

# Detached Accessory Dwelling Unit City of Seattle

Bohlin Cywinski Jackson  
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# Contact Information

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# Project Description

Edge House creates a space that allows for an agency of place.

The construct is intentionally simplified to allow the Owner to balance their goals, skills and budget to maximize their investment in their property and community.

Edge House’s base configuration utilizes off the shelf components including a quick-ship steel bolted frame assembly and utility intensive bar with kitchen and bath easing connection to utilities. The exterior and interior finishes and function units are selected by the individual. Components can be added or changed over time adjusting to each owners phased construction or evolving needs.

The process is designed to intentionally build owner-to-owner connections and crowdsource construction improvements, pricing and knowledge. An owner’s network enables vendors to bid on, produce and supply components in quantity at better value. Our goal is building long-term community among diverse but like-minded Owners of Edge House Dwellings.

Submission Categories:

- Low-cost DADUs
- Family-friendly DADUs
- Accessible DADUs
- Small-footprint DADUs

# Narrative

## Low Cost

The base rectangular form is easily built. Quick assembly is achievable with low to moderate skills allowing the owner to utilize sweat equity to achieve a more favorable outcome with lower debt. Crowd-sourced materials can be compared for greatest value or utilizing repurposed materials.

## Green Building and Design

The concrete thrifty six-pier foundation minimally disturbs site. The high-performance envelope is conditioned via efficient mini-split heat-pump. Raw material sizes are utilized to minimize waste and resources. Components accommodate solar, water collection, agricultural roof, reclaimed materials and reusable building parts. Adaptability to evolving needs and occupants assures longevity.

## Privacy

Edge House accommodates each orientation and terrain. Components control sightlines specific circumstance of each site. Internal components subdivide the space with retractable panels providing privacy among multiple occupants.

## Context

Edge House accommodates infinite material choices to fit context or blend into the landscape. The simple shape is a quiet neighbor to any existing structures. The roof options can replace the yard area as idyllic planted roof above the unit or be celebrated as a deck for entertaining.

## Culturally Responsive Design

Function units informed over time by future owner requests will become available for future owner's consideration. We hope that this will include specific needs of the many cultures contributing to our diverse Seattle Community,

## Constructability

1-day frame erection permits tenting the site to allow environmental protection to ease remaining work. Most components will arrive completed and ready for attachment already selected for speed, ease and reliability of enclosure.

## Architectural Variety

Edge House's menu of options allows owners to choose combinations meeting their preferences and circumstance. These choices yield highly individualized aesthetics in each completed residence.

## Broad Applicability

Edge House employs a broad choice of components allowing adaptation to most sites and circumstances. Planned construction milestone gatherings and open houses are meant to build a broad community while inspiring additional potential owners.

Estimate of Construction Cost

ITEM		TRADE	CONSTRUCTION METHOD			RECOMMENDED	DAYS	COMMENTS
			OWNER	GC/OWNER	GC	SAMPLE COST		
Plan Fee		ADM	\$ -		\$ 1,000			Potential to waive fee for neighbor to neighbor mentoring
Arch Services		ADM	\$ -	\$ -	\$ -			Negotiable/ Crowdsourcing Questions and Tips
Permit		ADM	\$ -	\$ -	\$ -			TBD
Mobilization		ADM	\$ -	\$ 1,500	\$ 2,500	\$ 1,500		Equipment/ Portopotty/ Administrative
GC OH		ADM	\$ -	\$ -	\$ -			TBD
Excavation/ Prep		EXC	\$ 750	\$ 1,500	\$ 2,250	\$ 1,500	2	Site dependant, minimum six holes for piers with hand or auger could reduce \$
Vault		EXC	\$ 150	\$ 300	\$ 450	\$ 150	1	If required for ease of connection and maintenace
Utilities			\$ -	\$ -	\$ -			
	Ejector Pump	PLU	\$ 750	\$ 1,500	\$ 2,000	\$ 1,500	2	24" x24" Direct Burial Connect prior to clean out for \$10k savings in hookup
	Electrical Connect	ELE	\$ 2,500	\$ 5,000	\$ 7,500	\$ 5,000	2	Assuming sub panel and sub meter from existing residence
	Water SubMeter	PLU	\$ 2,500	\$ 3,500	\$ 5,250	\$ 3,500	2	Assuming sub meter from existing residence
			\$ 4,150	\$ 13,300	\$ 20,950	\$ 13,150		
Piers		EXC	\$ 400	\$ 850	\$ 1,100	\$ 850	2	6 x 16"x 24" = 17cf/.6cy; Sonotube, rebar, concrete, concrete short load
Structural Frame		GLA	\$ 12,500	\$ 17,000	\$ 19,000	\$ 12,500	2	16x21x10 / 25 Year Warranty / 3157#
Roof Framing Overlay		CAR	\$ 3,220	\$ 6,440	\$ 9,660	\$ 3,220	5	2x6
Roof Sheathing		CAR	\$ 2,920	\$ 5,840	\$ 8,760	\$ 2,920	1	In addition to material supplied w Struct Frame (644sf Reqd-352sf incl)
Membrane/Flashing		ROO	\$ 1,950	\$ 3,900	\$ 4,875	\$ 4,875	5	Base material for ease of install/ roof options available
Floor Framing		CAR	\$ 2,000	\$ 4,000	\$ 5,000	\$ 4,000	5	Modeled with 9.25 TJI
Floor Insul		INS	\$ 1,200	\$ 2,400	\$ 3,000	\$ 1,200	1	Modeled as Cellulose and Rock Wool
Floor Sheathing		CAR	\$ 2,000	\$ 4,000	\$ 5,000	\$ 4,000	2	Modeled as plank and plywood/ alt flooring availabel as T&G or Conc Hydronic
Wall Panels								
	Operable Solid	CAR	\$ -	\$ -	\$ -	\$ -		Optional wall detail not included in model
	6" SIP	CAR	\$ 2,880	\$ 5,760	\$ 8,640	\$ 5,760	3	Modeled as SIP, Options aval with CLT, ReClaimed NLT, or Conventional Frame
Wall Windows								
	Fixed	CAR	\$ 2,015	\$ 4,030	\$ 6,045	\$ 4,030	1	Modeled, Options avaialable
	Operable	CAR	\$ 320	\$ 640	\$ 960	\$ 640	5	Modeled, Options available
Wall Doors		CAR	\$ 460	\$ 920	\$ 1,380	\$ 920	1	Modeled, Options available
Interior Plumbing		PLU	\$ 5,000	\$ 7,500	\$ 11,250	\$ 7,500	3	Allowance
Interior Plumb Fixtures		PLU	\$ 3,500	\$ 7,000	\$ 10,500	\$ 7,000	2	Allowance
Interior Electrical		ELE	\$ 5,000	\$ 7,500	\$ 11,250	\$ 7,500	3	Allowance
Interior Elect Fixtures		ELE	\$ 2,500	\$ 5,000	\$ 7,500	\$ 5,000	2	Allowance
Insulate Roof		INS	\$ 1,600	\$ 3,200	\$ 4,800	\$ 1,600	2	Modeled as Cellulose and Rock Wool
Finishes		CAR	\$ 3,600	\$ 7,200	\$ 10,800	\$ 7,200	10	Modeled, Options available, Drywall potential price reduction
Paint		PAI	\$ 1,800	\$ 3,600	\$ 5,400	\$ 1,800	5	Modeled
Exterior Siding		CAR	\$ 4,800	\$ 7,200	\$ 9,000	\$ 7,200	5	Modeled, Options available
Exterior Finishes		PAI	\$ 2,800	\$ 4,200	\$ 5,250	\$ 2,800	5	Modeled, Options available
			\$ 59,665	\$ 108,180	\$ 143,920	\$ 89,715		
Casework		CAR	\$ 7,200	\$ 14,400	\$ 21,600	\$ 14,400	5	Allowance @ \$200 per LF (Variable)
Kitchen Appliances		OWN	\$ 1,500	\$ 2,000	\$ 2,500	\$ 1,500	1	Allowance
			\$ 8,700	\$ 16,400	\$ 24,100	\$ 15,900		
Deck/Fence		CAR	\$ 1,000	\$ 1,500	\$ 1,875	\$ 1,500	5	Modeled, Optional Modular Units per Owner needs
Open House Party		ALL						
TOTALS			\$ 78,815	\$ 139,380	\$ 196,095	\$ 123,065	90	Target Cost with Mentorship Program
With 25% Contingency			\$ 98,519	\$ 174,225	\$ 245,119	\$ 153,831		

