



2011 CSH/Florida

Sustainability by Necessity

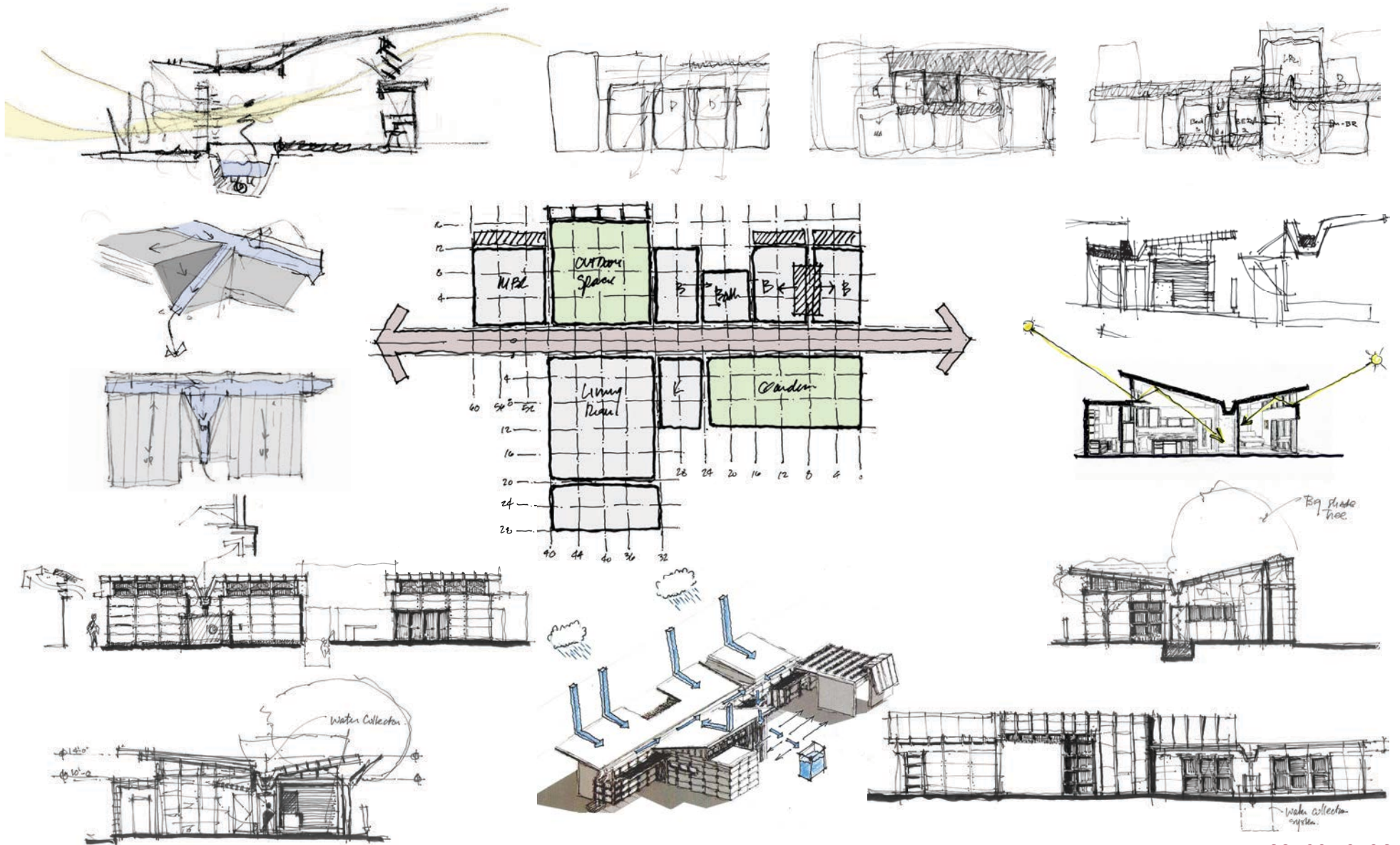
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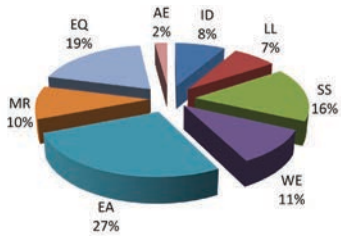


If we bring to mind one of the iconic images of twentieth-century architecture—the one image etched deeply into our subconscious is the evening view of Pierre Koenig’s Case Study House #22 which seems so memorably to capture the whole spirit of late twentieth-century architecture. The origins of the Case House Study evolved as an outgrowth of endless discussions from young enthusiastic architects about new ideas in residential design and construction. These discussions included use of new materials like steel and the ideas of transparency in glass. It’s been 50 years and the spirit of these talks haven’t changed but what has changed is the framework of our discussions. Our focus has shifted from the abilities of new raw materials to the finite nature of these natural resources. Our discussions now center on dwellings that use these resources wisely, embody a spirit of efficiency, sustainability and utilize local materials, green technologies, and most importantly a home that responds to its climate and unique environment creating a sense of place.

