



CATHEDRAL HOUSE PROJECT

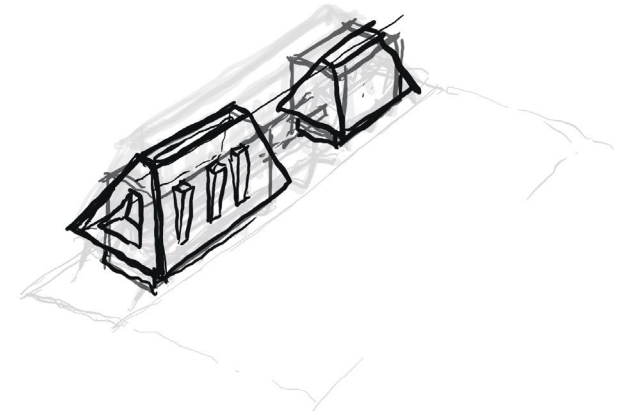
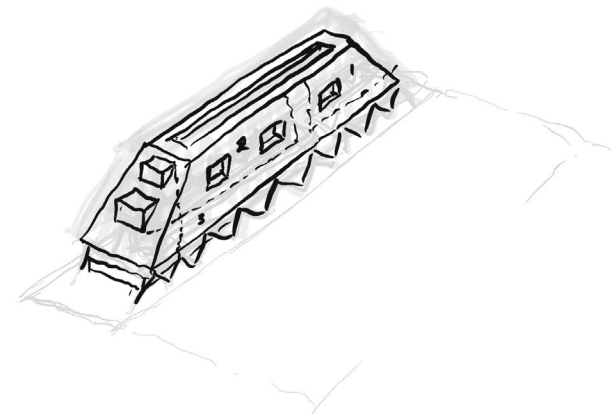
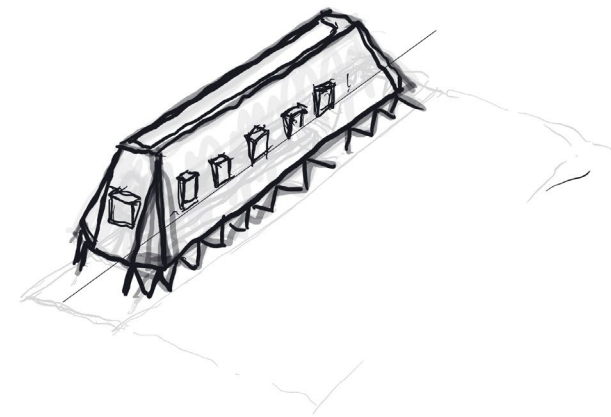
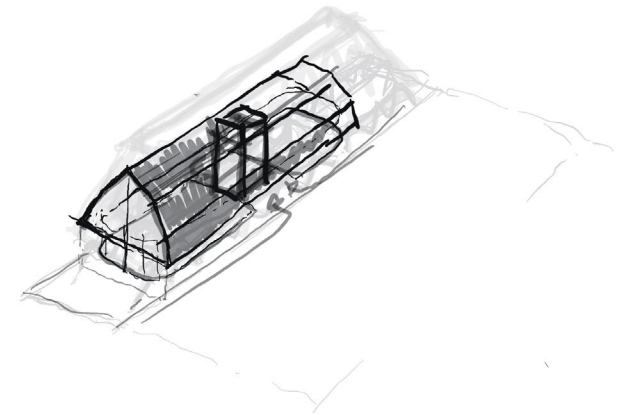
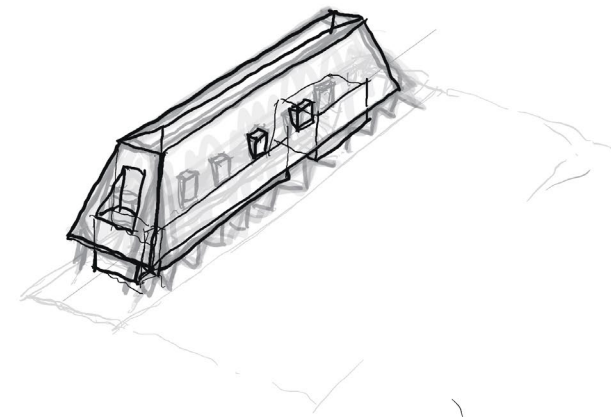
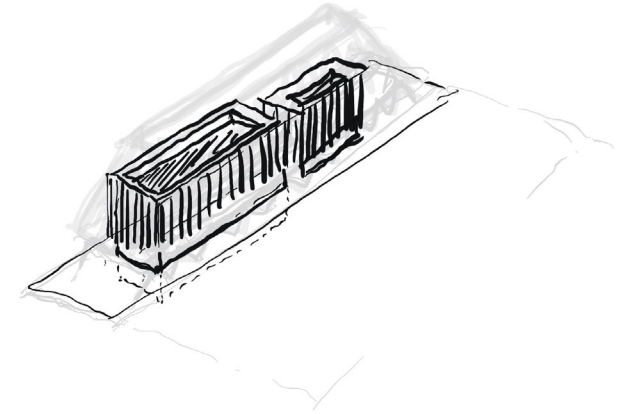
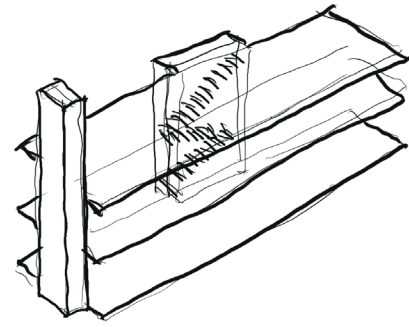
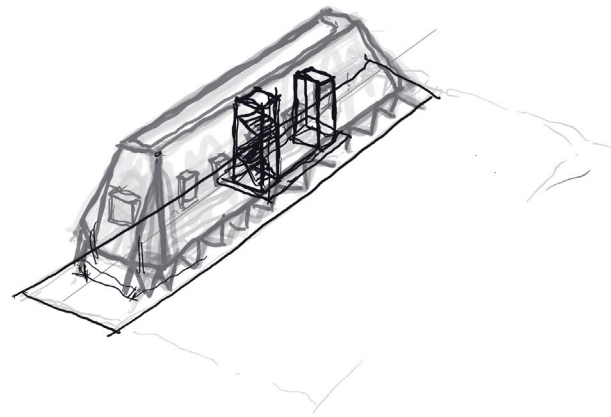
The Cathedral House Project works to address the missing middle housing typologies once common in the pre-war era neighborhoods of Regina, by reinterpreting the welcoming scale, historic materiality, and vibrant architectural density that defined these prominent areas of the city. Steep pitches, front porches, brick and cedar shake facades, along with the modest size of single-family homes are the unifying architectural typologies of these mature communities.

