



**Katy, TX**

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# DESIGN INTERPRETATION

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This barndominium creates a residence that balances family-centered living, barn-inspired simplicity, and a strong connection to the natural landscape. Situated in the Texas Hill Country, the region's rolling terrain, wooded landscapes, and strong tradition of vernacular architecture informed both the spatial organization and material sensibility of the design. Thus, the barndominium is deeply integrated into a scenic, forested setting where nature plays an active role in daily life along with its proximity to the Guadalupe Rivers that offer recreational opportunities for kayaking and tubing. To reduce visual mass and enhance harmony, the program is broken into articulated volumes where the garage/stable is separated from the home. This supports family life by organizing recreation and living spaces.

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# DESIGN INTERPRETATION

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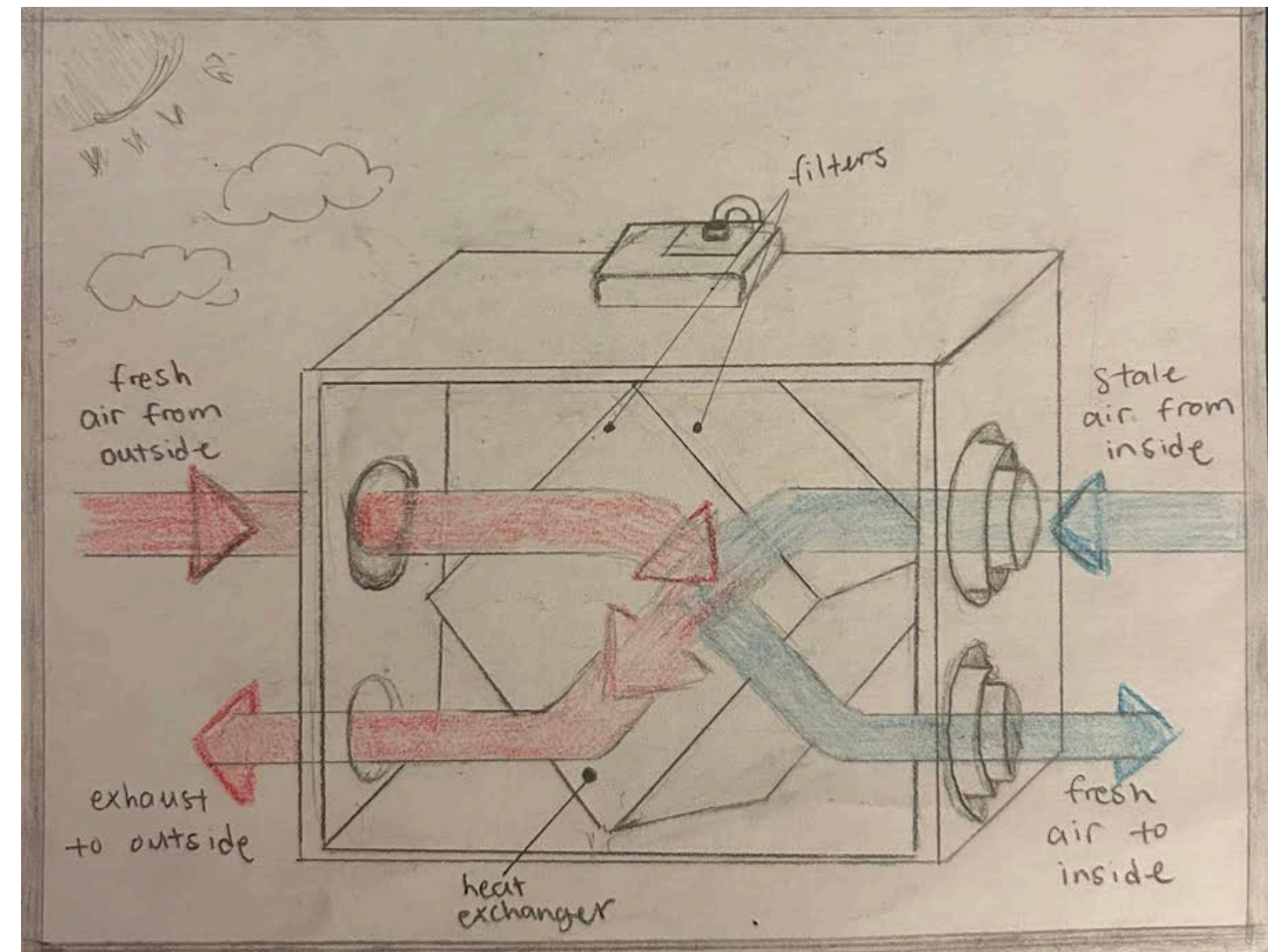
The design adopts a modern Texas Hill Country barndominium style, drawing from regional vernacular traditions such as agricultural barns and metal-roofs. Extended roof overhangs and awnings provide shade and weather protection, an essential response to the Texas climate. Large windows frame views of native vegetation and open lawn areas encourage outdoor movement. From a sustainability perspective, reclaimed wood was utilized in beams, flooring, and wall paneling along with recycled steel for structural frames and roofing. Triple-pane windows are energy efficient with low-emissivity coatings, and the paints and finishes are low in volatile organic compounds which help maintain indoor temperature and air quality respectively. These eco-friendly incorporations help reduce environmental footprint while still being strong in durability and efficiency.

# **CONSTRUCTION METHODS AND MATERIALS**

The barndominium is built with a hybrid system of light-gauge steel frame and conventional wood framing. Steel framing is used for the main structure, reflecting barn construction and allowing for open interiors. Wood framing is applied for interior walls. This combination provides longevity, durability, and pest resistance. The addition of metal roofing is standard for low maintenance with a reflective coating of pastel blue to reduce solar heat gain and extended overhangs for shading and rain protection. The exterior finish and chimney includes light-toned siding with white limestone that blends into the surrounding landscape, consistent with Texas Hill Country vernacular where native limestone is abundant in the region.

# ELECTRICAL WIRING

The electrical system type is a standard residential electrical system with energy-efficient upgrades. An energy recovery ventilator is implemented to transfer heat and moisture out while bringing in cool, fresh air in the region's hot, humid summers. Due to the steel framing, metal-clad cable is added for code compliance along with grounding for safety. Ambient lighting supports shared living areas and task lighting is incorporated in the kitchen and bathrooms. Exterior lighting is limited to reduce light pollution and preserve dark skies.



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## **PLUMBING**

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**The barndominium use PEX (cross-linked polyethylene), acting as a natural insulator to keep hot water warmer as it travels and reduce the energy needed from the heater. All water-intensive rooms (kitchen, laundry, bathrooms) are grouped together to minimize the length of pipe runs, meaning less water is wasted sitting in pipes waiting to get hot.**

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# HVAC

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**HVAC is a zoned system that allows occupants to condition only the spaces in use to reduce energy consumption. Ductwork is routed through insulated ceiling and wall cavities to maintain interior ceiling heights and reduce thermal loss. Passive strategies include operable windows that are aligned to promote cross-ventilation and ceiling fans to enhance air circulation.**

