

THE GROTON FARMS

500 Main Street Groton – May 10, 2023



AGENDA

- Bayside Engineering Qualifications
- Traffic Impact and Access Study Summary
- Site Components
- Recommended Offsite Improvements
- Response to MDM (Peer Review) Letter

BAYSIDE ENGINEERING

- Kenneth P. Cram, P.E.
- Director, Traffic Engineering
- Overall experience
- Projects completed around Groton



LOCATION

500 MAIN STREET

- Project located west of the center of Groton on Main Street
- Formerly Deluxe Corporation site
- 128,000+ SF office building



PROJECT OVERVIEW

- 3 Multi-Family Buildings – 56 units each (168 units)
 - 4 Stories
 - Elevated buildings
 - 1&2-bedroom units
- 32 Townhomes
 - 2&3-bedroom units
 - Single car garage in each unit
- Covered Parking
 - 24 garages
- Clubhouse
- Other Amenities



STUDY AREA



Nod Road

500
Main
Street

Fittchs Bridge Rd

Anytime Fitness
Country Kids Child
Development
Groton Residential
Gardens

Taylor Road
Mill Street
Arlington Street

Main Street

Champney Street

Main St

West St
Whiting Ave
Elm St

TRAFFIC COUNT LOCATIONS

Nod Road

500
Main
Street

Anytime Fitness

Main St

Country Kids Child
Development

Groton Residential
Gardens

Anthony Dr

Mill Street

Arlington Street

Main Street

Champney Street

Main St

Traffic Count Locations

TIAS OVERVIEW

- Existing Traffic Volumes on Main Street obtained February 2, 2022 - 16,550 Vehicles Per Day
 - Weekday Morning 7:00 to 9:00 AM – 1,382 Vehicles per Hour
 - Weekday Evening 4:00 to 6:30 PM – 1,551 Vehicle per Hour
- Vehicle Speeds – Posted Speed 40 MPH
 - Average Speed 38.9 mph
 - 85th percentile speed 43 mph
- Motor Vehicle Crash Data
 - Total of 32 crashes – no fatalities
 - No intersections on MassDOT Highway Safety Improvement Program List

EXISTING TRIP GENERATION SUMMARY

| | Existing Office Building Trips ^a |
|-----------------------------------|---|
| Average Weekday Daily Traffic | 1,442 |
| <i>Weekday Morning Peak Hour:</i> | |
| Entering | 183 |
| <u>Exiting</u> | <u>25</u> |
| Total | 208 |
| <i>Weekday Evening Peak Hour:</i> | |
| Entering | 35 |
| <u>Exiting</u> | <u>169</u> |
| Total | 204 |

^aBased on ITE LUC 710 – General Office Building; 128.4 ksf.

**EXISTING
TRIP
GENERATION
SUMMARY
(TABLE 5)**

PROPOSED TRIP GENERATION SUMMARY

| | <u>Townhouse Trips^a</u> | <u>Apartment Trips^b</u> | <u>Total Trips</u> |
|-----------------------------------|--|--|------------------------|
| Average Weekday Daily Traffic | 194 | 754 | 948 |
| <i>Weekday Morning Peak Hour:</i> | | | |
| Entering | 3 | 14 | 17 |
| <u>Exiting</u> | <u>8</u> | <u>48</u> | <u>56</u> |
| Total | 11 | 62 | 73 |
| <i>Weekday Evening Peak Hour:</i> | | | |
| Entering | 9 | 40 | 49 |
| <u>Exiting</u> | <u>6</u> | <u>26</u> | <u>32</u> |
| Total | 15 | 66 | 81 |

^aBased on ITE LUC 215 – Single-Family Attached Housing; 32 dwelling units.

^bBased on ITE LUC 221 – Multifamily Housing (Mid-Rise); 168 dwelling units.

PROPOSED TRIP GENERATION SUMMARY (TABLE 6)

TRAFFIC VOLUMES

- Compared to Deluxe when in operation – 494 Fewer daily vehicle trips
 - Weekday Morning Peak – 135 Fewer
 - Weekday Evening Peak – 123 Fewer

MILL STREET NORTHBOUND TO MAIN STREET OBSERVED DELAYS AND QUEUES

| Time Period | Average Peak Hour Delay per Vehicle ^a (sec) | Minimum Peak Hour Delay Observed (sec) | Maximum Peak Hour Delay per Vehicle Observed (sec) | Average Vehicle Queue Observed (Veh) | Maximum Queue Observed (Veh) |
|---------------------------|--|--|--|--------------------------------------|------------------------------|
| Weekday Morning Peak Hour | 21 | 0 | 132 | 1.4 | 5 |
| Weekday Evening Peak Hour | 23 | 1 | 81 | 2.2 | 6 |

Based on count data compiled on February 2, 2022. Morning Peak Hour from 7:00 – 8:00 AM.
Evening Peak Hour from 4:30 – 5:30 PM.

