U.S. DEPARTMENT OF ENERGY | OFFICE OF ENVIRONMENTAL MANAGEMENT

Main Plant Process Building Demolition Water Management

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Presentation Overview

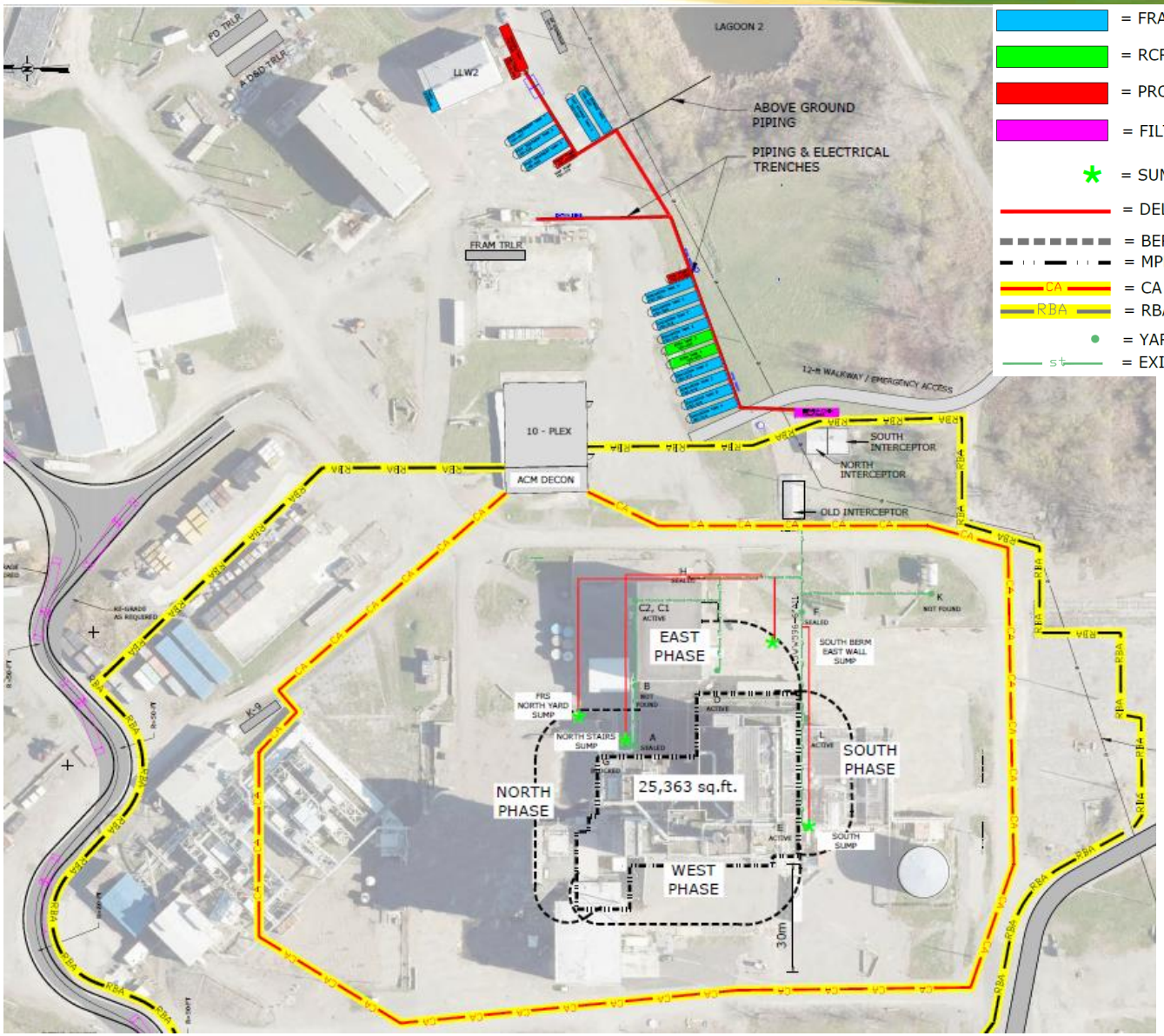
- Describe overall water management approach and categories of water being addressed
  - Demolition water (managed as “process” water)
  - Storm water
- Provide an overview of collection, sampling, and processing systems for demolition water
- Summarize requirements and standards for surface and stormwater protection
- Discuss processes in place for protection of storm water
- Summarize surface and stormwater monitoring to verify safe and protective site discharges

Demolition Water Management

Objective

WVDP's approach to managing process and storm waters is a critical element of safe and environmentally protective demolition of the Main Plant Process Building (MPPB). The approach includes processes for collecting potentially contaminated waters for sampling and treatment prior to disposition, as well as performing inspections, surveys, sampling and analysis to verify that surface and storm water discharges are safe, protective, and compliant.