66N29YJ3K36

A major design feature bases the home on a forty-eight (48) inch grid, allowing for reduced material waste and construction time. The main corridor is the connective tissue that binds and organizes the spaces of the house into one organism. The spine acts as the hinge that ties the participant to the 3 elements - earth, water and sunlight. It acts as a greenbelt that starts from the main entry and carries itself into the building. Above the greenbelt is a transparent trough that captures rainwater while allowing light and changing shadow patterns into the house at different times of the day, thus, blurring the demarcation lines between interior and exterior.





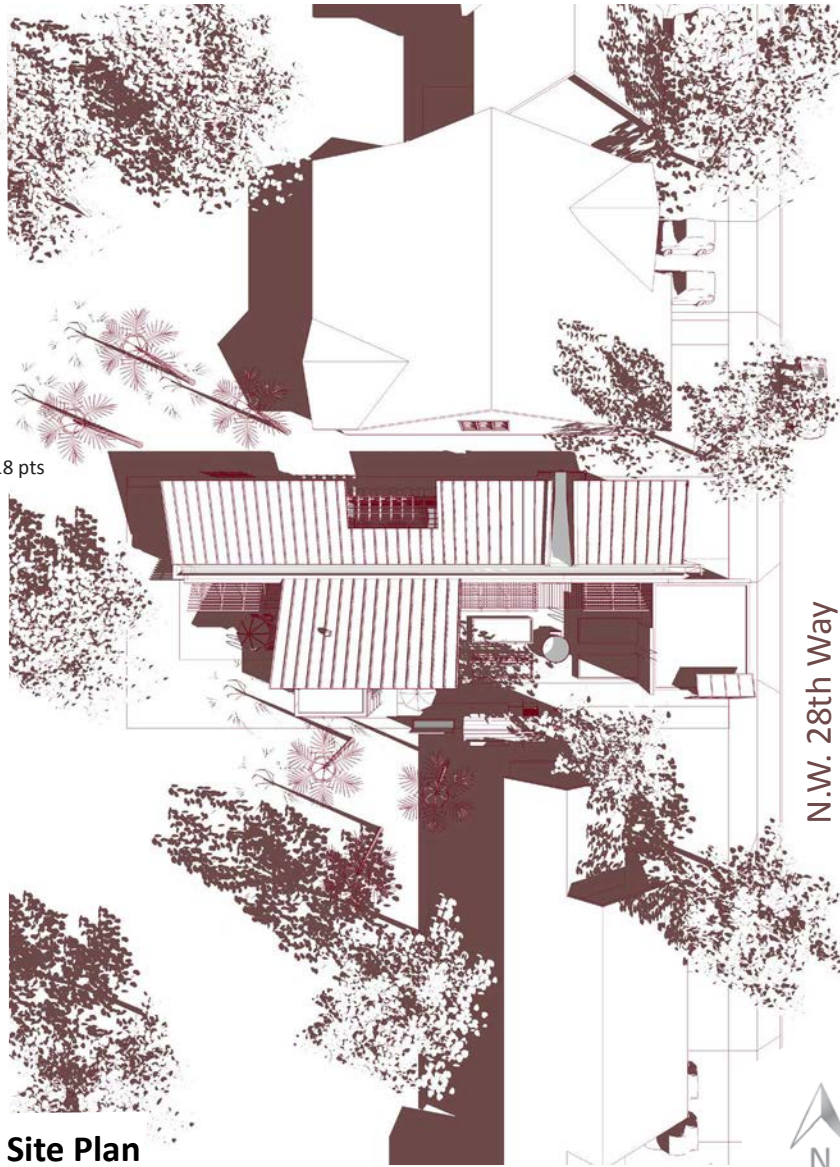
LEED Breakdown

- (ID) Innovation in Design - 8 pts
- (LL) Location and Linkages - 7 pts
- (SS) Sustainable Site - 15.5 pts
- (WE) Water Efficiency - 10 pts
- (EA) Energy & Atmosphere - 25.5 pts
- (EQ) Indoor Environmental Quality - 18 pts
- (MR) Materials & Resources - 9.5 pts
- (AE) Awareness and Education - 2 pts