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## **SITE REQUIREMENTS**

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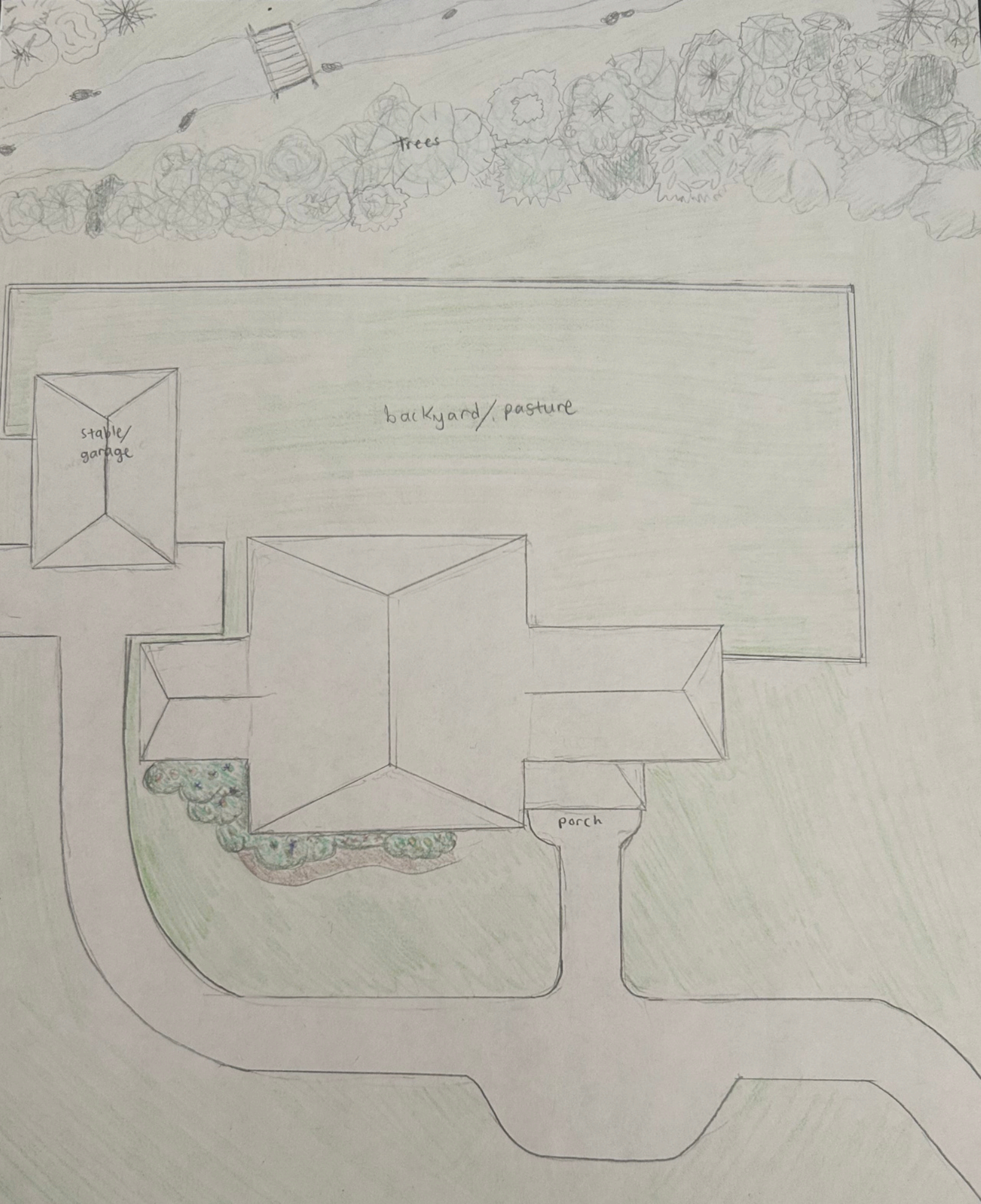
**The building footprint (3040 sq. feet barndominium) is carefully placed within the one-acre limit to minimize environmental impact. Existing trees and vegetation are preserved wherever possible to reinforce the connection to the forested Hill Country landscape. Water, electrical, and waste utilities are routed efficiently from the site connection to the building core and driveways are designed to follow the terrain. Stormwater is managed through natural drainage strategies, including controlled runoff paths that direct water away from the foundation. Roof drainage systems are designed to disperse water evenly across the site to reduce erosion.**

# SCHEDULE OF FINISHED MATERIALS

ID	Element	Material	Finish / Color	Illustration Description
E1	Primary Walls	Fiber-cement siding	Light limestone / off-white	Smooth, horizontal light siding typical of Hill Country homes
E2	Accent Panels	Cedar or composite wood	Natural / light stain	Warm vertical wood accent wall
E3	Roofing	Standing-seam metal	Light gray / galvanized	Clean barn-style metal roof
E4	Soffits	Fiber-cement panels	White / light neutral	Flat soffit under roof overhang
E5	Windows	Aluminum-clad frames	Black / dark bronze	Large modern windows framing views
E6	Exterior Doors	Insulated fiberglass	Earth-tone neutral	Simple modern entry door
E7	Walkways	Concrete w/ aggregate	Natural gray	Minimalist concrete path

