Fort George G. Meade

Operable Unit No. 4
Update on Interim Remedies

Restoration Advisory Board Meeting
November 21, 2013

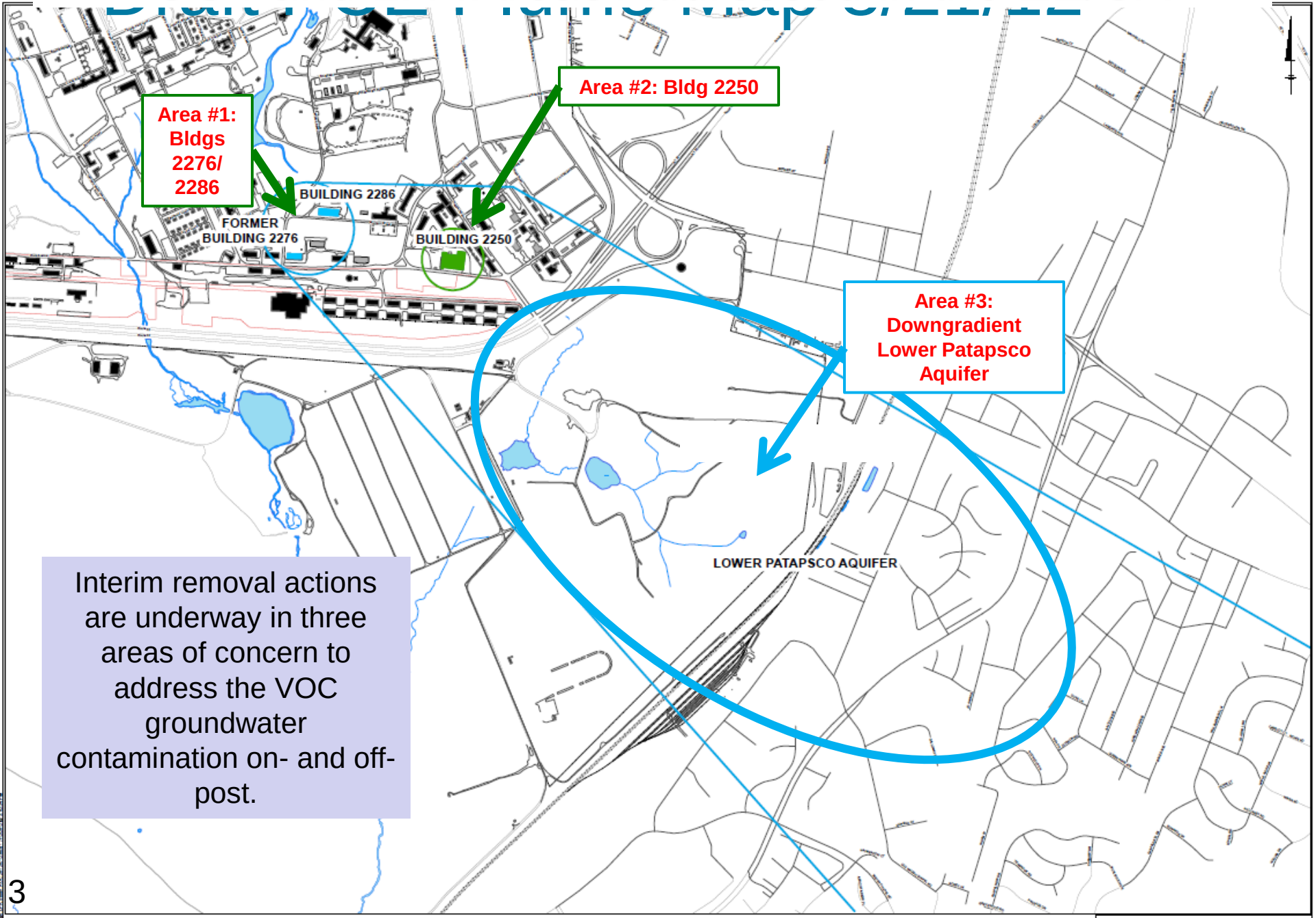
Operable Unit-4 & LPA

TOPICS

Updates on the installation of 3 OU-4 groundwater remedies:

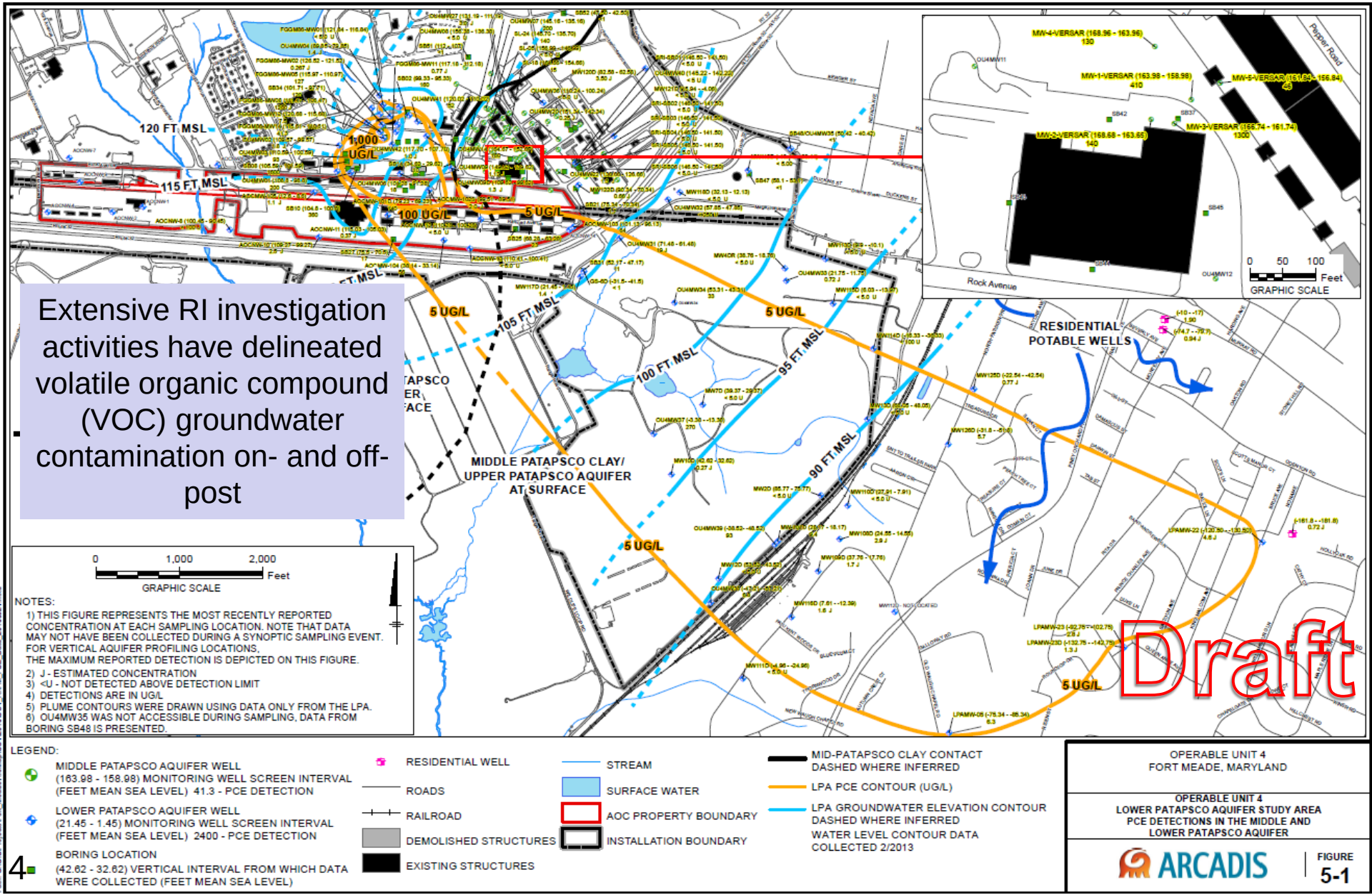
- Buildings 2276/2286 Interim Remedy
- Building 2250 Interim Remedy
- Lower Patapsco Aquifer Interim Remedy

