

Bel Air Dam Removal

Community Meeting

December 5, 2023



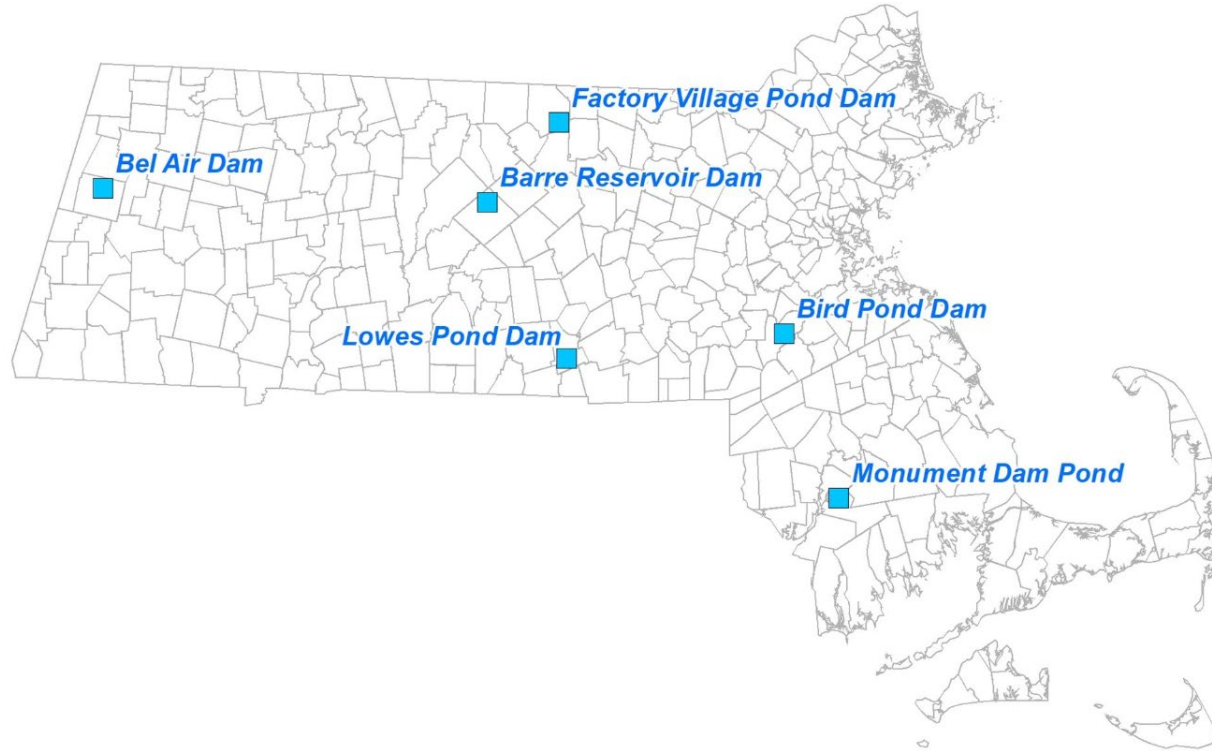
Agenda

- Project Background
- Alternatives Analysis
- Working Drafts of Current Stream Layout/Profile
- Existing Conditions
- Dam Ongoing Inspection and Maintenance
- Emergency Action Plan
- Proposed Conditions
- Anticipated Impacts
- Environmental Justice
- Mitigation
- Restoration of Downstream Parcel
- Permitting
- Schedule

Project Background

The background of the slide is white with abstract, overlapping geometric shapes in various shades of blue (light blue, medium blue, and dark blue) on the right side, creating a modern, professional look.

