MASERU URBAN HOUSING UNIT

DRAWING NO.: 2018-01
DRAWING DATE: 17 DEC 2018
DRAWN BY:
CHECKED BY:

RISE IN THE CITY 2018
MASERU URBAN HOUSING UNIT
10 AIRPORT RD.
MASERU, LESOTHO

COVER SHEET

DRAWING
G1.0
SHEET
1 OF 7

Key Concepts

Some key concepts for this design include, ample open space located on the north, south, and east sides of the unit providing year-round sunlight and a chance for green space and small garden locations. Windows are in each room to bring natural light into each space. Each window is strategically placed to provide the most natural light in throughout the unit and to decrease the need for electrical lighting sources. The unit is rotated 15° (degrees) towards the east to have the house oriented with the sun's path throughout the year.

Low Cost Project

To maintain its low construction cost, this design uses adobe brick construction with a polystyrene foam insulation on the exterior of the structure. With this construction style, the house will be able to maintain cool temperatures throughout the hot season and retain heat for the cold season. This design contains as minimal interior walls to create an open space and to limit construction of wood framed interior walls. The roof for the house is designed to capture the most water when rainfall occurs. Designed as a hip roof, water travels to all exterior points of the roof where it can be collected. The roof style also creates a simple but elegant appeal for the front façade.

The design provides a low cost of construction and maintains a simple but luxurious space. Even though the house costs little to build, the spaces of the house are designed to incorporate ideas that increase the value of the house and the home owner's experience. Balconies, large open front rooms, and doorways to merge the two spaces to increase the space of the front room. Allowing access to the outdoor spaces will enhance the house and increase its appeal.

Project Description

This design is 530 sq. ft. with a two-bedroom, one-bathroom layout. With a total cost of LSL 48,610.80. This unit has a total building footprint of a 30x30 foot block. This unit is designed so that it receives the maximum amount of daylight during the cold winter months and receive shading for the summer months.

Rotated 15° off the north axis, this house uses the sun's daily positioning to its advantage. Windows placed primarily on the south and east sides of the house allow for natural light during the summer months of October to February. A balcony is placed on the east side of the home to provide for greater space that can be opened into the living space of the house. This balcony can also be used for garden placement and water collection. A second balcony is placed on the north side of the house to provide outdoor space during the winter months of March to September. This balcony can be used also for a garden space or outdoor recreation space.

Materials

The exterior walls of the unit will be constructed using 4" x 8" x 8" adobe bricks. Layered outside of the exterior walls for insulation will be a polystyrene foam insulation which is directly applied to the adobe brick wall. It will then be painted to create an appealing look. The roof system will use wood trusses and wood studs for overbuild to construct the hip roof of the unit. Asphalt shingles will be laid to finish the exterior roof. The interior walls will be constructed of 2x4 wood studs. The footing wall will be adobe brick extending 2' below grade and a 16" x 8" concrete footing. A concrete slab will be used for flooring which will be finished smooth for a clean and easily maintained surface. The interior face of the exterior walls will also be smoothed adobe brick to have a clean surface as well.

