



Thoreau Residences

275 Forest Ridge Rd – Concord, MA

237-Unit Multifamily Rental Community

Concord Zoning Board of Appeals

January 23, 2025

Previous Site Plan



The Residence at Thoreau
Concord, Massachusetts



Revised Site Plan



The Residence at Thoreau
Concord, Massachusetts



Site Plan Comparison

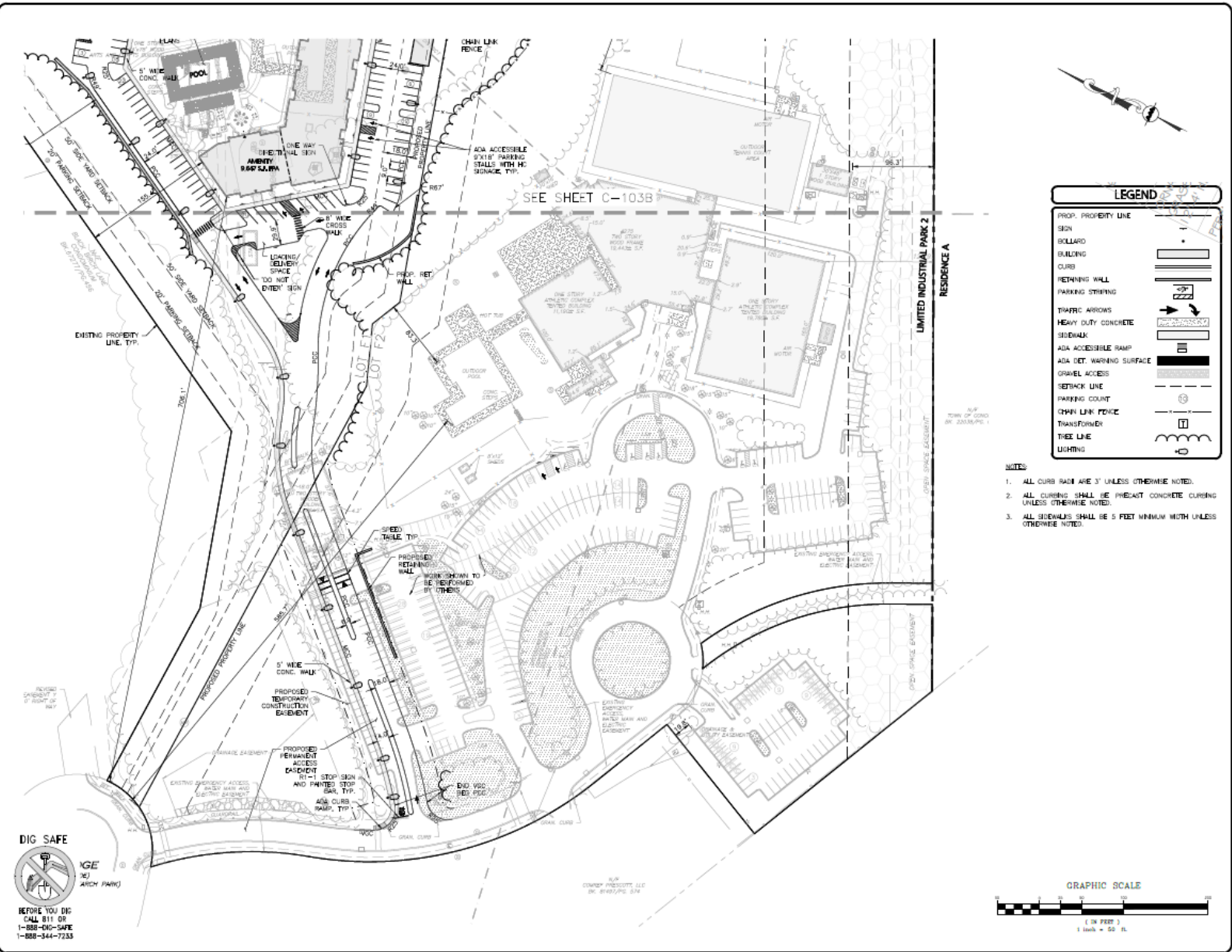
Previous



Revised



Revised Site Plan – Layout & Materials



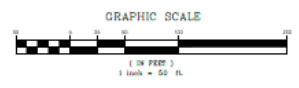
LEGEND

- PROP. PROPERTY LINE
- SIGN
- BOLLARD
- BUILDING
- CURB
- RETAINING WALL
- PARKING STRIP
- TRAFFIC ARROWS
- HEAVY DUTY CONCRETE
- SIDEWALK
- ADA ACCESSIBLE RAMP
- ADA DET. WARNING SURFACE
- GRAVEL ACCESS
- SETBACK LINE
- PARKING COUNT
- CHAIN LINK FENCE
- TRANSFORMER
- TREE LINE
- LIGHTING

