

**REQUEST FOR
DETERMINATION
OF APPLICABILITY**

**Fisher Street Water
Treatment Plant (WTP) –
Pilot Test**

Franklin

May 2023



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Request for Determination of Applicability (WPA 1) Form

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WPA Form 1



WPA Form 1- Request for Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

A. General Information

Important:
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. Applicant:

Franklin Dept. of Public Works (Water & Sewer Division) _____
Name
E-Mail Address: domartin@franklinma.gov

257 Fisher Street _____
Mailing Address

Franklin _____ MA _____ 02038 _____
City/Town State Zip Code

(508) 520-4910 _____ (508) 520-3486 _____
Phone Number Fax Number (if applicable)

2. Representative (if any):

CDM Smith Inc. _____
Firm

Magdalena Lofstedt, PWS _____
Contact Name
E-Mail Address: lofstedtmh@cdmsmith.com

75 State Street, Suite 701 _____
Mailing Address

Boston _____ MA _____ 02109 _____
City/Town State Zip Code

617-452-6597 _____
Phone Number Fax Number (if applicable)

B. Determinations

1. I request the Franklin _____ make the following determination(s). Check any that apply:
Conservation Commission

- a. whether the **area** depicted on plan(s) and/or map(s) referenced below is an area subject to jurisdiction of the Wetlands Protection Act.
- b. whether the **boundaries** of resource area(s) depicted on plan(s) and/or map(s) referenced below are accurately delineated.
- c. whether the **work** depicted on plan(s) referenced below is subject to the Wetlands Protection Act.
- d. whether the area and/or work depicted on plan(s) referenced below is subject to the jurisdiction of any **municipal wetlands ordinance** or **bylaw** of:

Franklin _____
Name of Municipality

- e. whether the following **scope of alternatives** is adequate for work in the Riverfront Area as depicted on referenced plan(s).



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C. Project Description

1. a. Project Location (use maps and plans to identify the location of the area subject to this request):

<u>257 Fisher Street</u> Street Address	<u>Franklin</u> City/Town
<u>287-109-000-000</u> Assessors Map/Plat Number	<u>--</u> Parcel/Lot Number

- b. Area Description (use additional paper, if necessary):

The project area is the Department of Public Works facility at 257 Fisher Street. Bordering Vegetated Wetlands (BVW) associated with Mine Brook is located west of the facility (see Figure 3). There are two constructed stormwater basins located immediately west of the DPW facility between the parking lot and the BVWs located further west. Bordering Land Subject to Flooding (BLSF) extend up to elevation 234.4 ft; the two stormwater basins are located within BLSF (see Figure 2).

- c. Plan and/or Map Reference(s):

<u>Figures 1-5</u> Title	<u>May1 2023</u> Date
_____ Title	_____ Date
_____ Title	_____ Date

2. a. Work Description (use additional paper and/or provide plan(s) of work, if necessary):

Conduct an iron and manganese removal pilot pump test to at the Fisher Street Water Treatment Plant (WTP) located at 257 Fisher Street in Franklin, MA. Town of Franklin has faced challenges with its Fisher Street WTP, which is a facility treating groundwater supply from Well Nos. 1, 2, 2A, and 2B. The Town has contracted with CDM Smith to conduct pilot scale testing of iron and manganese removal systems. See Attachment A for a detailed project description.



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C. Project Description (cont.)

b. Identify provisions of the Wetlands Protection Act or regulations which may exempt the applicant from having to file a Notice of Intent for all or part of the described work (use additional paper, if necessary).

3. a. If this application is a Request for Determination of Scope of Alternatives for work in the Riverfront Area, indicate the one classification below that best describes the project.