100 Word Statement

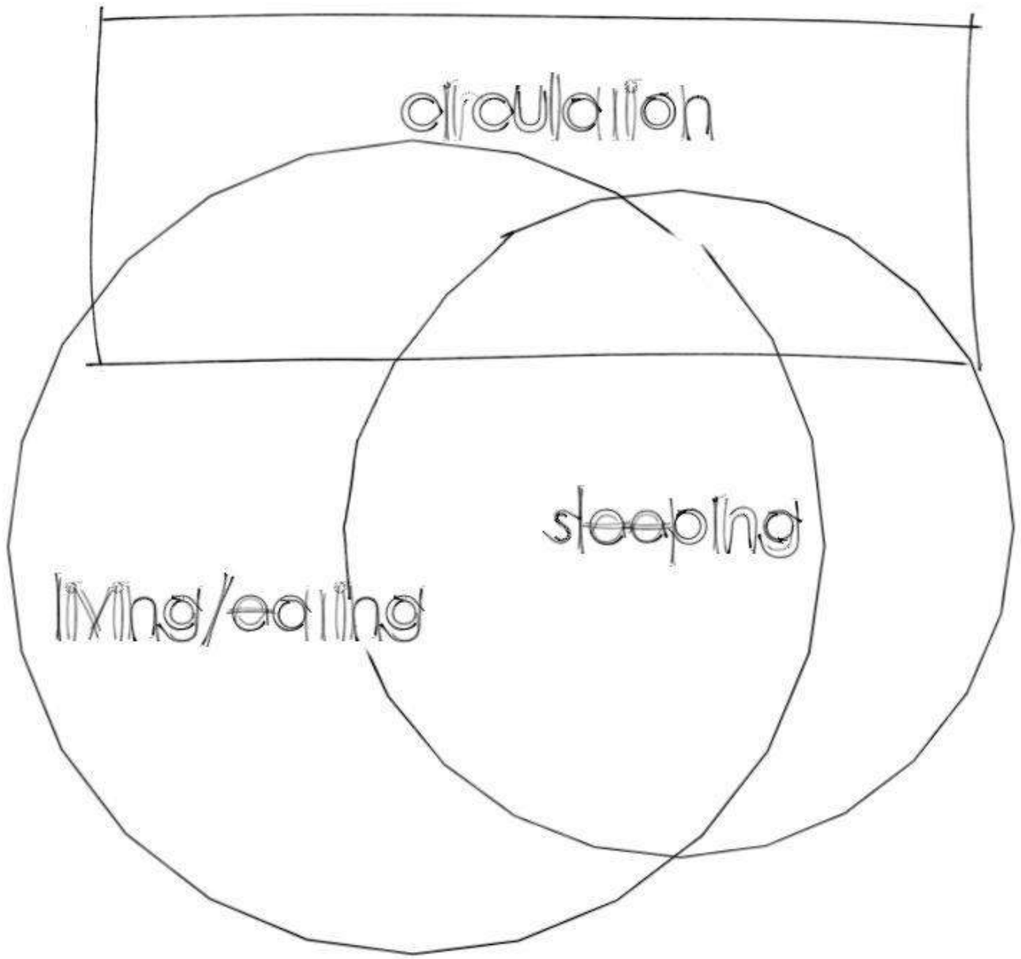
This design features a spacious layout without the expense of cost. It has plenty of outdoor space that can be used as gardening space, recreational activities, or just lounging around. Rotated in line with the sun's path, enables the house to receive natural lighting throughout the entire day all year round. Roof overhangs project from the house to provide for ample shading during the hot summer months and protection during the cold winter months. This design is efficient in lighting, outdoor and indoor space, and is also cost effective. A good choice for a house that you can call home.

