



HOUSING FEASIBILITY STUDY

Citizen-led Housing in South Algonquin

Community-informed • Site-conscious • Financially grounded



Prepared for
South Algonquin Business Alliance and the South Algonquin community

Integrated Working Draft • August 2026

WITH GRATITUDE

Acknowledgements

This Housing Feasibility Study reflects a shared commitment to expanding housing choice, supporting community well-being, and planning thoughtfully for the future of South Algonquin. Its development was made possible through the leadership, knowledge, and participation of organizations and individuals across the community.

SOUTH ALGONQUIN BUSINESS ALLIANCE

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COMMUNITY AND STAKEHOLDER CONTRIBUTORS

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DISTRICT OF NIPISSING SOCIAL SERVICES ADMINISTRATION BOARD

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Section headings are retained from the draft report. Page numbering may shift as the document is updated.

1. Executive Summary

1.1 Project Overview

The South Algonquin Business Alliance (SABA), working with community members and stakeholders, initiated this Housing Feasibility Study to identify practical, financially sustainable, and community-supported approaches to increasing the local housing supply. The Township of South Algonquin did not initiate the study and is not assumed to have endorsed a specific project. Its collaboration will nevertheless be essential during implementation because municipal planning, zoning, permitting, infrastructure, fiscal, and governance decisions remain within the Township's statutory and corporate authority.

In this study, community-led means that SABA and community stakeholders define the housing need, advance the initiative, organize partnerships, and develop the proposed housing entity. It does not replace the Township's legislated approval responsibilities or presume municipal land, funding, debt, guarantees, infrastructure ownership, or project endorsement.

The feasibility study is intended to move the community from a general understanding of housing need toward a defined implementation strategy. It will assess the type, scale, tenure, affordability, servicing requirements, development model, ownership structure, financial viability, and implementation pathway for one or more potential housing projects.

At this stage, a preferred site has not been selected. The study will therefore initially establish the housing program, development options, site-selection criteria, technical requirements, and financial parameters that can later be applied to candidate properties.

1.2 Purpose of the Feasibility Study

The purpose of the study is to determine whether a community-supported housing initiative can be developed in South Algonquin in a manner that is:

- The proposed initiative should be responsive to demonstrated community housing needs, aligned with DNSSAB housing projections and affordability targets, technically feasible within the municipality's rural servicing context, financially viable over the long term, suitable for available federal, provincial, and district funding programs, capable of phased delivery, and adaptable to different ownership, tenure, partnership, and support-service models.

The study will provide SABA, the community, the Township, and prospective partners with a clear basis for their respective decisions before land acquisition, detailed design, planning approvals, funding applications, or construction commitments are made.

1.3 Community Housing Need

The available evidence confirms that South Algonquin faces a broad housing supply and affordability challenge rather than a need for only one specific form of housing.

DNSSAB projects that the community will grow from 527 households in 2021 to approximately 727 households by 2035. This represents an increase of approximately 200 households and an average annual household growth rate of 2.7%. The strongest projected increase is expected among one- and two-person households, creating additional demand for one- and two-bedroom dwellings.

DNSSAB has also identified a need for:

- 18 new rent-geared-to-income units;
- 17 affordable rental units;
- 8 affordable ownership units; and
- continued market housing development to meet broader projected demand.

Community workshop responses reinforce these projections. Participants consistently identified affordability, limited unit availability, seniors housing, workforce housing, smaller units, rental supply, water and wastewater servicing, land availability, and development costs as major concerns.

1.4 Key Preliminary Findings

The current phase of the feasibility study has identified the following preliminary findings:

1. South Algonquin requires a broader range of housing, including affordable rental, seniors housing, workforce housing, attainable ownership, and smaller market units.
2. One- and two-bedroom units should form a substantial component of any initial development because of projected growth in smaller households.
3. Seniors, local workers, young adults, seasonal workers, low-income households, and people requiring accessible housing are priority groups.
4. A mixed-income and mixed-tenure project is likely to be more financially sustainable than a project composed entirely of deeply affordable units.
5. A site in or near Whitney, existing services, community amenities, healthcare, and local employment is likely to offer the strongest initial development opportunity.
6. Water supply, wastewater treatment, road access, hydro capacity, planning approvals, and land ownership will be critical site-selection considerations.
7. Modular or prefabricated construction may offer schedule and quality advantages, but it must be compared against conventional construction based on site conditions, transportation costs, design flexibility, and lifecycle performance.
8. The project should be structured so that it can be delivered in phases and expanded as demand, funding, and servicing capacity are confirmed.

1.5 Preliminary Preferred Housing Strategy

Based on the information currently available, the preferred strategy is to advance a phased, mixed-income, multi-residential housing development that prioritizes:

- The analysis identifies affordable rental units, accessible seniors' units, workforce and seasonal-worker units, a smaller number of rent-geared-to-income units, attainable ownership or shared-equity opportunities where feasible and a majority of one- and two-bedroom units.