- Single family house on a lot recorded on or before 8/1/96
- Single family house on a lot recorded after 8/1/96
- Expansion of an existing structure on a lot recorded after 8/1/96
- Project, other than a single-family house or public project, where the applicant owned the lot before 8/7/96
- New agriculture or aquaculture project
- Public project where funds were appropriated prior to 8/7/96
- Project on a lot shown on an approved, definitive subdivision plan where there is a recorded deed restriction limiting total alteration of the Riverfront Area for the entire subdivision
- Residential subdivision; institutional, industrial, or commercial project
- Municipal project
- District, county, state, or federal government project
- Project required to evaluate off-site alternatives in more than one municipality in an Environmental Impact Report under MEPA or in an alternatives analysis pursuant to an application for a 404 permit from the U.S. Army Corps of Engineers or 401 Water Quality Certification from the Department of Environmental Protection.

b. Provide evidence (e.g., record of date subdivision lot was recorded) supporting the classification above (use additional paper and/or attach appropriate documents, if necessary.)



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D. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Request for Determination of Applicability and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge.

I further certify that the property owner, if different from the applicant, and the appropriate DEP Regional Office were sent a complete copy of this Request (including all appropriate documentation) simultaneously with the submittal of this Request to the Conservation Commission.

Failure by the applicant to send copies in a timely manner may result in dismissal of the Request for Determination of Applicability.

Name and address of the property owner:

Franklin Dept. of Public Works (Water & Sewer Division), Douglas Martin, P.E., Water & Sewer
Superintendent

257 Fisher Street

Mailing Address

Franklin

City/Town

MA

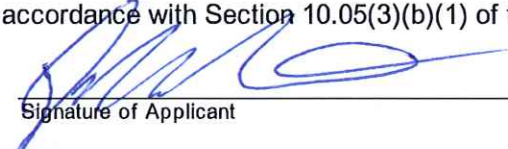
State

02038

Zip Code

Signatures:

I also understand that notification of this Request will be placed in a local newspaper at my expense in accordance with Section 10.05(3)(b)(1) of the Wetlands Protection Act regulations.


Signature of Applicant

5/5/23
Date

Signature of Representative (if any)