Cost Estimate by Divisions

- 01 General Conditions \$14,000
- 02 Site Work N/A
- 03 Concrete \$6,800
- 04 Masonry \$2,200
- 05 Metals \$1,000
- 06 Woods and Plastics \$23,000
- 07 Thermal & Moisture \$30,000
- 08 Doors and Windows \$11,000
- 09 Finishes \$5,000
- 10 Specialties \$2,100
- 11 Equipment \$2,400
- 12 Furnishings N/A
- 13 Special Construction N/A
- 14 Conveying System N/A
- 15 Mechanical \$16,000
- 16 Electrical \$10,000

ADJUSTED BASE COST \$104,975
 TAX REBATES \$ 4,050
***TOTAL BASE COST \$100,925**
 *Based on Adjusted Cost Index of 5 Florida



Site Plan



This private dwelling is constructed on a typical Florida suburban, mid-block lot, in Fort Lauderdale, Florida. Its design intentions include achieving a LEED Home Platinum rating as well as maintaining an affordable construction and maintenance budget.

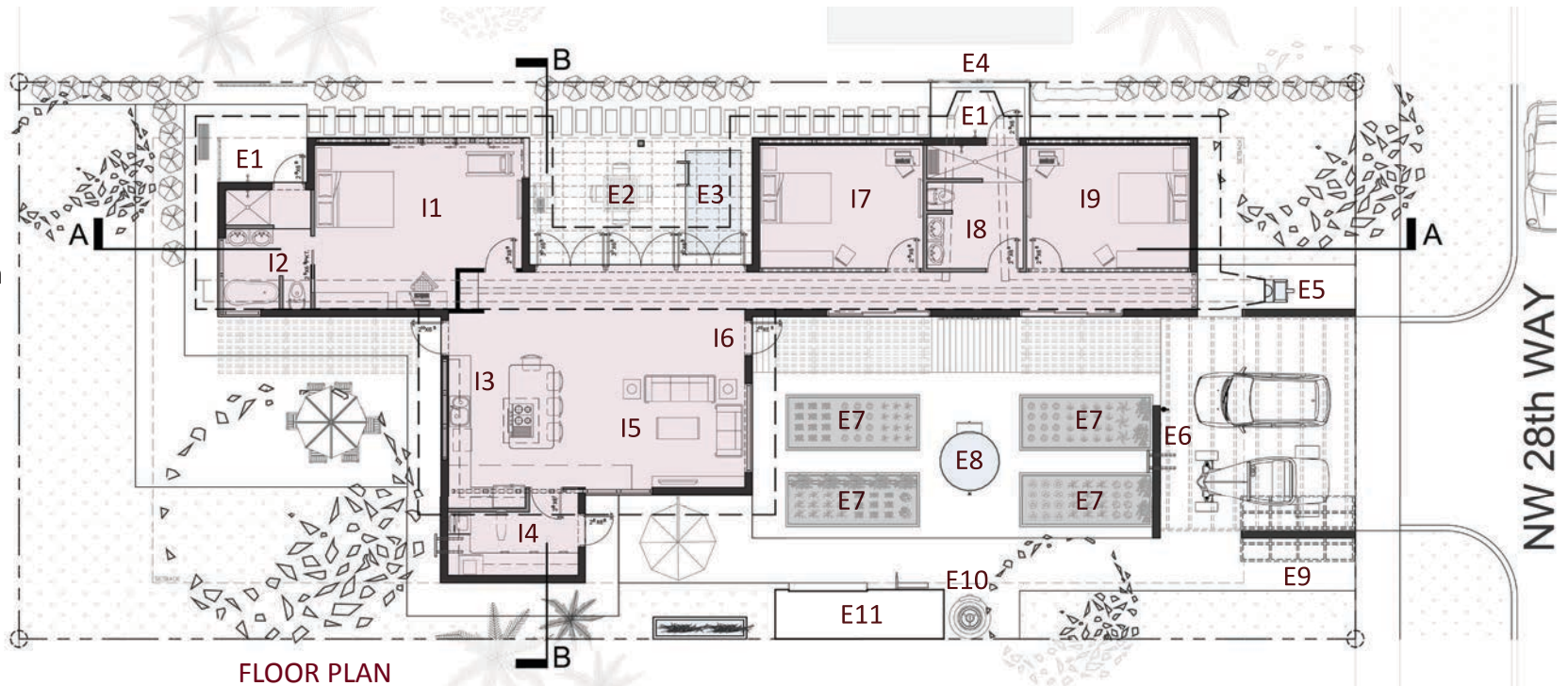
Building Area: (sf) 1500 sq. ft.
Location of Project: Fort Lauderdale, Florida
Construction Base Cost: \$70.00 sq. ft.
Projected LEED Platinum: 95.5 Points