- NOTES:**
1. ALL CURB RISES ARE 3" UNLESS OTHERWISE NOTED.
 2. ALL CURBING SHALL BE PRECAST CONCRETE CURBING UNLESS OTHERWISE NOTED.
 3. ALL SIDEWALKS SHALL BE 5 FEET MINIMUM WIDTH UNLESS OTHERWISE NOTED.

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ISSUED FOR REVIEW
DEC. 20, 2023 REV. JAN. 22, 2024

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
01	01/23/24	LAYOUT REVISIONS PER WORKSHOP
02	10/18/24	23A PERMITS/ISSUE
03	02/23/24	23A REVISION/ISSUE

APPLICANT/TOWNSHIP:

THOREAU RESIDENCES, LLC
275 FOREST RIDGE ROAD
CONCORD, MA 01742

PROJECT:

THE RESIDENCES AT THOREAU
275 FOREST RIDGE ROAD
CONCORD, MA 01742

PROJECT NO.	REVISED	DATE
187824	187824	02/28/2023

SCALE: 1"=50' DWG. NAME: G187824

DESIGNED BY: JEM CHECKED BY: JMC

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LAKEVILLE, MA 02447
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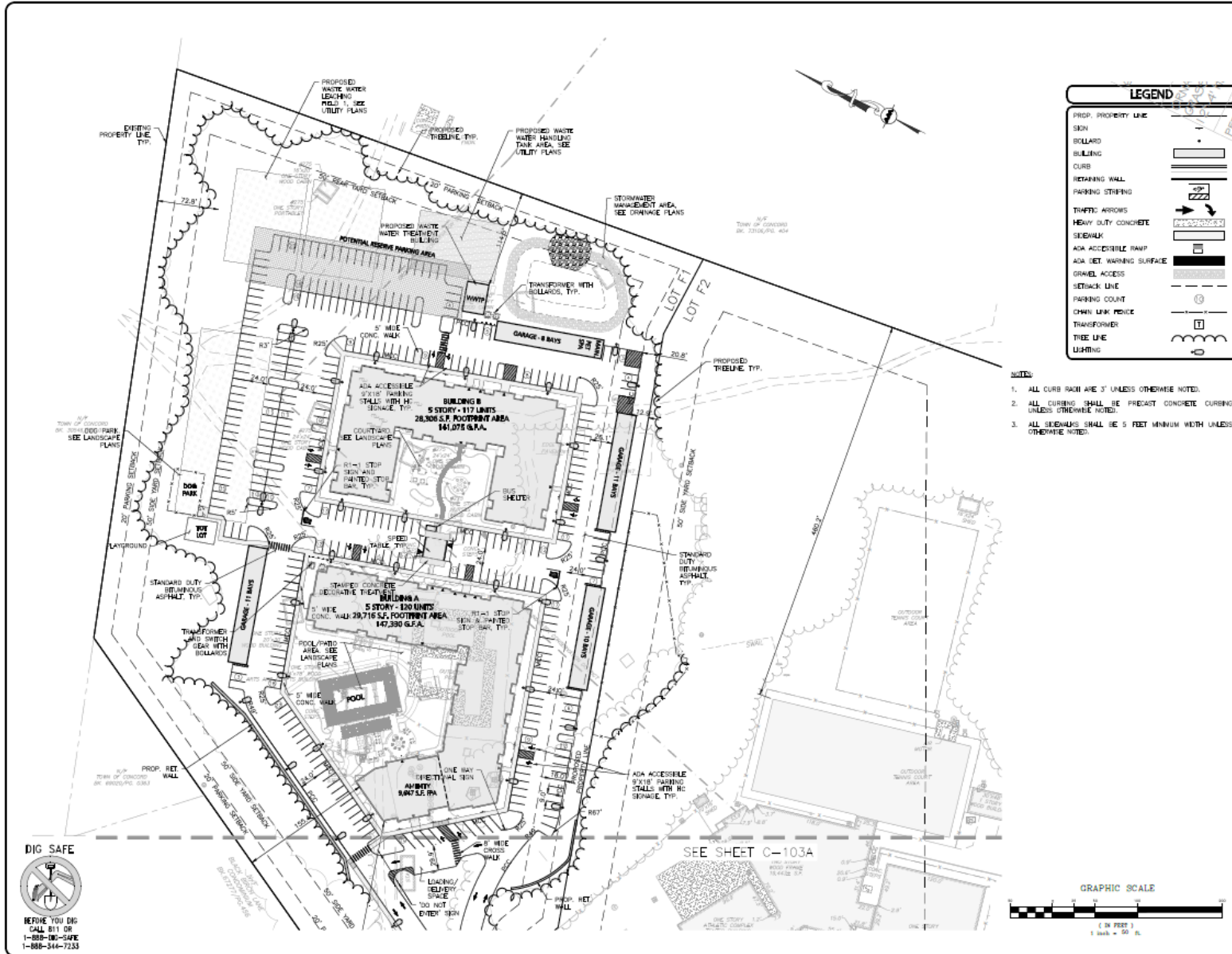
WORCESTER, MA • LAKEVILLE, MA • MANCHESTER, NH