Date

Project Figures

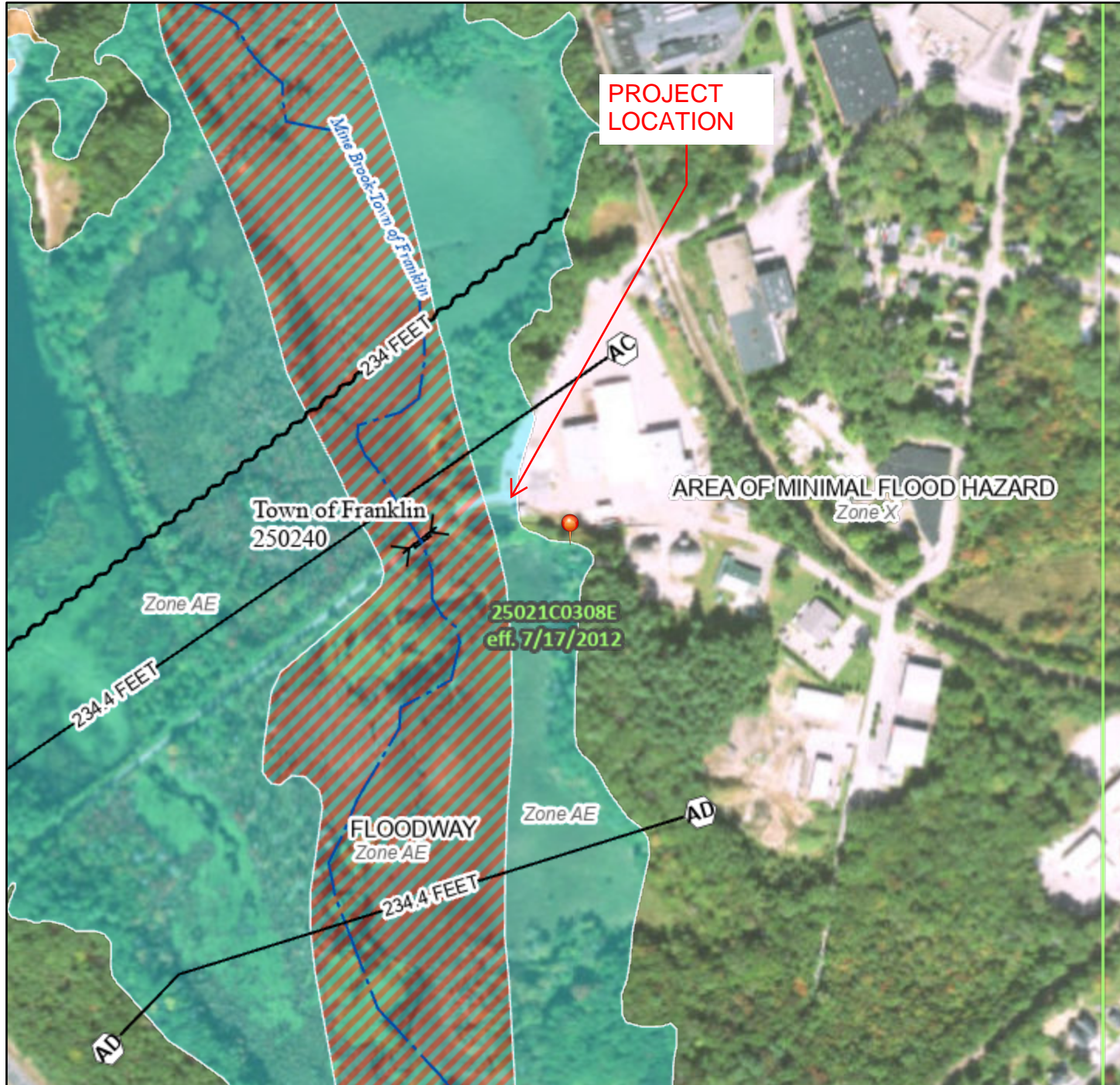
Figure 1: USGS Project Location Map



National Flood Hazard Layer FIRMette



71°24'59"W 42°4'59"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
MAP PANELS		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped
		The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

0 250 500 1,000 1,500 2,000 Feet 1:6,000
 Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

