



THE UNIVERSITY OF
WINNIPEG

Faculty of Business
and Economics

Research Centre on Cooperative Enterprises

Bannerman Green Housing Co-op: The Journey Towards the Development of a Neighbourhood Housing Cooperative

May 2025 | By Dudley Thompson

Winnipeg, Manitoba



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Dudley is Principle in Dudley Thompson Consultancy - a consulting firm focusing on Sustainable Community, Regenerative Architecture, Advocacy, Stakeholder Engagement and Climate Change Mitigation. He works in Winnipeg for a variety of Corporate and Not-for-Profit clients. He was a founding principal of Prairie Architects Inc. in 1981 and has practiced as an architect in Manitoba since 1976. He holds a Bachelor of Environmental Studies degree from the University of Manitoba and a graduate degree in Architecture from the University of Toronto. Dudley sold the practice in 2017 to four senior staff members and the firm continues to thrive in Winnipeg.

Dudley nurtured Prairie as an architectural firm that was committed at its roots to sustainability, stakeholder participation in design and building community. Prairie demonstrated this commitment to Sustainable Buildings with an integrated staff of building scientists with a majority of staff members that were LEED accredited. Prairie designed and certified over 30 LEED buildings under Dudley's leadership including Manitoba's first LEED GOLD Building, Mountain Equipment Co-op and several LEED Platinum projects including Amber Trails School. In addition, Prairie was the Professional Advisor to Manitoba Hydro and lead the Collective Design Process for the \$260m Manitoba Hydro Place project as well undertaking the LEED certification for the Platinum building. In his 35 years of practice, Dudley guided Prairie Architects Inc. as an Integrated Design Process Facilitator on numerous projects, including the regeneration of dozens of historic buildings, the renewal of many urban sites, the creation of many First Nation projects as well as a wide variety of residential, community and educational projects. Mr. Thompson is currently on the Board of Directors of Efficiency Manitoba, Oxfam Canada and Sustainable Building Manitoba. He has served on the Board of Directors of Manitoba Hydro and was chairperson of the non-profit Winnipeg Housing and Rehab Corporation. In 2014, he received a Lifetime Achievement Award from Canada Green Building Council, Manitoba Chapter, "For his visionary leadership, and his outstanding personal and professional commitment to advancing sustainable building practices in Manitoba." He also received a Fellowship in the Royal Architectural Institute of Canada in 2016. He lives in Winnipeg with his wife, two sons and families

A big thank you to Dudley Thompson for allowing us to host his paper on our Research Centre for Cooperative Enterprises' site. The Bannerman Green Housing Co-op involved so many passionate people who endeavored a very long process to attempt to deliver a small housing co-op to North Winnipeg. Dudley's thoughtful paper shares so many insights into the delights and the barriers in the process they went through and is a great resource for others to learn from as we all continue on the co-op movement.

Sara Penner, PhD
Director, Research Centre on Co-operative Enterprises
University of Winnipeg

**THE JOURNEY TOWARDS THE
DEVELOPMENT OF A NEIGHBOURHOOD
HOUSING CO-OPERATIVE:
A CASE STUDY**



BANNERMAN GREEN HOUSING CO-OP INC.

WINNIPEG MANITOBA

MAY 2025

TABLE OF CONTENTS



PART ONE: Reflection	Page 2
PART TWO: Overview	Page 3
PART THREE: Vision	Page 5
PART FOUR: The Journey	Page 7
Phase 1: 2020 - Start-up	
Phase 2: 2021 - PDF Submissions and Consultants	
Phase 3: 2022 - Schematic Design	
Phase 4: 2023 - Design Development	
Phase 5: 2024 - Class B & Submissions	
Phase 6: 2025 - Conclusion	
PART FIVE: Strengths	Page 46
PART SIX: Challenges	Page 47
PART SEVEN: Lessons Learned	Page 48
PART EIGHT: Finances	Page 50
PART NINE: Appreciation	Page 54

PART ONE: Reflection

Bannerman Green Housing Co-op (BGHC) was initiated with an ambitious vision to create a sustainable, inclusive, and community-focused co-op housing model in Winnipeg's North End. The project aimed to establish a scattered multi-site co-operative housing development that embraced rigorous sustainability standards including net-zero energy, zero carbon, Passive House, and Living Building Challenge certifications. BGHC sought to offer a hybrid model of affordable and market-value housing units, integrating principles of equity, diversity, inclusion, and accessibility while prioritizing Indigenous engagement and reconciliation.

The aerial image below and on the cover is the result of our quest. It shows a compact 3-storey urban building on a corner lot in a mature community. The view is from the southeast looking into a glazed community common room with an outdoor south-facing terrace onto the lane and an east entrance into the building. An enlarged boulevard provides traffic calming with added garden and green space. A co-op car sits on one of six permeated paving spaces and a common garden faces south. An interior elevator provides full accessibility to all 13 suites. The drawing shows the extra thick walls and southern green roof overhangs that is part of the PassiveHouse certification. The roof shows an array of solar photovoltaic panels that sit on top of a green roof. In the distance on St Cross Street there is a hint of the deep-retrofit to the nearby home as part of the scattered housing co-op concept. This was the dream to create a deeply sustainable infill project in a mature community



The co-op held 45 monthly member meetings and dozens of sub-committee meetings over this time period. Tens of thousands of volunteer hours were logged by many of the 100+ co-op members. Thousands of documents, drawings, charts, financial spreadsheets and emails document the journey and the details of the project. In addition, thousands of hours were expended by our very dedicated consultant team members – much of this time was contributed beyond the professional contracts due to a commitment in the spirit of the project.

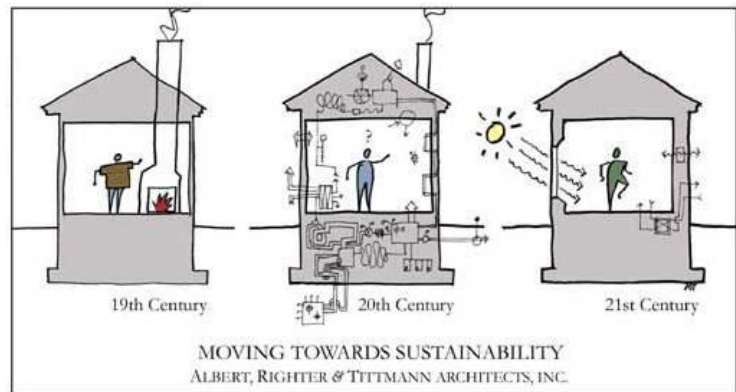
In the end, due to a variety of circumstances which we will identify in this report, the members of the co-op decided in early 2025 not to continue with the project. This document is the story of the journey from vision to a shovel ready project. We have undertaken this rather exhaustive analysis to demonstrate the extent of the work undertaken, the commitment and passion of the co-op members and to provide a case study for others to learn from our journey.

PART TWO: Overview

A net-zero energy and zero carbon, diverse and accessible urban housing co-operative.

Concept:

Bannerman Green Housing Co-op is intended to provide a unique contribution to the massive transformation that society urgently requires over the next 20 years in the area of sustainable, affordable, urban housing. What is needed are bold, integrated and verifiable examples of how existing neighbourhoods in every city can be retrofitted. It has often been said that 80% of the useable building infrastructure that will still be functioning in 2050, is standing today. Our mature neighbourhoods need to be infilled and our existing homes need to be deeply retrofitted. To date, Winnipeg and much of Canada have few comprehensive sustainable residential infill and retrofit demonstration projects. We need projects like Bannerman Green Housing Co-op Inc. (BGHC) where innovation will be focused on emerging technologies that have a proven track record. Key to this innovation is a commitment to transparent metrics that demonstrate actual costs and benefits of resilience in energy, water, carbon, food production, community health and affordability. BGHC is an innovative and audacious project. It is innovative on many levels including strengthening inner-city neighbourhoods, upgrading existing housing that will be affordable and sustainable for residents well into the future.



Features:

- **INFILL** - we are proposing retrofitting existing housing on tight inner-city neighbourhood lots
- **NORTH WINNIPEG** – located in Winnipeg’ North End; lower property values and lower affordable housing rates
- **ACCESSIBLE** –100% accessibility to all units so that every resident can age in place
- **MIXED COMMUNITY** – 60% Market, 40% Affordable housing with half of these deeply affordable
- **DURABLE AND AFFORDABLE** – ultra low energy to provide affordable life-cycle costs
- **INNOVATION** - factory-built housing modules, social enterprise builders, new scattered models for urban co-ops
- **ZERO CARBON** – zero gas and low embodied carbon in our materials selection
- **NET-ZERO ENERGY** – ultra-low energy demand coupled with geothermal, air-source heat pumps and solar
- **METRICS** – third-party certification and metrics for energy costs to ensure objective and verifiable results

Details: The co-op has the following details:

- **Membership:** 110 members mostly from north and central Winnipeg
- **Location:** vacant lot at 64 Bannerman and St Cross + other sites assigned in city
- **Type:** a scattered housing co-op: consisting of a new small three-storey building constructed on vacant land + two or more nearby existing homes on corner lots upgraded with additions.
- **Size:** New 12 unit building + 2- 6 unit retrofit/additions for a total of 24 units
- **History:** land purchased for the co-op in 2019; monthly meetings started summer 2020; formal incorporation 2021; successfully raised \$708,000 from six funders for pre-development funding in 2020-21; Co-op consultant hired; architects and engineering consultants hired in 2022; design schematics compiled in 2022-23; ongoing community consultation held in neighbourhood; ongoing

sustainability consultations; construction pricing by Construction Manager, submissions to funding agents.

- **Certifications:** Passive House Canada and Living Building Challenge third party certifications
- **Status:** Class B drawings complete July 5, 2024; Class B construction costs complete August 16/24
- **Social Housing:** letters of support and commitment to embed 4 households from the following organizations: IRCOM, Kinew Housing, New Journey's Housing, Mennonite Central Committee and Independent Living Resource Centre
- **Capital Funding Submissions:** submissions include: Federal Government Accelerator Fund and City of Winnipeg Affordable Housing NOW, July 15, 2024 and for mortgage funding and grants to Co-op Housing Development Program (CHDP) and Federation of Canadian Municipalities (FCM) Sustainable and Affordable Housing September 1/24.
- **Metrics:** energy models on current designs indicate that 64 Bannerman complies with PassiveHouse certification with a rating of 17GJ total energy /year compared to 170GJ for typical new home.

Funding Submissions:

Total Capital budget is estimated at \$16.2 million with a current list of potential funding submissions that identify the current status of the funding as of September 2024:

No	Program	Funder	Request	Status
1	Co-op Housing Development Program Loan	Canada	\$4,931,925	Submitted
2	Federation of Canadian Municipalities Grant	Canada	1,800,000	Submitted
3	Accelerator Fund Grant	Canada	910,000	Submitted
4	Affordable Housing NOW – TIF operating grant	Winnipeg	780,000*	Submitted
5	Efficiency Manitoba New Homes Grant	Manitoba	350,000	Pending
6	Manitoba rental housing tax credit Grant	Manitoba	266,000	Pending
7	Pre-Development Funds (incl loans)	Various	508,249	Confirmed
8	Misc Grants/ Owners contribution /Sponsor	Co-op	576,442	Pending
9	Manitoba Housing	Manitoba	780,000	Pending
10	Manitoba Low Carbon Economy Leadership	Manitoba	350,000	Pending
11	CHDP repayable loan (mortgage)	Canada	4,530,075	Submitted
12	FCM mortgage	Canada	1,200,000	Submitted
	TOTAL (*not included in total capital)		\$16,202,610	

Conclusions:

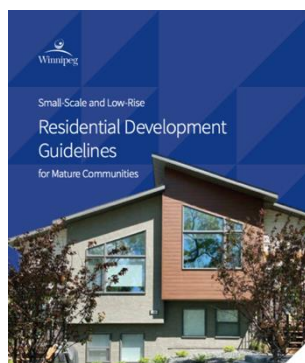
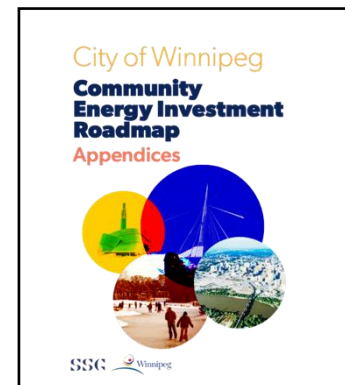
We hope that the spirit and commitment of BGHC can provide valuable insights for other housing projects. The doubling of construction costs due to COVID and subsequent inflationary pressures, the threat of the imposition of protective tariffs, the reversal of resolve by governments to fight climate change and the alarming increase in homelessness has shifted political priorities away from deeply sustainable housing projects. We need to continue to work with others to find ways to retrofit our urban neighbourhoods as a key component to address the urgency of our global climate emergency.

PART THREE: Vision



The vision for the BGHC project was inspired by a variety of sources that came together in 2019 with the purchase of a parcel of vacant land in the heart of our community. The threads of the vision were knitted together with a visceral concern for action to transform our existing urban communities to net-zero by 2050. We heard the dire warnings of a Code Red for Humanity and also the Clear Call for Action. We wanted to roll up our sleeves and build undertake a small prototype for change.

“Starting in 2022, retrofit 100% of all existing dwellings built before 1980 by 2035, in order to improve thermal and electrical efficiency by 50%. Starting in 2035, retrofit 100% of all remaining buildings by 2050, to improve thermal and electrical efficiency by 50%”
CIER page 54 June 2022



At the same time, there were progressive actions by our city planners who were implementing policies that would add density and make our existing mature neighbourhoods more sustainable. In January 2021, the City of Winnipeg issued the Residential Development Guidelines for Infill Housing. In early 2022, the City released the Community Energy Investment Roadmap (CEIR) report that provided a robust cost/benefit analysis demonstrating why early sustainable actions by the City would result in long-term paybacks in health, employment and the long-term economy.

But more locally, a key motivator that directed us along this sustainable urban pathway was a commitment to our neighbourhood. We wanted to provide new life to the mature area and create a new sustainable community home for many residents who wanted to continue to live in the neighbourhood. We believed there were a number of reasons why it made sense to try and develop **a zero-carbon urban housing co-operative:**

1. Contribute locally to mitigating the climate emergency
2. Increase urban density that lowers carbon
3. Stabilize long-term housing costs – remove speculation
4. Demonstrate alternatives for other communities
5. Continue to build community with neighbors
6. Increase affordability over time
7. Provide a creative and fulfilling challenge

PART FOUR: The Journey

PHASE 1: 2020 - START- UP

- 1.1 Beginnings:** The journey began many years ago as residents on walks in the St John's neighbourhood talked with local friends and neighbours about wanting to stay in the community when the kids left and the family house was too big. It was clear that most did not want to move to the suburbs in 'retirement living' projects – away from a comfortable neighbourhood, local shops, coffee houses, parks and good friends. With very few apartments or condominiums in the area, many residents were attracted to the idea of a new accessible energy-efficient option.
- 1.2 The Land:** Then one day just before Christmas 2019, on a random walk with their dog, residents saw a 'For Sale' sign on a parcel of long-vacant land in the heart of the neighbourhood. They called the agent to find that the sign had been up for 3 hours and already four people had submitted offers. A quick decision was made by the couple to submit an offer and by ten o'clock that evening, the land had been purchased by a local resident couple over eight other offers.
- 1.3 Conversations:** The seed of the housing project was planted. Gradually over the spring and summer of 2020, many conversations were held in local backyards to talk about possible directions for the land. The COVID 19 pandemic had started in March and most gatherings were held outdoors. We met with City Planners and determined that the land was zoned for up to 12 suites. It started to become clear that the creation of a housing co-op might be a good solution for the land. The first meeting of the co-op was held in St. John's Park on Wednesday, August 5, 2020 with about 25 people attending. The open-air meeting was determined due to COVID restrictions on indoor meetings. The intent of the meeting was to see if there was commitment for a housing co-op, to talk about the concept of co-operatives and to discuss possible next steps.



1.4 Project Charter: Over the summer of 2020, the group expanded its membership, held monthly outside meetings, settled on the name of Bannerman Green Not-for-Profit Housing Co-op Inc. (BGHC), registered the incorporation of the co-op, set up a website, established a contract with a co-op housing developer, formalized membership applications, obtained a bank account, established sub-committees, toured a new housing co-op in the city and started to define a project charter:

Project Charter:

1. Sustainability: To create a supportive residential environment in North Winnipeg that demonstrates how to live lightly on the planet incorporating the highest standards of sustainability and resilience with a commitment to a “climate positive” building with third-party certifications demonstrating net zero energy and zero-carbon production, along with resilience in water, active transportation, food production and sustainable materials.

2. Beauty: Through an inclusive design process to create a place of beauty, simplicity and wholeness that fits comfortably into the neighbourhood and reflects the history, natural setting, character and spirit of the wider community.

3. Diversity: To build mixed and integrated housing that embraces diversity in all its manifestations and includes residents of different ages, economic backgrounds, gender, family sizes and cultures.

4. Accessibility: To provide accessible and barrier-free access throughout the building ensuring a safe, dignified and welcoming environment for residents and visitors of all abilities.

5. Stability: To ensure governance of the co-op by a not-for-profit board comprised of residents that will provide stable rents and operating costs and provide local control long into the future.

6. Cost-effectiveness: To target cost-effective construction while not compromising possible additional costs for the commitment to a net-zero goal.

7. Consensual decision-making: To base co-op decisions on a respectful consensus model as defined in our by-laws. To arrive at decisions in a way which is respectful, inclusive, and as informal as possible.

1.5 Co-op Model: In the fall of 2020, BGHC reviewed potential sustainable certifications including PassiveHouse, Living Building Challenge and LEED and undertook a land survey of the property. Early on, the Co-op Developer suggested that the co-op as envisioned with 12 units on the vacant land was too small. It was decided to pursue a scattered housing co-op model that would look to re-develop a number of houses in the area to incorporate into BGHC. We prepared a brochure and dropped it at over 150 nearby homes to let them know about the potential housing co-op and invite them to a series of meetings. The Co-op Housing Developer prepared a draft business plan assuming a hybrid housing co-op model where 40% of the units would be Affordable and 60% would be Market suites. The approach was based on the model accepted by CMHC for Old Grace Housing Co-op Inc. – a recently completed 60-unit co-op in the west end of Winnipeg. The Market units would have a share purchase price between \$100,000 and \$150,000 for 1,2 and 3 bedrooms with full market rents. Affordable units would have a share price of \$1000 and would be priced at 80% of market rates.



1.6 Collective Design Process: In September 2020, retired architect, Dudley Thompson, volunteered to lead the group through a series of sessions on a Collective Design Process to start to establish some generic design ideas for the co-op. The intent of this process was to develop conceptual sketches for the project that would be used in requests for funding from different government programs. We realized that it would be to our advantage in funding submissions to have concrete schematics to demonstrate our commitment to a sustainable vision. To that end, we engaged in a process to determine the vision of the co-op members. The process involved a series of graphic schematic options on many topics all done on several ZOOM calls with co-op members.

**COLLECTIVE DESIGN PROCESS
FOR
BANNERMAN GREEN
NOT-FOR-PROFIT HOUSING CO-OPERATIVE INC.
Winnipeg, Manitoba**



September 2020

Dudley Thompson Consultancy

sustainable community regenerative architecture advocacy stakeholder engagement climate change mitigation
61 Scotia Street • Winnipeg Manitoba R2W 3W6 • 204.793.1781

BANNERMAN GREEN NOT-FOR-PROFIT HOUSING CO-OP INC.

1. Core Priorities: (WS 0)

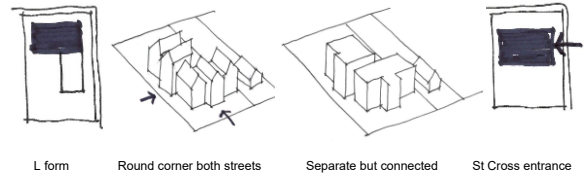
- ☐ A building form that fits seamlessly into the neighbourhood
- ☐ Sustainability and resilient net-zero energy operation and construction
- ☐ Gardens as centerpiece for the co-operative
- ☐ Central common room for community events near the entrance
- ☐ Car share to help replace private cars

2. Connection to the Community: (WS 1 and 4)

- ☐ Connection to the school and kids walking to school down St Cross
- ☐ Plaza area related to front door of building to connect with neighbourhood
- ☐ North Winnipeg Parkway key for bikes and walks

3. Density and Form: (WS 2-5, 9)

- ☐ Overwhelming support for L shape form with one wing of L along St Cross
- ☐ Garden and open space to west adjacent to neighbor and open to sun
- ☐ Main entrance to building along St Cross for access to street parking
- ☐ Building form preferred rounding corner with front on both Bannerman and St Cross
- ☐ Separate but connected building appearance



4. Transportation: (WS 6-8)

- ☐ Reducing cars on site becomes possible with good bike storage, transit eco-pass options
- ☐ Key to a parking reduction is a car share vehicle parked on site
- ☐ Most flexible parking solution is to determine minimum number of spaces required by code and investigate available off-site rental spaces
- ☐ Final parking spaces will be determined later by actual member car requirement with a maximum approximately 7 cars + car share. Remainder to be parked off-site.

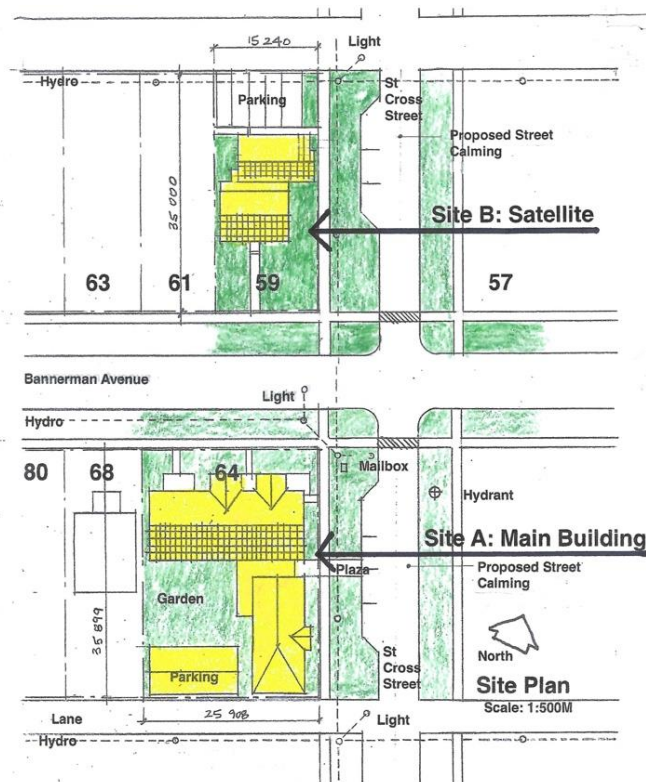


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1.7 Conceptual Design Proposal: Between the completion of the Collective Design Process and the end of the year, the group worked feverishly to gather together the comprehensive data required to submit a formal application for CMHC for pre-development funding. While the Co-op Housing Developer prepared pro-forma budgets, other members gathered reference letters from the City of Winnipeg. Meanwhile, the architect member worked pro-bono to prepare sketches of generic floor plans and elevations resulting from the group CDP – see below. We were confident that we had a comprehensive vision for what was required in urban sustainable infill housing, but were not at all certain if funding bodies would be interested in our model. We targeted about six months to raise a good portion of the funds and set about the arduous task of completing application forms, financial pro-forma and associated graphics and drawings. The first application for pre-development funding was submitted to CMHC on December 31, 2020.