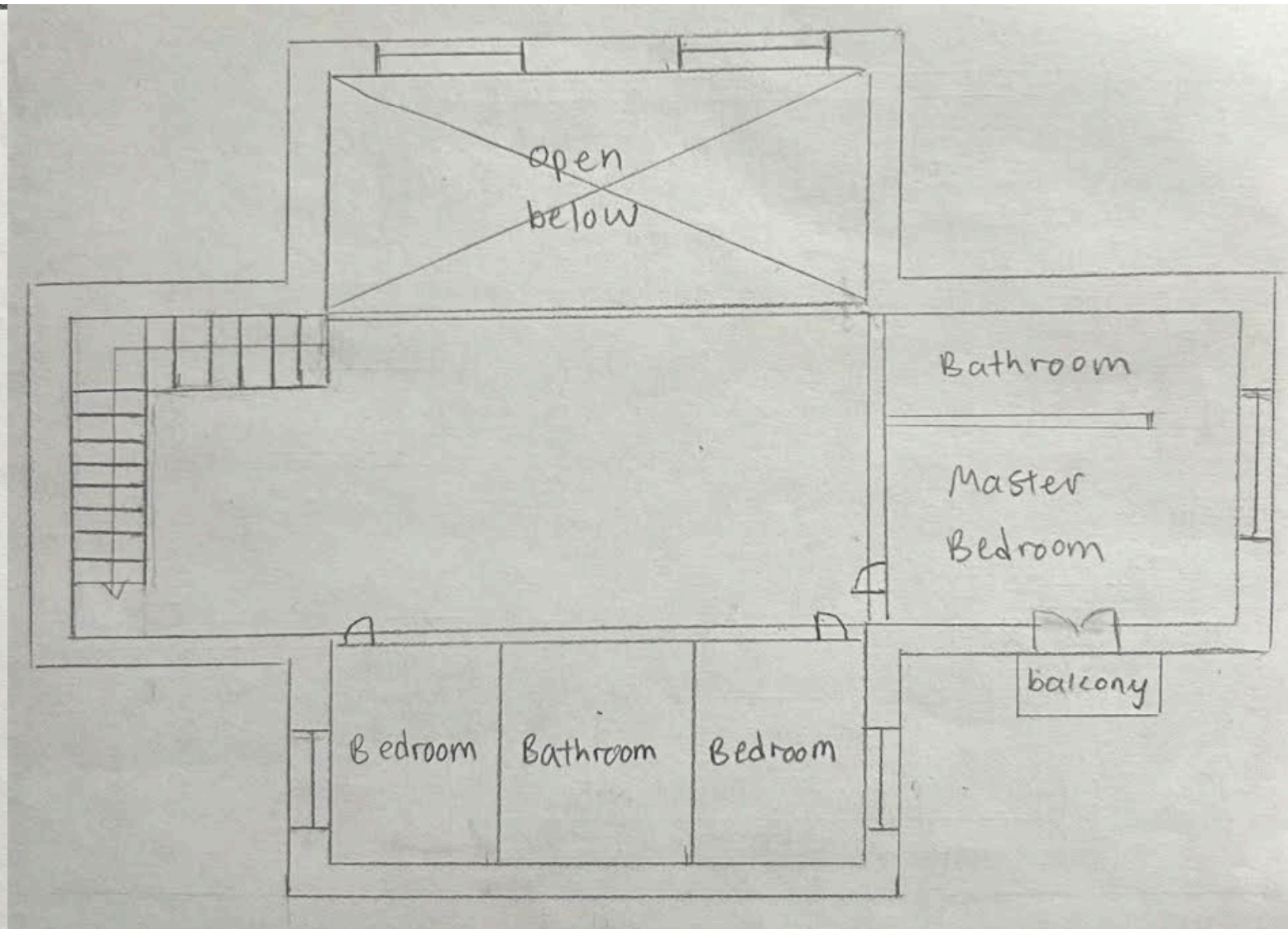
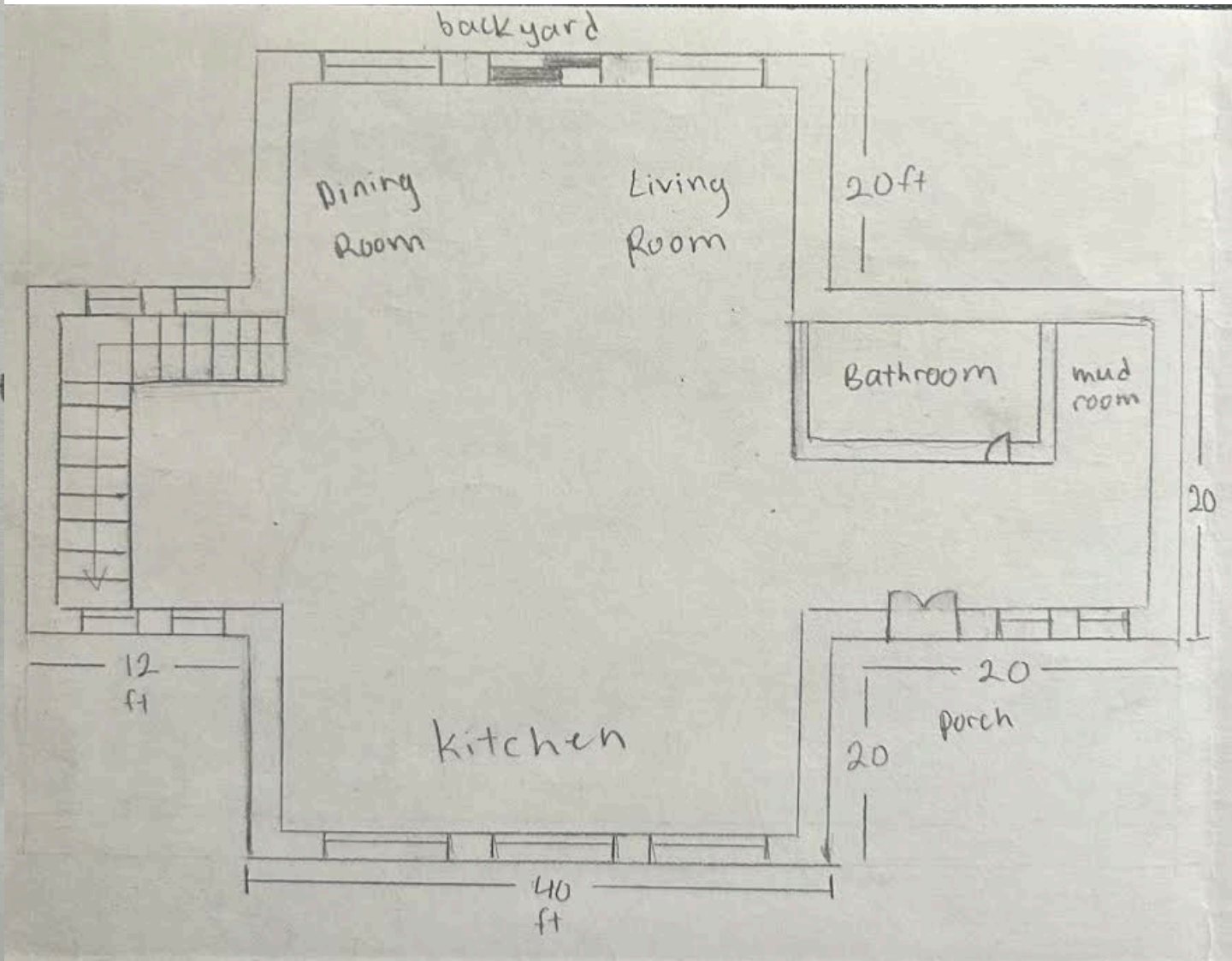
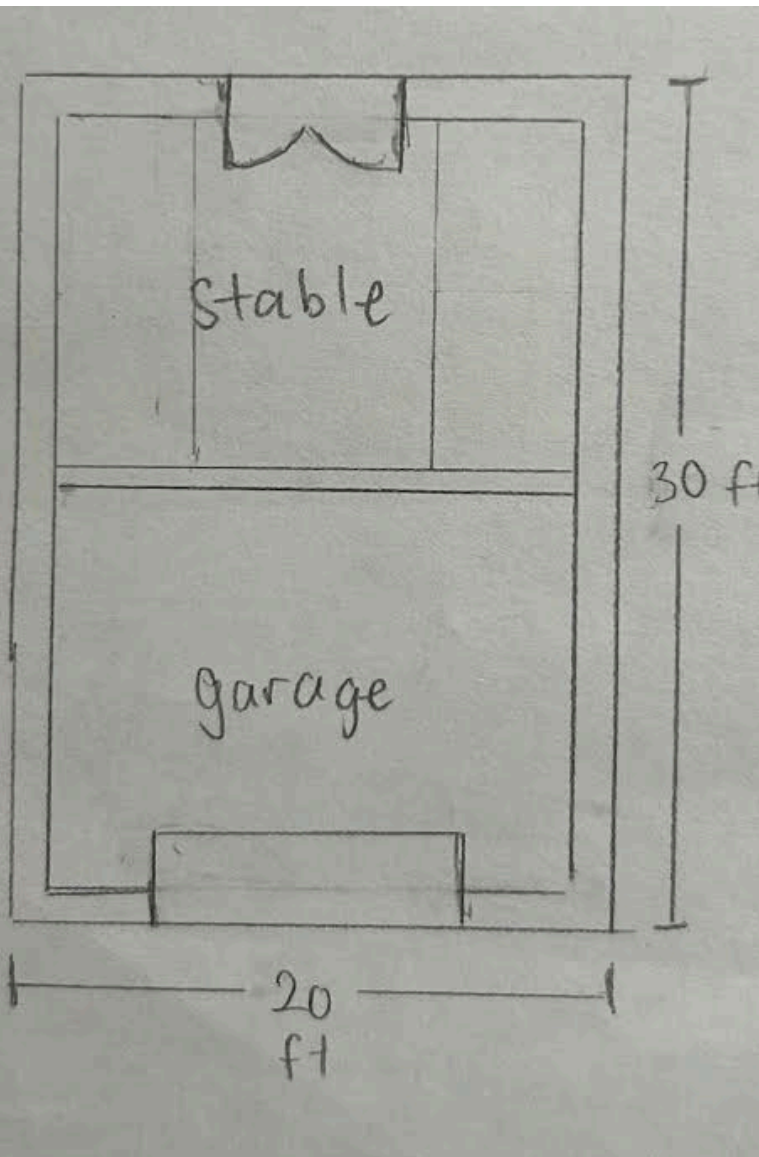
ID	Element	Material	Finish / Color	Illustration Description
I1	Living Floors	Polished concrete	Natural gray	Exposed slab floor with matte sheen
I2	Bedroom Floors	Engineered wood	Light oak	Warm, sustainable wood flooring
I3	Bath / Utility Floors	Porcelain tile	Matte stone-look	Durable neutral tile
I4	Interior Walls	Gypsum board	Low-VOC warm white	Clean, light-filled walls
I5	Ceilings	Wood beams + drywall	Natural wood + white	Modern barn-inspired ceiling
I6	Interior Doors	Solid-core composite	Painted white	Simple flush interior doors
I7	Trim	MDF / finger-jointed wood	White	Minimal baseboards