DCR Abandoned Dams Program



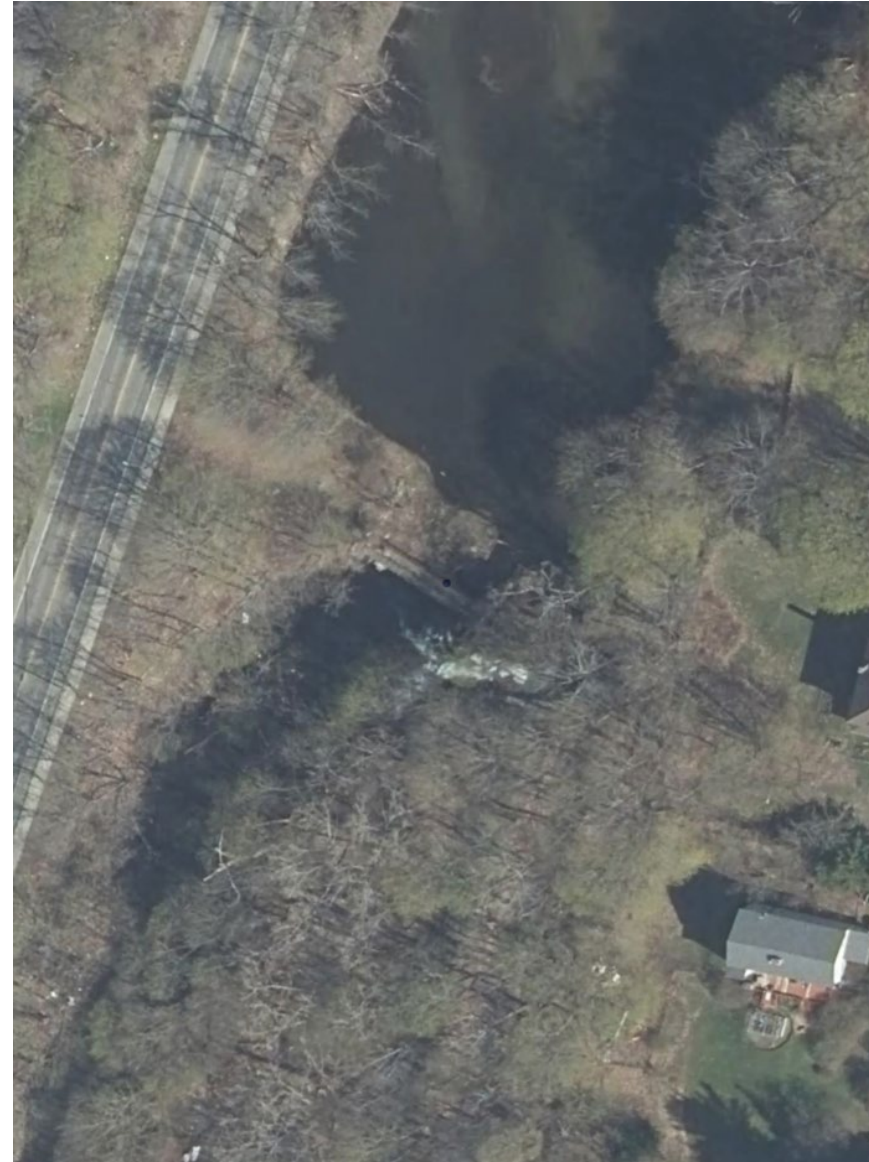
These 6 are some of the many abandoned dams with no active ownership in the state. These were prioritized because they are the highest risk to the public as all are Significant or High Hazard dams in Unsafe to Poor condition. Currently Dam Safety inspects each dam regularly and hires contractors to perform 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



Bel Air Dam

Bel Air Dam Pittsfield



Phase II Investigation and Alternatives Analysis Components - 2019 -2020

- ▶ Condition Assessment
- ▶ Topographic / Bathymetric Surveys
- ▶ Subsurface Investigation
- ▶ Spillway Adequacy Evaluation
- ▶ Seepage and Stability Evaluation
- ▶ Sediment Sampling and Management Plan
- ▶ Develop Alternative Concepts / Costs (Repair, Partial Removal, Full Removal)

Alternatives Analysis

- ▶ No Action
- ▶ Repair
 - ▶ Restoration of dam to meet Massachusetts Dam Safety Regulations
 - ▶ Sediment removal
 - ▶ Ongoing operation and maintenance of a High Hazard Dam
 - ▶ Requires Municipal or other Owner Commitment to Achieve Property Ownership
- ▶ Partial Removal
 - ▶ Reducing height of dam and storage capacity of spillway
 - ▶ Result in reclassification as non-jurisdictional
- ▶ Full Dam Removal
 - ▶ Generally Preferred Given No Municipal Interest in Dam Repair



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
- ▶ City in support of dam removal - preferred alternative
- ▶ Current dam removal cost estimate: Approximately \$19MM



