

Commonwealth of Massachusetts

Governor

Maura Healey

Lieutenant Governor

Kim Driscoll

Energy and Environmental Secretary

Rebecca Tepper

Department of Conservation and Recreation Commissioner

Brian Arrigo

Bel Air Dam Removal

Community Meeting

October 23, 2024





DCR MISSION

To protect, promote and enhance our
common wealth of natural, cultural
and recreational resources
for the well-being of all.

Additional Information

Recording and tonight's slide deck will be available at:

- www.mass.gov/dcr/past-public-meetings
- www.belairdamremoval.com

If you have comments on this project:

- *Submit online:* www.mass.gov/dcr/public-comment
- *Deadline: Wednesday, November 6, 2024*

Please note: the contents of comments submitted to DCR, including your name, town and zip code, will be posted on DCR's website. Additional contact information provided, notably email address, will only be used for outreach on future updates to the subject project or property.

If you wish to subscribe to a DCR general information or project-related
listserv: contact DCR's Office of Community Relations via email at mass.parks@mass.gov

Meeting Agenda

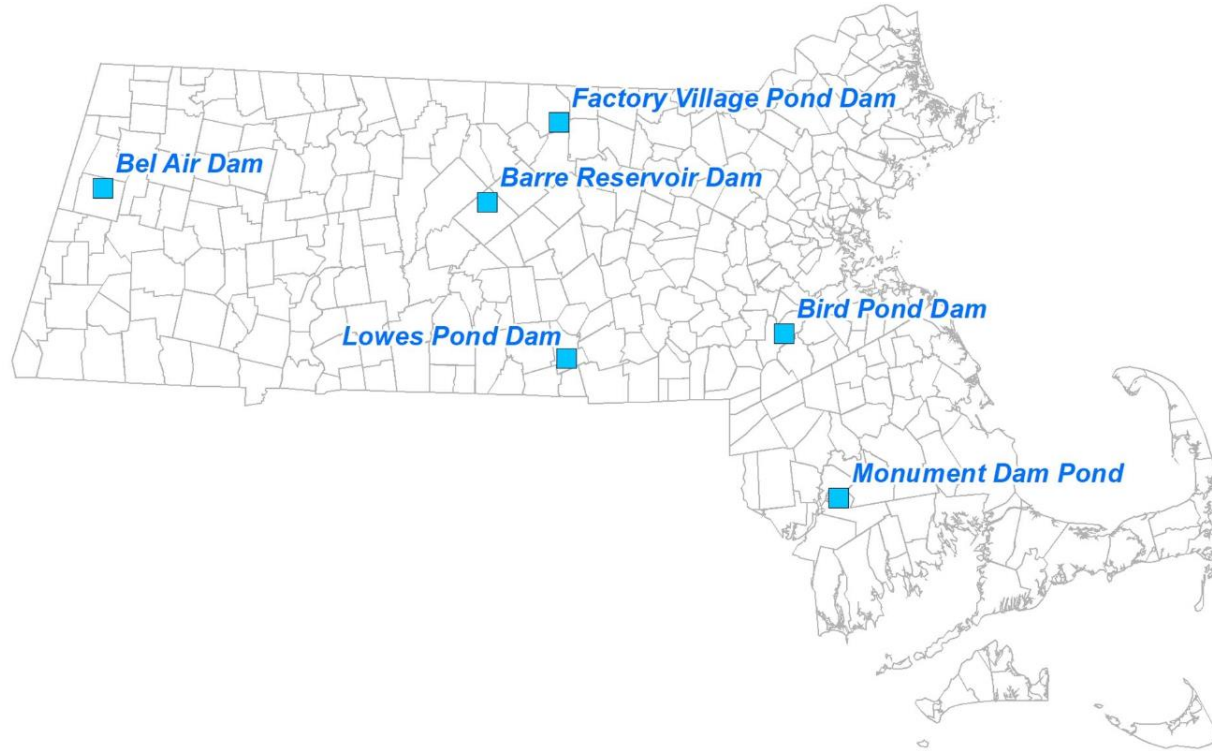
- ▶ Introduction - 5-10 minutes
- ▶ Presentation - 30 minutes
- ▶ Question / Answer
 - ▶ Please try to hold questions until the end of the meeting.

- ▶ *Please note that this public meeting will be recorded by Pittsfield Community Television (PCTV); the recording will be a public record.*

Agenda Topics

- Project Background
- Dam Ongoing Inspection and Maintenance
- Emergency Action Plan
- Proposed Conditions after Dam Removal
- Construction Impacts
- Construction Mitigation
 - Vegetation Re-establishment and Monitoring
 - Water Control
 - Traffic Management
 - Air Quality Monitoring
 - Water Quality Monitoring
 - Archaeological Monitoring
- Schedule

DCR Abandoned Dams Program



These 6 are some of the many abandoned dams with no active ownership in the state. These were prioritized because they are the highest risk to the public as all are Significant or High Hazard dams in Unsafe to Poor condition. Currently Dam Safety inspects each dam regularly and hires contractors to perform maintenance as needed at Commonwealth's cost. Currently none comply with Dam Safety Regulations.

- ▶ Lowes Pond Dam, Oxford
- ▶ Monument Pond Dam, Freetown
- ▶ Factory Village Pond Dam, Ashburnham
- ▶ Bird Pond Dam, Walpole
- ▶ **Bel Air Dam, Pittsfield**
- ▶ Barre Reservoir Dam, Barre



View of sluiceway from downstream side of dam.



View of auxiliary spillway from downstream side of dam.