OU4 and LPA Areas Addressed in the EE/CA

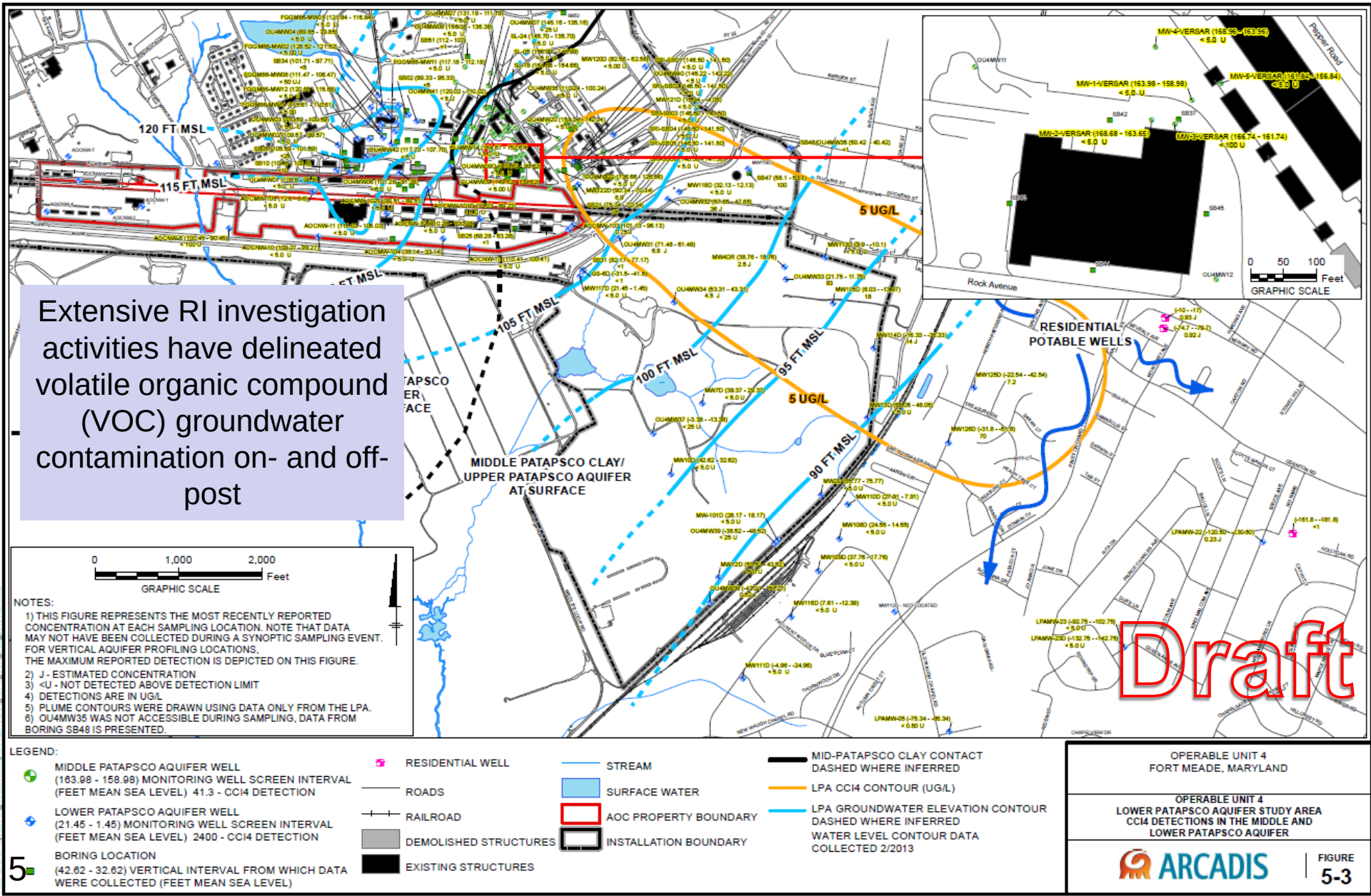


Interim removal actions are underway in three areas of concern to address the VOC groundwater contamination on- and off-post.