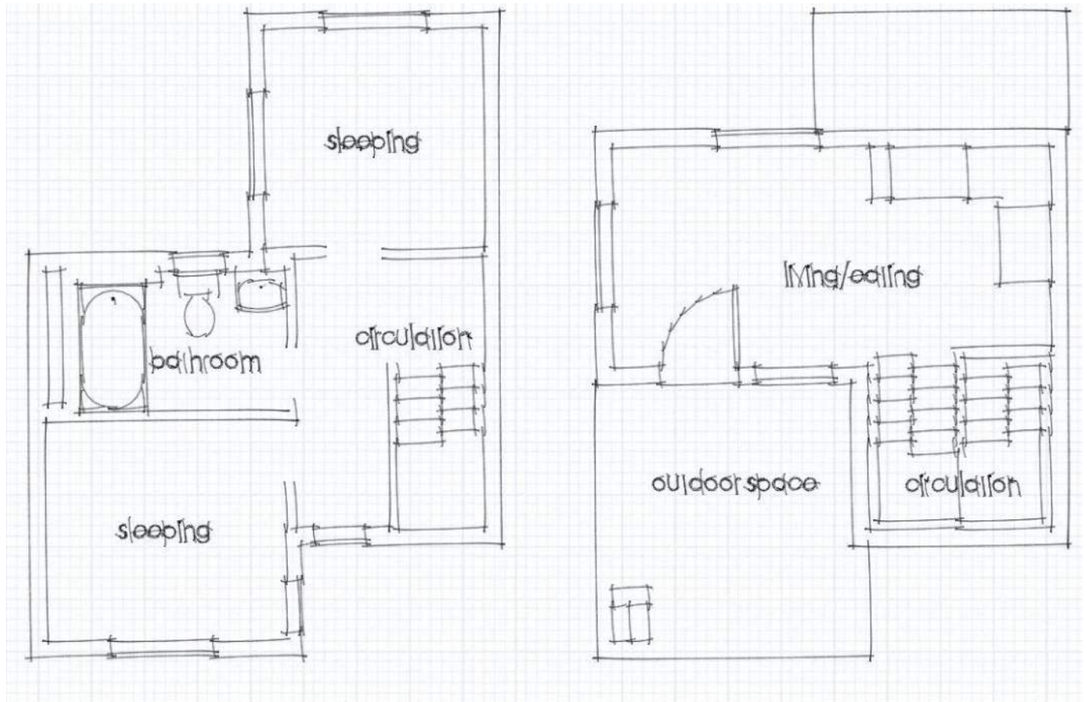
Sketch Concept: #1

Two story with living and eating on first floor.

Second story containing sleeping spaces.

Outdoor area used as an entry porch.