# Estimate of Construction Cost (cont.)

**BASE BUILDING:**

**\*framework with simplified shape for predetermined structure, plumbing, insulation and waterproofing.**

**FR001 FRAME default 16’x22’**

**BB001 BATH BAR**

**BK002 KITCHEN BAR**

**COMPONENTS:**

**\*Components are then added to Base Building to accommodate Owners current needs and budget:**

**AS MODELED:**

**LB01 FOLD DOWN QUEEN BED, BOOKSHELVES, CLOTHES STORAGE**

**LC01 DESK, STORAGE, PRIVACY PANEL**

**LD01 DINING TABLE, TWIN BUNKS, STORAGE**

**ALTERNATE COMPONENTS:**

LB02 QUEEN BED, DESK, STORAGE, BOOKS

LCO2 DESK, TV, STORAGE, PRIVACY PANEL

LDO2 DINING TABLE, SINGLE BED/SOFA, BENCH, STORAGE

**ACCESSORIES (Added to ends of “BAR”:**

BA01

BA02 BIKE SHED

BA03 STORAGE SHED

BA04 TRASH RECYCLE SHED

BA05 UTILITY SHED

BA06 BBQ SHED

BA07 GREENHOUSE

BA08 OUTDOOR SHOWER

BA09 SECURED ROOF TOP ACCESS STAIR (Requires RR01)

**ROOF OPTIONS:**

RR01 RAILING SYSTEM

RR02 DECKING PALLETS (Requires RR01)

RR03 PLANTED ROOF

RR04 BALLASTED SOLAR PANEL RACKS

**ENTRY OPTIONS**

ES01 ENTRY STAIR SHORT

ES02 ENTRY STAIR TALL

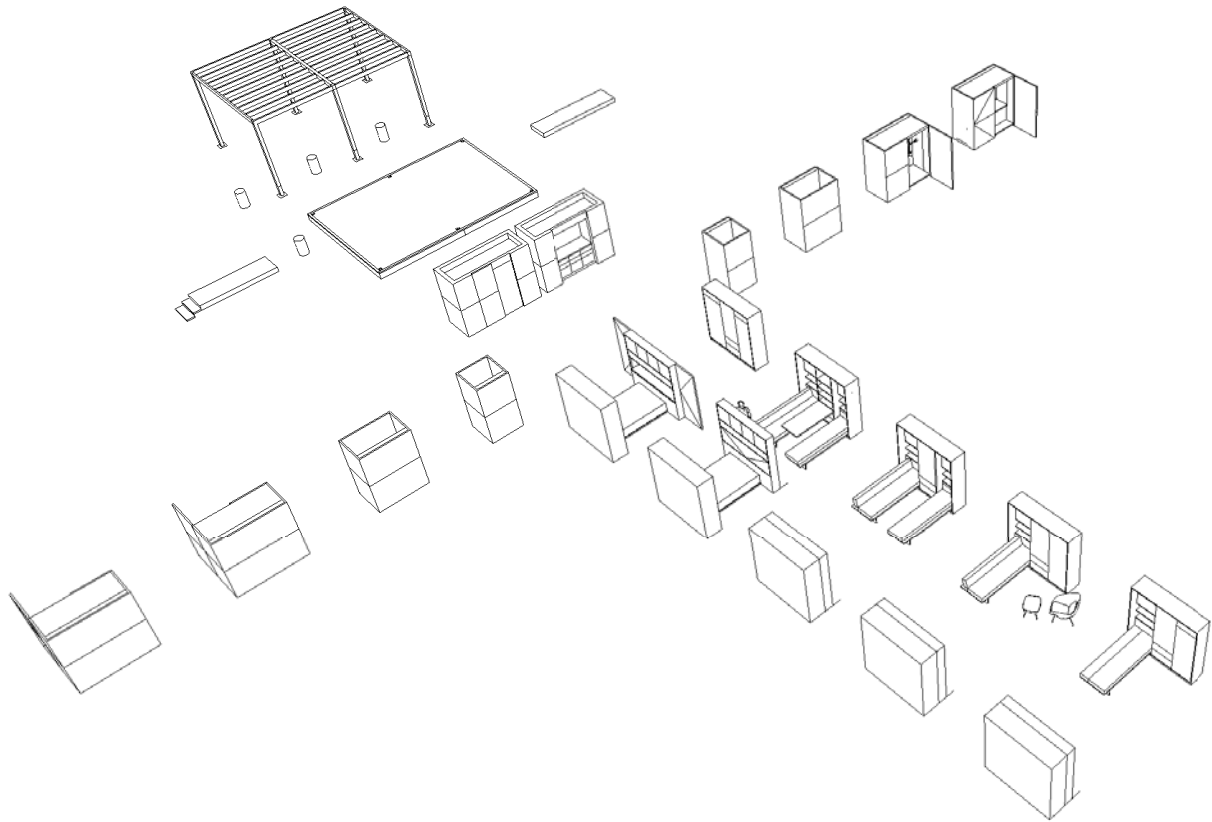
ER01 ENTRY RAMP SHORT

ER02 ENTRY RAMP LONG

ED01 ENTRY DECK

ED02 ENTRY DECK WITH STEP

**\*\*In the spirit of creating a mindful community the design team will continue to evolve components based on crowdsourcing of Owner needs and additional designs made available to future and current dwellings.**





Site Diagram

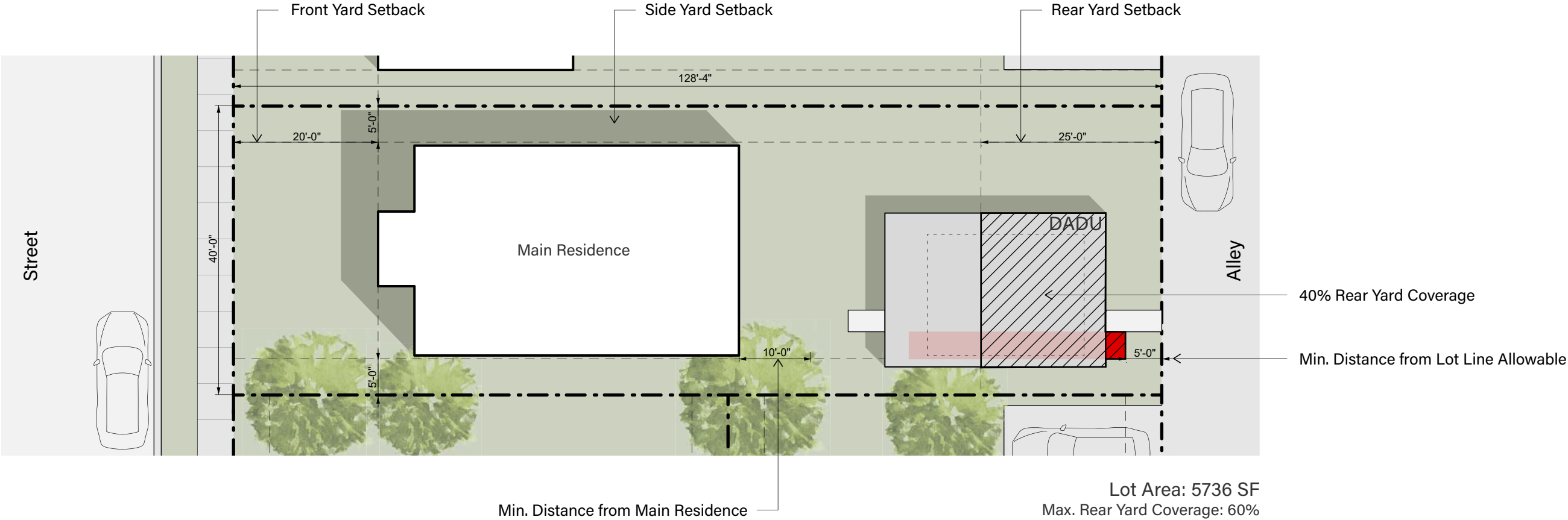


SCALE : 1/32" = 1'-0"