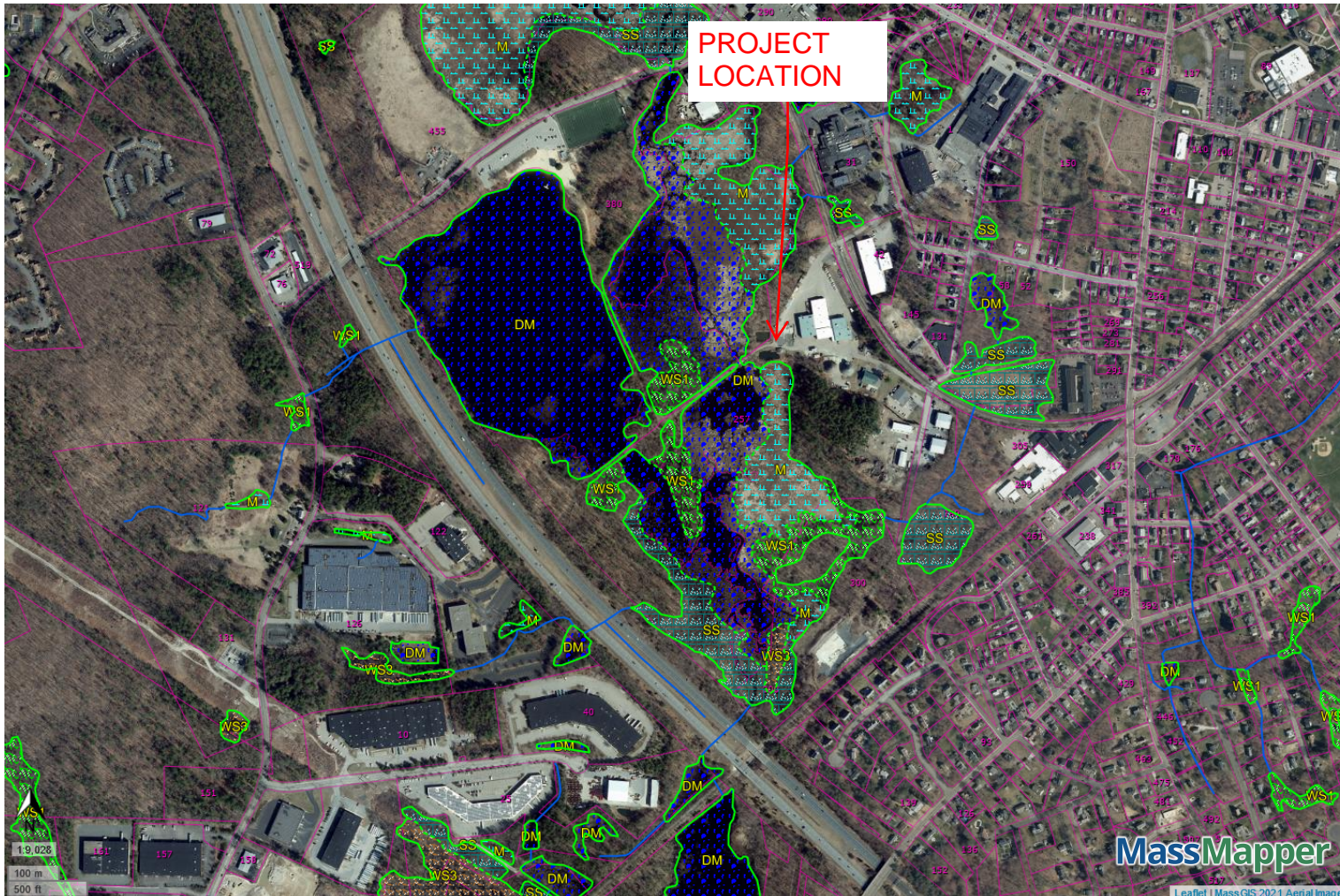
FIGURE 2: FLOOD INSURANCE RATE MAP

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/28/2023 at 2:03 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

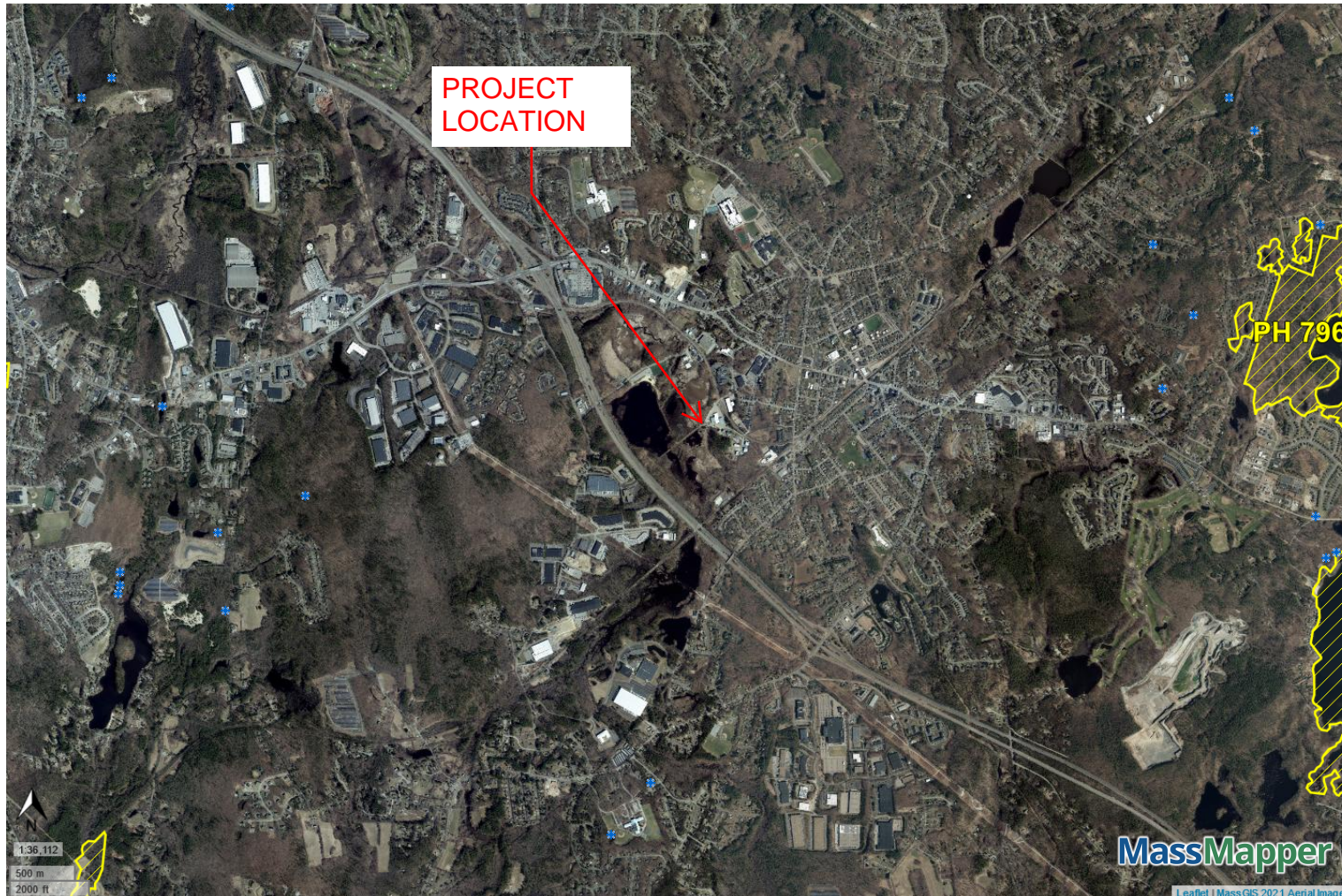
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels,

