ACCELERATING SUSTAINABILITY
Centre for Interactive Research on Sustainability
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FROM REGENERATIVE BUILDINGS TO REGENERATIVE COMMUNITIES

Daniel Pearl, associate professor: School of Architecture, Université de Montréal,

Architect and Co-Founding partner of L’OEUF : L’OFFICE DE L’ÉCLECTISME URBAIN ET FONCTIONNEL) OLIVIER PEARL PODDUBIUK ET ASSOCIÉS ARCH
“The lack of representation of poor and working class people in our public forums is reflected in the wholesale erasure of their narratives from the city history (or its conversion to fictionalized nostalgia) and their neglect at the hands of public and private planners. Housing has to be rethought as a social resource, not simply as a series of opportunities for profit”

from If You Lived Here - Fragments of a Metropolitan Viewpoint, Martha Rosler (1992)
Benny Farm was built in 1947 to house veterans returning from World War Two, embodying the social ideals of the time.
Benny Farm and others: embodying the *social ideals* of the time, really means – invoking LCA and Social LCA, where future generations do not have to inherit technical complications and imbalanced operational costs, *where complexity and resilience replace overspecialization*.
ARCHITECTS, LANDSCAPE ARCHITECTS, MECHANICAL, ELECTRICAL AND CIVIL ENGINEERS, ENERGY SIMULATION EXPERTS, CITY OF MONTREAL OFFICIALS (INCLUDING EXPERTS FROM WATER, WASTE, SOILS, CONSTRUCTION, URBAN DESIGN AND FINANCE), AGENCY FOR ENERGY EFFICIENCY, INVOLVEMENT FROM THE NET ZERO (EQUILIBRIUM) CMHC HOUSING INITIATIVE, GRT (TECHNICAL RESOURCE GROUP), OTHER LOCAL NON-PROFIT HOUSING DEVELOPERS, HYDRO QUEBEC, ENERGY EFFICIENCY FUND OF QUEBEC AND THE QUEBEC HOUSING AGENCY

ATELIER D’HABITATION SAINÉ
OBUL UN TOIT POUR TOUS / COOP COTEAU VERT

IDP : INTEGRATED DESIGN PROCESS / A CHARETTE FOR A PILOT PROJECT INITIATIVE

HEALTH ENERGY RESOURCE ENVIRONMENT AFFORDABILITY
PILOT PROJECTS:
ATTEMPTING TO NEGOTIATE AN EQUILIBRIUM BETWEEN A MINIMIZED ECOLOGICAL FOOTPRINT AND THE MAXIMUM CARRYING CAPACITY
THE UEAB ECO-SYSTEMIC MODEL (director Salvador Rueda)

METABOLISM OF URBAN ORGANISATION BASED ON 4 PRINCIPLES

COMPACTNESS  COMPLEXITY  EFFICIENCY  STABILITY
Complexity (H)

Is about the organisation of the city and the interaction between people and activities in public space. It includes:

1. Diversity of economical and social activities
2. Diversity of people
3. Proximity between people and activities
Metabolism / Efficiency

Is about system of basic needs of cities: water, energy, waste and natural resources. It include:

1. Low consumption and alternative energy system
2. Low impact management of water system
3. Waste segregation
4. Composting of organic waste
5. Minimum impact on all natural resources
THE UEAB METHODOLOGY

INDICATORS

DENSITY & MORPHOLOGY
- Housing density
- Absolute compactness
- Weighted compactness
- Adjusted weighted compactness

PUBLIC SPACE & COMFORT
- Distribution of public streets
- Weighted living public spaces
- Accessibility to walkable streets
- Accessibility to private spaces
- Open space inside parcel
- Thermal comfort & shadow
- Acoustic comfort

MOBILITY & SERVICES
- Proximity of public transport stops
- Proximity of bike path
- Bike parking space
- Car parking space
- Urban distribution of merchandise
- Technical infrastructures

URBAN ORGANISATION
- Urban complexity (uses and activities diversity)
- Distribution between business and residential
- Local services and activities
- High level knowledge services and activities
- Dimensions of business on the ground floor
- Level of streets interaction

BIODIVERSITY
- Green spaces proximity
- Ground permeability
- Trees location in public spaces
- Green urban corridors proximity
- Green cover

METABOLISM
- In situ energy production
- Self-sufficiency water
- Waste sorting and collection
- Domestic organic matter collection
- Proximity of recuperation center
- Proximity of basic infrastructures and services
- Subsidized housing

ISSUES

PRINCIPLES

COMPACTNESS

COMPLEXITY

EFFICIENCY

STABILITY

SOCIAL COHESION
RECONCILING SUSTAINABILITY AND CONSERVATION: REVISITING THE “SOCIO-CULTURAL, SOCIO-ECONOMIC AND THE ECOLOGICAL” AT TWO VASTLY DIFFERENT SCALES
Proposal by L’OEUF in collaboration with NIP paysage & Community Land Trust Benny Farm
ENVIRONMENTAL

Proposal by L’OEUF in collaboration with Community Land Trust Benny Farm
IDP (Integrated Design Process) Partnerships

Groupe de Travail de Benny Farm Communit Consultants Community Members

L'ŒUF Architects

GEBF Political Partnership

VDM City of Montreal Green municipal fund

CLC Canada Lands Corporation

CMHC Canada Mortgage and Housing Corporation

COOP ZOO HCNDG COOP Chez Soi

Green Energy Benny Farm clients & users

GEBF Community Partnership

GEBF Consultants

L'ŒUF Architects

Saia Barbarese Topouzanov Master Plan

MRA Martin Roy Assoc. mechanical

CDH Conseil en Développement de l'Habitation

CDEC Corporation de Développement Économique et Communautaire
green building strategies

building facilities
- green roof
- new buildings
- re-used brick

energy services
- radiant heating and cooling
- evacuated tube solar panels
- geothermal recharge and hot water
- heat recovery
  - HRV and GFX

geothermal / solar
- solar preheating
- geothermal well system

water services
- storm water retention
- percolation beds and landscaping
- grey water collection and re-use

Resilience & Future-Proofing

overview of building strategy
Process for Dismantling, Cleaning and Re-using the Original Masonry

1. démolition
   les briques sont démontées d’un bâtiment dans le cadre de la rénovation de son enveloppe ou de sa démolition

2. tri
   les briques sont triées en différentes catégories : bonne, douteuse et inutilisable

3. nettoyage et empaillage
   les briques sont préparées pour leur utilisation dans la construction d’une nouvelle enveloppe

4. réutilisation
   les briques sont utilisées dans la construction d’enveloppes rénovées et neuves

le cycle continue
les briques démontées du projet commencent leur cycle de réutilisation afin d’être utilisées dans un nouveau projet

amélioration à la structure
afin de supporter le poids du toit vert
ZOO & HCNDG : poutre d’acier
HCNDG rénovation : poutre de bois
Chez Soi : béton

enveloppe haute performance
recherche de la SCHL
mise en pratique à Chez Soi