0 8 16 32



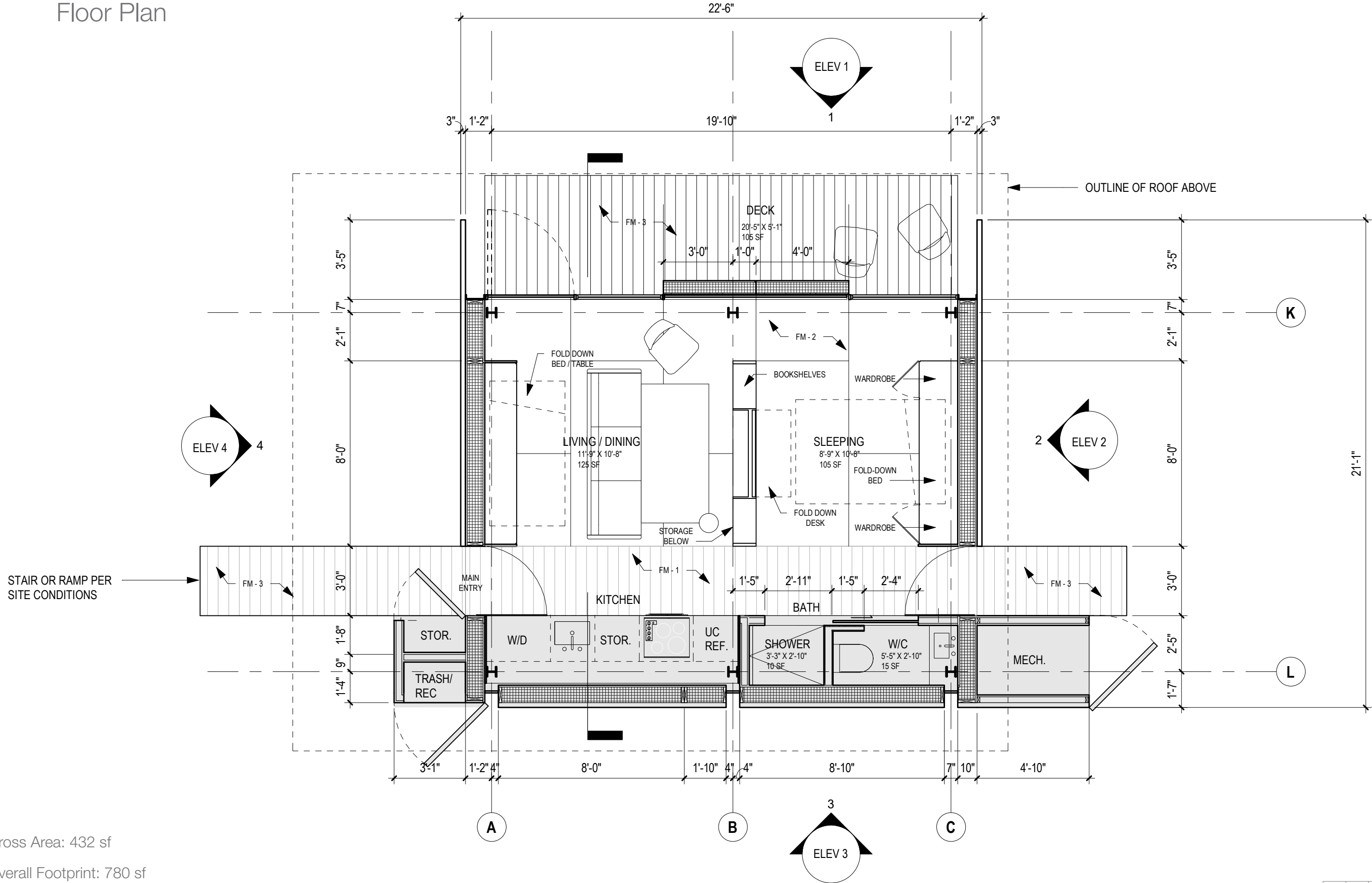
Enlarged Potential Site Diagram



SCALE : 1/16" = 1'-0"



Floor Plan

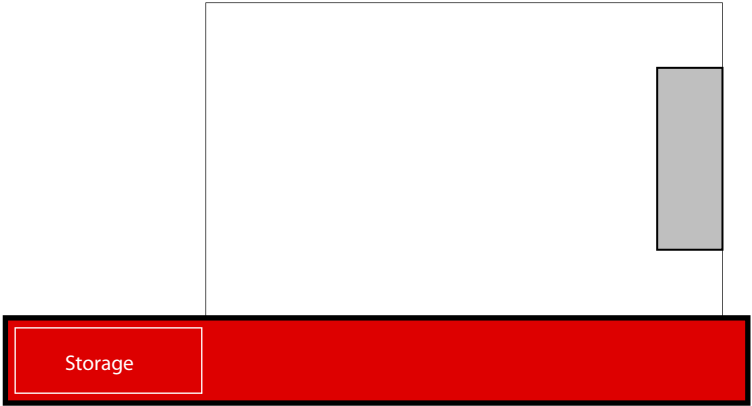


Gross Area: 432 sf  
Overall Footprint: 780 sf

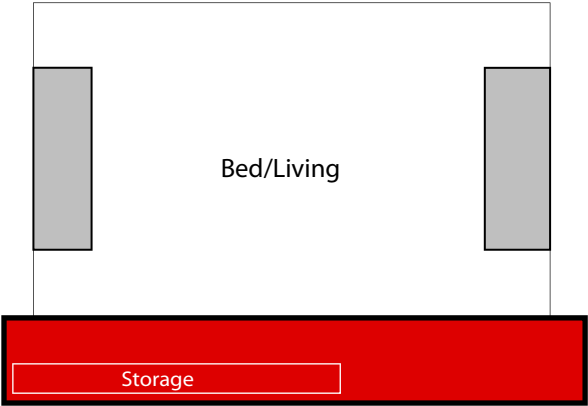
SCALE : 1/4" = 1'-0"



