

CASE STUDY: Helena & Opheim, Montana Potable Water Storage



Application:	Elevated Potable Water Storage	
Location:	Helena, MT	Opheim, MT
Facility:	Montana Law Enforcement Academy	Town of Opheim
Design Engineer:	Anderson Montgomery Consulting Engineers	Great West Engineering
Capacity:	60,000 gal WST – each	
Mixing Efficiency:	≈ 0.03 hp/1000 gallons – each	
Compressor:	One (1) Atlas Copco SF1 2 HP Scroll Compressor – each	

AquaBlend Potable Water Mixing Selected as Best Solution for two Montana Locations

Elevated potable water storage tanks are designed to provide a sufficient quantity of water for peak demand and fire flow, and to maintain relatively constant pressure in the distribution system. At the Montana Law Enforcement Academy in Helena, and 400 miles to the east in the town of Opheim, these were everyday needs.

Due to the size of the storage tanks at these locations and the daily demands for potable water, the level of water in these storage tanks did not fluctuate significantly, resulting in stagnation, temperature gradients, and disinfection byproduct formation. Moreover, low ambient temperatures that fall well below zero are commonplace which resulted in freezing of the standpipe, preventing water flow.

In 2015, both facilities selected EnviroMix's AquaBlend Potable Water Mixing System for their elevated water storage tanks, ensuring high quality water is provided by homogenizing the tank contents, minimizing the amount of residual disinfectant needed, and providing freeze protection to ensure uninterrupted water flow. They also reduced maintenance expenses, compared to other available technologies, as the system requires zero in-tank maintenance and the compressor is easily accessible.



ENERGY EFFICIENCY

Uniformly mixes at <
0.03 hp/1000 gallons
of tank volume



STRAIGHTFORWARD OPERATION

Compressor in easily
accessed location

Zero in-tank
maintenance



PROCESS OPTIMIZATION

System provides
homogeneity using
purified air as
opposed to simply
stirring



UNPARALLELED FLEXIBILITY

Adjustable mixing
intensity produces
optimal results using
minimal energy



The elevated water storage tank at the Montana Law Enforcement Academy in Helena, MT.



The easily accessible compressor in Opheim, MT.

AquaBlend
uniformly mixes
potable water
storage tanks,
preventing
stagnation and
providing freeze
protection.

AquaBlend Potable Water Mixing Systems provide mixing of potable water treatment process basins and water storage tanks using medical-grade compressed air. AquaBlend prevents stagnation and provides freeze protection in elevated and ground water storage tanks.

The AquaBlend systems in Helena and Opheim were similarly designed with a single bubble-forming nozzle located in the base of the standpipe, eliminating the need to install a mixing device in the spheroid and eliminating any in-tank maintenance requirements. Mixing air was provided with a 2 hp scroll compressor producing purified air, thereby ensuring water quality is not impacted.

Offering numerous benefits in elevated and ground potable water storage tanks, AquaBlend:

- Provides continuous liquid movement even during periods of no water use
- Prevents freezing and stagnation
- Delivers homogenization of tank contents
- Eliminates in-tank maintenance
- Provides greater efficiency than mechanical mixers
- Reduces DBP formation
- Eliminates thermal stratification



Contact sales@enviro-mix.com today to discuss the ways EnviroMix can help optimize your mixing solutions.