



Massachusetts ADU Design Challenge | Project Cover Sheet

1. Design Team

Lead Applicant: Alexander Catalano

Additional Applicants:

Design Firm Name (If Applicable): Catalano Architects

Contact Info: acatalano@catalanoarchitects.com

2. Design Information

EntryID (randomly assigned by HLC for tracking purposes): 3455

Design Name: Eco Gable

ADU Gross Floor Area (square footage): 499

Unit Layout: One-Bedroom

ADU Height (feet): 16

Window/Wall Ratio: 20%

Foundation Type: Frost Proof Slab Foundation

3. Project Narrative

Eco Gables is a compact 500-square-foot accessory dwelling organized as a linear form, establishing a clear progression from shared to private space. The straightforward gabled form allows the exterior to adopt either a contemporary or traditional expression, enabling the design to respond to local vernacular while complementing the primary residence. Designed for a single occupant or couple, the home balances openness with retreat. A centralized core anchors the plan, separating the living area from the bedroom while consolidating kitchen, bath, and mechanical systems for efficiency. The primary living space opens toward the landscape and is defined by a vaulted ceiling that enhances light and volume. The bedroom remains more contained and sheltered, reinforcing privacy within the compact footprint. A recessed covered entry establishes a protected threshold and strengthens the indoor-outdoor relationship.

Please note that the information contained in this file was submitted to the Executive Office of Housing and Livable Communities (HLC) by ADU Design Challenge participants and has not been independently verified by HLC or the Commonwealth of Massachusetts. Please direct questions to the designers.