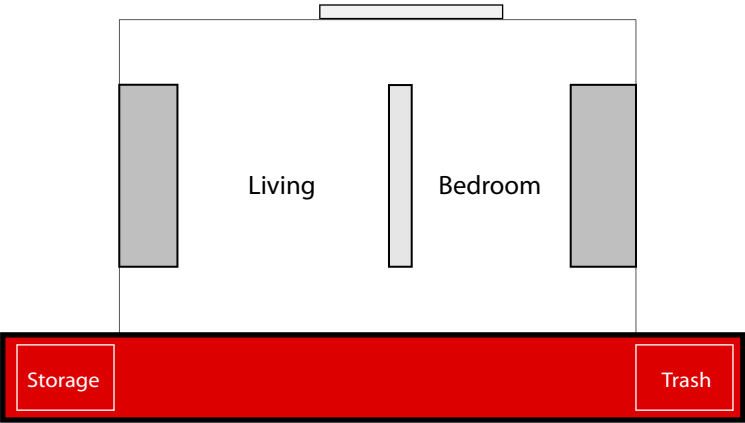
Flexibility of Plan



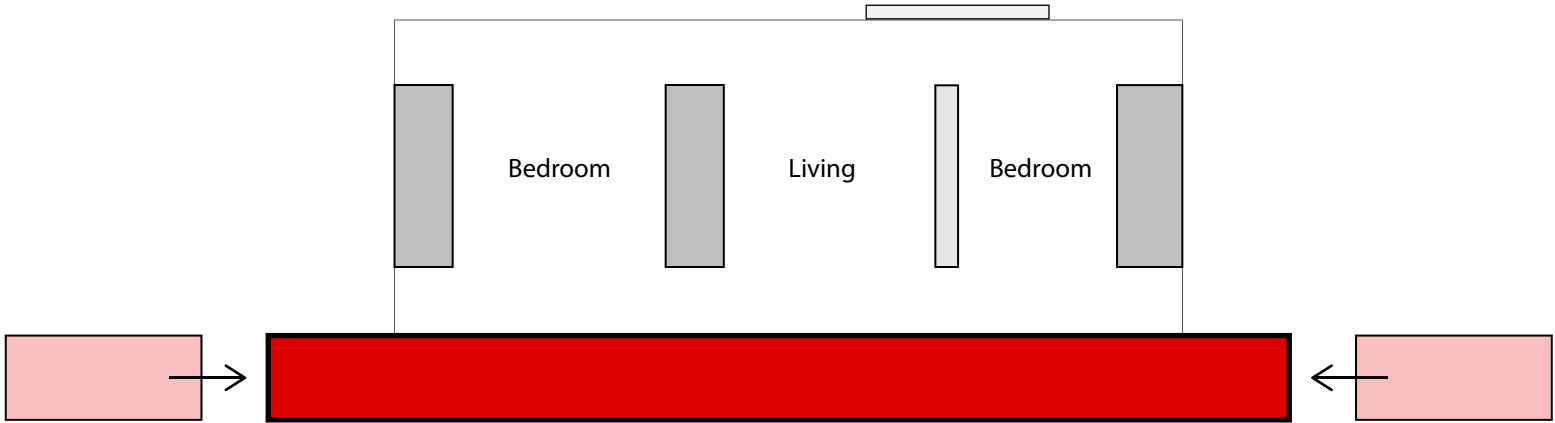
Backyard Pavilion



Efficiency of Space

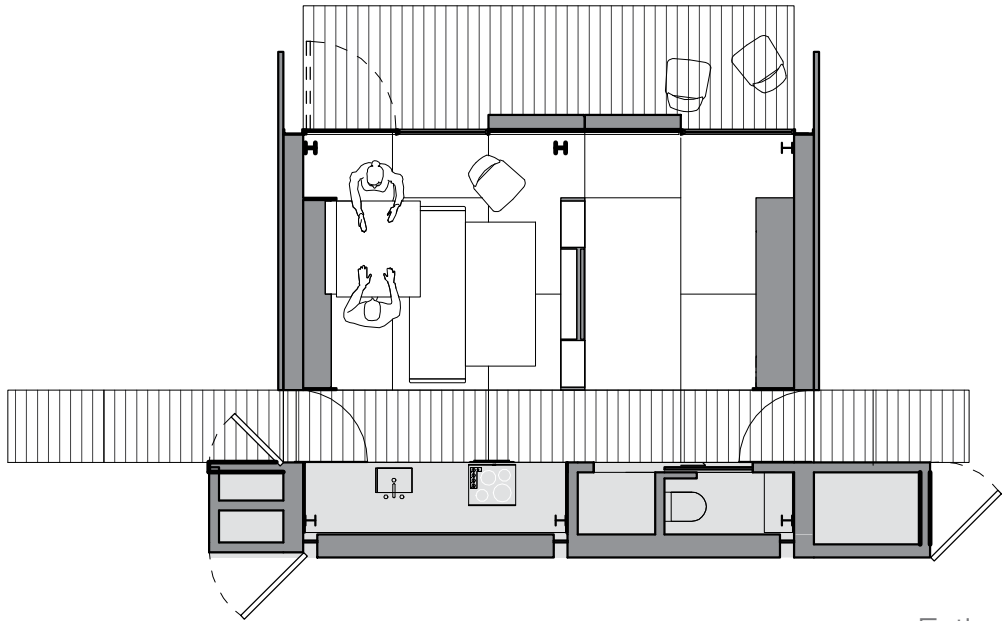


Privacy

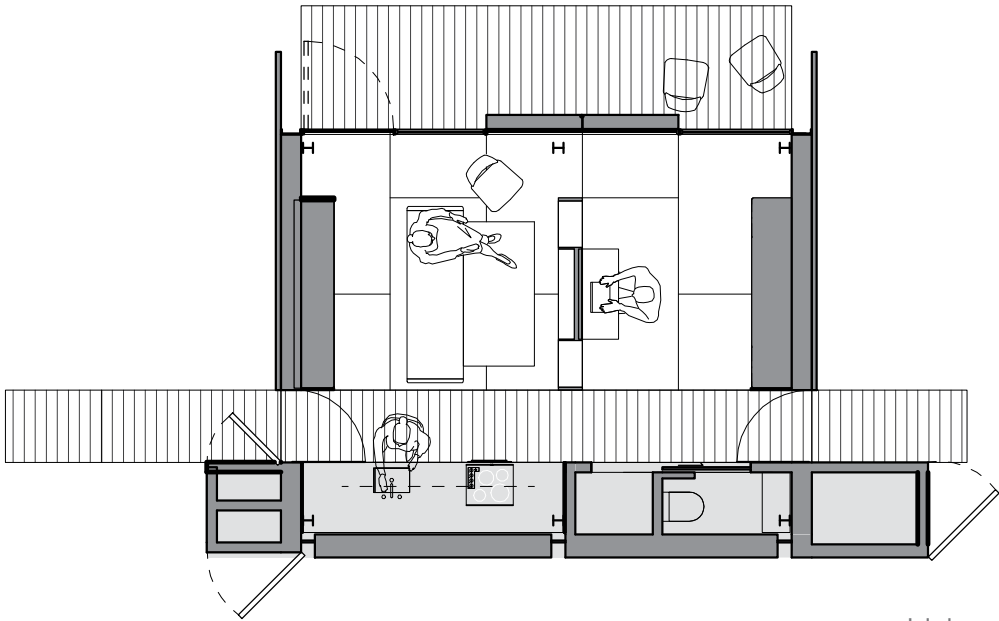


Opportunity for Expansion

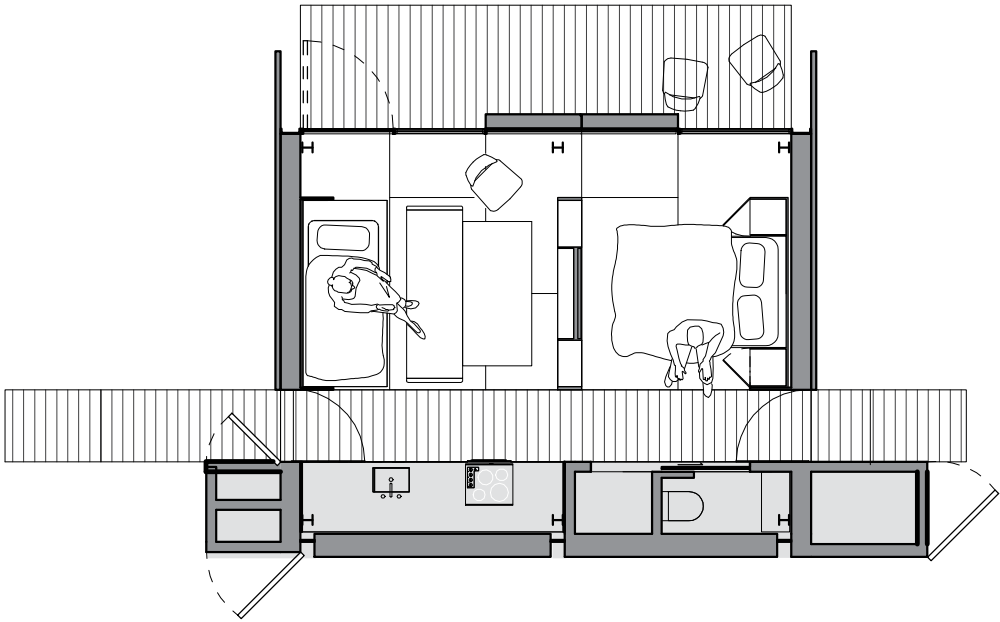
Floor Plan (Diagrams)