Conceptual Design Proposal





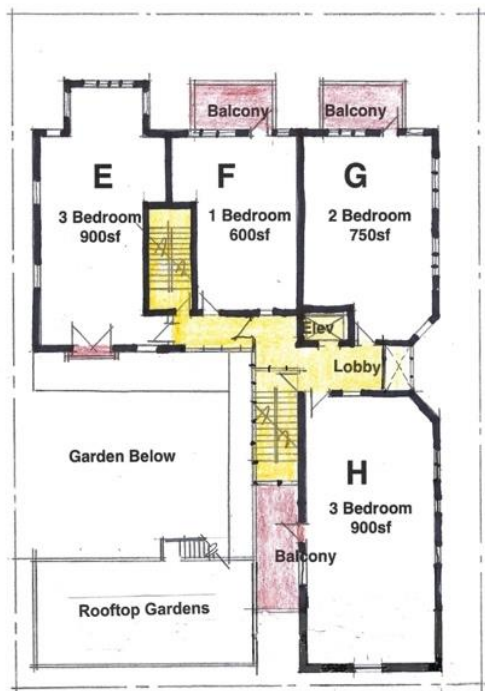
Bannerman Green Housing Co-op Inc.

Net-Zero Deep Retrofit & New Addition
59 Bannerman Street Winnipeg
Proposed Front Elevation

FEATURES OF CONCEPTUAL DESIGN

- Main entrance from the east
- Common room off the main floor at entrance
- One 4-bed suite+ storage/mech in basement
- One exterior and one interior exit stair
- Elongated L-shape plan along St Cross
- Four suites on levels 2 and 3
- Exterior balconies to all suites
- Parking for 5 cars along lane in carport
- Steep pitched gabled roof for south solar panels
- Gables and separate entrance doors along Bannerman

A7



Second Floor Plan

Scale: 1:200M

Bannerman Green Not-for-Profit Housing Co-op Inc.
Proposed Development 64 Bannerman Avenue Winnipeg

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PHASE 2: 2021 – PDF SUBMISSIONS and CONSULTANTS

2.1 Organization: We started 2021 with approximately 40 paid members of the co-op and met every month on ZOOM due to the continuing COVID alerts about meeting in confined spaces. While we waited on a response to our CMHC funding application, we started to get organized as a formal co-op. At the direction of our Co-op Developer (DSI Tandem Inc.), we established sub-committees and began to draft co-op by-laws and policies for ownership of land and buildings. We directed the Co-op Developer to start preparing a preliminary business plan with proforma budgets and a needs survey.

2.2 Expanded Properties: Early on, we realized that a 12-unit co-op was not viable and we started to investigate options for acquiring additional properties. The concept of a scattered housing co-op was explored and we set about to locate additional properties for the co-op. Immediately one of the co-op members volunteered to use her home across the street from the vacant land at 59 Bannerman to become a part of the overall project. This was enthusiastically accepted. We recognized that we did not have access to cash to purchase land or buildings, so looked for local church-owned land. In the spring we found a potential vacant site at 66 St. Cross located along the river that was owned by the local Anglican Cathedral. We met several times with the Board of the Church and they were open to lease us the land for an additional 10 units. In the end, the land had a heritage designation and was not available for housing. We explored another larger parcel of land for approximately 20 units at 12 Fowler that was owned by the Ukrainian Orthodox Church, met with their property committee and submitted a formal offer to purchase the lands. In the end, the church was not interested in selling the land.

2.3 Pre-Development Funding Submissions: The next steps were focused on raising Pre-Development Funding (PDF). We had worked with the Co-op Developer to determine that the co-op would require approximately \$350,000 in start-up funds before we could engage architects and consultants and complete a design package ready for mortgage loan approvals. At the time, only CMHC and FCM were available as possible funding opportunities. But as time went on, other funding agencies were discovered. We worked diligently to submit a variety of PDF proposals to a number of available funders. We were aware that we would not be able to proceed to hire any consultants and move ahead fully with the project until we had a serious commitment from funders. As is evident by the chart below, the funding approvals were slow and uncoordinated. We received only \$20,000 from CMHC instead of the \$120,000 requested. However, the accreditation by CMHC proved to be an important affirmation of the project and a gateway to other grants. As a result, after a full year of submissions in 2021, we only had approval of \$96,000. The following is the list of the proposals submitted and the eventual pre-development funding that was committed to the project:

NO	FUNDER	SUBMITTED	RECEIVED	WEEKS	AMOUNT
1.	CMHC Seed	Dec 30, 2020	Feb 18, 2021	6	\$21,400
2.	Community Housing Transformation Centre – Montreal	May 11, 2021	Sept 28, 2021	18	\$75,000
3.	Efficiency Manitoba - Innovation Fund	Nov 3, 2021	Feb 25, 2022	14	\$208,250
4.	McConnell Foundation	July 6, 2022	Oct 27, 2022	14	\$200,000
5.	Manitoba Housing PDF	Sept 17, 2022	Feb 24, 2023	22	\$75,000
6.	Federation of Canadian Municipalities	Nov 15, 2021	April 18, 2023	92	\$157,200
7.	CMHC Top-up	Nov 28, 2022	Ap 24, 2023	20	\$44,700
	Total				\$781,550

2.4 Pre-Development Application: In January we submitted a Pre-Development Planning Application to the City of Winnipeg in order to be assured that the project would meet city planning by-laws, zoning and urban design criteria. In April we received a very positive and encouraging response from the District Planner approving the reduction in required parking to five spaces.

2.5 Neighbourhood Outreach: Over the winter we prepared another brochure and dropped at 1000 local neighbourhood homes. The flyer outlined the evolution of the co-op and invited new members to attend our online meetings. Several co-op members also started a website to provide meeting minutes and information to the community. Also, we presented the co-op concepts at a meeting of the local resident's committee and a meeting open to the community was held in person on the site in September.

2.6 Project Cost Estimates: With the initial CMHC funds, we were able to hire a Quantity Surveyor to undertake a Class C construction cost analysis of the project to provide initial guidance as to the feasibility of the project. We received the completed review in August 2021 with a capital cost of \$4.2 million for the 64 Bannerman Site (12 units) and \$1.8 for the 59 Bannerman retrofit (5 units). Based on these estimates, DSI Tandem Co-op Resources prepared an initial Business Plan and project pro-forma showing required capital grants, loans and operating costs.

CLASS D CONSTRUCTION COST ESTIMATES – POSTMA: AUGUST 4, 2021.

	64 BANNERMAN	59 BANNERMAN	143 MACHRAY*	TOTAL PROJECT
Number Units	12	6	6	24
Area sf	12,700	5,700	5,700	24,100
Direct Costs	\$3,608,709	\$1,527,018	\$1,527,018	\$6,662,745
General Conditions, Contingency, Fees	\$633,517	\$255,393	\$255,393	\$1,114,303
Class C Cost	\$4,212,226	\$1,782,411	\$1,782,411	\$7,777,048
Unit Costs	\$331.67	\$312.70	\$312.70	\$322.70
Per Unit Cost	\$351,018	\$297,068	\$297,068	\$324,043

*Costs for 143 Machray pro-rated as not acquired in project at this time

2.7 Additional Funding Submissions: When we started, we didn't have a full understanding of a pathway to raise the estimated funding for the pre-development phase of the project. We didn't even know if there would be funding at all for the project. Some funders had relatively straight-forward application forms and efficient turn-around times. Others like FCM, had very complex applications and extremely long approval schedules. Efficiency Manitoba announced their Innovation Grant in the summer of 2021 and we were one of the first grants submitted. By the end of 2021, we were becoming confident that we would be approved for this grant and therefore felt that we could start a process to hire design consultants.

2.8 Architect and Consultants RFP: Starting in the fall 2021, the co-op formed a sub-committee to start the process to hire consultants. The group investigated websites of architects they thought might be appropriate for the project, especially as related to completed highly- sustainable projects. The RFP was developed by the group and included the proforma and QS costs, schematic designs, Collective Design Process and a list of aspirational third-party certification tools. Six architects were selected and an RFP was issued with submissions accepted until November 9. The sub-committee interviewed a short list of three architects and Prairie Architects Inc. was selected in mid-November the unanimous choice due to their high scoring on the selection matrix, their extensive sustainable project list and reasonable professional fee. A preliminary meeting was conducted with Prairie before the end of the year and an RFP for

engineering consultants was reviewed and sent by the Architect to prospective engineering firms with a submission date in early 2022.

PHASE 3: 2022 – SCHEMATIC DESIGN

- 3.1 Waiting:** At the start of 2022, the co-op had not received sufficient funds to fully engage the design team in the project. However, the architect agreed to proceed on a limited basis until we had sufficient confidence to enter into a formal Client-Architect Agreement. The formal contract was signed in June.
- 3.2 Architect and Start-up:** All consultants were hired on the basis of the co-op proving a maximum of 25% of their professional fees for drawings and specifications to a Class C level. It was part of the RFP that the remainder of their fees would come from the first construction draw. This enabled the co-op to fully engage with the consultant team under reasonable Pre-Development Funds. In February 2022, we received confirmation of the Efficiency Manitoba Innovation grant and were able to proceed to enter into a formal consultant contract with the architects.
- 3.3 Additional Consultants:** Once hired, the architects proceeded to issue RFP documents for engineering consultants, landscape architects, a Geothermal consultant, a Passive House consultant and a Construction Manager. BGHC was part of the selection process and worked together with the architects to suggest potential consultants, review submissions and attend interviews and select winning submissions. By early spring most consultants had been hired as part of the team.

prairie
architects inc.

RDH BUILDING
SCIENCE

SMS
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PERFORMANCE Inc.

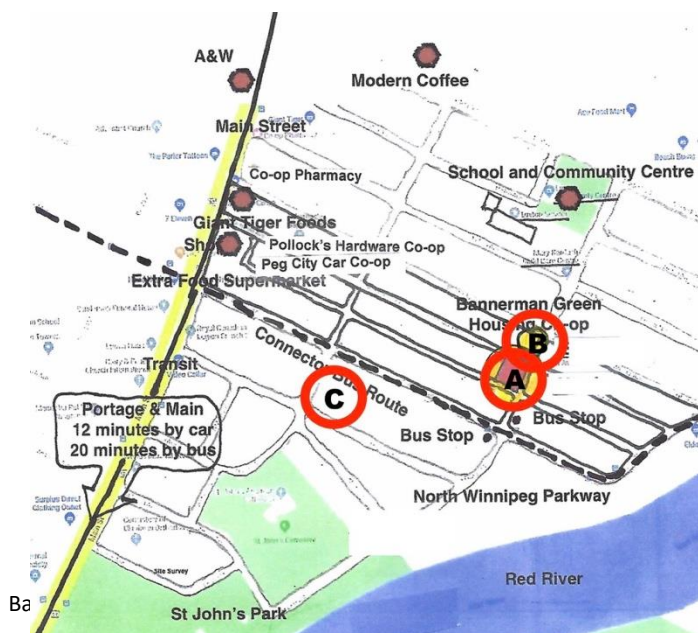


3.4 Third Party Certifications: In early March Prairie convened a workshop to review options to support the commitment of the co-op to attain third party certifications for the project. A number of certifications were reviewed including LEED for Homes; PassiveHouse; Zero-Carbon Building Standard; Living Building Challenge. Each area was discussed with the consultant team and sustainability experts with Prairie Architects. It was agreed to focus on PH and LBC and to not pursue LfH. The proposed consultants for PassiveHouse presented a scope of work to BGHC. We also decided to pursue these certifications only on the vacant site, not on deep retrofits.



3.5 Integrated Design Process: The project was organized around a series of IDP sessions. Six IDP sessions were established from the start with a commitment for all consultants to attend each day-long design review. The intent was to involve all consultants on all issues in order to evolve a truly sustainable solution. The first IDP was held on April 26th with all consultants and client representatives present. There was an overall presentation by the architect and client that stressed the sustainable objectives and metrics, explored the site locations, reviewed suite plans, zoning opportunities and schematics to date. The architect then formally started the design process with the consultant teams.

3.6 Creative Scattered Housing: The co-op was not able to secure additional land or housing units due to a lack of funds for purchase. One day it occurred to us that we had potential partners all around us – what if we could encourage other members of the co-op to allow their houses to become part of the scattered co-op? The owners would continue to live in and maintain their homes as normal, but would allow the co-op to plan for the redevelopment as part of the scattered housing co-op. The co-op would obtain a professional appraisal, come to an agreement on future price with the owner and then enter into a formal future purchase option. We sent a notice to all members and had six members offer their homes for consideration. In June, a team of our consultants visited and evaluated each home for deep retrofit potential and selected the property at 143 Machray to add to the other two properties.



3.7 Circle of Life: As part of a commitment to Truth & Reconciliation and motivated by a desire to reflect our diverse community, the co-op established the Circle of Life subcommittee. Over the months the committee reviewed the 96 calls to action to determine what BGHC could incorporate, they met with an Indigenous Elder, connected with six service delivery organizations representing diverse low-income households to become members in the co-op with set-aside social housing units.

3.8 Energy Models 1: In order to evaluate the efficiency of the proposed design, BGHC commissioned PrairieHOUSE Performance Inc. to undertake an energy audit of the schematics for the 12-unit new building at 64 Bannerman. The building was rated at 74% lower than the reference house with a baseload of 212GJ and a total load with appliances, lights etc at 421 GJ. Once the solar panel contribution of 266GJ was deducted from the total, the projected energy demand was identified at 155GJ. With many individual homes in the co-op rated above this amount (see part 4.3) it was apparent that this co-op would more than satisfy the intent for a near net-zero building.

Base Upgrade Advanced Code Compliance

EnerGuide Rating System Results

Multi-unit: whole building

Rating	155	GJ/a	Reference House	613	GJ/a	Nat. ACH	0.02
Energy Use Intensity	0.30	GJ/m ² /a	% Lower Than Ref Hse	74.7	%	Q _{Tot}	299.7 L/s
Greenhouse Gases	0.1	t/a	# of units in building	12		Q _{Warm}	192 L/s

Rated Annual Energy Consumption (AEC)			Rated Annual Energy Production (AEP)					
Space Heating	32.55	GJ	Electricity Generation	266.68	GJ	A _{windows & doors} / A _{walls}	15.5	%
Space Cooling	46.64	GJ	Solar DHW	0.0	GJ	Ref Hse A _{windows & doors} / A _{walls}	17.0	%
DHW	122.30	GJ	Total AEP	266.68	GJ	Design Heat Loss	18.8	kW
Ventilation, Electric	7.51	GJ				Design Heat Gain	18.8	kW
Baseloads	212.70	GJ						
Total AEC	421.69	GJ	Net AEC - AEP	155.01	GJ			

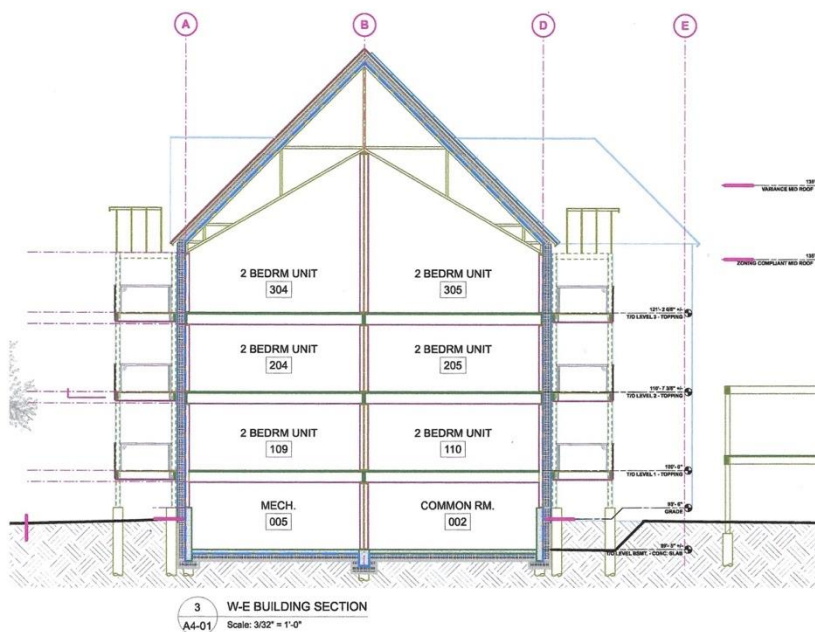
House Name	AEC (GJ/a)	AEP (GJ/a)	Net (GJ/a)
ERS reference house			612.52
General mode			162.90
House with standard operating conditions			155.01

3.9 Schematic Design Evolution: Throughout the spring and early summer of 2022, the architects proceeded with the design of all three buildings. The co-op had formed a Design Committee of four persons to be the liaison with the Architects and connect back to the co-op members. The Design Committee attended 19 meetings between March and the IDP#2 meeting on October 18. The meetings covered separate LBC seminars on materials, water and energy, and a full day seminar on biophilic design, several sessions on mechanical concepts and electrical systems,

two PassiveHouse seminars by the Toronto consultants as well as ongoing design evolution of each of the new building and the deep retrofits. As will be evident, this was not a normal process and involved rethinking the approach to design to ensure comprehensive integration of net-zero energy, PassiveHouse and Living Building Challenge constraints....and this on top of small scaled intervention into an existing urban community!

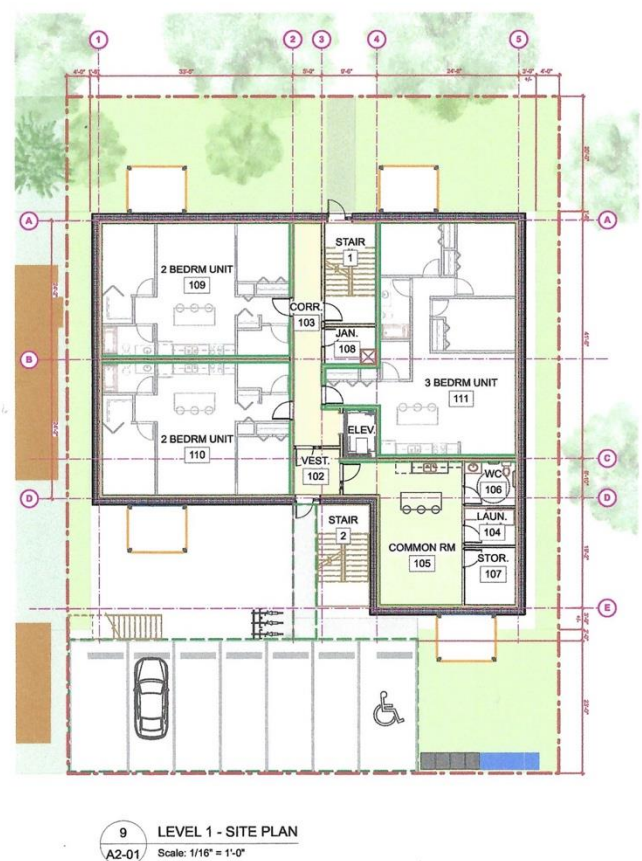
3.10 64 Bannerman Schematic Design Proposal: Prairie Architects Inc. presented the final schematic design on October 18, 2022 at the Integrated Design Process session #2. All consultants and the BGHC design committee was present for the all day in-person session. The session focused on the 64 Bannerman site. The final design features an entrance and common room at grade on the main floor with entrance from the east. The following is the completed Schematic Design for the 12-unit new-build on the vacant parcel of land 64 Bannerman:

64 Bannerman Schematic Design Proposal

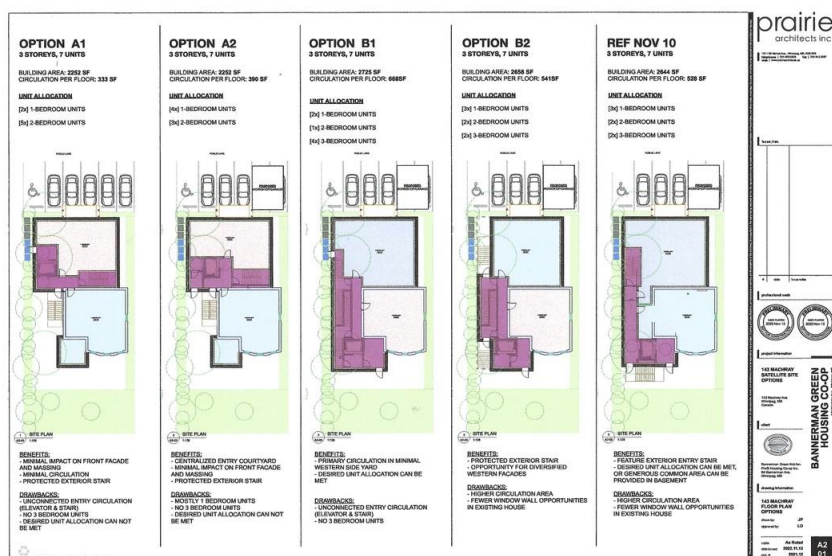


FEATURES OF SCHEMATIC DESIGN

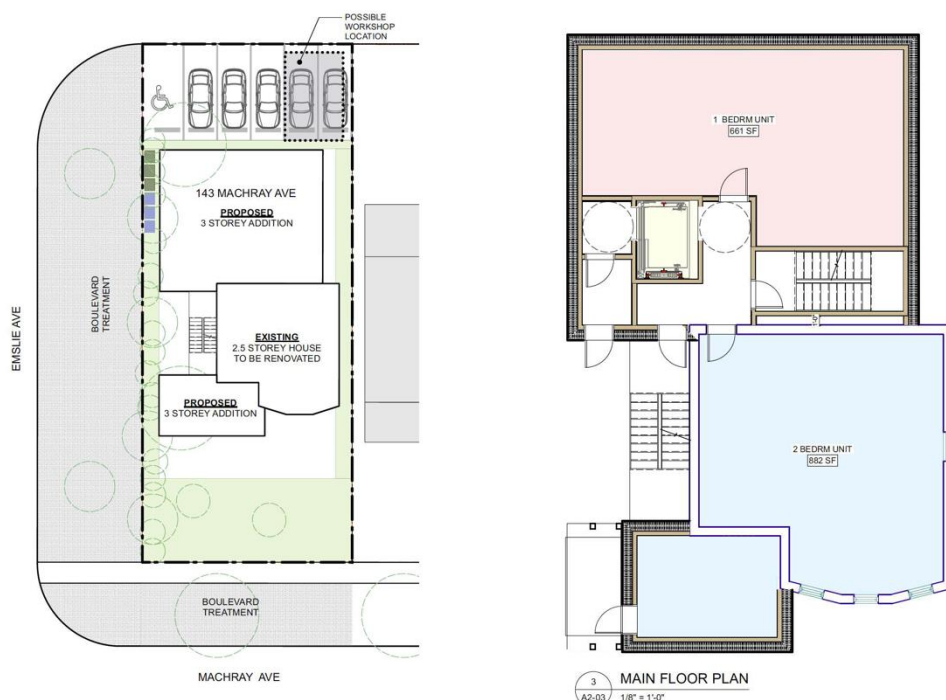
- Main entrance from the south parking lot
- Ramp from south to provide entry to main at +1200
- Common room split between main and basement
- One 4-bed suite+ storage/mech in basement
- One exterior and one interior exit stair
- Simple L shape plan for PassiveHouse
- Four suites on levels 2 and 3
- Exterior balconies to all suites
- Parking for 7 cars along lane
- Steep pitched roof for south solar panels
- Sloping interior suite ceiling on top level



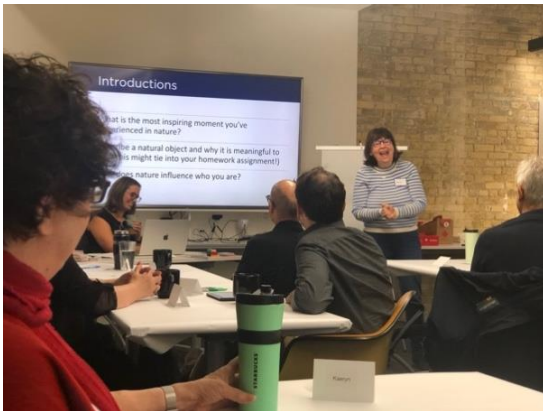
3.11 Satellite Designs: After completing the 64 Bannerman schematic design drawings on October 18 and sending to the Construction Manager for costing, Prairie turned its attention to the schematic design of the satellite units. By November 15, the Architect presented a series of design options (as illustrated below) showing different approaches to the deep retrofit of the existing house and the addition of new units at the rear. Each home at 59 Bannerman and 143 Machray was zoned for up to 7 units and the intent in the designs at this point was to maximize the number of units to spread out the costs of the common space, exit stair and elevator. It was also a design parameter to isolate the existing homes from the new construction as much as possible in order to confine the scope of the deep retrofit.



