

Town of Hysham – Water Treatment Plant Updates

Public Meeting

June 15, 2023

Crystal Bennett, PE



******DO NOT CONSUME THE WATER******

DRINKING WATER WARNING

Town of HYSHAM Public Water Supply System

MT0000428

Potential Acute Health Effects

Due to Unknown Condition of the Drinking Water

On 4/30/2023 the town of HYSHAM had a loss of filtration treatment. This situation may have led to the introduction of multiple contaminants in the drinking water; these contaminants may include total coliform bacteria, fecal coliform bacteria and various chemicals. Manganese has been measured in the distribution system at levels that exceed recommendations, so this DO NOT CONSUME advisory is being issued.



What does this mean?

- The use of bottled water is recommended at this time. Do not use the water for drinking, making ice, brushing teeth, washing dishes, making baby formula or food preparation. Bottled water should be used for all of the above necessities until further notice.
- People with severely compromised immune systems, infants and some elderly may be at increased risk when exposed to contaminated water. These people should seek advice about drinking water from their health care providers. General guidelines on ways to lessen the risk of infection by microbes are available from EPA's Safe Drinking Water Hotline at 1-800-426-4791.
- Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special risk for infants, young children and people with severely compromised immune systems. The symptoms above are not caused only by organisms in drinking water. If you experience any of these symptoms and they persist, you may want to seek medical advice. People at increased risk should seek advice about drinking water from their health care providers.

What is being done?

- Steps are being taken to immediately restore water quality as quickly as possible. These steps include: Restoring water treatment capability, reliably and consistently. You will be notified once the advisory is downgraded.