Bel Air Dam, Pittsfield, MA

- ▶ Built in 1832
- ▶ Used for power generation for a woolen mill until 1920s
- ▶ Owner is deceased
- ▶ Combined earthen embankment, stone masonry, and concrete structure
- ▶ Height of 26.5', 200' long with a capacity of 56 acre-feet
- ▶ Upstream of several businesses, residences and roads
- ▶ Failure may cause loss of life and substantial damages
- ▶ High hazard dam classification
- ▶ Unsafe condition and Structurally Deficient
- ▶ **Dam Removal Selected**
- ▶ Current cost estimate: Approximately \$20M

Ongoing Inspection and Maintenance

- ▶ DCR Office of Dam Safety (ODS) periodically inspects dams and includes Bel Air Dam in their patrols
- ▶ Inspected in April 2024
- ▶ Periodic monitoring once a month in dry summer months and weekly during high flows
- ▶ DCR ODS has conducted minor repairs and maintenance as needed
 - ▶ Added riprap slope protection to a section of the center embankment's downstream slope to stabilize sluiceway discharge
 - ▶ Debris is removed as needed from sluice gate openings to maintain minimum water level

Emergency Action Plan

2017 Emergency Action Plan (EAP)

Emergency Preparedness Document serves as a guide to local and state emergency responders in event of a possible failure

EAP on file with the City Emergency Management Agency, Massachusetts Emergency Management Agency, and DCR Office of Dam Safety

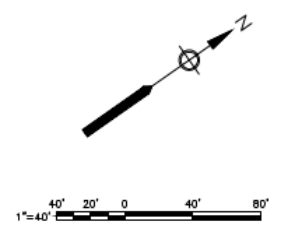
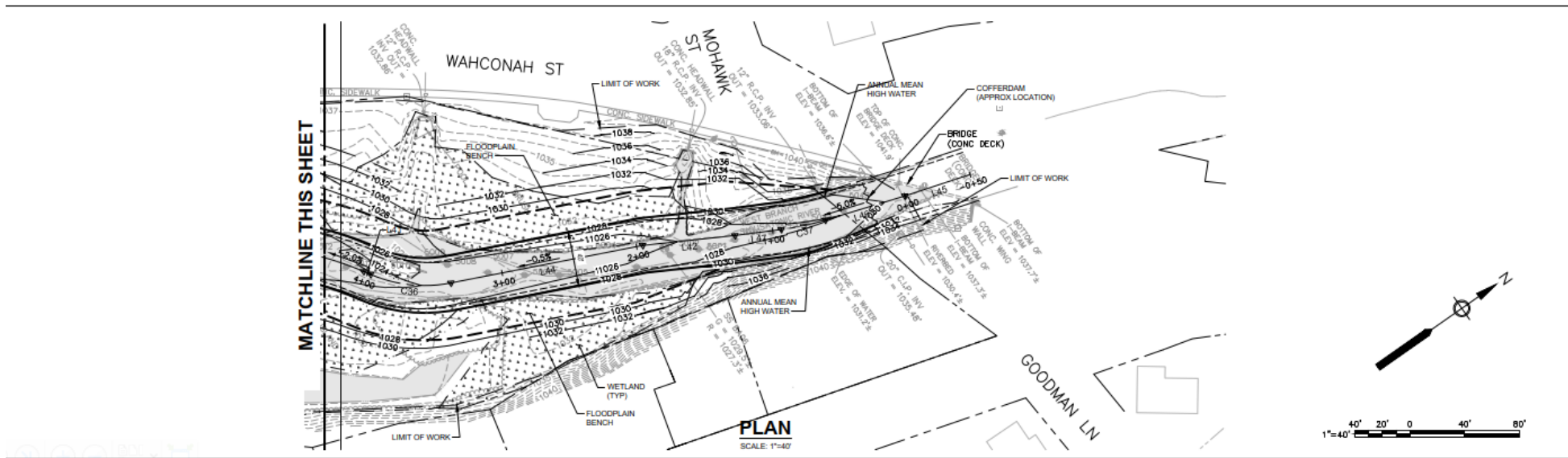
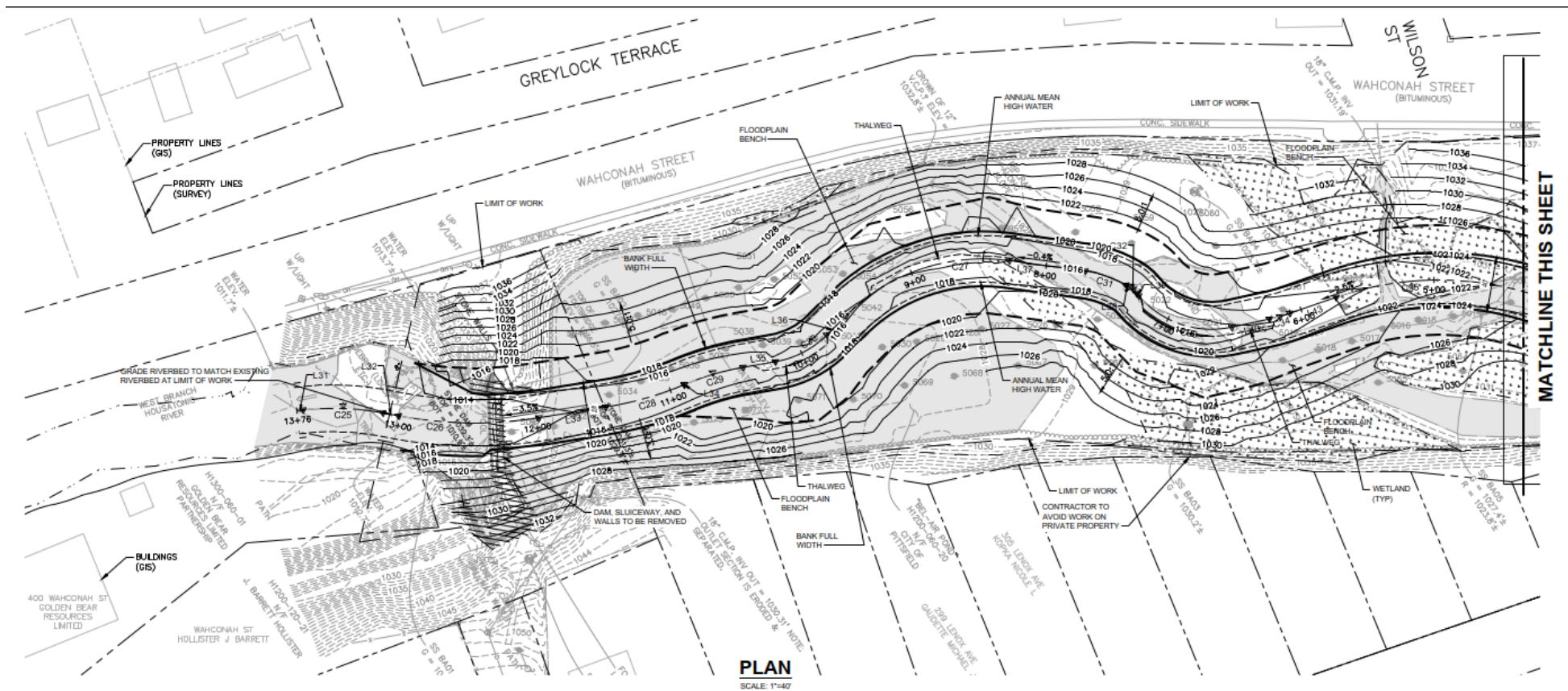
EAP identifies notifications to inform first responders and other applicable agencies

