WHEELWRIGHT POND DAM REMOVAL PROJECT

Public Informational Meeting
Hardwick Municipal Building – March 1, 2022

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WELCOME & INTRODUCTIONS

- **Ric Raitto, Dam Owner**
- **MassDER & MassWildlife**
- **East Quabbin Land Trust**
- **Tighe & Bond**
- **Funding:**
  - MassDER
  - EEA Dam & Seawall Repair or Removal Grant Program
  - National Fish and Wildlife Foundation
  - EQLT
  - Dam Owner

Division of Ecological Restoration

To restore and protect the Commonwealth's rivers, wetlands and watersheds for the benefit of people and the environment.

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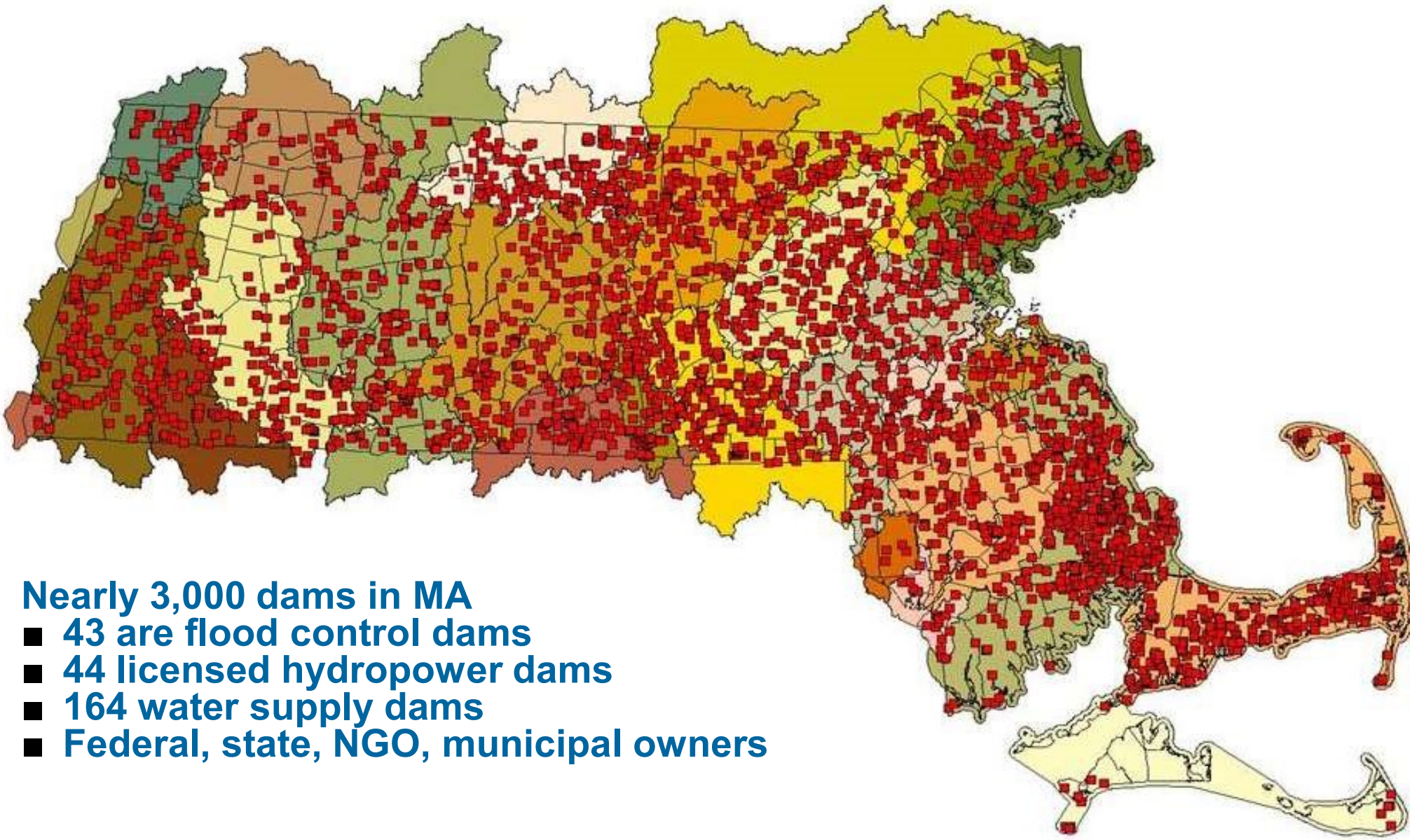
DAMS IN MASSACHUSETTS