Cathedral House focuses on bringing a varied demographic to a notoriously challenging and mundane lot, the lane access, 7.62m interior infill lot in the historic Cathedral Neighborhood. With 3 floor plan configurations, Cathedral House works to bring together 3 different demographics under one roof, ultimately challenging the mono-cultural state of housing in the area. The project proposes 1, 2 and 3 bedroom layouts, making it accessible to all income levels and family needs.

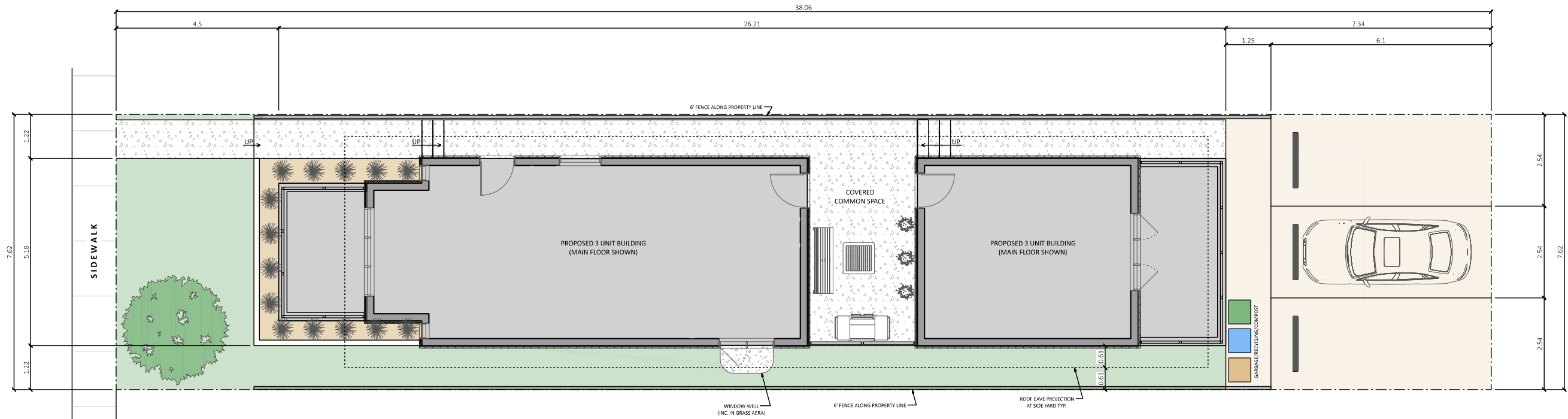
We would like to acknowledge that the proposed project would be located on Treaty 4 Territory, a Treaty signed with 35 First Nations across Southern Saskatchewan and parts of Alberta and Manitoba, and the original lands of the Cree, Saulteaux, Dakota, Lakota and the homeland of the Metis.

To ensure the project fits into the context of the neighborhood, an exaggerated cedar-clad mansard roof was utilized to bring the soffit down closer to the human scale, giving the residents the cozy and familiar feeling of walking up to a front porch. To ensure the residents don't lose the connection to the street while maximizing daylight, all three units utilize our idea of a "porch" or balcony. The units that consist of lower levels make use of large concrete walls to provide the occupants with private outdoor living space below grade, flooding the lower units with natural light and fresh air, while the upper units puncture the roof-line with steel-clad widow shrouds and easy to maintain balconies. A defining feature of the project is the covered courtyard at the center of the property allowing two private entrances and a communal outdoor space to be utilized while maintaining some privacy from the street.