After review by the consultants and BGHC, option A2 was selected. The architect then began to undertake more detailed schematic designs. These designs were then forwarded to consultants for systems integration and then to the CM for pricing.



3.12 Member's Work: As COVID fears decreased, we looked for a common place to hold monthly meetings and began meeting in a locally operated and owned café - Modern Coffee. In the fall the co-op initiated Environmental land assessments on all three parcels of land; we were asked to make a presentation to the Manitoba Non-Profit Housing Association about our progress to date. We submitted a PDF proposal for \$75,000 to Manitoba Housing in a new funding initiative. We also hired a bookkeeper to help with monthly statements and cost control. On November 19th the co-op members who were committed to live in the co-op and had submitted a deposit met to discuss resident-related issues.



3.13 PassiveHouse Report: IDP#2 was held on December 22, 2022. The main order of business was to receive the interim report of RDH assessing the potential for PassiveHouse certification based on the Schematic Design documents of October 18th. The overall results indicate that the energy modeling shows a space heating demand of 40.3kW/sm/yr vs the PH requirement of 30kW/sm/yr. RDH proceeded to identify a route to achieving compliance – 1. The current form factor is 2.05 and with a flat roof, the demand is reduced by 2.4kW/sm/yr; 2. better PH windows could reduce the demand by 3.0kW/sm/yr; 3. Residential flow reductions could reduce demand by 2.1kW/sm/yr certified and 4. PH ventilation equipment could reduce the demand by 4.6kW/sm/yr.

RDH recommended a variety of systems refinement including thermal breaks on piles and a more detailed analysis on air-to-air heat pumps as well as a more detailed examination at the submission of the next set of drawings.



Table 1: PHPP Model Results¹

PASSIVE HOUSE CRITERIA	PASSIVE HOUSE LOW ENERGY BUILDING	BANNERMAN GREEN HOUSING COOP
ANNUAL SPACE HEATING DEMAND KWH/M ² -YR	≤ 30	40.3
ANNUAL SPACE COOLING DEMAND KWH/M ² -YR	≤ 31	2
THERMAL COMFORT	25°C < 10% of occupancy hours	(mechanical cooling present)
AIRTIGHTNESS ACH @ 50 Pa (L/S·M ² @ 75Pa)	≤ 1.0 (0.64)	0.6 (0.39)
PRIMARY ENERGY RENEWABLE (PER) KWH/M ² -YR	≤ 75-85 (TBC) ²	73.2

¹ Area-normalized metrics are calculated using the TFA (Treated Floor Area) metric in accordance with Passive House Institute (PHI) requirements.

² Primary Energy Demand additional energy budget to be confirmed with certifier.

KEY LEVERS

Table 2: Summary of strategic Building Components impacting the building's space heating demand & PER results.

COMPONENT	RANK OF PERFORMANCE LEVEL	DESCRIPTION & ITEMS FOR REVIEW (in bold)
1) FORM FACTOR		Current form factor set at 2.05. - Review roof design to further improve building form factor (low-slope roof).
2) AIRTIGHTNESS		Tighter airtightness target than certification requirements assumed in current SD model. - Recommend maintaining PH Classic criteria of 0.6 ACH @ 50 Pa, or lower (0.40-0.45 ACH @ 50 Pa), to reduce heat losses and support BGHC's strong sustainability goals.
3) ASSEMBLY R-VALUES		Assemblies are defined at a high-level. Estimates used for cladding attachments and insulation fasteners. - Specify insulation material, insulation performance, cladding attachment type and insulation fastener characteristics (i.e., performance and spacing) to refine opaque assembly performance. - Elevator pit floor insulation thickness to match SOG insulation thickness.
4) WWR		WWR set at 13.2% of above-grade enclosure; good performance. - Review fenestration to confirm if a reduced window area on north elevation is possible to reduce transmission losses.
5) WINDOW FRAMES		High-performance BOD product selected. Potential alternatives currently considered, to optimize cost and thermal performance. - Review alternates and progress punched window and door procurement, maintaining performance. - Review W-5 window frame type for opportunity to reduce mullion area.
6) GLAZING		High-performance product, combining good thermal performance and mid-range SHGC; - Optimise glazing specification, based on IGU thickness, COG U-value and SHGC. Potential alternate: 46mm Cardinal IGU with higher SHGC to maximize solar gains.

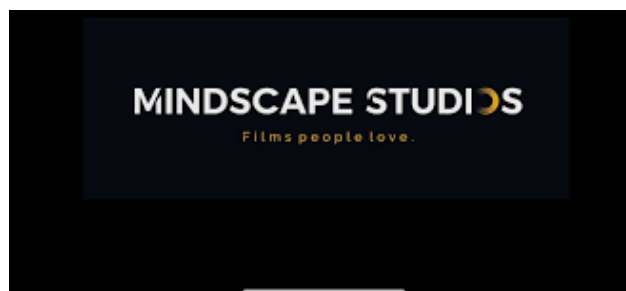
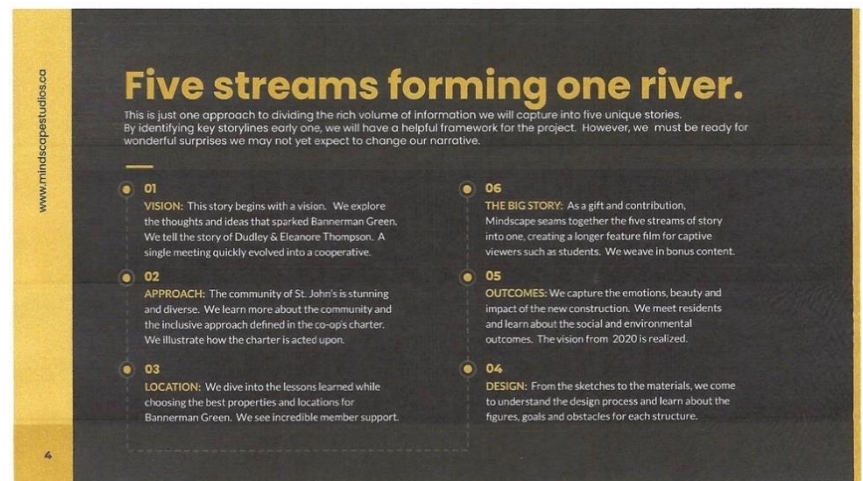
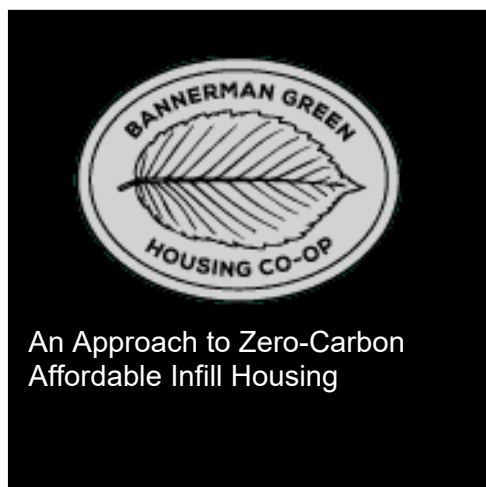
PHASE 4: 2023 – DESIGN-DEVELOPMENT

4.1 McConnell Foundation Overview: BGHC submitted a proposal to the McConnell Foundation in April of 2022 for funding to underwrite an educational component of the co-op development. The original proposal was for \$75,000 but after McConnell had reviewed our scope of work, they suggested a budget of \$200,000. The contract was signed November 11, 2022. The scope of work included 5 parts:

1. Pre-Occupancy benchmarks
2. Energy modeling Upgrades
3. Post Occupancy Benchmarks
4. Social Transformation
5. Analysis of Third-party Tools
6. Videos and Communication Materials

4.2 McConnell Foundation Videographer Selection: Willou Consulting was hired to assist BGHC with the delivery of the McConnell Foundation projects. One of their first tasks was to coordinate the selection of a videographer to start to engage with BGHC in the production of 5 short videos about the phases of the development of the new housing co-op. In May 2023, five local firms were asked for proposals and the committee interviewed the preferred candidate. Mindscape Studios was commissioned to prepare the videos. In July and August several sessions were held with the videographer to draft an overall storyboard. Video interviews began on the first video regarding the vision in fall of 2023. A draft of the first video see:

Video link: <https://vimeo.com/960590521/699fa7795f?share=copy>)





4.3 McConnell Foundation Pre-Occupancy Benchmarks: The intent of this task was to evaluate the energy and air quality of the existing homes of some of the co-op members. This benchmark was then to be compared with the similar metrics for net zero-carbon metrics of the new co-op. In July of 2022, BGHC contracted with PrairieHOUSE Performance Inc. to undertake enhanced energy audits of each home and with the Building Efficiency Technology Access Centre of Red River College to undertake long-term IAQ testing.

We then put out a request to the 60 BGHC members to see who would be interested in submitting their home for an energy audit. 12 members signed up for the first phase of the project. Starting in January 2023, energy audits were undertaken on each home through the Greener Homes Program of Canada and Air-Things evaluation monitors were placed in each home.

Part of the purpose of this Benchmarking program was to encourage co-op homeowners to upgrade their homes at their own cost so that when they sell to move into the co-op, the community at large would have better resilience and sustainability. A number of members took advantage of the Greener Homes zero interest loan program. One member upgraded their family home with a new Cold Climate Air Source Heat pump and 16 solar panels and reduced his energy footprint by 54% from 192 to 87 GJ/year.

Address: 61 Scotia St, Winnipeg, MANITOBA, R2W 3W6

HOMEOWNER INFORMATION SHEET

Your EnerGuide® rating and this report are based on data collected and, where necessary, presumed from your evaluation. Rating calculations are made using standard operating conditions.

Rating: 192 gigajoules per year (GJ/year)

Heated floor area: 295.2 m² (3177.5 ft²)
 Rated energy intensity: 0.65 GJ/m²/year
 Evaluated by: Andrew Koch
 Quality assured by: prairieHOUSE Performance Inc.
 File number: 8310E90113
 Data collected: September 13, 2023
 Year built: 1987

NRCAN.gc.ca/myenerguide

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NRCAN.gc.ca/myenerguide

HOW YOUR RATING IS CALCULATED:

- Rated annual energy consumption: 130 GJ/year
- Minus renewable energy contribution: -43 GJ/year
- Equals your EnerGuide rating: 87 GJ/year**

I. Your rated annual energy consumption is the total amount of energy your house would use in a year based on the EnerGuide Rating System standard operating conditions. For your house, this includes 11.1% of passive solar gain.

HOW YOUR RATED ENERGY IS USED:

The chart below represents the breakdown of rated annual energy consumption in your home under standard operating conditions. You can use these figures as a guide to help identify where you can lower home energy costs through proper home maintenance, efficient home operation, energy efficiency renovations or equipment replacement.

Energy Sources	Rated Consumption (GJ/year)	Equivalent Units (per year)	Greenhouse Gas Emissions (tonnes/year)
Electricity	130	35989 kWh	0.1
Total	130	35989	0.1

II. On-site renewable power generation systems can offset some or even all of your home's energy consumption. Renewable energy contributions are factored differently for your rating and your greenhouse gas emissions calculations.

On-Site Renewable Energy	Estimated Contribution (GJ/year)	Equivalent Units (per year)	Offset Greenhouse Gas Emissions (tonnes/year)
Electricity	43	11939 kWh	0.0
Solar water heating	0	0	0.0
Total	43	11939	0.0

HOW YOUR CONSUMPTION COMPARES:

Compared to a typical new house, your house uses:

- 11.6% more energy
- 13.6% more energy when including the estimated energy consumption of lighting, appliances and electronics.

BEFORE: 192 GJ/YEAR

HOMEOWNER INFORMATION SHEET

Your EnerGuide® rating and this report are based on data collected and, where necessary, presumed from your evaluation. Rating calculations are made using standard operating conditions.

Rating: 87 gigajoules per year (GJ/year)

Heated floor area: 295.2 m² (3177.5 ft²)
 Rated energy intensity: 0.44 GJ/m²/year
 Evaluated by: Josh Brandstrom
 Quality assured by: prairieHOUSE Performance Inc.
 File number: 8310E90113
 Data collected: August 29, 2024
 Year built: 1987

NRCAN.gc.ca/myenerguide

HOW YOUR RATING IS CALCULATED:

- Rated annual energy consumption: 130 GJ/year
- Minus renewable energy contribution: -43 GJ/year
- Equals your EnerGuide rating: 87 GJ/year**

I. Your rated annual energy consumption is the total amount of energy your house would use in a year based on the EnerGuide Rating System standard operating conditions. For your house, this includes 49.97 GJ of passive solar gain.

HOW YOUR RATED ENERGY IS USED:

The chart below represents the breakdown of rated annual energy consumption in your home under standard operating conditions. You can use these figures as a guide to help identify where you can lower home energy costs through proper home maintenance, efficient home operation, energy efficiency renovations or equipment replacement.

Energy Sources	Rated Consumption (GJ/year)	Equivalent Units (per year)	Greenhouse Gas Emissions (tonnes/year)
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On-Site Renewable Energy	Estimated Contribution (GJ/year)	Equivalent Units (per year)	Offset Greenhouse Gas Emissions (tonnes/year)
Electricity	43	11939 kWh	0.0
Solar water heating	0	0	0.0
Total	43	11939	0.0

WHERE YOUR HOME LOSES HEAT:

Houses lose heat through their exterior shell, or building envelope. The chart below shows where and how your home loses heat. The quality and upkeep of your home can have a major impact on the amount of energy your heating and cooling systems use annually.

On-Site Renewable Energy	Estimated Contribution (GJ/year)	Equivalent Units (per year)	Offset Greenhouse Gas Emissions (tonnes/year)
Electricity	43	11939 kWh	0.0
Solar water heating	0	0	0.0
Total	43	11939	0.0

HOW YOUR CONSUMPTION COMPARES:

Compared to a typical new house, your house uses:

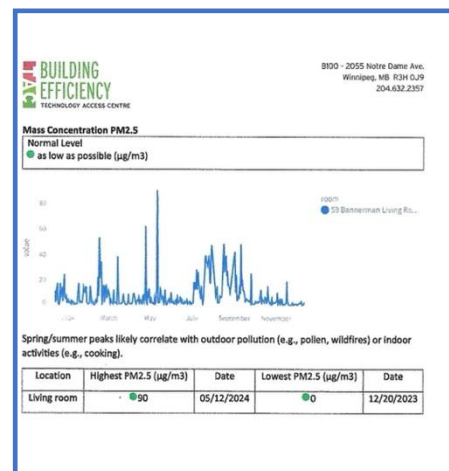
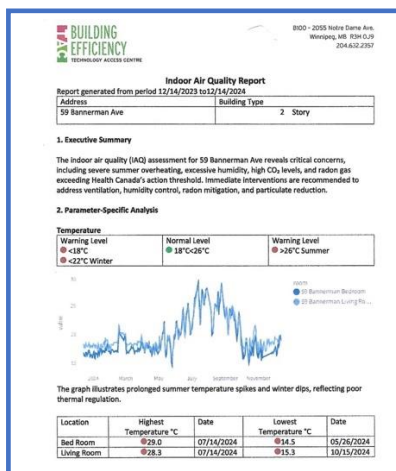
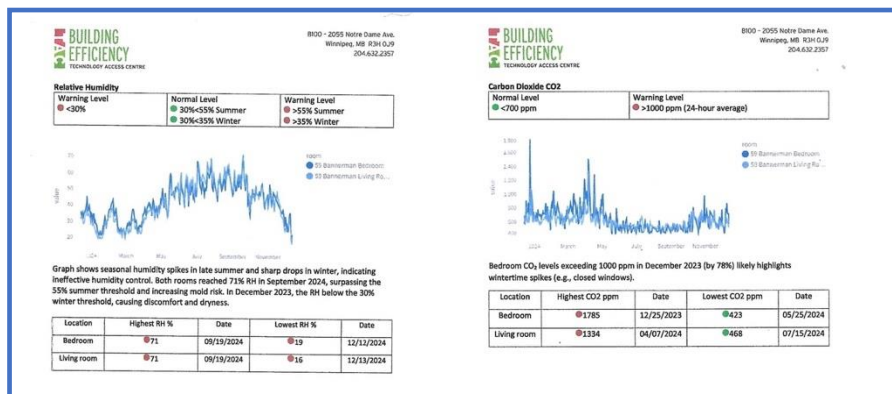
- 21.2% less energy
- 25.3% less energy, when excluding the estimated energy consumption of lighting, appliances and electronics.

AFTER: 87 GJ/YEAR



Building Performance Evaluations of Pre-Retrofit Existing Dwellings

March 7, 2025



Residence Evaluated	Yr Built	Energide Rating	Typ New House	Energide Potential	Reduction Now/after	More than typical new	Heated Floor Area	Energy Intensity	Energy Intensity	Natural Gas	Electricity	GHG	Heat Loss attic	Heat Loss walls
		GJ	GJ	GJ	%	%	m ²	GJ/m ² /year	kWhr/sm/yr	m ³ /yr	kWh/yr	Tonnes/yr	%	%
Residence 1	1988	192.00	172.00	114.00	41%	1.12	295.00	0.65	180.55	3634.00	15602.00	6.90	7.00	6.00
Residence 2	1939	210.00	117.00	79.00	62%	1.79	199.00	1.05	291.66	4893.00	7735.00	9.30	7.00	22.00
Residence 3	1912	249.00	132.00	158.00	37%	1.89	254.00	0.98	272.21	5418.00	13106.00	10.30	4.00	20.00
Residence 4	1919	262.00		189.00	28%	#DIV/0!	272.80	0.96	266.66	5194.00	18941.00	10.00	5.00	19.00
Residence 5	1942	173.00		68.00	61%	#DIV/0!	228.00	0.76	211.11	3276.00	14186.00	6.20	3.00	28.00
Residence 6	1905	256.00		159.00	38%	#DIV/0!	231.80	1.10	305.55	5667.00	12348.00	10.80	16.00	39.00
Residence 7	1933	364.00		229.00	37%	#DIV/0!	250.30	1.45	402.77	8967.00	8345.00	17.30	5.00	38.00
Residence 8	1930	349.00		130.00	63%	#DIV/0!	217.40	1.61	447.21	8126.00	12957.00	15.70	2.00	52.00
Residence 9	1932	270.00		101.00	63%	#DIV/0!	249.00	1.08	299.99	5857.00	14385.00	11.30	8.00	43.00
Residence 10														
Residence 11														
Averages		258.33		136.33	48%	#DIV/0!	244.14	1.07	297.52	5670.22	13067.22	10.87	6.33	29.67

4.5 PassiveHouse Assessment: As 2023 began, the co-op met with the consultant team to evaluate next steps to the project. At the design meeting on January 10th, the group reviewed the PassiveHouse report by RDH that was presented in December. It was evident that there would need to be significant changes to the design in order to bring it to conformance with PassiveHouse criteria. The report identified several features that could be incorporated into the project to get closer to reaching the compliance threshold as identified in the chart below. This matrix was used as a framework to redesign the building for compliance.