ECO GABLE

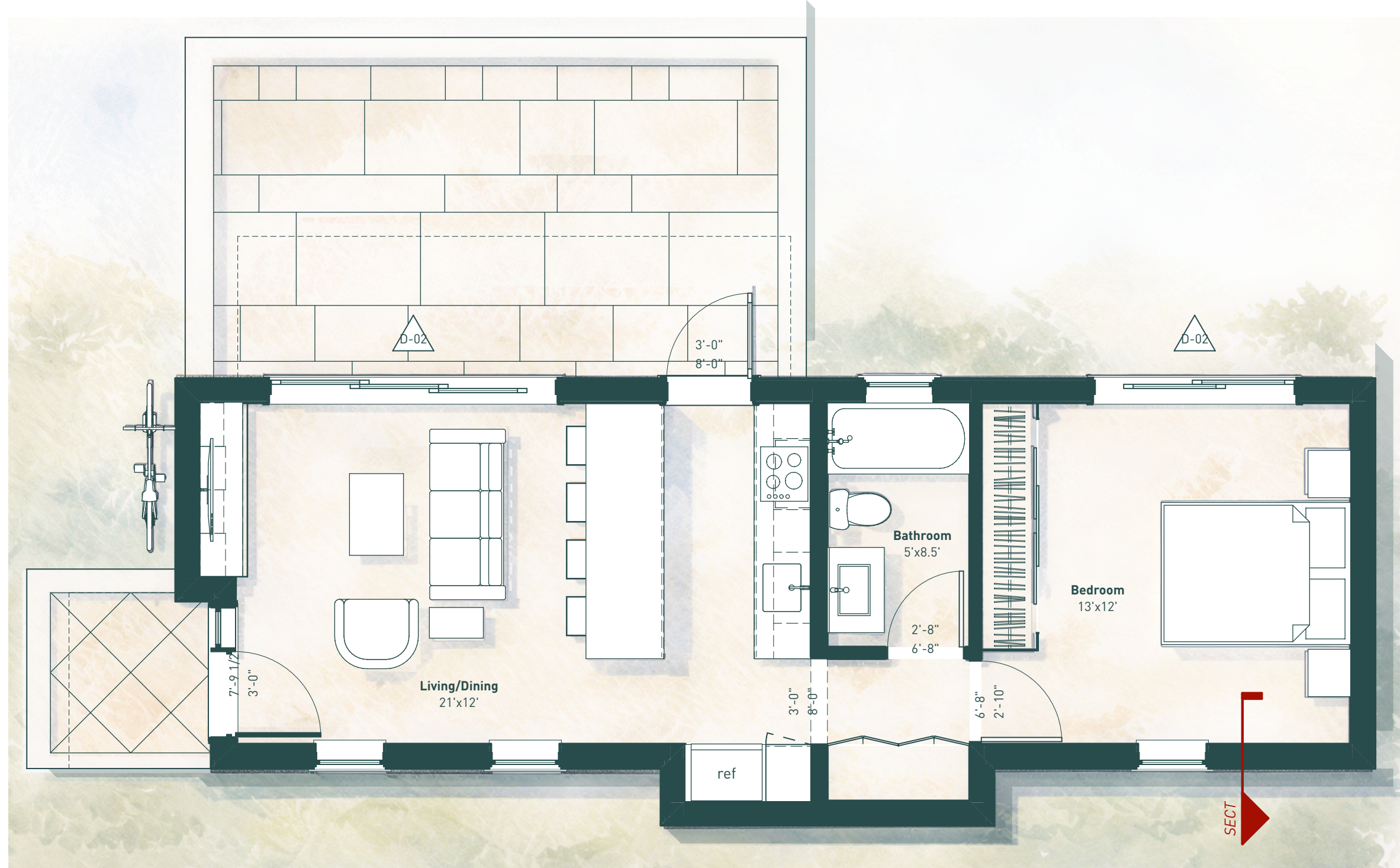
DESIGN CONCEPT

Eco Gable is a compact 500-square-foot accessory dwelling organized as a linear form, establishing a clear progression from shared to private space. The straightforward gabled form allows the exterior to adopt either a contemporary or traditional expression, enabling the design to respond to local vernacular while complementing the primary residence. Designed for a single occupant or couple, the home balances openness with retreat.

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COST-EFFECTIVE

The centralized service core reduces plumbing and mechanical runs, simplifying installation and lowering construction costs. A consistent 12-foot structural module supports panelized or off-site fabrication, allowing the building envelope to be constructed in a controlled environment and installed efficiently in any season. The compact linear form and repeatable structural dimensions reduce framing complexity and labor time. The consistent structural framework supports various composite siding applications, allowing the ADU to adapt to different budgets while maintaining the same core layout.