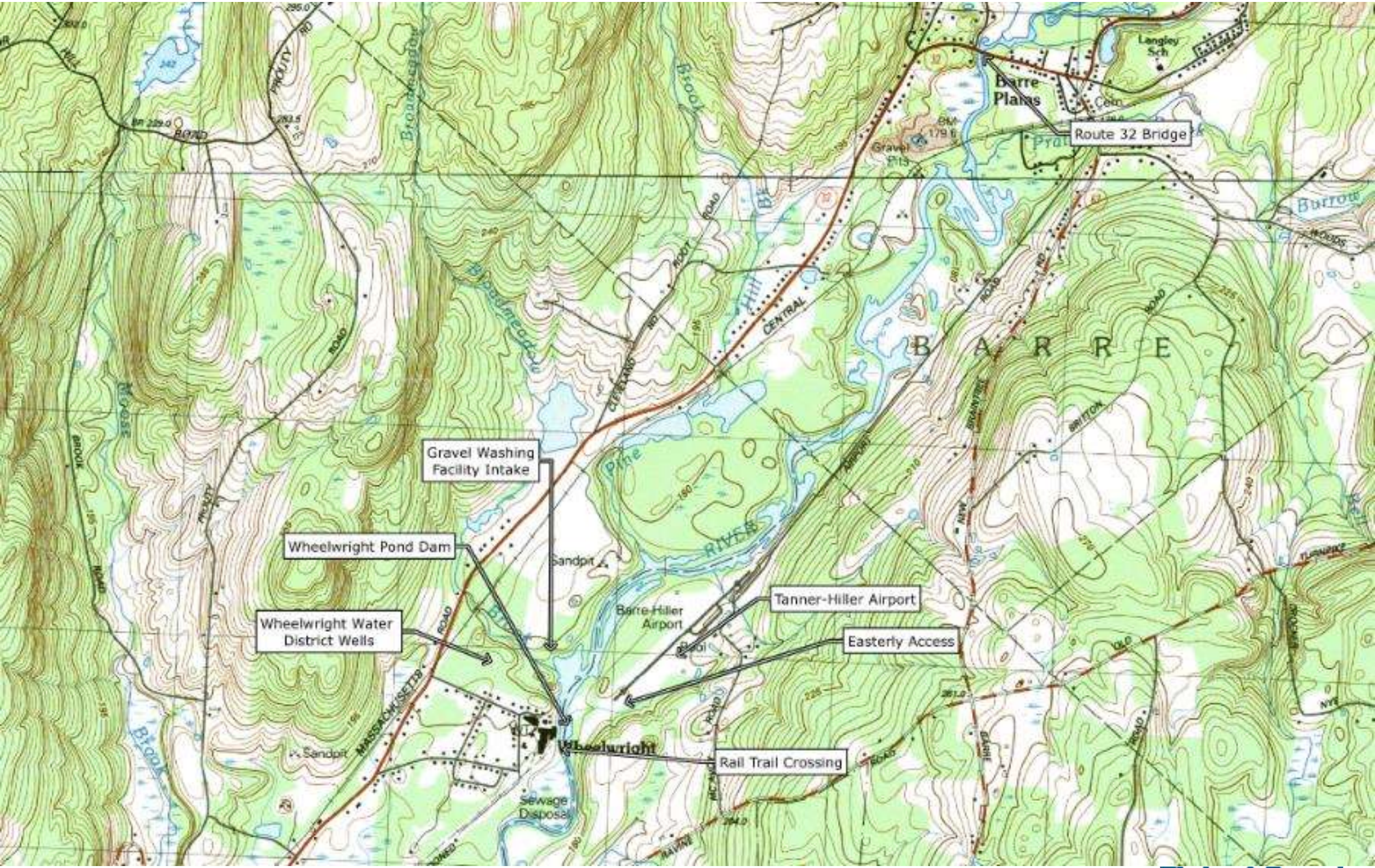
Nearly 3,000 dams in MA

- 43 are flood control dams
- 44 licensed hydropower dams
- 164 water supply dams
- Federal, state, NGO, municipal owners