Eating



Living

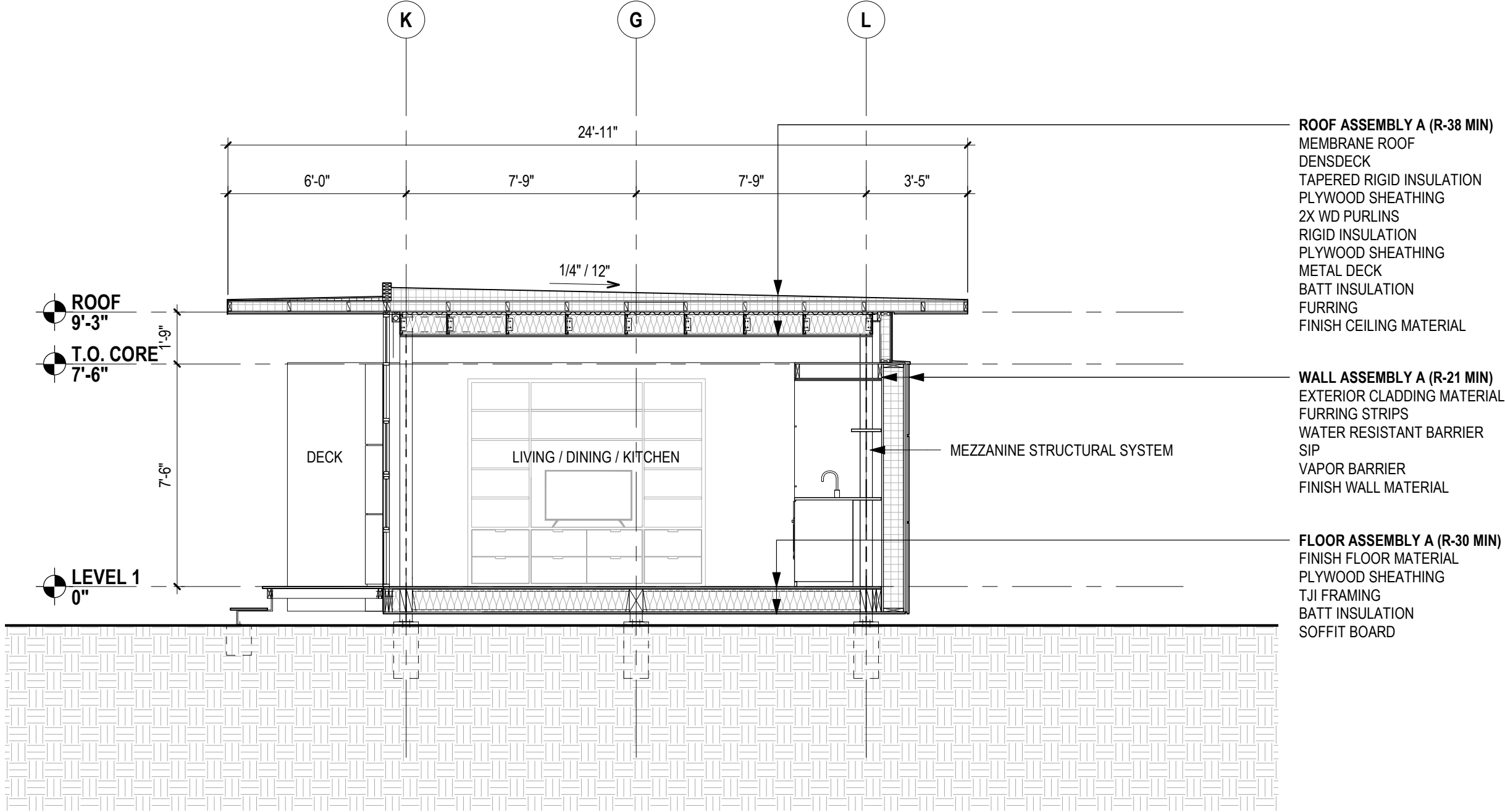


Sleeping

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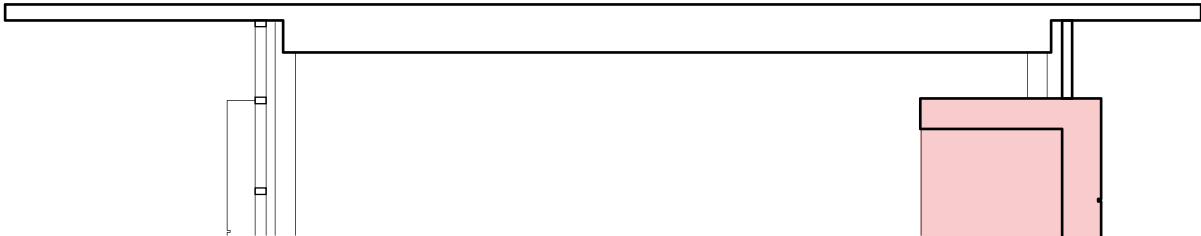
0 2 4 8

