

**PLAINFIELD WASTEWATER  
POST JULY 2023 FLOOD  
TREATMENT PLANT ASSESSMENT  
WASHINGTON COUNTY,  
VERMONT**

**NPDES PERMIT NUMBER VT0100781  
STATE OF VERMONT PERMIT NUMBER 3-0381**

**November 6th, 2023**

This report was prepared based on observations made during a July 19, 2023, site visit by Aaron Krymkowski, VT DEC, WSMD, WWMP in conjunction with Army Corps of Engineers and US EPA Region 1 representatives.

## **REPORT LIMITATIONS**

This report was prepared from visual observations and operator conversations during site visits. No testing of equipment or measuring of components was performed.

## **MAIN PLANT**

### **FACILITY DESCRIPTION**

The facility is an SBR type treatment plant with a capacity of 125,000 GPD. Flow enters and flows through the entire plant by gravity. The headworks consists of an automatic bar screen. Final disinfection is by ultraviolet (UV) disinfection. A coagulant is added to the SBR for phosphorous control. Sludge is pumped from the SBR's to a holding tank. The main plant building houses blowers and sludge pumps.

### **OBSERVATIONS**

The operator reported the plant was fully operational. High flows during the flood event caused minor high water in the UV area due to the high river level and backwater through the effluent pipe. The water level did not reach electronics or cause any obvious damage.

## **RECOMMENDATIONS**

### **SHORT TERM**

- An appreciable amount of grit and sediment from the upstream collection system inundation was likely conveyed into the plant. SBR tanks should be checked for grit build up and removed if found. Sludge pump performance should be checked for accelerated wear. Replace or recondition if found.

### **LONG TERM**

Long term recommendations to potentially mitigate future flooding impacts include:

- The operator was able to close influent valves to prevent excessive flows from inundating the plant. This action likely saved UV equipment from damage and prevented a process upset. Adding automation and influent valve actuators could provide similar protection if high water events happen during un-manned hours.
- The road to the plant became submerged. The operator was present and moved records, tools, and the municipal truck offsite to high ground. Raising the road would allow vehicle access during high flows.

- Consider portable or fixed pumps to allow discharge of effluent if gravity flows no longer possible.
- A manhole immediately downstream of the plant was completely submerged and buried in silt. Adding a riser section to the manhole could reduce the chances of it being buried in the future.
- High water levels prevented inspection of the outfall pipe. Possible re-routing the pipe downstream to a lower elevation, with the outlet pointing downstream, nearly parallel to the flow may minimize future backwater flooding of the UV channel.
- Consider adding backflow prevention to the outfall pipe.
- Consider moving the outfall pipe location entirely. The Wastewater Program would need to be consulted as it would involve a change to the direct discharge permit.

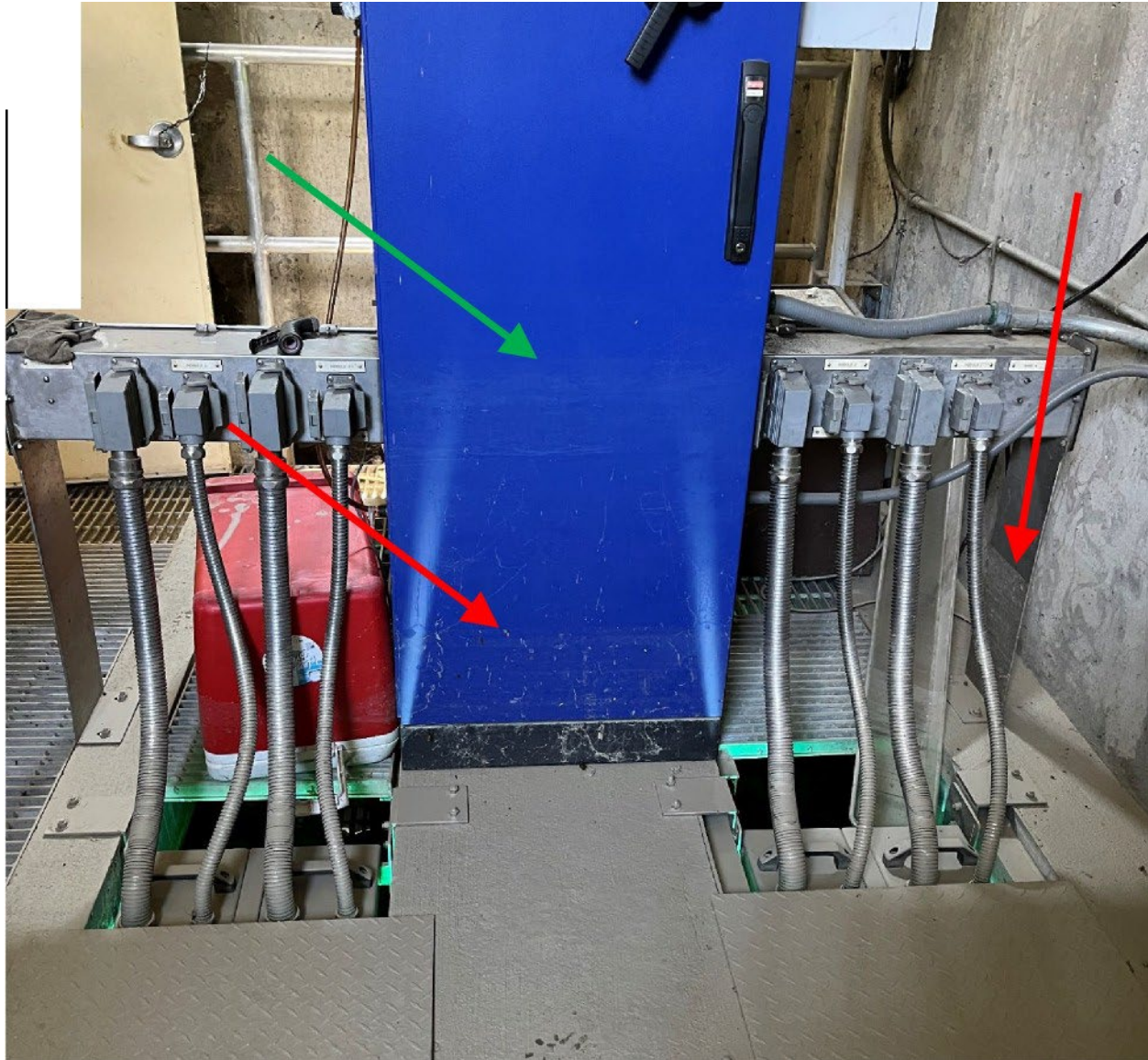
**PHOTOS**



**Plant entrance**



Pump room



**UV System. Recent high-water marks in red, historical high-water mark in green,**