Existing Conditions

Ongoing Inspection and Maintenance

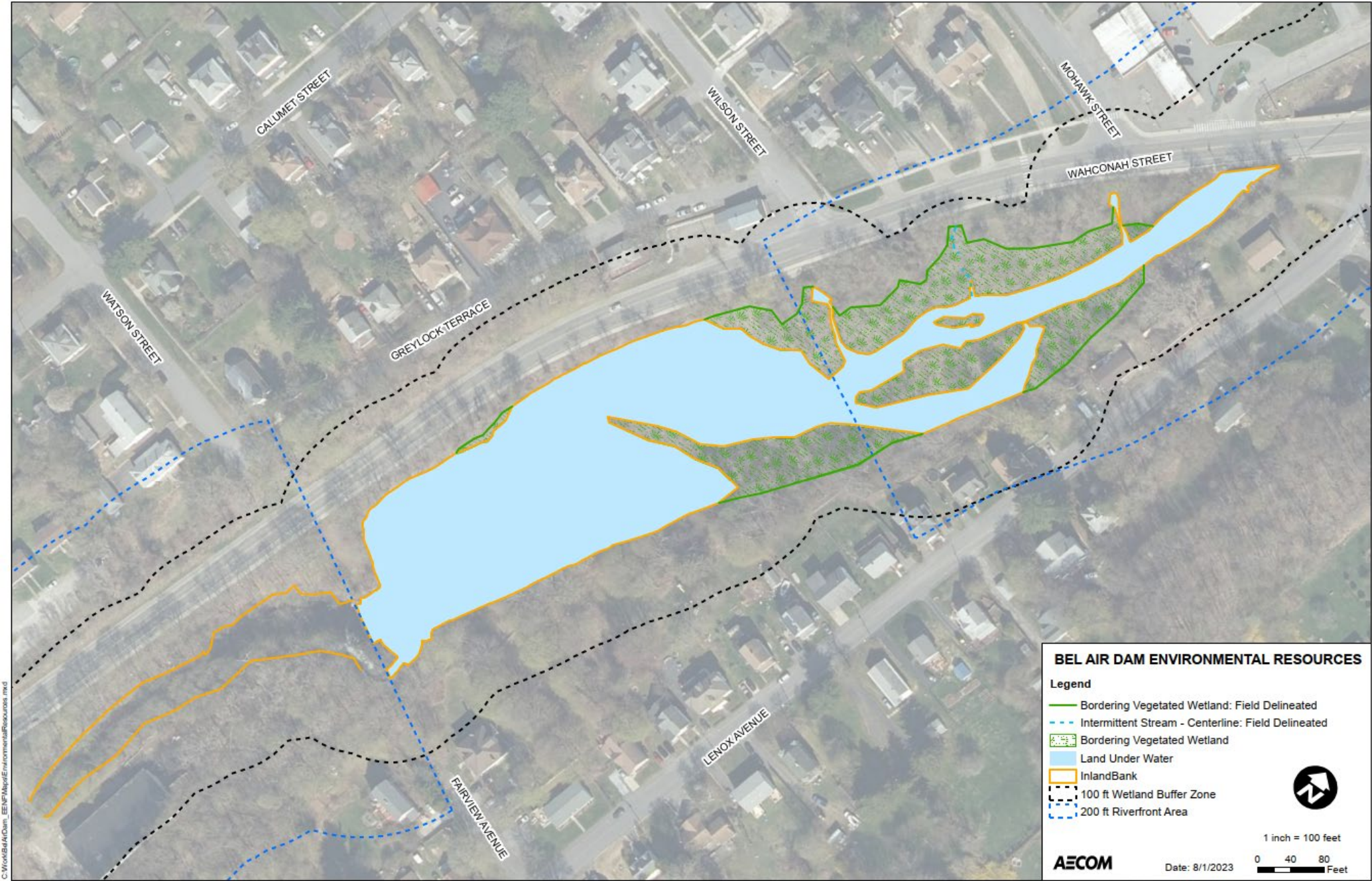
- ▶ DCR Office of Dam Safety (ODS) periodically inspects dam and includes Bel Air Dam in their patrols
- ▶ Inspected in May 2023 and again following storm event on July 19, 2023
- ▶ Next inspection scheduled for December 2023
- ▶ DCR ODS has conducted minor repairs and maintenance as needed
 - ▶ Added 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



Existing Conditions



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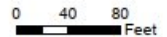
BEL AIR DAM ENVIRONMENTAL RESOURCES

Legend

- FEMA Q3 Flood Zones**
- AE: Regulatory Floodway
 - X: 0.2% Annual Chance of Flooding