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DRAWING TITLE: **LAYOUT & MATERIALS PLAN** SHEET No.: **C-103A**

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Revised Site Plan – Layout & Materials



ISSUED FOR REVIEW
DEC. 30, 2022 REV. JAN. 23, 2023

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
01	01/25/23	LAYOUT FOR BIDDING PER WORKORDER
02	02/15/23	23A RESUBMISSION
03	02/28/24	23A RESUBMISSION

PROJECT: **THOREAU RESIDENCES, LLC**
275 FOREST RIDGE ROAD
CONCORD, MA 01742

PROJECT: **THE RESIDENCES AT THOREAU**
275 FOREST RIDGE ROAD
CONCORD, MA 01742

PROJECT NO.: 167024 DATE: 12/20/2023
SCALE: P-SF DWG. NAME: 0167024
DESIGNED BY: EJP CHECKED BY: JLC

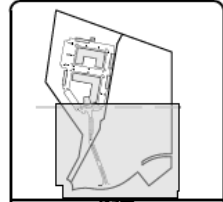
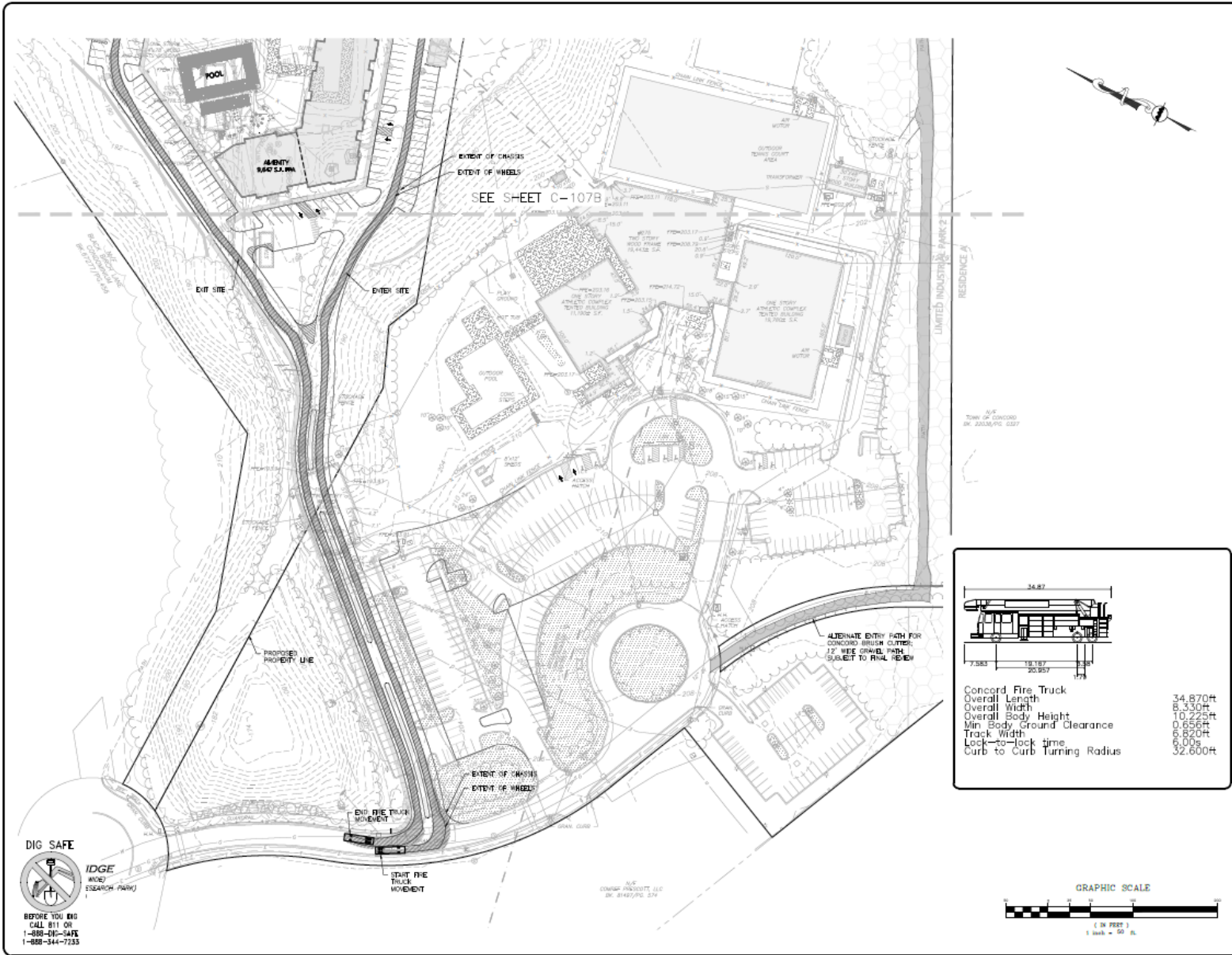
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DRAWING TITLE: **LAYOUT & MATERIALS PLAN**
SHEET NO.: **C-103B**

Vehicle Movement



ISSUED FOR REVIEW
DEC. 20, 2023 REV. OCT. 18, 2024

PROFESSIONAL ENGINEER FOR ALLS: N. MAJEST. ASSOCIATES, INC.

NO.	DATE	DESCRIPTION
02	10/18/24	ZBA REVIEW/ISSION
03	02/28/24	ZBA REVIEW/ISSION
REV	DATE	DESCRIPTION

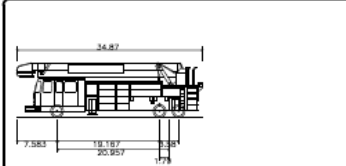
PREPARED BY:
THOREAU RESIDENCES, LLC
275 FOREST RIDGE ROAD
CONCORD, MA 01742

PROJECT:
THE RESIDENCES AT THOREAU
275 FOREST RIDGE ROAD
CONCORD, MA 01742

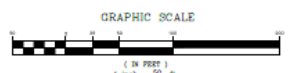
PROJECT NO.: 187024 Date: 12/20/2023
SCALE: P=50' DWG. 1/4"=1'-0"
DRAWN BY: BAF CHECKED BY: MK