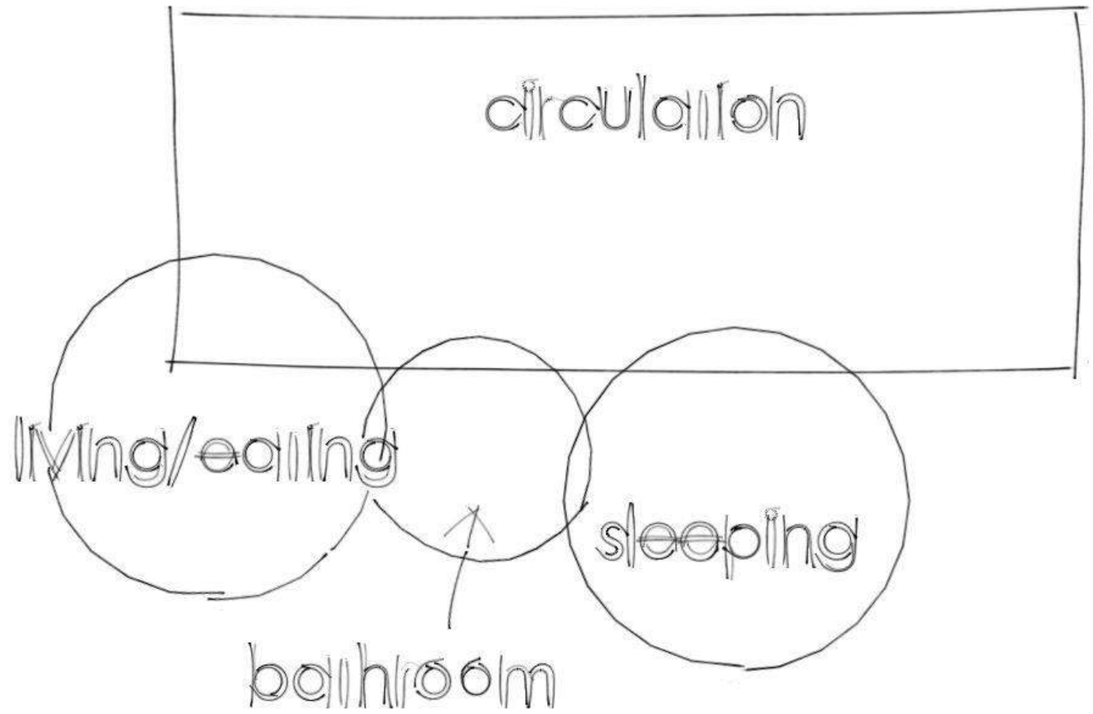


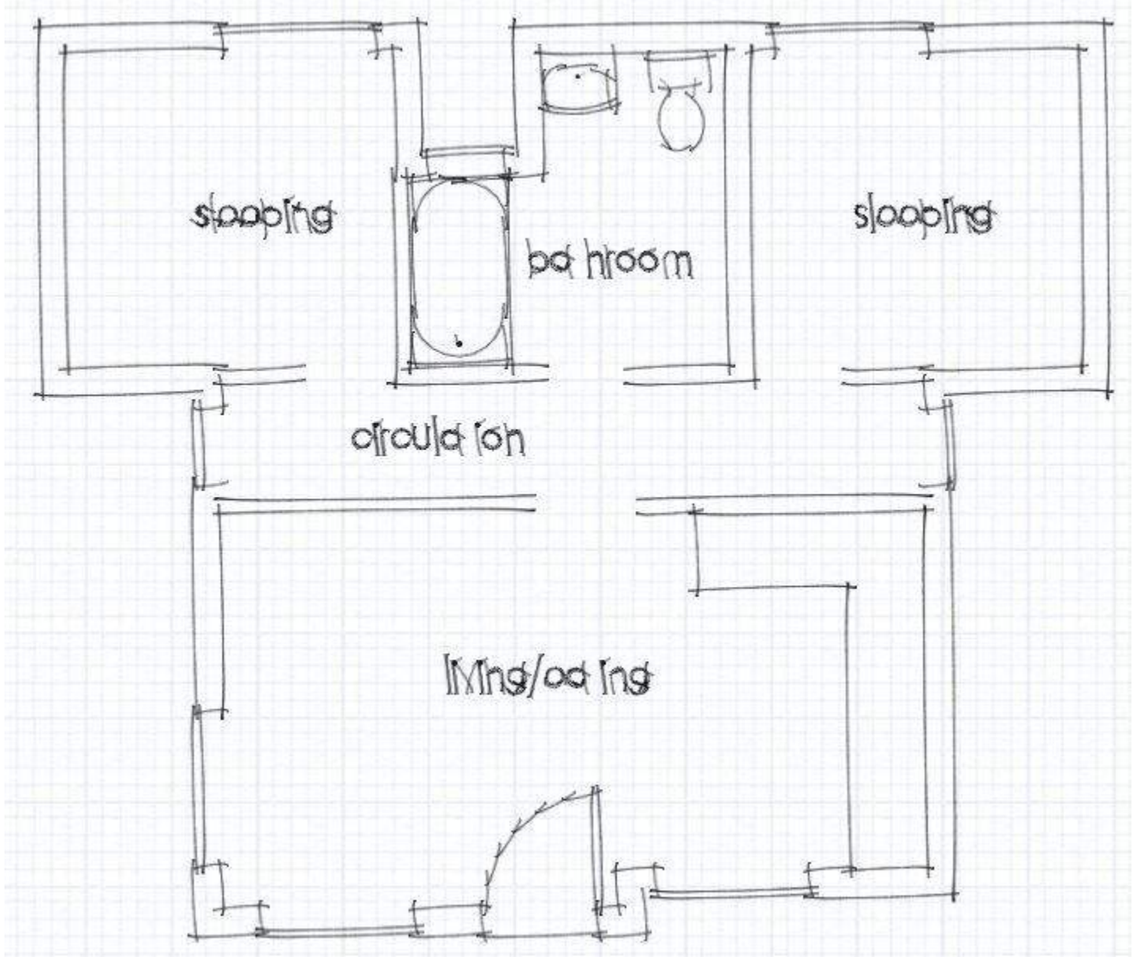
Sketch Concept: #2

One Story with living and eating space in front.

Sleeping areas in the back of the house.

No outdoor spaces.