INTERIOR

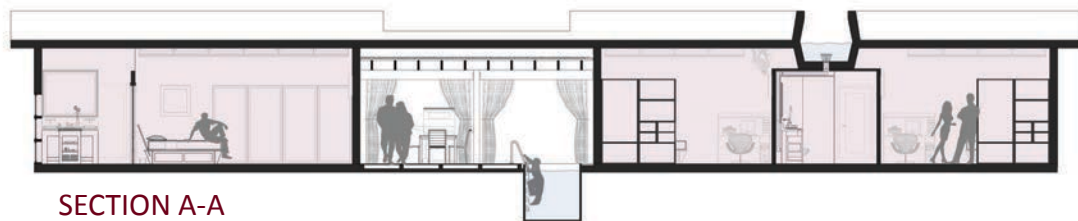
- I1_Master Bedroom
- I2_Master Bathroom
- I3_Kitchen
- I4_Utility Room
- I5_Living Room
- I6_Main Entrance
- I7_Bedroom #2
- I8_Bathroom
- I9_Bedroom #3

EXTERIOR

- E1_Exterior Shower
- E2_Outdoor Living Space
- E3_Container Pool
- E4_Water Collection Depository
- E5_Primary Water Collection
- E6_Hybrid Charging Station
- E7_Raised Bed Garden
- E8_Water Storage Well
- E9_Solar Panels
- E10_Compost Collection
- E11_Tool Shed