EAP includes description of potential inundation area that may be impacted in the event of failure, which can be used for evacuation planning purposes

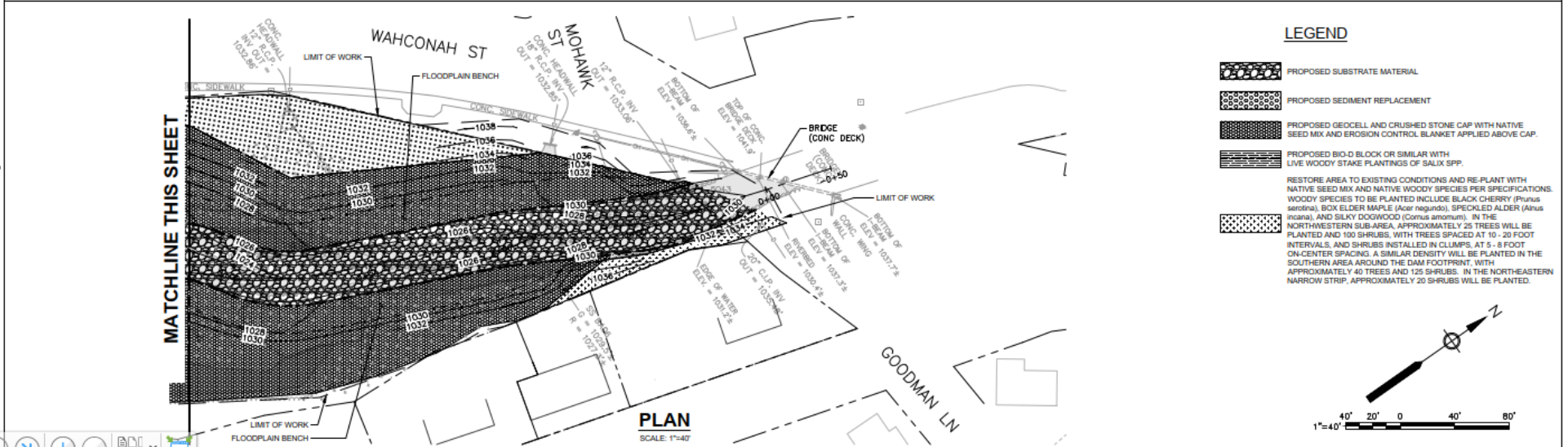
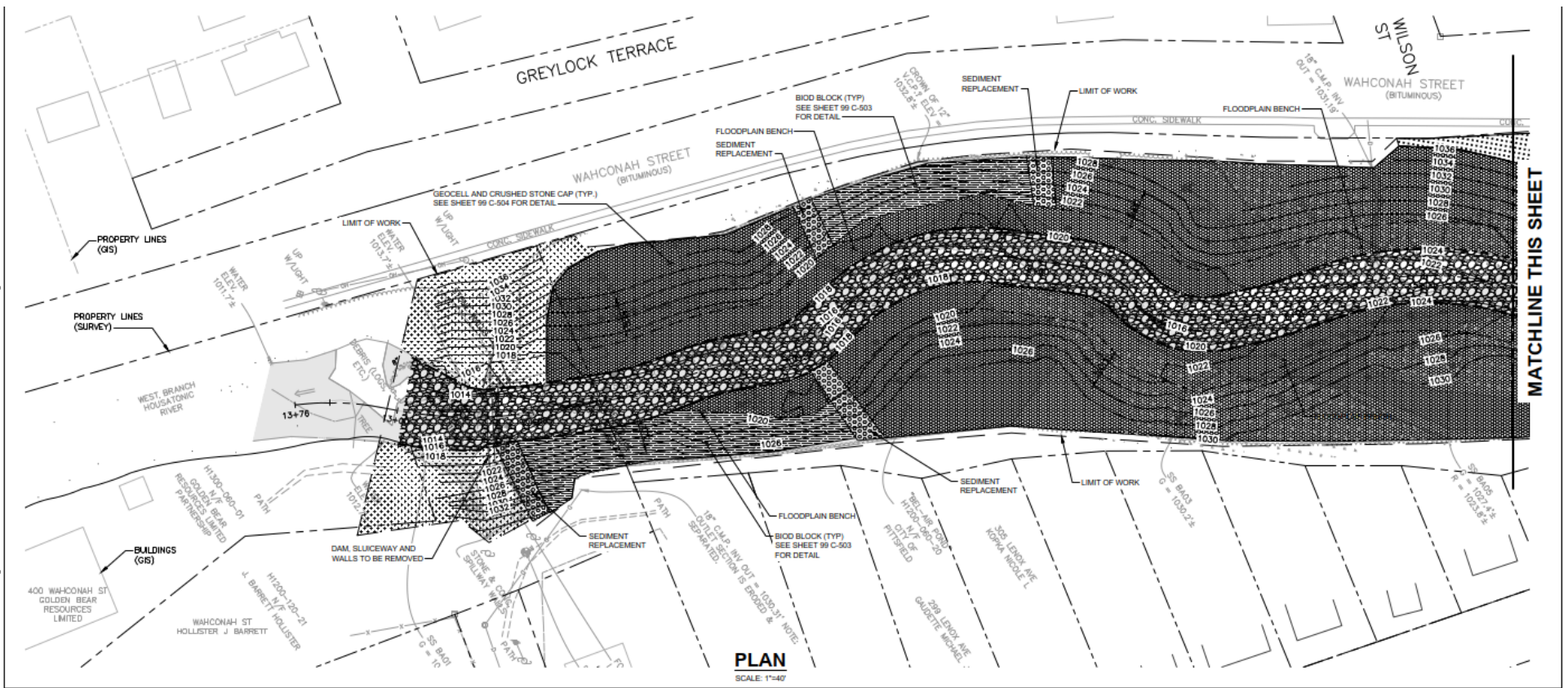
Proposed Conditions

