

Development Plan

The type of development planned for the site will be the construction of a water catchment system, no wider than 25 feet. Beyond the water catchment, we will lay no more than 2,000 feet of 8-inch diameter water line through the portion of state land: Meridian: C, Township: 042S, Range: 055E, Section: 25, extending through Lot 15, the easement Lot 15a, and finally to the powerhouse on the tideland of Lot 15. The discharge point will return to the original creek bed to prevent new erosion on the beach. Utilizing the expertise of Aurora Power and Design, the optimal routing of the waterline will reduce the project footprint and maximize efficiency.

This hydropower system will be used both personally and commercially. It will supply power to the cabins I own and operate as short- and long-term rentals, as well as to the town generator system through net metering. From late fall through spring, this system will generate enough power for the town to shut off the generator during maintenance, maintaining uninterrupted power when demand is low enough to supply residents with their needs.

The water catchment system will be constructed in the most efficient location with minimal disruption to the existing creek. The waterline will run adjacent to the creek, where the terrain consists of silt, rock, and brush. During installation, Aurora Power and I will prioritize cleanliness, eco-friendliness, and minimizing terrain impact.

Access to the proposed catchment site and waterline route will be through my property, Lot 15. All materials will be packed on foot to the catchment site and waterline route. Existing trails along most of the creek will assist in packing and determining the optimal route for the waterline.

The powerhouse building will be constructed on the tideland of Lot 15. This structure will be built of wood and likely clad in wood and metal siding, supported by concrete footers. The insulated wooden floor and walls will enhance soundproofing. The powerhouse will house all water turbines, waterline connections, and electrical components/inverters required to convert the creek's energy into usable electricity.

The primary power source for construction activities at the catchment and waterline site will be battery and gas powered equipment. When electricity is necessary it will be available from my cabin on Lot 15, which will serve as the home base for the project.

Waste from this project will primarily consist of scrap building materials, which will be cleaned up and properly disposed of during construction. There will be no hazardous waste associated with this project.

Based on my research and exploration of the site, the best-named water source for this project is Roy's Creek. There will be no parking or storage areas on the site, as Elfin Cove has no vehicles, and no storage is needed on the state parcel, all materials will be stored on Lot 15.

The project will involve three employees from Aurora Power, myself, and two hired electricians. The electricians will focus on the powerhouse and community grid system and will not work on the parcel containing the catchment and waterline.

Long-term maintenance and operation will include daily monitoring of water flow and power output, with routine inspections of the water catchment for damage or debris. The waterline will be checked every other day, or as needed, to address potential hazards and general function.

If the site needs to be decommissioned, all materials and equipment can be repurposed or sold, as they would be in demand for other projects in the Southeast region.

Sketch

This sketch illustrates the layout of the proposed project, emphasizing the key locations and routes involved. The parcel of state land shaded in grey, adjacent to Lot 15 and the easement of Lot 15a are prominently outlined. Key elements are color-coded for clarity:

- **Red markings** indicate the locations of the water catchment system and the powerhouse.
- A **green square** represents the cabin on Lot 15, serving as the project's home base.
- A **blue line** traces the proposed route of the waterline, beginning at the catchment. The route flows through the state parcel, enters Lot 15, traverses the easement on Lot 15a, and terminates at the powerhouse. The waterline then discharges back into the original creek bed to avoid any new erosion.

The curves in the blue line reflect the natural flow of the creek, which winds in an "S" shape through Lot 15 and the easement on Lot 15a. This depiction underscores the project's effort to follow the creek's existing contours, minimizing environmental impact and aligning with the terrain.