Yellowstone River

Yellowstone River

Yellowstone River

Water Treatment Plant

Town of Hysham



Hysham
Hysham

Hysham Ace Hardware Cenex

Burford St

Water Source = Yellowstone River Infiltration Gallery



Yellowstone River

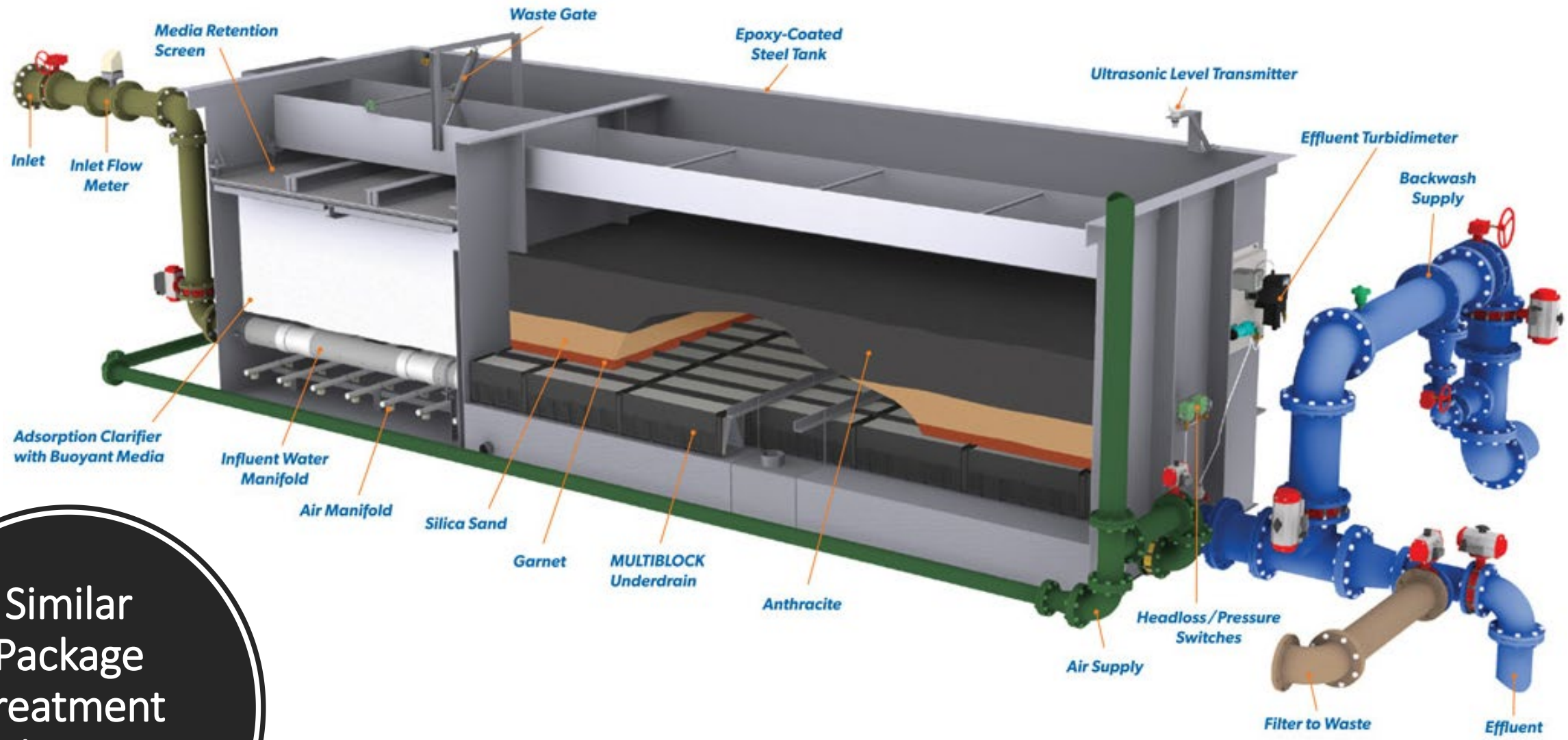
Hysham
WTP

Treatment Needs

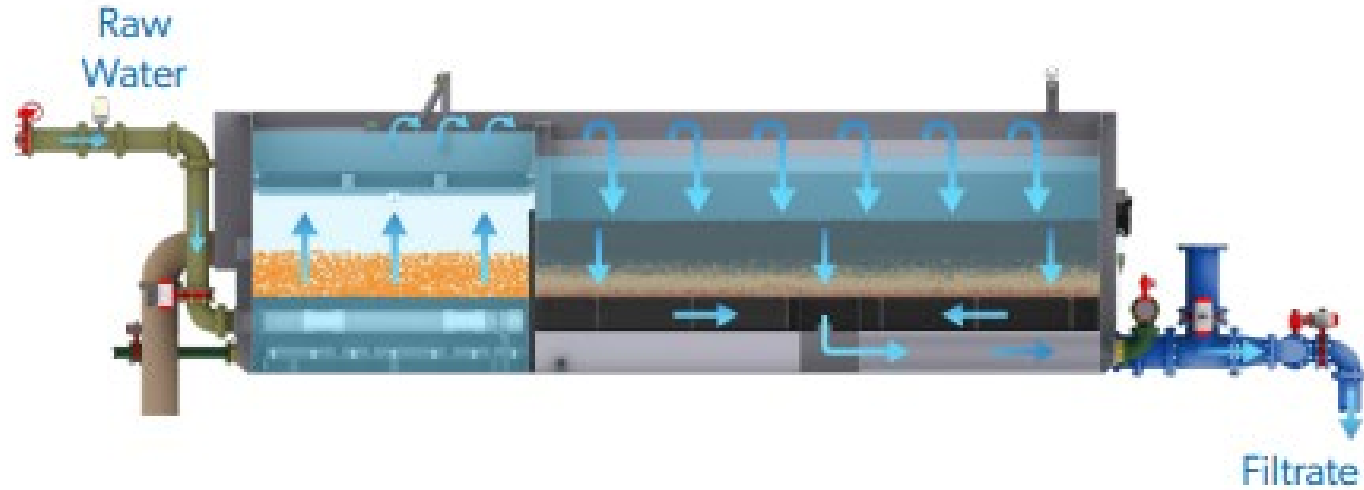
- **Surface Water Treatment Rule, includes:**
 - Giardia Lamblia/Virus/
Cryptosporidium Treatment
 - Turbidity limits
 - Microbial Disinfection
- **Hysham also provides (currently) optional manganese treatment**
- **Hysham's Past Violations:**
 - Not maintaining disinfection
 - Turbidity exceedances
 - All led to initial *Boil Advisory* which was later upgraded to the *Do Not Consume Advisory*



Similar
Package
Treatment
Plant to
Hysham



Filtration Mode



The treatment process is started when chemically dosed raw water enters the Adsorption Clarifier near the bottom of the tank where an upflow treatment process combines flocculation and clarification. From the Adsorption Clarifier, flow continues over a weir into the collection trough where it is distributed into the mixed media filtration chamber, after which it is collected by the MULTIBLOCK® underdrain with Laser Shield™ media retainer and exits the tank.