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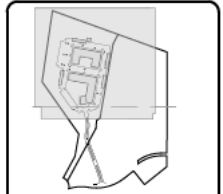
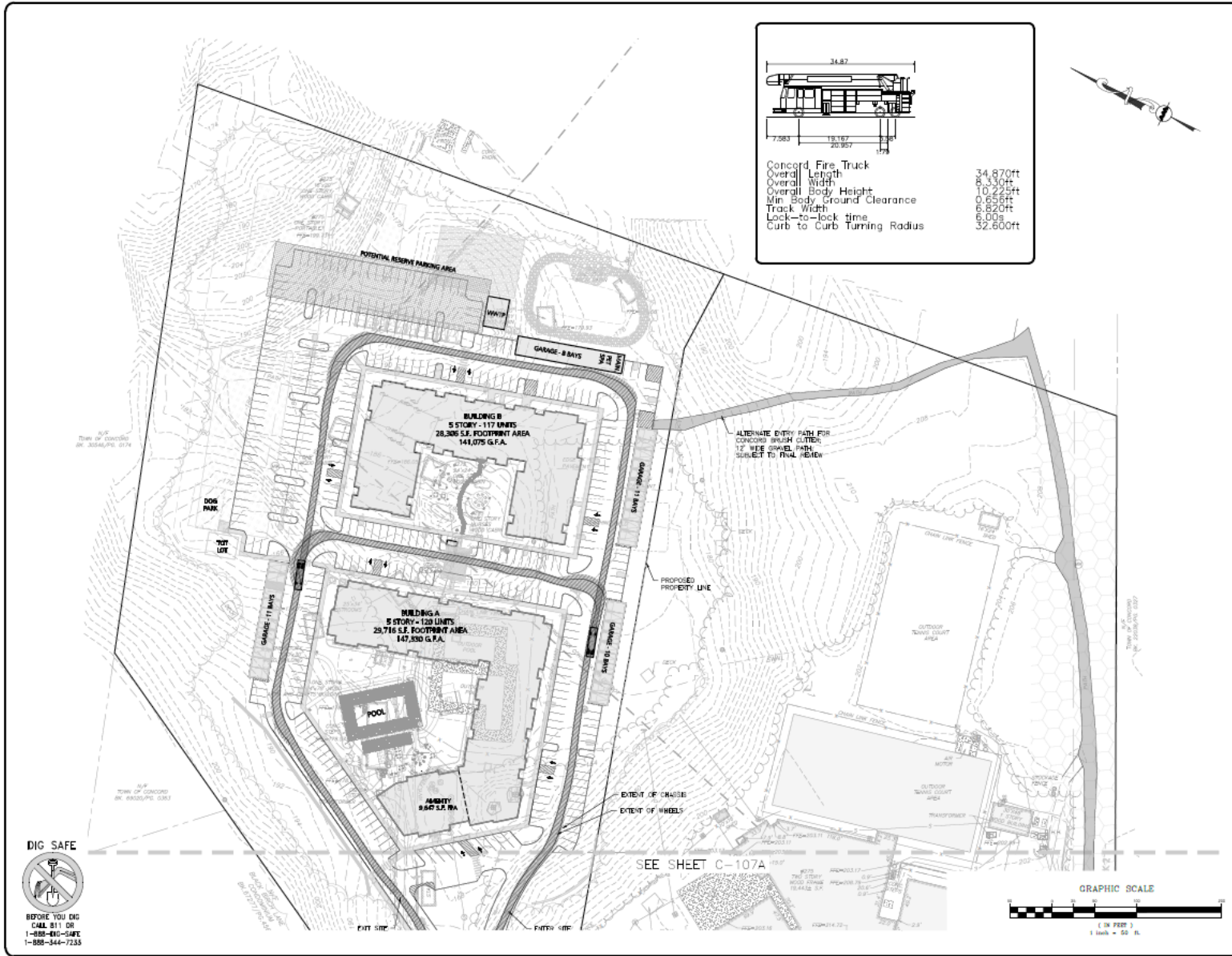
DATE: 12/20/2023
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DRAWING TITLE: **VEHICLE MOVEMENT PLAN** SHEET NO.: **C-107A**
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12/20/2023



Concord Fire Truck
Overall Length 34.870ft
Overall Width 8.330ft
Overall Body Height 10.225ft
Min. Body Ground Clearance 0.665ft
Track Width 6.820ft
Lock-to-lock time 6.00s
Curb to Curb Turning Radius 32.600ft



Vehicle Movement



REVISION

ISSUED FOR REVIEW
DEC. 20, 2023 REV OCT. 18, 2024



FEDERAL EVIDENCE PHOTOGRAPHY
ALLEN & MAJOR ASSOCIATES, INC.