Figure 3: Wetland Resource Areas, 257 Fisher Street, Franklin



- NHESP Certified Vernal Pools
 - * Blue star symbol
- NHESP Priority Habitats of Rare Species
 - Yellow square symbol
- NHESP Estimated Habitats of Rare Wildlife
 - Green square symbol
- DEP Wetlands Linear Features
 - Blue line: SHORELINE
 - Blue line: HYDROLOGIC CONNECTION
 - Blue line: MEAN WATER LINE
 - Green line: APPARENT WETLAND LIMIT
 - Green line: CLOSURE LINE
 - Red line: EDGE OF INTERPRETED AREA
- DEP Wetlands Labels
- DEP Wetlands Detailed
 - Barrier Beach System
 - Barrier Beach-Deep Marsh
 - Barrier Beach-Wooded Swamp Mixed Trees
 - Barrier Beach-Coastal Beach
 - Barrier Beach-Coastal Dune
 - Barrier Beach-Marsh
 - Barrier Beach-Salt Marsh
 - Barrier Beach-Shrub Swamp
 - Barrier Beach-Wooded Swamp Coniferous
 - Barrier Beach-Wooded Swamp Deciduous
 - Bog
 - Coastal Bank Bluff or Sea Cliff
 - Coastal Beach
 - Coastal Dune
 - Cranberry Bog
 - Deep Marsh
 - Barrier Beach-Open Water
 - Open Water
 - Rocky Intertidal Shore
 - Salt Marsh
 - Shallow Marsh Meadow or Fen
 - Shrub Swamp
 - Tidal Flat
 - Wooded Swamp Coniferous
 - Wooded Swamp Deciduous
 - Wooded Swamp Mixed Trees
- Property Tax Parcels

Figure 4: Estimated and Priority Habitat Map



- NHESP Certified Vernal Pools
*
- NHESP Priority Habitats of Rare Species
□
- NHESP Estimated Habitats of Rare Wildlife
□
- Property Tax Parcels



