CLAYOQUOT BIOSPHERE CENTRE

VISION FOR THE BIOSPHERE CENTRE

The Biosphere Centre is a place of sharing and learning in and for the Clayoquot Sound Biosphere Region. Attentive to the UNESCO themes of education, science and culture, the Biosphere Centre will be a physical space for convening the region to achieve our shared vision: living sustainably in a healthy ecosystem with a diversified economy and strong, vibrant and united cultures.

We envision a welcoming place and a community space – where residents, visitors and researchers feel equally comfortable, and where scientists and knowledge holders can share their teachings. We picture a community "living room" that brings together people, place and learning.

The Biosphere Centre will be a home for the delivery of the UNESCO Biosphere programs and projects. Just as the Clayoquot Biosphere Trust's governance model has brought together all of the communities in the Biosphere region since being established in 2000, the Biosphere Centre will create opportunities for convening and sharing regionally.

Centrally located, the building will be a place of innovation and experimentation grounded in the traditional Nuu-chah-nulth governance model. The space will be fluid, adapting to our needs as a traditional long house could be adapted to the seasons and activities. The surrounding outdoor space will also be inviting while conveying and displaying CBT values and programs.

CURRENT PARTNERS

Office user groups

- » Clayoquot Carving Club
- » Clayoquot Writer's Group
- » Coastal Family Resources Coalition



- » North Island Ćollege
- » Pacific Rim Hospice Society
- » Visiting education groups
- » Visiting researchers

Regional Programs & Partners

- » Coastal Agriculture Roundtable (partnership with ACRD and linked to Coastal addendum to the Alberni Agricultural Plan 2018)
- » Coastal Family Resource Coalition
- » Eat West Coast (regional food hub)
- » Leadership Vancouver Island
- » Royal Roads University NSERC PromoScience Program
- » University of Washington Tacoma marine water quality monitoring/oceanography
- » Vital Signs, Vital Conversations & Living Wage calculation
- » West Coast NEST (education tourism regional collaboration)

-	TIMELINE+SCHEDULE			M N			
MAR 2020			NOV 2022	MARCH 202	JULY 2023		
PRELI	MINARY CONCEPT DESIGN FOR REZONING	ZONING BYLAW AMENDMENT	SCHEMATIC DESIGN	DESIGN DEVELOPMENT	DOCUMENTATION + DETAILING	CONSTRUCTION	COMPLETION
MASSING/GAMING WORKSHOP CRABDOCK NEIGHBOURS CONSULTATION	NEIGHBOURHOOD OPEN HOSUE PUBLIC OPEN HOSUE PUBLIC OPEN HOUSE CONSULTATION UPDATE NPDATE NPDATE NPDATE UPDAT		COMMUNITY KITCHEN CONSULTATION BIOPHILIA FRAMEVVORK DISCOVERY ELDER'S ROOM VISIONING	PUBLIC OPEN HOUSE YOUTH ENGAGEMENT SESSION	BUIDING PERMIT	TENDER CONSTRUCTION START	PROJECT COMPLETION

HOW HAS THE TEAM ENGAGED THE COMMUNITY?



We would love your feedback! Complete the Clayoquot Biosphere Centre Survey here:





In the fall of 2022, the Clayoquot Biosphere Centre development committee developed a sustainability framework for the project, building off of early discussions lead by MOTIV architects in the visioning and concept work completed in 2020.

The CBT has articulated that the building's sustainability aspirations and achievement must mirror CBT's own values. In evaluating various green building systems, they selected the Living Building Challenge and the team has now confirmed the target of Core Certification.

Six core objectives were articulated as follows:

Core Objectives for the Biosphere Centre	Strategy			
Innovation/ Living Laboratory	 Ecosystem/climate monitoring, sharing resulting data 			
	 Setting an example of best practices for future developments in the region 			
Circular and Regenerative	 Sustainable harvesting of natural materials (water, wind, sun) 			
	 Use recycled+local materials 			
	• Minimize waste			
	 Return resources to the environment and have a positive affect on surroundings 			
	 Positive affect on others health and wellbeing 			
Community and Cultural Confidence	 Utilize local craft and skill in construction and maintenance 			
	 Create a safe harbour, respite spaces for local social concerns 			
	 Acknowledge diversity through space, art, and environment 			
	 Commitment to being a good neighbor 			
	 Investing in social capital and develop system to measure and improve 			
	 Accessibility to all people 			
Minimize Footprint	 Carbon neutrality, zero emissions 			
Education	 Invest in demonstration of passing on knowledge wherever possible 			
	 Create opportunities through storytelling throughout the building 			
Resilience	Flexibility for future uses			
	 Adaptable to climate change 			

WHAT'S NECESSARY FOR THIS BUILDING TO MEET THE REQUIREMENTS OF THE LBC CORE IMPERATIVE CERTIFICATION?

The Living Building Challenge is an attempt to dramatically raise the bar from a paradigm of doing less harm to one in which we view our role as a steward and co-creator of a true living future.

The challenge defines the most advanced measure of sustainability in the built environment today and acts to rapidly diminish the gap between current limits and the end-game positive solutions we seek. The challenge aims to transform how we think about every single act of design and construction as an opportunity to positively impact the greater community of life and the cultural fabric of our human communities.

LBC certification is performance based assessment (measured one year after occupancy) - ensuring that the built project and its operations reflects the sustainability vision of CBT - and that this endure.