FLOOR PLAN



SITE CONTEXT

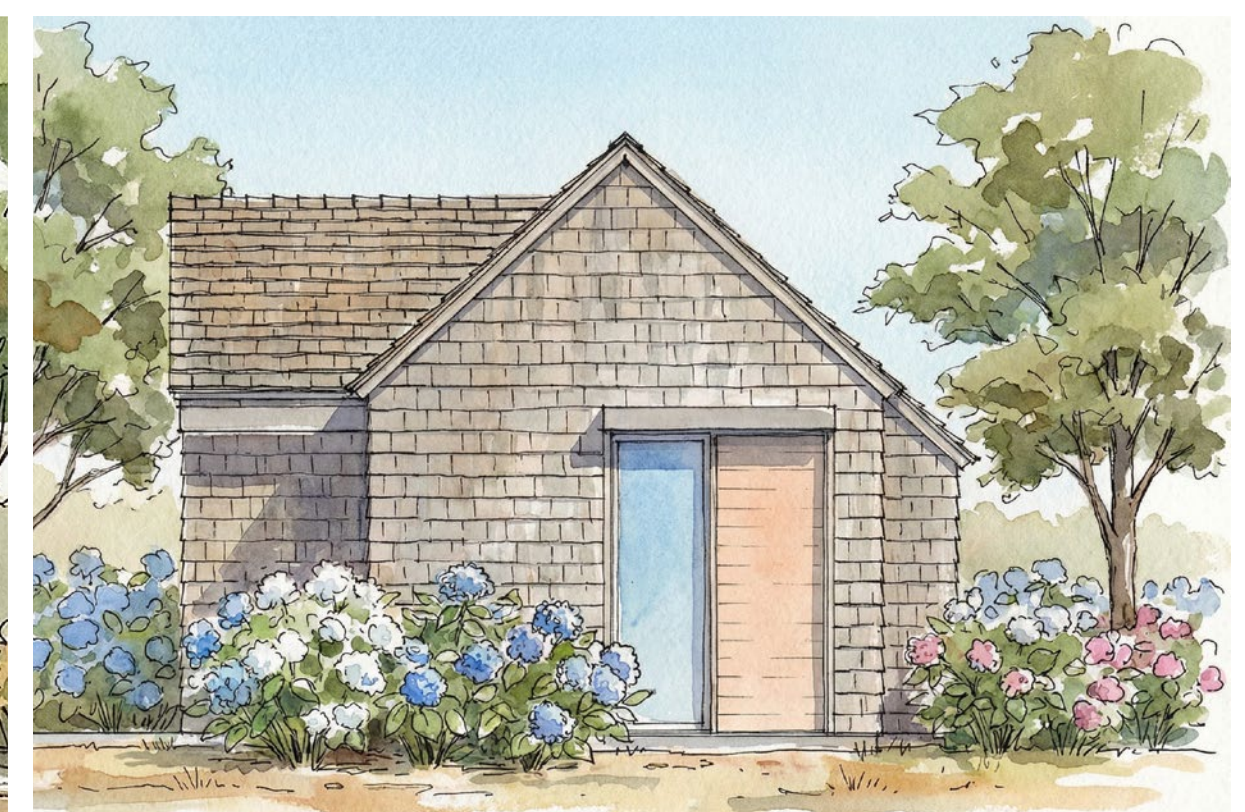


SITE PLAN

FUNCTION & COMFORT

The kitchen, bathroom, and mechanical systems are consolidated at the center of the plan, forming a compact service core that separates public and private zones and improves acoustic performance. The linear layout minimizes circulation, allowing more of the footprint to be dedicated to living space and making daily movement intuitive.

Glazing is concentrated along one elevation to provide consistent daylight while maintaining privacy from adjacent properties. A recessed covered entry offers weather protection and establishes a transitional threshold. The vaulted living room enhances light and spatial comfort, while a linear pantry wall and integrated storage support an efficient kitchen layout without increasing footprint.