BANNERMAN GREEN HOUSING CO-OP INC.
DESIGN COMMITTEE MEETING –
MINUTES : JANUARY 5, 2023 6:30 pm

Members present: Dudley Thompson, Jim Chapryk, Mark Koenker, Diane Frolick, Karin Seiler,
 Regrets: Ed Epp, Jacqueline Mignot, Jessica Piper

1. Passive House Review

- The RDH report indicated that the current design demonstrated an Annual Space Heating Demand of 40.3 kWhr/sm/yr. The requirement for certification is 30.0 kWhr/sm/yr therefore requiring a reduction of approximately 12 kWhr/sm/yr.
- The committee reviewed the report that RDH presented at the last IDP and especially considered the Key Levers that are necessary to achieve Passive House certification
- The intent of the meeting was to determine if the PH certification goal was achievable given some of the Key Levers or if we should not continue with PH certification.
- **After review and consideration, the committee was unanimous in the decision to direct the Architect to proceed to undertake changes to the design to ensure Passive House certification.**

Key Lever	Considerations/ Implications	Reduction kW/sm/yr	Comments
1 Massing & Roof	Reduce roof volume to flat/low slope and Coordinate with LBC	2.4	Form to still fit into neighbourhood/ Roof slope to maximize solar PV/ Durable roof materials for life-cycle
2 Windows	Change to Innotech – competitive bid with Cascadia	-3.0	Cost premium of Innotech over Cascadia?
3 Ventilation	Right size vent flows especially in common areas – reduce rates	-2.1	Unclear how implications with LBC As building tighter, more ventilation?
4 Vent-Equip	Tempeff unit heat recovery efficiency to be reviewed with certifier to ensure compliance	-4.6	This is key and we are not clear as to what Tempeff needs to do and who certifies- key to certification
5 Windows	Relocate some north windows to east/west		Delete from stairs. We did not agree to make north windows smaller
6 Windows	Add south windows		Add into upper main common room and solar greenhouse
6 Windows	Increase north windows to quad pane and add insulated shades		
7 Crawlspace	Provide 7 crawlspace and max insulation		This will add back heat loss but key for useable space?
8 Airtightness	Reduce from 0.6 to 0.3 ach		How does this impact overall heat loss
9 Ceiling heights	Reduce ceiling heights from 9 to 8 feet to reduce conditioned air		Possible under model?/ consideration but least desirable
10 Piles	Maximize thermally broken piles to reduce thermal bridging		To be considered by structural/ insulated wood basement floor ?
11 Kitchen Ventilation	Confirm high-efficiency re-circ hood		Serious energy use? How many hours per year?
12 Lighting	Occupancy sensors for corridors and public areas		Agreed this to be in all public areas
13 Appliances	Select appliances that maximize Energy Star compliance		Most efficient state-of-art

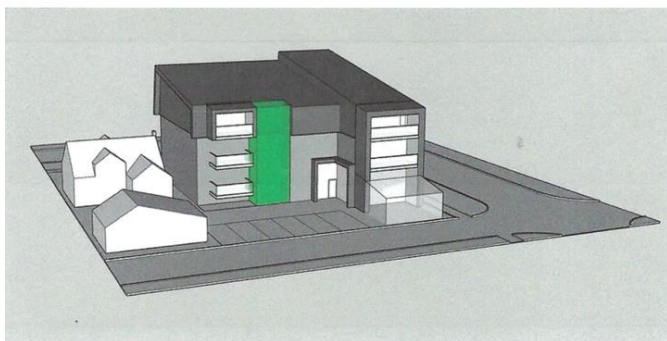
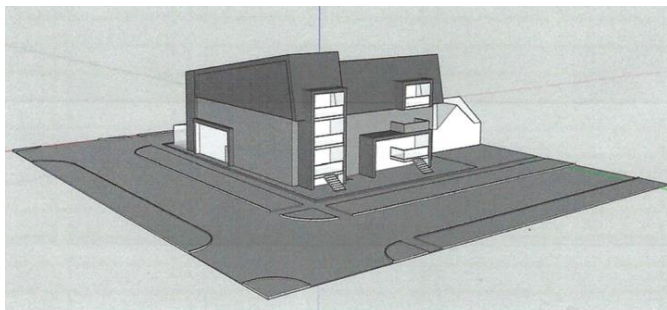
- There was discussion about possible re-working the drawings to start with a more PH approach to design. After consideration, it was agreed by all that we were close to compliance and should continue to upgrade existing design. Key to the original design was a commitment to equal cross-ventilation to 100% of suites and

4.6 Construction Cost Estimates: At the January 10th meeting, the Construction Manager, MBuilds Inc., presented a report outlining the cost estimates based on the October 18th drawings. The costs were based on many discussions with trades and a number of competitive high-level tenders. They indicated that the pricing was coming in between \$500 and \$525/sf – much above previous estimates. The contractor assured us that pricing had spiked considerably since COVID due to labour and supply shortages etc. and that many similar projects were coming in around the same costs. They indicated that the small scale of the project was impacting pricing as well. They did not see a route to bring the project down to the anticipated range of \$300-\$400/sf.

4.7 Revised Concepts: Based on the directives received in the PassiveHouse report for 64 Bannerman as well as the CM cost estimates, the Consultants looked to revise the design to tighten the form and simplify construction. The first draft of this started to show a building with a low slope roof. A series of design options were developed and shown on the streetscape along Bannerman Avenue. The height of the roof continued to be of concern related to adjoining homes.



Another round of massing options was presented with varying roof slopes and elevations to show some variety and scale on the street. A 3-storey greenhouse/ atrium was suggested for the rear/south elevation. There was no real resolution to these options.



MASSING OPTION A (with related Design Elements - R1 , B1 , C1)

4.8 Project Stop-work Pause: On January 20 the co-op sent a formal notice to Prairie Architects to request a pause in the work on the project. The long-promised cash deposit from the approved PDF application from the Federation of Canadian Municipalities (FCM) had not been received by this date. We were not comfortable proceeding without the deposited funding. The architects agreed and we waited. On April 18, after 92 weeks from submission, we received the funding from FCM and sent a letter to Prairie requesting them to restart the project. Prairie was able to begin again in mid-May after a 4-month delay.

4.9 Co-op Rethink: It was evident from both the PassiveHouse review and the construction cost information that it was time for a re-set. In the interval during the delay, the co-op Planning Committee met a number of times to try and address these issues. We struggled with the low slope roof as it was not a form in the neighbourhood and seemed to be a foreign and unresolved element. We were able to step back from the ongoing design process and define a more coherent design aesthetic (below) as well as a series of directives for the Architects as they resumed the project design. The major breakthrough in our thinking was the concept of having a flat green roof with integrated solar panels (see illustration below). This enabled us to have a roof to comply with PassiveHouse and one that was highly sustainable and fit into the neighbourhood.

BGHC • Preliminary Design Conversation

Further to our meeting before Dudley called for a 'time-out', we discussed the problem of the east and west elevations and how these lack scale (feel overbearing) and definition (interest). We discussed materiality, proportion and contextual fit. Dudley offered some examples:



RESTART DIRECTIVES TO THE ARCHITECT FROM BGHC

- Follow the more formal Design Aesthetic
- Change sloping roofs to flat to fit with PH
- Explore a green flat roof to resolve the PH form issues
- Explore flat roofs on all satellite additions
- Evaluate solar opportunities on flat roof
- Confirm design changes can fit with PH certification
- Finalize interior suites with w/d connections etc
- Retain 9 foot interior height
- Rework added elements outside PH frame to fit in n'hood

DESIGN AESTHETIC

The language of the design aesthetic should be woven from the sustainable elements of the building. Features such as a solar panel array, a green roof, plantings and biofilia, the passive solar greenhouse, thick passive walls, wind turbines, a palate of natural and repurposed materials, water capture and many others should be celebrated as the language of a purpose-built contemporary aesthetic that defines PassiveHouse, Living Building Challenge and a new zero-carbon future. The design should be a contemporary aesthetic with warmth, texture, glass, clean lines, interesting facades and contemporary details. The key feature is 'warmth' – warmth through materials, textures, biofilia, colour and light.

4.10 Manitoba Housing Capital for Social Housing: The Province of Manitoba issued a negotiated RFP for the development of Social Housing Units on July 7, 2023 with a due date of September 5. The province stated it would provide up to \$150,000 per unit of social housing provided by a developer. This was the first provincial social housing RFP in almost a decade. The co-op decided to set aside 4 units of the Affordable Housing for the proposed social housing. Each of the 4 social housing groups would become a co-op member and have full control to integrate one of their household families into the co-op and would manage the unit in perpetuity. BGHC submitted a detailed package of information.

The proposal requested proponents to provide support services partnerships for social housing. BGHC had met with the Winnipeg Foundation to determine what social support organizations they would recommend as partners for BGHC. We indicated in our proposal that we were working with 4 agencies to determine a fit for BGHC – they were the Manitoba Metis Federation, Mennonite Central Committee, Independent Living Resource Centre, IRCOM Refugee Community Organization of Manitoba. The Circle of Diversity Committee met with all four organizations and received enthusiastic responses and comprehensive letters of support. We tried to submit the letters from the organizations to MHRC, but this was rejected.

We were denied funding on March 25, 2024.



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Winnipeg, MB R3A 1S8

P: 204.943.8765
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IRCOM House Isabel
215 Isabel Street
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www.ircom.ca
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November 10, 2023

RE: BANNERMAN GREEN HOUSING CO-OP INC. – PROPOSED INCLUSION OF SOCIAL HOUSING TENANTS WITH SUPPORT SERVICES

To Whom it May Concern:

IRCOM (the Immigrant and Refugee Community Organization of Manitoba Inc.) is pleased to provide this letter in support of the Bannerman Green Housing Co-Op Inc.'s goal of providing inclusive and diverse housing units in their proposed co-op.

We are pleased to have had the opportunity to meet with representatives of the co-op on two occasions in the past months, where one meeting included the senior management team and two Officers of the Board of Directors of IRCOM with members of the BGHC. In these meetings, we have become familiar with the intent of their project and vision to create inclusive and zero-carbon scattered housing in the North End, with potential for replicability in other neighbourhoods in the city.

IRCOM commits to working closely with BGHC to include a household from our community in the project. We applaud the BGHC members for their focus on inclusion and diversity and we believe that this model shows great potential for helping some of the more vulnerable low-income members of our community, newcomer refugee families, find safe and welcoming housing, leading to many positive housing and social outcomes.

Some additional information about IRCOM:

1. IRCOM began operating 32 years ago and underwent an expansion in 2016. Currently, we have a Sponsor Management Agreement with the Province of Manitoba, to operate two buildings in the downtown of Winnipeg. We offer 110 Rent-Geared-to-Income suites to newly arrived refugee families. IRCOM's model provides three years of safe affordable transitional housing plus wrap-around holistic supports, so that families can successfully move out and integrate into the wider community with the tools, skills, knowledge and networks to thrive and succeed in their new home.
 - o Recent research on the IRCOM Model which examined tenants' settlement trajectories over time, revealed that:
 - Tenant outcomes are impacted not only from the structure of the model and quality of services, but also the commitment and professionalism of staff, who contribute to IRCOM feeling like "a community of belonging."
 - IRCOM equips newcomers with the knowledge needed to navigate the housing market and choose future housing options within and beyond the social housing continuum. (Evaluating Outcomes for Refugee Families in IRCOM's Transitional Supportive Housing by Zell, Hindi, Buckaschuk, Deane and Denetto, August 2022).
 - o IRCOM's commitment to the BGHC Project is to sponsor a suite for one newcomer family, and to provide access to Support Services (as itemized below), to ensure a

1



BANNERMAN GREEN NOT-FOR-PROFIT HOUSING CO-OP INC.

NEGOTIATED REQUEST FOR PROPOSALS FOR THE DEVELOPMENT OF SOCIAL HOUSING UNITS



NRFP#: MHHD2023-004

Call for Applications 2023
Manitoba Housing
200-352 Donald St.
Winnipeg, MB R3B 2H8
Attn: Sandra Oberdorfer, NRFP Administrator

4.11 An Unexpected Option: Prairie Architects started to get back into the project in mid-May and by early June they proposed a radically different option for BGHC to consider. The intent was to reduce costs and strip the building to the minimum exterior envelope to meet PassiveHouse criteria of net to gross area. The essence of the two options are identified in an abstract from a memo sent to co-op members:

OPTION A:



Concept: flat green roof with solar PV; 11 units on 3 floors with one unit in basement; indoor hallways and elevator; enlarged common room on grade with entry from St. Cross; common storage/work rooms in basement; mechanical under common rooms; optional south facing greenhouse, verandah and second floor deck addition outside of PH envelope; sidewalk entry and porches on Bannerman face; all suites are corner units with cross ventilation; gross floor area = 13,920 sf.

OPTION B:



Concept: flat green roof with solar PV; 11 units on 3 floors with one unit in basement; exterior entrance to each unit off open deck; elevator and stair in separate pavilion; large common room on main level; entry from St. Cross up exterior steps or from pavilion stair/ elevator; Large common storage/work rooms in basement; mechanical in basement; small greenhouse in pavilion; large decks / exterior walkways/exits on all levels; All units face south with cross ventilation to north; sidewalk entry and porch on St Cross corner with access up to common room; gross floor area = 13,276sf (exterior walkways nic)

The co-op held several meetings to consider the new option. There were a number of members who liked the proposal primarily because it offered south sun to all units, it was likely less expensive and units were more independent. However, many other members found the design not well suited to a winter city climate where each resident would be required to get dressed in winter clothes to leave their unit to go to the common facilities or to visit a member. In addition, the exterior south facing balconies would require snow maintenance and would be difficult to access for persons in wheelchairs or walkers. There was also concern about safety as the open stair and unattended elevator would enable access by anyone to front doors. Perhaps the most influential issue raised was that the design did not enhance 'community' or the co-operative ethic but rather seemed more like independent units in a west-coast condo. The architects were directed to proceed with Option A.

4.12 Towards Class C Drawings: At the resolution of the Black Swan issue, the consultant team began to work towards a set of Class C drawings and specifications based on Option A. Their schedule set a target with a final review of the three site site packages in July and final drawings submitted to MBuilds for Class C pricing on August 24 with pricing back September 15. The architects kept the co-op fully involved in the design process and presented the updated drawings incorporating changes to a members meeting in July at Modern Coffee.



prairie
architects inc.

Project Status Report Bannerman Green Housing Co-op

Week Ending: **Friday, July 14, 2023**

ON TRACK

Achieved Past Week(s)

- Schematic design re-work presented to BGHC design committee
- Design revisions received from BGHC committee
- Approval to proceed to SD with 64 Bannerman
- Approval to proceed to SD with 143 Machray

Planned Activities for Next Week(s)

- Approval to proceed to Class C Package with 59 Bannerman
- Prepare Class C Costing Packages
- Civil consultant RFP to be issued

Risks, Issues and Decisions

- LBC Core Certification - All 10 Core Imperatives must be achieved at a minimum, as well as the remaining imperatives to complete either the WATER, ENERGY or MATERIALS Petal. Decision to pursue core certification.
- Embodied Carbon modelling/tracking. Decision to use One-Click LCA
- Full schedule implications of 59 Bannerman and 143 Machray still require consideration

Output Status

Task / Milestones	Timeline	Resources	Status
refer to previous project status updates for prior completed inputs			
IDP #3	Dec 20/22	ALL	COMPLETE
BGHC Design Committee Meeting	Jan 10/23	BGHC/PAI	COMPLETE
BGHC General Membership Meeting	Jan 18/23	BGHC/PAI	COMPLETE
BGHC Design Committee Meeting	Jan 20/23	BGHC/PAI	COMPLETE
BGHC REQUESTED PROJECT HOLD			
Schematic Design re-work (per BGHC letter)	May 8 - June 16	PAI	COMPLETE
Design Meeting	June 20/23	PAI / BGHC	COMPLETE
Design revisions received from Design Committee	Ongoing	BGHC	ON TRACK
64 Bannerman Plans approved for Class C package development	July 12	BGHC	COMPLETE
143 Machray plans approved for Class C package development	July 15	BGHC	COMPLETE
59 Bannerman Plans approved for Class C package development	July 21	BGHC	ON TRACK
Class C package preparation	July 20 - Aug 24/23	ALL	ON TRACK
Submit for Class C Pricing	Aug 24/23	PAI	ON TRACK
Follow up with City re: Pre-Application	Aug 30/23	PAI	ON TRACK
Class C Pricing back	Sep 15/23	MBUILDS	ON TRACK
IDP #4 - SD and Class C costing review	Sept 18-22/23 (TBD)	ALL	ON TRACK

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**BANNERMAN GREEN
HOUSING COOP**

date: 2023-07-24 proj. #: 21.12
scale: AS NOTED rev. #:

64 BANNERMAN

A2



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date: 2023-07-21 proj. #: 2021.12
scale: AS NOTED rev. #:

**59 BANNERMAN
PROPOSED
FLOOR PLANS**

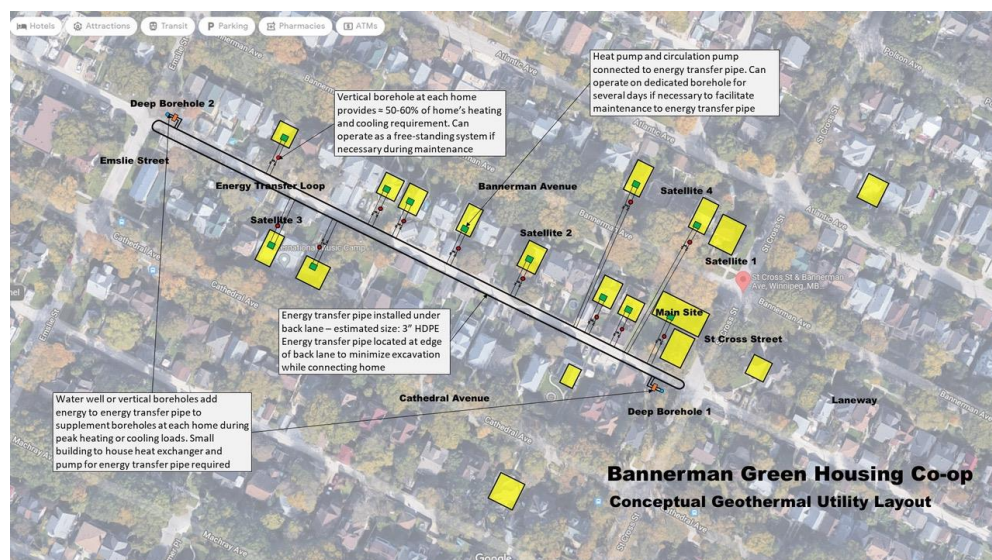
A1

4.13 Geothermal Site and Utility: BGHC commissioned Mr. Ed Lohrenz, principal of GEOOptimize in March of 2021 to undertake a comprehensive study to analyze the potential of a geothermal system to provide heating and cooling and hot water for the proposed housing co-op. Mr. Lohrenz is an international expert on geothermal systems and proposed to include in the study: an energy audit of the proposed building, the capacity of various geo systems on the available land, a variety of geo systems (vertical closed loop, horizontal closed loop and open well water systems), capital cost estimates and long-term energy savings. He was to work with Friesen Drillers to determine general flow capacities in the area.

GEOOptimize.ca



At one of the BGHC open houses, several local members and homeowners approached BGHC to enquire if it would be possible for their homes to be included in the geothermal system. It became evident that we had quite a number of like-minded home owners/members located close to the primary site of the co-op owned land (indicated in red). The co-op approached Mr. Lohrenz to see if it might be feasible to extend the geothermal lines down the back lane adjacent to the 64 Bannerman site to connect to the 40 or so properties on both sides of the lane and across the street to others around 59 Bannerman. Mr. Lohrenz agreed that there was potential for this ground loop and proceeded to draw up the schematic below as a prototype for a district geothermal system. During late 2022, we used this diagram to have several meetings with City of Winnipeg officials to determine their position on an underground geothermal system in public right-of-ways. After considerable dialogue, there was some agreement that there would be no problem to construct the system in the back lane, as there was no buried infrastructure. Further, they did not see any significant technical reasons to block a serious review. The co-op did further explorations to find examples of district system co-ops and discovered that there were similar municipal structures in gas co-ops in Alberta that had been operational for 50 years. We approached Efficiency Manitoba with our district Geothermal concept with the intent to have this idea explored with other geothermal projects being developed at the time.

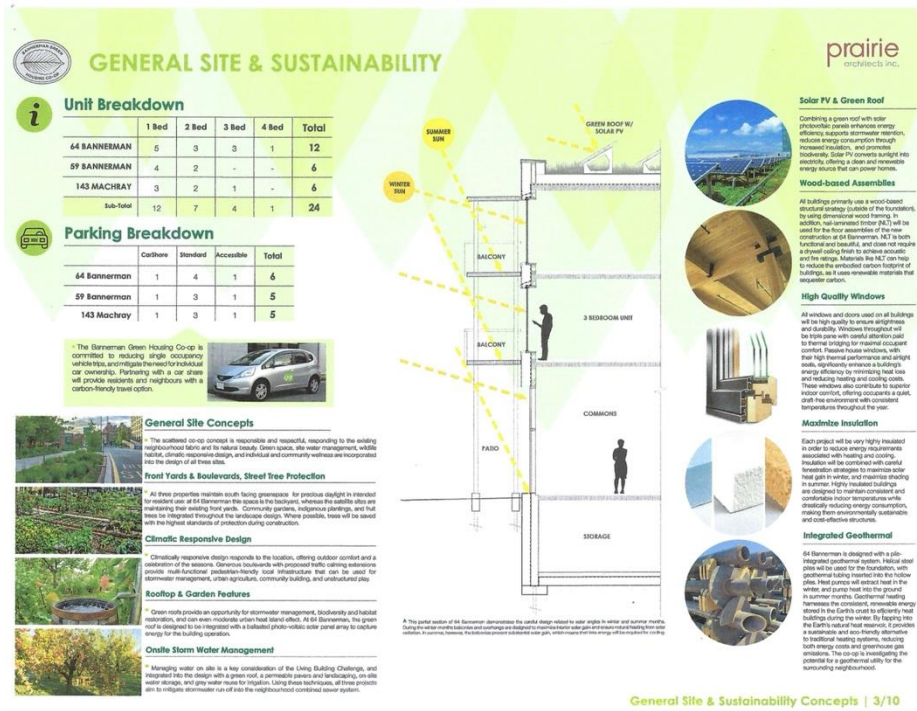


4.14 Class C Documents Complete: The consultant team completed the Class C documents and issued them to the Construction Manager on August 28, 2023. There was on set of drawings and specifications for each of the three sites. Each drawing set included details from all engineering firms – structural, mechanical and electrical + landscape and civil – approximately 60 pages of drawings per set. The drawing cover sheet for 64 Bannerman is shown below.