PROJECT GOALS AND BENEFITS

- **Return Ware River to free-flowing state**
  - Improve resiliency, ecological habitat, and river continuity (41 miles)
- **Address obsolete infrastructure**
  - Improve public safety by removing relic dam
- **Improve recreation**
  - Paddling; future rail trail

PROJECT AREA OVERVIEW



PROJECT AREA OVERVIEW

EXISTING CONDITIONS

- **Wheelwright Pond Dam (MA00616)**
  - Associated with adjacent former mill
  - Obstruction on scenic river
  - Aging “relic” dam
  - MassDER Priority Project
  - Public Safety concerns
  - Recreational Opportunities
  - Adjacent to Tanner-Hiller Airport
  - One intake from impoundment
  - MassWildlife Cold Water Fisheries Resource
- **Ware River**
  - Artificially wide at dam
  - Particularly scenic and undeveloped section of the river
  - Natural resources along river near project site
  - Runs on the Hardwick, New Braintree town line
  - 2016 Integrated List: impaired by *Escherichia Coli*
  - Abandoned Boston & Maine/ MassCentral Railroad bed to south

WORK COMPLETED TO DATE

- Wetland Delineation
- Field review of river corridor
- Hydrology/Hydraulics
- Utility Research
- Sediment Characterization under DEP approved plan
- Water User Coordination
- Groundwater Modeling Study
- Rare & Threatened Species review / MassWildlife coordination
- Airport owner coordination
- RJ McDonald coordination
- Army Corps of Engineers coordination (Barre Falls Dam)
- Wastewater discharge permit review – Barre & Hardwick WWTPs
- Design development
- PNF (No historical/archaeological concerns)
- MEPA certificate / Initial permitting

PROPOSED PROJECT

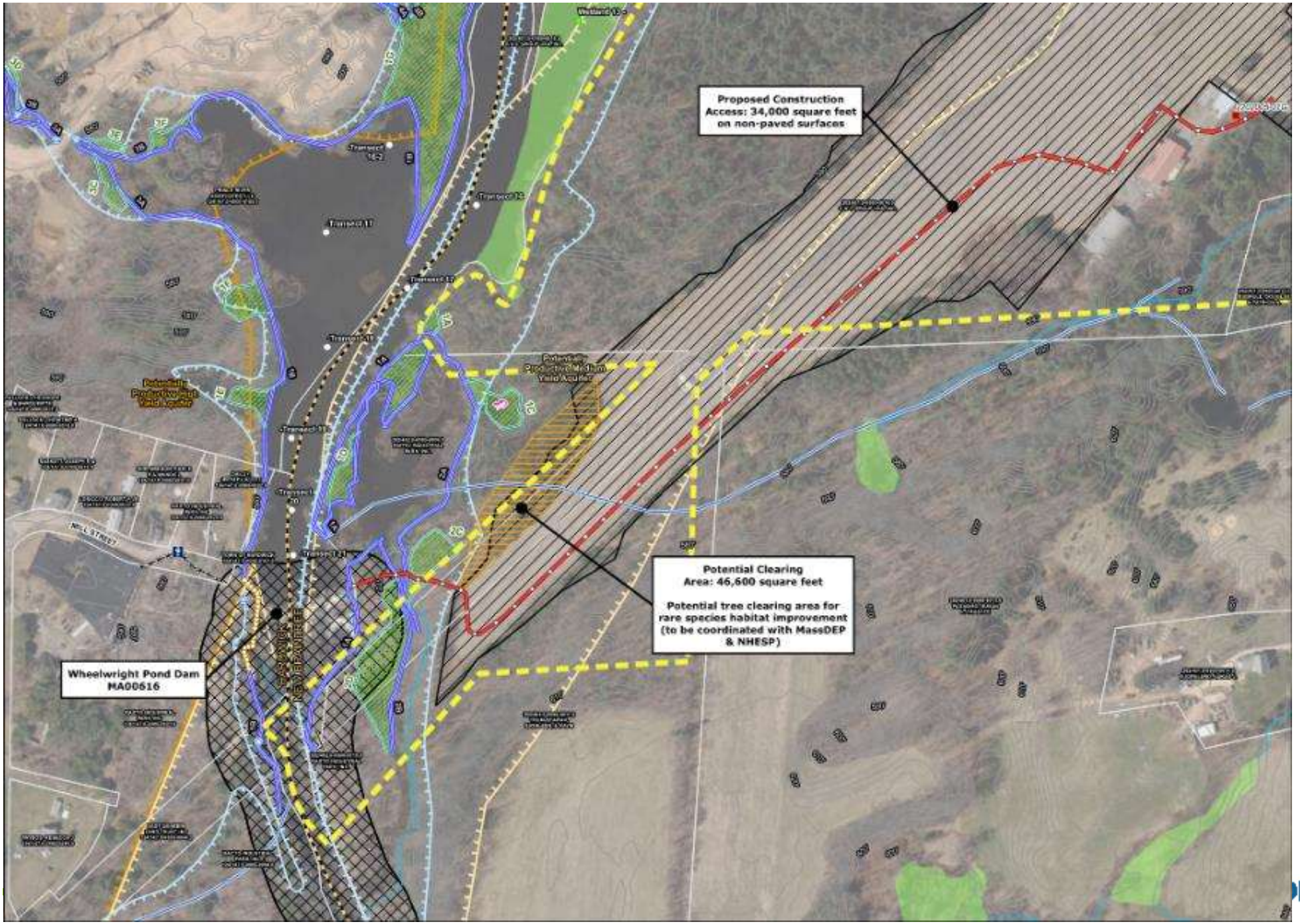
- **Multi-year (3-4 year) implementation**
  - Stage 1 – Preparation / establish access
  - Stage 2 – Multi-year drawdown, dam removal