- ▶ Removal of dam spillway and appurtenant structures
- ▶ Restoration of approximately 1200 feet of the existing streambed of the West Branch of the Housatonic River
 - ▶ Streambed 40 Ft Wide, 3.5 Ft Deep, 20-ft Wide Floodplain Benches
 - ▶ Natural Color Stone, Mixed Size for Scour Protection
 - ▶ Dredging 35,500 CY Contaminated Sediment
 - ▶ Mechanical and/or Hydraulic Dredging
 - ▶ Temporary On-Site Stockpiling/Treatment
 - ▶ Out-of-State Disposal
- ▶ “Cap” above remaining sediment
- ▶ Restoration with 18-inches Clean Soil and Seeding/Planting

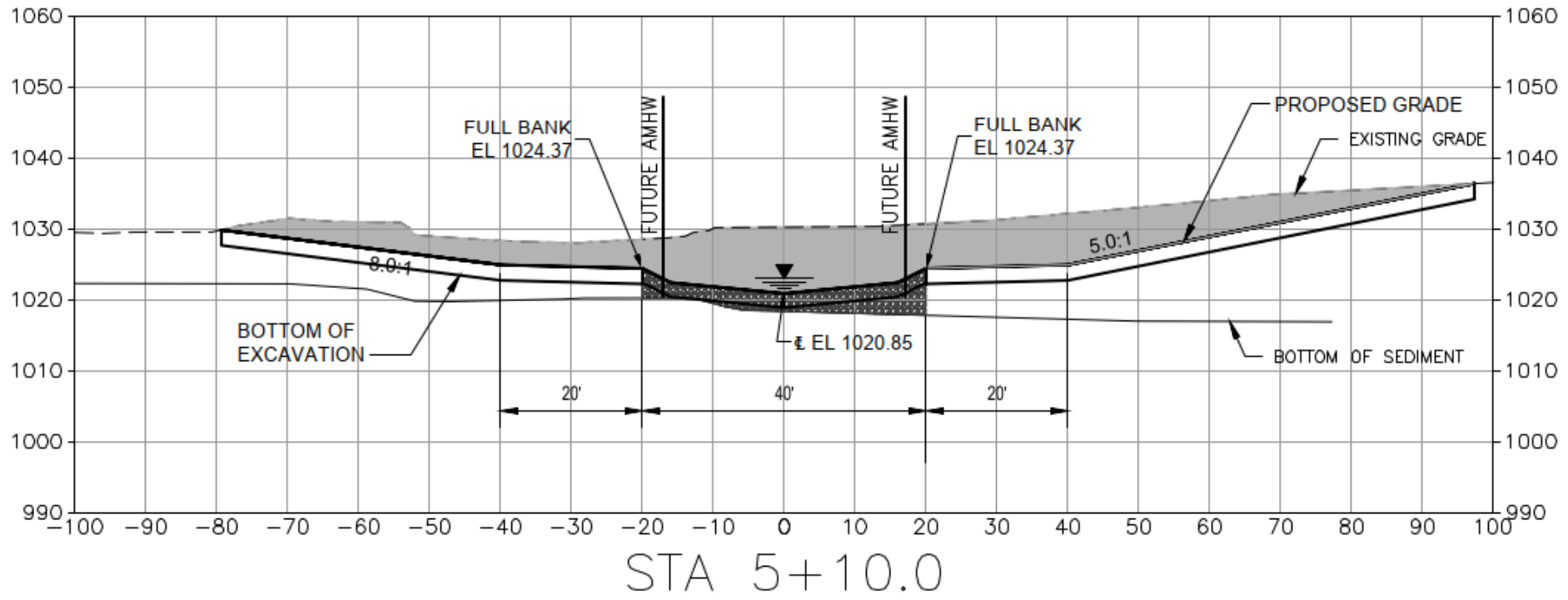
Restored Stream Layout




Restored Stream Surface Features




Typical Section



LEGEND

 SEDIMENT TO BE EXCAVATED TO CREATE STREAM PROFILE AND FLOODPLAIN BENCH

 SEDIMENT TO BE EXCAVATED AND REPLACED WITH STONE TO CREATE STREAM PROFILE

Existing Sediment

- ▶ Sediment currently below water, but will be above water after dam removal and subject to MCP reporting requirements after dam removal
- ▶ Exceedances
 - ▶ Chromium
 - ▶ Arsenic
 - ▶ Lead
 - ▶ PAHs and EPHs
- ▶ Disposal required out of state
- ▶ Impenetrable geocell cap with 18” new soil above
- ▶ Source unknown - not from dam operations, possibly stormwater outfall/upstream watershed
- ▶ MassDEP Western Regional Office Bureau of Waste Site Cleanup Alerted