Bannerman Green Not-for-Profit Housing Co-op Inc. c/o 61 Scotia Street Winnipeg, Manitoba R2W 3W6

4.15 Community Site Open House: The co-op wanted to ensure that the local community continued to be involved in the evolution of the co-op. To that end, an open-house was held on the site on Saturday, October 12. The Architects prepared a dozen presentation boards that were set up on easels on the site. Around 150 people attended the event and there was a strong approval for many of the project goals and designs.



4.16 Class C Construction Cost Estimate: MBuilds presented the Class C budget on October 15. The costs were shocking to all with costs coming in at over \$900,000 per unit and \$860/sf. The following is detailed cost inventory for 64 Bannerman and a summary of the costs for the three sites. The project manager identified reasons for the high costs including: massive inflation of all

labour AND material costs in last 2 years; no economy of scale; urban location means more travel for trades; VERY busy construction now and no time to bid; shortage of tradespeople; some trade areas did not get 3 bids; too many separate prices made it too complicated to bid; fear about PH and LBC; significant monitoring costs to achieve certification; existing homes too many unknowns and too messy.

CLASS C CONSTRUCTION COST ESTIMATES – MBUILDS: OCTOBER 15, 2023.

	64 BANNERMAN	59 BANNERMAN	143 MACHRAY	TOTAL PROJECT
Number Units	12	5	6	23
Area sf	13,856	4,783	5,210	23,849
Direct Costs	\$7,417,273	\$3,319,940	\$3,450,672	\$14,187,885
General Conditions, Contingency, Fees	\$3,119,730	\$1,688,402	\$1,733,113	\$6,541,245
Class C Cost	\$10,537,003	\$5,008,342	\$5,183,785	\$20,729,130
Unit Costs	\$760.47	\$1,047.11	\$994.97	\$869.18
Per Unit Cost	\$878,000	\$1,001,668	\$863,964	\$901,226

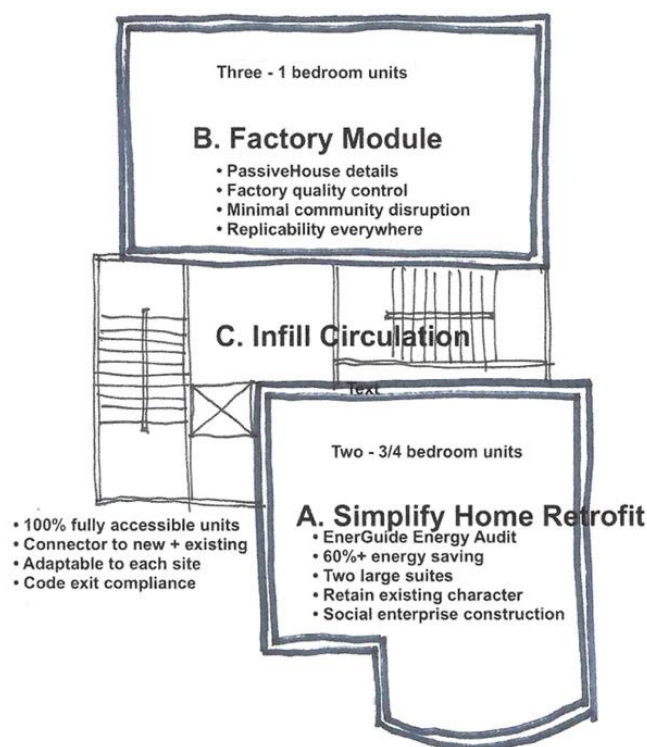
M Builds			
PROJECT: BGHC			
OWNER: Bannerman Green Housing Coop			
LOCATION: 64 Bannerman Ave			
ARCHITECT: Prairie Architects Inc.			
Doc Status: Class C Budget			
Area in SF: 13856			
Estimate Date: 13-Oct-23			
Duration: 75.6 WEEKS / 18 MONTHS			
Cost Code	General Summary	BASE SCOPE: Class C Budget	Class C Notes
2-050	Demolition	N/A	
	Site Demolition	6,500	
	Exterior finishes	N/A	
	Reclaimed masonry - Cleaning & Storage	N/A	
	Demo interior to studs	N/A	
	Remove all Windows and doors	N/A	
	Salvage and store as schedule	N/A	
2-611	Piling - Helical Screw Piles	245,690	
3-100	Concrete	325,000	
	Below Grade Air Barrier/ Insulation	86,417	
	Pile caps and grade beams	INC	
	Concrete reinforcing - Supply and install	31,500	
	Thermal separations between grade beams and piles	INC	
	Structural Slabs	INC	
3-400	Alternate #3 - Balcony Precast concrete slabs	TBD	
4-200	Masonry	136,000	
	Reclaimed masonry cleaning	INC	
	Reclaimed masonry install	INC	
5-121	Structural Steel/ Supply and install balcony structures	170,746	
5-500	Misc. Metals - Supply & install	INC	
6-100	Carpentry	See Below	
	Construction materials	144,480	
	Framing labour	382,676	
	NLT Supply	754,350	
	Hoisting	75,000	
	Interior Stairs	17,081	
	Alternate #1A - Dimensional walls	N/A	
	Alternate #4 - Balcony Micro Pro - treated framing	N/A	
06-400	Millwork - Cabinetry - S&I	124,000	
	Wood baseboards	18,480	
	Alternate #8 - Urban Lumber Counters	N/A	
	Alternate #24 - Solid surface counters	N/A	
	Alternate #19 - Rockwood cavity Rock - R50.4	N/A	
7-800	Firestopping	60,000	
7-530	Vegetated Roof	290,028	
	Attic Access hatch and Ladder - R10 min	4,748	
	Alternate #5A - Green Roof addition	INC	
7-610	Siding / Insulation / AVB	808,500	
	Alternate #9 - Arbor Wood Co - T&G Pine siding	N/A	
	Alternate #10 - Metal Siding - Cedar wood	N/A	
	Alternate #11 - Hardie plank - Monterey taupe	N/A	
	Alternate #12 - LP Smart Side	N/A	
	Alternate #13 - Hardie Plank lap siding	N/A	
	Alternate #14 - Ceramic Fiber Cement	N/A	
	Alternate #15 - Metal Siding	N/A	
	Alternate #16 - Longboard Tongue and groove	N/A	
	Alternate #17 Ceramic Fiber - Cashmere smooth	N/A	
	Alternate #25 Rigid insulation type change	N/A	
	Alternate #27 - Quick-Therm Air Dry Connect	N/A	
7-900	Joint Sealers	14,000	
8-100	Interior Doors, Frames & Hardware	121,191	
8-225	Wood Doors - Interior	INC	
8-225	Exterior Doors	INC	
8-400	Windows	248,581	
8-400	Exterior Window & Door Install	42,780	
	Alternate #6 - Cascadia - Passive House Windows	N/A	
	Alternate #7 - Non-passive house windows	N/A	
	Alternate #20 - Fiberglass Windows	N/A	
	Alternate #21 - Aluminum Master line 10	N/A	
	Alternate #22 Exterior Door - Cascadia Door PH	N/A	
	Curtain Wall	58,402	
	Curtain Wall - Install	27,983	
	Curtain Wall Hardware	INC	
	Alternate #23 - Aluminum Curtain wall - Reyners	N/A	
8-800	Glazing	9,200	
9-110	Drywall, Insulation, AVB	137,000	
9-500	Acoustic Ceiling	N/A	
9-300	Tiling - Floor & Wall	81,660	
9-550	Flooring	228,434	
	Alternate #18 - Hardwood Floor - Urban Lumber	N/A	
	Paving	18,487	
	Painting	52,000	
10-000	Washroom Accessories - soap dispenser, TP holders, grab bars, etc.	16,530	
10-140	Mail box	1,860	
10-140	Bicycle racks - Ballie Isle - Urban Park	5,440	
10-140	Exterior Signage	3,887	

Cost Code	General Summary	BASE SCOPE: Class C Budget	Class C Notes
14-200	Elevator	181,900	
	GC Requirements	9,800	
22-000	Fire Protection	See Below	
	Sprinkler	89,903	
	Fire Extinguisher	2,500	
	Plumbing	1,200,001	
22-000	Mechanical	INC	
	HVAC	INC	
	Controls	INC	
	Equipment	INC	
	Plumbing	INC	
	Alternate A - Delete the ductless split air-source heat pumps described above	N/A	
	Alternate B - Delete the electric baseboard heaters for bedrooms and living rooms	N/A	
	Alternate C - The alternate price system shall be a geothermal heat pump system with console heat/cool heat pumps in suites	N/A	
	Alternate Price A - Delete condensate for ductless split	N/A	
	Alternate Price B - Add condensate drainage risers and drain in crawl space	N/A	
	Alternate #29 - Ground source heat pumps	N/A	
16-000	Electrical	669,285	
	Distribution	INC	
	Lighting	INC	
	Fire alarm	INC	
	General Electrical	INC	
	Life safety requirements	INC	
	EV charging station - City of 2	INC	
	Security, card access, and CCTV	INC	
	Solar requirements	INC	
	Electric Heaters supply and install - controls by Mech	INC	
31-000	Site Improvements / Earthworks	48,920	
	Refuse cart and recycling area	INC	
	Parking area	INC	
	Sidewalks - Paver	246,043	
	Sidewalk gravel	INC	
	Soil and sod	INC	
	Plantings and landscape	INC	
33-000	Site Services	214,000	
	Sewer & Water	INC	
	Water retention	INC	
	Fences	6,912	
	MB Hydro	See CA	
	Telephone	See CA	
Subtotal Direct Costs		7,417,273	
General Conditions		1,288,859	M Builds
Project Contingency (15%)		1,112,591	
Cash Allowances		295,000	M Builds
Subtotal General Requirements		2,696,450	
Total Project Costs		10,113,723	
Building Permit		21,453	\$15.5 / m ²
Insurance - Builder's Risk		18,700	\$0.0096 / 100 x1.07 X 4
Insurance - Wrap Up		16,233	1.5 / 100001.07
Insurance - General Liability		10,572	\$0.9769 / 1000 x1.07
Subtotal		10,180,686	
Fee		254,517	
LBC Inclusion Donation - .01%		101,807	
Total - GST Extra		10,537,003	Price per SF \$760.47
Cash Allowances Included above			
Total			Remarks
Pile installation review		10,000	
Base and soil compaction testing		5,000	
Concrete and mortar testing		5,000	
PH Envelope air tightness testing (blower door)		10,000	
PH Building envelope commissioning		10,000	
Fastening inspections		5,000	
Utility service connections & installations - MB Hydro, Ball MTS, Shaw Cable, CoW		50,000	
Geothermal Allowance		65,000	
LBC Embodied Carbon offset		25,000	
Street Permit Allowance		50,000	
Heating and Hoarding Cash allowance		60,000	
Total Cash Allowances		295,000.00	
Project Notes - 64 Bannerman			
Project schedule is based on starting in March on foundations.			
Building Heat is account for internally only. - Heating with electrical furnace or unit heaters - Months of heat October - April			
The Project contingency has been added at 15%			
Alternate material costing was not received to the full capacity requested			
- Wood siding including building envelope is \$75/SF - Some wood materials may vary in cost.			
- Hardie siding or corrugated metal siding materials including building envelope - \$60/SF Custom colors will add cost.			
- Composite metal siding includes building envelope - \$100/SF - Custom colors will add cost.			
Reclaimed Masonry material is assumed to be provided from existing buildings - New material cost have not been included for.			

4.17 QS Second Opinion Estimate: After the shock of the MBuilds Class C cost estimate, the Executive of BGHC decided to commission Postma Quantity Surveyors to provide a second opinion on the costs received. The same set of documents for 64 Bannerman only was provided. The price received on December 11 was \$8,639,235 which included a 15% contingency and a 5% escalation. This compared to the MBuilds Class C estimate of \$10,537,000. The co-op was reassured that the MBuilds pricing was in the general framework of the current construction climate and well beyond double the original Postma cost for 64 Bannerman of \$4.2 million of 2021, just two years earlier.

4.18 Re-Evaluation: After we received the cost estimates, the BGHC design committee worked with the architects and construction manager in November and December to look at options to significantly re-think the overall approach. For the satellite buildings, a decision was approved to simplify the retrofit of the existing homes based on the diagram below. The redevelopment was divided into three components – A. a simple deep retrofit to Greener Homes budgets on the existing home, B. a factory module behind and C. an infill circulation connector.

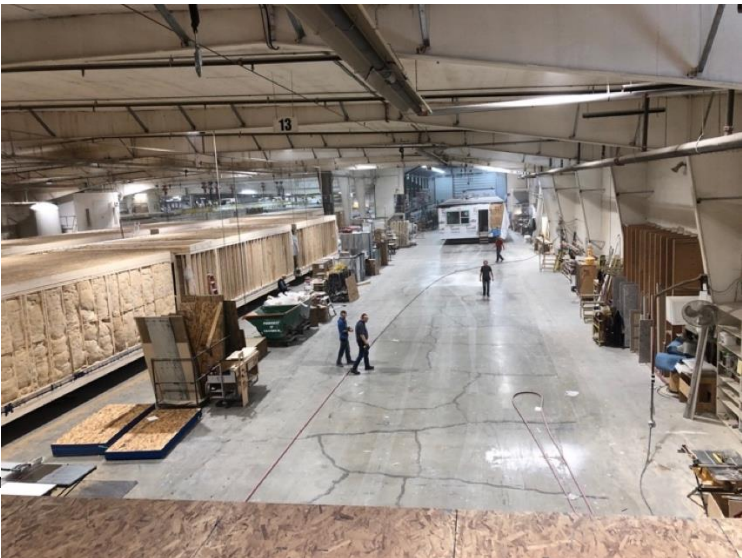
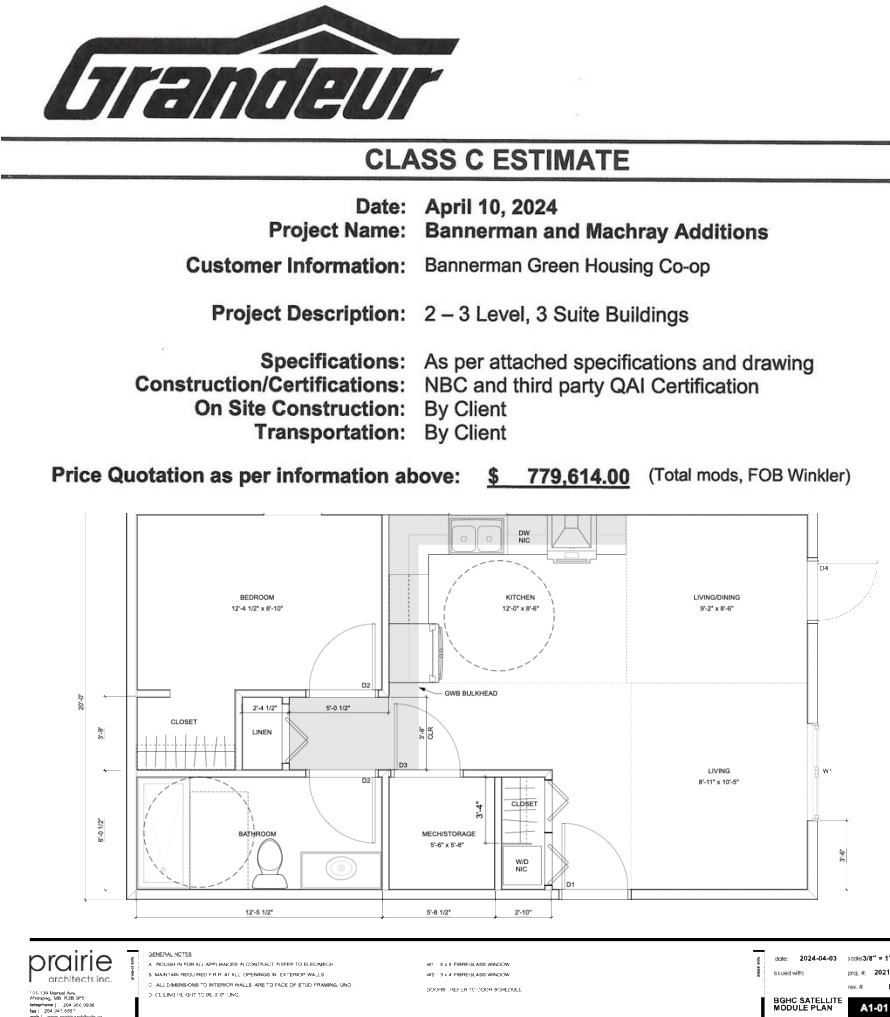
Options to explore serious cost reductions included: consideration of pre-fab construction of assemblies in factories; simplification of the upgrading of satellites; reductions to mechanical requirements and the increasing of passive systems; increasing scale of similar units and assemblies; removal of basements under new additions; identification of a smaller residential contractor to undertake renovations; separate base costs from PH and LBC costs for funding purposes. The co-op sent a letter to Prairie with a list of suggestions for reducing costs while maintaining the essence of the project. See attached summary below:



59 BANNERMAN AND 143 MACHRAY:

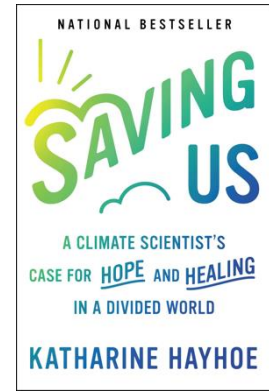
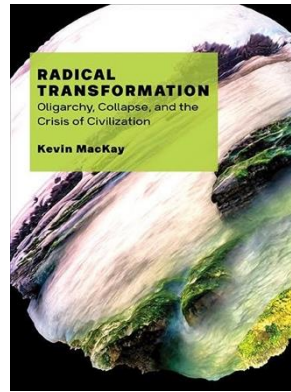
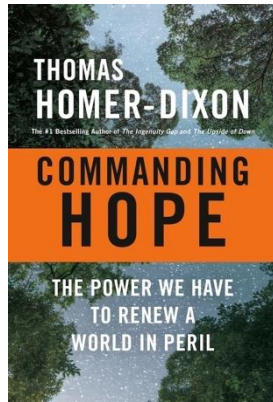
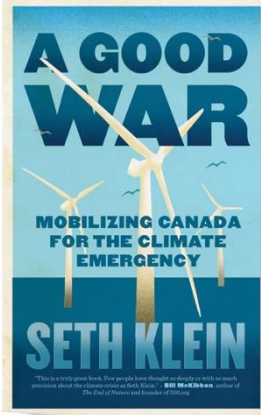
- The primary concept is to simplify the satellite sites
- Deep exterior retrofits not to be constructed
- The existing homes are to be subdivided into two suites - one on the main floor and one on upper floor(s)
- The basement of the existing homes is to be used primarily for mechanical/electrical and storage - except to provide a 'guest suite' in the basement of 59
- Existing interior fittings, materials and surfaces to be retained
- New washrooms and kitchens are added where missing in each suite and existing washroom fixtures to be upgraded as required to meet accessibility requirements
- Fire separations and acoustic ratings between spaces installed to minimize disruptions to rest of space
- Three stacked and pre-fab modular 1/2 bedroom units designed as additions to each property
- All units fully accessible with lift but focus on new units
- The new units to be considered with and without a basement with consideration for building massing and costs
- Modular units to be constructed to PH standards in factory setting and then transported to site
- Stairs, lift and services to be located in interspace between modular unit and existing home
- Mechanical and electrical service spaces for new modular units (and units in existing home) to be located in basement of existing homes

4.19 Factory Module: The co-op investigated prefab home builders in Manitoba and discovered Grandeur Homes in Winkler. We coordinated with the architects a tour of the factory and a meeting with Grandeur on December 14 to discuss the possibility for them to build modules for the satellite homes of the co-op. Grandeur was interested so the co-op directed the Architects to forward a detailed unit plan. Within several weeks Grandeur came back with a cost of \$779,000 FOB Winkler for 6 stackable units or \$133,000 per unit or approximately \$175/sf.



PHASE 5: 2024 – CLASS B AND CAPITAL SUBMISSIONS

5.1 BGHC Book Club: One of our BGHC co-op members, Joan Thomas, who is a Governor General's Award-winning author, suggested at one meeting that we consider starting an informal book club to read climate-related literature to help us place our project in the wider global context. There was enthusiasm for the idea and as a result, the first discussion group was held at Joan's home in mid 2023. Throughout the next years, the group has read books such as:



5.2 Three Buckets: As 2024 began, the Architects and the Construction Manager started to work on a methodology to identify added costs for increasingly sustainable building performance. They worked to sort out costs into four “buckets” – Bucket 1. Base Building; Bucket 2. Higher Performance building; Bucket 3. PassiveHouse performance and Bucket 4: additional costs to achieve a Regenerative Zero-Carbon Living building. The details of each category were listed in the chart below with pricing supplied from the CM:

Bannerman Green Housing Co-op Inc.