Building Cross Section

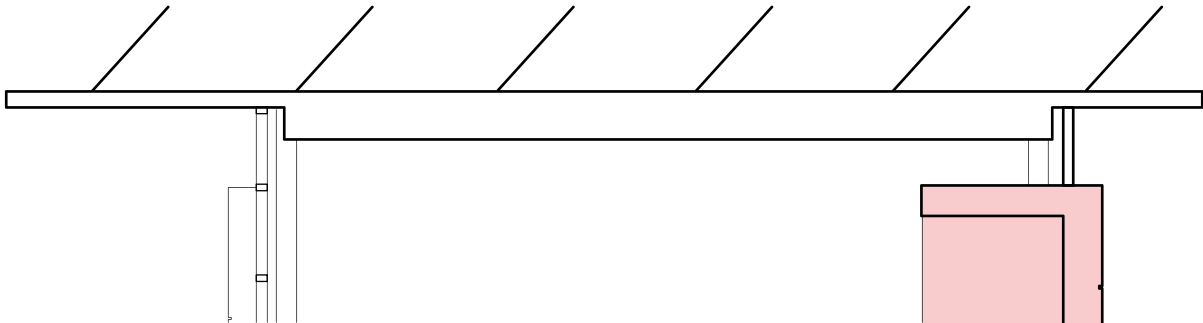


SCALE : 1/2" = 1'-0" 0 2 4 8

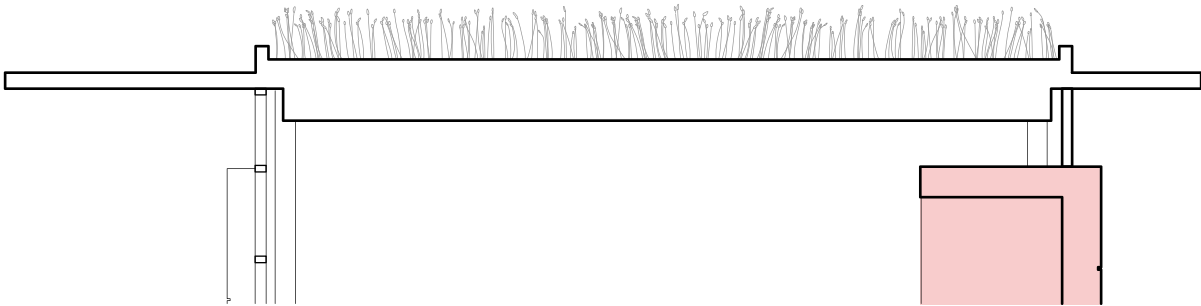
Flexibility of Roof



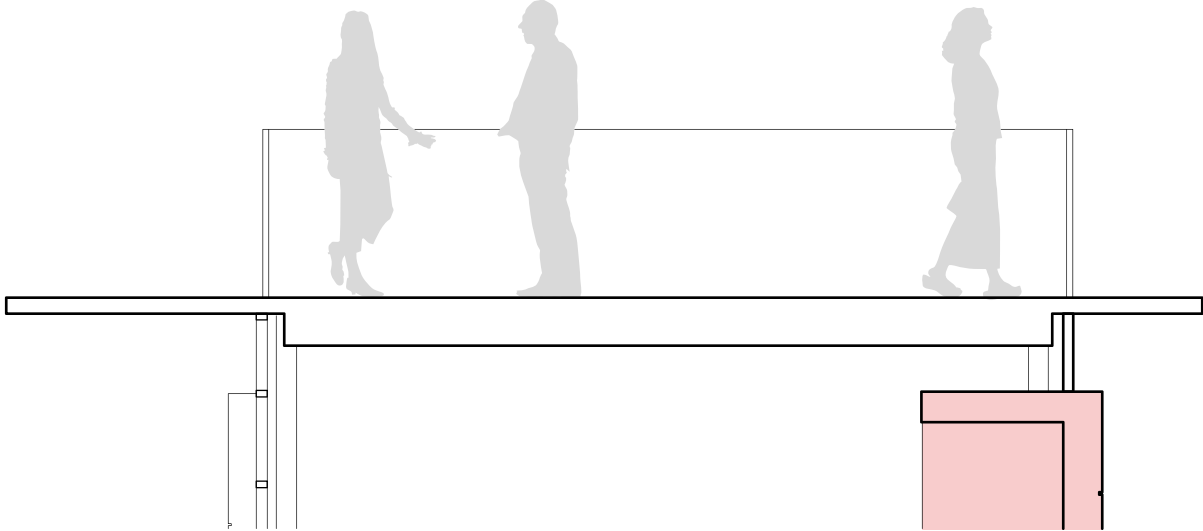
Membrane



PV Panels

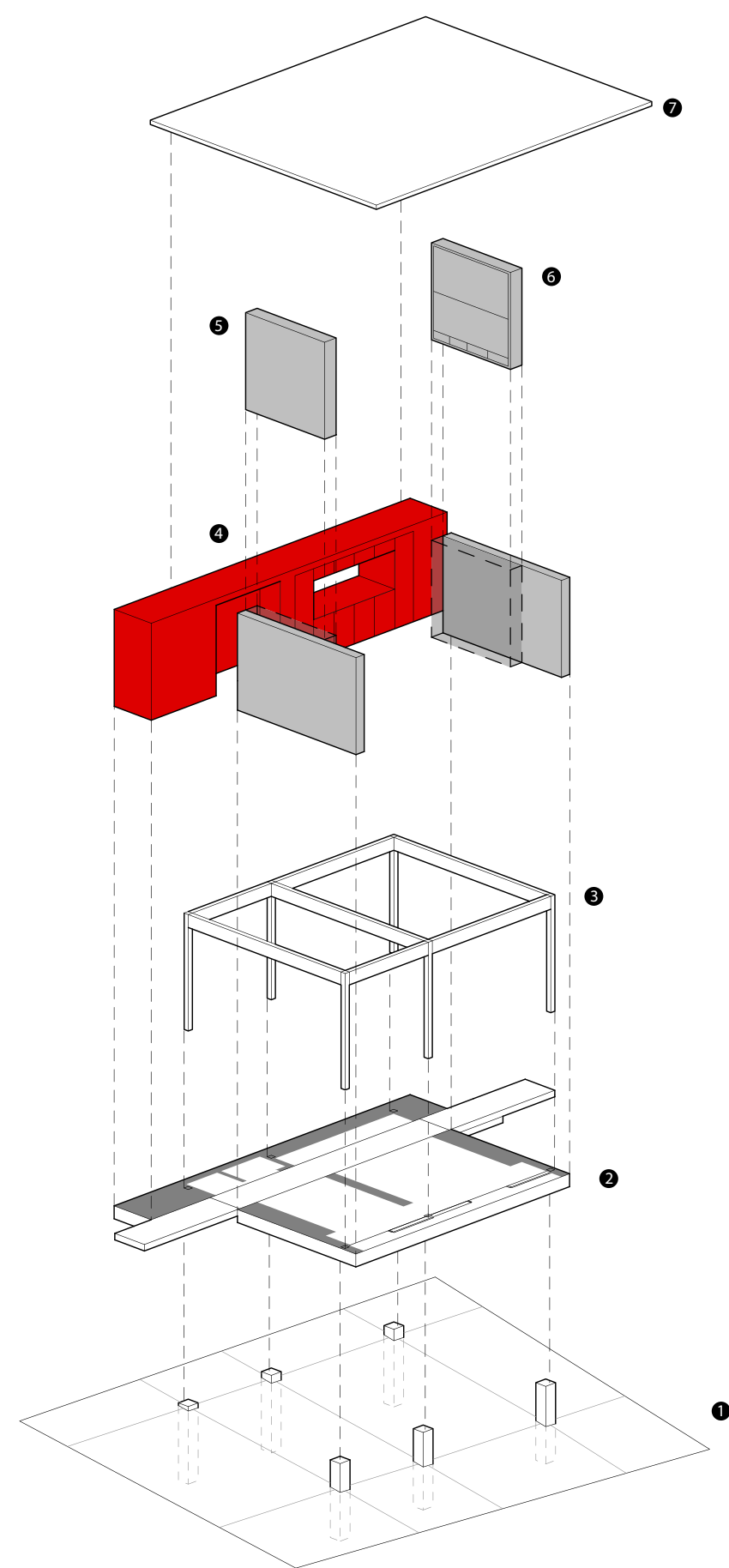


Green Roof



Occupy

# Assembly Diagram



**7 Pavilion Roof**  
Membrane roof  
Tapered rigid insulation  
Plywood sheathing  
2x6 wood purlin framing

**5 + 6 Living Module**  
The sleeping module (No. 5) brackets the sleeping area and houses a murphy bed with storage on either side. The living module (No. 6) brackets the living room of the project and holds a flexible dining table and a set of twin bunk-beds for guests.

**4 Core Volume**  
The core volume houses the kitchen, bathroom, washer/dryer, storage, and mechanical systems and is arranged in a linear configuration, allowing for easy connection to utilities.

**3 Pre-Engineered Steel Framing**  
Wide flange Columns  
C-Channel Beams  
Metal deck  
(150 lbs per foot roof capacity)

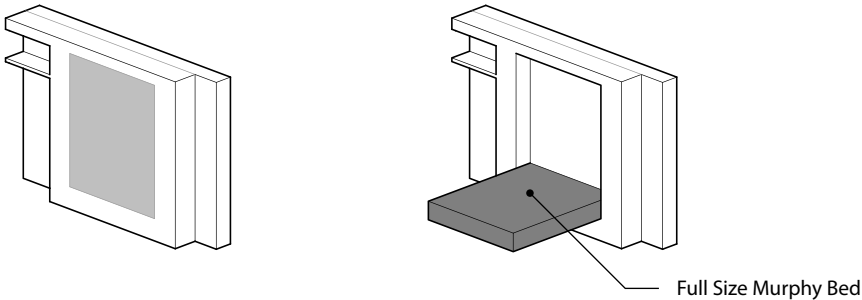
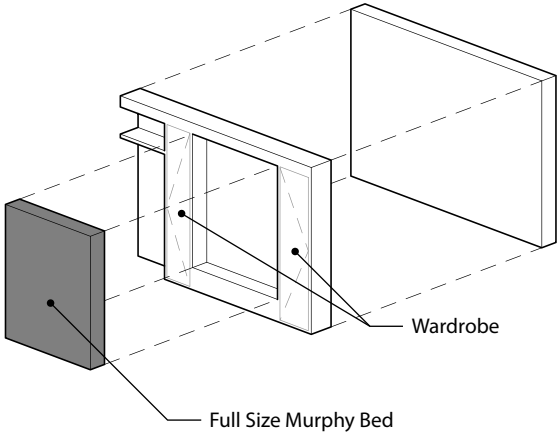
**2 Floor System**  
TJI Framing  
Batt insulation

**1 Foundation System**  
Concrete Piers

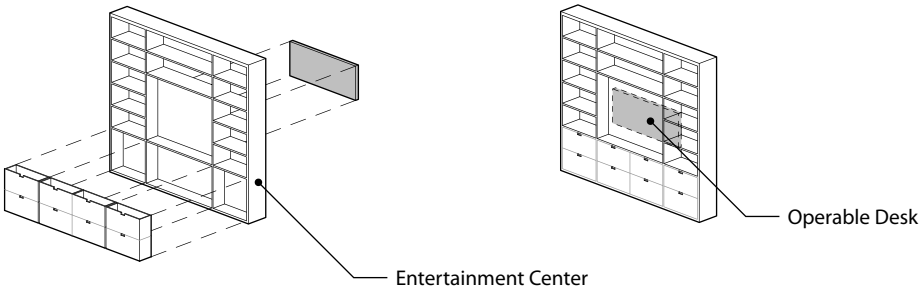


Casework Diagrams

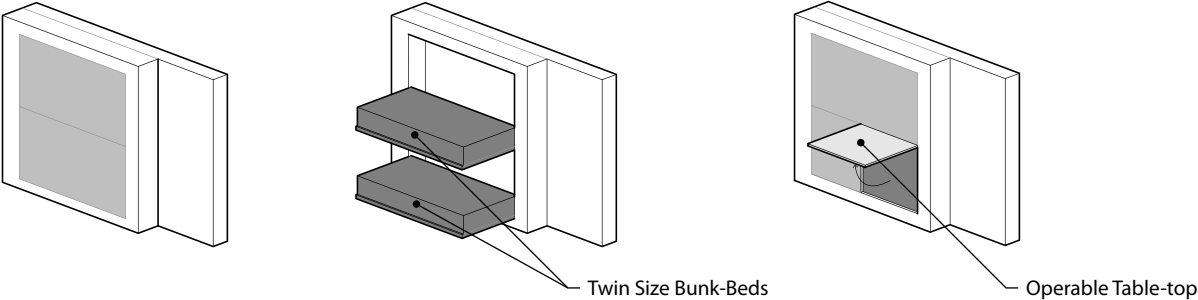
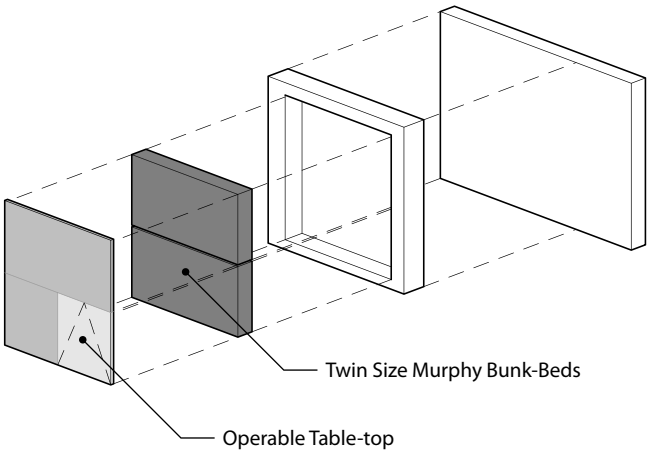
5 Sleep



