



## MEMO

<b>To:</b>	Ms. Sue Brown	<b>From:</b>	Carlton M. Quinn, P.E.
	Town Planner	<b>A&amp;M Project #:</b>	2725-01
	Town of Manchester-by-the-Sea	<b>Date:</b>	March 3, 2022
	10 Central Street	<b>Re:</b>	Driveway Design Narrative
	Manchester-by-the-Sea, MA 01944		The Sanctuary – School Street
<b>Copy:</b>			Manchester-by-the-Sea, MA

The following narrative provides an overview of the design opportunities and constraints that were carefully considered in the designing of the proposed driveway for the proposed multi-family development known as The Sanctuary located on School Street in Manchester-by-the-Sea, MA.

### Curb Cut

The proposed curb cut location was influenced by wetland resources to both the north and to the south of the subject property. Recognizing the environmental sensitivities expressed by the Conservation Commission, the curb cut location was determined in order to maximum the distance to each resource area, which is currently 200' from the stream bank to the North and 100' to the bordering vegetated wetland to the South. The location of the curb cut was also influenced by the location of the existing Atwater Avenue intersection, which is approximately 140' south of the proposed curb cut location. Vanasse and Associates, the Traffic Engineer recommended that the curb cut be located as far away from the Atwater Avenue entrance as possible. In summary, the Curb cut location was influenced and determined based on the location of existing wetland resource areas, in combination with consideration to the existing Atwater Avenue access.

### Driveway Alignment

The driveway alignment was influenced by the presence of the 200' riverfront area to the north of the subject property. The driveway design/alignment has been engineered to limit the disturbance to the 200' riverfront to the maximum extent possible. There is no feasible way to provide vehicular access to this project without some disturbance to the 200' riverfront area because the entirety of the subject property frontage on School Street is completely within the 200' riverfront or within a bordering vegetated wetland. Once the driveway passes out of the riverfront area, the driveway is aligned with the existing historic gravel road on site to reduce the required earthwork and excavation to maximum extent possible. The alignment then veers from the existing gravel road and provides a 180 degree sweep to provide fire access around the front and sides of the building before terminating at a 100' diameter cul-de-sac, which has been designed to accommodate all fire truck turning movements as required by 527 CMR 1.18 and NFPA 1.

### Driveway Length and Profile

The proposed driveway length and profile are generally a result of the existing conditions noted above in addition to the existing topography of the property. The existing topography at the frontage of the property, rises from the road at a steep grade and requires maximum driveway slopes be used to limit earthwork disturbance in the 200' riverfront area.

The elevation of School Street at this location, is approximately 51.0'. The project has first floor elevation of 125.0' and podium parking below at 114.0'

In order to meet allowable profiles, grades and slopes as dictated by the existing site constraints and the State Fire Protection codes, the driveway length needs to be approximately 1,500 feet to the first-floor access. As designed the driveway average profile slope is 4.9% which is comfortably under the allowable maximum slope limit of 10% and greater than the minimum allowable slope of 1.5%. There is an additional 325 feet of driveway proposed from the first-floor access to the podium parking access that would result in a driveway average profile slope of 3.4%. Please note although the plan notes the maximum slope of the driveway is 10%, that slope is measured from the inside radius of the driveway. The centerline maximum slope is 7.5%, which is allowed by the Manchester-by-the-Sea Planning Board Rules and Regulations for Governing Subdivisions of Land.

The proposed driveway curb cut, alignment, length and profile meet the current local zoning bylaw dimensional requirements for driveways and thus no relief is required from the zoning bylaw for this driveway. Moreover, the Manchester-by-the-Sea Building Commissioner already opined on the record that this is not a common driveway and thus no waiver relief is necessary from any common driveway bylaws.

Lastly, The proposed driveway curb cut, alignment, length and profile meet the dimensional requirements of 527 CMR 1.18 Massachusetts Comprehensive Fire Safety Code Chapter 18 Fire Department Fire Access (527 CMR 1.18) and Water Supply as well as NFPA 1 Fire Code 2015 Chapter 18 Fire Department Fire Access and Water Supply (NFPA 1). The plan has been reviewed with local Authority Having Jurisdiction (AHJ) and they have provided letter to ZBA noting compliance with the noted jurisdictional fire access regulations.

We hope this explanation demonstrates to the Zoning Board of Appeals that there are considerable factors, considerations and existing conditions that have all been carefully considered and reflected in the ultimately driveway design. The current design went through many different internal design iterations prior to the final design ultimately being included in the plans and introduced to this Board.