FIGURE 5: SITE PLAN

Attachment A
Project Description

Attachment A

Project Narrative

1.0 Project Description

CDM Smith Inc. (CDM Smith), on behalf of the Franklin Department of Public Works (DPW), Sewer & Water Division (the Town), submits this Request for Determination of Applicability (RDA) to conduct an iron and manganese removal pilot test at the Fisher Street Water Treatment Plant (WTP) located at 10 Public Works Way in Franklin, MA. Town of Franklin has faced operational challenges with its Fisher Street WTP, which is a membrane filtration facility treating groundwater supply from Well Nos. 1, 2, 2A, and 2B. The Town has contracted with CDM Smith to conduct pilot scale testing of iron and manganese removal systems. The proposed pilot test is subject to review by the Conservation Commission under the Massachusetts Wetlands Protection Act (M.G.L. Chapter 131 §40) and Regulations (310 CMR 10.00) and the Town's Wetlands By-Law, Chapter 181 (Town By-Law) and Town Conservation Commission Regulations since the filtered effluent from the test will be discharged to the existing stormwater basin(s) located within Bordering Land Subject to Flooding (BLSF) and the 100-foot Buffer Zone (a regulated resource area under the Town By-Law and Regulations).

Please note that since this work consists of public utility maintenance, repair, and replacement activities, it is exempt from state review since M.G.L. Chapter 131 §40 exempts “*maintaining, repairing or replacing, but not substantially changing or enlarging, an existing and lawfully located structure or facility used in the service of the public and used to provide electric, gas, water, telephone, telegraph and other telecommunication services*” from filing an application under the Massachusetts Wetlands Protection Act (310 CMR 10.00).

The following sections address the existing on-site wetland conditions, work proposed adjacent to wetland resource areas, and proposed measures to mitigate any wetland resource area impacts.

2.0 Existing Conditions

The existing DPW facility is within a 43.12-acre Town-owned parcel identified as parcel ID 287-109-000-000 by the Town Assessors maps. The parcel of land is located within Zone II well head protection area.

2.1 Wetland Resource Areas

Field delineations have not been done since there will be no excavation or removal of vegetation for the proposed pilot testing. Adjacent wetland resource areas have been based on MassGIS (see Figure 3).

Bordering Vegetated Wetlands (BVW) is defined as:

“Freshwater wetlands which border on creeks, rivers, streams, ponds, and lakes. The types of freshwater wetlands are wet meadows, marshes, swamps, and bogs. Bordering

Vegetated Wetlands are areas where the soils are saturated and/or inundated such that they support a predominance of wetland indicator plants.”

BVW associated with Mine Brook is located west of the DPW facility at 257 Fisher Street.

Riverfront Area (RFA)

Riverfront Area (RFA) is defined as:

“the area of land between a river’s mean annual high water line and a parallel line measured horizontally ... outward from the river and a parallel line located 200 feet away ... In tidal rivers, the mean annual high-water line is coincident with the mean high water line determined under 310 CMR 10.23.” [310 CMR 10.58 (2)]

Riverfront Area (RFA) is presumed significant to all eight interests of the Act. A 200-foot Riverfront Area is associated with Mine Brook.

Bordering Land Subject to Flooding (BLSF)

Bordering Land Subject to Flooding (BLSF) is defined as:

“an area with low, flat topography adjacent to and inundated by flood waters rising from creeks, rivers, streams, ponds or lakes. It extends from the banks of these waterways and water bodies; where a bordering vegetated wetland occurs, it extends from said wetland.” [310 CMR 10.57 (2)]

The FEMA Flood Insurance Rate Map (FIRM) identifies the 100-year floodplain in the project area as 234.4 feet NAVD 88 (see Figure 3).

2.2 Estimated Habitat

There are no state listed rare or endangered species within or adjacent to the project area according to a review of the online GIS viewer (See Figure 4).

2.3 Local Jurisdictional Buffer Zone Resource Areas and 25-ft No Disturb Zone

The Town of Franklin considers 100 feet from a defined/delineated resource area as the buffer zone and consequently as an additional protected resource. The Town Bylaw and Regulations regulate activities within the 0 to 25-ft Buffer Zone Resource Area, the 25-ft to 50-ft Buffer Zone Resource Area, and the 50-ft to 100-ft Buffer Zone Resource Area. In addition, the Franklin Conservation Commission has instituted a no disturb buffer zone that extends 25 feet from the defined/delineated resource area.