ID	Area	Material	Finish / Color	Illustration Description
K1	Kitchen Cabinets	Plywood box cabinets	White or natural	Flat-panel sustainable cabinetry
K2	Kitchen Counters	Quartz composite	Light neutral	Durable low-maintenance surface
K3	Backsplash	Ceramic tile	Matte white	Simple rectangular tile
B1	Bath Walls	Porcelain tile	Light stone-look	Moisture-resistant wall tile
B2	Vanities	Plywood / composite	Natural wood	Clean modern vanity

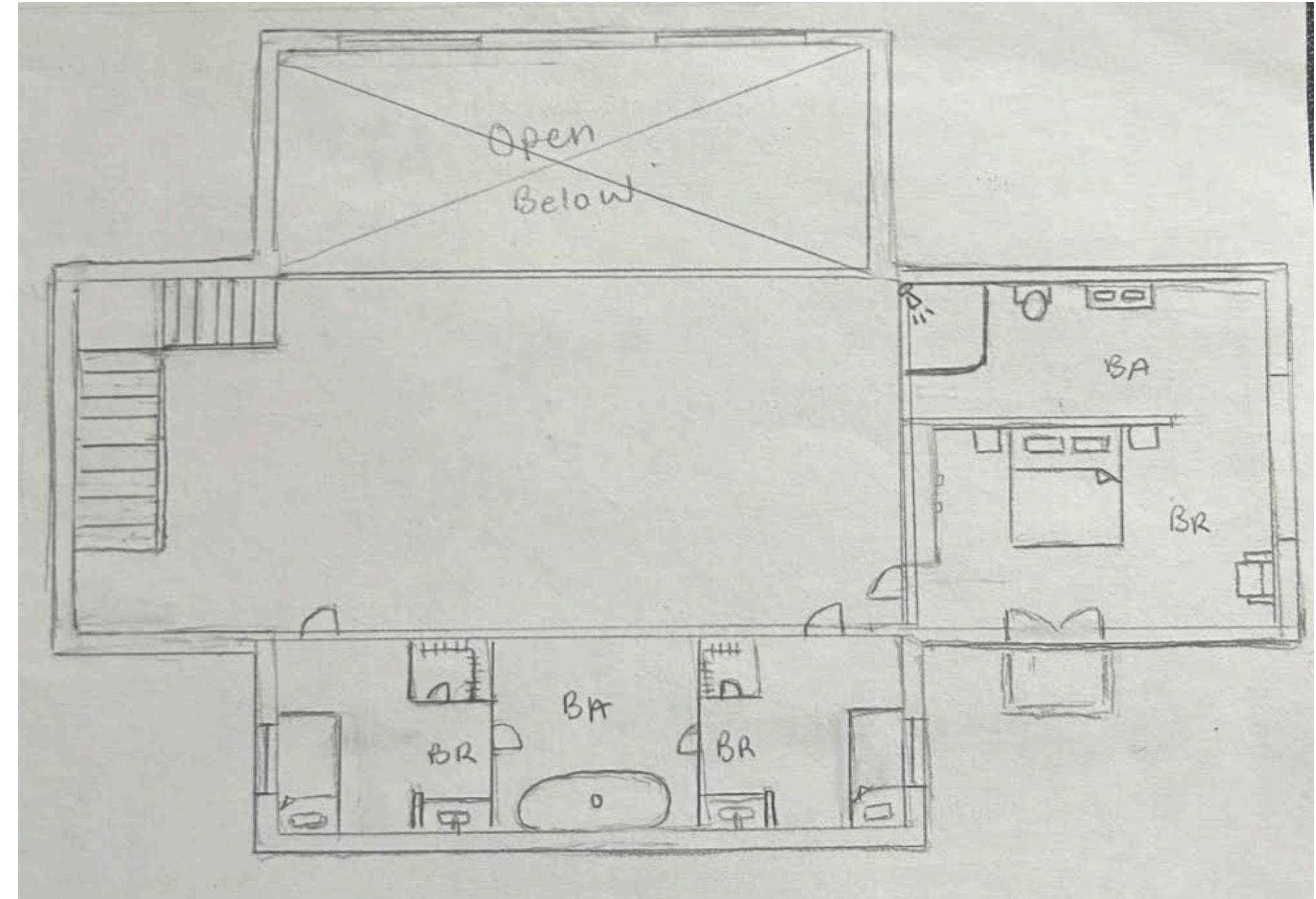
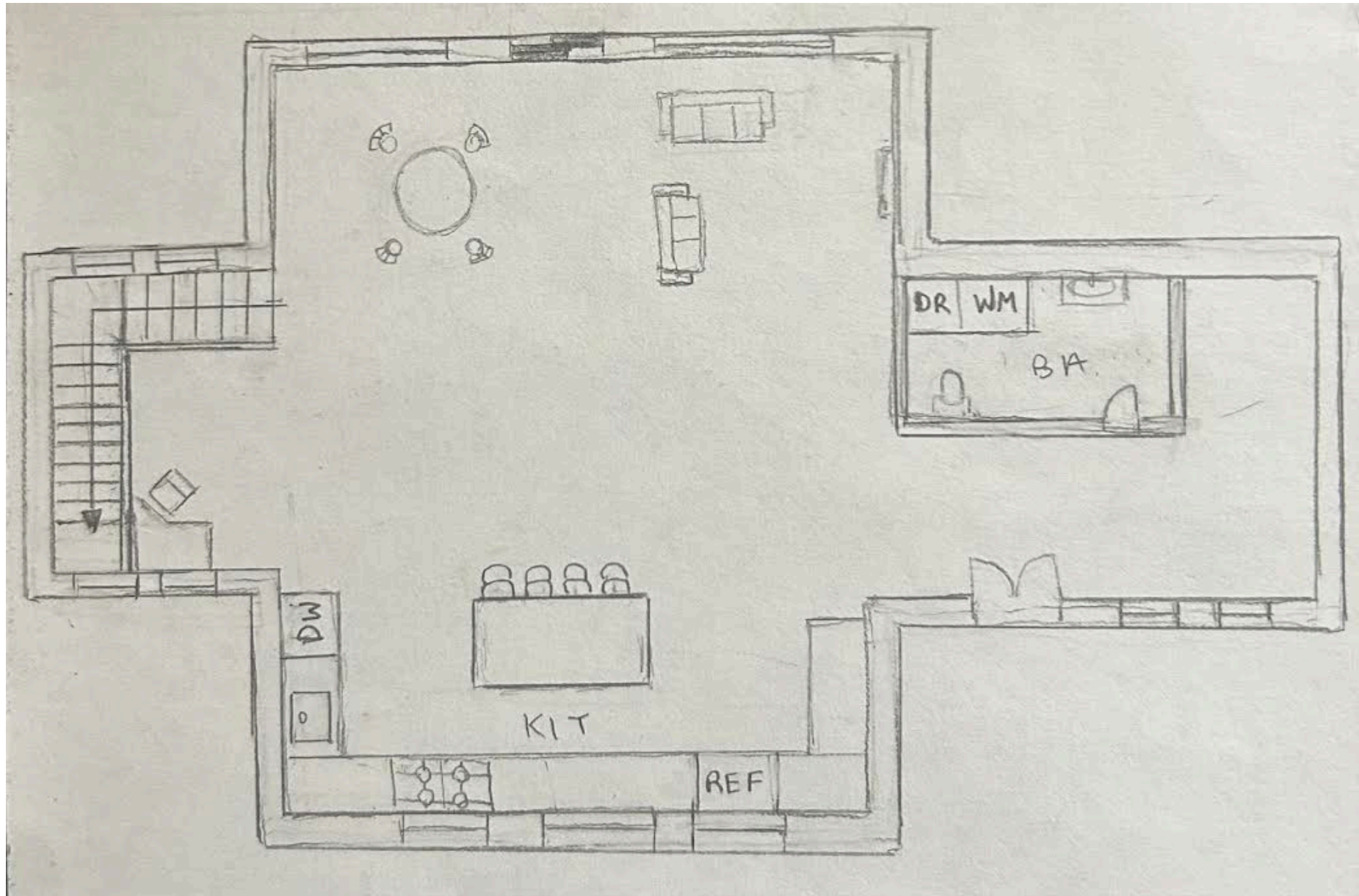