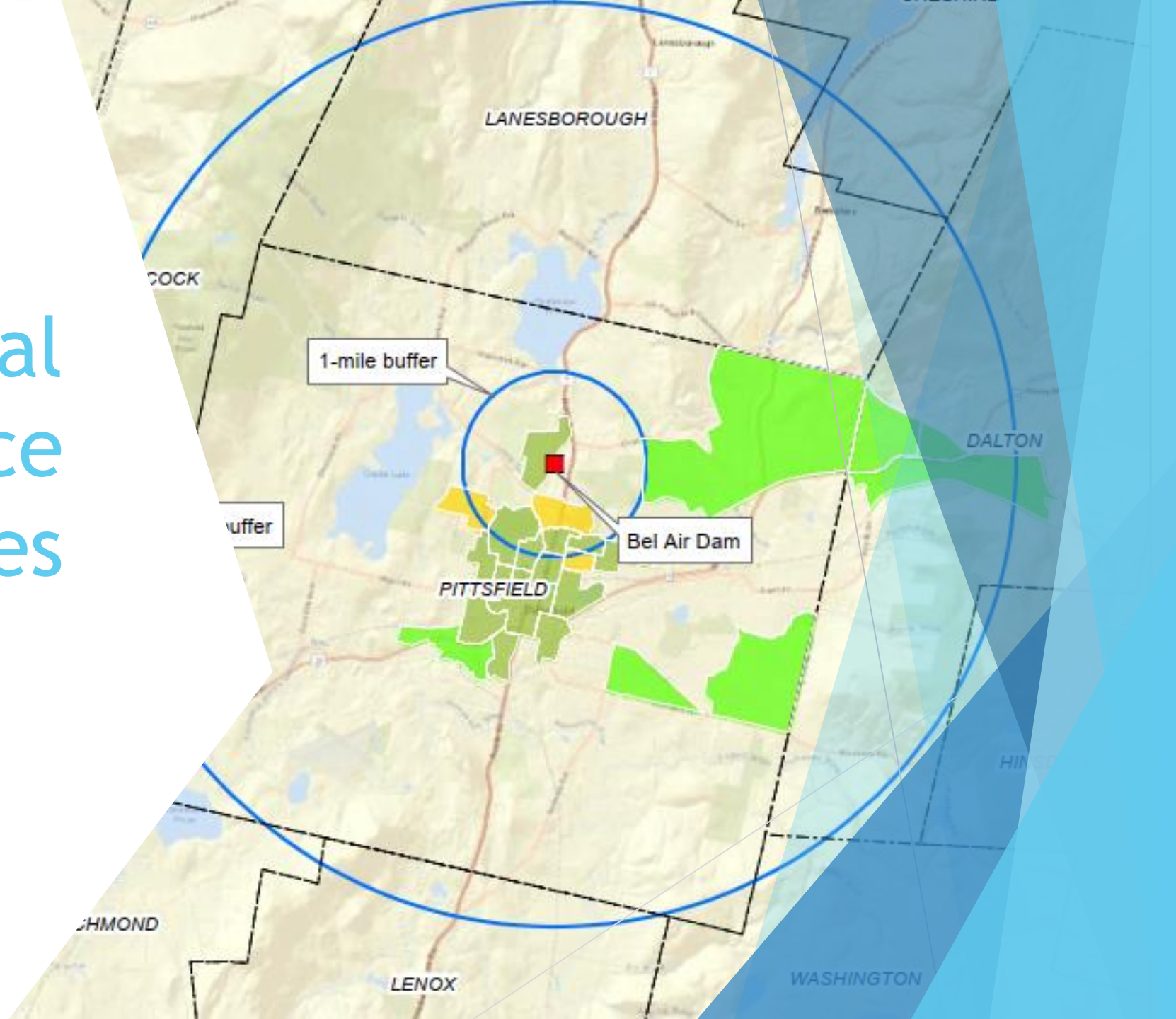
Existing and Future Wetland Resource Areas



