel drive by each home to obtain a meter reading once a month on the designated read date.  Once all reads are collected they are sent over to Finance for billing.	Water can only be shut off manually by Meter Services personnel using a curb key. Shutoff is done from outside of the house at the curb stop.	Monthly reads are taken by Meter Services Staff and printed on the utility bill.  Minute-by-minute information not available unless the homeowner is actually watching the dial or digital indicator.	<b>22,698</b>  out of 22,631 meters have this technology, or an older functional equivalent.

Casper Meter Options Chart, page 2 of 4

Meter Type	Total Purchase Price	Useful Life (Years)	Basic Functionality	Meter Reading Process	Shut Off Process	Usage Information Made Available to Homeowner	How Many Currently in Service in Casper
<p><b>2. CURRENTLY AVAILABLE SMART METERS</b></p> <p>Being implemented in difficult-to-read locations</p>	<p><b>\$246.50</b></p> <p>Neptune T-10 E- Code 5/8" x 3/4" \$142.50</p> <p>Orion LTE Cellular Endpoint with 10 year cellular subscription \$104</p>	<p>25 Year replacement program.</p> <p>10 year battery life. Purchase price includes a 10 year cellular service subscription.</p>	<p>Mechanical water meter measures the volume of water used by residential and commercial buildings.</p> <p>When connected to the Orion LTE Cellular Endpoint, users are able to receive meter readings from anywhere through a cellular connection.</p>	<p>Meter readings are constantly uploaded through cell phone towers. Meter Services staff can query usage on the read date and transfer the usage to Finance for bill preparation.</p>	<p>Like Typical Installation: Water can only be shut off manually by Meter Services personnel using a curb key. Shutoff is done from outside of the house at the curb stop.</p>	<p>Online tool lets customers view their up to the minute and usage (website or app). Detailed reports and charts are available.</p>	<p><b>67</b></p> <p>out of 22,698 meters have this technology.</p>



Casper Meter Options Chart, page 3 of 4

Meter Type	Total Purchase Price	Useful Life (Years)	Basic Functionality	Meter Reading Process	Shut Off Process	Usage Information Made Available to Homeowner	How Many Currently in Service in Casper
<b>3. BETA TESTING: Smart Meter with Integrated Shutoff Valve</b>	<p><b>\$449</b></p> <p><i>\$345 (Sales rep said they fill confident that price will be at \$345, a chance more after BETA testing)</i></p> <p>Orion LTE Cellular Endpoint with 10 year cellular subscription \$104</p>	10 year battery life. Purchase price includes a 10 year cellular service subscription.	Meter and shutoff valve are integrated into one device, and it can be managed through a cellular connection.	Like Currently Available smart meter: Meter reading is constantly uploaded through cellular technology. Meter Services staff can query usage on the read date and transfer the usage to Finance for bill preparation.	Water can be shut off remotely (cellular connection) by Meter Services staff. Technology supports valve open, valve closed and partial closed settings.	Like Currently Available smart meter: Online tool lets customers view their up to the minute usage (website or app). Detailed reports and charts are available.	<p><b>3</b></p> <p><b><i>Beta testing them right now. We are waiting on new LTE endpoint to replace 24 with old CDMA technology. Once replaced we will continue Beta testing.</i></b></p>

Casper Meter Options Chart, page 4 of 4

Meter Type	Total Purchase Price	Useful Life (Years)	Basic Functionality	Meter Reading Process	Shut Off Process	Usage Information Made Available to Homeowner	How Many Currently in Service in Casper
<p><b>4. REGULAR METER WITH A REMOTE SHUTOFF VALVE</b></p> <p>Five test locations were established, but this setup is not currently being pursued.</p>	<p><b>\$606.50</b></p> <p>Neptune T-10 E- Code 5/8" x 3/4" \$142.50</p> <p>Itron 100w ERT \$85</p> <p>SETflow 100 Smart Valves \$379</p>	<p>25 Years replacement program.</p> <p>15-20 Years on battery</p> <p>Bluetooth or Cellular valve with 10 year cellular subscription</p>	<p>Mechanical water meter measures the volume of water used by residential and commercial buildings. 110 w ERT device transmits usage data to a nearby receiver.</p> <p>Wireless remote shutoff valve is an extra component.</p>	<p>Like standard meters: Meter Services personnel drive by each home to obtain a meter reading once a month on the designated read date.</p> <p>Once all reads are collected they are sent over to finance for billing</p>	<p>The SETflow Smart Valve allows remote control shutoff and turn on over a cellular network or Bluetooth.</p>	<p>Like standard meters: Monthly reads are taken by Meter Services Staff and printed on the utility bill.</p> <p>Minute-by-minute information not available unless the homeowner is actually watching the dial or digital indicator.</p>	<p><b>5</b></p> <p>out of 22,686 meters have this technology.</p>

## City of Sheridan Smart Meter Network Chart

Overview the technology that was recently installed in Sheridan, Wyoming

Meter Type	Basic Functionality	Meter Reading Process	Shut Off Process	Usage Information Made Available to Homeowner	How Many Currently in Service
Kamstrup flowIQ smart water meter  Mueller smart water meter	Water meters are used to measure the volume of water used by residential and commercial buildings that are supplied with water by a public water supply system.	Kamstrup's solution for reading water meters can be used for both drive-by meter reading (AMR) or remote reading via a radio network without leaving the utility (AMI).	Water can only be shut off manually by Meter Services personnel using a curb key. Shutoff is done from outside of the house at the curb stop.	Mi. Data Portal Provide real-time leak and service alerts	9,500
Mi.Net Portal	Comprehensive data gathering solution for water utilities (fixed network)	The Mi.Net system links meters, distribution sensors and control devices in a wireless network for real-time access.	Water can only be shut off manually by Meter Services personnel using a curb key. Shutoff is done from outside of the house at the curb stop.	Can be viewed on website Provide real-time leak and service alerts	6 percent of 9,500 use Mi.Net Portal
Mueller 420RDM	Remote Shutoff Valve	N/A	Remote Shutoff Capabilities VIA Mi.Net Portal	Customers are <u>not</u> allowed operate remote valve	All Services with a single shut off for multiple meters