Water Management Overview



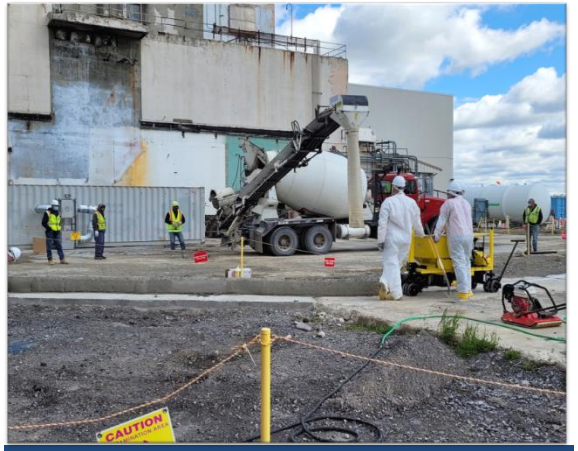
Water Management Overview (Cont.)

- Management of demolition waters:
  - Demolition water is water that is collected within the demolition work area, to include water used for dust suppression and precipitation that falls within the work area
  - Demolition water is collected, sampled/analyzed and treated as process water, prior to release through permitted discharge point (or "outfall")
- Storm water pollution prevention:
  - The Storm Water Pollution Prevention Plan (SWPPP) has been modified specifically to address MPPB demolition and provided to the New York State Department of Environmental Conservation (NYSDEC) for review/input
  - SWPPP includes inspections, surveys, and monitoring to evaluate potential contamination migration outside the demolition water collection area
  - Processes are in place to monitor on-site storm water drainage locations (outside the demolition water collection area), prior to off-site discharge

Approach complements other important contamination control features discussed in the November 2020 and February 2021 QPMs (active management of the demolition area, managing debris piles, work pause during severe weather, continuous monitoring, etc.).

Demolition Water Management

- Water within the demolition area is collected
  - Protective barriers (or "berms") are being installed to create a collection area in the immediate vicinity of the demolition area
  - Storm water drains located within the demolition area will be sealed
  - Sumps installed to support water transfers to the site's North Interceptor and then to collection tanks
- Collected water is transferred to on-site collection areas for sampling and analysis
  - System is sized for water suppression volumes and precipitation
  - Additional tankage is being installed to support anticipated water volumes

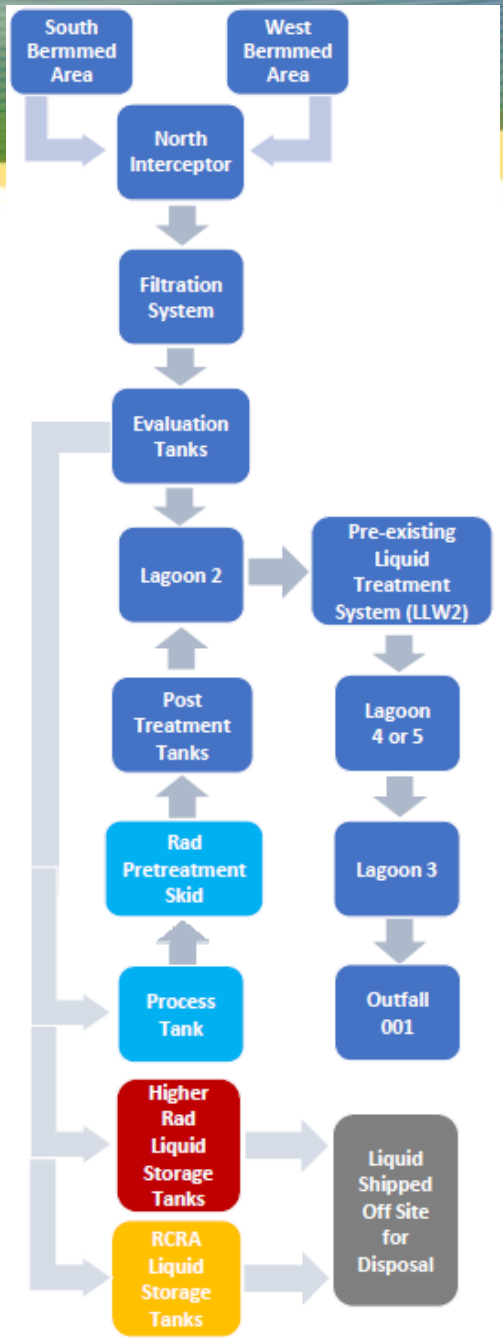


Constructing a berm

Water Management System construction

Demolition Water Management (Cont.)

- Collected water is characterized for radiological and hazardous material parameters to determine appropriate disposition path:
  - Transferred for processing and eventual release through WVDP's permitted discharge point, or
  - Transferred for additional pre-treatment for elevated radionuclide levels, through a newly-installed pre-treatment skid, or
  - Shipped off-site for treatment and disposal if water exceeds thresholds for hazardous waste or radiological constituents
- Trained and qualified operators will provide dedicated coverage to water management operations (24 hours per day/7 days per week)