Tetrachloroethene (PCE) Plume

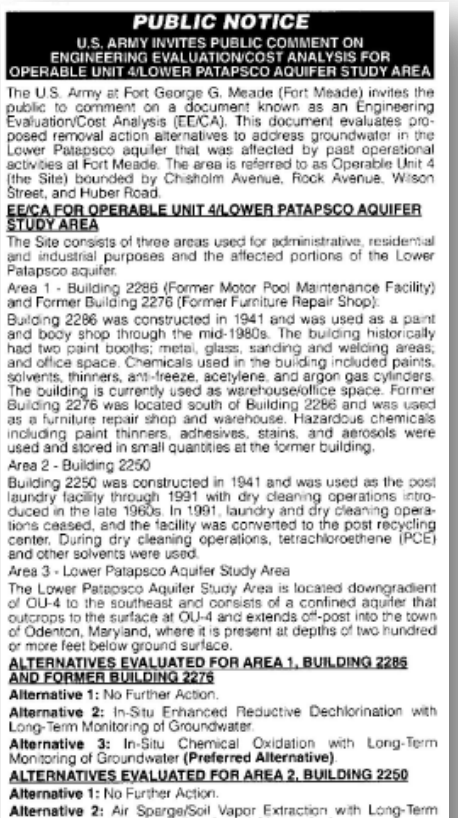


Carbon Tetrachloride (CCl_4) Plume



OU4 Interim Removal Action Work Plan Timeline

- The Army submitted a Draft EE/CA (Engineering Evaluation/Cost Analysis) to EPA, MDE, AOC and the RAB in December 2012.
- The EECA recommended proceeding with expedited remedial actions at three areas:
  - Area 1: Building 2286/2276
  - Area 2: Building 2250
  - Area 3: Downgradient LPA Study Area
- Draft Work Plan submitted to EPA, MDE, AOC, and the RAB in June 2013.
- Public notice for interim remedies published in the Capital newspaper in September 2013 with 30-day comment period.



PUBLIC NOTICE

U.S. ARMY INVITES PUBLIC COMMENT ON ENGINEERING EVALUATION/COST ANALYSIS FOR OPERABLE UNIT 4/LOWER PATAPSCO AQUIFER STUDY AREA

The U.S. Army at Fort George G. Meade (Fort Meade) invites the public to comment on a document known as an Engineering Evaluation/Cost Analysis (EE/CA). This document evaluates proposed removal action alternatives to address groundwater in the Lower Patapsco aquifer that was affected by past operational activities at Fort Meade. The area is referred to as Operable Unit 4 (the Site) bounded by Chisholm Avenue, Rock Avenue, Wilson Street, and Huber Road.

EE/CA FOR OPERABLE UNIT 4/LOWER PATAPSCO AQUIFER STUDY AREA

The Site consists of three areas used for administrative, residential and industrial purposes and the affected portions of the Lower Patapsco aquifer.

Area 1 - Building 2286 (Former Motor Pool Maintenance Facility) and Former Building 2276 (Former Furniture Repair Shop).

Building 2286 was constructed in 1941 and was used as a paint and body shop through the mid-1980s. The building historically had two paint booths; metal, glass, sanding and welding areas; and office space. Chemicals used in the building included paints, solvents, thinners, anti-freeze, acetylene, and argon gas cylinders. The building is currently used as warehouse/office space. Former Building 2276 was located south of Building 2286 and was used as a furniture repair shop and warehouse. Hazardous chemicals including paint thinners, adhesives, stains, and aerosols were used and stored in small quantities at the former building.

Area 2 - Building 2250

Building 2250 was constructed in 1941 and was used as the post laundry facility through 1991 with dry cleaning operations introduced in the late 1960s. In 1991, laundry and dry cleaning operations ceased, and the facility was converted to the post recycling center. During dry cleaning operations, tetrachloroethene (PCE) and other solvents were used.

Area 3 - Lower Patapsco Aquifer Study Area

The Lower Patapsco Aquifer Study Area is located downgradient of OU-4 to the southeast and consists of a confined aquifer that outcrops to the surface at OU-4 and extends off-post into the town of Odenton, Maryland, where it is present at depths of two hundred or more feet below ground surface.

ALTERNATIVES EVALUATED FOR AREA 1, BUILDING 2286 AND FORMER BUILDING 2276

Alternative 1: No Further Action.

Alternative 2: In-Situ Enhanced Reductive Dechlorination with Long-Term Monitoring of Groundwater.

