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Sustainable Heritage Case Study
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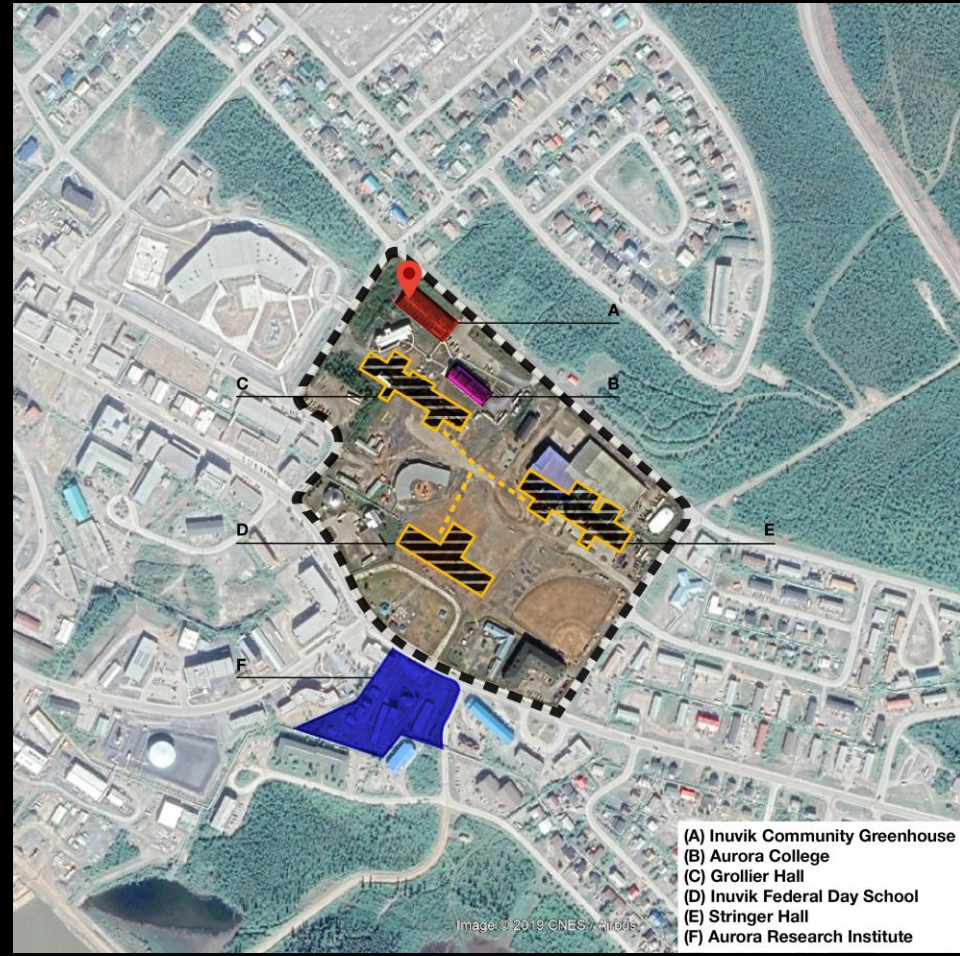
Reuse of Grollier Hockey Arena: Inuvik Community Greenhouse

**Fostering Community Healing through Gardening:
Inuvik Community Greenhouse and the Rehabilitation of the
Former Sir Alexander Mackenzie School**

