ATTACHMENT B – RDA PROJECT NARRATIVE

1.0 Introduction

Jon Whyman, on behalf of Christy Zarrella, the owner (the "Applicant"), is pleased to submit this Request for a Determination of Applicability ("RDA") to the Lynnfield Conservation Commission ("LCC"). This RDA has been prepared in accordance with the Massachusetts Wetland Protection Act (MGL c.131 s.40) and implementing Regulations (310 CMR 10.00) (the "Act"), and the Lynnfield Environmental Bylaw (the "Bylaw").

The Applicant is requesting that the LCC issue a Negative Determination of Applicability ("Negative RDA") approving activities associated with the construction of an upgrade subsurface sewage disposal system located at 240 Essex Street, Lynnfield, MA (the "Project Site"). Project activities will be located within Riverfront Area and the 100-foot Buffer Zone to Bordering Vegetated Wetland ("BVW") associated with Beaver Damn Brook. The Project has been designed to comply with the state and local wetland performance standards.

Wetland resource areas on the project site were delineated in August of 2021 by Julie Vondrak and are discussed below in Section 3.0.

2.0 Existing Conditions

The Project Site area is an existing residential lot located on an approximate .71 +/- acre of land located at 240 Essex Street. The property is occupied by an approximate 2,083 +/- s.f. single family house built in 1958. The property has an inground pool behind the house. A 20-foot wide drain easement runs northerly through the property west of the driveway. Wetland resource areas are located behind the house along the entire width of the property. A tributary to Beaver Damn Brook exists within the BVW resource area. Utilities associated with the property include public gas and water. A failed cesspool and overflow pit exists in front of the house east of the driveway.

3.0 Wetland Resource Areas

Wetland resource areas were delineated by Julie Vondrak in August of 2021 in accordance with the U.S. Army Corps of Engineers "Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region" (USACE, 2012), the Massachusetts Department of Environmental Protection handbook, Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act" (MADEP, 1995), and the Lynnfield Environmental Bylaw. The federal, state and local delineation methodologies prescribe a similar three parameter approach where hydrophytic vegetation, hydric soils, and hydrology are reviewed in conjunction with one another when delineating a wetland edge.

3.1 Bordering Vegetated Wetland

BVW is defined at 310 CMR 10.55. BVW's are freshwater wetlands that border on creeks, rivers, streams, ponds and lakes. The types of freshwater wetlands are wet meadows, marshes, swamps and bogs. BVW's are the areas where the soils are saturated and/or inundated such that they support a predominance of wetland indicator plants. The ground and surface regime and the plant community that occur in each type of freshwater wetland are specified in the Act. The boundary of BVW is the line within which 50 percent or more of the plant community consists of wetland indicator plants and saturated and inundation conditions exist.

BVW exists along the entire width of the northern property boundary and runs parallel along the eastern property boundary. BVW was identified and flagged in the field through a vegetation, hydrology and soil analysis. Flags A1 through A7 and B1 through B3 delineate the boundaries of BVW characterized as a red maple swamp/emergent marsh. The wetland runs along the edge of the fence line that encloses the backyard and pool area.

Dominant vegetation identified within the A and B BVW series included red maple (*Acer rubrum)*, jewelweed (*Impatiens capensis*), sensitive fern (*Onocleas sensibilis)*, royal fern (*Osmunda regalis)* tussock sedge (*Carex Stricta*) and poison ivy (*toxicondendron radicans*). The A series appears to hold standing water as observed by the mucky substrate that was impassable, therefore, it was impossible to access and delineate the stream bank channel located further to the north.

There is a 100-foot Buffer Zone to BVW. No impacts to BVW are proposed under this filing.

3.2 Riverfront Area

Riverfront Area ("RFA") is defined at 310 CMR.10.58. RFA is the area of land between a river's mean annual high water line (MAHW) and a parallel line measured 200-feet horizontally outward.

According to the applicable USGS maps no intermittent or perennial stream systems are mapped on or adjacent to the Project site (See attached USGS figure). It appears the Brook on the property is tributary to Beaver Damn Brook located further downgradient. It is of the understanding that the LCC considers this section of stream to be perennial, therefore, for purposes of this filing will comply with local and state Riverfront Area regulations. Given it was not feasible to access the channel for a bank delineation, the approximate mean annual high water was derived from aerial topography.