Cathedral House promotes all aspects of great infill residential design by softly densifying a historically overlooked lot with multiple floor plans for different demographics while building off the familiar single family house typologies to become the new, once missing, middle house of Regina.



While driving through the pre-war neighborhoods in Regina you will notice many single-family houses, with front porches, brick and wood siding, steep roof pitches and a variety of roof styles including mansard, box gables, Dutch gables, along with areas full of gambrel style roofs. The problem often associated with infill housing is the fact that they simply feel out of place in these mature neighborhoods, with daunting 3 story walls covered in stucco or cement board, modern or low pitch roofs often as a result of trying to maximize every square foot of usable land to increase profitability. Cathedral House challenges that by focusing on one housing typology from the neighborhood and using that as the template for design. We chose to focus on the mansard style roof, utilizing cedar shakes on the roof and reclaimed limestone brick on the exterior walls. The mansard style roof allows us to bring the soffit of the roof-line down to a height that is familiar to the area rather than building a small roof on top of a 3-story house, we bring the living space inside what looks like a roof-line to make it feel more approachable from street level. By exaggerating these elements from the neighborhood's vernacular, we can achieve a house that follows all of the community infill guidelines while not straying away from the aesthetics that make the Cathedral neighborhood so special.



REGINA MIDDLE HOUSING - ZONING & SITE STANDARDS

ZONING STANDARDS

COMPETITION CATEGORY: LANE ACCESS INTERIOR

SITE ELEMENT	STANDARD	PROPOSED
LOT FRONTAGE:	7.62 meters	7.62 meters
LOT AREA:	290 sq. m	290 sq. m
HEIGHT:	9.5 meters	9.47 meters
FAR:	0.85	0.82
SITE COVERAGE:	50%	45% (INCLUDING: BUILDING,BASEMENT PATIOS & COVERED COMMON SPACE)
FRONT SETBACK:	4.5 meters	4.50 meters
REAR SETBACK:	3.5 meters	7.34 meters
SIDE SETBACK:	1.2 meters	1.22 meters
OTHER SIDE SETBACK:	1.2 meters	1.22 meters
DWELLING UNITS ALLOWABLE:	Min. 3, Max. 4	3 DWELLING UNITS

LANDSCAPING LEGEND

LANDSCAPE ELEMENT	PLAN MARKER	AREA/% OF TOTAL
BUILDING/PATIOS/COVERED COMMON SPACE:		130.4 sq. m. / 45%
GRASS:		61.9 sq. m. / 21.3%
CONC. WALKWAY:		32.8 sq. m. / 11.3%
PARKING:		55.9 sq. m. / 19.3%
PLANTING BED:		9.0 sq. m. / 3.1%

PLANTING LEGEND

DECIDUOUS TREE	
TALL GRASSES	

AFFORDABILITY in our minds doesn’t just look at the base material cost of the products used, but how do they create a higher performing building leading to lower energy costs day one, but also maintaining their effectiveness over the decades. Other advantages received by using prefabricated building systems are quicker build times (tenants in sooner), smaller crews and quieter sites (what neighbor wouldn’t appreciate that), and a lot less construction waste.

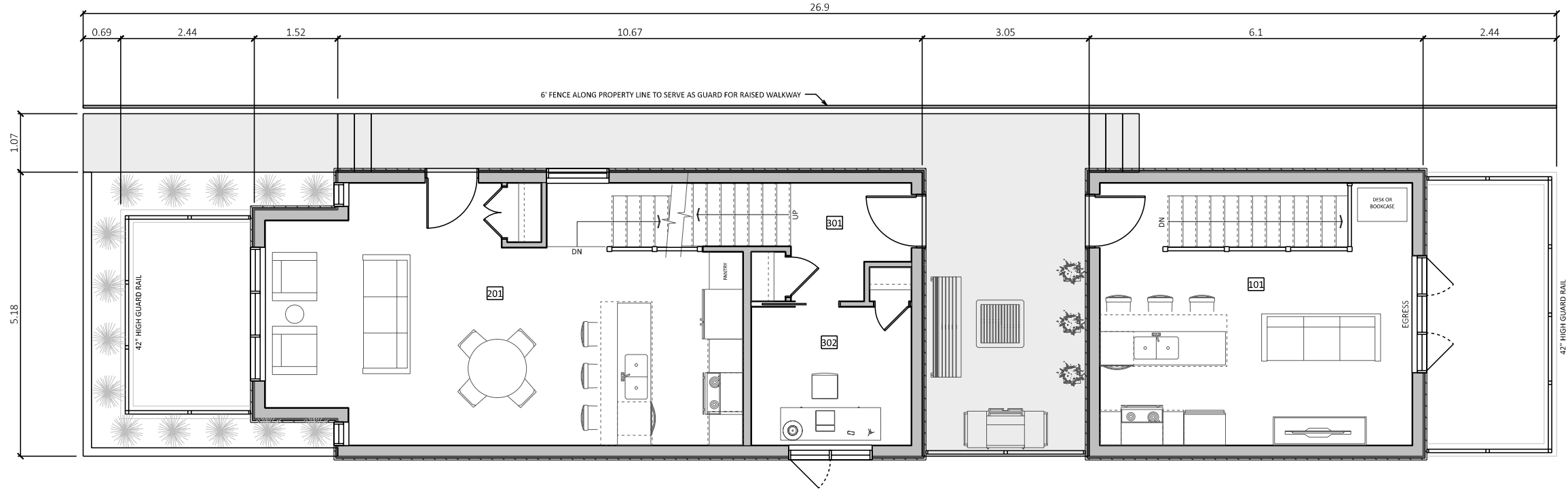
Both the Greenstone SIPS (Strucutrally Insulated Panels) and the CLT floor panels come to site prefabricated with no excess waste. A large decrease from traditional site framing methods. Sequenced planning of these systems also allows for low street disruption during construction. Trucks show up with sequenced panels and are flown directly from the truck bed onto the floor plate. Minimal lay-down area required and each floor plate would be constructed in a day.