Town of Inuvik

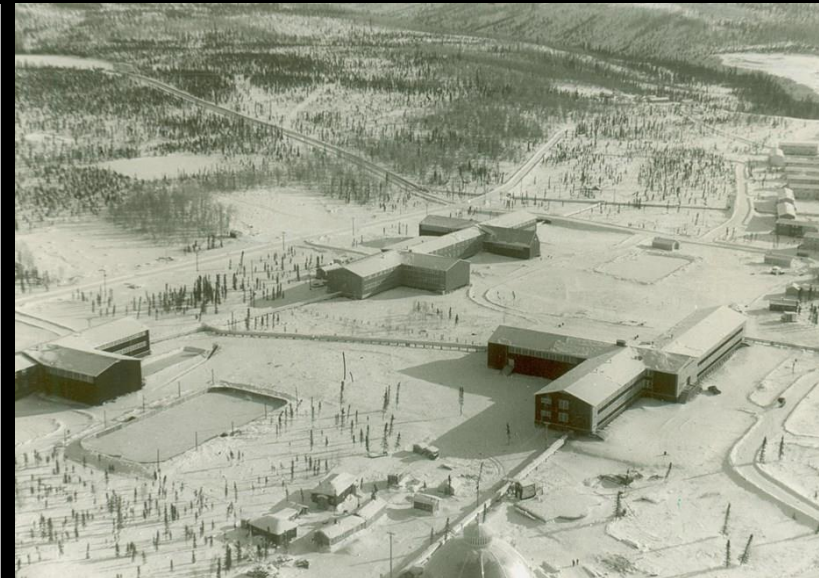
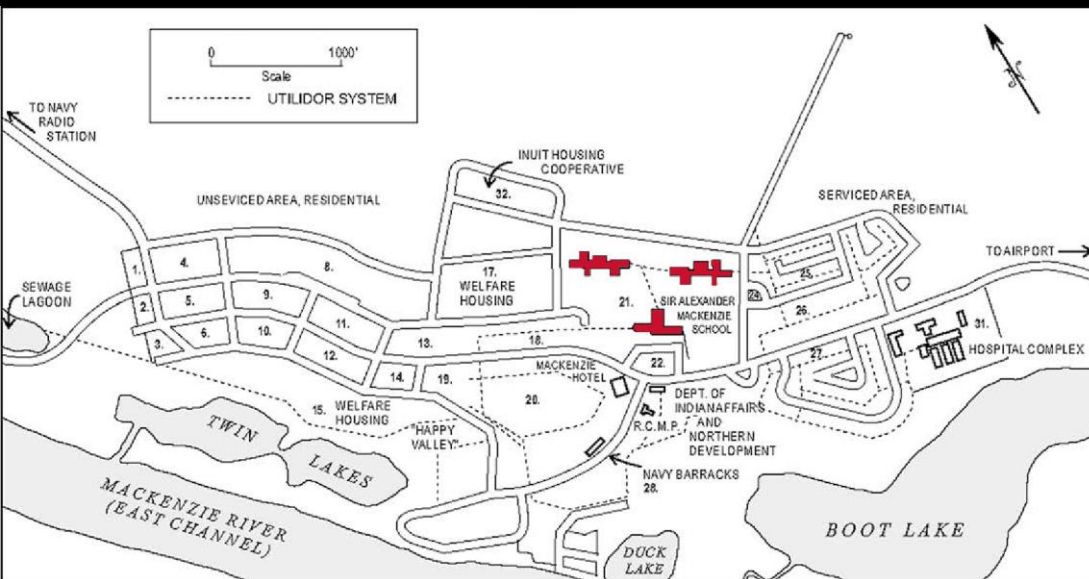


Map of Inuvik Town – borders in Yellow.
Fig.1: Google Maps (n.d.)



Close Up Image of Inuvik Community Greenhouse
located on the site of Former SAMS.
Fig.2: Google Maps (n.d.)

Built to Heal: Inuvik Community Greenhouse



Inuvik Settlement Patterns

Fig.3: Redrawn by Farish And Lackenbauer (2015)
Original Drawing by A.M. Ervin (1969)

Former SAMS School Site

Fig.4: General Synod Archives (n.d.)



Inuvik Community Greenhouse Building
Fig.5: Town of Inuvik (n.d.)

Description



Exterior view of the Inuvik Community Greenhouse. Fig.6: Carrot City Initiative (n.d.)



Inuvik Community Greenhouse Signage
Fig.7: Inuvik Community Greenhouse (n.d.)