5 Entertainment



6 Eat + Sleep



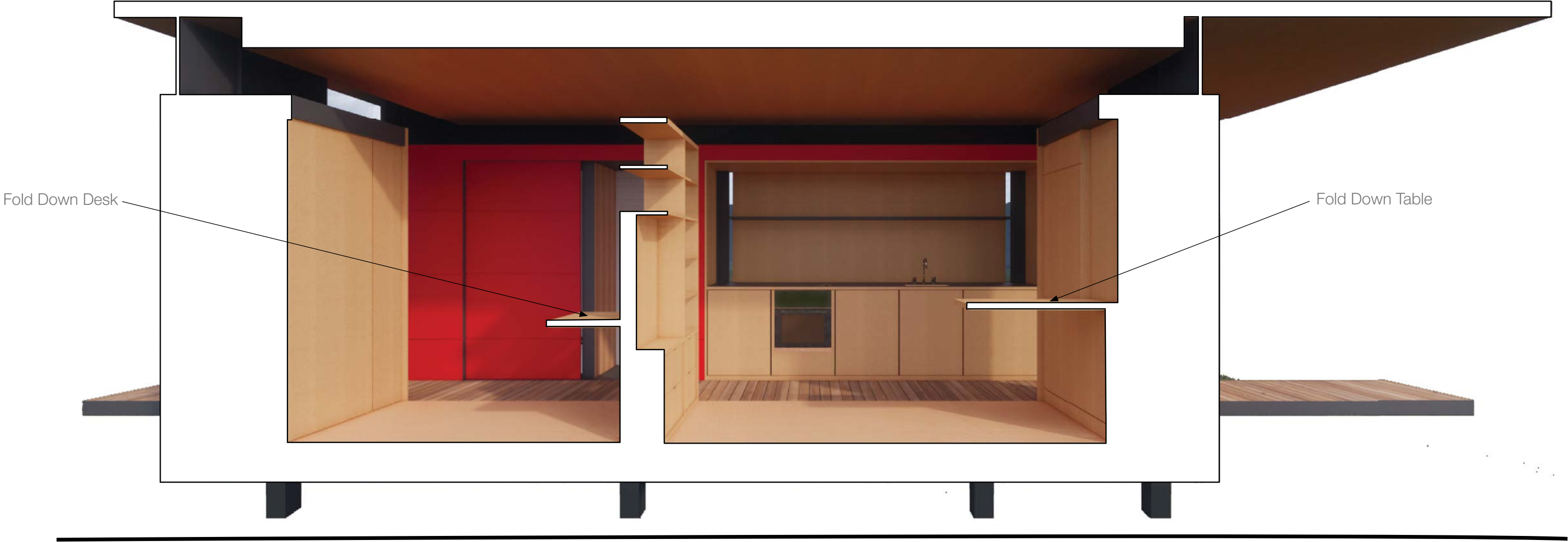
Building Longitudinal Section - Sleeping Configuration



SCALE : 1/2" = 1'-0"

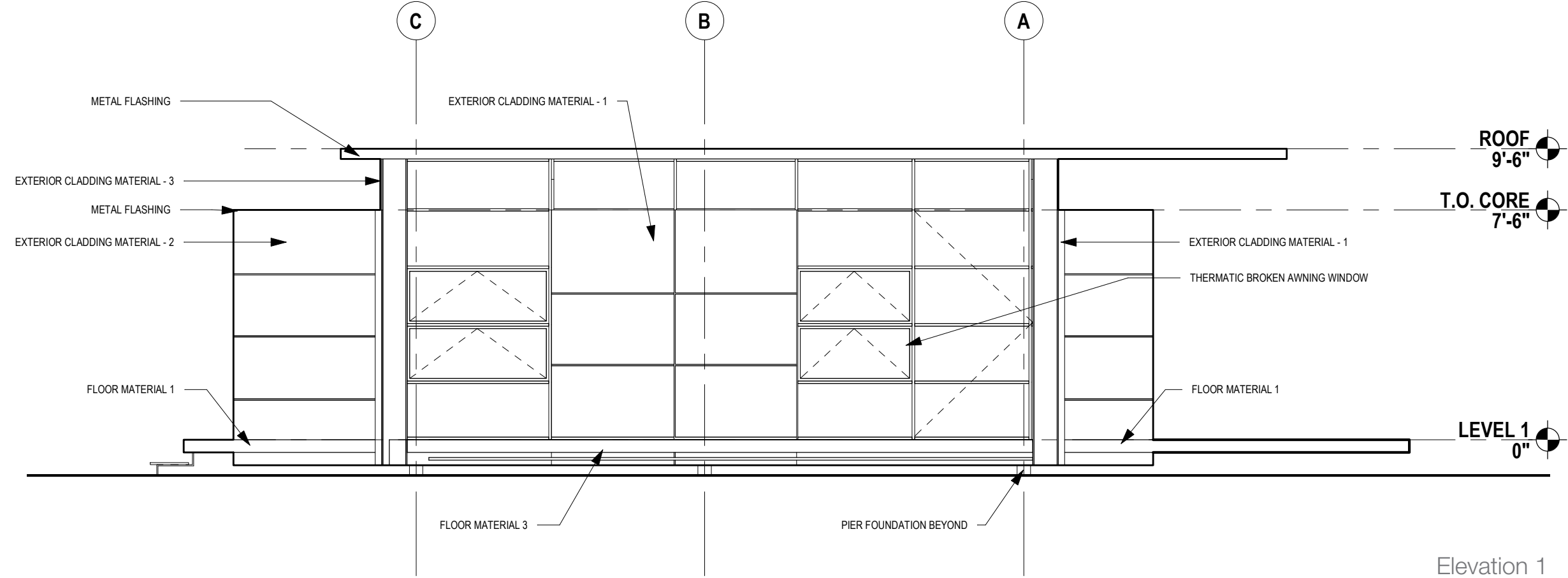


Building Longitudinal Section - Living Configuration



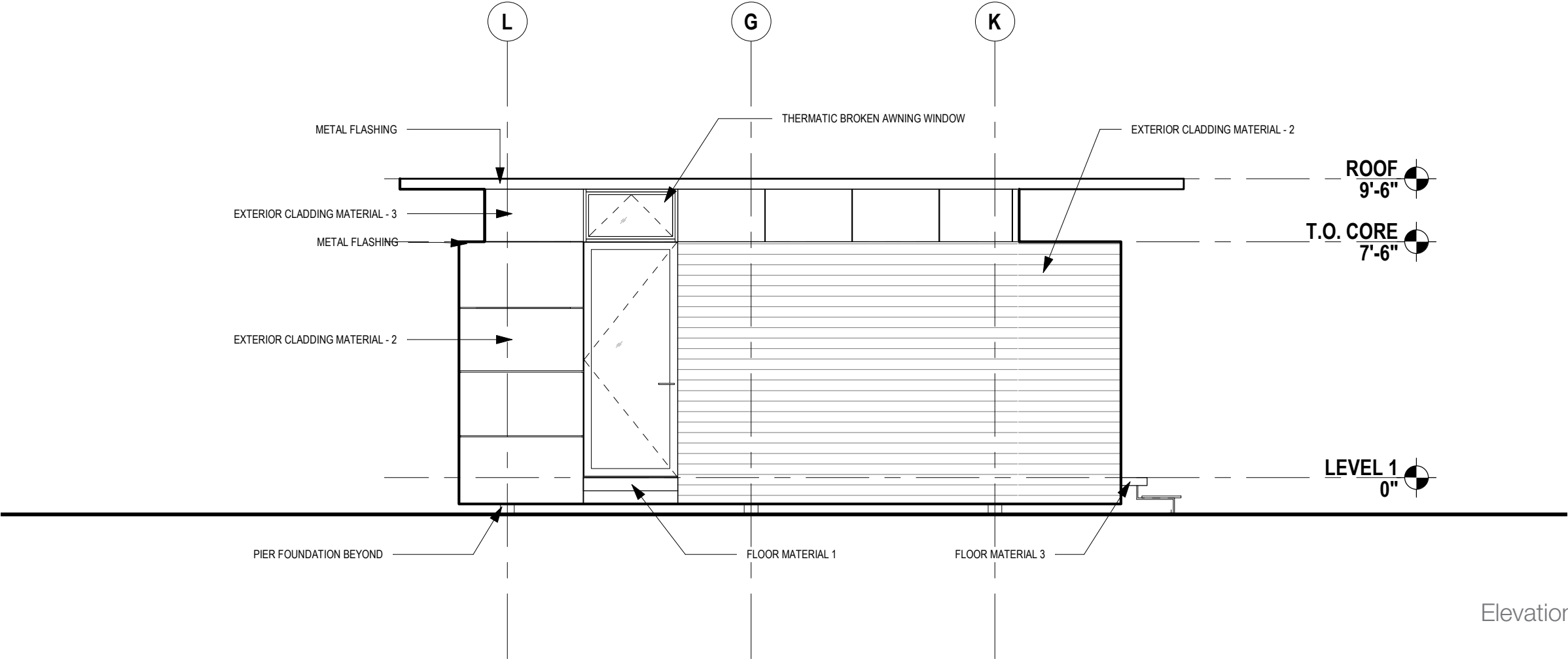
SCALE : 1/4" = 1'-0"