# SITE PLAN

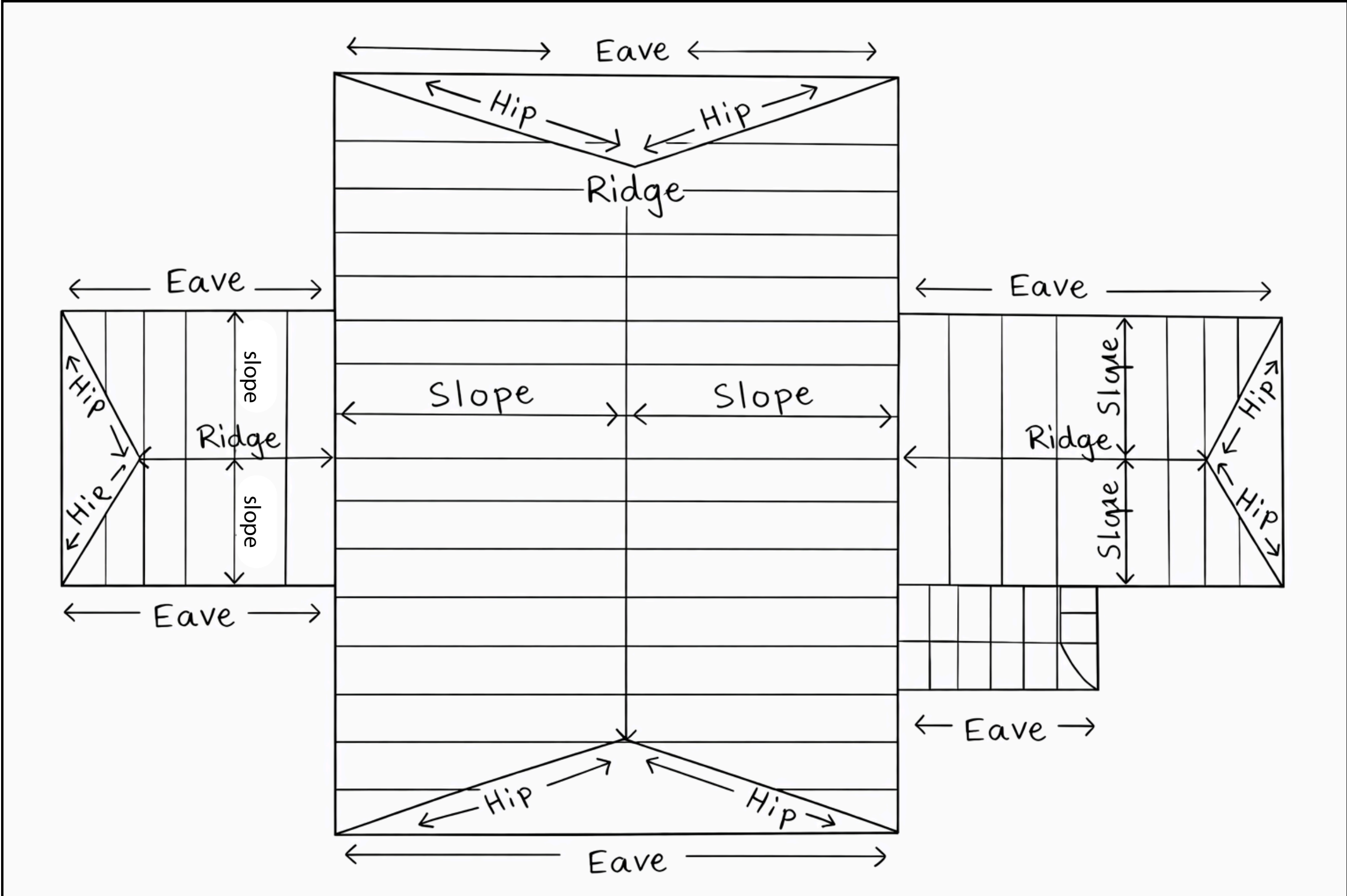
# OVERALL FLOOR PLANS



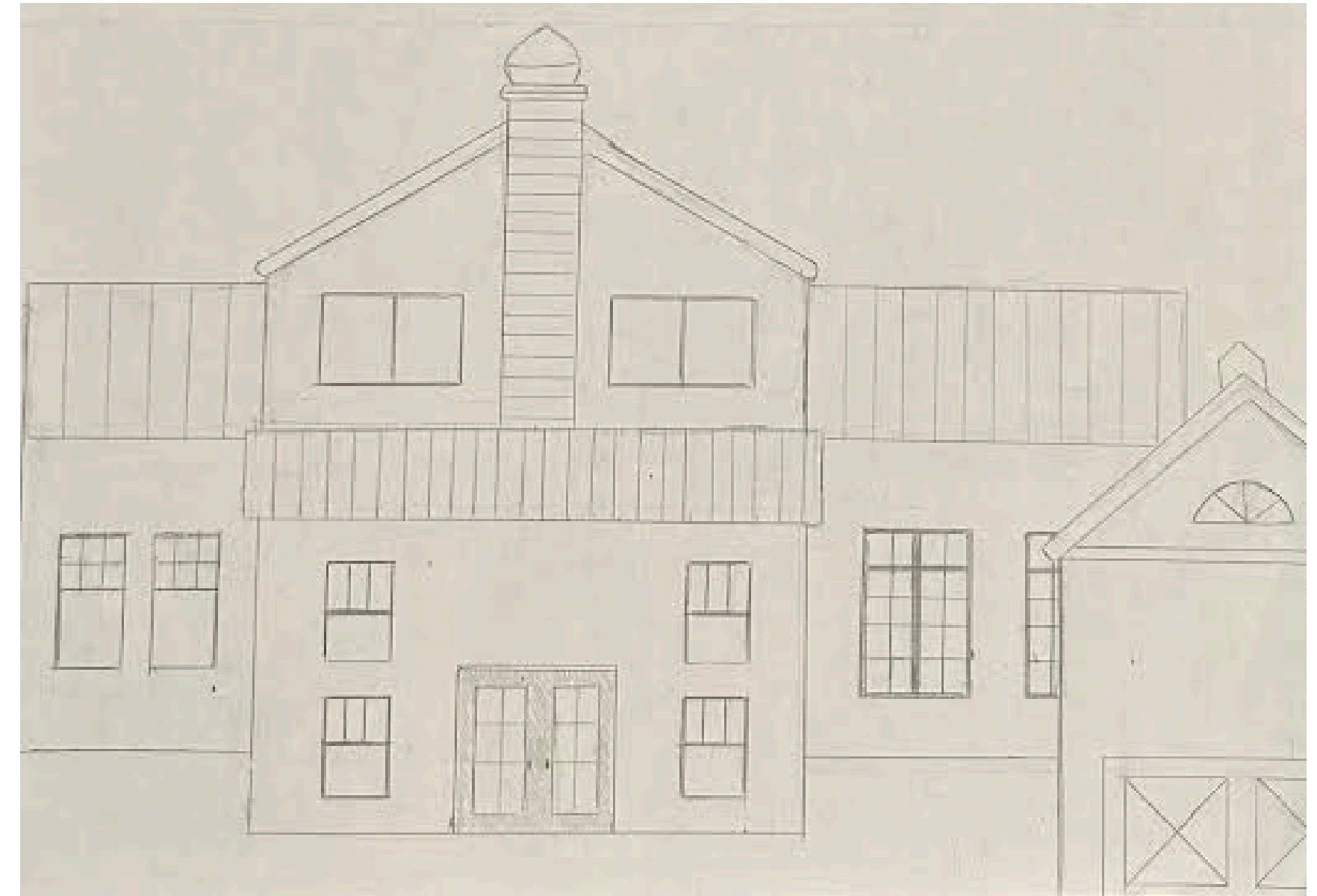
# ENLARGED FLOOR PLANS