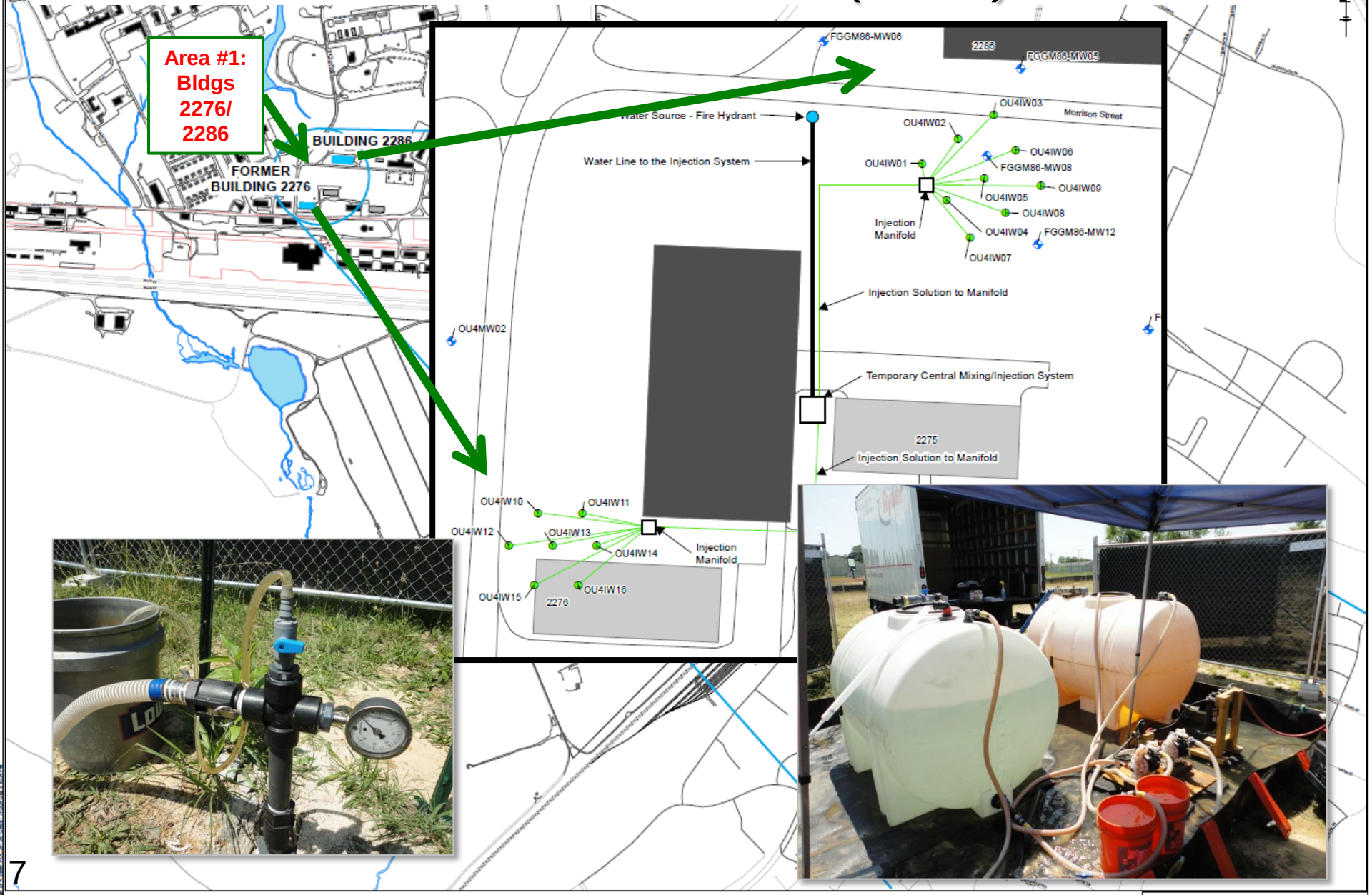
Alternative 3: In-Situ Chemical Oxidation with Long-Term Monitoring of Groundwater **(Preferred Alternative)**.

ALTERNATIVES EVALUATED FOR AREA 2, BUILDING 2250

Alternative 1: No Further Action.

Alternative 2: Air Sparge/Soil Vapor Extraction with Long-Term

Area 1: Active Source Treatment using In-Situ Chemical Oxidation (ISCO)



Area 1: Active Source Treatment using In-Situ Chemical Oxidation (ISCO)

Recently completed activities

- Laboratory treatability study completed
  - Assessed dosing requirements to be used for full-scale system.