1 inch = 100 feet



AECOM

Date: 8/1/2023

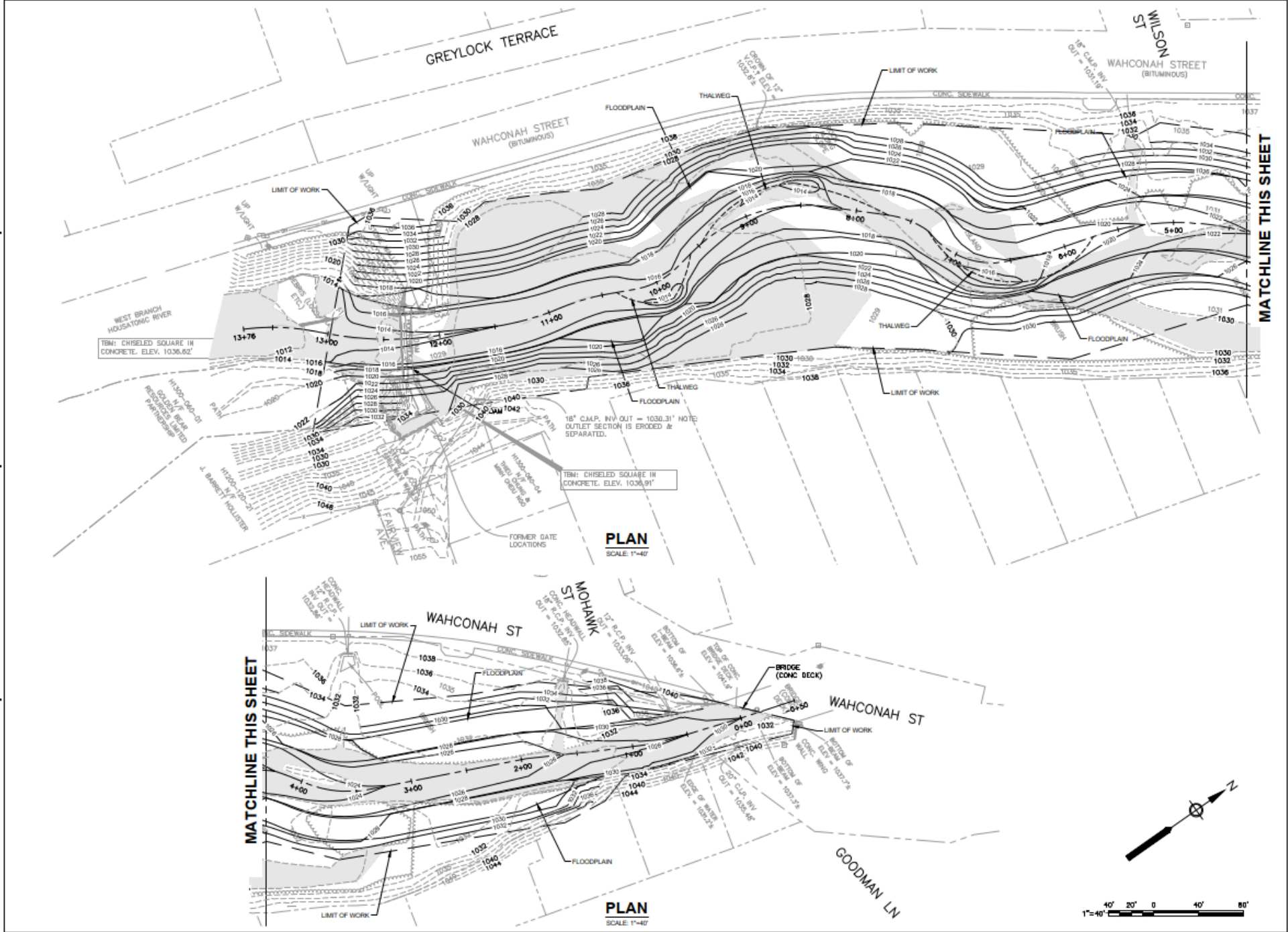
Existing Sediment

- ▶ 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
 - ▶ EPHs
- ▶ Disposal required out of state

