

March 19, 2024

Ms. Breeka Lí Goodlander, Agent
Town of Franklin Conservation Commission
355 East Central Street
Franklin, MA 02038

**Re: Miscoe Brook Culvert Replacement – South Street over Miscoe Brook
MassDEP File No. 159-1289
Notice of Intent Peer Review**

Dear Ms. Goodlander:

BETA Group, Inc. (BETA) has reviewed documents and plans for the replacement of the culvert carrying Miscoe Brook under South Street (the Project) along **South Street between Ruby Way and McKinley Road** in Franklin, Massachusetts (the “Site”). This letter is provided to present BETA’s findings, comments, and recommendations.

BASIS OF REVIEW

The following documents were received by BETA and will form the basis of the review:

- Notice of Intent (NOI) entitled **Proposed Culvert Replacement Southern Street over Miscoe Brook**; prepared by The Engineering Corps. Inc., dated February 5, 2024.
- Plans (7 sheets) entitled **Culvert Replacement South Street over Miscoe Brook**; not dated; prepared by The Engineering Corps. Inc.; unstamped.
- Plans (1 sheet) entitled **Resource Area Impacts Plan**; dated February 1, 2024; prepared by The Engineering Corps. Inc.; unstamped.

Review by BETA included the above items along with the following, as applicable:

- Site visit on March 18, 2024
- **Massachusetts Wetlands Protection Act 310 CMR 10.00** effective October 24, 2014
- **Wetlands Protection Chapter 181 From the Code of the Town of Franklin**, dated August 20, 1997
- **Conservation Commission Bylaws Chapter 271 From the Code of the Town of Franklin**, dated July 11, 2019
- **Town of Franklin Conservation Commission Regulations**, dated October 3, 2019
- **Town of Franklin Best Development Practices Guidebook**, dated September 2016

SITE AND PROJECT DESCRIPTION

The Site consists of the segment of South Street over Miscoe Brook in Franklin, Massachusetts. The Site is bounded to the north and south by Miscoe Brook and undeveloped forested areas, and to the east and west by South Street and residential homes. Existing improvements at the Site include a two (2)-lane bituminous concrete roadway, guardrails, and the culvert carrying Miscoe Brook under South Street. The stone culvert was extended at some point in the 20th century and is presently in poor condition.

Resource Areas Subject to Protection under the Massachusetts Wetlands Protection Act (M.G.L. ch.131 s.40) and its implementing regulations at 310 CMR 10.00 (collectively “the Act”), as well as the Town of Franklin Wetlands Protection Bylaw (Chapter 181) and its associated regulations (collectively “the Bylaw”) are present at the Site and include:

- Inland Bank (to perennial stream);
- Bordering Vegetated Wetland (BVW);
- Land Under Water (LUW);
- Bordering Land Subject to Flooding (BLSF); and,
- Riverfront Area (RA).

The Site is not located within a Zone I, Zone II, or Interim Wellhead Protections Area, and there are no Surface Water Protection Areas (Zone A, B, or C), or Outstanding Resource Waters (ORWs) present. There are no Areas of Critical Environmental Concern (ACEC) present, and the most recent Natural Heritage and Endangered Species Program (NHESP) mapping does not depict any Priority Habitat of Rare Species or Estimated Habitat of Rare Wildlife at the Site. There are no NHESP-mapped Potential Vernal Pools (PVPs) or Certified Vernal Pools (CVPs) located on or within 100 feet of the Site. According to MassGIS, Miscoe Brook is classified as a Coldwater Fishery.

According to the FEMA Flood Insurance Rate Map (FIRM) community panels number 25021C0316E dated July 17, 2012, the Site is located within a Zone A, 1% Flood Hazard with no Base Flood Elevation (BFE).

Natural Resource Conservation Service (NRCS) soil maps of the Site indicate the presence of Swansea Muck with a Hydrologic Soil Group (HSG) rating of B/D and Sudbury fine sandy loam, with a HSG rating of B.

The Applicant seeks approval for the removal and replacement of the existing culvert conveying Miscoe Brook under South Street. Proposed work includes the following activities (collectively referred to as the “Project”):

- Installation of erosion controls and a turbidity curtain;
- Closure of South Street;
- Diversion of Miscoe Brook through a bypass pipe;
- Removal of the existing stone culvert;
- Installation of new concrete headwalls, steel guardrails and resurfacing of portions of the roadway;
- Use of water controls including pumps and a stilling basin;
- Installation of the new open bottom box culvert;
- Removal of the bypass pipe and water control devices;
- Restoration of Resource Areas; and
- Removal of erosion controls and the turbidity curtain.