PROPOSED TRIP DISTRIBUTION

| <u>Route</u> | <u>Direction</u> | <u>Percent of Trips</u> |
|-----------------|------------------|-----------------------------|
| Main Street | West | 3 |
| Main Street | East | 80 |
| Mill Street | South | 11 |
| Champney Street | North | <u>6</u> |
| TOTALS | | 100 |

**PROPOSED
TRIP
DISTRIBUTION
(TABLE 7)**

SIGHT LINES



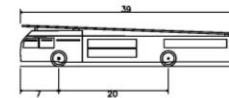
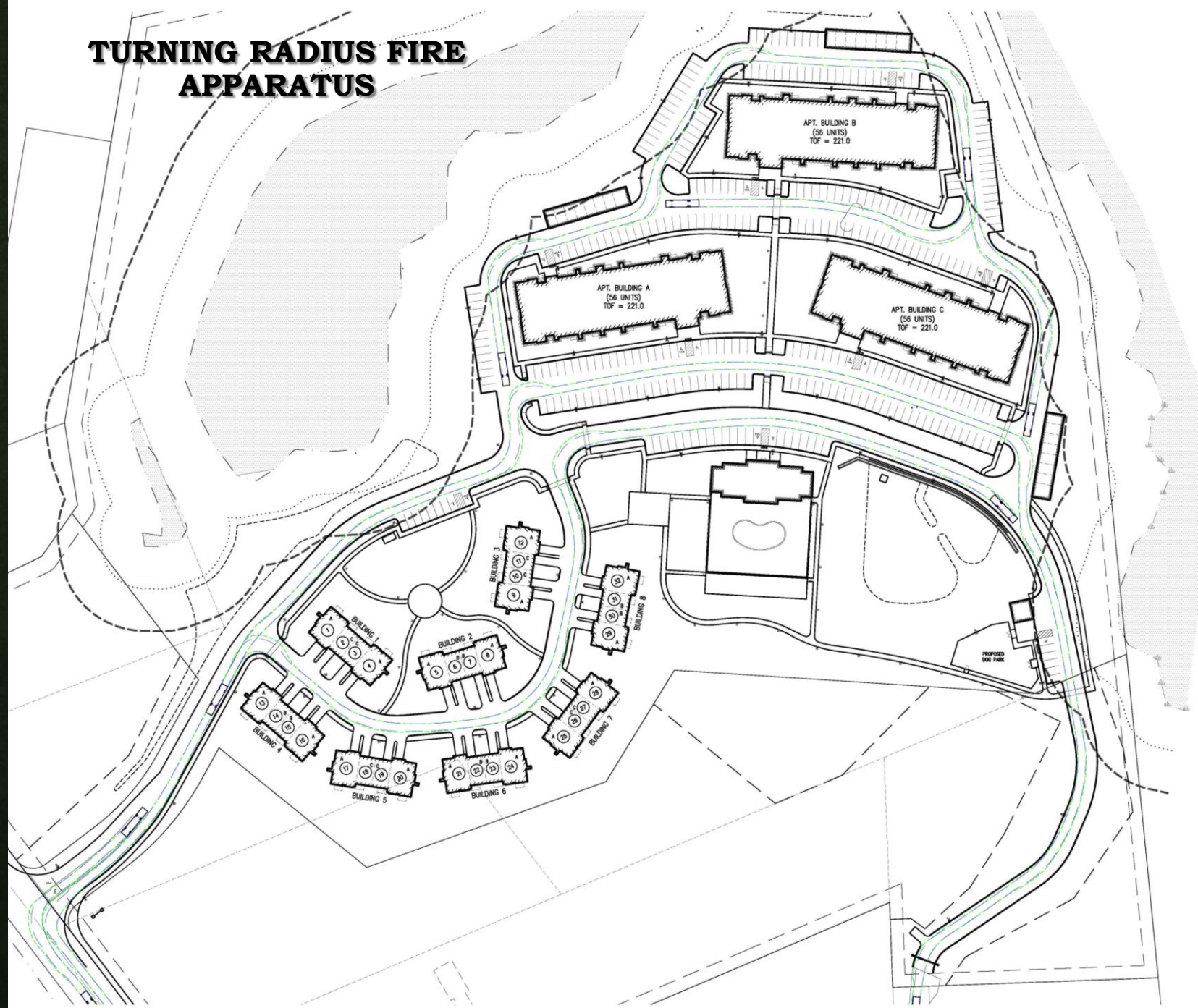
SITE COMPONENTS

- EV Charging Stations
 - 56 garages will have 220-volt outlets for charging
 - Additional charging stations will be installed outside each multi-family building and the clubhouse (quantity TBD)
 - Approximately 30% of the residential units will have access to charging stations
 - Applicant will meet with GELD to discuss installation of infrastructure to support future charging stations
- All signs to be MUTCD compliant
- All pedestrian access within project will be ADA compliant

SITE COMPONENTS

- Applicant will work with school bus company to ensure safe pick-up and drop-off of students
- “Delivery” parking designation in one spot outside each multifamily building and clubhouse
- Roads/Turning radius designed to support largest emergency vehicle
- Applicant has requested information regarding ZIP cars
- Applicant investigating public transportation options for residents
- Parking for 404 vehicles

TURNING RADIUS FIRE APPARATUS



Aerial Fire Truck
Overall Length
Overall Width
Overall Body Height
Min Body Ground Clearance
Track Width
Lock-to-lock time
Max Wheel Angle

DESIGN VEHICLE

NOT TO SCALE

LEGEND

| PROP. FEATURE | DESCRIPTION |
|---------------|-------------|
| --- | --- |

RECOMMENDED OFFSITE IMPROVEMENTS

- Crosswalk with Rectangular Rapid Flashing Beacon (RRFB) to safely cross Main Street
- Sidewalk along property frontage
- TDM Program
- Discussions with MassDOT underway relative to highway access and safety
- Post Development review of Mill St / Main St and Champney St / Main St

MDM PEER REVIEW

- Received MDM Letter of May 3rd
- Currently reviewing MDM recommendations
- Any plan updates will be compiled into next submission scheduled after civil review
- Written response to MDM will be provided to ZBA and MDM

THANK YOU