OBJECTIVES *raised by CGSI*

- The CGSI's commitment to "building a strong sense of community through recreational gardening, food production, knowledge sharing, and volunteer support" (Public Health Agency of Canada, 2009) has led to some inspiring outcomes.

MAJOR REASONS: (Chong, P., 2012)

- Limited availability of fresh and affordable fruits and vegetables;
- People can grow vegetables unavailable in grocery stores;
- Food security;
- Serve as a role model for the North in recycling and composting; and
- Many people live in apartments and do not have access to their own garden. Those who do have garden space have to deal with permafrost.

Stakeholders

ORGS. & DONORS	Government of Canada
	Government of Northwest Territories - Northern Foods Development Program (NFDP)
	Aurora College Access Trades Program
	Solvest Inc.
	Conoco Philips, Shell Canada
	Local Food banks: Inuvik Food Bank, Meadowlands Horticulture Incorporated in BC, Canada
USERS & OWNERS	Community Garden Society of Inuvik - CGSI
	Local Indigenous People and Indigenous communities in NWT
	Residents & businesses (Gift shops, markets, composting facility)
	Community Groups (Quilters and Dyers garden, Kids Club, Inuvik Day Care, Community Group Home, Food bank sponsored by Meadowlands Inc., High School Club, Elders Garden)
CONSULTANTS	Aurora Research Institute College

(Public Health Agency of Canada, 2009), (NNSL News, 2019), (Chong, P., 2012)



Interior View of Inuvik Community Greenhouse. Fig.8: Spectacular NWT (n.d.)

Timeline

1789	First European contact with current Inuvik land
1953	Inuvik was conceived by the Canadian government
1954	The site was chosen in November and referred to as East Three
1955	Construction began and expected to be completed in 1961 or 1962.
1957	PM John Diefenbaker proclaimed a new “Northern Vision” for Inuvik
1958	Town of Inuvik established: research about the town creation
1959	Sir Alexander Mackenzie School opened: The school, referred to simply as “SAMS” by locals,
1960	Hospital, office buildings, and staff housing construction continued
1961	Prime Minister John Diefenbaker placement of a plaque to commemorate the establishment of Inuvik as the first community north of the arctic
1967	Inuvik was incorporated as the Village of Inuvik, first incorporated municipality North of the Arctic Circle.
1970	Oil was discovered in the Mackenzie Delta.
1971	Natural gas was discovered in the Mackenzie Delta and a scientific research laboratory established
1977	Berger Report, 10 year moratorium, to deal with critical issues, such as settling Aboriginal land claims and setting aside key conservation areas, before attempting to build the proposed pipeline.
1979	The completion of the Dempster Highway in 1979 opened Inuvik and the Western Arctic to the world.
1980	The downturn was halted and by 1980 with the renewed interest in oil offshore the town started to grow again.
1985	Canadian Forces base closed in Inuvik and the renewed growth was short-lived
1986	Price oil collapsed, and this shifted attention to natural gas. Shell and Gulf export natural gas from the Mackenzie Delta to the United States
1998	Community Garden Society of Inuvik (CGSI) initiated feasibility greenhouse study and funding campaigns
1999	Aurora College donated the Hockey Arena to CGSI and Adaptive-reuse project progressed
2000	Common Ground: NWT Economic Strategy
2001	Conoco Phillips, Shell, Exxon Mobil, and Imperial Oil sign a Memorandum of Understanding with the Aboriginal Pipeline Group
2012	SAMS School closed
2013	SAMS School demolished in 2013

Natural/Cultural Heritage

NATURAL HERITAGE

- Located on the Mackenzie River Delta, two degrees above the Arctic Circle, fresh, **economical produce is often not available** and **difficult to deliver fresh produce** from the south on the Dempster Highway, a long road that travels through Yukon before crossing over the Mackenzie River by ice road or ferry before reaching the town. (Christensen, J., 2016)
- Thus, natural heritage significance is strongly associated with community-based means of food production with the goal of strengthening the community through gardening and **is inspiring similar initiatives in the Northwest Territories**. (Public Health Agency of Canada, 2009)