The Project will result in temporary and permanent impacts to Bank, LUW, BVW, BLSF, RA, and Buffer Zone. According to the Applicant, the Project is being filed as a Limited Project under 310 CMR 10.53(3)(i)¹.

¹The maintenance, repair and improvement (but not substantial enlargement except when necessary to meet the Massachusetts Stream Crossing Standards) of structures, including dams and reservoirs and appurtenant works to such dams and reservoirs, buildings, piers, towers, headwalls, bridges, and culverts which existed on the effective date of 310 CMR 10.51 through 10.60 (April 1, 1983).

ADMINISTRATIVE AND PLAN COMMENTS

The plan set (as identified above) is missing information and requires additional information for clarity.

Table 1. NOI Plan

NOI Plan Requirements	Yes	No
Scale of 40'=1" or larger	✓	
North Arrow (with reference)		✓ (See comment A2a)
Topographic contours (2' intervals)	✓	
Existing Conditions Topography (with source and date of survey)	✓	
Proposed Topography	✓	
Existing and Proposed Vegetation		✓ (See comment A2b)
Existing Structures and Improvements	✓	
Resource Areas and Buffer Zones labeled	✓	
Location of Erosion Controls	✓	
Details of Proposed Structures	✓	
Construction Sequence and Schedule		✓ (See comment A2c)
Registered PLS Stamp (Existing Condition Plans Only)		✓ (See comment A2d)
Assessors' Reference	✓	
Abutting Property Assessors' Reference	✓	
Survey Benchmark	✓	
Accurate Plan Scale	✓	

PLAN AND GENERAL COMMENTS

A1. MassDEP has issued a file number with the following technical comments:

- a. It appears that this project includes dredging within an outstanding resource water and shall require a 401 Water Quality Certificate.
- b. This project appears to result in a net loss of 30sf of BVW. As per 310 CMR 10.55(4)(c) the issuing authority may issue an Order of Conditions permitting work which results in the loss of a portion of Bordering Vegetated Wetland when; 1. said portion has a surface area less than 500 square feet; 2. said portion extends in a distinct linear configuration ("finger-like") into adjacent uplands; AND 3. in the judgment of the issuing authority it is not reasonable to scale down, redesign or otherwise change the proposed work so that it could be completed without loss of said wetland. The Applicant must demonstrate that the loss is within a fingerlike projection, or the net loss will require a 401 Water Quality Certificate.

As noted in Comment W14, BETA concurs with MassDEP's comment regarding wetland replication. However, BETA is not aware of Miscoe Brook or its associated wetlands qualifying as Outstanding

Resource Waters per the definition in 314 CMR 4.02². Based on the provisions of 314 CMR 4.06(2)³ and Miscoe Brook's absence from the tables in 314 CMR 4.06(6), the Resource Areas at the Site would only qualify as Class B, High Quality Waters.

- A2. The following elements are missing from the provided plans:
- a. The north arrow reference should be provided on the plans per Bylaw Regulation Section 7.18.1.3.
 - b. Existing and proposed vegetation (i.e., tree lines) should be provided on the plans per Bylaw Regulation Section 7.18.1.5. and 7.18.1.6
 - c. A Construction Sequence and Schedule should be provided on the plans and within the NOI package per Bylaw Regulation 7.15.
 - d. A Professional Land Surveyor (PLS) stamp should be provided to certify the accuracy of the existing conditions data.
- A3. The proposed location of permanent BVW loss should be labeled on the Resource Area Impacts Plan.

WETLAND RESOURCE AREAS AND REGULATORY REVIEW

BETA conducted an onsite and completed a regulatory review of the submitted documents and plans, focusing on compliance with Resource Area definitions and Performance Standards set forth in the Act and the Bylaw. The Project is subject to the Massachusetts Stormwater Management Standards as a Redevelopment Project.

The NOI application includes narrative information describing the Project, and the proposed impacts within Resource Areas and Buffer Zone have generally been quantified, described, and depicted on the provided plans. Mitigation measures include the use of erosion controls, restoration of Resource Areas, and compliance with the Massachusetts Stormwater Standards and Stream Crossing Standards. BETA concurs with the delineations of Resource Areas at the Site based on the Site visit except where noted below.