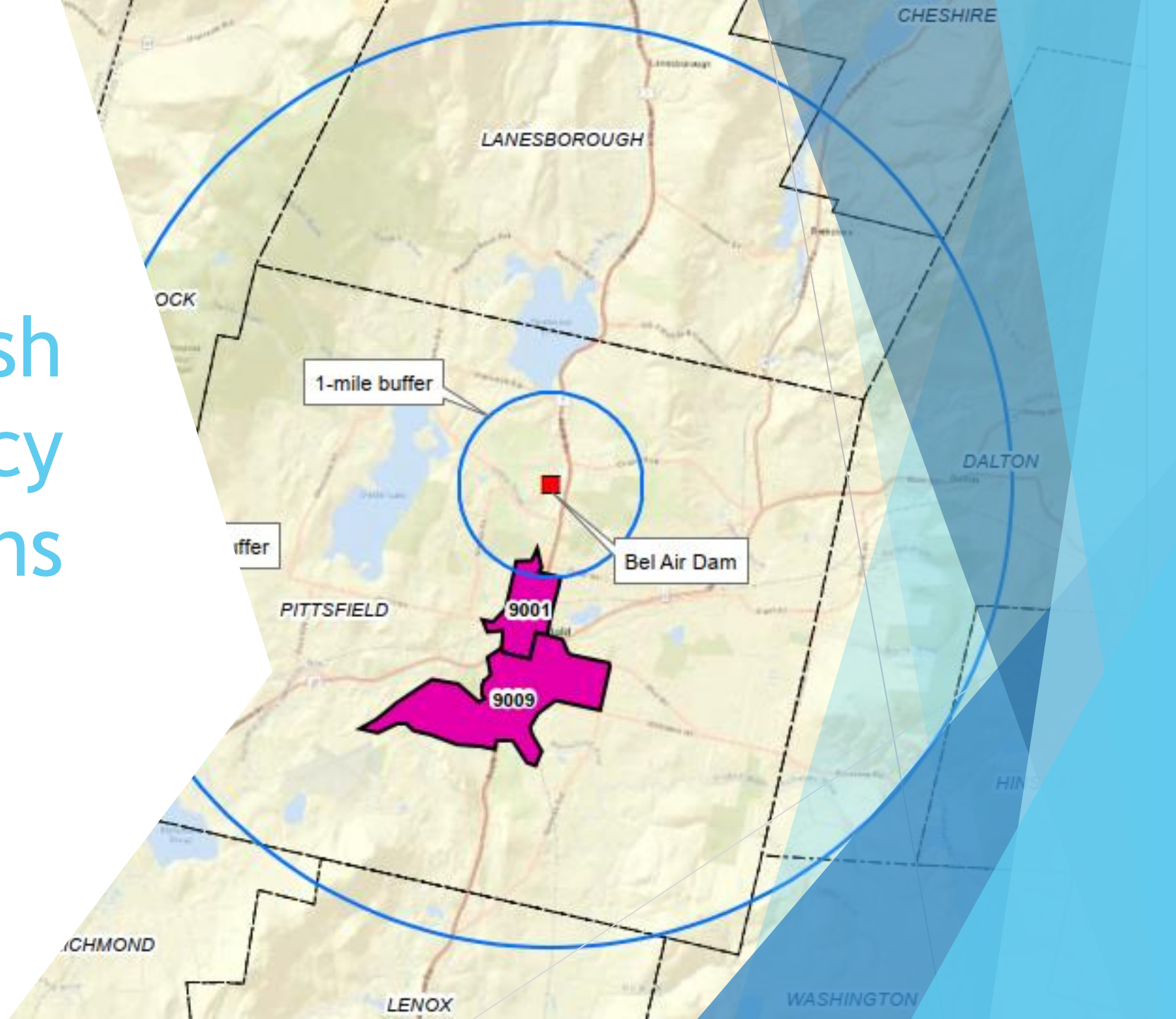
Construction Impacts

- ▶ All work on City of Pittsfield recently acquired parcels
- ▶ Temporary and permanent impacts to wetland resource areas to remove impoundment and create new stream channel
- ▶ Truck traffic
- ▶ Pedestrian disruption
- ▶ Noise
- ▶ Air Quality Concerns
- ▶ Archaeological Concerns
- ▶ Temporary sediment stockpiling

Environmental Justice Communities



Limited English Proficiency Populations



Construction Mitigation

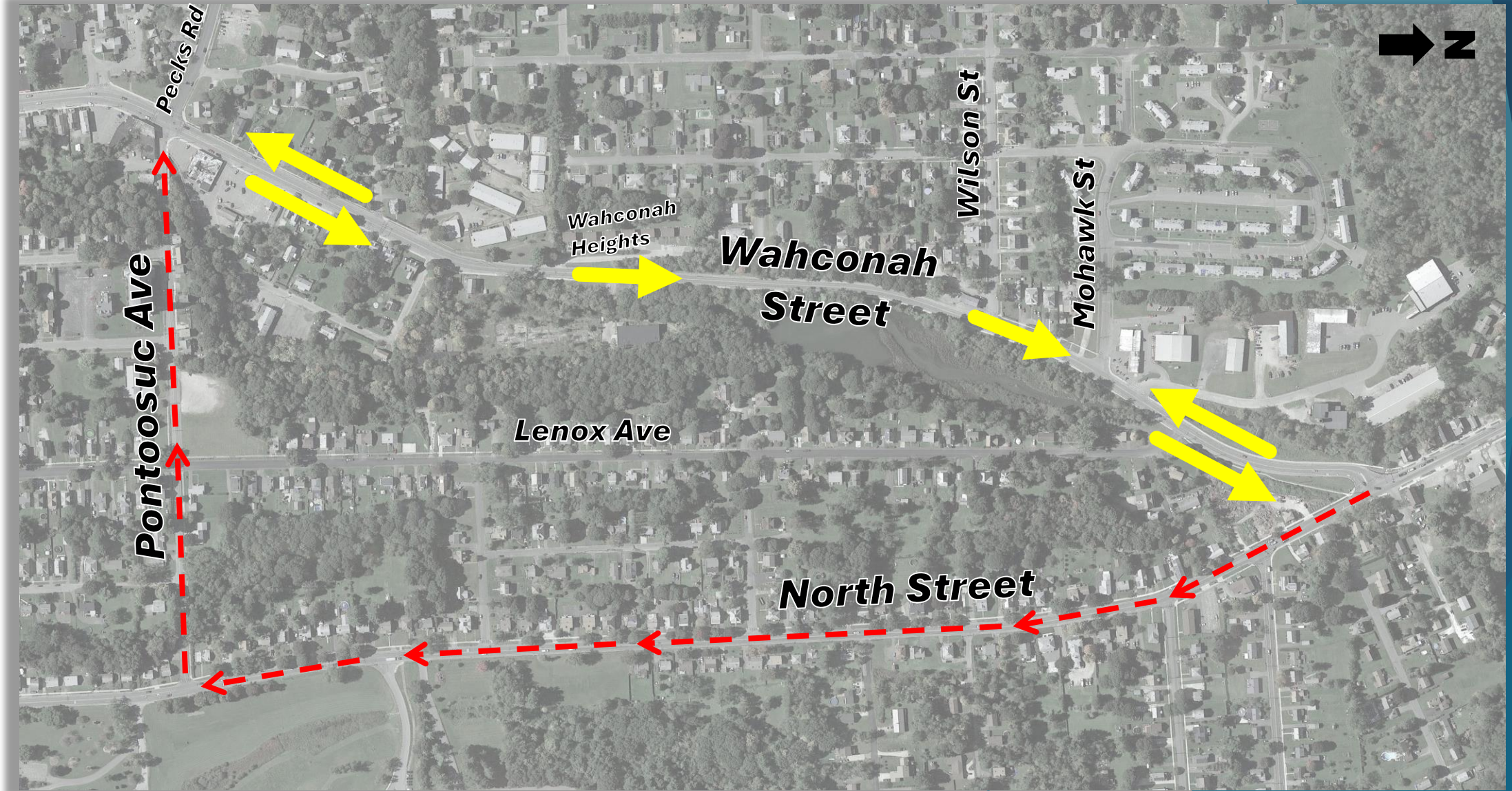
Vegetation Re-Establishment and Monitoring