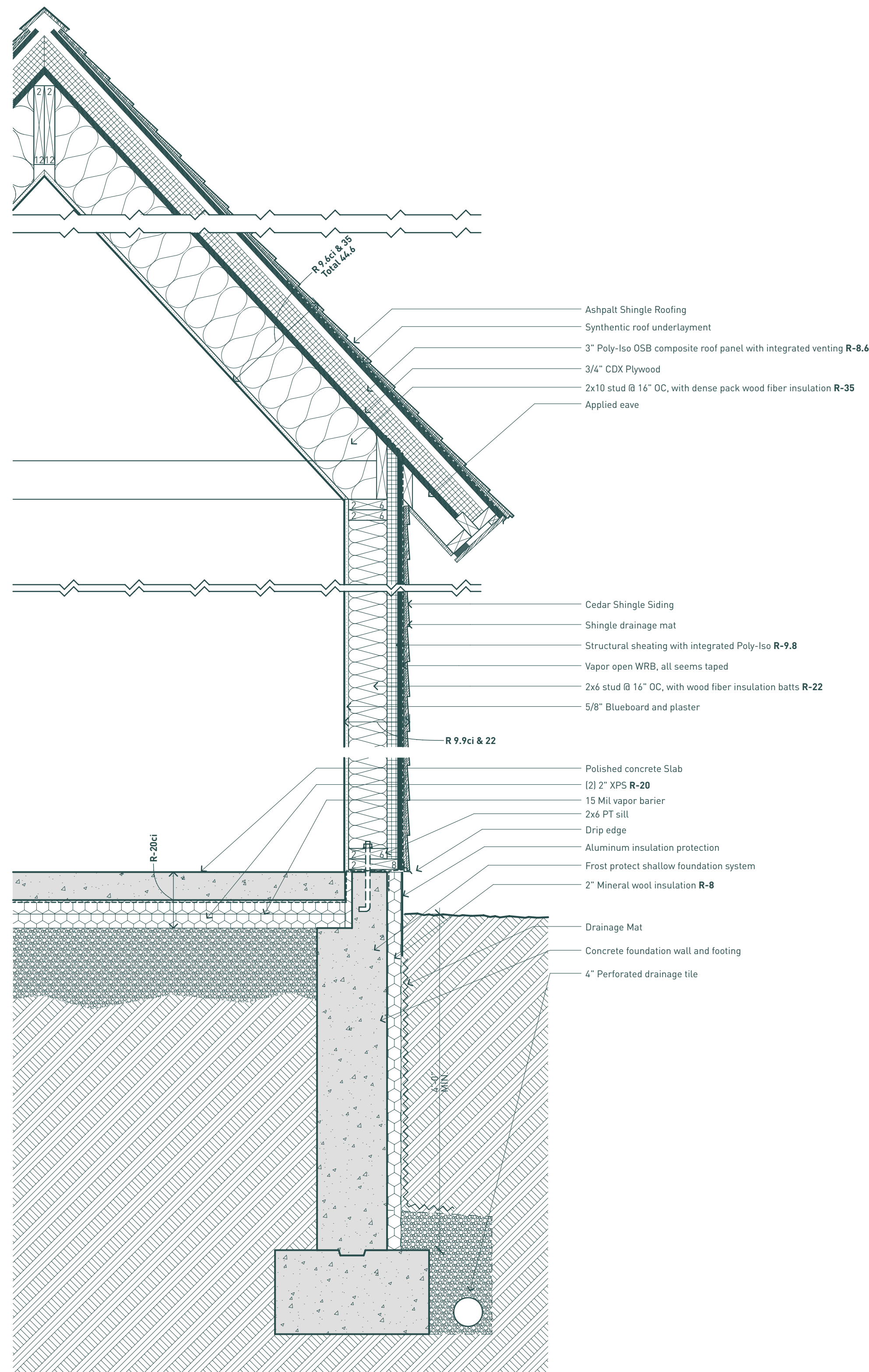


EXTERIOR ELEVATIONS

SUSTAINABILITY

Sustainability is embedded through passive performance strategies. Glazing is carefully oriented and shaded to support solar gain while limiting overheating. Continuous exterior insulation improves overall envelope performance, and wood fiber insulation reduces embodied carbon. A frost-protected shallow foundation further lowers the project's carbon footprint by minimizing concrete use and site disturbance.

All plumbing and mechanical systems are concentrated within a centralized service core, shortening runs, reducing material use, and limiting envelope penetrations. The 12-foot structural module supports panelized construction in a controlled environment, allowing for a tighter, more airtight envelope. Improved airtightness enhances indoor air quality and reduces energy demand. The compact plan utilizes high-efficiency mini-split systems to maintain comfort with minimal ductwork.