In terms of building cost, we sought numbers from a high-end builder local to us who gave us a recent project cost of \$270/sqft for a 4-unit, 5200sqft infill project. This was an all-in cost including utilities and landscaping. We would expect our project to be slightly higher due to the premium building systems being used.

SUSTAINABILITY was an important deciding factor for the building materials/systems used in this proposal. Both the initial carbon input required to create the materials (embodied carbon), but also the ability of the materials to do more. In our case, the CLT (Cross Laminated Timber) floor system sequesters a large amount of carbon over the buildings lifespan.

The mansard roof would be constructed with pre-engineered laron trusses and would be an easily adapted ‘premium’ wall assembly to add additional insulation value and create an even better envelope.

We have focused on ensuring each unit receives ample natural light by strategically placing windows within the floor plan. As mentioned previously, the covered deck that allows main level access to two suites also creates a private common area for communal activity between the tenants. The exposed CLT panels evoke biophilia within the residents. Being exposed to natural materials has been proven to lower blood pressure and improve occupant well being.



MAIN FLOOR PLAN

DRAWING SCALE: 1:96
 TOTAL FLOOR AREA: 93 Sq m.

UNIT GROSS FLOOR AREA

UNIT 1 AREA: 63 Sq m.
 UNIT 2 AREA: 106 Sq m.
 UNIT 3 AREA: 192 Sq m.

GROSS FLOOR AREA - ALL FLOORS

ALL FLOORS TOTAL: 237 Sq m.

UNIT 1 ROOMS

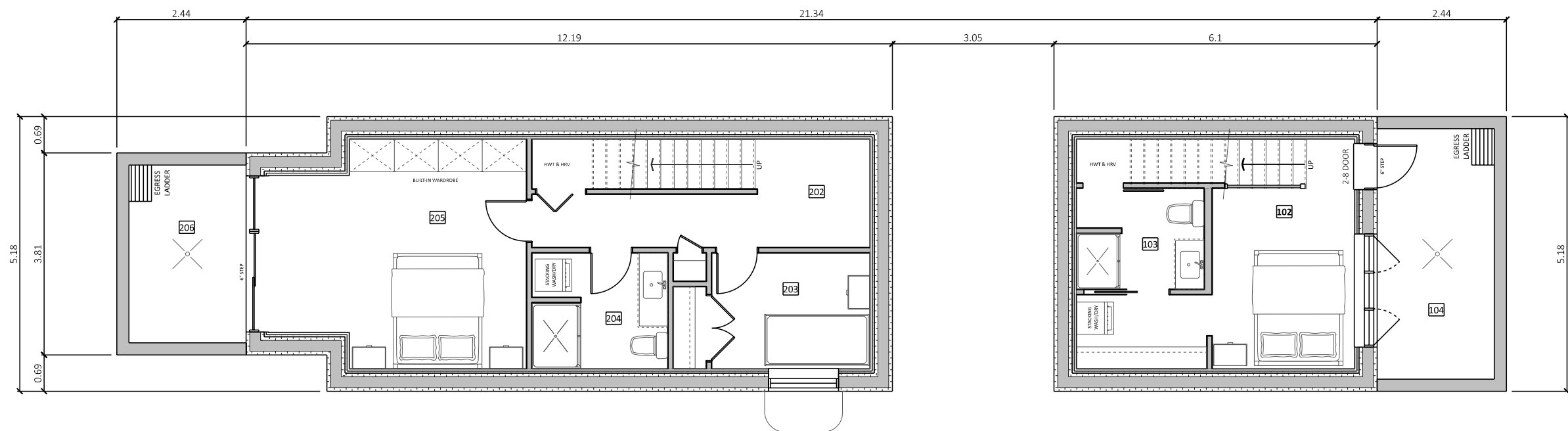
101 LIVING AREA
 102 BEDROOM
 103 ENSUITE
 104 PATIO