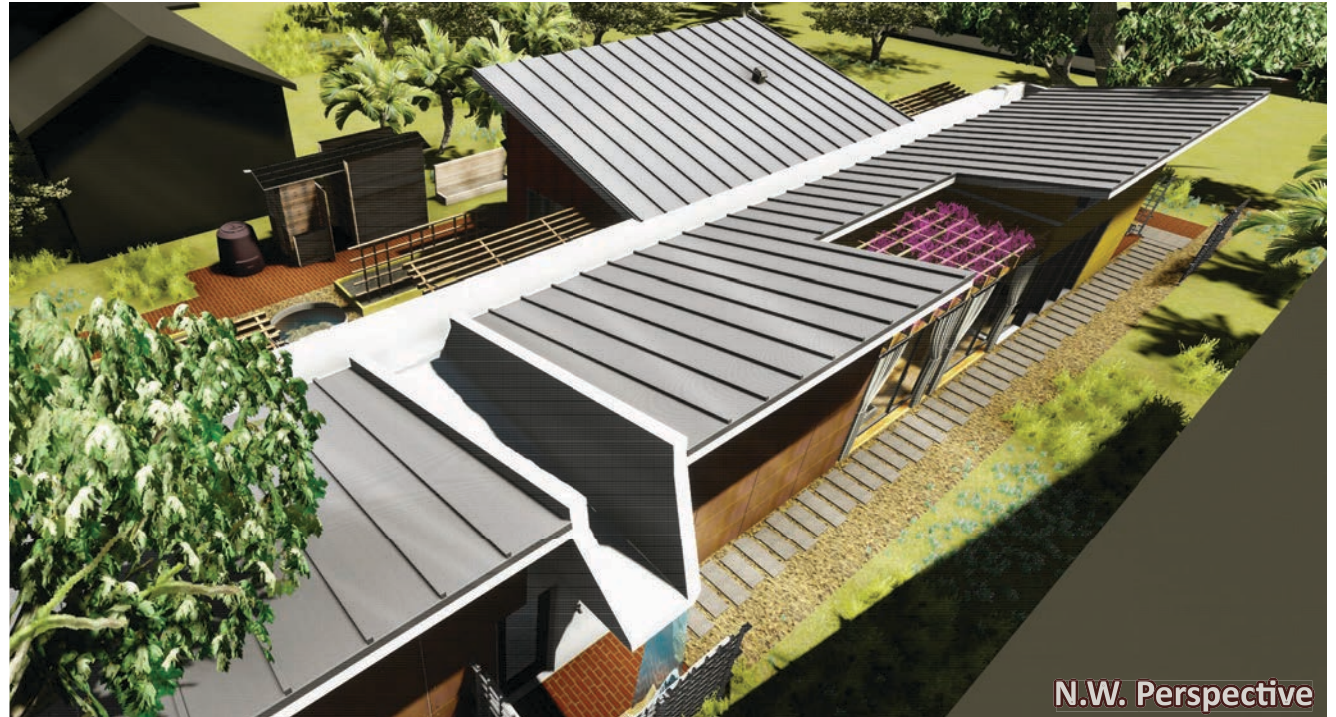
FLOOR PLAN

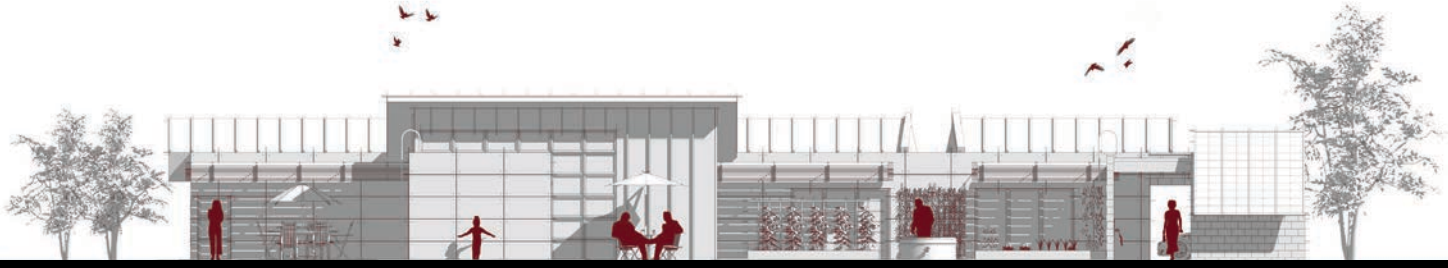


SECTION A-A

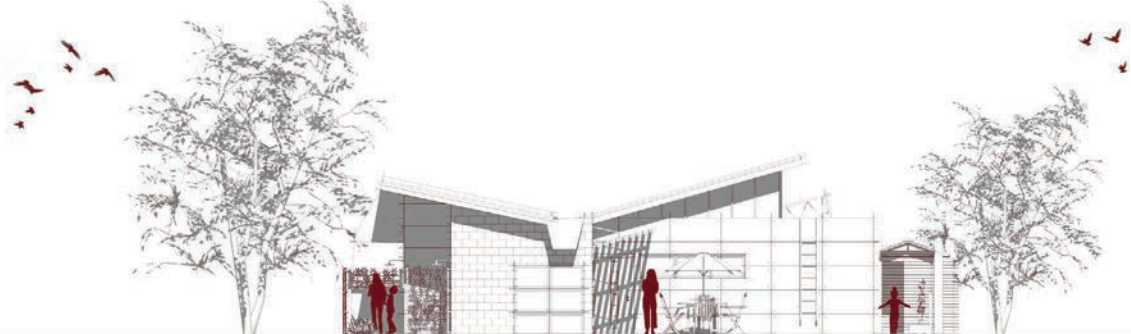
The house in its entirety becomes one simultaneously functioning mechanism with intentions on educating its occupants in a dual relationship between owner and structure by utilizing passive and active design features. The open plan provides clear floor space and easy maneuverability throughout the residence. Use of rapidly renewable, partially recycled and natural materials allows the occupants to absorb the inherent beauty within each material. The structure is composed of structural insulated panels or SIP's. The roof becomes a vessel to capture water and channel it throughout the home. Passive design allows extensive natural light coupled with low voltage LED lighting for evenings.

Usage of a rain collecting roof system translates water into storage areas that is dispersed on and used as needed. Clearstories used in coordination with light shelves provide day lighting and cross ventilation. SIP panels provide an airtight structural seal with use of geothermal heating and cooling to help eradicate harmful emissions.