WALL SECTION



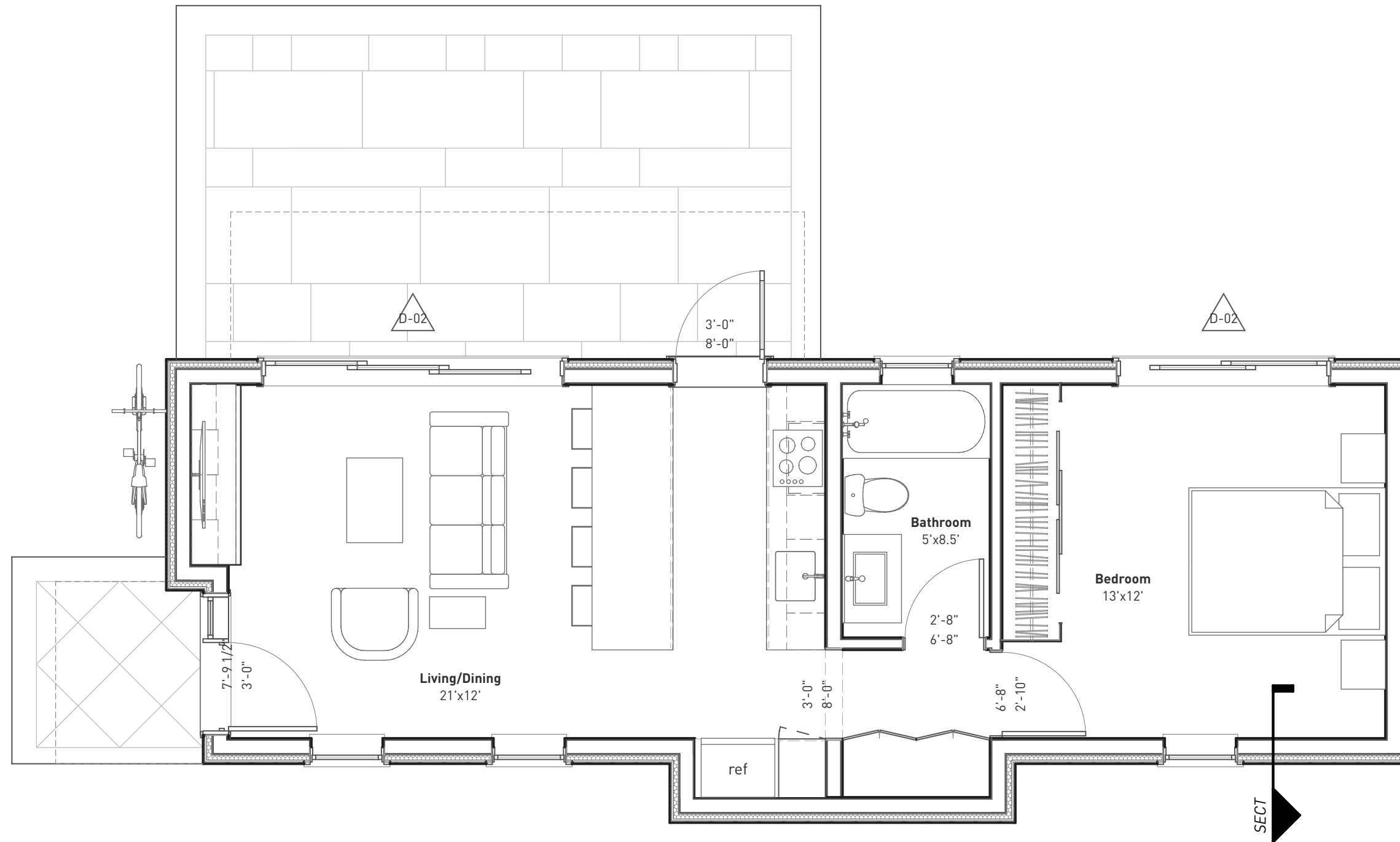
EXTERIOR PERSPECTIVE



EXTERIOR PERSPECTIVE



INTERIOR PERSPECTIVE





Drawing Front Elevation

Scale 1/4" = 1'-0"

