ENVIRONMENTAL IMPACT REPORT
1260-1264 MAIN STREET SUBDIVISION
READING, MASSACHUSETTS

INTRODUCTION

Section 6.1.1. of the Town of Reading, Massachusetts Subdivision Regulations requires that an Environmental Impact Report be prepared as part of a Form C filing. The purpose of the Impact Report is to enable the Community Planning and Development Commission to assess the impact of the proposed development on the Town's natural and social resources and on the provision of municipal services, recycling of stormwater into the ground, surface drainage effects, aquifer protection, water and air quality, preservation of botanical resources, wildlife habitats, historic structures, archaeological resources, geologic features, existing or potential trials, greenways, and open space, recreation resources, and environmental health and safety. This Impact Report has been prepared to address the potential impacts of the proposed construction of the residential subdivision currently known as the subdivision at 1260-1264 Main Street.

THE SUBDIVISION AND RELATIONSHIP TO SURROUNDING AREA

Existing Conditions

The 1260-1264 Main Street subdivision is located in the north central part of Reading at the site of two existing single family homes at 1260 and 1264 Main Street. These two existing lots are comprised of approximately 133,607 square feet (or 3.06 acres) in area. The property is accessed via Main Street (also known as State Highway Route 28) **(see Figure 1, Locus Map)**. The property is located to the north of the Rocky Road subdivision, to the south of a small wetland area bordering on a drainage ditch, about 1,000-feet south of the intersection of Main Street and Franklin Street, on the west side Main Street, and east of a Town owned parcel identified as Assessors Map 45 Lot 105, which forms the western boundary of the subject property.

In the existing condition, #1260 Main Street is improved by an existing 2-story single family home, deck, and shed with driveway access to the property on Main Street. The property contains approximately 28,900 square feet in area. Similarly, #1264 Main Street is also improved by a 2-story single family home, porch, pool, and shed. This property is quite a bit larger, measuring approximately 104,707 square feet in area.

The remainder of the properties are partially wooded with many open areas and gravel drives. A portion of the small abutting wetland comes onto #1264 Main Street on the northeast side of the property covering an area of approximately 3,750 square feet. Vegetation observed during the wetland delineation by Gregory Hochmuth of our office included red maple, green ash, and American elm in the over story and an understory consisting of glossy buckthorn, northern arrow-wood, royal fern, cinnamon fern, and sensitive fern, skunk. Adjacent upland areas consist mostly of white pine with some hard woods. The Applicant has been in direct discussions with Charles Tirone, the Conservation Administrator, regarding the proposed project. A Notice of Intent (NOI) will soon be filed with the Conservation Commission for work proposed within 100-feet of the small abutting wetland area.

Proposed Conditions

The applicant proposes to construct a new roadway in accordance with the Town of Reading Subdivision Regulations measuring approximately 335-feet in length to create frontage for three (3) addition single family house lots on the subject property. The existing house at #1260 Main Street will be razed and replaced with a new home on proposed Lot 1. The existing house at #1264 Main Street will remain. A garage addition is proposed for this existing home on proposed Lot 5. That leaves the three (3) additional single family home sites on proposed Lots 2, 3, and 4.

A summary of the subdivision's total area with breakdowns of total lot area, total proposed roadway area, total proposed easement areas, total area of wetland resource areas, and the total area of the proposed impervious surfaces are shown on the attached **Table 1**. A future roadway easement area has been provided on the Definitive Plan to allow for future connection to the Town owned parcel to the west. In the interim, a small parking area and walking path are proposed at the end of the proposed cul-de-sac. The intent is to provide for an additional access point to Town owned land that is currently open space and may be used as recreational area in the future.

PHYSICAL CONDITION

Topographically, the site rises to a topographic high of approximate elevation 226 (Reading Sewer base) to a low of approximate elevation 200 at the downstream end of the property at the wetland line. The site drains to the north to a small wetland area, which borders a drainage ditch that crosses Route 28 heading east where it eventually drains into a tributary of Bear Meadow Brook, then into Bear Meadow Brook before flowing into the Ipswich River.

As stated above, the subject property abuts Town owned open space to the west. The proposed plan allows for a future roadway connection through the dedication of a "future roadway easement" and a small parking area and walking trail in the interim. This will provide another access to the Town owned open space.

Based on our review of state regional mapping, none of the subject property is mapped as containing habitat of rare and endangered species. Similarly, a review of the state and federal registers of historic places did not yield any evidence of historically significant buildings or places on the subject property.

Based on our field observations, there is a variety of wildlife that inhabits the land & adjacent waters. Species observed on the land include, white tail deer, wild turkey, red-tailed hawk, chipmunk, and grey squirrel, and many other bird species. Again, based on a review of the most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife published by the Natural Heritage and Endangered Species Program (NHESP), none of the subject property lies within areas mapped on the Natural Heritage Atlas.

PROXIMITY TO AND ACCESSIBILITY WITH RESPECT TO SHOPPING, EMPLOYMENT, AND TRANSPORTATION

As stated previously, the proposed roadway will have direct access to Main Street (State Highway Route 28), which provides two-lane traffic heading north and south away from the site. The site is located approximately 1.7 miles north of downtown Reading, where is access to an MBTA parking lot and bus routes. Various small shops, larger shopping centers, and other local businesses are

within close proximity just north into North Reading or south to downtown Reading. Sidewalks are also located along the Route 28 corridor and allow for pedestrian access to amenities up and down Main Street.