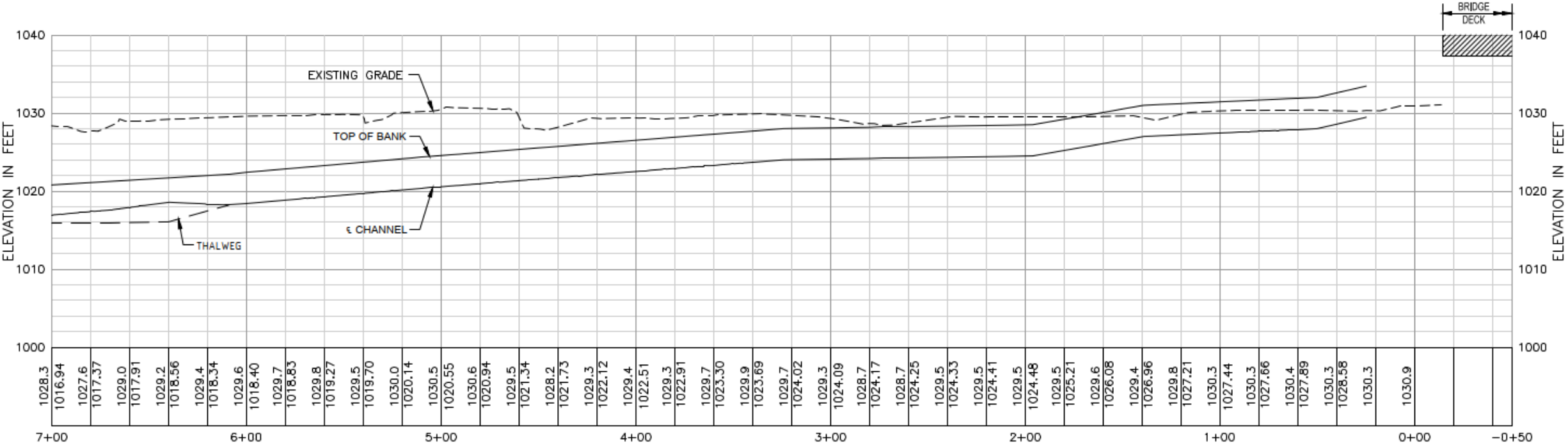
Proposed Conditions

- ▶ Removal of dam spillway and appurtenant structures
- ▶ Restoration of approximately 1200 feet of the existing streambed of the West Branch of the Housatonic River
 - ▶ Bank grading, stabilization, and reconstruction of a low-flow channel
- ▶ Ecological restoration of wetland/floodplain habitat adjacent to the channel
- ▶ Dredging of 35,500 CY of contaminated sediment

Current Working Draft of Restored Stream Layout



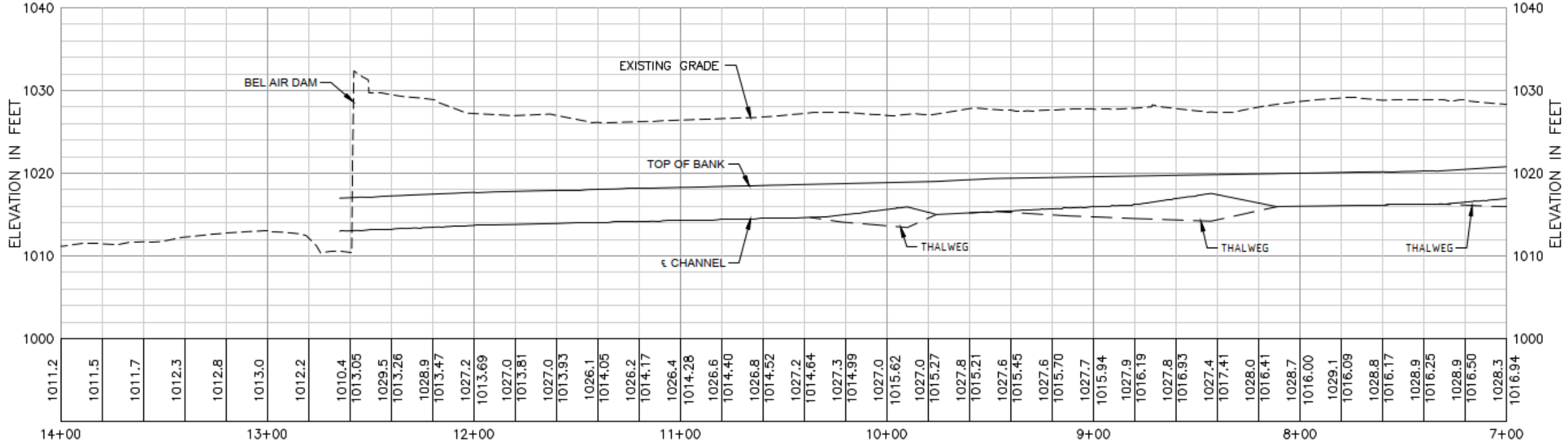
Current Working Draft of Restored Stream Profile