FUNDING BUCKETS			
1	2	3	4
BASE BUILDING	HIGH(er) PERFORMANCE BUILDING	PASSIVE HOUSE TARGET (as per Class C package)	ZERO ENERGY ZERO CARBON BUILDING
Based on minimal building package	Based on Base	Based on Passivhaus Package - Part 1000 Package	Based on Passivhaus Package
Construction cost per sf	Construction cost per sf	Construction cost per sf	Construction cost per sf
\$285	\$483	\$558	\$750
Small site premium	Add'l Waste management	Increased submittals	Increased submittals/site control
Urban premium	Add'l Product submittals	Site control by others (Air Boss)	Increased Waste management
			Red list quality control
			Air quality control/monitoring
Triple pane PVC windows	Triple pane PVC windows	Vetia PH certified windows/doors	Vetia PH certified windows/doors
Gas high efficiency furnace	Air source heat pump	Geothermal heat/cool system	Geothermal heat/cool system
Heat recovery ventilator	ERV	ERV	ERV
Standard gas hot water tank	Electrical Hot Water	Electrical Hot Water	Electrical Hot Water
No/Minimal Exterior Insulation	Added insulation R25.2 walls R60 Roof	Added insulation R60 walls R60 Roof	Added insulation R60 walls R60 Roof
No/Minimal Underlab Insulation	Underlab insulation R20	Underlab insulation R52.7	Underlab insulation R52.7
Modbit Roof	Modbit Roof	Modbit Roof	Green roof ZnCo and Soprema
Typical Concrete	Typical Concrete	Typical Concrete	EcoPact Concrete
EIFS/Vinyl Siding	Hardiplank siding	Hardiplank siding	LunaWood/Metal
Typical Wood Frame Construction	Typical Wood Frame Construction	Typical Wood Frame Construction	Nail Laminated Timber Floor Plates
Structurally Integrated balcony	Structurally Integrated balcony	Structurally Independent balcony (PT Wood)	Structurally Independent balcony (Steel/MLT)
Builder grade flooring (\$8/sf)	Builder grade flooring (\$8/sf)	Builder grade flooring (\$8/sf)	LBC compliant flooring \$18/sf
Interior Paint - standard prime & paint	Interior Paint - standard prime & paint	Interior Paint - standard prime & paint	Interior Paint - standard prime & paint
No tile	Kitchen back splash at \$2500 each - no other tile	Kitchen back splash at \$2500 each - no other tile	Tiled bathroom floor, shower, toilet wall
Standard LED lighting fixtures	Occupancy sensor public area lights	Occupancy sensor public area lights	Occupancy sensor public area lights
Plastic laminate kitchens	Plastic laminate kitchens	Plastic laminate kitchens	Dutch elm countertops
Typical Drywall	Typical Drywall	Typical Drywall	Sheetrock Ecosmart
No sprinkler	Sprinkler system	Sprinkler system	Sprinkler system
No elevator	Elevator machine and power	Elevator machine and power	Elevator machine and power
Solar power is not included	Solar power is not included	Solar power is not included	Solar PV panels supplied and installed
			Battery backup for central power
			Electric vehicle charging stations
Minimal to no landscaping	Landscape - Cash Allowance	Landscape - Cash Allowance	Biofilia and site beauty
			Water cistern and retention system
			Traffic calming and boulevard widening

5.3 Co-op Decision to Proceed: At the BGHC member's meeting on April 13, 2024, there was much discussion about this cost framework and while we all were dismayed at the high costs, there was agreement that this seemed to be the new reality. We made this decision in the knowledge that we were operating in a new cost framework, a new funding regime, a deteriorating political climate related to sustainable buildings and a worsening climate emergency. We made this decision in the faith that costs will stabilize, funding will be forthcoming and awareness that climate change for our urban infrastructure will become imperative. It was decided to not proceed with Option 4 as the costs were beyond reality. However, it was agreed that we would ask Prairie to include the green roof (for an additional \$100k) in the base price and to include separate prices outside of contract for solar PV, water collection and traffic calming.

5.4 CMHC Submissions to be Class B Documents: In early 2024, as inflation for construction costs and significant supply chain issues began to impact the ability of CMHC to assess housing projects with Class C price structure, the corporation announced that all future projects would be assessed using more complete Class B drawings, specifications and pricing. The consultant team and contractor agreed to conform to this standard even though this would be considerably more work to comply.

5.5 DSI Tandem Co-op Resources & Pro-Forma Budgets: Throughout the entire BGHC evolution, one invaluable component was the business approach and pro-forma budgets that our Co-op Development Consultants, DSI Tandem provided for the co-op. Without their support and advice with budgets, management, operating costs, potential capital programs, we would not have been able to make it through the project. They attended almost all of our monthly meetings with a clear commitment to housing co-ops and were eternally re-calibrating their pro-forma budgets to react to new construction prices, new operating options (TIFF from the City) and new funding opportunities. They provided the balance to the escalating capital costs to inform the co-op about the potential to carry larger costs based on increased rental rates, decreased mortgage structures or increased capital opportunities. They were instrumental in submissions to many funders with complex financial input spreadsheets. Over the 4+ years of the project, DSI Tandem provided in excess of 50 spreadsheets:

Negotiated Request for Proposals: Development of Social Housing Units
MHHD2023-004
Closing Date – September 19, 2023

9/11/23

Bannerman Green Housing Co-op
Co-Invest Fund Consolidated Operating Budget

Page 5

	Site 1 64B	Site 2 59B	Site 3 143M	TOTAL	NOTES
Annual Operating Budget					
Revenue	157,548	77,280	80,904	315,732	
Occupancy Charges	7,200	1,800	1,800	10,800	@ \$75 monthly/flat
Other Revenue-Parking	0	0	0	0	To be determined
Other Revenue-Laundry	164,748	79,080	82,704	326,532	
Gross Revenue	-3,295	-1,582	-1,654	-6,531	est at 2%
Vacancy	0	0	0	0	
Revenue - Facilities Charge	0	0	0	0	
Revenue - Storage Lockers	0	0	0	0	
Co-op Amenity Charge	3,600	1,800	1,800	7,200	
Effective Revenue	165,053	79,298	82,850	327,201	
Expenses					
Insurance	5,400	2,700	2,700	10,800	est at \$450/unit/year
Property Taxes	21,420	10,710	10,710	42,840	est by Tandem
City of Winnipeg TIF Annual Grant	-12,852	-6,426	-6,426	-25,704	80% of municipal taxes
Elevator	2,100	2,100	2,100	6,300	est by Tandem
Utilities	18,676	6,789	7,344	33,809	est at \$1.40/ft/year
Energy Cost Savings	-5,542	-1,912	-2,069	-9,523	est at \$1.40/ft/year
Maintenance&Caretaking	20,230	6,980	7,551	34,761	est at \$1.40/ft/year
Organization	2,078	0	0	2,078	est at \$0.15/ft/year
Subtotal	52,510	20,941	21,910	95,361	
Mgmt/Admin	10,728	5,154	5,385	21,267	est at 4% of revenue
Replacement Reserve	10,728	5,154	5,385	21,267	est at 4% of revenue
Total Expenses	73,966	31,249	32,680	137,895	
Revenue Before DS	91,087	48,049	50,170	189,306	
Debt Service-Co-Investment Mortgage	41,347	23,101	28,113	92,561	est at 3.09%, 50 year am
Debt Service FCM Loan	33,187	16,593	16,593	66,373	est at 6.5%, 30 year am
Net Revenue	16,548	8,359	5,468	30,375	

Negotiated Request for Proposals: Development of Social Housing Units
MHHD2023-004
Closing Date – September 19, 2023

9/11/23

Bannerman Green Housing Co-op
Co-Invest Fund Consolidated Capital Funding

Page 4

	Site 1 64B	Site 2 59B	Site 3 143M	Total
CAPITAL FUNDING				
Member Share Contributions	1,110,000	420,000	450,000	1,980,000
CMHC Contribution	300,000	150,000	150,000	600,000
City of Winnipeg Low Income Housing	50,000	30,000	30,000	110,000
CMHC Co-I Mortgage	1,056,000	590,000	718,000	2,364,000
FCM Capital Loan	400,000	200,000	200,000	800,000
FCM Capital Grant	400,000	200,000	200,000	800,000
FCM Pilot Project	300,000	150,000	150,000	600,000
MHRC Funding	0	0	0	0
MHRC NRFP	300,000	150,000	150,000	600,000
Winnipeg Foundation	200,000	100,000	100,000	400,000
Co-op Fund Raising (Affordable Units)	100,000	50,000	50,000	200,000
Efficiency MB New Homes	144,000	72,000	72,000	288,000
PDF Funding Grants				
CMHC SEED Contribution	33,900	16,950	16,950	67,800
Efficiency Manitoba	104,125	52,062	52,062	208,249
FCM Study Grant	78,600	39,300	39,300	157,200
CHTC Study	37,500	18,750	18,750	75,000
Other Funding Affordable Units	450,000	150,000	0	600,000
Secondary Funding Market Units	600,000	150,000	180,000	930,000
Surplus Affordable Share Contributions	-17,113	-6,667	-20,301	-44,081
Federal CHD Program	0	0	0	0
Surplus Affordable Share Contributions	-17,113	-6,667	-20,301	-44,081
Total	5,629,899	2,525,728	2,536,460	10,692,088

DSI Tandem worked on an if-come basis. As the co-op did not proceed, their remuneration was very limited to specific tasks. We will be eternally grateful for their commitment to us and the co-op housing movement!

5.6 Second Opinions: The Construction Manager (CM) continued to work with trades and consultants to investigate options and revise pricing to bring down the construction costs. The co-op requested second opinions from a number of sources to determine if the contractor pricing was accurate given the highly inflationary times. We sent mechanical information to a retired mechanical engineer who specialized in energy sustainability.

We also met with a small local contractor to get pricing on Part A of the satellite home deep retrofit. We suggested to the CM that it might make sense to have a separate sub-contractor undertake the deep retrofit work under his overall contract in order to save time and capital. We received pricing for the deep retrofits of \$77 per sq ft for 143 Machray and \$97 per sq ft for 59 Bannerman. The work was based on the Greener Homes government grant retrofit recommendations with minimal changes being made to the layout of the homes. The Construction Manager accepted the quotes and began to work with the sub-contractor to incorporate his work and costs into the overall budgets.

5.7 Energy Models 2: PraeirHOUSE Performance (PHP) did an estimate of energy use for the satellite homes at 59 Bannerman and 143 Machray. The overall objective was to demonstrate that it is possible to take a large single-family home that uses 204GJ of energy per year and significantly reduce the energy requirements assuming subdivision of the space into 2 units. When we combine the subdivided existing home with the addition of three new Passive House units to the rear, the average overall energy use for the 5 to 6 units on the site will be reduced to near net-zero.

The energy model (below) shows that after the retrofit and additions at the back of the existing home, the total heating load for all 5 units will be 39GJ or 24% of the existing! Total energy use after accounting for 9.8 kW of solar energy (44GJ) is 25% of the current use. We then did HOT2000 simulations on the homes to identify additional options to deep-retrofit the home to reduce energy and carbon further towards zero.

The following charts summarizes the findings of both reports with GJ energy/Tonnes of carbon:



prairieHOUSE

PERFORMANCE inc.

P • 204-471-4725

F • 204-637-4360

E • info@prairieHOUSE.ca

www.prairieHOUSE.co

522 Raglan Road • Winnipeg, Manitoba • R3G 3E5

BANNERMAN GREEN HOUSING CO-OP INC.

FCM CORNERLOT TRANSFORMATION PILOT

Address:

59 Bannerman Avenue

Floor area original building:

199.3

Floor area with additions:

511.1

Baseline GHG (T/a)

9.5

Proposed 9.81 kW/PV for 5 plex

44.85 GJ 12459 kWh

	ORIGINAL GEOMETRY, SINGLE FAMILY				SATELLITE w/ ADDITIONS (5 Plex)		SATELLITE w/ ADDITIONS (5 Plex) w/ 9.81 kW/PV	
	Baseline G/J/a	Baseline Kw/H/a	Retrofit G/J/a	Retrofit Kw/H/a	5 Plex G/J/a	5 Plex Kw/H/a	5 Plex G/J/a	5 Plex Kw/H/a
Heating	158.18	43939	33.56	9322	39.4	10944	39.4	10944
Cooling	0	0	3.52	978	10.67	2964	10.67	2964
DHW	26.93	7481	26.77	7436	44.71	12419	44.71	12419
Ventilation	0.04	11	0.64	178	2.78	772	2.78	772
Base loads	25.62	7117	25.62	7117	93.1	25861	93.1	25861
TOTAL	210.77	58547	90.11	25031	190.66	52961	145.2	40333

NET TEUI (/m2):	1.1	293.8	0.45	125.59	0.37	104	0.28	78.9
TEDI (kWh/m2):		220.5		46.77		21.4		21.4

SUMMARY:

1. New heating load for 5 units (10944 kWh/yr) is 24.9% of the heating load for the single family home (43,939 kWh/yr)

2. New Total Net Energy Use Intensity (TEUI) for 5 units (78.91 kWh/yr) is 26.8% of the TEUI for the single family home (293.8 kWh/yr)

3. New Total Net Energy Demand Intensity (TEDI) for 5units (21.4 kWh/sm/yr) is 9.7% of the TEDI for the single family home (220.5 kWh/sm/yr)

June 3, 2024.

5.8 Capital Funding Programs: As the consultant team continued to work with the CM in the production of Class B documents, the co-op continued to research potential funding sources and submit applications at required deadlines. We concluded that there were many variables and many new programs starting to be announced to deal with a growing housing crisis. In early 2024, there were few concrete capital funding programs other than CMHC. As we were in the midst of dealing with the escalating pricing, the federal government announced that they were proposing to remove GST and PST from housing construction. At the end of the day, we decided that our best option was to carry on in good faith to have Prairie and the consultant team prepare the Class B documents so that when all the funding sources were clarified we will be shovel ready. By June 19, 2024, the following was the status of potential capital funding projects:

- **AFFORDABLE HOUSING NOW** – City of Winnipeg – submitted to the Concierge. Discussed tax increment financing. Relieves 50% of our taxes over 25 years. Works out to about \$25,000 per suite. An additional grant of \$10,000 per suite is potentially available for exceptional projects – this is in play but not confirmed. The preliminary proposal has been submitted.
- **ACCELERATOR FUND** – City of Winnipeg – deadline July 12. This is from Federal funding of \$170M given to the City of Winnipeg. City of Winnipeg is also in charge of the Accelerator Fund. BGHC qualifies for \$35k per unit (not in the downtown area which qualifies for \$60k). The \$35k applies to both the affordable and market units.
- **PILOT PROJECT** – Federation of Canadian Municipalities – a lot of work expended on this to date, but it is not as clear cut as expected. It appears that a project can either be a 'Pilot' or a "Capital Project" but not both. BGHC talked with project officer and it seems there could be a lot more cash for BGHC as a 'Capital Project" and this will be explored further. If we are eligible, the application for the 'pilot' will not be pursued further.
- **FCM CAPITAL PROJECT FUNDING** – If we are eligible, this program will fund up to 20% of the project costs with 40% of that as a mortgage and 60% of that as a grant. This can be layered on top of CMHC funding. After considerable back and forth with the Capital Development officer at FCM, a formal application for capital funding to FCM was submitted on August 29 and then revised on September 17. The request was for \$1.8 million grant and \$1.2m loan.



5. 9 Co-op Housing Development Program (CHDP): A co-op housing program had long been promised by Canada and had been in throne speeches for many years. In early June 2024, CMHC announced the CHDP. There were few details except that special webinars would be held on June 25 to announce the details. The announcement did indicate that project applications would be accepted until September 15 and applications would be available starting July 15. The timing and readiness of BGHC seemed perfect. The following is a summary of the central criteria for the new program:

CRITERIA FOR CO-OP HOUSING DEVELOPMENT PROGRAM:

- Success determined by highest score in matrix
- Rents based on 80% market rates
- Shovel readiness
- Minimum 30% affordable units
- Land ownership and zoning in place
- Environmental site assessments + geotechnical
- Class B drawings and prices
- Max unit cost under \$600k
- Confirmation of other funding sources
- Minimum 75 units in urban areas
- Energy Tier 4 2020 NECB
- Accessibility standards provided
- CHDP to provide up to 33% of total capital as grants
- CMHC 50 year low-interest loan for remainder

LAUNCH OF THE

**CO-OPERATIVE HOUSING
DEVELOPMENT PROGRAM**

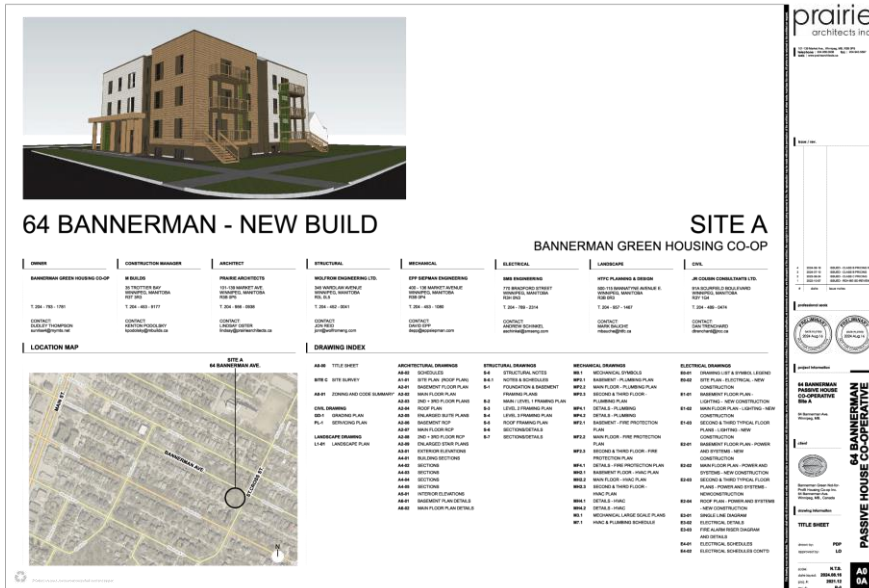


A number of BGHC members and several of the consultant team attended the webinar. Within a few days we held several ZOOM sessions with our liaison officers in Edmonton. We were concerned primarily on a number of issues: our scale of only 26 units; the inability to use private capital for our proposed 'market units'; the confirmation of other funding sources and the high cost of our units. After reviewing our progress to date and the relative advantage that our project would have relative to the compact schedule, the fact that we own land, have completed zoning and environmental assessments and will have Class B documents complete before the deadline, the CMHC officers recommended that we apply. They pointed out that the final selection would be ranked nationally, so there could be a potential that our project could rank well overall and qualify, but it would depend on other submission comparisons.

After consultation with the consultant team and all stakeholders, BGHC passed the following motion at its July 2024 member's meeting:

MOTION: The members of BGHC approve the submission of a Capital Mortgage Funding Application by the BGHC Executive to both the CMHC Co-op Housing Development Program (CHDP) and the Federation of Canadian Municipalities (FCM) Capital Project Program by August 30 based on the revised Class B construction budget and the operating financial pro-forma budget that demonstrates the financial viability to build and operate the co-op.
Moved: XXX Seconded: XXX In Favour/Against: Carried unanimously

5.10 Completion of Class B Documents and Prices: Final Class B drawings and specifications were submitted for all three sites on time to the construction manager on June 30 for pricing.



M Builds LP		
PROJECT: 64 BANNERMAN - NEW BUILD	OWNER: BGCN	Date: 2024-08-22
LOCATION: BANNERMAN	ARCHITECT: PRAIRIE	Duration in weeks: 42
DRAWING SET: DATE: PRELIMINARY	CLOSING DATE: 23-Aug-2024	Estimate No:
ESTIMATE TYPE: Class B Estimate		Project No:
		Sub: Link Building Area in SF: 4736
		Grandeur Building SF:
PRIVATE & CONFIDENTIAL		
GENERAL SUMMARY	DETAILS	Class B Estimate August 16, 2024
DEMOLITION	CUT (2) OPENING IN BASEMENT LEVEL FOR WINDOW REMOVE EXISTING EXTERIOR TO EXPOSE STUDIOS AT THE LINK	55,000
EXCAVATION + BACKFILL	EXCAVATE 1' PAUL OFF SITE - 6' DEEP	14,000
CONCRETE SCOPE	PERIMETER CONCRETE FOOTINGS 24" W x 10" D - Change to 24" CENTER CONCRETE FOOTINGS FOR TELEPOSTS - Change to 24" 8" TALL CONCRETE WALLS GW - Changed to concrete	209,800
REBAR TOPPING	REBAR FOR CONCRETE BASEMENT SLAB GW VAPOR BARRIER CONCRETE FINISHING	11,180
MASONRY	RECLAMED MASONRY BRICK WALL - FREE STANDING SOLID WALL CONCRETE WALL & FOOTING CMU/ELEVATOR - 3 STORES	12,825
PRE-FAB UNITS	GRANITE SUPPLY CELL UNIT CRANE INITIAL	See Alternative
STRUCTURAL METAL FRAMING	FRAMING FLOORS 10' W x 10' W TRUSS WOOD TRUSS FOR OPENINGS IN EXISTING WOOD ROOF RAFTERS	2,817
ROUGH CARP / FRAMING / BLOCKING	WOOD FRAMING (Package - 1188) AND ROOFING (Package - 1188) (1) WOOD STAIRS INTO BASEMENT LEVEL (2) INTERIOR STAIRS - 3 STOREY STAR ANDRONS	14,500
FLOOR JOISTS	WOOD JOISTS	13,424
ROOF JOISTS	WOOD JOISTS	1,486
EQUIPMENT RENTALS	ZOOM ROOM	8,500
INTERIOR BASEBOARDS	AS per drawing	52,234
FIRE TOPPING	WOOD FRAMING (Package - 1188) AND ROOFING (Package - 1188)	14,500
GUTTERS/DOWNSPOUTS	PRE-FINISHED METAL DOWNPOUT C/W SCUPPER BOX	1,000
CLADDING	CLADDING (Package - 1188) AND ROOFING (Package - 1188) WALL INSULATION @ R-19 THICKNESS	4,427
ROOFING	CLADDING (Package - 1188) AND ROOFING (Package - 1188) ASBESTOS FREE ROOF	13,386
BALCONY MEMBRANE	ROOF - MOD BT ROOF C/W R-30 INSULATION - R-30 VAPOR BARRIER & PRIMER	92,115
DOORS, FRAMES, HARDWARE, SUPPLY	Supply and install doors frames and hardware	51,880
DOORS, FRAMES, HARDWARE, SUPPLY	1 BALCONY DOORS	1,000
DOORS, FRAMES, HARDWARE, SUPPLY	1 EXTERIOR DOOR C/W GLAZING	1,000
DOORS, FRAMES, HARDWARE, SUPPLY	1 EXTERIOR DOOR WITH A SIDE LITE C/W GLAZING	1,000
DOORS, FRAMES, HARDWARE, SUPPLY	1 EXTERIOR WINDOW - Triple pane Duxton W/doors	23,700
DOORS, FRAMES, HARDWARE, SUPPLY	2 A1 MAIN ENTRANCE	4,320
DOORS, FRAMES, HARDWARE, SUPPLY	1 EXTERIOR WINDOW - Triple pane Duxton W/doors	7,780
DRYWALL	FOR LINK ONLY DRYWALL TYPING	167,700
DRYWALL	BASEMENT INTERIOR WALLS 12" GW	19,800
DRYWALL	MAIN FLOOR INTERIOR WALLS 12" GW	1,000

The construction prices obtained from multiple subtrade bids was completed on August 22. The costs reflect a substantial reduction from the Class C prices due to the implementation of many alternative approaches and refinements. The following is a summary of the Class B construction costs for all three sites received:

CLASS B CONSTRUCTION COST ESTIMATES – MBUILDS: AUGUST 20, 2024.