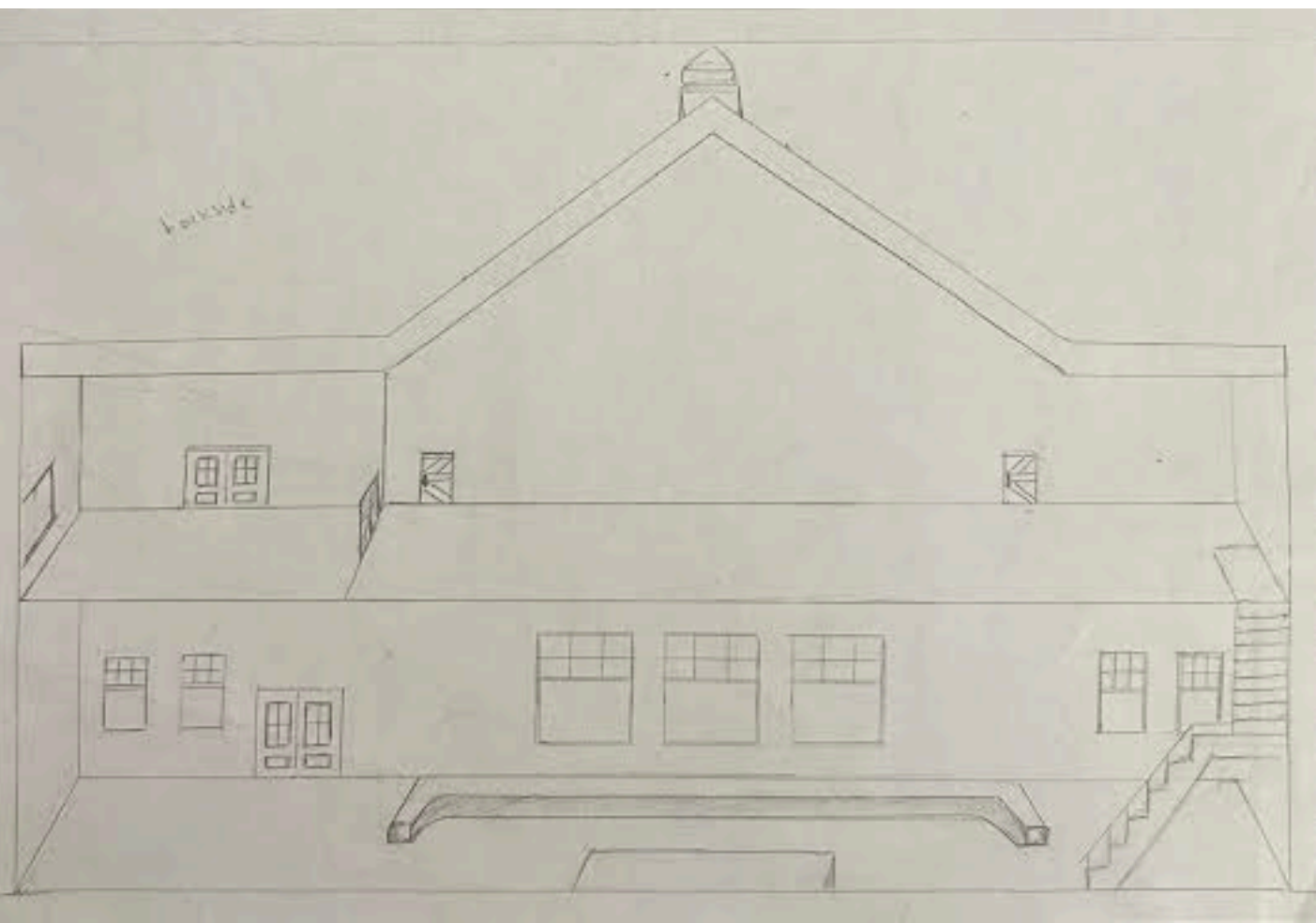
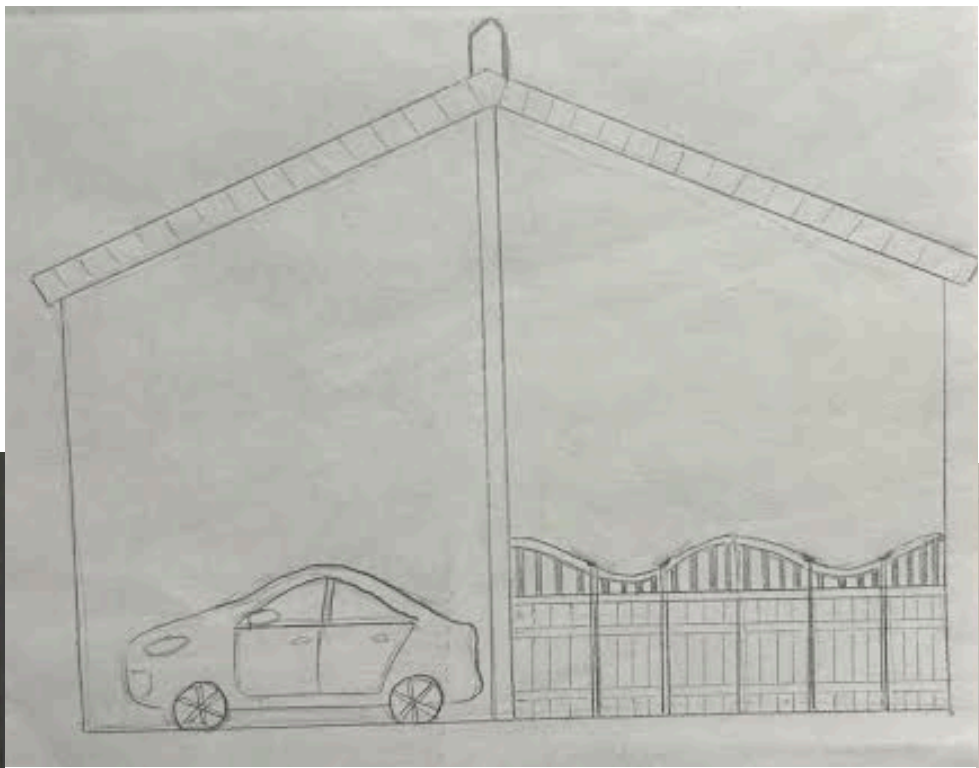
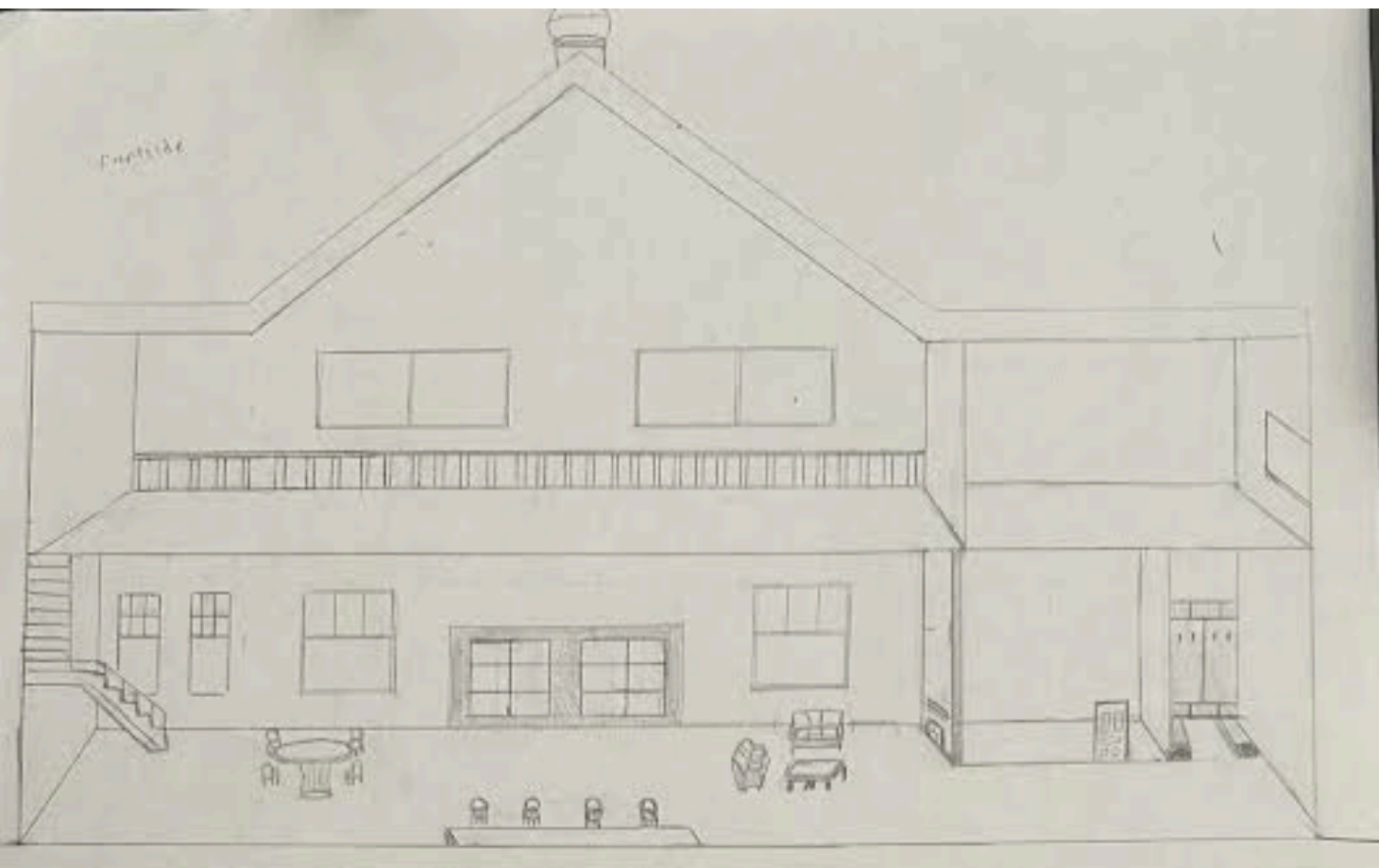
# ROOF PLAN