PROFILE - BEL AIR CHANNEL

SCALE: 1"=40' HORZ
1"=10' VERT

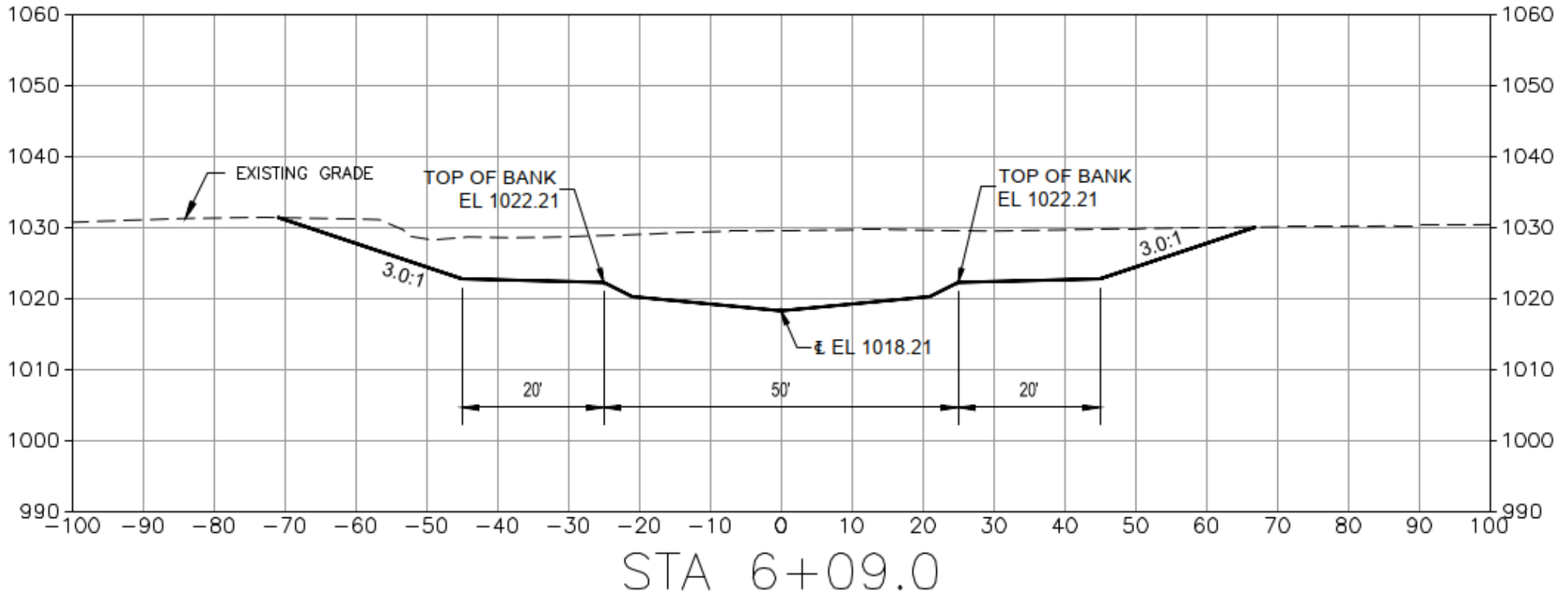
Current Working Draft of Restored Stream Profile



PROFILE - BEL AIR CHANNEL

SCALE: 1"=40' HORZ
1"=10' VERT

Current Working Draft of Typical Section



Proposed Impacts

- ▶ Temporary and permanent impacts to wetland resource areas
- ▶ Currently no known impact to Historic and Archaeological Assets of the Commonwealth - consultation with MHC and THPOs pending
- ▶ Impoundment adjacent to the dam removed to create new stream channel
- ▶ Temporary sediment stockpiling
- ▶ Construction period traffic, sidewalk, noise, and air quality impacts

Wetland Resource Area Impacts

Bank

- All existing Bank impacted due to creation of new streambed

Bordering Land Subject to Flooding (BLSF)

- Net increase in BLSF due to change in stream alignment/loss of LUW

Bordering Vegetated Wetland (BVW)