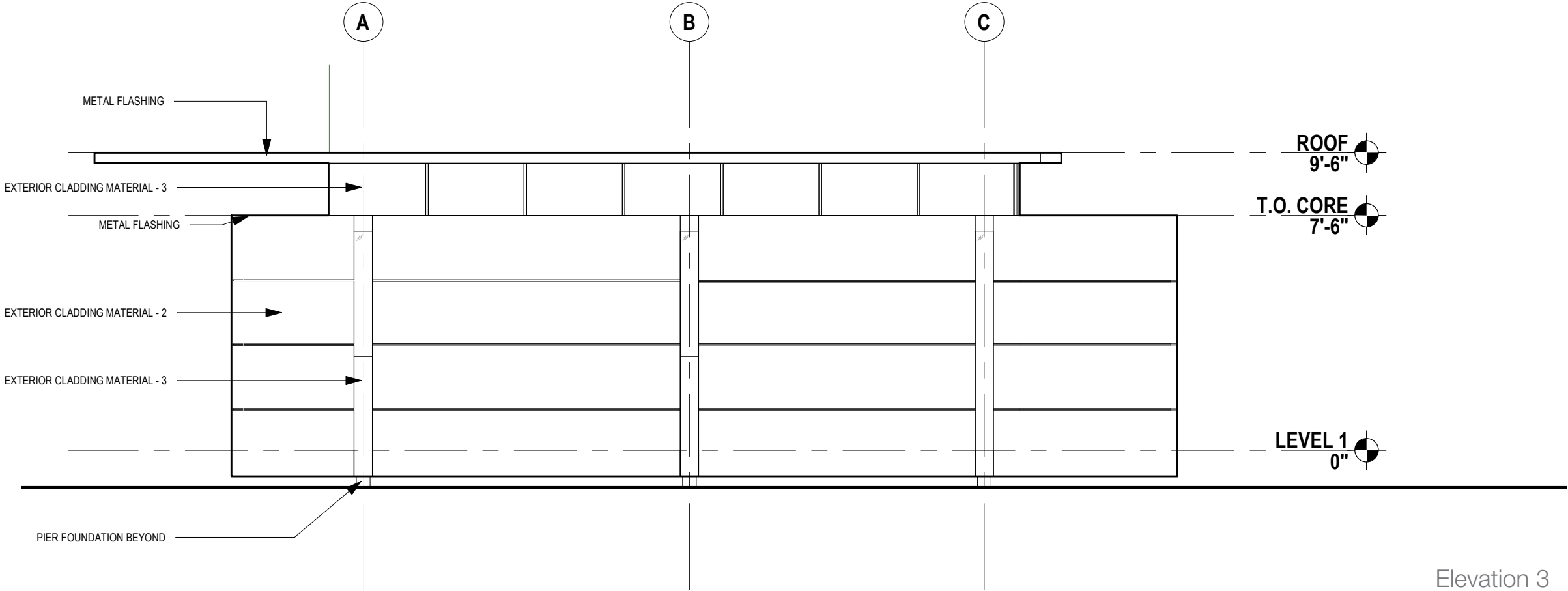
SCALE : 1/4" = 1'-0"





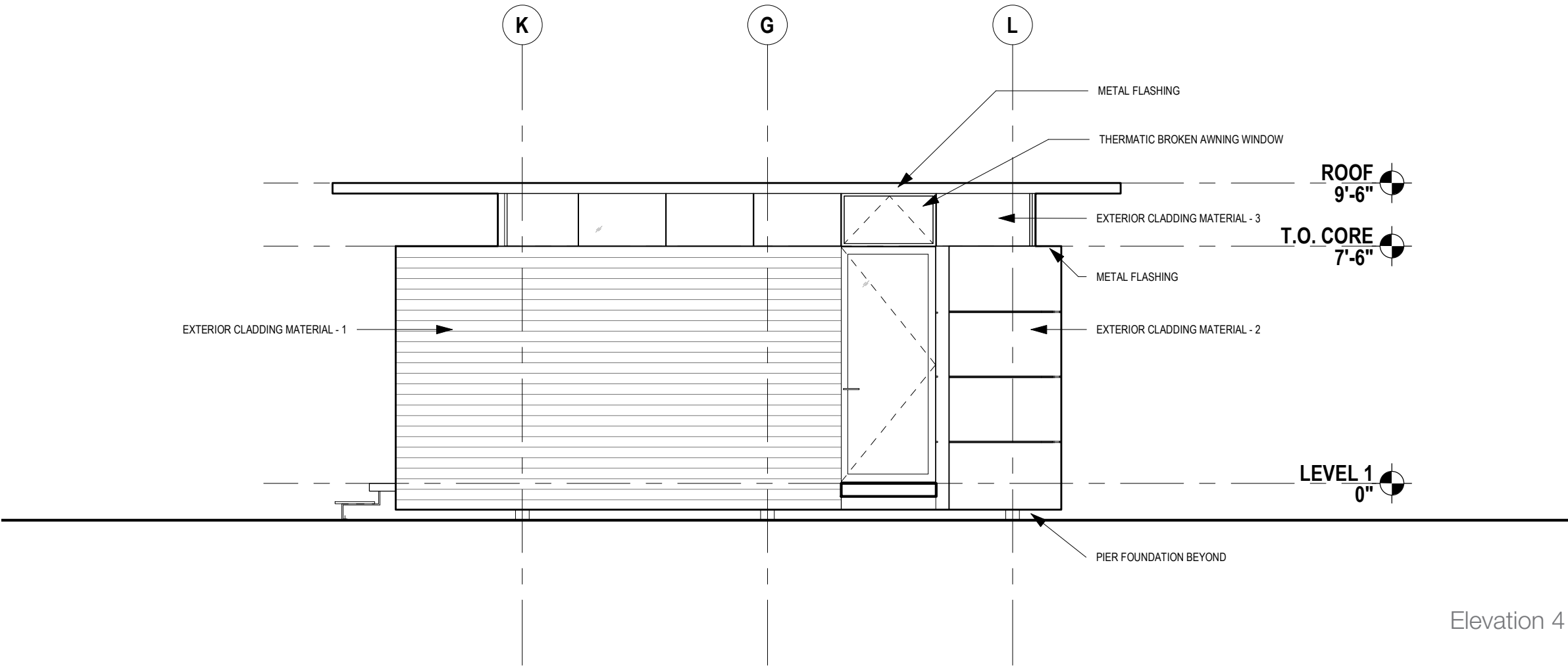
Elevation 2





SCALE : 1/4" = 1'-0"

0 1 2 4



SCALE : 1/4" = 1'-0"





## Exterior Perspective





## Exterior Perspective













Major Materials



## Price for Plan/Hourly Rate

Edge House seeks to foster community within the network of owners. The architect will offer to waive the \$1000 plan license fee to a homeowner who is willing to mentor and help assemble the next owners project – creating a sense of ownership and agency amongst multiple communities.

The architect intends minimize owner's reliance on the architect through crowdsourced information. The team intends to create a blog site in which owners can offer mentorship, share tips, information, construction costs and lessons learned from prior owner/builders. This shared network will assist in strengthening the community and controlling costs associated with repeat requests for the same information.

The architect will provide design services for an average hourly rate of \$150 per hour for initial site and design guidance, permit assistance, site visits, answering questions and posting answers not yet available on the blog. This open source process will assure the best value by focusing design services only on hours specific and unique to the individual homeowner's needs. Architect will be available at owners request to assist to full-service efforts if requested.