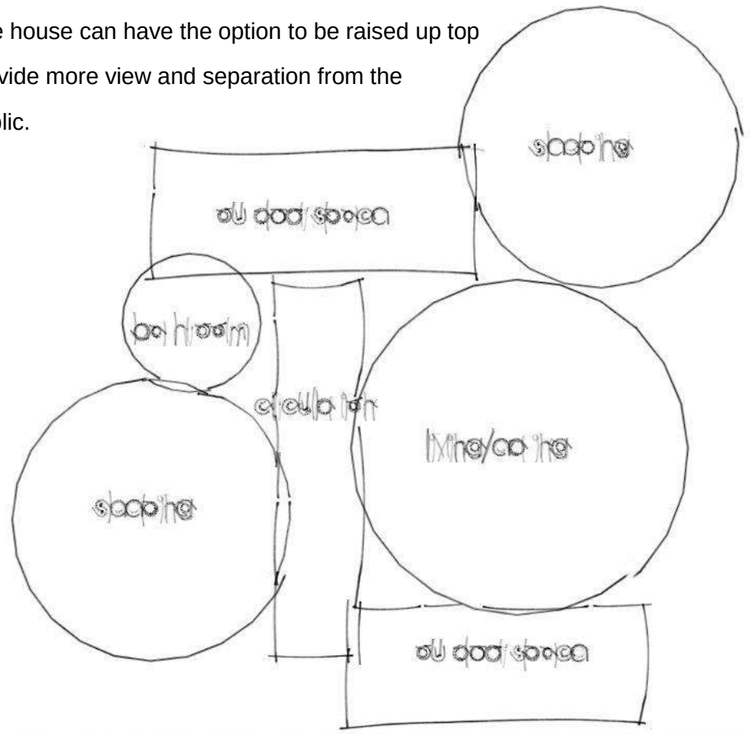


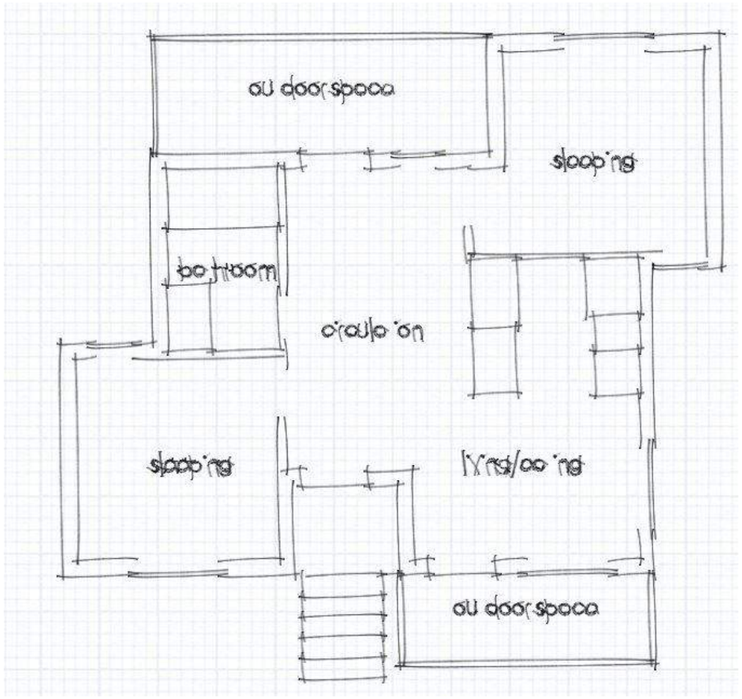


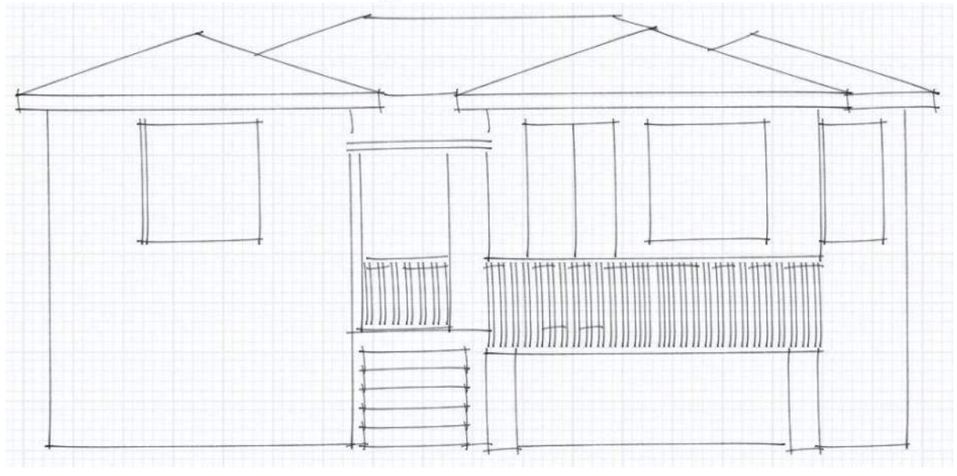
Sketch Concept: #3

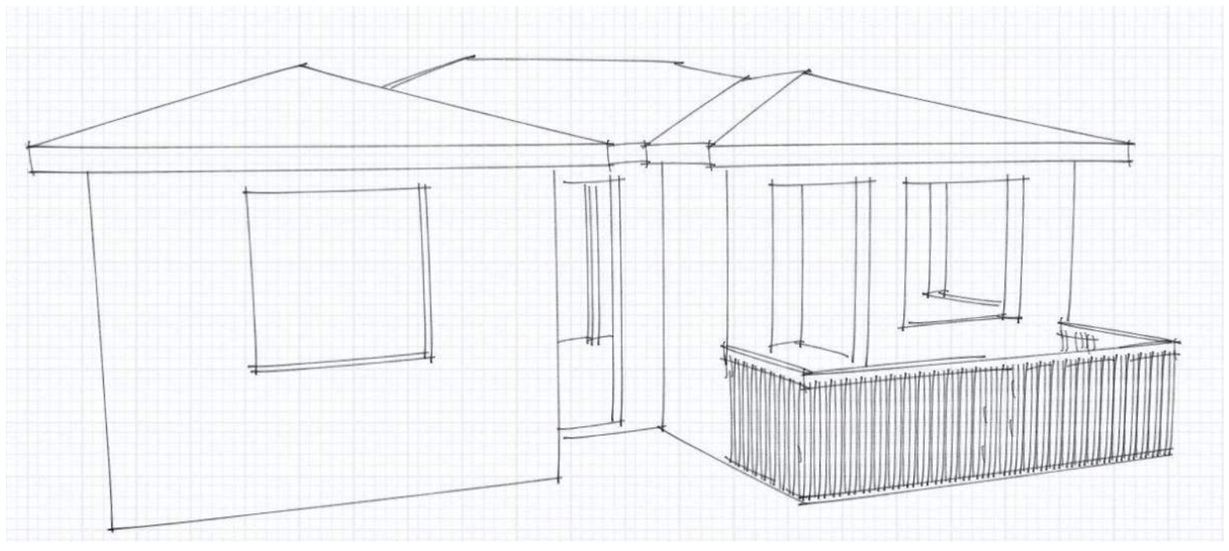
One story house with circulation down the middle of the house. Having living / eating and sleeping areas branch off of the circulation corridor. Outdoor spaces located on back and front sides of house.

The house can have the option to be raised up top provide more view and separation from the public.