The Living Building Challenge is focused on regenerative design in 7 categories or Petals: Place, Water, Energy, Health + Happiness, Material, Equity, Beauty. Each petal has specific imperatives required to achieve core certification detailed and diagrammed as follows:



1-07 ENERGY+CARBON REDUCTION

 \checkmark Reduce net annual energy consumption than comparable buildings

- ✓ Project must meter energy used
- \checkmark New and existing projects must demonstrate 20% reduction in embodied carbon of primary materials



MATERIALS



I-01 RESPONSIBLE MATERIALS

Contains one Declare label product requirement

- 50% of wood products must be FSC, salvaged, or harvested on site (from clearing for construction or in order to preserve ecological function), with the remainder from low risk sources
- \checkmark At least 20% of materials construction budget must come from within 500 kilometers of the site
- Must incorporate one product under Living Product Challenge
- Project diverts 80% of construction waste from landfills.

EQUITY





1-01 ECOLOGY OF PLACE

- Avoid building on untouched greenfield, wilderness, farmland, floodplain, and preserve thriving vibrant ecological environments and habitats
- Thorough documentation of site and community conditions prior to designing, including the ecosystem that would naturally occur in the place of the site
- Demonstrate that the future of the project will contribute positively to the ecology of the site
- Vilize cultural and social equity factors and needs of the community to inform design decisions
- \checkmark No use of petrochemical fertilizers or pesticides in the operation and maintenance of the site

1-04 HUMAN-SCALED LIVING

- \checkmark Build to a human scale that is appropriate for the neighborhood and encourages community gathering
- / Provide safe and weather protected amenities for bike storage and use, as well as meeting the parking requirements for the given transect to encourage public transportation, electric vehicles, biking or walking as methods of arriving to the building

BEAUTY

STORM SYSTEM STORMWATER CAPTURE TANK

105 RESPONSIBLE WATER USE

- No potable water for irrigation, 50% less water overall needs than comparable other buildings
- All stormwater naturally treated onsite



109 HEALTHY INTERIOR ENVIRONMENT

- Meets ashrae 62 ventilation and indoor air requirements, creating an indoor environment that is acceptable to occupants and minimizes adverse health effects
- \checkmark No smoking within building or within 25' of openings.
- ✓ Develop a healthy indoor environment plan specific to buildings type and location
- \checkmark Views to the outside and daylight in 75% regularly occupied spaces
- Direct exhaust for kitchens, bathrooms, janitorial areas



I-17 UNIVERSAL ACCESS

- \checkmark Externally focused exterior spaces to ensure that all people can benefit from the project
- \checkmark Must provide for and enhance the public realm through public art, furniture, and gardens
- ✓ Safeguard access for those with physical disabilities
- The project must not block or diminish access to air quality, sunlight, or waterways and protect neighboring properties from emissions
- \checkmark Shading of adjacent building will not result in negative impacts to those occupants

18 INCLUSION

- Full transparency public assessment requirements for project teams, self assessment for additional organizations throughout all phases of the project
- Diversity requirements met for stakeholders to support vulnerable or disadvantaged populations OR 0.1% of total project cost donated to regional, communitybased nonprofit focused on equity and inclusion



L19 BEAUTY+BIOPHILIA

- Must be designed to include elements that nurture innate human-nature connection through natural shapes, form, light, space, and environmental features and uniquely connects to the place
- Meaningfully integrate public art to celebrate culture, spirit, and place
- Framework includes a record of goals and exploration into the historical, cultural, ecological, and climatic studies that examine the site and context for the project

1-20 EDUCATION AND INSPIRATION

- Must provide a living building challenge case study, annual open day for the public, and a copy of the operations and maintenance manual
- 🗸 Must provide a brochure, website, and signage installed in the building describing the design and environmental features of the project, and project team must include one living future accredited professional



PROPOSED BUILDING SYSTEMS

ART PROGRAM



EXAMPLES



(CORINNE YOUNG)

(FUKUOKA)

(TUHOE NATION)

(DEBORAH SPARROW - MUSQUEAM)

AUDITORY PIECE (JENNIFER PRITCHARD)

(UNKNOWN)







WESTERN SWORD FERN



RAINWATER



CAMPBELL STREET







TIERED LANDSCAPE

MOTIVARCHITECTS INC. 2020-003 - Clayoquot Biosphere Centre











VIEW FROM CAMPBELL STREET - FRONT



VIEW FROM CAMPBELL STREET - LOOKING EAST



MOTIVARCHITECTS INC. 2020-003 - Clayoquot Biosphere Centre



ELDERS ROOM



EDUCATION AND TRAINING SPACE



VISITOR CENTRE / UNESCO BIOSPHERE EXHIBITION





STRUCTURE+MATERIALITY

The structure, cladding and interior panels of the biosphere centre are planned to be wood, drawing from local vernacular materials and methods to firmly root the project in place.

1

Staggered CLT deck with concrete topping

/

CLT+ delta beam deck with concrete topping

Shingled CLT roof

ADZED WOOD - SOURCE: UNKNOWN

SOURCE: CHIMNEY HOUSE BY DEKLEVA GREGORIC ARCHITECTS

SOURCE: VEIERLAND REIULF RAMSTAD ARKITEKTER

SOURCE: BERGENDY COOKE ARCHITECTURE

SHOU SUGI BAN SIDING - SOURCE: UNKNOWN