The Project requires the submission of additional and revised information to comply with the Act and the Bylaw, including a wetland replication plan for the proposed permanent fill of BVW and additional information associated with the water control plan. In addition, further details should be provided on the proposed streambed restoration materials due to the anticipation of off-site borrow being required. Documentation of compliance with all provisions of the Bylaw (except for where a Variance is being requested) must also be provided. Prior to addressing these comments, it is recommended that the

² Waters designated for protection in 314 CMR 4.06, which include Class A Public Water Supplies (314 CMR 4.06(1)(d)1.) and their tributaries, certain wetlands as specified in 314 CMR 4.06(2), certain surface waters designated in 314 CMR 4.06(6)(b), and other waters as determined by the Department based on their outstanding socio-economic, recreational, ecological and/or aesthetic values

³ Wetlands bordering Class A Outstanding Resource Waters are designated Class A Outstanding Resource Waters. Vernal pools are designated Class B Outstanding Resource Waters. All wetlands bordering other Class B, SB or SA Outstanding Resource Waters are designated as Outstanding Resource Waters to the boundary of the defined area. All other wetlands are designated Class B, High Quality Waters for inland waters and Class SA, High Quality Waters for coastal and marine waters

Applicant obtain signatures from all non-municipal property owners where work will occur. It is anticipated that work on land owned by the Massachusetts Department of Conservation and Recreation (DCR) will require a Construction Access Permit from DCR.

Additional information is required to describe the Site, the work, and the effect of the work on the interests identified in the Act and the Bylaw.

RESOURCE AREA AND BOUNDARY COMMENTS

BETA conducted a Site visit on March 18, 2024, to assess existing conditions and review Resource Area delineations, focusing on the definitions and methodologies referenced under the Act and the Bylaw. Review of Resource Area delineations was limited to locations where the delineated boundary was within, or may be within, 100 feet of the limits of work.

- W1. BETA concurs with the delineated BVW boundary including the WFA100 Series, WFA200 Series, WFB100 Series and WFB200 Series flagging based on the presence of hydrology (saturated to surface, water-stained leaves, and drainage patterns), hydric soils, and hydrophytic vegetation including skunk cabbage (*Symplocarpus foetidus*), northern spicebush (*Lindera benzoin*), and elderberry (*Sambucus nigra*).
- W2. BETA also concurs with the delineated Bank/Mean Annual High Water (MAHW) boundaries including the MAHW100 Series, MAHW200 Series, and MAHW300 Series flagging based on bankfull indicators including an observable break in slope and change in vegetative community.
- W3. The MAHW/Bank boundaries associated with the MAHW400 Series flagging appears to be located upgradient of the actual location of Bank/MAHW. While the Bylaw defines the upper boundary of Bank as *the first observable break in slope or the mean annual flood level, whichever is higher*, the boundaries of both Bank and MAHW appear to follow a clear transition from a fluvial regime to a vegetated wetland located downgradient of the MAHW400 Series flagging. While water-stained leaves are present upgradient of the first observable break in slope, no other MAHW indicators (drift patterns, scour, etc.) were observed in this area.
- BETA recommends that flagging at this location be revised, as portions of proposed LUW impacts would actually be considered BVW impacts.
- W4. The boundary of BLSF is depicted via overlay due to there being no published base flood elevation associated with the Zone A Flood Hazard, and the Applicant did not establish a 100-year flood elevation. It is recommended that the Commission include a finding in the Order of Conditions stating that the BLSF boundary is not approved under this filing.
- W5. The Applicant states that the proposed 16-foot-wide culvert will provide a span of 1.23 times bankfull width; however, the StreamStats report indicates that the bankfull width is 16 feet. The Applicant should clarify if field measurements were taken to supersede the StreamStats bankfull width, or if the proposed span will not exceed bankfull width.

CONSTRUCTION COMMENTS

- W6. Material stockpile and laydown areas should be labeled on the Project plans.
- W7. Proposed erosion controls on the Plan Set include the use of compost filter tubes, silt boom fence and riprap. These controls are appropriate for this Project, however within the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan the use of silt fence is

proposed. BETA defers to the Commission on whether they will permit the option of using silt fence, as the Commission traditionally requests alternative erosion controls.

W8. The Resource Area Impacts Plan references a water control plan; however, this plan was not provided with the exception of a standard construction specification. It is recommended that the Applicant provide details and narratives supporting the proposed water control system, including methods of scour protection at the downstream end of the bypass pipe, provisions for monitoring turbidity at the dewatering discharge point, and design specifications for the pumps and stilling basin. In addition, discharge points for the dewatering of groundwater are shown within Resource Areas and should be set back to the maximum extent practicable.

MITIGATION COMMENTS

W9. Provide a wetland replication plan, including proposed grades, soil amendments, and species to be planted.

