

## **cul-de-sac**

Featuring Craftsman-style motifs and an unassuming public frontage, cul-de-sac conceals five units within a compact 55-by-125-foot site in Sehome, increasing housing diversity options, providing needed density, and nurturing social connectivity. The project features two 3-bedroom units, two 2-bedroom units, one 1-bedroom unit, and a common house. The homes wrap around a courtyard sprinkled with gathering nodes, community planters and lush greenery. Taking inspiration from cohousing and co-living housing models, cul-de-sac promotes community building with thoughtful planning of circulation, careful layering of privacy, and intentionally creating space for connection.

### **Affordability & Constructability**

- Modular Construction: The units are designed to be modular and the roof is designed to be constructed with trusses. A sizable portion of construction occurs indoors in a factory, protecting workers/building materials from the elements, expediting construction, preventing material waste through efficient recycling/material use, and limiting disturbance to neighbors. Modular construction results in double unit demising wall and floor assemblies which allow more acoustic privacy between units.
- Fiber Cement Lap Siding with Rain Screen System: Fiber cement lap siding blends in with the existing single family context, providing a durable exterior cladding material and reducing maintenance. The rain screen assembly contains a vented exterior cavity to control moisture that intrudes past the fiber cement siding, allowing it to evaporate or drain out which protects the building envelope.
- Continuous Insulation: Batt insulation between wood framing members and rigid insulation outboard of the framing create a continuous insulative layer. This minimizes thermal breaks and enhances the effective insulation of the structure.
- Universal Design: The ground level units, common house, and support spaces are accessible and designed to meet 2017 ANSI 117.1. On the ground level, each unit includes a roll-in shower. The accessible units are equipped with smart home features and universal design features like smart doorbells, adjustable height counters, accessible appliances/controls, and visual/audio emergency alert systems.

### **Sustainability & Resilience**

- Building Massing: Long axis of the building stretches from east to west, maximizing daylight into living spaces while minimizing harsh western sunlight. The courtyard opens to the south creating a prime space for gathering and capturing sunlight for growing food.
- Standing Seam Metal Roof: Higher upfront cost compared to other roofing systems, but metal roofs have a longer lifespan, are more durable, and are recyclable.
- Planters/Rainwater Collection System: Metal roof allows safe collection of rainwater for use in shared planters which can be used to grow crops or beautify the site.

- Solar Panel Array: Southern-facing roof hosts a large solar panel array to reduce utility costs, generate renewable energy, and act as backup during emergencies.
- Native Plantings: Reduces maintenance required for upkeep, appeals to local wildlife, and provides a biophilic environment for the residents.
- Low Flow Fixtures: Reduces water consumption—lowering the project’s environmental impact, reducing water waste and lowering utility bills.
- Pervious Concrete: Reduces stormwater runoff while providing durable, accessible surface for residents traversing the site whether by foot, bicycle, or wheelchair.
- Bike Storage: Including spacious bike storage and an e-bike charging station leverages Bellingham’s network of bicycle lanes, routes and trails for commuting, recreation and transit. Given Sehome’s terrain, providing e-bike infrastructure makes biking more accessible for residents.
- Ductless Mini Split Heat Pumps: Energy efficient for heating/cooling and can be zoned to condition different spaces accordingly.
- Heat Recovery Ventilators (HRV): Enhances indoor air quality, reduces the risk of mold/mildew, and minimizes heating costs by retaining existing heat from exhaust air and transferring it to fresh intake air.
- Conditioned Space: Limiting conditioned spaces to units and the common house reduces heating/cooling load while maintaining functionality of support spaces and gathering nodes.

## **Innovation & Creativity**

- Intergenerational Living: With larger units and a mix of unit types, households of varying sizes and life stages can support one another.
- Common House: The common house can be many things; a gathering space for cooking and sharing meals, a safe hangout spot for children, or a guest room for a visiting relative helping care for an infant. The common house is a space for building community.
- Layers of Privacy & Opportunities for Connection: Porches, the common house, and informal gathering spaces flow across the site to create a spectrum from public to private. This allows people to socialize naturally, and to just as naturally retreat to privacy to recharge. The unit entries are located off of the courtyard to spur impromptu conversations and the kitchen windows face one another to create another point of connection between residents going about their day.