	64 BANNERMAN	59 BANNERMAN	143 MACHRAY	TOTAL PROJECT
Number Units	13	6	7	26
Area sf	13,856	4,736	4,715	23,307
Direct Costs	\$5,061,177	\$2,450,873	\$2,385,840	\$9,897,890
General Conditions, Contingency, Fees	\$1,162,670	\$675,776	\$674,473	3,052,919
Class B Cost	\$6,763,847	\$3,126,649	\$3,060,313	\$12,950,809
Unit Costs	\$490.56	\$660.18	\$649.05	\$555.66
Per Unit Cost	\$520,295	\$521,108	\$437,187	\$498,108

5.11 Final Project decisions: After receiving the Class B pricing, BGHC worked with the Co-op Development team (DSI-Tandem) and the Architect to investigate final options to reduce overall costs. A number of suggestions were reviewed including several value engineering reductions and an increase in number of units. It was agreed to convert a large two-level unit in 64 Bannerman to two units bringing the total to 13 units and to add four levels to the rear of each satellite unit. Overall, the total number of units increased to 26. These changes were worked through with the contractor and the following spreadsheet summarized the changes and added in the soft costs as well as proposed funding sources:

BGHC - CLASS B PRICING AND FUNDING POTENTIAL - OPTION B					
August 17, 2024.					
FACTOR	DETAILS	64 BANNERMAN	59 BANNERMAN	143 MACHRAY	TOTAL
Units		13	6	7	26
PROJECT COSTS:					
Area (sm)	Class B set July 15/24	1280.9	498.9	519.8	2299.6
Area (sf)	Class B set July 15/24	13782.48	5368.16	5593.05	24743.70
Value Engineering reductions		VE (\$100K)	VE (\$200K)	VE (\$200K)	
Sub-Total Construction costs	Class B actual incl 7% contingency	\$ 7,106,521.00	\$ 2,895,682.00	\$ 2,962,204.00	\$ 12,964,407.00
Ancillary costs and fees	*1 (18% of const))	\$ 1,279,173.78	\$ 521,222.76	\$ 533,196.72	\$ 2,333,593.26
Contingency	5% of Ancillary	\$ 63,958.69	\$ 26,061.14	\$ 26,659.84	\$ 116,679.66
Sub-Total Ancillary		\$ 1,343,132.47	\$ 547,283.90	\$ 559,856.56	\$ 2,450,272.92
TOTAL COSTS		\$ 8,449,653.47	\$ 3,442,965.90	\$ 3,522,060.56	\$ 15,414,679.92
Land/building costs		\$ 275,000.00	\$ 400,000.00	\$ 350,000.00	\$ 1,025,000.00
TOTAL PROJECT + LAND		\$ 8,724,653.47	\$ 3,842,965.90	\$ 3,872,060.56	\$ 16,439,679.92
Construction sf costs	Based on sub-total const. above	\$ 515.62	\$ 539.42	\$ 529.62	\$ 523.95
Project sf costs incl land		\$ 633.02	\$ 715.88	\$ 692.30	\$ 664.40
Unit Costs with land	\$600k each requires add VE (\$400k)	\$ 649,973.34	\$ 491,852.27	\$ 503,151.51	\$ 592,872.30
Unit Costs without land		\$ 671,127.19	\$ 548,995.13	\$ 553,151.51	\$ 632,295.38
PROJECT FUNDING: 26 UNITS	Red is change				
Members share contribution	Wpg and others	\$ 250,000.00	\$ 100,000.00	\$ 100,000.00	\$ 450,000.00
CHDP Co-op grant	max 33% of total costs	\$ 2,879,135.64	\$ 1,268,178.75	\$ 1,277,779.98	\$ 5,425,094.37
FCM grant	60% of 17% of total capital	\$ 861,864.65	\$ 351,182.52	\$ 359,250.18	\$ 1,572,297.35
Accelerator Fund	\$35,000/unit	\$ 455,000.00	\$ 210,000.00	\$ 245,000.00	\$ 910,000.00
Efficiency Manitoba	new homes grant \$12,000/ea	\$ 156,000.00	\$ 72,000.00	\$ 84,000.00	\$ 312,000.00
Manitoba	rental housing tax credit (\$10k/unit)	\$ 130,000.00	\$ 60,000.00	\$ 70,000.00	\$ 260,000.00
Pre-Development funds	CMHC/FCM/CHTC/EM	\$ 318,000.00	\$ 132,500.00	\$ 132,500.00	\$ 583,000.00
Misc Owners contribution	Wpg Fdn and others	\$ 250,000.00	\$ 75,000.00	\$ 75,000.00	\$ 400,000.00
Manitoba Housing/Envnt	General housing funds	\$ 400,000.00	\$ 175,000.00	\$ 175,000.00	\$ 750,000.00
CMHC Mortgage	Based on net rent cash flow	\$ 2,594,000.00	\$ 900,000.00	\$ 900,000.00	\$ 4,394,000.00
FCM Mortgage	40% of 17% total	\$ 574,576.44	\$ 234,121.68	\$ 239,500.12	\$ 1,048,198.23
City - Afford Housing Now TIF	Operating TIF- not included capital	\$ 390,000.00	\$ 180,000.00	\$ 210,000.00	\$ 780,000.00
TOTAL PROJECT FUNDING					
FUNDING REQUEST SUBMITTED		\$ 8,868,576.73	\$ 3,577,982.95	\$ 3,658,030.28	\$ 16,104,589.96
Deficit/Surplus		\$ 143,923.27	\$ (264,982.95)	\$ (214,030.28)	\$ (335,089.96)

Note *1: Includes project mgmt fees, consulting fees, legal/audit,marketing,interest, GST

The final costs show a total project budget of \$16.4 million including land and soft costs, unit costs of \$523/sf and \$592,000 per unit without land. The budget also shows a summary of potential funding options in process.

5.12 CHTC Submission: A draft CHTC application was submitted on September 1 to our CMHC liaison officers in Edmonton for their review. They responded early in September with a request for several clarifications and additions. These were supplied and the completed application was submitted on September 13. Key to the overall submission was the Viability Calculator as attached below:

 Canada Mortgage and Housing Corporation

Uploaded Files My Activities View Agreement Reports

This application is assigned to DUDLEY THOMPSON of Bannerman Green Not-for-Profit Housing Co-op Inc.

CHANGE ASSIGN TO ME MANAGE CONTRIBUTORS

Application Information

Application Reference Number 27803832	Project Title BANNERMAN GREEN NOT-FOR-PROFIT HOUSING CO-OP CHDP	Program Co-operative Housing Development Program
Date Submitted August 29, 2024	Current Date 29 August 2024	Status Submitted

Organization Information

Organization Bannerman Green Not-for-Profit Housing Co-op Inc.	Organization Legal Name Bannerman Green Not-for-Profit Housing Co-op Inc.
Main Phone 204-763-1781	Legal Entity Type Corporation
Fax	Web Site http://bannermangreen.ca



Note: Only YELLOW highlighted fields that are applicable need to be input.

Project Budget: New Construction

Project Characteristics		Residential (A)	Non-Residential (B)	Total (A + B)
Total sq feet (Gross floor area estimated)	24,746	24,746	-	24,746
Proportion of total	100%	100.00%	0.00%	100%
Number of residential units	26			

1. Project budget	Total Project Costs	Per unit	Pro-Rata Project Costs	
Land cost (must be supported)	\$ 1,060,000	\$ 40,769	\$ 1,060,000	\$ - \$ 1,060,000
Hard costs (must be supported by Class B budget)	\$ 12,275,809	\$ 472,147	\$ 12,275,809	\$ - \$ 12,275,809
Soft costs	\$ 1,860,115	\$ 71,543	\$ 1,860,115	\$ - \$ 1,860,115
Financing costs	\$ 11,331	\$ 436	\$ 11,331	\$ - \$ 11,331
GST/HST (Net of rebate, if any)	\$ -	\$ -	\$ -	\$ - \$ -
Contingency	\$ 693,493	\$ 26,673	\$ 693,493	\$ - \$ 693,493
Interest during construction	\$ 301,943	\$ 11,613	\$ 301,943	\$ - \$ 301,943
Other (describe)	\$ -	\$ -	\$ -	\$ - \$ -
Other (describe)	\$ -	\$ -	\$ -	\$ - \$ -
Other (describe)	\$ -	\$ -	\$ -	\$ - \$ -
Total Budget (Uses) (C)	\$ 16,202,691	\$ 623,180	\$ 16,202,691	\$ - \$ 16,202,691

2. Sources of Funding (Non-CHDP)	Total Funding Sources	Comments
Other Debt Financing	\$ 1,200,000 \$ 46,154	FCM Capital Loan - Pre-App SAH-24-0827 submitted to Chad Meda, Green
Other Grants / Contributions	\$ 1,800,000 \$ 69,231	FCM Capital Grant - Pre-App SAH-24-0827 as above
Land contribution (cannot exceed land cost)	\$ - \$ -	
Owner cash equity	\$ 286,442 \$ 11,017	Fundraising from co-op members
ACCELERATOR FUND : City of Winnipeg	\$ 910,000 \$ 35,000	Application submitted to Greg MacPherson, City of Winnipeg - July 12, 2024
LOW CARBON LEADERSHIP FUND: Province of Manitoba	\$ 390,000 \$ 15,000	Submitted letter of interest
MANITOBA HOUSING: Development of Social Housing	\$ 780,000 \$ 30,000	Awaiting proposal call
PREDEVELOPMENT FUNDS	\$ 440,449 \$ 16,940	Study Grant \$157,200; CHTC Study \$75,000; (MHRG loan \$75,000 NIC)
Development charge waiver	\$ 866,000 \$ 33,308	C of W Low Income Housing \$90,000; Winnipeg Foundation \$210,000;
CMHC Seed (Contribution ONLY)	\$ 67,800 \$ 2,608	
Total Other Sources (D)	\$ 6,740,691 \$ 259,257	\$ 6,740,691 \$ - \$ 6,740,691

Forgivable Loan Requested May be Acceptable	Forgivable Loan Requested by Proponent (E):	\$ 4,931,925	\$ 189,689	\$ 4,931,925	\$ - \$ 4,931,925
Repayable Loan required (C - D - E)		\$ 4,530,075	\$ 174,234	\$ 4,530,075	\$ - \$ 4,530,075

Applicants are encouraged to request the minimum Forgivable Loan required for their project and are rewarded for doing so in the Scoring Grid. Higher scoring proposals are more likely to be selected.

Once all project data is input into this workbook, please refer to the CHDP Funding Results below

Projects may have their Forgivable Loan request adjusted - up or down - according to the project's capacity to carry repayable debt.

Project is viable with less Forgivable Loan than requested	4,931,921
According to the inputs provided (proposed rents/housing charges), the minimum Forgivable Loan this project requires is:	

If housing charges were increased to 110% of MMR, the minimum Forgivable Loan this project requires is: \$ 1,987,415

The Viability Calculator algorithm showed that the project would be eligible for a forgivable loan of \$4.93 million and a repayable loan of \$4.53 million for a total potential allocation of \$9.462 million or 58% of the total project costs. Over 50 attachments were submitted with the proposal.

You must complete all tabs (if applicable) before reviewing this section.

CHDP Funding Requested		% of Eligible Cost
Forgivable Loan Requested	\$ 4,931,925	30.4%
Repayable Loan Requested	\$ 4,530,075	28.0%
Total	\$ 9,462,000	58.4%

DCR Particulars (Requested CHDP Funding)	
Residential*	1.00
Non-residential	-
Project DCR - Overall	1.00

CHDP Max Funding		% of Eligible Cost
Forgivable Loan (1/3 of Project Cost)	\$ 5,400,897	33.3%
Repayable Loan (Max loan supported with proposed housing charges)*	\$ 4,530,079	28.0%
Repayable Loan (If Rents/Housing Charges are at 110% of MMR)*	\$ 7,474,585	46.1%

** Repayable Loan is capped at Project Cost - Other Funders)*

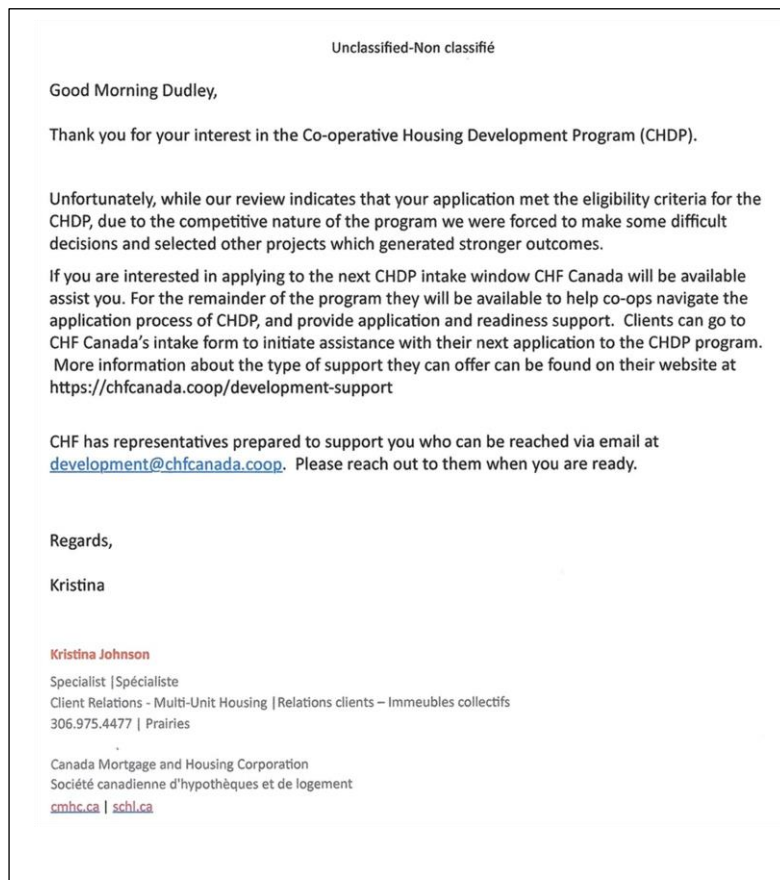
If the Forgivable Loan requested is within program parameters (less than 1/3 of project cost) AND the Repayable Loan required to

In the event that the proposed project can support additional Repayable Loan (DCR is greater than 1.0) the requested Forgivable l

Potential Revised Funding		% of Eligible Cost
Potential Forgivable Loan with proposed rents/housing charges	\$ 4,931,921	30.4%
Potential Repayable Loan with proposed rents/housing charges	\$ 4,530,079	28.0%
Total	\$ 9,462,000	58.4%
Potential Forgivable Loan, rents/housing charges at 110% MMR	\$ 1,987,415	12.3%
Potential Repayable Loan, rents/housing charges at 110% MMR	\$ 7,474,585	46.1%
Total	\$ 9,462,000	58.4%

Potential adjustment will not be imposed without discussion with the applicant.

5.13 NON-ACCEPTANCE CHDP: The following letter from our liaison officer in CMHC Edmonton was received on November 27, 2024. The co-op was not approved for CHTC funding.



Upon enquiry as to the reasons for the rejection and the location of the selected co-ops, the following was received:

In regard to your request for information on how much funding/how many projects in Manitoba were allocated CHDP funding I would like to advise that until agreements are executed this information is not available. Once the agreements are executed, announcements regarding the successful projects will be made and I can certainly provide you with information at that time.

If there is slippage from the first round of CHDP funding it has not yet been determined if the funding will be allocated to projects that were not prioritized or to the next round of CHDP funding; CMHC will make that determination if/when it happens. Currently the priority is to work with applicants who were selected to execute agreements and support the development of the projects they have planned to deliver.

PHASE 6: 2025 – CONCLUSION

6.1 Final Considerations: After the rejection of the significant funding from the CHDP, it became apparent that any remaining possibility to proceed was becoming less viable. Also, because CMHC was not able to advise us as to our shortcomings on the CHDP submission, we had no guidance to understand the potential of any future consideration. Further, the future of ANY housing or sustainability programs looked bleak in a deteriorating political climate.

Manitoba Housing reached out to us in mid-December responding to a request we had made to meet with the Minister. Our request had been sent repeated times in July and August of 2024. The intent of the request was to determine if there was any potential funding commitment to the project as it was evident that CMHC would not be funding projects without Provincial buy-ins. We were further going to ask for Provincial help to speak up for us during the CHDP negotiations. There was no follow up on our many requests and the CHDP decisions had been made. We did meet with MHRC in mid-December and they expressed their regrets. They indicated that they recently announced **Housing Starts Here**, a housing funding program and suggested we apply. They also indicated strong support for the project and were committed to work with us and the City to obtain additional grants. They suggested we apply to the standard CMHC National Housing Strategy for non-profit housing.

We subsequently applied for the Housing Starts Here program as well as submitting an application to CMHC NHS Affordable Housing Fund.

6.2 Final Decisions: Throughout the last months of 2024 and into 2025, BGHC explored a multitude of avenues to determine if there were other options for the project. We evaluated additional funding sources, assessed cost-reduction strategies while attempting to maintain the integrity of the vision for a multi-site co-op that met net-zero energy and zero-carbon initiatives. We worked with the architects to increase the number of units inside the existing frameworks and to simplify the scope and form of the buildings. Unfortunately, these efforts did not yield the necessary reductions in cost or lead to an increase in financial support.

In the end, it seemed that it was time to stop work on the project. It had been five years and tens of thousands of volunteer hours of time had been put into the project. In addition, many members had put their lives on hold with the expectation of the co-op proceeding and needed to have some concrete timelines that we were no longer able to offer. So, after discussion at Meeting #46 on January 15, 2025, the co-op passed the following motions:

- 1. After reviewing all options for the continuation of the housing co-op, the members of BGHC agree to discontinue work and wrap up all outstanding receivables and grant funding.** *Moved by Jim Chapryk and seconded by: Bill Dunn. Carried.*
- 2. To release the owners of the homes and land from their responsibilities toward the co-op.** *Moved by Laura Donatelli and seconded by Bill Dunn. Carried*
- 3. To return deposit funds to Members.** *Moved by Karin Seiler and seconded by Don Hurst. Carried*
- 4. To retain BGHC in name as a legal entity.** *Moved by Dorothy Wigmore and seconded by Joyce McInnes. Carried*

6.3 Postscript: On March 19, 2025, Manitoba Housing committed to a grant of \$660,000 to BGHC towards the provision of 10 affordable housing units.

PART FIVE: Strengths

Bannerman Green Housing Co-op demonstrated many strengths throughout the project. These included:

- **Vision:** The initial vision of the BGHC was to demonstrate a deeply sustainable urban infill housing model for mature neighbourhoods across the country. The intent was to show that features like PassiveHouse certification, solar PV integration, district geothermal heating, embodied carbon positive buildings could be integrated into new infill and deep retrofits of existing homes as a way forward to densify and retrofit existing neighbourhoods to net-zero levels. We continue to believe deeply in this vision.
- **Process:** We initiated a strong process that enabled us to move towards the fulfillment of a comprehensive project - we incorporated the co-op to help secure funding, prepared a vision document that included a Project Charter, undertook a Collective Design Process outlining a conceptual vision of the project and provided a Class C construction budget - to submit this comprehensive package for pre-development funding. Once this funding was in place, we were able to hire the best consultants to work with us to create detailed drawings and pricing. The process worked well and we were gratified and optimistic with the results.
- **Transparency and Communication:** BGHC's commitment to transparent communication helped manage community expectations during the development of the project. The co-op maintained open lines of communication with members, stakeholders, local residents through an active website, open monthly public meetings, door-to-door distribution of updates – all to ensure that local residents were informed about the challenges and the reasons behind our decision making.
- **Leadership and Innovation:** BGHC demonstrated leadership in sustainable co-op housing, anticipating federal and provincial initiatives to densify cities and promote geothermal and housing incentives. The project set a benchmark for forward-thinking housing models, showing how communities can try to align and be flexible with emerging policies.
- **Volunteer Team Excellence and Collaboration:** BGHC assembled a highly skilled volunteer committee structure, including an architect with significant sustainable design expertise, a school superintendent, a lawyer, a retired federal politician, and other expert contributors. This expertise showcased the value of interdisciplinary collaboration in complex community development initiatives and strengthened the project's credibility.
- **Consultants Expertise:** We felt very gratified to have been able to choose some of the very best consultants in the city to work with us on the project. The innovative components of the project drew out the best in the team of architects and engineers who worked well beyond normal expectations. The remuneration was low but the creative potential, spirit and innovation was high.
- **Partners' Patience:** The project depended on the deep retrofits of two existing homes owned by co-op members and offered to the co-op at market prices. Both owners had been very patient to continue to put their future lives on hold with the co-op for five years, but were now five years older, and with no positive funding apparent, they were needing to move on with their lives.
- **Persistence and Resilience:** By early 2025, the small core group of 20-30 local residents had invested five years and tens of thousands of hours of volunteer time into the project with monthly meetings, open-houses, committee meetings, integrated design sessions with our consultants and precious time to keep the funding and vision alive. The energy was not there to continue to rework the project, once again, to suit a rapidly changing funding landscape.

PART SIX: Challenges

Bannerman Green Housing Co-op faced significant challenges over the five years of the project. As indicated above, once the final Class B drawings and pricing were obtained, multiple funding requests were submitted during 2024 to all levels of government. None of the grants were approved in 2024. The project experienced multiple issues that led to a decision in 2025 not to continue with the project. The challenges included:

- **COVID:** We had no idea when we started the project that we would experience a global pandemic with all the associated constraints and problems that would involve. We ‘pivoted’ to continue working on the project by having our monthly meetings on ZOOM. These meetings and even design charettes were done on ZOOM over the next two years remotely. The co-op became a highly supportive community during this time and many members appreciated the contact and creativity that the ZOOM meetings offered.
- **Capital Funding Escalation:** A substantial increase in capital costs was experienced. The costs increased from the 2022 Quantity Surveyor’s estimate of \$8.2M to \$16.2M in mid 2024. This dramatic escalation was similar to others in Canada caught in highly inflationary times.
- **Small Scale:** The initial project was envisioned as a neighbourhood-scale housing co-op with 26 units. It was intended as a prototype to demonstrate how small-scale infill construction might redevelop mature communities in the face of climate change. In the end, the size and complexity of the three different buildings did not achieve any economies of scale.
- **Urban Construction:** One of the factors for high construction costs raised by the contractors was due to the urban location of the project. Trades seemed unwilling to come all the way downtown for a small project rather than working on larger projects scattered in suburban locations.
- **Change in Political Focus:** When we started the project in 2019, the direction for non-profit housing supply in Manitoba was for projects to provide a mix of Affordable and Market housing. By 2024, due to changing times and changing political policy, the dominant focus for housing in Manitoba shifted to the provision of deep social housing for homeless persons.
- **Construction Management:** It has always been the preference in the design of sustainable buildings to select a construction management process that will enable the contractor to work alongside the consultant team to select the best and most cost-effective materials and methodology. This choice was a key decision in a highly innovative and inflationary time but was not enough to bring the project to a competitive price.
- **Raw Numbers:** The urgent demand for new affordable housing increased the pressure on housing providers to quickly provide large numbers of housing. Raw numbers of housing units have taken precedence over small neighbourhood projects.
- **Commitment to Sustainable Buildings:** Due to a variety of factors including inflation, carbon taxes, cost of living concerns and the shortage of affordable housing, public opinion regarding climate change and sustainability began to change during the life of our project. This in turn slowed and then reversed the national and international politics of climate change and commitments to net-zero sustainability. Net-zero buildings became less important.
- **Political Uncertainty:** By early 2025, when the project had still not received any capital funding, the dominant federal political direction in Canada was focusing on incentives for private housing and retreating from carbon tax, sustainability, housing co-operatives and community- based housing.