UNIT 2 ROOMS

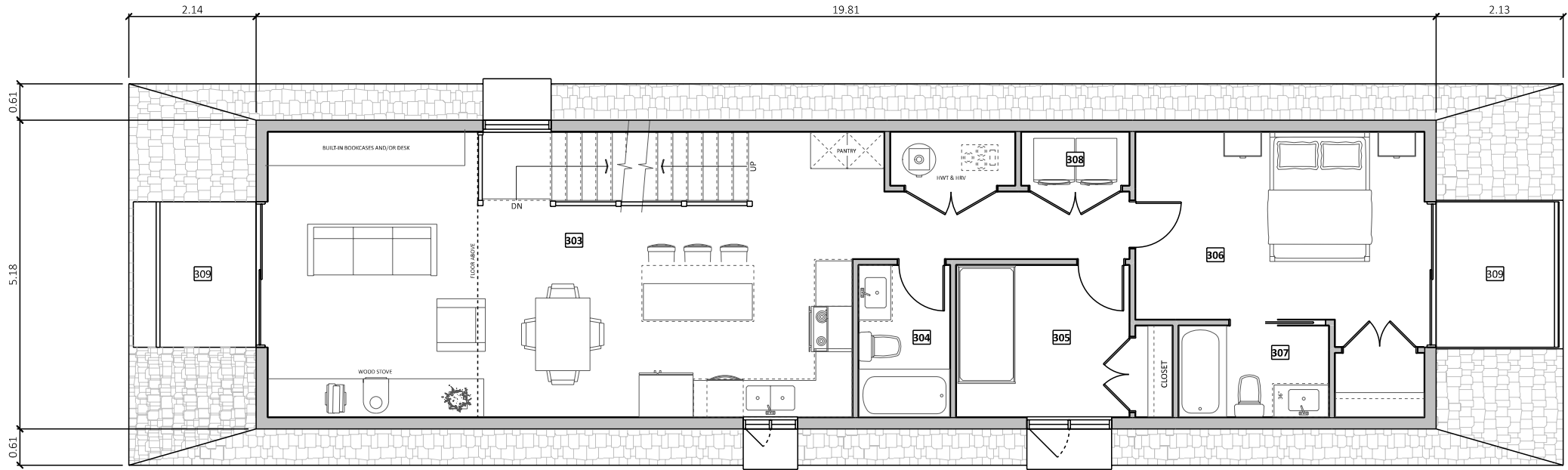
201 UNIT 2 LIVING AREA
 202 HALLWAY
 203 BEDROOM 2
 204 BATH
 205 PRIMARY BEDROOM
 206 PATIO