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ECO GABLE

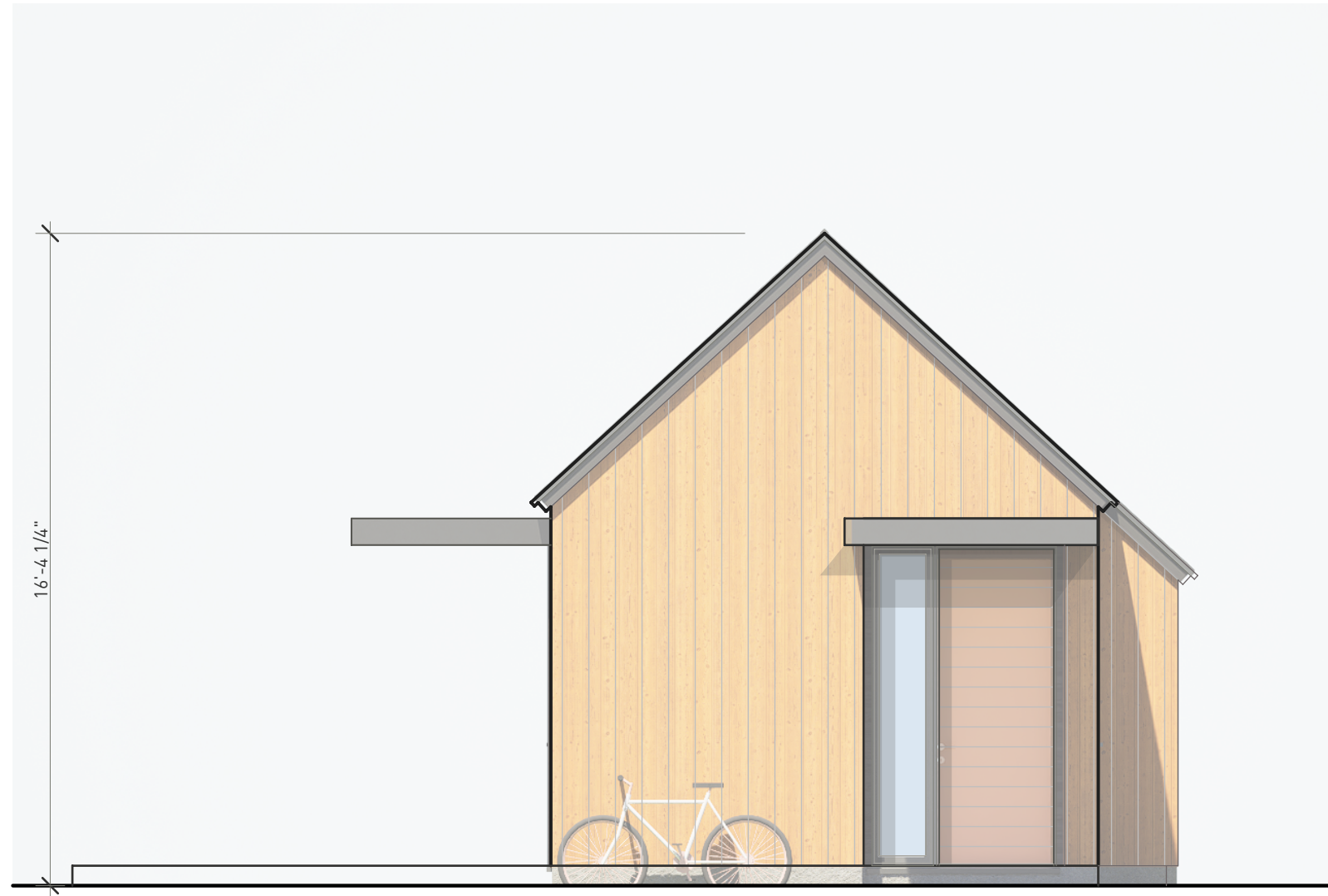


Drawing Rear Elevation

Scale 1/4" = 1'-0"