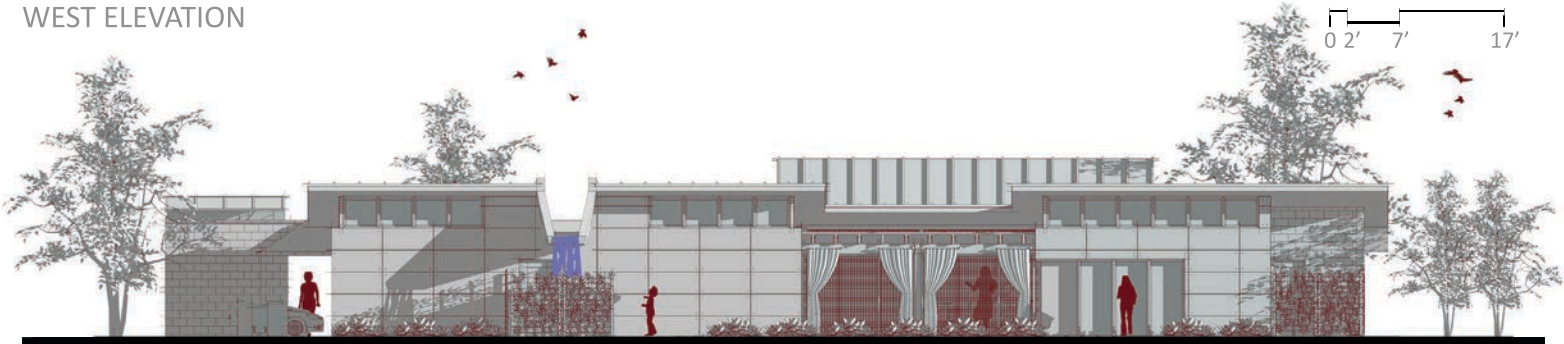
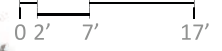




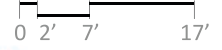
SOUTH ELEVATION



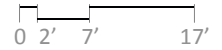
WEST ELEVATION



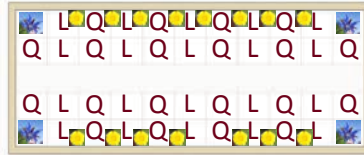
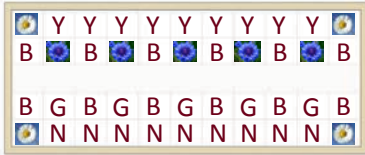
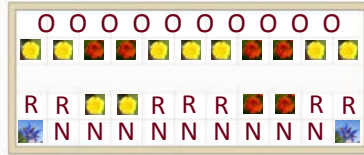
NORTH ELEVATION



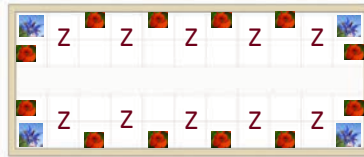
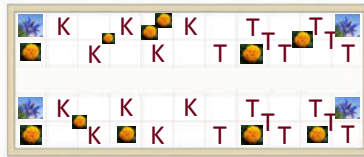
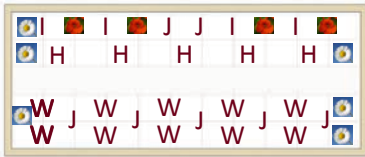
EAST ELEVATION



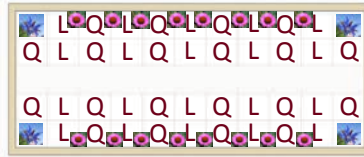
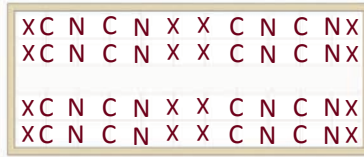
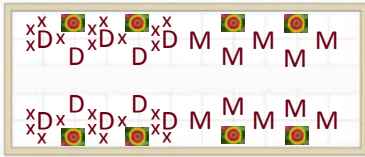
Spring Crops Feb. - Mid-May



Summer Crops Mid-May - Sept.



Winter Crops Oct. - Jan.



This organic garden is composed of four raised planting beds. This three season garden has the ability of growing almost 365 days out of the year. We have included many different vegetables and herbs for a variety of tastes, most of which can be preserved or frozen. This garden will feed more than just a family of 4, but with friends and family it can always serve as a generous gift. We also included the art of companion planting to aid beneficial insects and encourage their presence in the garden.



