Organizational Development

Water Treatment Facility Updates

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DEPARTMENT OF
PUBLIC
UTILITIES

HNTB Report

Recommendation	Status/Completion Date
Operate the WTP in Summer Mode.	Complete
Develop a Bus Tie/ATS failure plan; ensure all electrical staff are trained on plan and clearly display the plan.	Complete All SOPs – June 2025
Review staffing plans for plants for storm events.	Complete Reassess - November 2025
Provide filter effluent valve UPS one hour runtime, test to ensure they work, program to close all at once, and have backup UPSs or generators.	Complete Complete November 2025
Install SCADA UPS with minimum runtime of one hour.	Complete
Change Plant 1 to match Plant 2 program for effluent valve closure.	Complete
Develop SOP for operators to manually shut down SCADA system.	All SOPs - June 2025

HNTB Report

Recommendation	Status/Completion Date
Verify filter effluent valves fail safe positions are set to close.	Complete
Add clearwell high level floats that signal control system to override filter effluent valve commands to close the valves.	Coordination with filter improvement project Design May 2025 Construction Fall 2025
Install visual indicators of filter effluent valve positions with remote open/close switches.	Coordination with filter improvement project Design May 2025 Construction Fall 2025
Review and re-evaluate organizational structure.	Complete
Develop written SOPs	June 2025

HNTB Report

Recommendation	Status/Completion Date
Develop standard agenda for start of shift or shift change meeting.	June 2025
Implement seasonal risk assessments.	RRA – Complete June 2025
Install visual indicators of filter effluent valve positions with remote open/close switches.	Coordination with filter improvement project Design May 2025 Construction Fall 2025
Review and re-evaluate organizational structure.	Complete
Develop standard agenda for start of shift or shift change meeting.	June 2025
Implement reoccurring formal training for WTP management staff.	June 2025

HNTB Report

Recommendation	Status/Completion Date
Review safety program.	Complete
Expand DPU Emergency Operations Manual to include scenario-specific and process specific actions for plant to staff to follow.	December 2025
Develop an emergency staffing plan for DPU facilities.	Complete
Evaluate existing Master Plan, Capital Improvement Plan, and other planning efforts for WTP.	Initial Review – Complete Review again – July 2025
Perform a holistic review of the planning, engineering, and procurement process for capital projects within DPU.	Complete Central tracking – June 2025
Develop crisis communication plan.	Draft Complete Final May 2025

HNTB Report

Recommendation	Status/Completion Date
Develop clear protocols for communication with external stakeholders.	Draft - Complete Final – May 2025
Install dewatering pumps with flow rate of 3,000 gpm to 6,000 gpm.	March 2026
Review staffing plan.	Complete
Raise as many critical electrical systems above the plant basement as practical.	Ongoing
Provide automatic transfer system for the existing backup generator.	November 2025
Seal clearwells as much as possible.	Coordination with filter improvement project Design May 2025 Construction Fall 2025

HNTB Report

Recommendation	Status/Completion Date
Restructure PM schedule to reduce PPM overlap for same set of assets.	June 2025
Develop and implement an asset management plan.	June 2025 Ongoing

VDH Sanitary Survey

Observation	Status/Completion Date
Raw water meters were unreliable and can not be used to flow pace coagulant dosage through SCADA. Currently dosages are manually calculated utilizing filter flow rates and dosages adjusted manually.	Meter ordered, expected delivery July 2025 Need low demand to take Plant 2 offline, estimate timeframe for installation November 2025
Filter No. 6 appeared to have an active leak through the concrete in the filter pipe gallery.	Estimated repair date May 8
There appeared to be an active leak in the pipe gallery.	Estimated repair date May 8

VDH Sanitary Survey

Observation	Status/Completion Date
One pump was out of service and removed from its pedestal. A significant leak was observed coming from the isolation valve body (with a mat appearing to divert water away from an electrical box) and through the temporary cover plate. The check valve needs to be investigated, as do the gate valve and cover plate.	Pump is being replaced. Waste Pump #2: Isolation valve leak repaired, complete installation by 5/2/25