- Pre-design ISCO injection test completed (June 2013)

Area 1: Active Source Treatment using In-Situ Chemical Oxidation (ISCO)

Recently completed activities

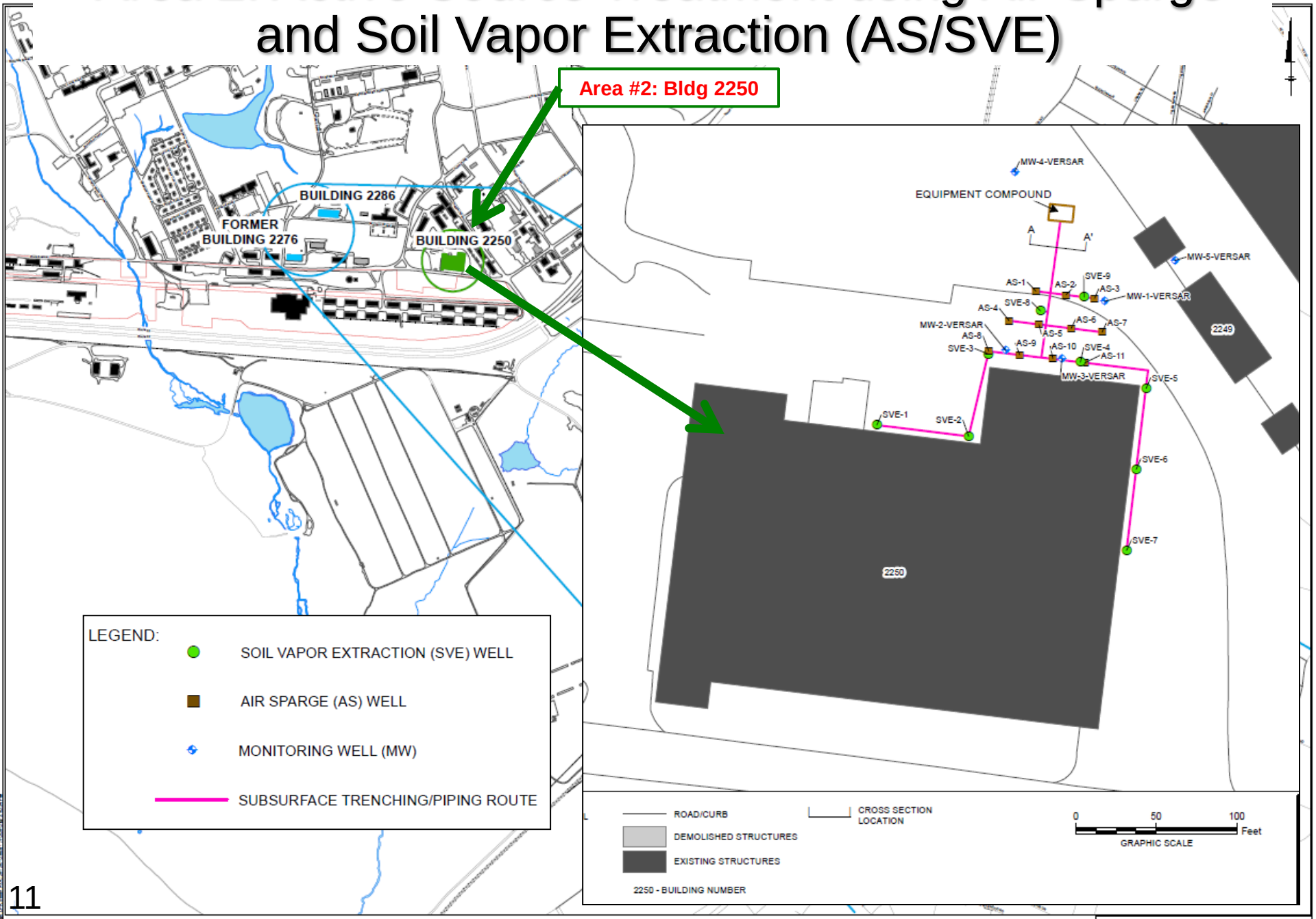
- Drilling and well installation for full-scale implementation.
- Drilled 15 new wells for injection and/or monitoring.