NATURE AND EXTENT OF EXISTING WATER BODIES, WATER COURSES, AND WETLANDS

As stated previously, there is a small wetland area to the north of the property bordering on a drainage ditch that carries stormwater runoff to the east under Route 28 and onto Bear Meadow Brook and the Ipswich River. Stormwater runoff travels approximately 1-mile before running into Bear Meadow Brook along Cedar Swamp and then another 1.7 miles before flowing into the Ipswich River. It is important to note that the subject property is not located within the Town's Aquifer Protection Zoning Overlay District.

The proposed stormwater management system for the subdivision has been designed to comply with the Massachusetts Department of Environmental Protection's (DEP's) Stormwater Management Regulations and the Town of Reading, Massachusetts Subdivision Regulations. Designing the stormwater management system to these high standards ensures that the interests identified in the Wetlands Protection Act are protected. These interests include:

- protection of public and private water supply
- protection of groundwater supply
- flood control
- storm damage prevention
- prevention of pollution
- protection of land containing shellfish
- protection of fisheries
- protection of wildlife habitat

Much of the subdivision design effort is focused on meeting the requirements of the Stormwater Management Regulations. Drainage calculations are performed to analyze the existing and proposed condition to compare peak flows leaving the site. Stormwater detention basins are designed to help attenuate peak flow rates, provide treatment, and promote infiltration across the site. Pipes are then sized leading from the roadway system to the detention basins. Catch basins along the roadways are also analyzed to ensure spacing and openings are appropriately sized for capturing stormwater as it runs across the roadways. Stormwater treatment and infiltration calculations are performed to ensure that the design meets the requirements of the regulations. A detailed Erosion & Sediment Control Plan is prepared to control construction activities and an Operation & Maintenance Plan is prepared to explain how the stormwater management system should be maintained over time. These documents will be included in the Stormwater Report, which will be submitted with the Notice of Intent application to the Conservation Commission in the near future.

LIMITATIONS ON THE PROPOSED DEVELOPMENT RESULTING FROM SOIL AND SUBSURFACE CONDITIONS

The NRCS lists the majority of this property as being Charlton-Hollis-Rock Outcrop Complex, 3 to 8 percent slopes with Hydrologic Soil Group of "A" and the remainder of the site being Scarboro, Mucky fine sandy loam with Hydrologic Soil Group of "A/D".

Because the composition of Charlton-Hollis-Rock Outcrop complex is comprised of many different soil types according to the NRCS, Williams & Sparages performed soil testing on October 31, 2016 to determine the underlying soils.

During the soil testing procedure, we observed that the site is predominantly comprised of sandy loam (sl) for the top soil, subsoil and substratum over refusal which varies in depth across the site. We also observed that the soils on the northerly edge of the property, behind the pool and westerly along the edge of clearing are sandy loam for the top and subsoil over deposits of sand and loamy sand which varies in depth.

Based on our field observations, that is, ledge outcrops on and around the site, boulders and runoff entering the stream located just northerly of the premises, it is our opinion that the soil group of the site behaves as a "B" soil. Our position is further supported by Table 2-1 Infiltration Rates for Various Soil Textures found in the Hydrology Handbook for Conservation Commissioners dated March 2002 by the Department of Environmental Protection (DEP) which lists Sandy Loam as a "B" soil. Based on our testhole data, it is anticipated that some rock excavation, including hammering and/or blasting will be needed during the construction of the roadway and home sites.

EFFECTS ON MUNICIPAL WATER AND SEWER SYSTEM CAPACITIES

The proposed subdivision will be served by the Town of Reading's public water supply system. According to Town records at the engineering department there is an existing 10-inch water main in Main Street close to the western sideline of the roadway. A connection is planned to this water main using a tapping sleeve and gate valve as shown on the subdivision plans. A new 8-inch cement line duictile iron (CLDI) water main will be installed along the new roadway with a new hydrant at the end of the 335-foot long roadway. We are not aware of any capacity issues at this location. Since only three (3) new water services are proposed, we do not anticipate any problems with water supply or fire protection for the new project.

The proposed building lots will also be served by Town of Reading's public sewer system. There is an existing 8-inch sewer pipe just south of the subject property. The project proposes a total of 5 single family homes. It is anticipated that the homes will contain 3 to 4 bedrooms each. For the purposes of calculating sewer flow, we have assumed 4 bedrooms for each of the homes. Five (5) homes times 4 bedrooms per home equals 20 bedrooms. From 310 CMR 15.203, the sewer flow rate associated with a residential dwelling is 110 gallons per bedroom per day. This rate takes into account expected flow variations associated with residential flow. Therefore, 20 bedrooms times 110 gallons per bedroom per day is equal to 2,200 gallons per day. Based on the existing sewer pipe sizes, there appears to be adequate sewer capacity to accept the new flow from the project. Since the existing sewer to the south of the site is higher in elevation than the proposed project, the applicant proposes individual sewer pump stations at each of the five homes. Wastewater will be pumps into the street via a common force main, which will convey the flow to the existing sewer manhole just south of the subject property.