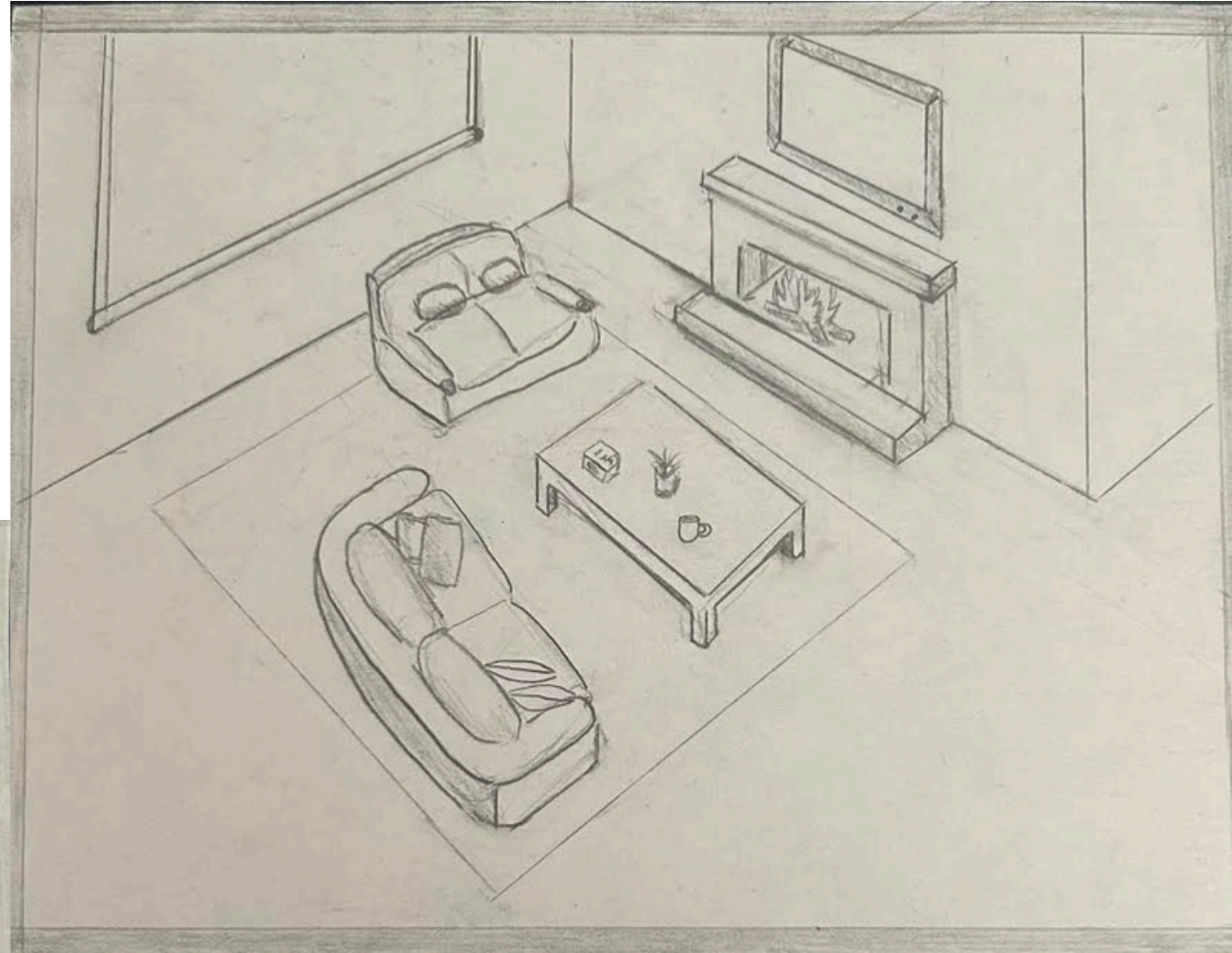
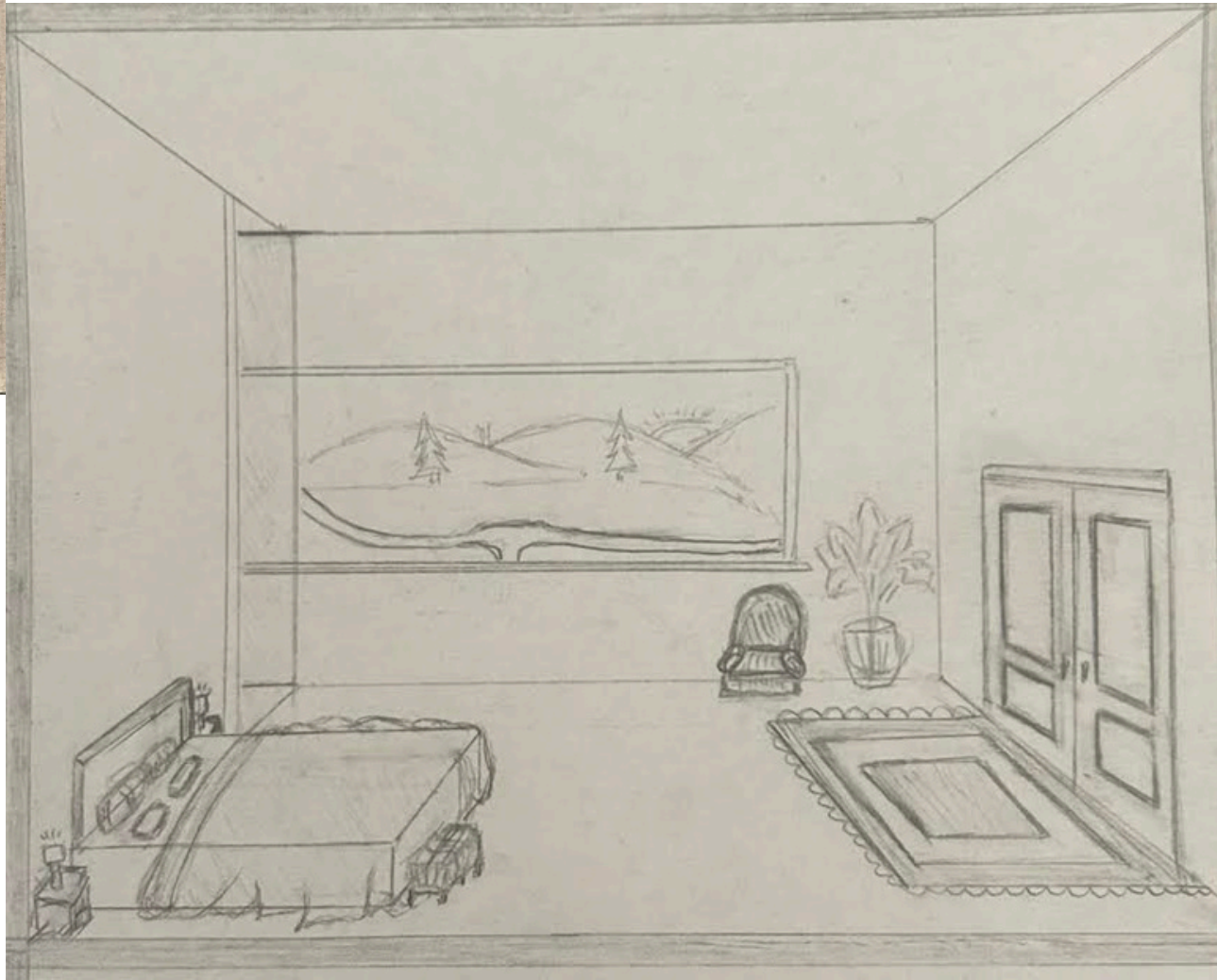
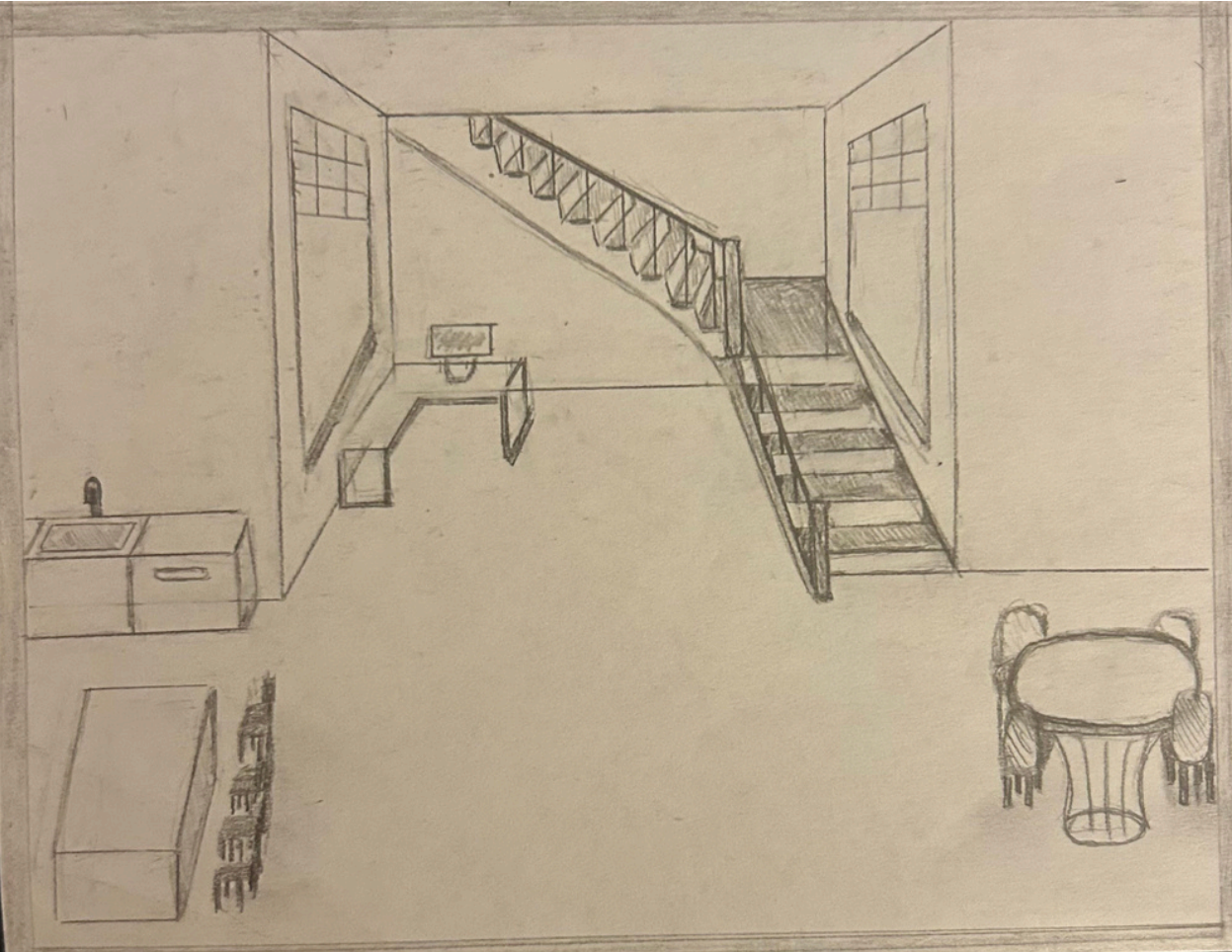
# EXTERIOR ELEVATIONS



# BUILDING SECTIONS



# PERSPECTIVES



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# 3D RENDERING

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# LIST OF RESOURCES & REFERENCES

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# MODEL PHOTOGRAPHS

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