Companion Flowers

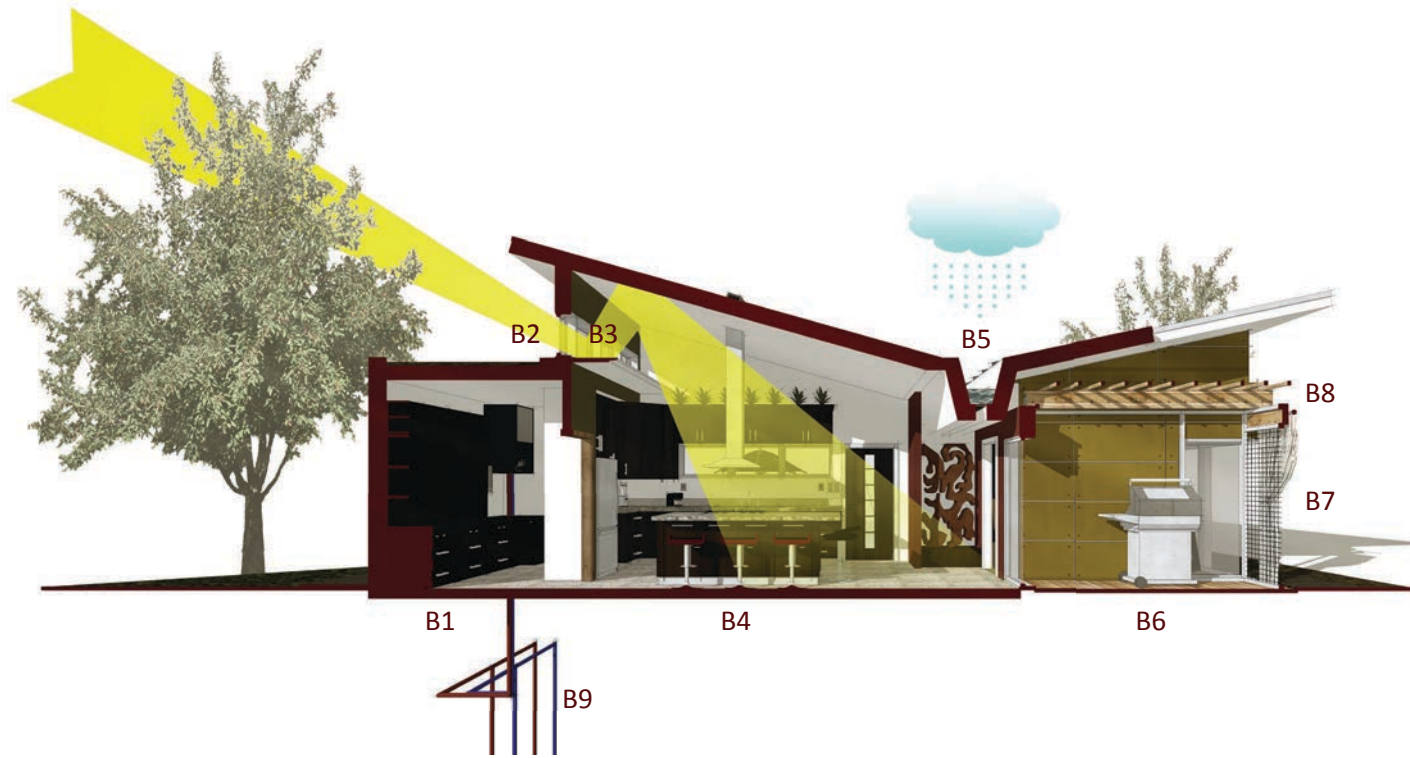


- Bachelor Button
- Borage
- Calendulas
- Echinacea
- Marigold
- Nasturtiums
- Oxeye Daisy
- Zinnias

Plantings



- A. Amaranth
- B. Basil
- C. Beets
- D. Broccoli
- E. Bush Beans
- F. Carrots
- G. Chives
- H. Cilantro
- I. Cucumber
- J. Dill
- K. Eggplant
- L. Garlic
- M. Kale
- N. Lettuce
- O. Luffa
- P. Okra
- Q. Onion
- R. Oregano
- S. Parsley
- T. Peppers
- U. Pole Beans
- V. Scallion
- W. Squash
- X. Sweet Asylum
- Y. Tomatoes
- Z. Water/Melon