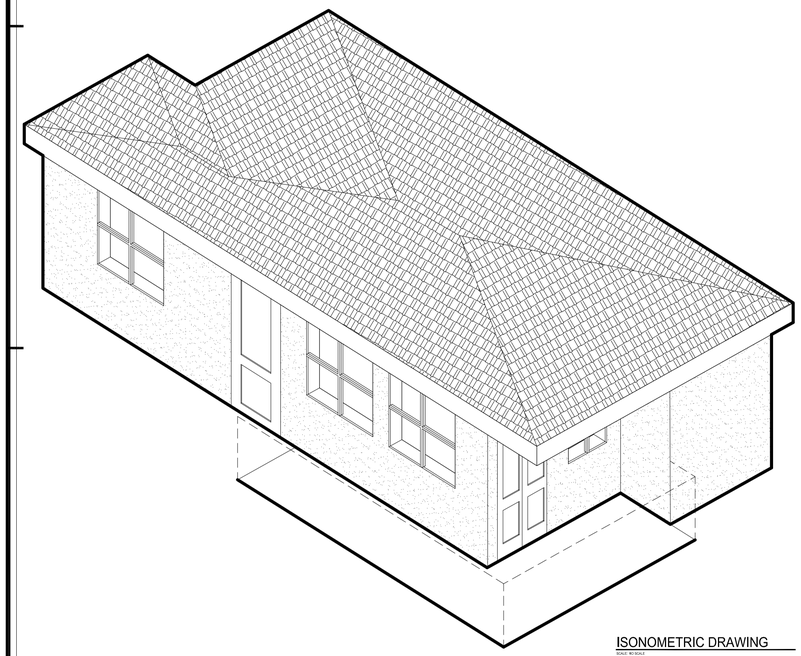
Cost Summary Breakdown

Project Total	LSL 48,610.80

Base Costs	
Material Costs	LSL 22,279.73
Labor Costs	LSL 25,879.85
Subcontractor Costs	LSL 160.87
Allowance Costs	LSL 290.35
Total Costs	LSL 48,610.80

Project Breakdown

	Materials		Labor		Total
Concrete Work	LSL 72.14	+	LSL 9,375.73	=	LSL 9,447.87
Framing	LSL 17,578.46	+	LSL 10,784.99	=	LSL 28,363.45
Exterior & Interior Walls	LSL 7,382.68		LSL 5,664.34		LSL 13,047.02
Roofing	LSL 10,195.78		LSL 5,120.65		LSL 15,316.43
Exterior Finishes	LSL 2,820.47	+	LSL 3,693.50	=	LSL 6,513.97
Interior Finishes	LSL 1,808.66	+	LSL 2,025.63	=	LSL 3,834.29
Subcontractors	LSL 1,973.00	+	LSL 348.17	=	LSL 160.87
Allowances	LSL 3,561.04	+	LSL 628.38	=	LSL 290.35



ISONOMETRIC DRAWING

SCALE: NTS SCALE

NORTH ELEVATION

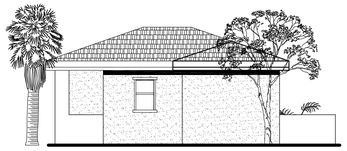
SCALE: 1/16"

EAST ELEVATION

SCALE: 1/16"

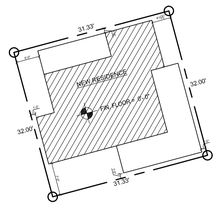
SOUTH ELEVATION

SCALE: 1/16"



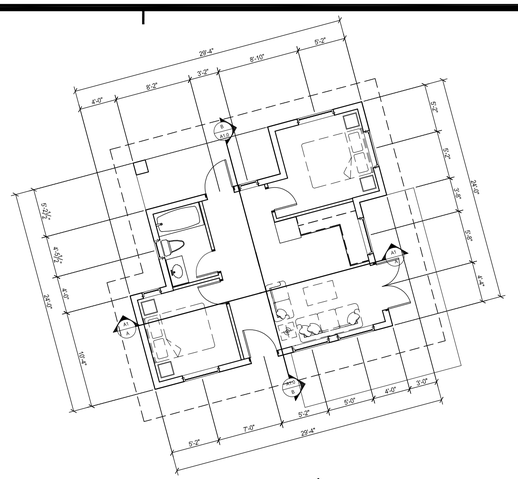
WEST ELEVATION

SCALE: 1/16"



SITE PLAN

SCALE: 1/64"

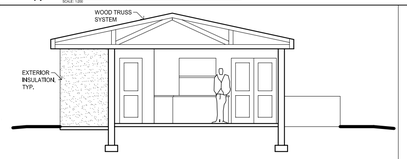


FLOOR PLAN

SCALE: 1/4"

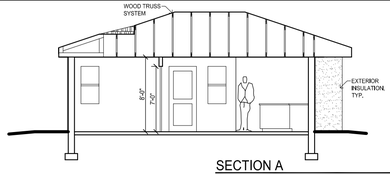
FLOOR PLAN FINISHES

- KITCHEN CONTAINS LAMINATE COUNTERTOP FOR EASY MAINTENANCE AND INSTALLATION
- SMOOTH FINISHED CONCRETE SLAB FLOOR
- BALCONIES TO BE CONCRETE FINISHED CONCRETE SLAB
- INTERIOR WALLS SHALL BE OF SMOOTHED ADOBE BRICK
- LAMINATE VANITY COUNTERTOP WITH VANITY SINK
- RAILING FOR BALCONIES CAN EITHER BE A WOOD RAILING OR AN ADOBE BRICK HALF HEIGHT WALL AT 3'-0" A.F.F.