VDH Sanitary Survey

Observation	Status/Completion Date
Sanitary sewage storage tanks housed in filter gallery area with no secondary containment. Raw sewage could potentially enter the clearwell through access hatches and penetrations into the clearwell if the sanitary sewage storage tank failed without secondary containment.	Secondary containment work complete, additional coating to be installed

VDH Sanitary Survey

Observation	Status/Completion Date
No overflow piping observed for Plant 1 or Plant 2 filtered water clearwell. This means there is no ability to route overflowing clearwell water away from flooding the pipe gallery area. When water in the clearwell reaches overflow levels, water floods the pipe gallery area through the clearwell vents and other pipe penetrations and access hatches and bolted covers. It is likely that a portion of this water migrates back into the clearwell, along with potential contamination from the floor and pumping equipment. This is a potential cross connection that should be mitigated by minimizing flooding events in the pipe gallery and keeping the area clean. COR should conduct an engineering evaluation to determine if sealing of pipe penetrations, access hatches, and other means of entry into the clearwell is advisable.	Evaluating with contractual engineers - TBD

VDH Sanitary Survey

Observation	Status/Completion Date
The walkway on Plant 2 at the end of the basin did not appear to have a solid base beneath the grating, allowing dirt to fall directly into the finished water from shoes, etc. A solid base should be installed beneath the grating. Scum was observed in the water at the end of the aeration basins. The source of the scum should be investigated and addressed.	Identified fiberglass plate as ideal solution, installation expected over the next several weeks
A piece of wood is supporting an altitude valve where a concrete support is heavily deteriorated. The wood and concrete support are not adequate, and a more permanent repair should be made. Damage to the valve or associated piping may impair tank operations.	Complete

VDH Sanitary Survey

Observation	Status/Completion Date
Several tanks equipped with overflows that were piped to stormwater drains and sanitary sewer with no knowledge of backflow prevention provided. COR should investigate connection and determine degree of hazard and provide appropriate protection.	Reviewing yard piping drawings and investigate / tech memo in progress for backflow prevention requirements
The April 2023 tank inspection reported observed heavy chalking and areas of corrosion on the roof of both the Woodside Road Tank and the Warwick Road Tank. At the Woodside Road Tank, rubber gaskets on the access ports were deteriorated and allowed the surface water to enter the tank. Areas of light were observed in the roof from the remotely operated vehicles used to conduct interior tank inspections. There are potential conduits of surface water and contamination into the potable water in the storage tank.	These projects are in design currently, potential rehabilitation starting in fiscal 2027

VDH Sanitary Survey

Observation	Status/Completion Date
There are various pumps, valves, piping, and other equipment that appear to have severe corrosion that may result in failure of the critical infrastructure. COR should conduct a condition assessment.	Have requested replacement cost from manufacturers to evaluate with refurbish cost to determine best option

VDH Sanitary Survey

Observation	Status/Completion Date
Hach turbidimeters (FilterTrak 660sc and 1720E) appear to be obsolete by the company, making it harder to obtain parts for maintenance and repair. System should investigate replacement of units as they reach end of life. Some turbidimeters appeared to be replaced with Rosemount Clarity II turbidimeters which appear to still be supported, but do not comply with EPA method 180.1 or other approved analytical methods listed in 40 CFR Parts 141 and 143 and should be replaced with EPA compliant versions of the turbidimeters. Standardization of equipment would help with keeping spare parts.	Rosemount Clarity II has been confirmed to be compliant. WTP has identified replacement units and in process of obtaining proposals

VDH Sanitary Survey

Summary of Remaining Observations	Status/Completion Date
The Sanitary Survey Report developed by the Richmond Field Office (RFO), must be addressed to include the 12 significant deficiencies in a Corrective Action Plan (CAP).	12 in review/progress
25 Minor deficiencies	13 in review/progress
51 Recommendations	0 in review/progress

EPA's 2022 Report/VDH follow-up

Summary of Remaining Observations	Status/Completion Date
44 areas of concern identified by EPA.	31 of 44 need follow-up 10 of 44 fully addressed 3 of 44 not addressed
46 Observations.	20 of 46 need follow-up 14 of 46 fully addressed 12 of 46 not addressed