NO.	DATE	BY	DESCRIPTION
01	02/28/24	JZA	PERMISSION
02	02/28/24	JZA	PERMISSION
03	02/28/24	JZA	PERMISSION

APPLICANT/OWNER
THOREAU RESIDENCES, LLC
275 FOREST RIDGE ROAD
CONCORD, MA 01742

PROJECT
THE RESIDENCES AT THOREAU
275 FOREST RIDGE ROAD
CONCORD, MA 01742

PROJECT NO.	DATE
1819/24	02/28/24

PROJECT NO. 1819/24 **DATE** 02/28/24

DESIGNED BY: JZA **CHECKED BY:** JZA

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DATE/TITLE	SHEET NO.
VEHICLE MOVEMENT PLAN	C-107B

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Dog Park

Playground





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Residences at Thoreau

- This project will be pursuing the Specialized Code and phius+2021 building program as our code compliance strategy.
- Passive house projects play a critical role in supporting decarbonization efforts in the construction and housing sectors.
 - By prioritizing energy efficiency, these homes dramatically reduce the need for heating and cooling, which are among the largest contributors to carbon emissions in buildings.
 - As more Passive Houses are built, the overall carbon footprint of the housing sector decreases, aligning with local goals for carbon reduction and environmental sustainability.



Residences at Thoreau

- **Passive houses use 50%-70% less energy** for heating and cooling compared to standard homes.
 - projects require extremely low loads, placing less demand on the local utility grid
- The phius program builds on the best practices of other national green building programs, which the project will also comply including:
 - EPA ENERGY STAR Multifamily New Construction program
 - EPA Indoor airPLUS program
 - Department of Energy Zero Energy Ready Home program



Residences at Thoreau – Passive House Strategies and Benefits

- All **electric building** design highlights:
 - specifying heat pumps heat pump water heaters which are significantly more efficient to operate
 - all low flow plumbing fixtures meet WaterSense EPA standards
 - European tilt turn windows with U Value of 0.17
 - LED lighting
 - PV ready design (structural load, conduit, inverter)
- **EV Parking:** The project team intends to meet the criteria within the Specialized Code and will provide 10% of parking as EV with additional infrastructure in place.



Residences at Thoreau – Passive House Strategies and Benefits

- **Superior Envelope:** The team will also complete various envelope analyses to ensure the project meets the best practices in building durability, water management and minimizing thermal bridging and associated heat losses. Leads to a longer-lasting, more resilient structure in this community.
 - Envelope highlights include installation high performance:
 - European tilt turn windows which bring higher performance for insulating and air leakage (U value of 0.17),
 - insulation in walls, floors, and roofs minimizes heat loss or gain, maintaining a consistent indoor temperature.
 - Building Envelope testing and verification



Residences at Thoreau – Passive House Strategies and Benefits

- **Airtight Construction & Rigorous Performance testing** : Passive houses are built with high levels of **airtightness**, preventing drafts and reducing the infiltration of outdoor air and pollutants.
 - Often results in less leakage of hot or cool air in a property and can also mitigate transmission of smell, sound and noise from unit to unit.
- Sustainability consultant involved during the design process to help us meet the phius+2021 requirements AND construction verifying program requirements are met. They will be responsible for testing and verifying:
 - envelope performance
 - unit compartmentalization testing
 - kitchen and bathroom exhaust ventilation and more!



Residences at Thoreau – Passive House Strategies and Benefits

Enhanced Indoor Air Quality: We intend to follow best practices under the EPA Indoor airPLUS program to promote exceptional Indoor Air Quality. The team will accomplish this using a three-prong strategy.

1. The team will specify building materials with low/no VOC to minimize exposure to toxins in the property.
2. The team will lean on best practices in mechanical ventilation to ensure units are ventilated appropriately and providing fresh air to occupants in the spaces.
3. The team will follow best practices in moisture management ensuring long term durability of the property and mitigate moisture related health risks for occupants.



Residences at Thoreau – Passive House Strategies and Benefits



REDUCED ENVIRONMENTAL IMPACT:

LOWER ENERGY CONSUMPTION = FEWER GREENHOUSE
GAS EMISSIONS
LOWER DEMAND ON LOCAL GRID



RESILIENCE TO CLIMATE CHANGE:

ENHANCED INSULATION, SYSTEMS, AND AIRTIGHTNESS
PROTECT FROM EXTREME WEATHER CONDITIONS