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ECO GABLE

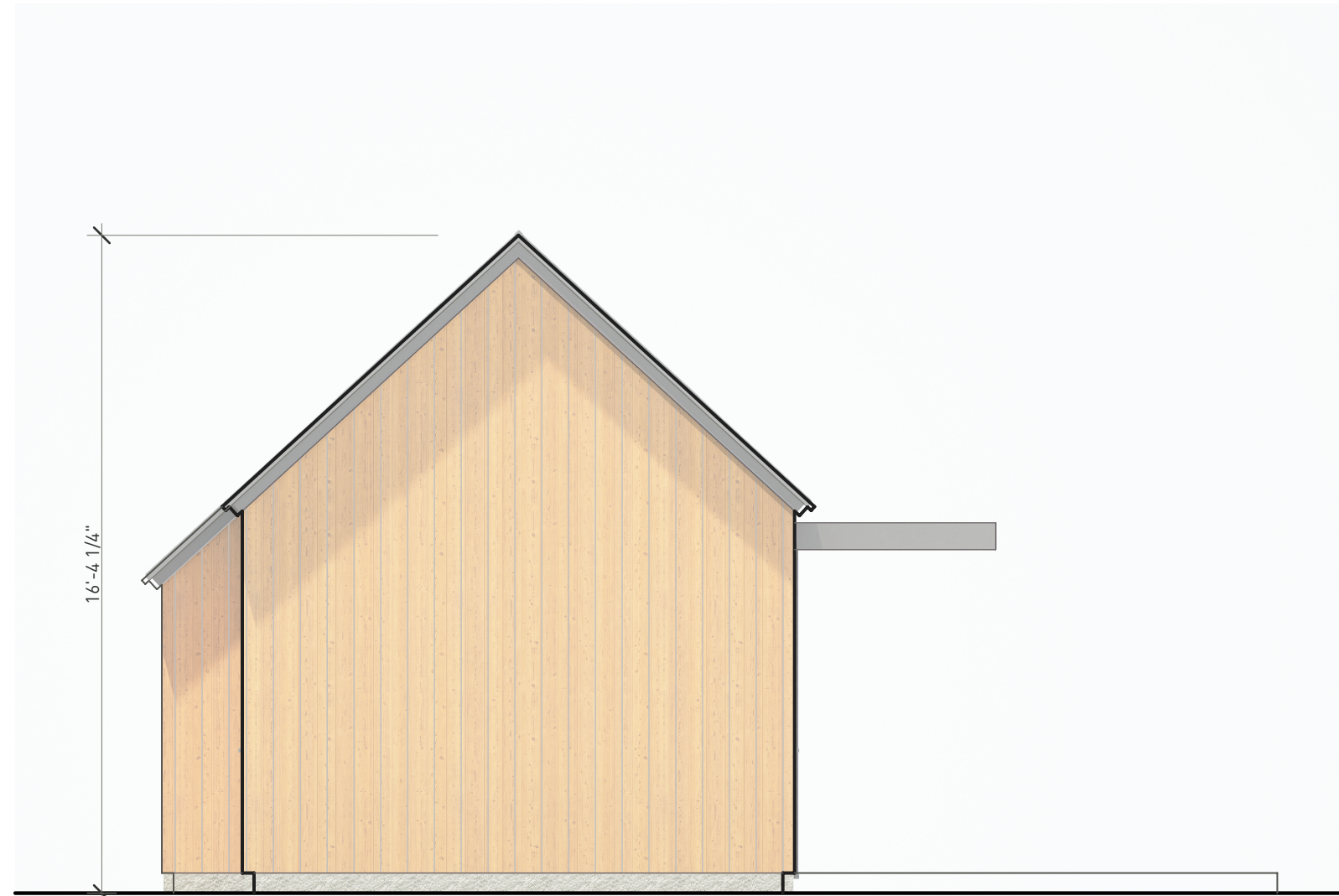


Drawing Side Elevation

Scale 1/4" = 1'-0"