- ▶ Floodplain Bench
 - ▶ Silky Dogwood (*Cornus amomum*), Speckled Alder (*Alnus incana*) and Pussy Willow (*Salix discolor*) shrubs
 - ▶ Herbaceous plugs: Virginia Wild Rye (*Elymus virginicus*), Big Bluestem (*Andropogon gerardii*), Butterfly Milkweed (*Asclepias tuberosa*), Flat-Topped Goldenrod (*Euthamia graminifolia*), Path Rush (*Juncus tenuis*), and Spotted Joe-Pye-Weed (*Eutrochium maculatum*)
- ▶ Black Willow (*Salix nigra*) along steeper slopes with Bio-D Block
- ▶ Black Cherry (*Prunus serotina*) and White Oak (*Quercus alba*) in northern and southern upland areas
- ▶ Conservation/Wildlife Seed Mix Throughout Site
- ▶ Annual Visual/Quantitative Vegetation Monitoring for Five Years
- ▶ Invasive Species Monitoring

Water Control During Construction

- ▶ One-Year Storm Flood Flows and above cannot be by-passed
- ▶ Contractor will be directed to by-pass a minimum flow of 72 cfs at all times, similar to Tel-Electric Dam removal
- ▶ 72 cfs by-pass would be sufficient about 90% of the time from June to October
- ▶ Contractor will monitor weather forecast and **be prepared** to stop work and evacuate if predictions indicate one inch of rainfall spanning 24 to 48 hours
- ▶ Active dredging limited to approximately 25 - 35% of the site
- ▶ Contractor flexibility, approved by DCR and City of Pittsfield, regarding details of water control

Traffic Management



Traffic Management (cont.)

- ▶ Northbound travel on Wahconah Street will be maintained, so that Fire Emergency Response (from Fire Station on Pecks Road) will not be impacted
- ▶ School buses currently run Southbound on Wahconah Street
 - ▶ Routes will be modified to run northbound during construction
 - ▶ Bus stop locations not anticipated to change
- ▶ Berkshire Regional Transit Authority (BRTA) Bus Route 5A route will need to be modified during construction

Pedestrians

- ▶ Sidewalk Closed on East Side of Wahconah Street
- ▶ Protected Pedestrian Walkway on West side of Wahconah Street
 - ▶ Temporary Crosswalk to cross Wahconah Street at Wahconah Heights (south end of work zone)
 - ▶ Utilize existing crosswalk to cross Wahconah Street at Mohawk Street (north end of work zone)
- ▶ Rectangular Rapid Flashing Beacons (RRFB's) For Pedestrian Detours

RRFB Example



Site-Specific Air Monitoring Approach

- ▶ Determine the chemicals of concern (COCs) accordance with USEPA Guidelines to determine which chemicals in the sediment have a health-based risk for inhalation
 - ▶ Reviewed sediment results from the work area (120 individual chemicals) including metals, PAHs, PCBs, VOCs, and other specialty chemicals
 - ▶ COCs were determined to be chromium, lead, mercury, and naphthalene
- ▶ Reviewed COCs based on their chemical properties related to work activities and how they will become airborne
 - ▶ Hexavalent chromium, lead, mercury, and naphthalene have the potential to become airborne as particulates or dust during dry sediment/soil activities
 - ▶ Mercury and naphthalene has the potential to become airborne as a vapor during dry and wet sediment/soil activities

Site-Specific Air Monitoring Goals

Real-Time Emissions Management

- ▶ Alert and Action Levels will be used to assess air quality conditions continuously during work hours
- ▶ Monitor air quality in real-time to inform site management decisions related to dust and vapor control

Track Compliance of Air Quality

- ▶ Site-Specific Acceptable Air Concentrations (AAC) for dust and naphthalene to be protective of the COCs
- ▶ Progress towards compliance will be tracked throughout the project

Project Documentation and Updates



Dust or TVOC concentrations greater than the Alert and Action Levels will be reported to the remedial contractor and summarized weekly



Progress towards compliance will be evaluated and communicated weekly to the project team

Air Monitoring Activities

Air Monitoring Activities



Real-time continuous dust and TVOC monitoring at the site perimeter during active work at the fixed and mobile Air Monitoring Stations (AMS)



Periodic hand-held and observational monitoring for dust, TVOC, odor intensity, and mercury vapor at the perimeter of the site and between the AMS