3.0 Iron and Manganese Pilot Test

CDM Smith has subcontracted with Blueleaf, Inc. to perform a pilot test over the course of 10 working days to examine the use of pressurized adsorptive media for the removal of iron and manganese as a replacement treatment method to the existing membrane filtration process. Two media types (GreensandPlus and pyrolusite) will be compared during the pilot test on blended water from Well Nos. 1, 2, 2A, and 2B. The goals of the evaluation are to determine the ability of the selected adsorptive media to remove iron and manganese from the raw water source and to determine allowable filter loading rates, appropriate chemical feed rates, maximum run times, expected finished water quality, backwash water characterization, and other information

necessary for the design and permitting of a full—scale treatment system. The pilot study will be scheduled for a two-week period sometime between May and September 2023.

3.1 Work within 100-ft Buffer Zone and BLSF

The pilot filters with appurtenant equipment and field-testing laboratory are housed in a cargo-style trailer as shown in the image below.



Blueleaf Pilot Trailer Exterior View

The pilot trailer will be parked in the back of the DPW Facility as shown on Figure 5. Blended raw groundwater from Well Nos. 1, 2, 2A, and 2B will supply the pilot trailer from a nearby hydrant located on the raw water main. Raw water will be treated with potassium hydroxide to adjust the pH to a neutral value and an oxidant to oxidize dissolved iron and manganese. Water will then be filtered via four filter columns (two each filled with GreensandPlus or pyrolusite media).

Filtered effluent from the pilot test will be discharged into a 150-gallon effluent tank that continuously overflows to the stormwater detention basin(s) on-site via temporary tubing or piping that is laid on the ground. A temporary splash pad will be installed and secured in place at the filtered effluent discharge point at the stormwater basin(s) to avoid any erosion of the bank or basin bottom. Filter effluent will be dechlorinated, as necessary. Upon completion of the pilot test, all temporary tubing/piping, and splash pad will be removed and any disturbance to soils (however not anticipated) will be permanently stabilized with an erosion control seed mixture.

Proposed work within BLSF and the 100-ft Buffer Zone is limited to laying temporary tubing or piping and discharge of filtered raw groundwater to the existing stormwater basin(s).

4.0 Franklin Bylaw Regulations

The proposed activities within BLSF and the 100-foot Buffer Zone Resource Areas are in compliance with the performance standards of the Franklin Bylaw Regulations Section 4.3 and 4.4 since the work is limited to laying temporary tubing or piping and discharge of filtered water to the existing stormwater basin(s). No work is proposed within the 25-ft Buffer Zone.

5.0 Mitigation Measures

The following summary presents the mitigation measures that will be implemented to avoid and minimize wetland impacts during construction.

- A temporary splash pad (i.e., piece of plywood) will be installed and secured in place at the filtered effluent discharge point at the stormwater basin(s) to avoid any erosion of the bank or basin bottom.
- Dechlorination of filter effluent water, as necessary, to avoid introduction of chlorine to water in the basin.

Post Construction Measures

The following summary of mitigation measures will be implemented to restore any short-term impacts that occur in or adjacent to wetlands.

- If there is disturbance to soils in BLSF and the 100-Foot Buffer Zone (not anticipated) the disturbed areas will be permanently stabilized with an erosion control seed mixture to match preconstruction conditions. The area will be maintained and re-seeded to ensure that vegetation cover is adequate to stabilize the exposed soil.
- If seeding occurs outside of the growing season, temporary stabilization measures (i.e., mulching or erosion control blankets) will be used to prevent erosion until the area can be seeded during the following growing season.

6.0 Summary

Proposed work is limited to temporary discharge filtered effluent from a 10-day iron and manganese treatment pilot test into existing stormwater basin(s) at the existing Fisher Street WTP. The stormwater basins are located within BLSF and the 100-ft Buffer Zone. The interests of the Town By-Law and Regulations will not be impaired as a result of this project and all appropriate erosion and sedimentation control measures will be implemented throughout the course of the pilot test construction to prevent erosion and the transport of sediment. The Franklin DPW is requesting a Negative Determination to allow this work to proceed without a filing of a Notice of Intent.