- BVW loss due to stream reconstruction
- BVW habitat restored along new Bank

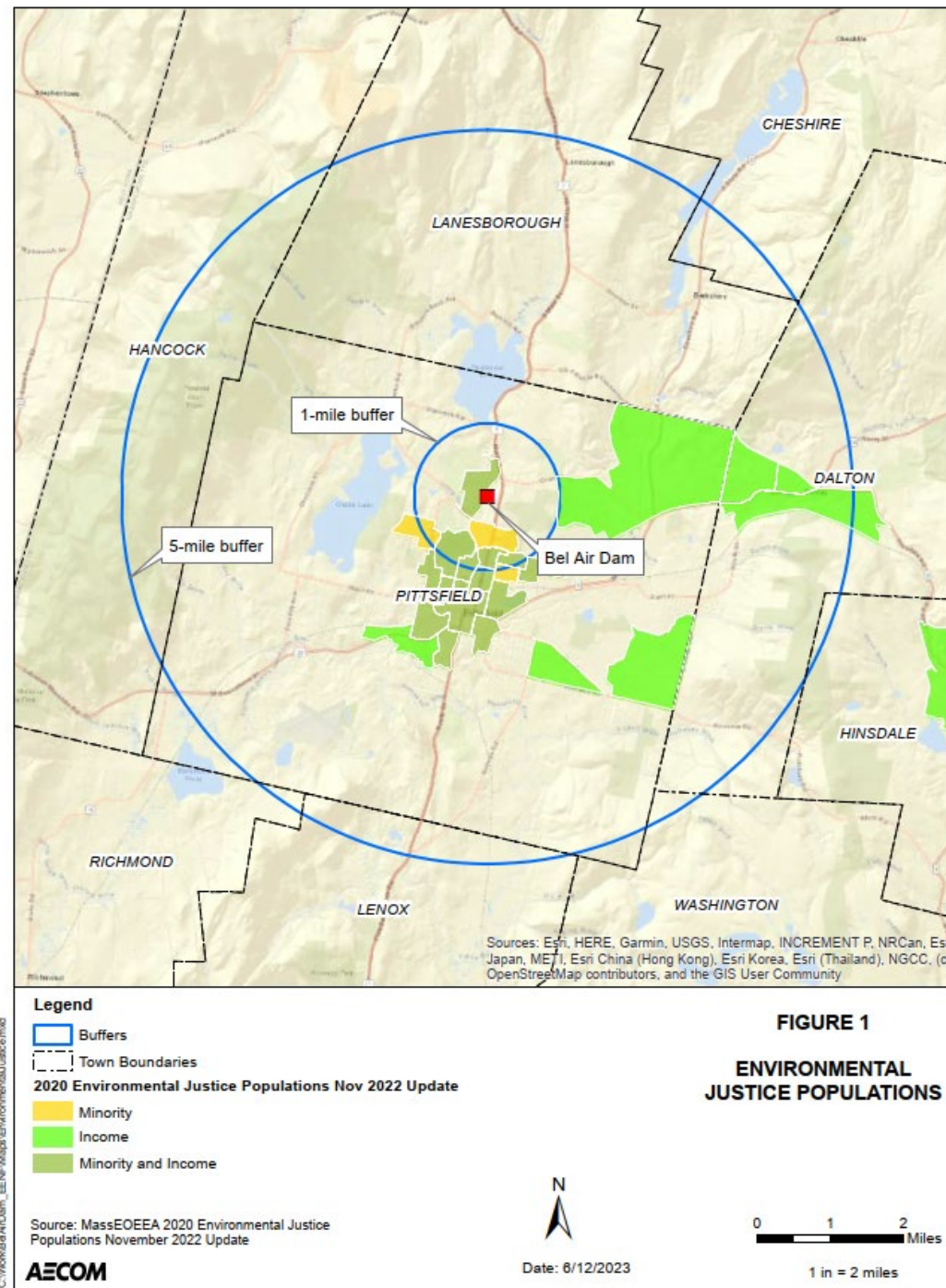
Land Under Water (LUW)

- Permanent LUW loss due dam removal, reducing impoundment

200-foot Riverfront Area

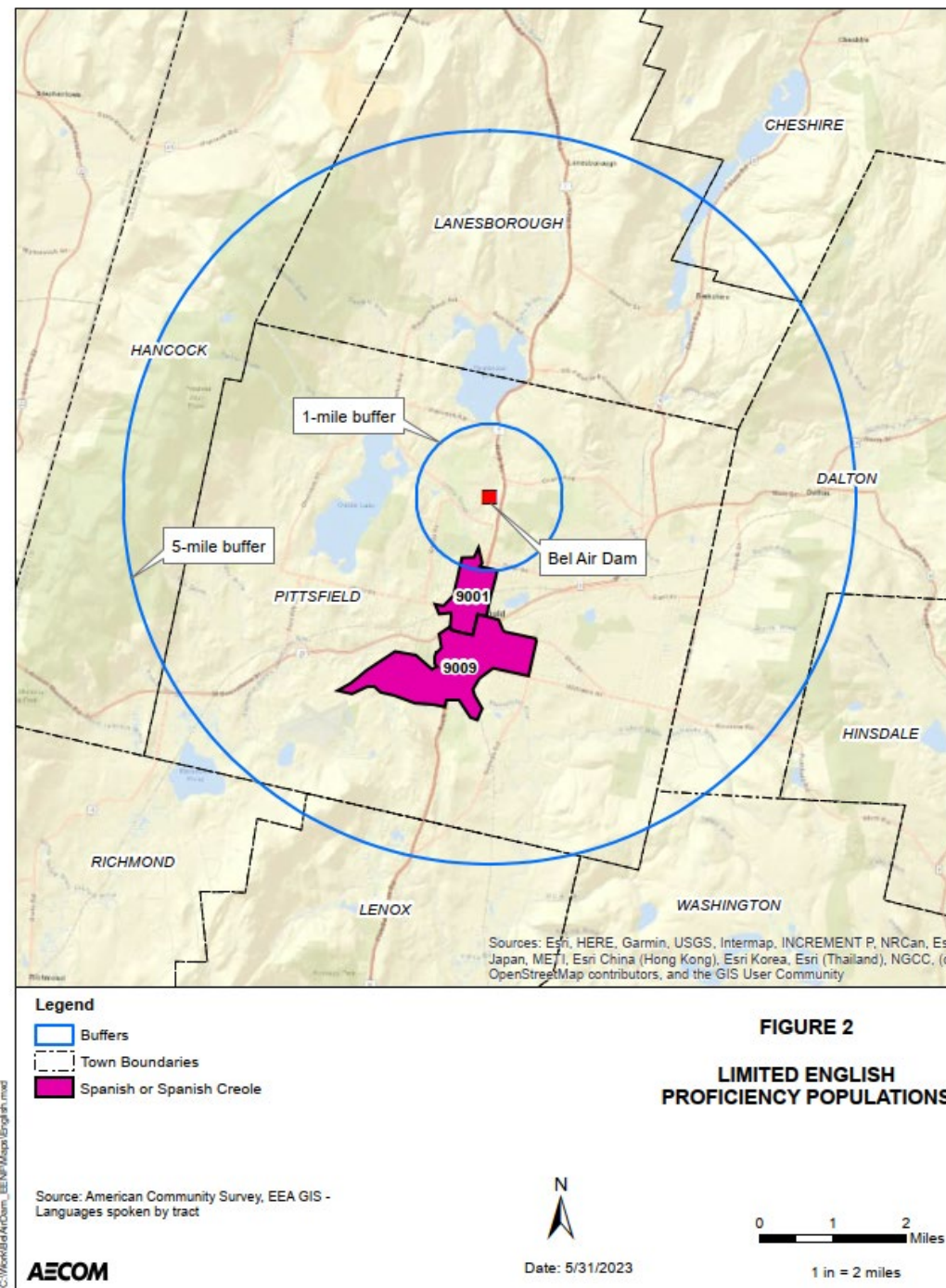
- Increase due to impoundment removal and restoration of natural stream alignment