STAGE 1 – PREPARATION AND ACCESS

- **Preparation**
  - Perform species surveys in coordination with NHESP/MassWildlife
  - Establish monitoring locations consistent with Sediment Management Plan and NHESP coordination

- **Access**
  - Stabilize unpaved access at Tanner-Hiller Airport
  - Create additional grassland bird habitat
  - Construct access for use for multi-year drawdown duration

ACCESS


Proposed Construction Access: 34,000 square feet on non-paved surfaces
Potential Clearing Area: 46,600 square feet
Potential tree clearing area for rare species habitat improvement (to be coordinated with MassDEP & NHESP)
Wheelwright Pond Dam MA00616

STAGE 2 – DAM REMOVAL

- **Phase 1**
  - Remove stoplogs to draw down impoundment over three-year period
  - Monitor public water wells, species, upstream and downstream sediment movement
  - Adapt plan, if necessary, in coordination with agencies
- **Phase 2**
  - Demolish Spillway
  - Restore River Right
- **Phase 3**
  - Demolish Floodgates
  - Relocate sediment to River Left
  - Restore dam area and implement bioengineering techniques on river left bank
- **Phase 4**
  - Post-removal monitoring

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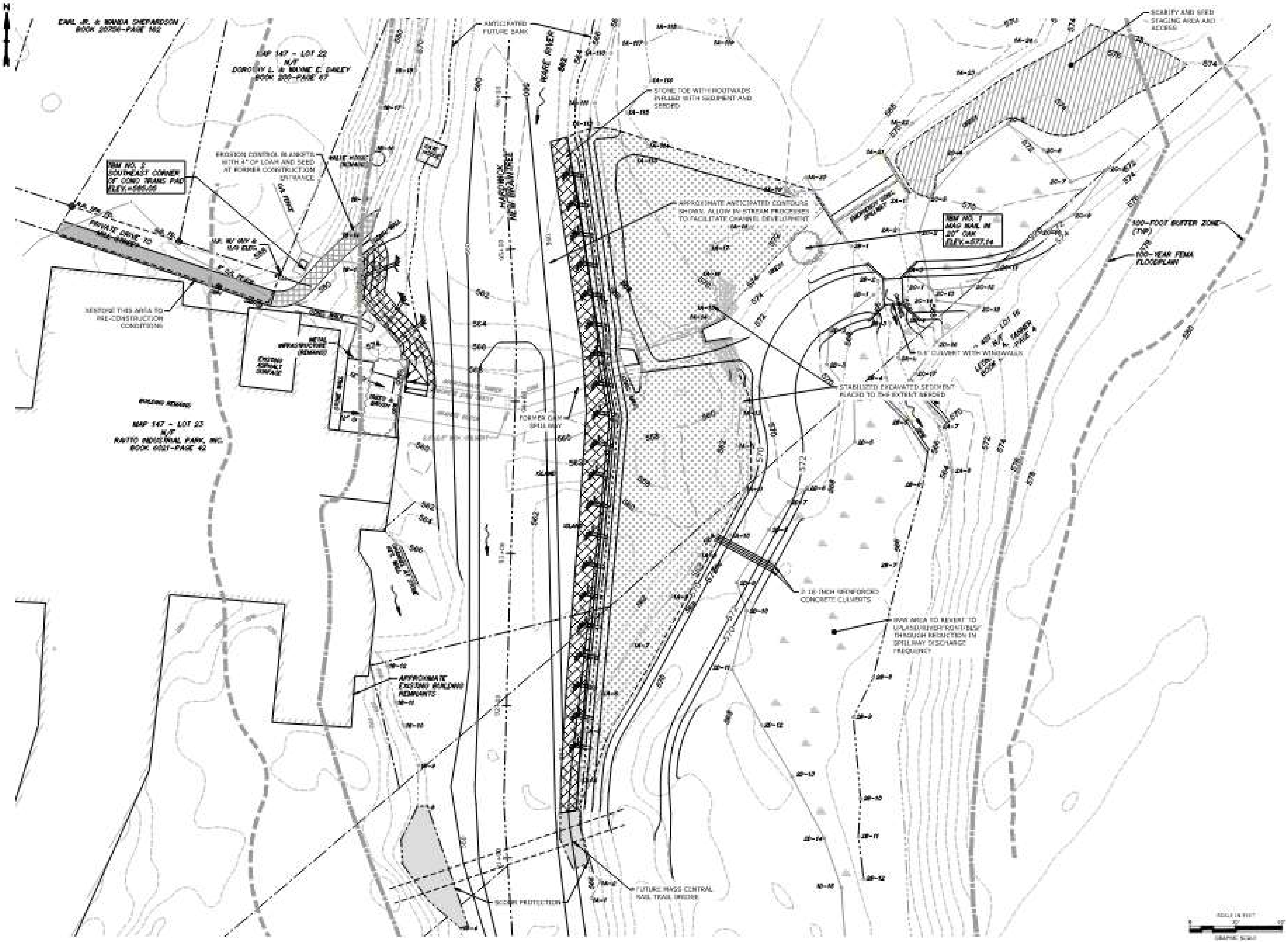
N
EARL JR. & WANDA SHEPARDSON
BOOK 20726-PAGE 162
MAP 147 - LOT 22
N/F
DOROTHY L. & WAYNE E. DALEY
BOOK 200-PAGE 67
ANTICIPATED FUTURE BANK
WARE RIVER
HARDWICK
NEW BRAINTREE
STONE TOE WITH ROOTWADS INFILLED WITH SEDIMENT AND SEEDED
SCARIFY AND SEED STAGING AREA AND ACCESS
EROSION CONTROL BLANKETS WITH 4" OF LOAM AND SEED AT FORMER CONSTRUCTION ENTRANCE
TBM NO. 2 SOUTHEAST CORNER OF CONC TRANS PAD
PRIVATE DRIVE TO
RESTORE THIS AREA TO PRE-CONSTRUCTION CONDITIONS
METAL INFRASTRUCTURE (REMAINS)
EXISTING ASPHALT SURFACE
APPROXIMATE ANTICIPATED CONTOURS SHOWN. ALLOW IN-STREAM PROCESSES TO FACILITATE CHANNEL DEVELOPMENT
TBM NO. 1 MAG NAIL IN 20" OAK ELEV.=577.14
100-FOOT BUFFER ZONE (TYP)
100-YEAR FEMA FLOODPLAIN
5.5' CULVERT WITH WINGWALLS
STABILIZED EXCAVATED SEDIMENT PLACED TO THE EXTENT NEEDED
MAP 147 - LOT 23
N/F
RAVTTO INDUSTRIAL PARK, INC.
BOOK 6021-PAGE 42
FORMER DAM SPILLWAY
2-18-INCH REINFORCED CONCRETE CULVERTS
APPROXIMATE EXISTING BUILDING REMNANTS
SCOUR PROTECTION
FUTURE MASS CENTRAL RAIL TRAIL BRIDGE
GRAPHIC SCALE

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SEDIMENT CHARACTERISTICS AND PLANNING