Treatment
Process



Adsorption Clarifier System

Trident systems use less coagulant and polymer than conventional settling type clarifiers. Within the Adsorption Clarifier system it is not necessary to form a settleable floc, which means floc size and settling time are not factors. The buoyant media is rolled and scarified to greatly improve particulate removal. The compressible fiber media is used to capture more solids. The buoyant and compressible fiber media are NSF-61 certified and typically will last the life of the system.

MULTIBLOCK

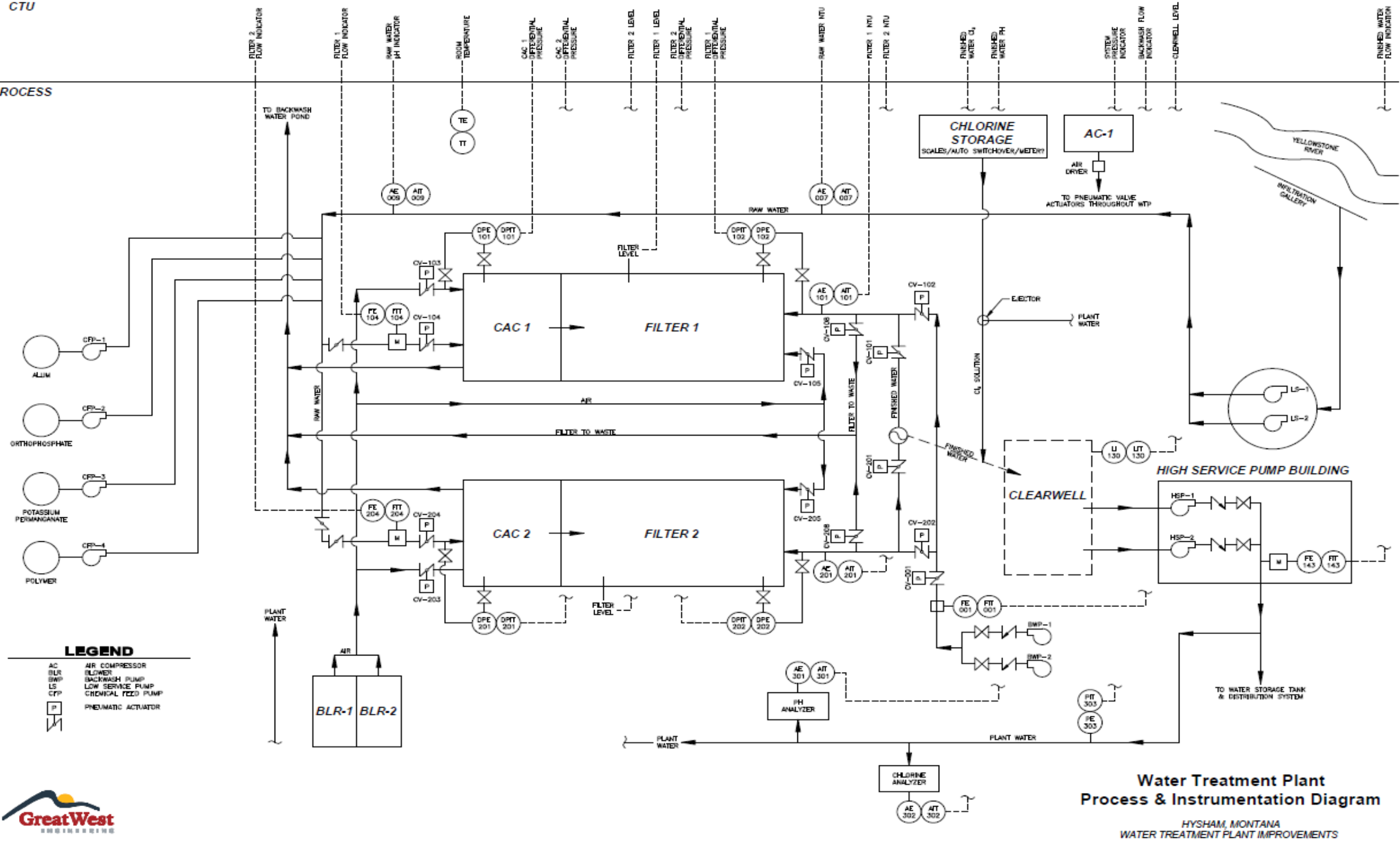
MULTIBLOCK underdrains provide a high-quality, low-cost, engineered product that is economical and versatile. MULTIBLOCK underdrains are fitted with the unique Laser Shield media retaining system that eliminates the need for support gravel. Combined air and water backwash is provided using this system.



