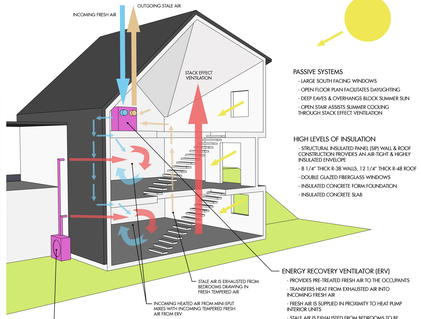
Folding Roof House

SITE PLAN
1" = 30'

Drawing inspiration from vernacular ranch and cabin buildings of the high prairies of Southern Montana the Folding Roof House combines traditional and contemporary forms for a site engaging experience in Rehberg Ranch. The forms play nicely with their neighbors while reflecting an architecture of the current era. Home owners will enjoy the open, light filled living areas and dramatic view oriented outdoor spaces. The home has been designed from the outset to be sustainable and energy efficient while not compromising aesthetics or function.

HEATING, COOLING, & VENTILATION



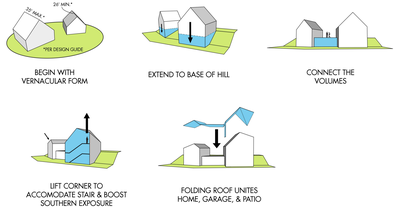
PASSIVE SYSTEMS
- LARGE SOUTH FACING WINDOWS
- OPEN FLOOR PLAN FACILITATES DAYLIGHTING
- DEEP EAVES & OVERHANGS BLOCK SUMMER SUN
- OPEN STAIR ASSISTS SUMMER COOLING THROUGH STACK EFFECT VENTILATION

HIGH LEVELS OF INSULATION
- STRUCTURAL INSULATED PANEL (SIP) WALL & ROOF CONSTRUCTION PROVIDES AN AIR-TIGHT & HIGHLY INSULATED ENVELOPE
- 8 1/4" THICK R-38 WALLS, 12 1/4" THICK R-48 ROOF
- DOUBLE GLAZED FIBERGLASS WINDOWS
- INSULATED CONCRETE FORM FOUNDATION
- INSULATED CONCRETE SLAB

ENERGY RECOVERY VENTILATOR (ERV)
- PROVIDES PRE-TREATED FRESH AIR TO THE OCCUPANTS
- TRANSFERS HEAT FROM EXHAUSTED AIR INTO INCOMING FRESH AIR
- FRESH AIR IS SUPPLIED IN PRIORITY TO HEAT PUMP INTERIOR UNITS
- STALE AIR IS EXHAUSTED FROM BEDROOMS TO BE REPLACED BY FRESH, TEMPERED AIR
- PASSIVELY COOLS THE HOME ON SUMMER NIGHTS
- FILTERS INCOMING AIR TO PROVIDE SUPERIOR INDOOR AIR QUALITY
- COMPACT, QUIET UNIT LOCATED ADJACENT TO OFFICE CLOSET

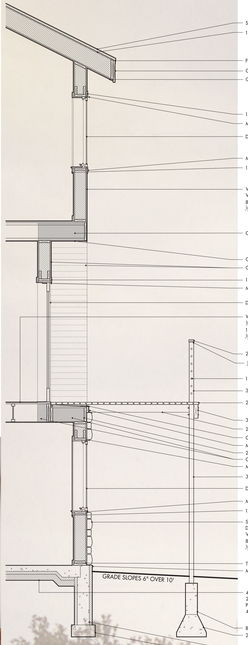
DUAL ZONE MINI-SPLIT AIR-TO-AIR HEAT PUMP
- PROVIDES HIGHLY ENERGY EFFICIENT HEATING & COOLING FOR THE ENTIRE HOME
- TWO WALL MOUNTED INTERIOR UNITS PROVIDE POINT-SOURCE HEAT & A/C AT THE MAIN & LOWER LEVELS
- HEAT & AC IS DISTRIBUTED TO ALL THE ROOMS VIA THE ENERGY RECOVERY VENTILATOR

DESIGN PROCESS



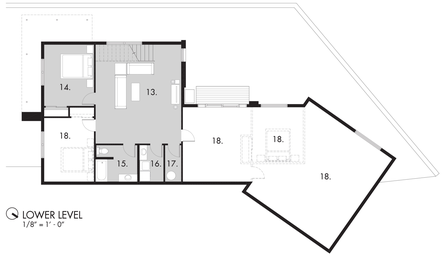
SECTION PERSPECTIVE NOT TO SCALE

WALL SECTION
1/2" = 1' - 0"



LOFT
1/8" = 1' - 0"

MAIN LEVEL
1/8" = 1' - 0"



LOWER LEVEL
1/8" = 1' - 0"

FLOOR PLAN KEY
1. MASTER BEDROOM
2. CLOSET
3. MASTER BATH
4. OFFICE
5. LIVING ROOM
6. DINING
7. SUN DECK
8. KITCHEN
9. POWDER ROOM
10. ENTRY
11. PORCH
12. GARAGE
13. FAMILY ROOM
14. BEDROOM
15. BATH
16. LAUNDRY
17. MECHANICAL
18. UNFINISHED