UNIT 3 ROOMS

301 ENTRY
 302 DEN



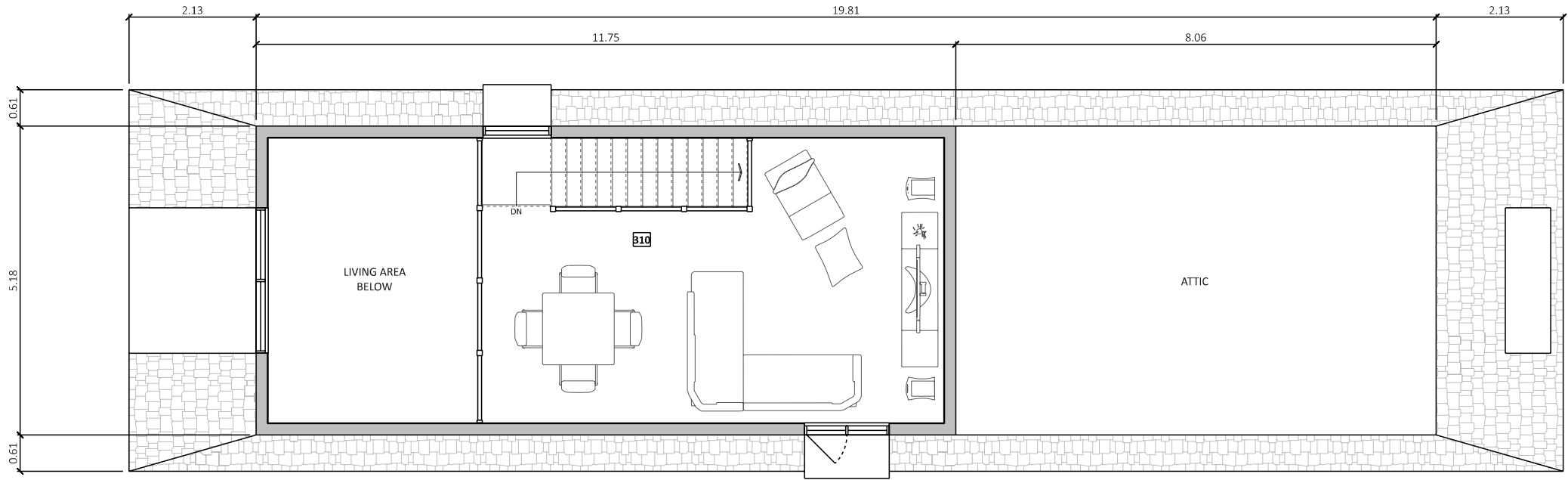
BASEMENT FLOOR PLAN



SECOND FLOOR PLAN

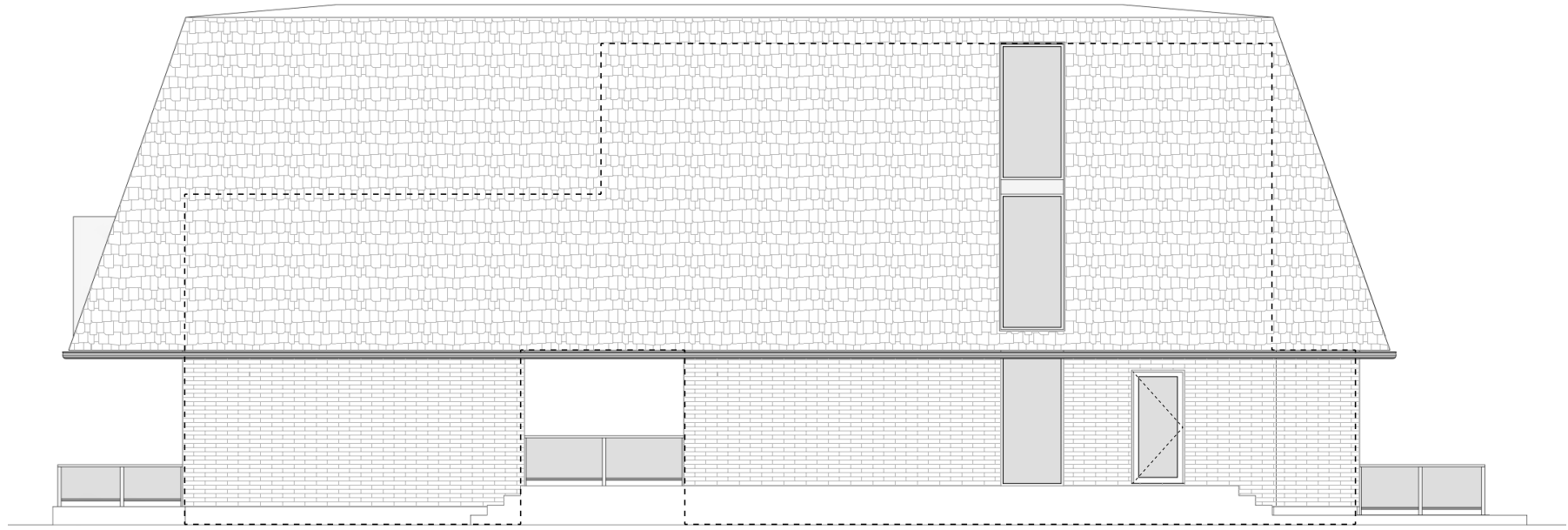
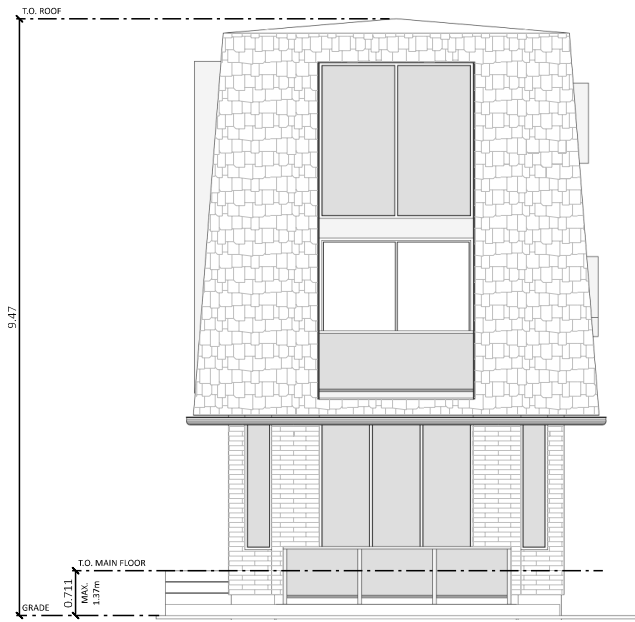
DRAWING SCALE 1:96
FLOOR AREA: 103 Sq m.

- UNIT 3 ROOMS
- 303 LIVING AREA
 - 304 MAIN BATH
 - 305 BEDROOM 2
 - 306 PRIMARY BEDROOM
 - 307 PRIMARY ENSUITE
 - 308 LAUNDRY CLOSET
 - 309 BALCONY
 - 310 LOFT