Underdrain
System

PROCESS

Y:\Share\Utilities Projects\2-23102-701-Improvements\2-23102-701-Improvements\2-23102-701-IMP P&ID.dwg



LEGEND

- AC AIR COMPRESSOR
- BLR BLOWER
- BWP BACKWASH PUMP
- LS LOW SERVICE PUMP
- CFP CHEMICAL FEED PUMP
- P PNEUMATIC ACTUATOR



**Water Treatment Plant
Process & Instrumentation Diagram**

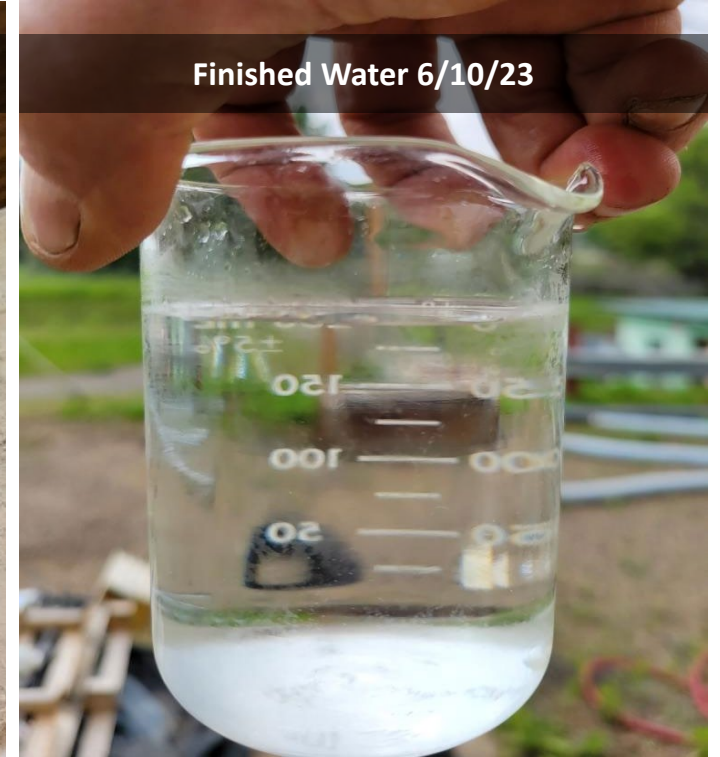
HYSHAM, MONTANA
WATER TREATMENT PLANT IMPROVEMENTS

Optimization of Water Treatment

Top of Filter 2/1/23



Finished Water 6/10/23



Jar Testing for Manganese Treatment on 2/16/23



Timeline of Major Milestones



DEQ Requirements for Full SWTR Compliance

- ★ 1. Rehabilitate Filter #2 – **Materials ordered, expected to arrive in August, construction in September**
- 2. Determining chemical feed rates - **Done**
- 3. Maintaining continuous disinfection and monitoring – **DEQ will be starting to review June data for this**
- 4. Installing a combined filter effluent turbidimeter – **Expected install date in August/September**
- 5. Submitting compliance reports within deadlines required to report to DEQ – **Done**
- ★ 6. Verification of level controllers and valve operation on filters – **Ongoing but will be tested and controlled with new SCADA improvements in August/September**
- 7. General housekeeping that provides sanitary conditions – **Done**
- ★ 8. Repairing or replacing SCADA equipment – **Expected in August/September**
- 9. Continuing to retain a certified operator – **Utilizing help of Forsyth now with Hysham personnel working on certification**
- 10. A timeline for implementation of the Plan - **Completed**

When will the *Do Not Consume Advisory* be removed?



