VIKKI - HELSINKI
mikko bonsdorff (left) / kirsti siven (below)

MILL VALLEY STRAW-BALE HOUSE
arkin tilt architects

McKINLEY HOUSE
david hertz architects

“ecological design can be beautiful” - arkin tilt architects

GREEN RESIDENTIAL
BAINBRIDGE HOUSES
miller/hull

^ PARKER RESIDENCE
WRIGHT GUEST HOUSE
james cutler

^ HOODEK/POPE RESIDENCE
V.M.B. EDUCATION CENTER
james cutler

ISLAND CABIN
miller/hull

CHING CABIN
miller/hull

NORTHWEST INFLUENCES
FOURTH FLOOR PLAN
scale: 1/8" = 1'-0"

THIRD FLOOR PLAN
scale: 1/8" = 1'-0"

SECOND FLOOR PLAN
scale: 1/8" = 1'-0"

GROUND FLOOR PLAN
scale: 1/8" = 1'-0"

BASEMENT FLOOR PLAN
scale: 1/8" = 1'-0"
GEOTHERMAL HEAT PUMPS
- install ground source heat pump system, "the most energy-efficient, environmentally clean, and cost-effective space conditioning systems available," according to the environmental protection agency.
- geothermal systems generate no on-site emissions & have the lowest emissions of all heating & cooling systems.
- use desuperheaters during the summer months to convert waste heat for domestic hot water usage.
- can be retrofitted to fit with existing ductwork systems.
- in Portland, gshp’s have been shown to use 35-40% less energy than traditional systems.
- for a successful example of a gshp system in Portland, see the People’s Food Co-op in SE Portland.

REUSE & DECONSTRUCTION
- reuse existing structures where applicable, carefully deconstruct existing pieces to be removed & incorporate all salvageable materials into new design.

NATURAL VENTILATION
- provide cross ventilation in all units to help with summer cooling by embracing Portland’s typical northwest summer winds.

SOLAR ORIENTATION
- maximize ability for sunlight in both the buildings & green spaces.
- implement passive solar design where applicable.

OFFICE SPACE
- provide offices in the common house so residents may work from home.
- clustering of offices allows residents to share amenities, reducing waste and energy use.

SHARED VEHICLES
- designate 2 parking spaces to community "Flex-cars", reducing the need for individual automobiles while promoting more sustainable community living.

PHOTVOLTAICS
- PV panels will be mounted on all south-sloping roofs. These are easily maintained and have a lifespan of at least 20 years.
- South-facing facades will be equipped with attractive sunshades which have PV cells incorporated into the louvers. These can be manually adjusted to allow indirect light into the building of block out the sun's rays while at the same time collecting energy.
- PV cells suspended in double-glazing will provide roofs for the bike parking area and covered walkways. Light is able to pass through to the spaces below and also be absorbed to create solar energy.
- the incorporation of photovoltaic electrical systems will allow for on-site generation of clean, renewable energy. The electricity produced will be shared among all residents and should cut electric bills by 15% annually according to Energy Trust of Oregon. The initial installation costs can be reduced through financial incentives offered by both Energy Trust and the Office of Sustainable Development in Portland.

METAL ROOFING
- incorporate metal roofs into building design to facilitate future collection and reuse of greywater.

BIOSWALES
- make bioswales an integral feature of the site design, capturing all on-site stormwater runoff, allowing it to filter naturally back into the ground.

PERVIOUS PAVING
- all walkways to be mortar-less brick pavers set in a sand base to help control stormwater runoff.