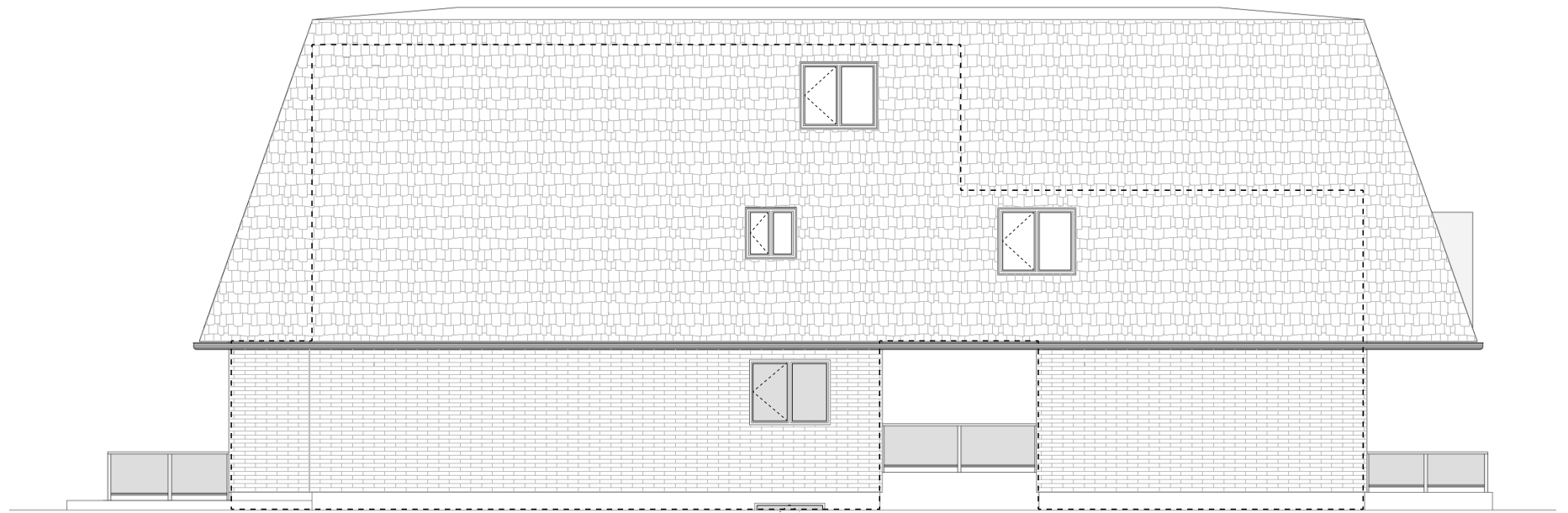


THIRD FLOOR LOFT PLAN

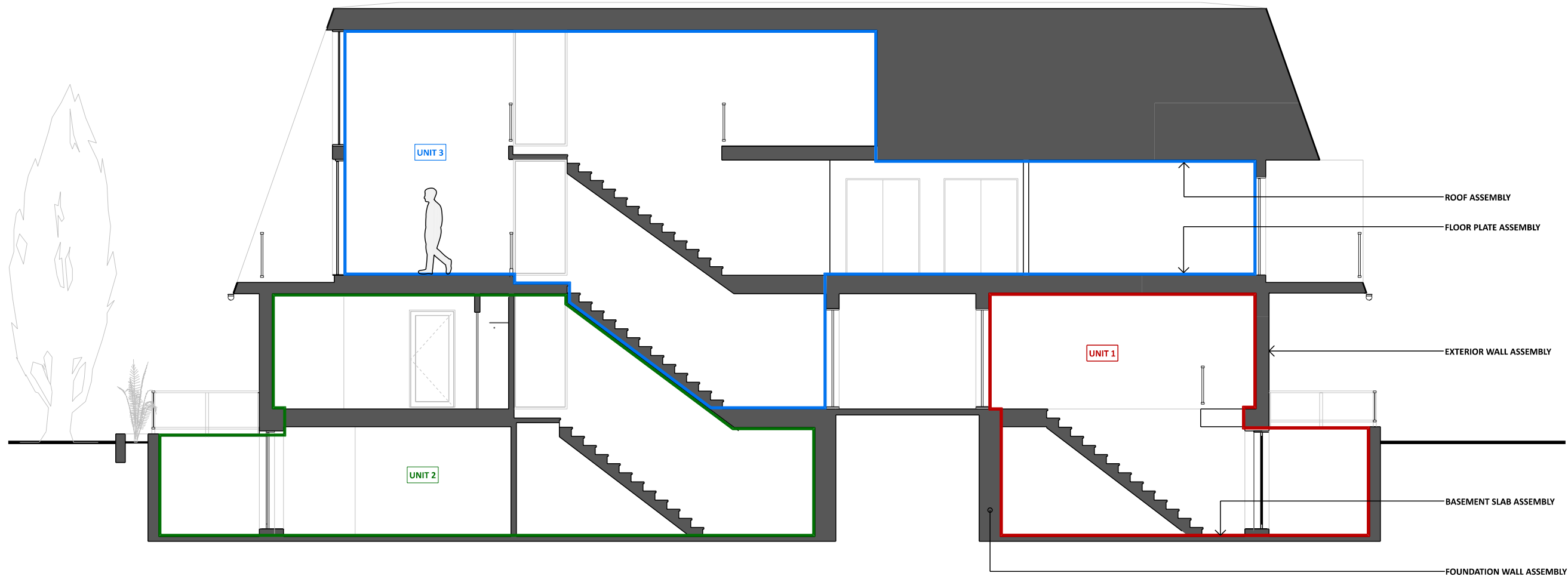
DRAWING SCALE 1:96
TOTAL FLOOR AREA: 42 Sq m.