Environmental Justice Communities



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Limited English Proficiency Populations



EJ Impacts

- ▶ Currently, dam failure would cause significant property damage and potential loss of life
- ▶ Project will benefit EJ populations due to the removal of an unsafe dam
- ▶ Project will also remove contaminated sediment, restore natural hydrology, and contribute to restoration of West Branch of the Housatonic River
- ▶ No expected long-term negative environmental or public health impacts
- ▶ Short-term construction impacts
 - ▶ Noise
 - ▶ Air quality - emissions and dust
 - ▶ Traffic

Mitigation

- ▶ Traffic/Pedestrian Management Plan
- ▶ Daytime/Work week construction hours
- ▶ Dust mitigation
- ▶ Air quality monitoring
- ▶ Silt fences, straw bales, and turbidity controls
 - ▶ Around sediment stockpiles
 - ▶ Around phased in-water work
- ▶ Habitat restoration/Sediment stabilization
 - ▶ Tree and shrub planting
 - ▶ Seeding
 - ▶ Restoration of wetland habitat

Downstream Parcel - 370 Waconah Street

- ▶ Currently not owned by City of Pittsfield
- ▶ Previous owner, Barry Hollister, is deceased
- ▶ Vacant since 1986
- ▶ Concrete slabs of former mill buildings remain; buildings removed in 2009
- ▶ Phase I and II Site Assessments identified arsenic and cadmium above MCP Reporting Levels
- ▶ Method 1 Risk Assessment determined No Significant Risk to human health, public safety, public welfare and the environment
- ▶ Anticipated to be used for staging during dam removal
- ▶ City plans to redevelop for light industrial use



Permitting Requirements

- ▶ Massachusetts Environmental Policy Act
- ▶ Pittsfield Conservation Commission/Mass DEP WPA NOI
- ▶ MassDEP 401 Water Quality Certification
- ▶ US Army Corps of Engineers Section Clean Water Act Section 404 Pre-Construction Notification (PCN)
- ▶ MassDEP Chapter 91 License
- ▶ FEMA Conditional Letter of Map Revision
- ▶ Massachusetts Historical Commission Project Notification Filing
- ▶ USFWS Endangered Species Consultation

Tentative Schedule*

- ▶ MEPA Submittal: January 2024 (initiates official public comment period)
- ▶ Additional Geotechnical Analysis: January 2024
- ▶ USACE PCN Submittal: March 2024
- ▶ FEMA CLOMR Submittal: Spring 2024
- ▶ Final EIR and State/Local Permit Application Submittals: Spring 2024
- ▶ Final Design: Spring - Fall 2024
- ▶ Bidding: Winter/Spring 2025
- ▶ Construction: Summer 2025

*Schedule dependent on weather and regulatory agency review timeframes and may be extended such that construction would begin in spring 2026

Bel Air Dam Removal

September 5, 2023

AECOM



GOODWILL 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

PONTIOSUC 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