PART SEVEN: Lessons Learned

- **Adaptability and Funding Strategy:** We worked hard over 30 months to achieve over \$700,000 in pre-development funding grants from six partners. There was great enthusiasm from all partners at all government levels for the overall development concept. Patience was key, as some funders had very long approval times and it was difficult to proceed without most of the key pre-development funding in place.
- **Ownership:** It is all about ownership of land and homes. We were fortunate to have one member family who privately purchased a small parcel of vacant land in the neighbourhood and held it in trust for the co-op. We followed this with future purchase agreements with two members who owned homes. Once we had these agreements in place, we were taken seriously by funders and the municipality and were able to acquire funding grants for predevelopment design and planning.
- **Neighbourhood Goodwill:** One of the reasons we wanted to design the co-op in a neighbourhood was to involve neighbours in the design. Most co-op members lived in existing homes in the neighbourhood. We all had a vested interest in working with our community to ensure the new development fit into the area and was accepted by the neighbours. As a result, there was a lot of goodwill towards the new co-op in the neighbourhood. We held open houses, distributed progress update pamphlets and worked with our neighbours to ensure that everyone was onboard with design issues to ensure there were no issues with any zoning or variance applications.
- **Flexibility:** We became very flexible as changing political priorities, funding requirements and timelines changed. We remained in tune with changing housing directions, technical modifications and local concerns. We pivoted from in-person to ZOOM meetings; we pivoted from member capital contributions to one size membership; we pivoted from stick-built additions to factory modules; we pivoted building style to one that fit PassiveHouse energy constraints; we pivoted to integrate social housing suites and formed partnerships with local delivery agents to deliver social housing units etc. But it was not enough.
- **Scale:** We recognized from the beginning that the small scale of the project would provide challenges. We did not recognize the extent of challenges especially related to complexity and costs. There was nothing much we could do at the late hour when CMHC announced that one of the central criteria for the Co-op Housing Development Program was for the co-op housing size to be over 75 units,
- **Neighbourhood Non-Profit Housing:** Not-for-Profit housing developed by local communities is highly unlikely to succeed in the current fiscal environment. The capital requirement of \$40million+ to produce 100 units is well beyond the risk and capacity of most non-profit local enterprises. It would seem that governments prefer to deal with large non-profit housing providers.
- **Mixed Housing:** When the co-op started, we were committed to a mixed co-op housing model where 60% of the units would be Market and 40% Affordable. Market members agreed pay up to \$150,000 for each unit and then pay market rents. These Market units were fully committed to members at these rates. CMHC was aware of our model for several years and funded the project. In the end, it did not allow this model. The co-op lost \$2million in committed funding. This seriously undermined the committed funding formula for the project. There was no reason for this change and no flexibility to consider this option.
- **Coordination:** Despite the many conversations with different funders and their overall enthusiasm for the project, there was no sense of coordination between funding agencies. Our small co-op completed many complex potential funding submissions, each with their

specific requirements, approval dates and detailed submission requirements. There was no coordinating body to integrate funding proposals or advocate from one to another. Each funding agency based their decisions on the success of other applications but there was no central clearing house or coordination designated to represent small non-profits and engage with other funders.

- **Champion:** Despite the initial enthusiasm for the project by our PDF funders, there was no champion that came forward to speak up for us or to advocate on our behalf. Each funder operated on their own timetable and own criteria. What small projects like ours needed was a champion to speak up for our project and advocate to other funders. We tried to approach Manitoba Housing several times to advocate to the Federal Government on our behalf. The Provincial response to our project came after the Federal Government had rejected our submission.
- **Local Commitment:** Throughout our project development, there was very little commitment from Municipal and Provincial jurisdictions to the provision of housing in Manitoba. They had 'no skin in the game'. We soon became aware that other levels of government would likely favour projects in jurisdictions that had committed funding to non-profit housing.
- **Shovel-Ready:** At the start of the project, we thought 'shovel ready' meant having drawings and pricing ready to start construction. We achieved this level of readiness, but it was not enough. As the project evolved, we began to learn that 'shovel ready' meant a commitment by local governments to have funding commitments in place. If the local jurisdiction has not committed capital funding, the project is not 'shovel ready'.
- **No Answers:** When funding was turned down from Co-op Housing Development Program, our project officer at CMHC suggested that we consider applying for the next tranche of the program funding. When we asked about the deficits of our submission, the response was that they could not offer any advice until all projects were approved and accepted – in likely 6-8 months. Without any idea of the drawbacks of our application, the co-op felt unable to proceed. This was the final blow that defeated the co-op.
- **Volunteerism:** Non-profit sector housing delivery depends on thousands of hours of volunteer time. This volunteerism is usually provided because of a commitment to a neighbourhood or a group of people. Governments cannot achieve this quality of connection with neighbourhoods and yet there does not seem to be a recognition of the valuable service the voluntary sector provides. Governments need to recognize and expedite neighbourhood projects.
- **Influence on the Housing Sector:** Although the BGHC project did not reach completion, it has the potential to make an impact on the local and broader housing landscape. It demonstrated how sustainable housing practices could align with municipal guidelines and foster a resilient, environmentally conscious community. The project influenced suppliers and contractors by highlighting the demand for materials that meet sustainability standards, although cost remained a significant barrier
- **A Word to Future Co-ops:** We hope that the spirit and commitment of BGHC can provide inspirational and valuable insights for other housing projects. The doubling of construction costs due to COVID and subsequent inflationary pressures, the threat of the imposition of protective tariffs, the threatened reversal of resolve by governments to fight climate change and the alarming increase in homelessness has shifted political priorities away from deeply sustainable neighbourhood housing projects. We need to continue to work with others to find ways to retrofit our urban neighbourhoods as a key component to address the urgency of our global climate emergency and our need to live in community.

PART EIGHT: Finances

7.1 Pre-Development Funding Categories:

BGHC received pre-development funding (PDF) from five Funders for the capital project and an additional Funder (McConnell Foundation) for educational content. Each Funder suggested priority areas for the use of their funds. The matrix below identifies the different categories of estimated funding areas when the project began along the left-hand column and the proposed allocation for the funds from each Funder in the right-hand columns.

Bannerman Green Housing Co-op

Approved Funding Allocation Summary

MAY 3, 2023

Expenses			1	2	3	4	5	6		
Cost Item / Design Approach	Service Provider	BUDGET	CMHC SEED	CHTC Study	FCM GMF	EFF MB Innovation	MHRC PDF	CMHC/ MHRC PDF	CATEGORY TOTALS	CATEGORY SUB-TOTAL
REQUEST										
APPROVED			\$20,300	\$75,000	\$157,200	\$208,250	\$75,000	\$47,500	\$583,250	\$583,250.00
1. LAND AND ZONING										
Land Appraisal	TBD	10,000		2,000	8,000				\$ 10,000.00	
Land Survey	TBD	6,000	2,000	2,000		2,000			\$ 6,000.00	
ESA	TBD	9,900	3,300	3,300	3,300				\$ 9,900.00	
Geotechnical	STRUCT	20,000		10,000					\$ 10,000.00	
Legal	TBD	10,500		5,000		2,000			\$ 7,000.00	
Municipal Approvals	City of Winnipeg	12,500	500	5,000	2,500	4,500			\$ 12,500.00	
SUB-TOTAL		68,900	5,800	27,300	13,800	8,500		0	55,400	\$ 55,400.00
2. ARCHITECT AND ENGINEERS										
Architectural services	PAI	172,900	14,500		18,400	40,000	36,500	47,500	\$ 156,900.00	
Quantity surveyor	PAI	10,000		5,500		4,500			\$ 10,000.00	
Living Building Challenge	PAI/DTC	30,000			15,000	15,000			\$ 30,000.00	
ZCB zero carbon building	PAI	26,500			15,000	11,500			\$ 26,500.00	
Embodied Carbon	PAI	15,000			7,500	7,500			\$ 15,000.00	
Coordination	PAI	38,450		9,700		15,000	13,750		\$ 38,450.00	
Passive House	NDH	50,000			25,000	25,000			\$ 50,000.00	
Consulting Engineers	ENGINEERS	85,000				35,000	25,000		\$ 60,000.00	
SUB-TOTAL		427,850	14,500	15,200	80,900	153,500	61,500	47,500	386,850	\$386,850.00
3. CONSTRUCTION MANAGER										
Project Cost Analysis - Construction Manager	CM	25,000		10,000	5,000	10,000		0	\$ 25,000.00	
SUB-TOTAL									\$ 25,000.00	\$ 25,000.00
4. OTHER CONSULTANTS										
Commissioning	TBD	15,000		5,000	5,000	5,000			\$ 15,000.00	
Geothermal	TBD	15,000		5,000	10,000				\$ 15,000.00	
Total Cost of Building Ownership	TBD	10,000			5,000	5,000			\$ 10,000.00	
LEED	TBD	35,000			17,500	17,500			\$ 35,000.00	
SUB-TOTAL		75,000	0	10,000	37,500	27,500		0	\$ 75,000.00	\$ 75,000.00
5. REPORTING										
Business plan	DSI Tandem	15,000		5,000	5,000	5,000			\$ 15,000.00	
Preparing application	BGHC	7,500			7,500				\$ 7,500.00	
Community consultations		7,500		7,500					\$ 7,500.00	
Final report		11,250			7,500	3,500			\$ 11,000.00	
SUB-TOTAL		41,250	0	12,500	20,000	8,500		0	41,000	\$ 41,000.00
6. EDUCATION										
McConnell Foundation									\$ 200,000.00	\$200,000.00
TOTAL PDF FUNDING AVAILABLE		\$638,000	\$20,300	\$75,000	\$157,200	\$208,000	\$75,000	\$47,500	\$783,250	\$783,250.00

7.2 Construction Budget Summaries:

Over the five years of the project, BGHC received three construction cost estimates. The Class D from a Quantity Surveyor (August, 2021) and the Class C (October 2023) and Class B (August 2024) from our Construction Manager.

CLASS D CONSTRUCTION COST ESTIMATES – POSTMA: AUGUST 4, 2021.

	64 BANNERMAN	59 BANNERMAN	143 MACHRAY*	TOTAL PROJECT
Number Units	12	6	6	24
Area sf	12,700	5,700	5,700	24,100
Direct Costs	\$3,608,709	\$1,527,018	\$1,527,018	\$6,662,745
General Conditions, Contingency, Fees	\$633,517	\$255,393	\$255,393	\$1,114,303
Class C Cost	\$4,212,226	\$1,782,411	\$1,782,411	\$7,777,048
Unit Costs	\$331.67	\$312.70	\$312.70	\$322.70
Per Unit Cost	\$351,018	\$297,068	\$297,068	\$324,043

*Costs for 143 Machray pro-rated as not acquired in project at this time

CLASS C CONSTRUCTION COST ESTIMATES – MBUILDS: OCTOBER 15, 2023.

	64 BANNERMAN	59 BANNERMAN	143 MACHRAY	TOTAL PROJECT
Number Units	12	5	6	23
Area sf	13,856	4,783	5,210	23,849
Direct Costs	\$7,417,273	\$3,319,940	\$3,450,672	\$14,187,885
General Conditions, Contingency, Fees	\$3,119,730	\$1,688,402	\$1,733,113	6,541,245
Class C Cost	\$10,537,003	\$5,008,342	\$5,183,785	\$20,729,130
Unit Costs	\$760.47	\$1,047.11	\$994.97	\$869.18
Per Unit Cost	\$878,000	\$1,001,668	\$863,964	\$901,226

CLASS B CONSTRUCTION COST ESTIMATES – MBUILDS: AUGUST 20, 2024.

	64 BANNERMAN	59 BANNERMAN	143 MACHRAY	TOTAL PROJECT
Number Units	13	6	7	26
Area sf	13,856	4,736	4,715	23,307
Direct Costs	\$5,061,177	\$2,450,873	\$2,385,840	\$9,897,890
General Conditions, Contingency, Fees	\$1,162,670	\$675,776	\$674,473	3,052,919
Class B Cost	\$6,763,847	\$3,126,649	\$3,060,313	\$12,950,809
Unit Costs	\$490.56	\$660.18	\$649.05	\$555.66
Per Unit Cost	\$520,295	\$521,108	\$437,187	\$498,108

7.3 Capital Grant Applications:

Over the five years of the project, BGHC submitted funding applications for the programs below including the dates submitted, the date a response received, the status of the submission and the amount requested:

NO	FUNDER	SUBMITTED	RESPONSE	Status	AMOUNT
1.	City of Winnipeg – Affordable Housing NOW TIFF \$25,704 X 25YRS	May 9, 2022	No response	NO	\$642,600
2.	City of Winnipeg – Affordable Housing NOW	May 9, 2022	No response	NO	\$220,000
3.	Manitoba Housing – Negotiated Request for Proposals Social Housing	Sept 19, 2023	March 25, 2024	NO	\$600,000
4.	Gov't of Canada - Housing Acceleration Fund (HAF)	July 12, 2024		NO	\$770,000
5.	Gov't of Canada - Housing Acceleration Fund (HAF)	Nov 26, 2024		NO	\$910,000
6.	Government of Canada - Co-op Housing Development Fund (CHDF)	Aug 29, 2024	Nov 27, 2024	NO	\$4,931,925
	Government of Canada - Co-op Housing Development Fund (CHDF) GRANT	Aug 29, 2024	Nov 27, 2024	NO	\$4,931,925
7	FCM Capital Grant Project GRANT	Aug 7, 2024	No response	NO	\$1,800,000
	FCM LOAN	Aug 7, 2024	No response	NO	\$1,200,000
8.	CMHC – Affordable Housing Fund - Loan (12 units only)	Feb 7, 2025	No response	NO	\$2,152,784
	CMHC – Affordable Housing Fund - Grant (12 units only)	Feb 7, 2025	No response	NO	\$2,287,104
9.	Manitoba Housing - Housing Starts Here	Dec 15, 2024	March 19, 2025	YES	\$660,000

7.4 PDF Grant Reconciliation:

The Grant Reconciliation spreadsheet reconciles the cheques written by BGHC for consultant invoices received to the seven funding agencies that provided Pre-Development Funding for the project. Each cheque is identified in the left-hand column and is reported under one of the colour coded funder columns with total reconciliation along the bottom. This document is appended as a separate attachment.

7.5 Prairie Architects Invoices:

The spreadsheet is a summary of the invoices received and paid to the prime consultant, Prairie Architects Inc. When the project started, we asked if Prairie would act as the central conduit for all consultant invoices to reduce the workload on BGHC volunteers. Prairie agreed to this arrangement and included all consultants under their invoices. As indicated below, the total fees invoiced by Prairie amount to \$278,918.17. Of this \$133,596.38 are professional fees to Prairie Architects Inc. and Wolfrom Engineering. The remainder of \$145,321.79 are paid to six subconsultants and minor invoices for surveys and assessments. Prairie's original overall fee for architectural and structural was for 6.6% of construction costs (original estimate \$8.096m) or \$534,000. They agreed to a fixed fee of 25% of this total or \$133,596.38 from PDF funds. The remainder to come at first construction draw. This document is appended as a separate attachment.

PART NINE: Appreciation

BGHC is deeply grateful for the belief in the project and the generous contributions of the many funders that provided support throughout the project. These grants played a pivotal role in advancing the vision of sustainable and inclusive housing, allowing the team to engage deeply with the community, document valuable insights, and share lessons learned. While the project's outcome was not as hoped, it is hoped that the work we have undertaken over the last five years will provide an enduring legacy that may influence future housing initiatives.



BGHC has navigated significant challenges with resilience and transparency. While the Co-op will not continue, the work completed provides a strong foundation for future initiatives in sustainable housing. BGHC hopes that its experiences and resources will serve as a catalyst for new projects, contributing to a more equitable and environmentally conscious future. **Special thanks to the following:**

- **PDF Funders:** for your financial commitment to the project. These include: Efficiency Manitoba (\$208,250); McConnell Foundation (\$200,000); Federation of Canadian Municipalities (\$157,200); Manitoba Housing (\$75,000); Community Housing Transformation Centre (\$75,000); CMHC(\$68,900).
- **BGHC Executive Members:** To Dudley Thompson, Judy Wasylycia-Leis, Karin Seiler, Diane Frolick, Don Hurst, Jim Chapryk and Bill Dunn for the hundreds of volunteer hours you contributed to get into details and see the big picture of our BGHC to help craft this vision. We started as neighbours and became and will remain, friends and collaborators.
- **BGHC Committee Members:**
 - a. **Membership Committee Update:** Judy Wasylycia-Leis, Brad Nance, Connie Koenker, Edith Smith, Karen Hurst, Eleanor Thompson
 - b. **Design Committee:** Dudley Thompson, Ed Epp, Mark Koenker, Diane Frolick, Karin Seiler, Judy Wasylycia-Leis, Don Hurst, Georgina Rheume,

- c. **Circle of Diversity Committee : Eleanor Thompson**, Laura Donatelli, Karen Hurst, Joyce McInnes, Dilon Martin, Jessica Piper, Lynn Langdon, Helena Lehn, Brad Nance and Codi Guenther
 - d. **Communications Committee: Laura Donatelli**, Joan Thomas, Ron Leis
 - e. **Finance/Fundraising Committee: Don Hurst**, Jim Chapryk, Dudley Thompson, Olive Dyck-bookkeeper
 - f. **Sustainability Book Club: Joan Thomas**
- **BGHC Co-op Members:** To the 100+ families in the St. John's neighbourhood in Winnipeg for believing in the project, buying a membership and coming to monthly meetings.
 - **Nahanni Fontaine**, Minister of Families and MLA for St. John's for her belief in the project, her assistance in working with the Province and for her letter of support.



September 23, 2024

The Executive of Bannerman Green Housing Co-op Inc.
Dudley Thompson, Judy Wasylcia-Leis, Diane Frolick, Don Hurst and Karin Seiler

RE: Bannerman Green Housing Co-op Inc.

I am writing this letter in support of the Bannerman Green Housing Co-op Inc. and their capital building project. I am the Member of the Legislative Assembly for St. John's Constituency in Winnipeg and the Minister of Families in the current Provincial Government.

I recently met with members of the Bannerman Green Housing Co-op to review plans for their proposed housing project for my St. John's Constituency in North Winnipeg. I was thrilled to see that the group is proposing a small new building on a vacant infill lot and a number of deep retrofits and additions to existing homes in the neighbourhood. Especially impressive is the group's commitment to deep energy and carbon sustainability through third-party certifications like PassiveHouse and Living Building Challenge.

Most important is that the project is community-based and almost all of the 100 co-op members are long-term residents who live in the existing St. John's community and have a vested interest to work with their neighbours and local families to ensure that the project fits into the area. They have been working together on this project to build a stronger and more resilient community as volunteers for over four years and have raised over \$750,000 in pre-development funding to take the project through community consultations, detailed designs and to recently completed Class B construction documents and contractor pricing. I have seen the drawings and the vibrant images of green roofs, solar panel electricity, trellised balconies and community-based outdoor spaces. I am particularly impressed by the fit of the project into our community.

I want to congratulate the co-op for the energy and commitment to make our neighbourhoods stronger and more sustainable. I also want to say how hopeful it was to see their commitment to an inclusive project with set-aside embedded units of deeply affordable social housing for marginalized groups. The project is an excellent prototype to demonstrate the potential to densify and re-interpret our neighbourhoods and to re-energize our existing homes and infrastructure. As we move towards zero-carbon and net zero-energy cities, we need more examples like Bannerman Green to showcase the exciting possibilities for the re-imagining of our neighbourhoods and cities.

The co-op is currently submitting the project for funding through various loan and grant programs and I want to extend my congratulations for the work so far and to offer my sincere support in achieving their dream for our community.

Miigwech,

Honourable Nahanni Fontaine
Minister of Families

- **Karl Falk and Harry Haid, DSI Tandem Co-op Resources:** For their much-valued experience with co-op developments, their tireless belief in housing co-ops, their attendance at most meetings and the hundreds viability spreadsheets that they prepared for the numerous proposals and submissions. We could not (would not) have done this without them. We only wish we could have offered remuneration to fit their efforts. Many thanks.
- **Lindsay Oster, Jessica Piper and Kaeryn Gregory, Prairie Architects Inc:** A labour of love comes to mind. Thank you for your intense commitment to sustainable buildings in general and to your belief in the vision we had for BGHC. Thank you for going many extra miles in pursuit of excellence for the project – Prairie went way beyond anything resembling normal and we appreciate your sticking with us until the bitter end. It was such a pleasure to work together all these years and we do trust that the experience will influence other Prairie sustainable projects!
- **Tony Nocita and Kenton Podolsky MBuilds Construction:** For your commitment to a prototype and all the associated experiments in materials, approach and design that you worked through with suppliers and sub-trades and for your undying passion for the project.
- **Jon Reid** (Wolf from Engineering structural), **David Epp** (Epp Siepman mechanical), **Mark Bauche** (HTFC Landscape), **Andrew Schienkel** (SMS Electrical Engineering), **Geo Robson** (PrairieHOUSE Performance energy audits), **Jim Nostedt** (SEEFAR Building Analytics), **Marine Sanchez** (RDH Building Science), **Richard Lay** (Mechanical Engineer). Many thanks for your commitment to the sustainable cause, your creative instincts to attempt new applications in sustainable housing not to mention the additional Integrated Design Process meetings and the limited fees.