



MEMORANDUM

Date: February 28, 2023

To: Larry Fink, Mayor – Town of Hysham, Montana

From: Crystal Bennett, PE and Chad E. Hanson, PE

Subject: Update to WTP Technical Memorandum for Coal Board Application

Allied Engineering Services, Inc. completed a Technical Memorandum for the Town to identify necessary upgrades and improvements to the water treatment plant and to provide planning level cost estimates. The final version of the memorandum is dated December 19, 2022 and was utilized by the Town to complete an ARPA Minimum Allocation Grant application.

The Technical Memorandum identified the following “critical items” that the Town needs to address.

- Rehabilitate CAC/Multi-media Filter Unit
- SCADA Software and Control Upgrades
- Phase I PER
- Replace Water Treatment Building Roof
- Phase II PER
- Other Smaller Items (e.g., backup pump and backup air compressor)

Cost estimates for these items were developed and included in the Technical Memorandum as Alternative #1. The total estimated cost for Alternative #1 was \$373,507, which exceeded the Town’s available ARPA funding. Consequently, Alternative #2 was developed in the Technical Memorandum and only included the highest priority concerns that could be completed within the Town’s available ARPA funds totaling \$154,507.

The Technical Memorandum did state:

However, it is recommended that the Town of Hysham pursue additional grant funding to make the other repairs as outlined in Alternative # 1 which would include replacement of the water treatment system building roof, complete a Phase II PER, and make other ancillary upgrades (e.g., backup pump and backup compressor).

Subsequent to the Technical Memorandum being completed, the Town's water distribution system lost pressure, and the entire municipal water system was placed under a boil order by the Montana Department of Environmental Quality (DEQ) on December 22, 2019. The Town immediately began working with the DEQ, local Department of Emergency Services (DES), and other relevant agencies to address the concerns and the boil order.

The Town was provided a *List for the Treatment Plant at the Town of Hysham (based on list of 90 day priorities given to the town)* by the DEQ on January 23, 2023. The List is included in Appendix A for reference. The List includes "General housekeeping that provides sanitary conditions" and specifically suggests the plant roof be replaced or repaired by July 1, 2024. The DEQ requirements have significantly accelerated the proposed schedule and urgency of the necessary repairs to the roof.

The following sections further define the outstanding needs of the Town's water treatment plant and potential funding sources to complete the improvements within the recommended timeframe.

Outstanding Needs

Items included in the cost estimate for Alternative #1 in the Technical Memorandum that were not included in Alternative #2 are:

- Replace Water Treatment Building Roof
- Phase II PER
- Other Smaller Items (e.g., backup pump and backup air compressor)

Cost estimates from the Technical Memorandum for items not included in Alternative #2 are summarized in Table 1. The following subsections provide more detail on each item and the related health and safety concerns.

Table 1: Cost Estimate of Items Not Included in Alternative #2

ITEM	QTY	UNITS	UNIT PRICE	TOTAL
Replace Water Treatment Building Roof	1	LSM	\$ 125,000	\$ 125,000
Misc. Smaller Items	1	LSM	\$ 15,000	\$ 15,000
Construction Subtotal				\$ 140,000
Contingency		15%		\$ 21,000
Phase II PER				\$ 30,000
Engineering Design & Permitting		10%		\$ 14,000
Construction Inspection & Oversight		10%		\$ 14,000
TOTAL				\$ 219,000

Water Treatment Plant Roof

The Montana DEQ completed a sanitary survey of the Town’s municipal water system on May 12, 2022. The survey noted several concerns with the system and provided recommendations. Specific to the treatment plant roof, the DEQ recommendations included the following statement.

The roof of the water treatment plant was leaking into the CAC units. This poses a significant risk to the town's drinking water. Rainwater leaking into the open top of the CAC units is a major concern because it can result in contamination from bird droppings and other contaminants. It is recommended that the roof is repaired.

In addition to concerns with rainwater and bird droppings entering the open filter units from the leaking roof, the agricultural fields next to the treatment plant regularly receive aerial applications of fertilizer, herbicides, and pesticides. These airborne components can travel significant distances in the wind and also pose a contamination threat to the Town’s water system until the roof is repaired or replaced.

As described in the introduction, the List prepared by the DEQ for the Town to address concerns with the water system and the boil order suggested the roof be repaired or replaced by July 1, 2024. The Town will need to begin work on the roof in 2023 to meet the proposed deadline given recent difficulties in finding contractors and delays in receiving materials.

Phase II PER

The Technical Memorandum noted recommendations from the DEQ, Department of Natural Resources (DNRC), and Department of Commerce (DOC) that the Town would benefit from completing a comprehensive preliminary engineering report (PER) to assess the condition and long-term needs of the Town’s entire municipal water system. The Technical Memorandum proposed developing the PER in two phases. Phase I would focus on immediate, short-term needs at the water treatment plant and was included

in Alternative #2 to take advantage of available ARPA funding. The Phase II PER would expand the PER to analyze the distribution system, storage, and other components of the water system. The combined PER should also evaluate the long-term viability of such a small community continuing the operation and maintenance of mechanical treatment plant against other treatment and/or source options.

Misc. Smaller Items

This item was included in the Technical Memorandum to provide a backup pump and air compressor at the treatment plant in addition to other minor maintenance items.

Potential Funding Sources

The Town has very limited resources and is already carrying significant debt from previous water and sewer projects. Consequently, there is not practical way the Town can complete the required repairs to the treatment plant without grant assistance.

Discussions with DNRC staff members indicate the roof repair or replacement at the treatment plant would be considered maintenance and would therefore be ineligible for ARPA funding. Even if the repairs could be funded with ARPA funds, the Town has leveraged all of its available Local Fiscal Recovery Funds and Minimum Allocation Grant funds to complete the higher priority items identified in the Technical Memorandum as Alternative #2.

The DEQ suggested deadline of July 1, 2024 for the roof repairs eliminates the possibility of the Town pursuing grant funding through the Montana Coal Endowment Program (MCEP) or the DNRC's Renewable Resources Grant and Loan Program (RRGL) as the next cycle of those grants won't be awarded until 2025. The exception would be the Phase II PER as both MCEP and RRGL typically have separate planning grants to help fund the development of comprehensive PERs, and the DEQ did not stipulate a deadline for the completion of the PER.

The Montana Coal Board offers an opportunity for the Town to complete the required repairs to the roof and other miscellaneous small items well within the DEQ suggested timeframe. As noted above, other funding sources are available for the Phase II PER, so the recommended project for Coal Board funding would not include this item. Table 2 summarizes the proposed Coal Board funded project to assist the Town in bringing the treatment plant back into DEQ compliance.

It should be noted that the proposed Coal Board project appears to be solely funded by the Coal Board. However, the roof repairs are a phase of a much larger project, and the Town has committed all of its available Local Fiscal Recovery Funds and Minimum Allocation Grant through ARPA toward the project (\$154,507). The Town will most likely need to consider additional low interest loans to complete long-term improvements to the water system once the PER is completed and still needs to complete Phase 2 of the wastewater system improvements.

Table 2: Proposed Coal Board Project

ITEM	QTY	UNITS	UNIT PRICE	TOTAL
Replace Water Treatment Building Roof	1	LSM	\$ 125,000	\$ 125,000
Misc. Smaller Items	1	LSM	\$ 15,000	\$ 15,000
Construction Subtotal				\$ 140,000
Contingency		15%		\$ 21,000
Engineering Design & Permitting		10%		\$ 14,000
Construction Inspection & Oversight		10%		\$ 14,000
TOTAL				\$ 189,000