CULTURAL HERITAGE

- Despite the site's difficult history, the **Community Garden Society of Inuvik – CGSI** wanted to create a positive space for the community.
- Recreational gardening is **good for the spirit and well-being**. (Christensen, J., 2016)
 - Inuvik Community Greenhouse becomes a **Healing Program** that provides survivors of SAMS residential schools opportunities to heal themselves.
 - Based on Clarkson, L., et al. (1992). "Calls to Actions," *Our Responsibility to the Seventh Generation, Indigenous Peoples and Sustainable Development*

Sustainability

- **Economic Sustainability:**

- The Inuvik community greenhouse enabled the community members to reimagine better and more equitable ways of arranging their social lives and the division of labour. (Chong, P., 2012)
- However, a **major challenge** is the insufficient funding to make up for the operational costs.
 - Additionally, there is a high turnover at the board level and among volunteers due to the large amount of work required to run the greenhouse. (Public Health Agency of Canada, 2009)

- **Socio-cultural Sustainability**

- **Built to Heal:** Inuvik Community Greenhouse becomes a *Healing Program* that provides survivors of SAMS residential schools opportunities to heal themselves.
 - Based on Clarkson, L., et al. (1992). "Calls to Actions," *Our Responsibility to the Seventh Generation, Indigenous Peoples and Sustainable Development*
- **Self-reliant Community:** Though the greenhouse is a not-for-profit organization, volunteers recognize the importance of their role as active participants oriented towards the common good. (Chong, P., 2012)
- **Food Sustainability :** Indigenous groups register for workshop training sessions to learn more about alternative ways for food production rather than relying on hunting and fishing.
 - Due to the permafrost affecting the land, the Community Garden Society is encouraging the greenhouse educational program to make sure everyone understands this is meant to supplement traditional ways – not change them (Solotoki, n.d.).
 - Much of this new knowledge is shared between gardeners who meet one another in the greenhouse, leading to the development of a **new kind of local knowledge in the community**. (Christensen, J., 2016)

- **Environmental Sustainability**

- By producing affordable, healthy, locally produced food through community gardening, Inuvik greenhouse encourages environmental awareness and respect for nature.
 - *Convenient Compost Collection* in Inuvik to collect the compost from the community to enhance the quality of the soil. (Inuvikgh, 2017)

Sustainable Development Goals

- **SDG Goal 2**

- **ZERO HUNGER**

- **Target 2.4.** By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality (United Nations, 2015)

- **Indicator 2.4.1:** Proportion of agricultural area under productive and sustainable agriculture. (United Nations, 2015)

- **Assessment:**

- *Provides education programs to find ways to sustain the food production despite the effects of permafrost.*
- *Inspires Inuvik community and other Northwest Territories to build their own greenhouses in their backyards*
- *Setting up a Community Compost to enhance soil quality.*



Sustainable Development Goals

- **SDG Goal 11**

- **SUSTAINABLE CITIES & COMMUNITIES**

- **Target 11.4.** Strengthen efforts to protect and safeguard the world's cultural and natural heritage. (United Nations, 2015)

- **Indicator 11.4.1:** Total expenditure (public and private) per capita spent on the preservation, protection and conservation of all cultural and natural heritage, by type of heritage (cultural, natural, mixed and world heritage center designation), level of government (national, regional and local/municipal), type of expenditure (operating expenditure/investment) and type of private funding (donations in kind, private nonprofit sector and sponsorship. (United Nations, 2015)

- **Assessment:**

- *Aurora* donated hockey arena to the CGSI to develop the greenhouse (Public Health Agency of Canada, 2009)
- *Solvest*, which was installing solar panels in the community, offered to do the repairs free, marking a step toward a larger partnership. (NNSL News, 2019)
- *New partnerships such* (Chong, P., 2012)
 - *Inuvik Food Bank,*
 - *Meadowlands Horticulture Incorporated in BC, Canada,*
 - *Air North*