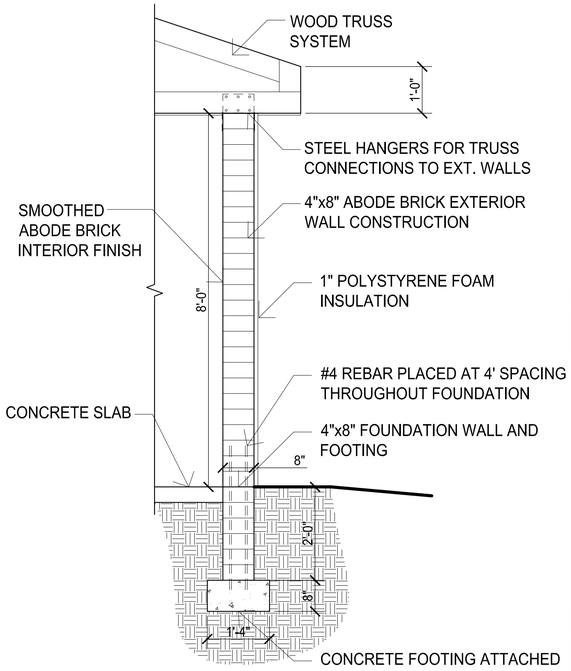
SECTION B

SCALE: 1/4"



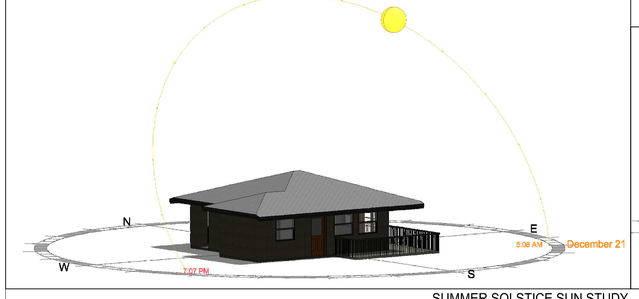
SECTION A

SCALE: 1/4"



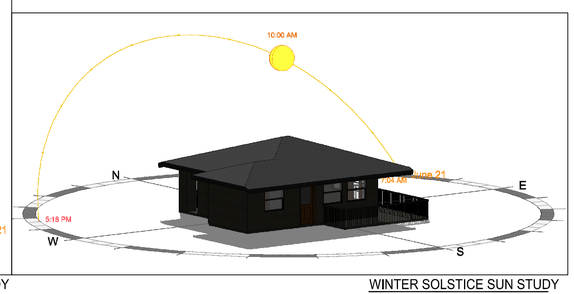
CONSTRUCTION DETAIL

SCALE: 1/2"



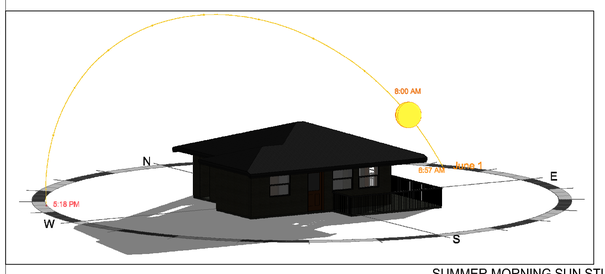
SUMMER SOLSTICE SUN STUDY

SCALE: NTS



WINTER SOLSTICE SUN STUDY

SCALE: NTS



SUMMER MORNING SUN STUDY

SCALE: NTS

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PRESENTATION DRAWINGS

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