The entire lot may be located with Riverfront Area, however, no components of the new system will be located within 100-feet of the approximated Beaver Damn Brook channel. See compliance with RFA regulations below in Section 5.1.

3.3 100-Year Flood Plain Elevation

According to the applicable FEMA Flood Insurance Rate Map ("FIRM"), Community Panel #25009C0391F, dated July 3, 2012, an area of Zone X- "Area of Minimal Flood Hazard" is associated with Project Site (See Attached Figure). Therefore, proposed activities will not impact areas within the 100-year flood plain or within Bordering Land Subject to Flooding ("BLSF").

3.4 Natural Heritage and Endangered Species

According to the Natural Heritage Atlas (Mass GIS data layer), the project site is not mapped within priority habitat of rare species or estimated habitat of rare wetlands wildlife or certified vernal pools.

4.0 Proposed Jurisdictional Activities

Activities proposed within the 100-foot Buffer Zone include grading and construction of a new replacement subsurface sewage disposal system and removal of the existing system. Construction activities will be located within previously disturbed and landscaped areas of the 100-foot Buffer Zone. Details on the construction activities are discussed below.

4.1 Subsurface Sewage Disposal System

The existing house is serviced by an existing cesspool and overflow pit located to the front of the house east of the driveway and has failed Title V inspection. The failed cesspool will be pumped, filled and abandoned. The new gravity system will include installation of a new 1500-gallon septic tank and a new subsurface leach field. The new septic tank and leach field will be located in the front yard, west of the driveway within existing manicured lawn. The new leach field will be located greater than 50-feet from the BVW resource area.

5.0 Impacts and Compliance with Local and WPA Performance Standards

5.1 Compliance with RFA Performance Standards

As stated above, construction of the proposed subsurface sewage disposal system is necessary, as the existing system has failed. Given the entire lot is located within RFA, there is no practicable alternative to locate the components of the upgrade system outside of the RFA resource area. The new system will be located within previously disturbed and developed areas within the site and the leach field will be located as far from wetland resource areas as possible. No components of the new system will be located within the 100-foot Riverfront Area.

In accordance with 310 CMR 10.58 (6) (c) "On-site sewage disposal systems in existence on August 7, 1996 and the repair or upgrade of existing systems in compliance with 310 CMR 15.00: *The State Environmental Code, Title 5: Standard Requirements for the Siting, Construction, Inspection, Upgrade and Expansion of On-site Sewage Treatment and Disposal*

Systems and for the Transport and Disposal of Septage" are exempted or grandfathered from requirements for Riverfront Area.

The proposed upgrade system has been designed to comply with the Title 5 requirements and measures will be undertaken to prevent any impacts to the wetland resource areas and the 100-foot Buffer Zone.

5.2 Compliance with Local Bylaw Setbacks

The LCC enforces a 25-foot No-Disturbance Zone and a 50-foot No-Build Zone setback from resource areas. No components of the new subsurface sewage disposal system will be located within 50-feet of the BVW resource area. The new leach field will be located at its closest, 53-feet away from the identified BVW resource area. Erosion controls will be installed prior to commencement of work to ensure protection of the identified resource areas.

6.0 Erosion Control Measures

6.1 Sedimentation and Erosion Control

Siltation barriers composed of silt socks will be installed along the limit of work associated with the construction of the subsurface sewage disposal system upgrade. The siltation barrier will demarcate the limit of work, form a work envelope and provide additional assurance that construction equipment will not enter the resource area. All barriers will remain in place until disturbed areas are stabilized by vegetation.

7.0 Conclusion

The Project has been designed to comply with all local, state and federal wetland regulations and the Project has been designed to avoid and minimize impacts to the identified wetland resource areas and applicable buffer zone to the extent practicable. The ability of the adjacent wetland resource area to provide those functions and values presumed significant under the Act and Bylaw will not be impaired. The Applicant therefore requests that the LCC issue a Negative Determination of Applicability with conditions approving the Project for 240 Essex Street, Lynnfield, MA.