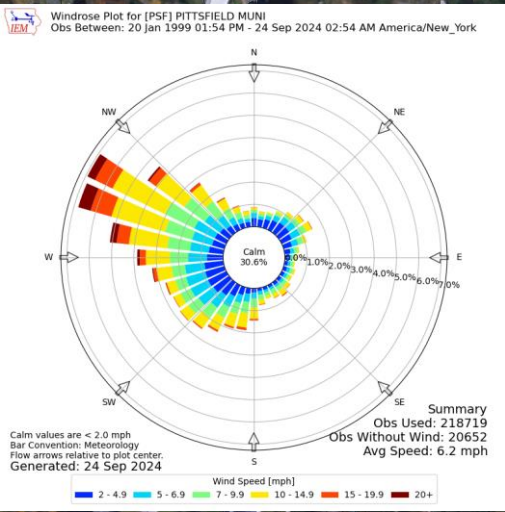
Onsite meteorological monitoring for wind direction, wind speed, temperature, and relative humidity

Alert and Action Levels

| Target Chemical | Alert Level | Action Level |
|--------------------------------------|---|---|
| PM ₁₀ (15-minute average) | One (1) concentration > 150 µg/m ³ | Two (2) consecutive concentrations > 150 µg/m ³ |
| Total VOC (15-minute average) | One (1) concentration > 1.0 ppm | Two (2) consecutive concentration > 1.0 ppm |
| Mercury Vapor (Instantaneous) | > 5 µg/m ³ | > 10 µg/m ³ |
| Odor (Instantaneous) | -- | On-Site odor > 3 or public complaints that are verified to be related to construction |
| Visible Dust (Instantaneous) | -- | Observation of visible dust moving off-Site |



Air Monitoring Equipment



Legend

- Fixed
- Mobile
- Sediment Processing Area
- Sediment Removal Area

Air Monitoring Stations

- 4 Fixed at the sediment processing area
- 2 Mobile upwind and downwind of the active sediment activities



Water Quality Control and Monitoring

- ▶ Silt fences, straw bales/soxx, and turbidity curtains
 - ▶ Around sediment stockpiles
 - ▶ Around phased in-water work
- ▶ Compliance with US EPA and MassDEP Construction General Permit for Stormwater Discharges
- ▶ Turbidity Monitoring During Active Dredging
 - ▶ Nephelometric Turbidity Units (NTU), EPA Standard Measuring Unit of Turbidity
 - ▶ Monitor Background Upstream of Work
 - ▶ Measure Downstream of Dam

Archaeological Monitoring

- ▶ Stockbridge-Munsee Tribe Archaeological Concerns
- ▶ Geomorphological Assessment of Subsurface Stratigraphy via Geoprobos
 - ▶ Approximately 20 feet Deep
 - ▶ Scheduled for Winter 2024/2025
 - ▶ Will Inform Archaeological Monitoring Approach



General Construction Mitigation

Daytime/Work week
construction hours

Coordination with
Pittsfield Fire regarding
emergencies

Schedule

- ▶ Permits Received
 - ▶ MEPA Approval
 - ▶ Pittsfield ConCom Order of Conditions
 - ▶ MassDEP 401 Water Quality Certification
 - ▶ MassDCR Dam Safety Permit
- ▶ Remaining Permits
 - ▶ USACE PCN Approval Anticipated early November
 - ▶ FEMA LOMR Submittal: After Construction
- ▶ Advertise for Bidding: November 2024
- ▶ Construction: Spring 2025 - December 2026

Questions?

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GOODMILL INDUSTRIES ROAD - RIVER (mi): 0.10
 100-YR FLOOD ELEV = 1017.5

| | WET WEATHER | FAIR WEATHER |
|----------------------|-------------|--------------|
| PEAK WATER ELEV | 1023.34 FT | 1018.43 FT |
| PEAK WATER ELEV TIME | 0 HR 18 MIN | 0 HR 46 MIN |
| FLOOD ARRIVAL TIME | 0 HR 06 MIN | 0 HR 10 MIN |

BEL AIR DAM - RIVER (mi): 0.00
 100-YR FLOOD ELEV = 1037.0

LINDEN STREET - RIVER (mi): 1.32
 100-YR FLOOD ELEV = 997.5

| | WET WEATHER |
|----------------------|-------------|
| PEAK WATER ELEV | 1002.78 FT |
| PEAK WATER ELEV TIME | 0 HR 30 MIN |
| FLOOD ARRIVAL TIME | 0 HR 30 MIN |

PONTIAC AVENUE - RIVER (mi): 0.34
 100-YR FLOOD ELEV = 1001.00

| | WET WEATHER | FAIR WEATHER |
|----------------------|-------------|--------------|
| PEAK WATER ELEV | 1006.95 FT | 1002.18 FT |
| PEAK WATER ELEV TIME | 0 HR 18 MIN | 0 HR 48 MIN |
| FLOOD ARRIVAL TIME | 0 HR 06 MIN | 0 HR 16 MIN |

COLUMBUS AVENUE - RIVER (mi): 1.62
 100-YR FLOOD ELEV = 997.0

| | WET WEATHER |
|----------------------|--|
| PEAK WATER ELEV | 1002.62 FT |
| PEAK WATER ELEV TIME | CONFLUENCE OF 1/2 PMF AND 100-YR FLOOD |

LIMIT OF FAIR WEATHER DOWNSTREAM ANALYSIS - RIVER (mi): 0.36
 100-YR FLOOD ELEV = 1001.00
 FAIR WEATHER PEAK ELEV = 1002.00

WAHCONAH STREET - RIVER (mi): 0.53
 100-YR FLOOD ELEV = 998.25

| | WET WEATHER |
|----------------------|-------------|
| PEAK WATER ELEV | 1002.99 FT |
| PEAK WATER ELEV TIME | 0 HR 24 MIN |
| FLOOD ARRIVAL TIME | 0 HR 06 MIN |

WEST STREET - RIVER (mi): 1.83
 100-YR FLOOD ELEV = 994.00

| | WET WEATHER |
|----------------------|-----------------------------------|
| PEAK WATER ELEV | 998.54 FT |
| PEAK WATER ELEV TIME | CONFLUENCE OF BREACH WITH 1/2 PMF |