Area 1: ISCO Systems at 2276 and 2286

Remaining steps:

- Install additional injection/monitoring wells at the 2286 Area following USACE mark-out of permanent construction features in work areas.
- Plan and execute full-scale ISCO injection in both areas (Winter 2014).
- Upon grading/paving completion in 2286 Area, complete well surface construction.

Area 2: Active Source Treatment using Air-Sparge and Soil Vapor Extraction (AS/SVE)



Area 2: Active Source Treatment using Air-Sparge and Soil Vapor Extraction (AS/SVE)

Recently completed activities

- Installed 11 new AS and 9 SVE wells.
- Completing trench installations for treatment system.

Area 2: Active Source Treatment using Air-Sparge and Soil Vapor Extraction (AS/SVE)

Recently completed activities

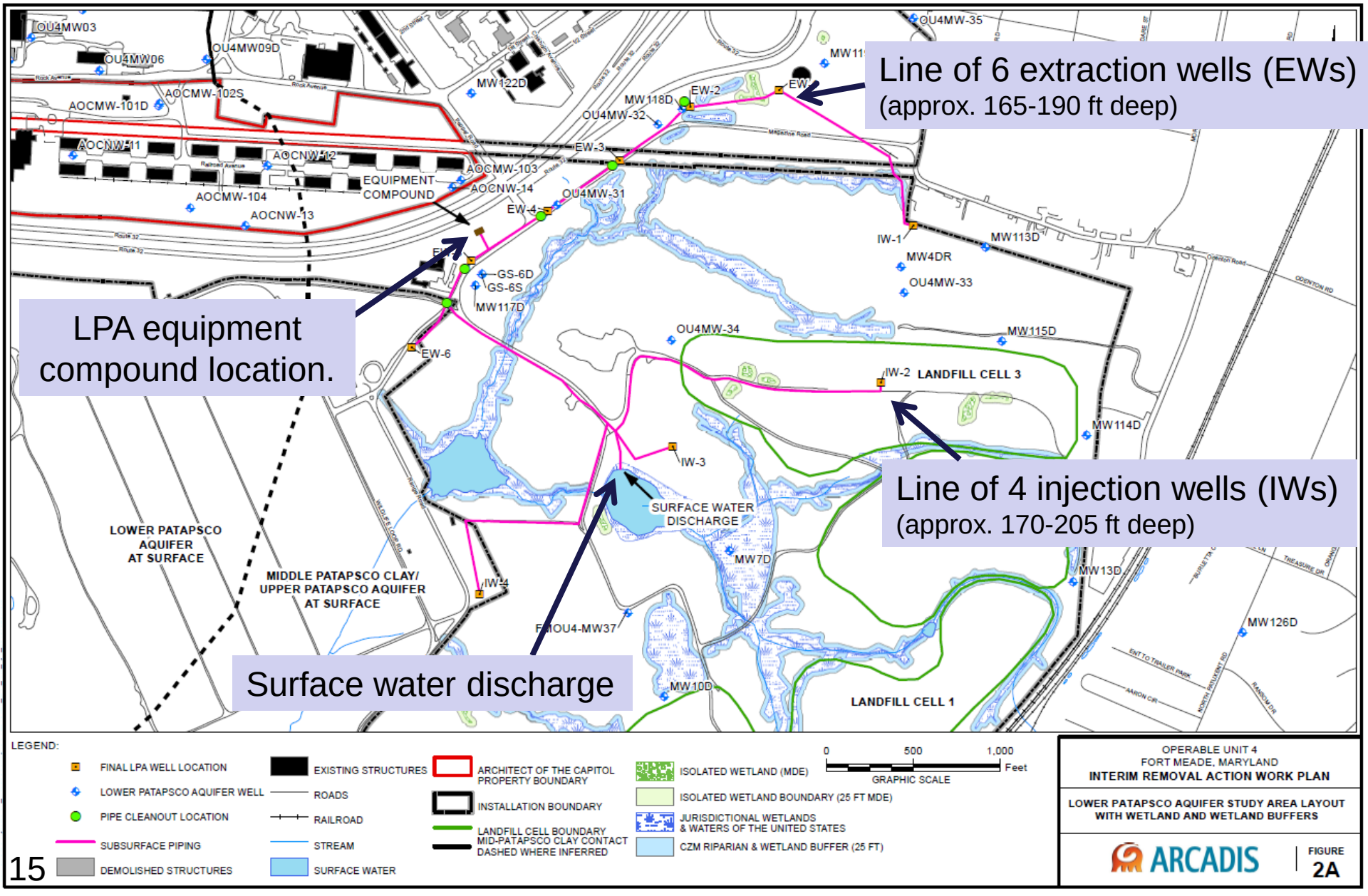
- AS/SVE system trailer delivered.