WINDOW TO WALL AREA 7% (MAX. 7%)



WINDOW TO WALL AREA 3.6% (MAX. 7%)



BUILDING SECTION

BUILDING ENVELOPE SUMMARY

ROOF ASSEMBLY

- CEDAR SHAKE ROOF CLADDING
- ROOF SHEATHING
- PRE-MANUFACTURED ROOF TRUSSES
- C/W 20" DEEP CELLULOSE INSULATION
- 6 MIL. POLY V.B. / DRYWALL INT. FINISH

TOTAL ASSEMBLY U-VALUE: 0.088

REQUIRED U-VALUE (NECB 2020 LEVEL 2):

BASE BUILDING (ZONE 7A) U-VALUE = 0.121
LEVEL 2 (25% REDUCTION) U-VALUE = 0.091

WALL ASSEMBLY

- STONE VENEER OVER CEMENT BOARD SHEATHING
- 1/2" PWF STRAPPING
- APPROVED FLASHING TAPE ALL JOINTS
- 7.5" GREENSTONE GPS "ICE" PANEL (R35.25)
- DRYWALL INT. FINISH

TOTAL ASSEMBLY U-VALUE: 0.155

REQUIRED U-VALUE (NECB 2020 LEVEL 2):

BASE BUILDING (ZONE 7A) U-VALUE = 0.215
LEVEL 2 (25% REDUCTION) U-VALUE = 0.161

FLOOR ASSEMBLY

- FINISHED FLOOR (TRD)
- 3/4" T&G FLOOR SHEATHING
- 2x FLOOR JOISTS (MECH./ELEC. CHASE)
- SOUND BATT INSULATION
- 15mm INSONOMAT ACOUSTIC MEMBRANE
- STRUCUTRAL CLT FLOOR PANEL (FINISHED WOOD CEILING)

TOTAL ASSEMBLY U-VALUE: N/A

FOUNDATION WALL ASSEMBLY

- WATERPROOFING/EPS PROTECTION
- 8" INSULATED CONCRETE FORM (ICF)
- W/ 2 3/4" EPS PANEL EA. SIDE
- 1 1/2" CONT. EPS RIGID INSULATION
- 4x2 VERT. STRAPPING @ 24" O/C
- DRYWALL INT. FINISH

TOTAL ASSEMBLY U-VALUE: 0.184

REQUIRED U-VALUE (NECB 2020 LEVEL 2):

BASE BUILDING (ZONE 7A) U-VALUE = 0.284
LEVEL 2 (25% REDUCTION) U-VALUE = 0.213

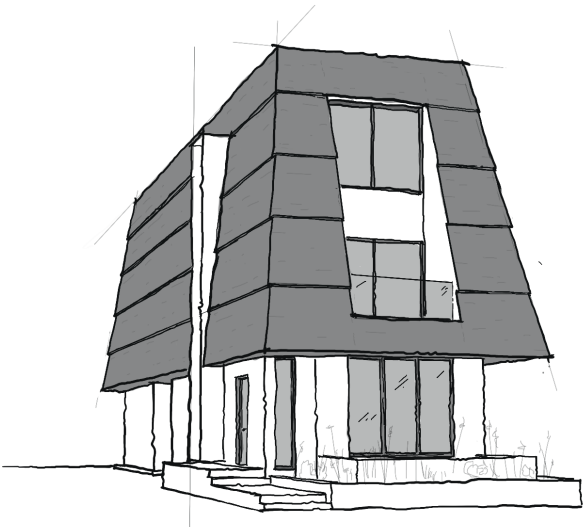
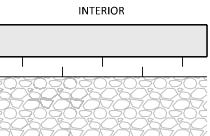
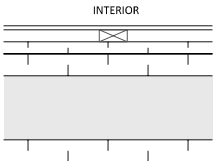
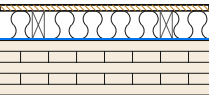
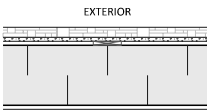
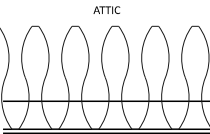
BASEMENT SLAB ASSEMBLY

- 4" CONCRETE SLAB
- POLY VAPOUR BARRIER
- 2 1/2" EPS RIGID INSULATION
- 10" DRAINAGE AGGREGATE
- ROUGH GRADE SLOPED TO SUMP PIT

TOTAL ASSEMBLY U-VALUE: 0.506

REQUIRED U-VALUE (NECB 2020 LEVEL 2):

BASE BUILDING (ZONE 7A) U-VALUE = 0.757
LEVEL 2 (25% REDUCTION) U-VALUE = 0.568





Front elevation of the lane access interior lot. The front upper balcony, sidewalk and natural grasses provide a welcoming approach from the street, with timeless materials that ensure the building looks like it was always here.



Rear elevation of the lane access interior lot, providing parking for all three units as well as space for recycling, waste and compost bins. Each unit also has access to private outdoor space with either balconies or lower level patios.



Unit 3 offers a surprisingly grand living area with a bonus loft nestled into the roof to allow more usable square footage. Warm natural finishes with a variety of textures make it an inviting place that tenants will enjoy for many years to come.



In Unit 1 we have used the idea of an outdoor patio with concrete walls to provide tenants with private outdoor space as well as flood the basement with natural light. The CLT floor system adds a welcome touch of warmth to make this lower level bedroom a highly desirable space to spend time.