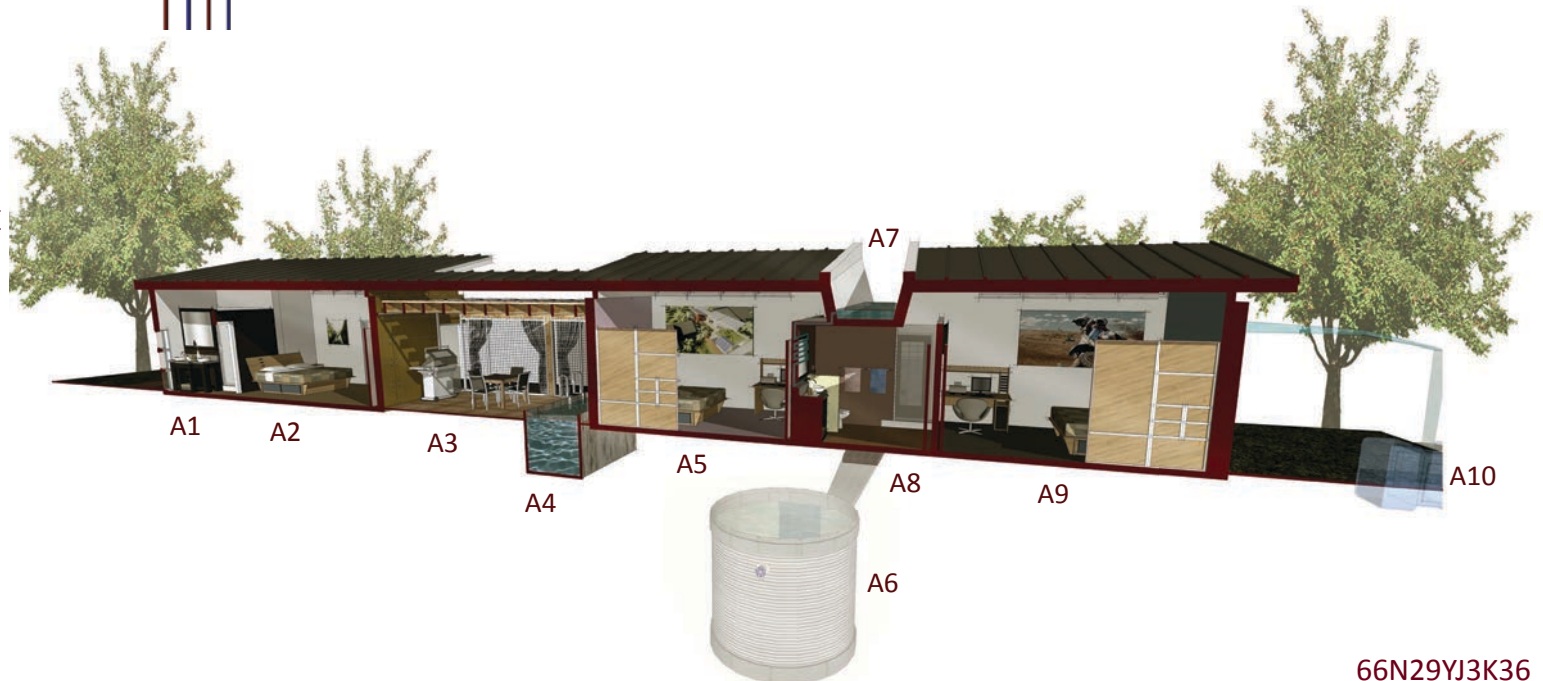
BB - SECTIONAL PERSPECTIVE

- B1_utility room
- B2_clearstory windows
- B3_light shelf
- B4_kitchen
- B5_rain water trough
- B6_outdoor living space
- B7_screen enclosure
- B8_fsc wood trellis
- B9_geothermal HVAC system



AA - SECTIONAL PERSPECTIVE

- A1_master bathroom
- A2_master bedroom
- A3_outdoor living space
- A4_container pool
- A5_bedroom #2
- A6_rain water cistern
- A7_rain water collection trough
- A8_bathroom
- A9_bedroom #3
- A10_portable rain water cistern





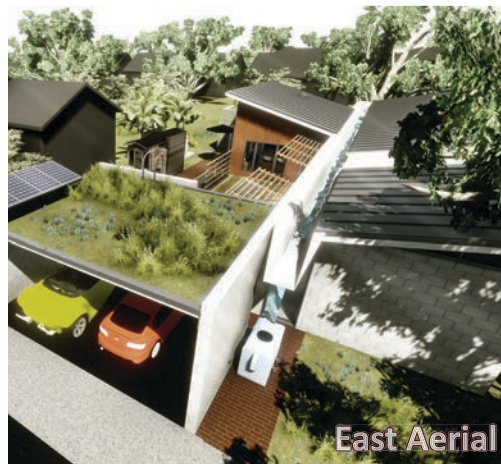
Rear Entry



Living/ Kitchen



Master Bath



East Aerial



Master Bedroom



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