After consistent for 30-60 days, will consider downgrading to either:

- Boil Advisory, or maybe
- Health Advisory



DEQ to start monitoring treatment logs for June



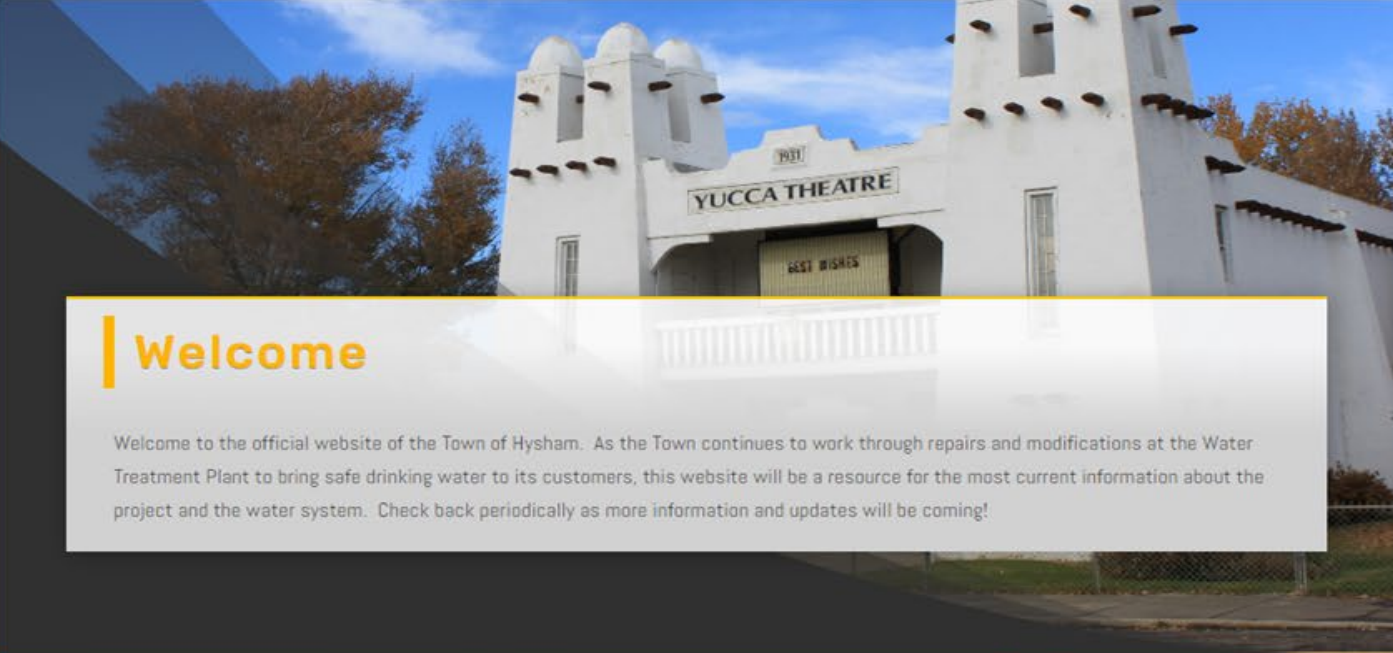
DEQ has advised that they err on the side of more conservative for advisories to:

- Better protect public health
- Limit frustration and confusion
- Help facilitate trust

Check the Town's new website for updates: townofhysham.com



- HOME
- WATER TREATMENT NEWS
- PUBLIC MEETINGS & EVENTS



Welcome

Welcome to the official website of the Town of Hysham. As the Town continues to work through repairs and modifications at the Water Treatment Plant to bring safe drinking water to its customers, this website will be a resource for the most current information about the project and the water system. Check back periodically as more information and updates will be coming!



Latest Water Treatment Updates

View the latest information and updates about the project and the water system.

[See the Latest Updates](#)



Attend A Meeting

Your participation is crucial to develop a Plan that will serve the City and its residents. Find out when the next public meeting is scheduled. See the full calendar.

[See the Full Calendar](#)



Questions?

**Water/Wastewater ▪ Transportation ▪ Grant Services ▪ Solid Waste ▪
Structural ▪ Bridges ▪ Natural Resources ▪ Planning**

BILLINGS

6780 Trade Center Avenue
Billings, MT 59101
Phone (406) 652-5000

BOISE

3050 N. Lakeharbor Lane,
Suite 201
Boise, ID 83703
Phone (208) 576-6646

GREAT FALLS

702 2nd Street South #2
Great Falls, MT 59405
Phone (406) 952-1109

HELENA

2501 Belt View Drive
Helena, MT 59604
Phone (406) 449-8627
Fax (406) 449-8631

SPOKANE

9221 N. Division St.,
Suite F
Spokane, WA 99218
Phone (509) 413-1430