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ECO GABLE

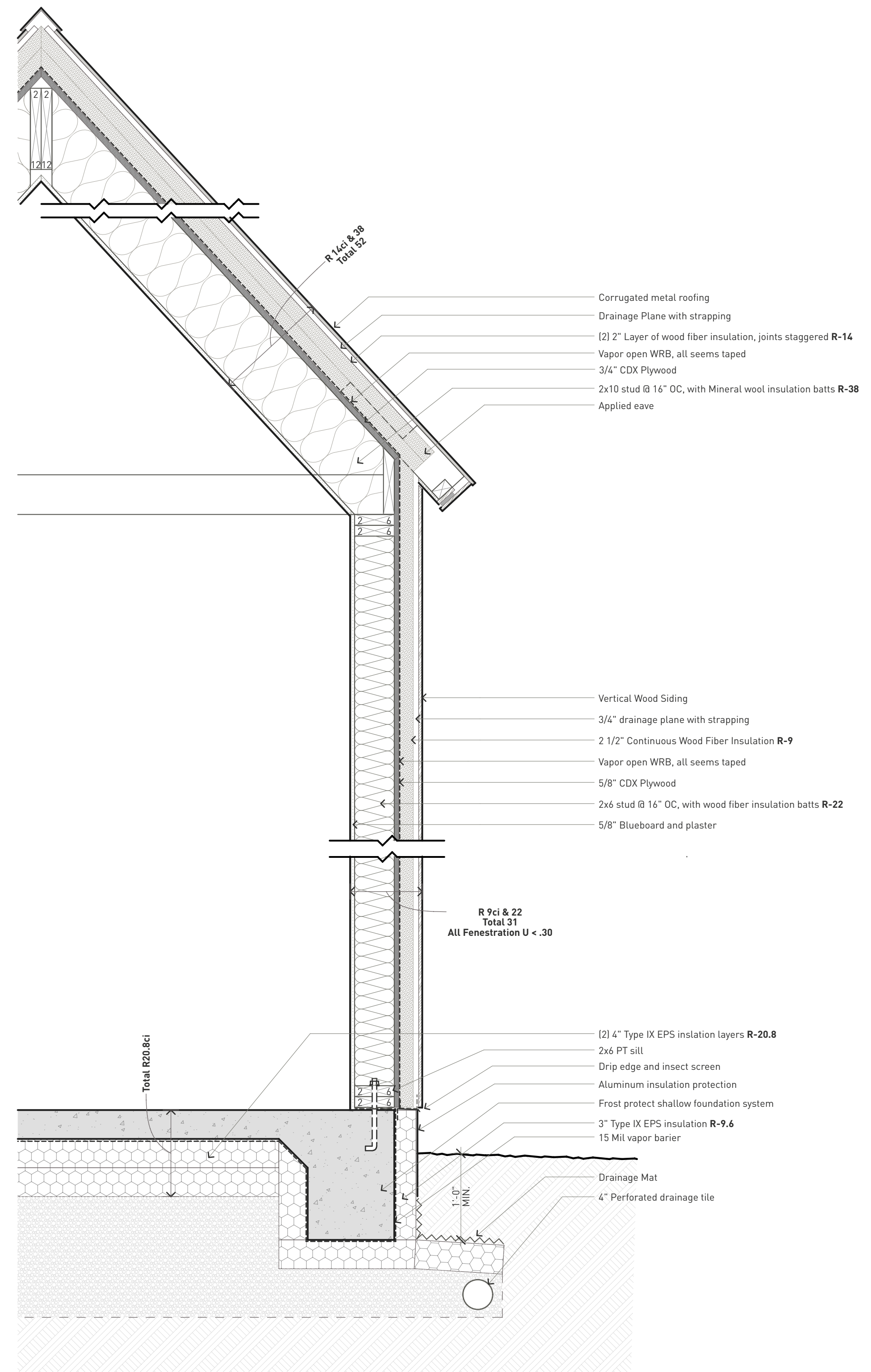


Drawing Side Elevation

Scale 1/4" = 1'-0"

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ECO GABLE



- Corrugated metal roofing
- Drainage Plane with strapping
- [2] 2" Layer of wood fiber insulation, joints staggered **R-14**
- Vapor open WRB, all seams taped
- 3/4" CDX Plywood
- 2x10 stud @ 16" OC, with Mineral wool insulation batts **R-38**
- Applied eave

- Vertical Wood Siding
- 3/4" drainage plane with strapping
- 2 1/2" Continuous Wood Fiber Insulation **R-9**
- Vapor open WRB, all seams taped
- 5/8" CDX Plywood
- 2x6 stud @ 16" OC, with wood fiber insulation batts **R-22**
- 5/8" Blueboard and plaster

- [2] 4" Type IX EPS insulation layers **R-20.8**
- 2x6 PT sill
- Drip edge and insect screen
- Aluminum insulation protection
- Frost protect shallow foundation system
- 3" Type IX EPS insulation **R-9.6**
- 15 Mil vapor barrier
- Drainage Mat
- 4" Perforated drainage tile

