

MEMORANDUM

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Ref: 1661

To: Town of Groton Massachusetts
Zoning Board of Appeals
Town Hall
173 Main Street
Groton, Massachusetts

From: Kim Eric Hazarvartian, Ph.D., P.E., PTOE
Principal
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Subject: Scope of Traffic-Impact and Access Study
Heritage Landing/Comprehensive Permit Application
Groton, Massachusetts

Date: August 8, 2023

INTRODUCTION

This memorandum sets forth the scope of the traffic-impact and access study (TIAS) for Heritage Landing/Comprehensive Permit Application. The site is east of Cow Pond Brook Road at Tax Map 248, Lot 42. The project:

- provides 40 single-family detached dwelling units
- has one unsignalized driveway along the east side of Cow Pond Brook Road

STUDY AREA

The TIAS study area will consist of the following unsignalized intersections:

- Lowell Road/Cow Pond Brook Road
- Cow Pond Brook Road/Hoyt's Wharf Road
- Cow Pond Brook Road/proposed driveway

TRAFFIC-COUNT DATA

TEPP LLC will obtain traffic-count data during the public-school year.

TEPP LLC will obtain automatic-traffic-recorder counts:

- with vehicle speeds and classifications
- for 72 hours (two weekdays and one Saturday)
- on Clay Pond Brook Road near the proposed driveway

TEPP LLC will obtain turning-movement counts:

- on a weekday from 7:00 to 9:00 AM
- on a weekday from 3:00 to 6:00 PM
- on a Saturday from 10:00 AM to 2:00 PM
- at the Lowell Road/Cow Pond Brook Road intersection

SIGHT-DISTANCE DATA

TEPP LLC will obtain relevant sight distances for the following intersections:

- Lowell Road/Cow Pond Brook Road
- Cow Pond Brook Road/proposed driveway

CRASH DATA

TEPP LLC will research crash data for up to the latest five-calendar-year period, if readily available through the Massachusetts Department of Transportation (MassDOT) crash portal, for the following intersections:

- Lowell Road
- Hoyt's Wharf Road

ANALYSIS CONDITIONS

TEPP LLC will conduct applicable analysis for the weekday AM-street-peak hour, the weekday PM-street-peak hour, and the Saturday midday-peak hour under the following conditions:

- 2023 existing
- 2030 no-build, with background-traffic growth
- 2030 build, with background-traffic growth and the proposed development

ANALYSIS AND ASSESSMENTS

TEPP LLC will present:

- relevant sight-distance analysis for the Lowell Road and proposed driveway intersections
- background-traffic-growth analysis (other than the proposed development)
- trip-generation analysis for the proposed development, using readily available information from the Institute of Transportation Engineers
- trip-distribution and network-assignment for the proposed development
- traffic-operations and capacity analysis as applicable:
 - using methodology of the Transportation Research Board and Synchro software to calculate levels of service, delays, and queues
 - for the weekday AM-street-peak hour, the weekday PM-street-peak hour, and the Saturday midday peak hour
 - at the Lowell Road/Cow Pond Brook Road and proposed driveway intersection and the Cow Pond Brook Road/proposed driveway intersection
- qualitative assessment of potential traffic impacts due to the proposed development
- discussion of potential minor modifications to the Lowell Road/Clay Pond Brook Road intersection and the Clay Pond Brook Road/Hoyt's Wharf Road intersection