**11 SUSTAINABLE CITIES
AND COMMUNITIES**



Lessons

REASONS FOR SUCCESS

- Success of the Inuvik Community Greenhouse depends on the support from Stakeholders (donors & Community groups).
- The greenhouse function suggested by the CGSI proved to be compatible for rehabilitation of hockey arena structure.
 - *Assessed based on the Standards and Guidelines for Conservation of Historic places in Canada* (Parks Canada, 2017)
- Recreational gardening provided a positive impact on the community's well-being despite the heavy past of the site.

BARRIERS TO SUCCESS

- Lack of solid infrastructure in the modern Arctic increases cost for delivering greenhouse supplies.
- High turnover of Volunteers on a seasonal basis results in a loss of knowledge, something that affects the relationships the greenhouse shares with its partners.
- Inuvik summer days and overcast days can impact the produce due to the lack of insulation in the greenhouse structure.

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Images

Fig.1 – **Google**. (n.d.). [Map of Inuvik Town]. Retrieved November 9, 2019, from <https://www.google.com/maps/place/Inuvik,+NT/@68.3462601,-133.6517208,12720m/data=!3m2!1e3!4b1!4m5!3m4!1s0x5114923f95f996d1:0x522391a237afb784!8m2!3d68.3607437!4d-133.7230178>

Fig.2 – **Google**. (n.d.). [Close Up of Inuvik Community Greenhouse]. Adapted from from A.M.Ervin, Conflicting styles of life in a northern Canadian town, Retrieved November 9, 2019, from <https://www.google.com/maps/place/Inuvik+Community+Garden+Society>

Fig.3 – **Researchgate**. (n.d.). [Inuvik Settlement Patterns]. Redrawn by Farish & Lackenbaur Redrawn By Farish And Lackenbaur. « High Modernism In The Arctic: Planning Frobisher Bay And Inuvik », Op. Cit., P. 538. The Original Drawing, By A.M. Ervin, Was Published In "Conflicting Styles Of Life In A Northern Canadian Town," Arctic, Vol. 22, No. 2, 1969, P. 95., Retrieved November 12, 2019, from <https://www.google.com/maps/place/Inuvik+Community+Garden+Society>

Fig.4 – **General Synod Archives**. (n.d.) [Former SAMS School Site] (n.d.) [photograph]. Retrieved November 15, 2019, from [http://archives.anglican.ca/en/list?q=&p=1&ps=&sort=title_sort+asc&name_facet=Sir+Alexander+MacKenzie+School+\(Inuvik%2c+NWT\)](http://archives.anglican.ca/en/list?q=&p=1&ps=&sort=title_sort+asc&name_facet=Sir+Alexander+MacKenzie+School+(Inuvik%2c+NWT))

Fig.5 – **Town of Inuvik**. (n.d.) [Inuvik Community Greenhouse Building] (n.d.) [photograph]. Retrieved November 9, 2019, from <https://www.inuvik.ca/en/discovering-inuvik/Inuvik-Community-Greenhouse.asp>

Fig.6 – **Carrot City Initiative**. (n.d.) [Exterior view of Inuvik Community Greenhouse] (n.d.) [photograph]. Retrieved November 9, 2019, from https://www.ryerson.ca/carrotcity/board_pages/community/inuvik.html

Fig.7 – Inuvik Community Greenhouse (n.d.) [Inuvik Community Greenhouse Signage] (n.d.) [photograph]. Retrieved November 9, 2019, from <https://www.inuvikgreenhouse.com/>

Fig.8 – **Spectacular NWT** (n.d.) [Interior view of Inuvik Community Greenhouse] (n.d.) [photograph]. Retrieved November 10, 2019, from <https://spectacularnwt.com/attraction/inuvik-community-greenhouse>