W10. Provide specifications for both wetland replication and restoration to ensure that the selected contractor is aware of the requirements of this work. This should include a proposed seed mixture with anticipated native species.

W11. Based on the footprint of the existing stone culvert and the expansion of LUW resulting from the Project, it is anticipated that off-site borrow will be required for LUW restoration. The Applicant should provide the requirements for the proposed streambed material based on a qualitative assessment of the existing, natural streambed.

W12. Slope stabilization with vegetation including perennial grasses and legumes has been proposed within the Erosion and Sedimentation Control Plan. BETA recommends using a native seed mix similar to the New England Erosion Control/Restoration Mix for slope stabilization within uplands.

W13. Provide a procedure for the restoration of Banks within the culvert. This should include sequencing, a cross-section view, and necessary BMPs including coir logs and erosion control netting. The proposed culvert is three (3) feet high and will be inaccessible following installation.

WPA PERFORMANCE STANDARDS COMMENTS

According to the Applicant, the Project will result in the following impacts:

- 275 square feet of BVW impacts (245 square feet temporary, 30 square feet permanent);
- 120 linear feet of temporary Bank impacts;
- 3,000 square feet of BLSF impacts;
- 355 square feet of temporary LUW impacts, including 20 cubic yards of dredging; and
- 6,595 square feet of RA impacts.

Projects that meet the Stream Crossing Standards are presumed to meet all Performance Standards for Bank and LUW. Given the nature of the Project, it appears that the work will also comply with the BLSF Performance Standards. As a Limited Project, the work is only subject to the Performance Standards to the maximum extent practicable; however, the Limited Project provision cited by the Applicant is only applicable towards projects involving dams and reservoirs. It is recommended that the WPA Form 3 be revised to reference the Limited Project provision at 310 CMR 10.53(8).

W14. The Applicant states that the 30 feet of permanent fill within BVW does not require replication due to its size being less than 500 square feet. However, this fill does not meet all aspects of this

provision per 310 CMR 10.55(4)(c)⁴. Wetland replication that complies with the General Performance Standards stated in 310 CMR 10.55(4)(b)(1-7) must be provided. Due to the limited availability of right-of-way suitable for replication, the Applicant could consider siting the replication area within the Town-owned parcel to the southwest.

BYLAW REGULATORY COMMENTS

- W15. The Applicant has requested a waiver for work occurring within the 25' No Disturb Zone and the 50' No Structure Zone. BETA defers to the Commission on the issuance of this waiver.
- W16. All vegetation that is proposed to be removed that has a diameter greater than one (1)-inch at the base should be shown on the plans 7.18.1.5. Based on recent applications of this requirements, the Commission has allowed Applicants to only depict vegetation to be removed that is greater than three (3) inches in diameter. BETA defers to the Commission on this requirement.
- W17. The requirement for wetland replication noted in Comment W12 must be designed to meet the 2:1 ratio of the Bylaw unless a waiver for this requirement is sought. The Applicant should also provide all other wetland replication plan requirements set forth by the Bylaw.

STORMWATER MANAGEMENT

Although the Project does not require the installation of any stormwater BMPs, the proposed work is subject to the Massachusetts Stormwater Management Regulations and Standards as a Redevelopment Project. The Applicant has provided a stamped and signed stormwater checklist and a summary of compliance with the Stormwater Standards has been provided.

BETA recommends that the Applicant revise the stormwater checklist and narrative to properly identify the presence of a Critical Area (Coldwater Fishery) at the Site. Individuals working on the construction of the Project should be aware of the presence of this resource, as sedimentation of the water column from construction-related discharges can have detrimental impacts on a stream's capacity to support fisheries.

REVIEW SUMMARY

Based on our review of the NOI submittal and Project plans, the Applicant is required to provide the Conservation Commission with additional information to describe the Site, the work, and the effect of the work on the interests identified in the Act and the Bylaw.

⁴ Notwithstanding the provisions of 310 CMR 10.55(4)(a), the issuing authority may issue an Order of Conditions permitting work which results in the loss of a portion of Bordering Vegetated Wetland when;

1. Said portion has a surface area less than 500 square feet;
2. Said portion extends in a **distinct linear configuration ("finger-like") into adjacent uplands**; and
3. In the judgement of the issuing authority it is not reasonable to scale down, redesign or otherwise change the proposed work so that it could be completed without loss of said wetland.

Ms. Breeka Li Goodlander, Agent

March 19, 2024

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If we can be of any further assistance regarding this matter, please contact us at our office.

Very truly yours,
BETA Group, Inc.



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cc: Amy Love, Town Planner

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