Area 2: AS/SVE System at 2250

Remaining steps:

- Finalize pipe connections to the AS/SVE blowers.
- Finalize trench backfill and asphalt repairs.
- Complete AS/SVE System start/shakedown activities.

Area 3: LPA Hydraulic Containment System Layout



LPA Hydraulic Containment System Layout

LPA Hydraulic Containment System

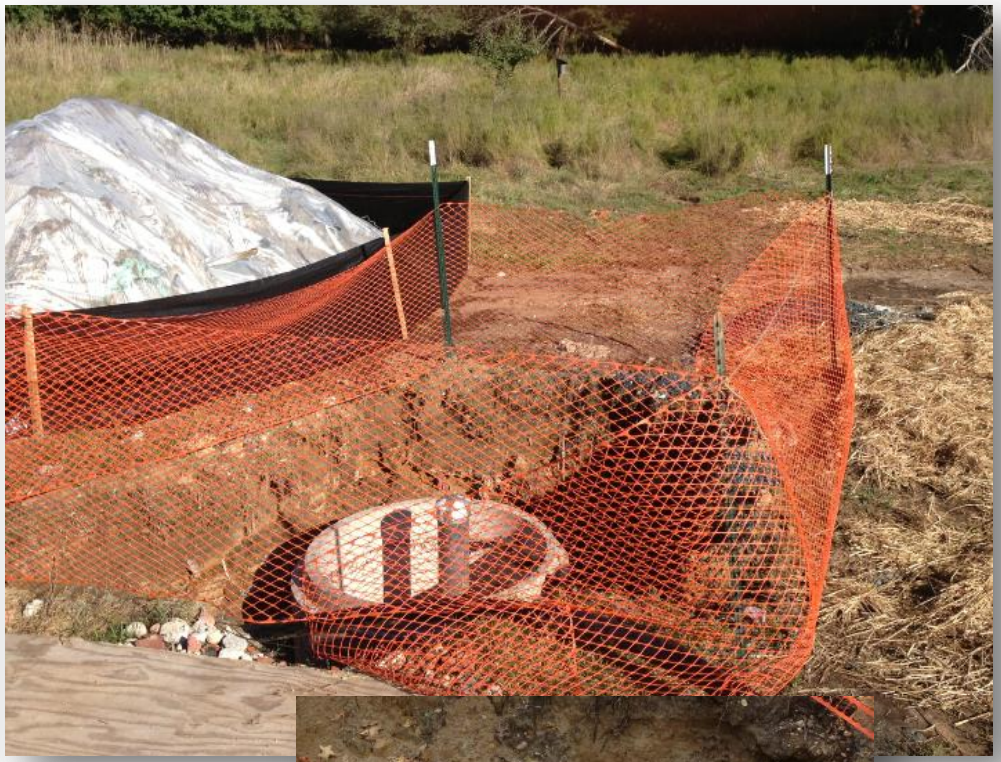
Preparing for delivery of the equipment compound. Trenching completed for 13 injection/extraction and electrical conduits connecting to the treatment building.

Off-Loading Treatment Building

LPA Hydraulic Containment System Layout

Custom-designed treatment building constructed and tested off-site prior to delivery to Fort Meade.

LPA Hydraulic Containment Well Vaults



Each extraction and injection well and components installed in subsurface concrete vault.

LPA Hydraulic Containment System Schedule

Remaining steps:

- Complete horizontal/directional drilling (early December)
- Pressure test entire system.
- Install extraction well pumps.
- Complete connections at all well vaults.
- Start-up and test system (early January)

OU4/LPA Schedule

NTCRA

Installation complete (all 3 areas)	January 2014

RI/FS/PP/ROD

RI/FS to EPA/MDE/ RAB/AOC	December 2013
Final RI/FS	April 2014
Final PP	June 2014
Final ROD	November 2014

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