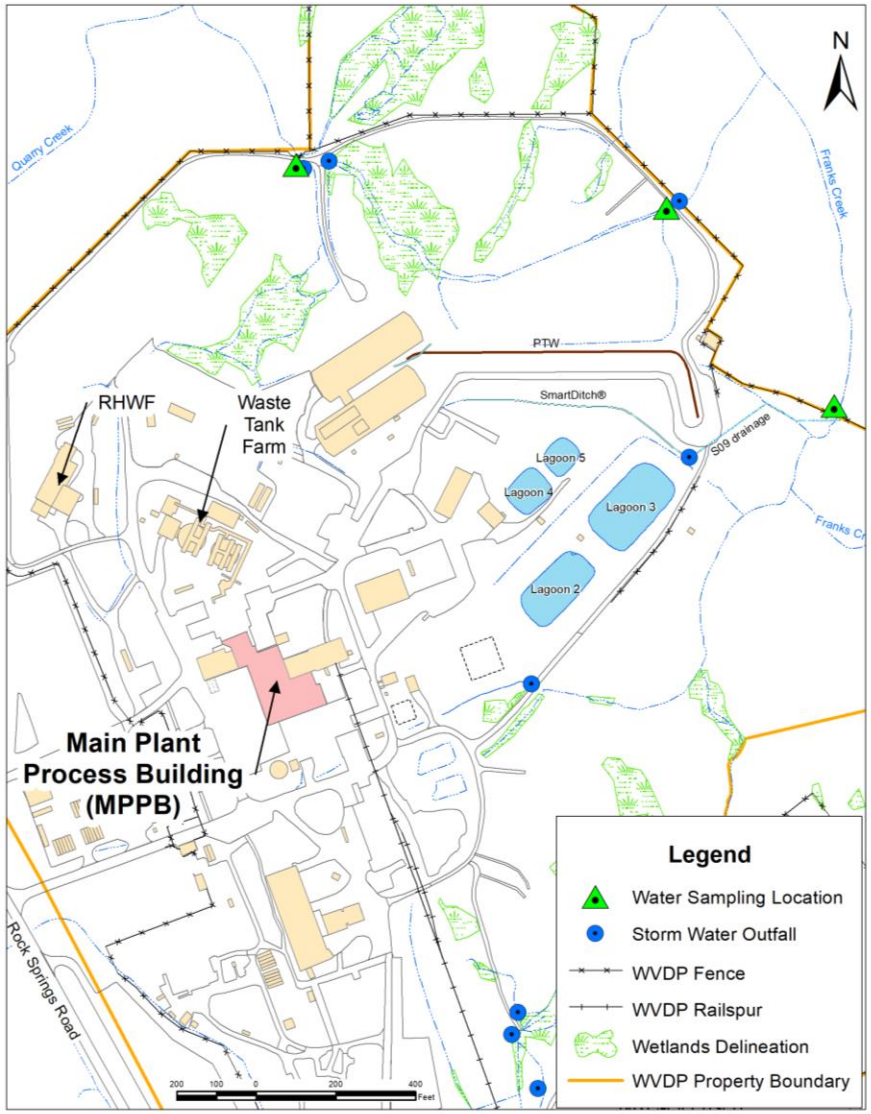
Requirements and Standards for Surface and Storm Water Protection

- DOE Order 458.1, *Radiation Protection of the Public and the Environment*
  - Includes standards for liquid discharges from DOE operations/facilities
  - Requires environmental sampling and analysis to verify discharges are protective
- Clean Water Act
  - WVDP water discharges are regulated by the New York State Department of Environmental Conservation (NYSDEC)
  - NYSDEC issues permits under their State Pollutant Discharge Elimination System (SPDES) regulations
  - Requirements and standards for site discharges (for both radiological and non-radiological parameters) are specified in WVDP's SPDES Permit

WVDP has coordinated with NYSDEC, using lessons learned and experience gained from demolition of the Vitrification Facility, to develop the MPPB water management approach, which has been incorporated in the SWPPP.

Storm Water Protection

- Site storm water runoff to surface water courses is sampled continuously (composite samples are collected and analyzed bi-weekly from 3 site permitted discharge points)
- Storm water drainages are sampled during storm events on a semi-annual basis



Storm Water Protection (Cont.)

- WVDP's trained and qualified radiological controls personnel will continuously monitor and survey site conditions during demolition
- WVDP's Storm Water Pollution Prevention Plan requires specific action to be taken in the event of unexpected conditions, e.g.:
  - Continuous Air Monitor alarm or area surveys indicate the potential for radiological contamination outside the demolition area
  - Potential spills or releases outside the demolition area
- Actions taken would include
  - Comprehensive radiological surveys to determine location, type, and extent of any potential elevated readings
  - Removal and containment of contamination to minimize potential for migration
  - Sampling of storm water drainages and SPDES-permitted discharge points to verify off-site releases remain within discharge standards

Summary

- WVDP has developed systems and processes for safe and compliant management of water during MPPB demolition
- The systems and processes are designed to
  - Collect potentially contaminated water within the demolition area
  - Store potentially contaminated water for sampling and analysis to determine appropriate disposition based on sample analysis
  - Inspect, monitor, and survey throughout demolition operations to identify and contain any unexpected contamination migration outside the containment area
  - Perform confirmatory surveys and storm water sampling/analysis to validate that all liquid discharges to surface water courses remain protective and compliant