

## **Encompass One – Project Narrative**

### Universal Design and Aging in Place

Encompass One design provides a balance of universal design and the ability to age in place as well as all the typical amenities one would desire in a small home / ADU for the young and older alike. At its foundation, this design offers a zero change in elevation living plan to nearly all the features of the home. Change in elevation is one of the largest issues for those with disabilities or for those getting older. This design allows one to pull into an equivalent ADA parking stall, ramped up to the finish grade of the home. From there one can walk or roll to any feature in the home, except the loft, with no change in grade. While this design portrays a compact layout for bathroom and kitchen, this plan can easily be adapted to include a fully accessible bathroom and kitchen. With no change in grade and easy adaptability, this design offers a variety of options for living at any age or ability.

### Affordability and Cost Effectiveness

Encompass One works to have a simple and effective design that can be implemented with economical finishes / construction assemblies and or higher performing options. While the design shown employs some higher front end cost options, all these options can easily be swapped with more affordable materials / assemblies allowing builders and owners to scale this design to their needs and budget (some alternates are listed on the drawings). Although some design features cost more upfront, they do offer longer term value and greater cost savings over time.

Encompass One offers all the fundamental amenities one desires in a small home, within a compact, efficient floor plan of 675 sqft. This efficiency keeps costs lower while providing a higher sale or rent value.

In terms of energy, this home provides notable solar power, along with a higher performance envelope, efficient air handling and heat pumps for heating and cooling; all saving users on energy cost for years to come.

### Sustainability and Resilience

Encompass One includes modern, available technologies and building approaches with fewer toxic materials to for a cost-effective approach to creating a sustainable and less toxic home. Low impact, green features of the home include:

- 1) Thermally broken high R value performance floor, walls, roof / windows.
- 2) Integrated solar power roof - standard solar optional.
- 3) Super-efficient heating, cooling and air handling with heat pumps / HRV (to include heat pump hot water tank). HRV offers a balanced air system preventing unwanted air leakage.
- 4) Nontoxic cellulose and rockwool based insulations, nontoxic building materials such as wood, concrete, mineral oils, no VOC paints. Additional options could include rammed earth floors and cob style wall finishings and plasters.
- 5) Siding treated with natural process of shou sugi ban and mineral oil over a rainscreen, increasing effectiveness of assembly while reducing maintenance needs.
- 6) South facing glazing combined with slab on grade thermal mass for passive solar gain and passive heat/cool dampening.

- 7) Large windows for volumes of fresh air and light and access to private green space.
- 8) Green roofs offering stormwater mitigation; increasing habitat and green beautification, while reducing heat island affect.
- 9) Remote operable skylights allow for warm air to be released from vaulted ceiling, allowing the stack effect of pulling cool air through the home, creating passive ventilation.
- 10) Brain Panel – see below.

### Innovation and Creativity / Aesthetics

Encompass One blends form, function, cost, longevity, sustainability and beauty. With a strong floor plan and site/sun orientation, one can adapt this plan to meet their needs while introducing green features as fits their budgets. The design presented offers innovative emerging products such as integrated solar roofing systems and the home Brain Panel.

Brain Panel, a system control panel for a “house brain”. An integrated computer programed model of the home and its operating features. This model uses AI combined with algorithmic functions to optimize the heating, cooling, air handling, water use, lighting, security and function of the home. In essence, this gives the home a brain, a system for connecting the various functioning systems of the home to increase efficiency, reduce waste, identify problems and give the occupant more ease of use.

Additionally, this design uses available technologies that offer improvements in building performance, energy efficiency, indoor air quality, nontoxic materials, green roofs / raingardens and aesthetics, and incorporates well established building practices allowing a practical yet adaptable approach for creating healthy, happy, sustainable living.