- **Wheelwright Pond sediment**
  - 80,000 cubic yards
  - 24,000 cubic yards expected to be mobile
  - Sediment moves naturally in rivers – restoring
- **Sediment sampling plan performed in coordination with MassDEP**
  - 18 samples collected
  - Elevated results in one off-channel sample, but adjacent samples had low levels.
  - Minor ecological threshold exceedances in and downstream of impoundment
- **Instream management proposed**
  - Limit drawdown rates to control and monitor sediment movement
  - Mechanical excavation/stabilization adjacent to dam

ALTERNATIVES CONSIDERED

- **No Action**
  - Dam will continue to deteriorate, eventually fail
- **Dam Rehabilitation**
  - Continued environmental damage
  - Significant repair and long-term maintenance
  - Dam owner not interested
- **Dam Breach Widths**
  - Wider vs. narrower
- **Sediment Management Approaches**

CLIMATE CHANGE CONSIDERATIONS

- **Considered in hydrology/hydraulics**
  - Flows used for analysis calculated using NOAA recommended methods to incorporate climate change
  - Results in higher flood elevations than using FEMA flows
- **Following dam removal**
  - Upstream flood levels will decrease
  - Downstream flood levels will not increase
- **Removal of unneeded dam increases resiliency**

PERMITS ANTICIPATED

- **MEPA - Complete**
- **MassDEP**
  - 401 Water Quality Certification - Submitted
  - Chapter 91 permit - Submitted
- **Army Corps of Engineers**
  - Section 404 Clean Water Act – Imminent
- **Hardwick, New Braintree, Barre Conservation Commissions**
  - Noticed of Intent - Spring of 2022
- **DCR**
  - Dam Safety Permit – Application pending

CHANGES EXPECTED

- **Will dam removal increase flooding?**
  - No – Wheelwright Pond Dam provides no flood attenuation
  - Upstream water levels will decrease providing some flood benefit
  - Downstream water levels will stay the same

CHANGES EXPECTED

- **Will mudflats be exposed?**
  - Yes – for a short time
  - Exposed sediments will revegetate via native seed bank


2019


2019


2020


2021

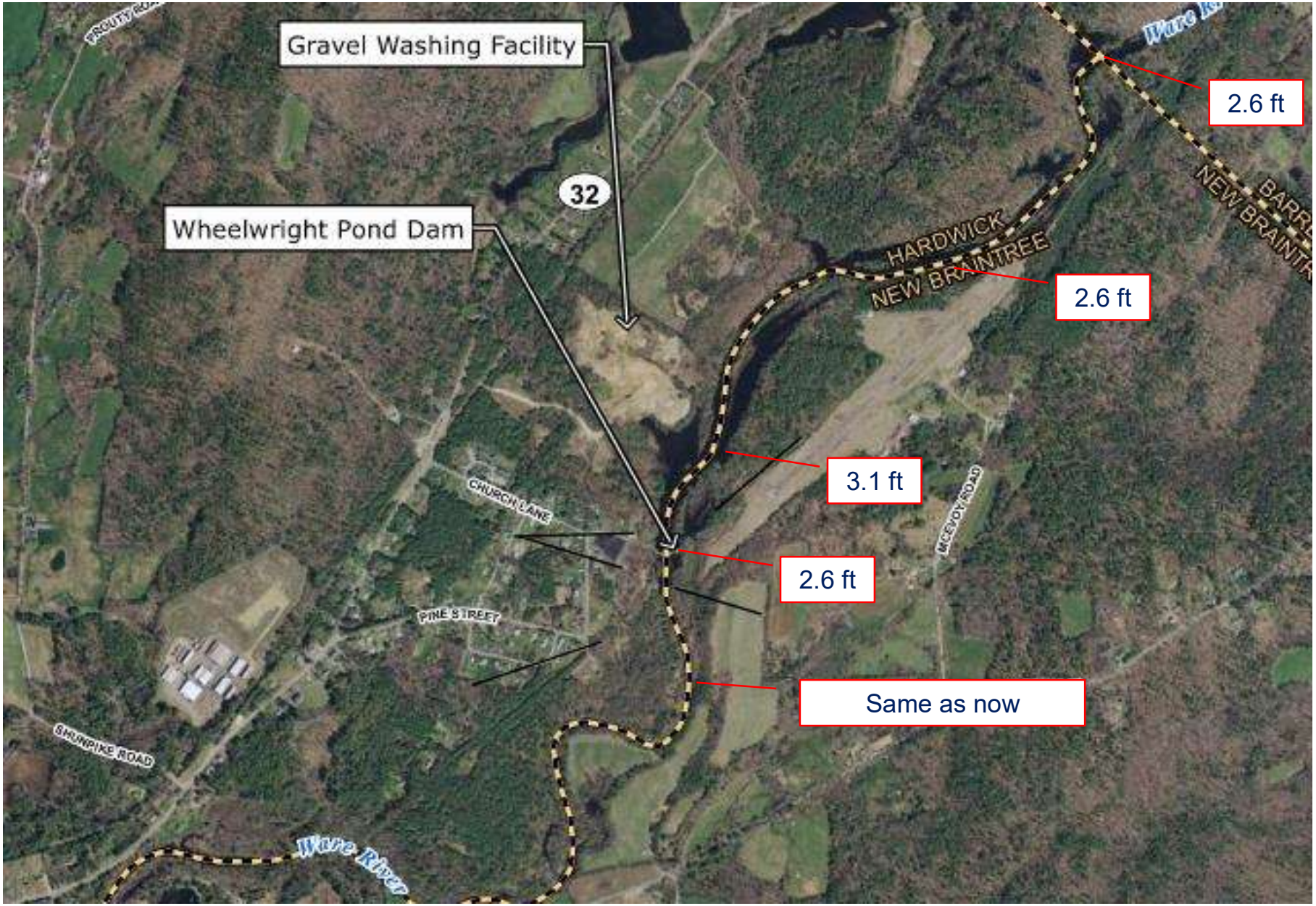

2016


2017

CHANGES EXPECTED

- **Will we still be able to paddle the river?**
  - Water levels downstream of the dam and upstream of the railroad bridge near Wheelwright Road will be the same
  - No more portage needed! Improved safety
  - Sediment shoals may appear and shift downstream from the dam for several years

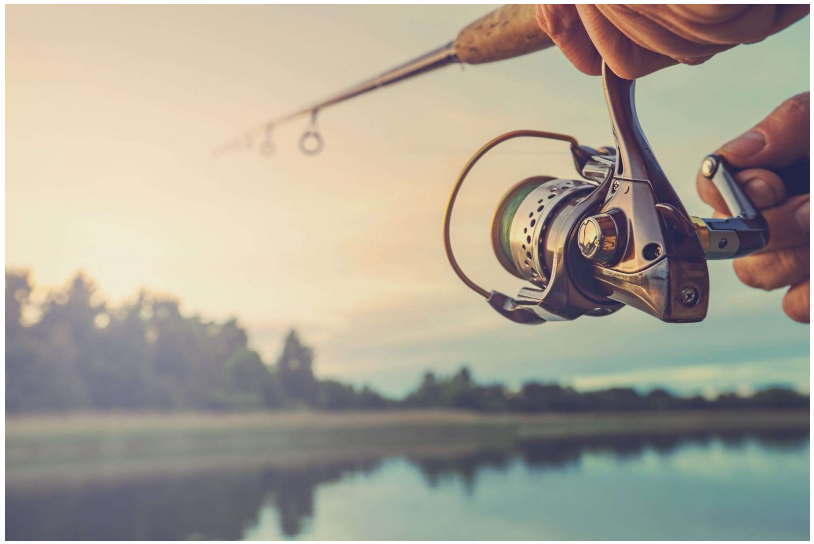
FUTURE WATER DEPTHS AT MEDIAN FLOW



FUTURE WATER DEPTHS AT MEDIAN FLOW

CHANGES EXPECTED

- **How will fishing be impacted?**
  - Colder water, more connectivity
  - Change is species composition likely
    - More trout, less warm-water fish



PROJECT TIMELINE & NEXT STEPS

- **SPRING 2022**
  - Submit remaining permit applications / conduct local hearings
  - Fundraise for construction
- **SUMMER / FALL 2022**
  - Monitor existing groundwater levels w/i the WWD
  - Conduct baseline habitat surveys w/ DFW
  - Finalize design plans
- **SPRING 2023***
  - Complete project permitting
  - Bid project
- **SUMMER 2023***
  - Begin Phase 1 construction

*Could occur in 2022 if permitting and funding allows

QUESTIONS / DISCUSSION

Submit written questions or comments to:
kris.houle@mass.gov