The initial phase should be large enough to achieve operating efficiencies but sufficiently modest to limit financial and market risk. A preliminary development range of approximately 20 to 35 units should be tested through subsequent site, servicing, capital cost, and financial analysis.

Concept design should also test high-performance, low-carbon, and net-zero-ready construction measures where lifecycle savings, available incentives, and project affordability justify the additional capital cost.

1.6 Preliminary Recommendations

The following actions are recommended as the study advances:

- confirm the preferred target populations and preliminary unit mix;
- identify municipally owned and privately owned candidate sites;
- complete a structured site-screening exercise;
- assess water, wastewater, hydro, road, and telecommunications capacity;
- prepare preliminary concept plans for the highest-ranked sites;
- develop capital and operating cost models;
- compare municipal, non-profit, private, co-operative, and partnership delivery models;
- engage DNSSAB regarding funding, operating agreements, rent supplements, and partnership opportunities;
- review applicable CMHC and provincial housing programs; and
- prepare a phased implementation plan.

2. Introduction

2.1 Background and Community Context

The Township of South Algonquin is a remote rural municipality characterized by dispersed settlement patterns, a limited housing market, an aging population, seasonal economic activity, and a strong connection between housing availability and community sustainability.

Housing challenges in smaller rural municipalities differ from those experienced in larger urban centres. South Algonquin has a limited volume of new construction, fewer rental properties, relatively low development density, limited municipal servicing, and a smaller pool of builders, landlords, developers, and housing providers.

At the same time, the municipality must accommodate the needs of:

- The analysis identifies existing residents wishing to remain in the community, seniors requiring smaller or more accessible housing, young adults seeking entry-level rental or ownership opportunities, workers employed in municipal, healthcare, tourism, retail, and service sectors, seasonal workers, families requiring suitable and affordable accommodation, residents with disabilities and lower-income households requiring subsidized or rent-geared-to-income housing.

These conditions create a need for a deliberate housing strategy that combines public-sector leadership with private, non-profit, and community participation.

2.2 Study Area

The study applies to the Township of South Algonquin, including Whitney and surrounding rural and settlement areas.

Whitney is expected to be a primary focus because of its existing concentration of municipal services, businesses, community facilities, healthcare access, roads, and potential development opportunities. However, the study will not exclude other areas where land, servicing, transportation, or partnership opportunities may support housing development.

2.3 Project Objectives

The principal objectives of the study are to:

1. The analysis identifies confirm the type and scale of housing required, assess projected demand and community priorities, identify suitable housing models and tenure arrangements, establish site-selection and servicing criteria, evaluate development, ownership, and operating options, estimate capital and lifecycle costs, assess financial viability and funding opportunities, and identify key risks and mitigation measures.
2. provide a realistic implementation strategy.

2.4 Scope of the Feasibility Study

Role and terminology protocol

Throughout this study, “community” or “community-led” describes the origin, mandate, needs, advocacy, and proposed non-profit leadership of the initiative. “Township” refers to the municipal corporation when discussing statutory planning, zoning, permitting, infrastructure, taxation, fiscal exposure, land, or formal Council decisions. “Council” is used only where a municipal resolution or authorization is legally or corporately required. DNSSAB and other organizations are described as prospective partners unless their participation has been formally confirmed.

The feasibility study will address:

- The analysis identifies demographic and household projections, existing and projected housing demand, affordability and tenure requirements, community engagement findings, preliminary housing program development, candidate site identification and evaluation, planning and zoning considerations, technical servicing requirements, construction method options, capital and operating costs, lifecycle and sustainability considerations, ownership and governance models, funding and financing pathways, risk assessment, project phasing and implementation requirements.

2.5 Study Methodology

The study methodology includes the following principal components:

Background Review

Review of DNSSAB housing projections, municipal planning information, available community data, relevant funding programs, prior housing discussions, and available infrastructure information.

Community Engagement

Review of completed community questionnaires, workshop table worksheets, online participation, handwritten comments, and facilitated discussion outcomes.

Housing Needs Analysis

Comparison of demographic projections, household composition, affordability requirements, tenure trends, and community-identified priorities.

Development Options Analysis

Preparation and comparison of alternative housing models, including affordable rental, seniors housing, workforce housing, mixed-income development, modular housing, small homes, and co-operative or shared-equity models.

Site and Technical Assessment

Development of site-selection criteria followed by assessment of land availability, site size, planning permissions, roads, utilities, water, wastewater, drainage, environmental constraints, and expansion potential.

Financial Analysis

Preparation of preliminary capital budgets, rent assumptions, operating costs, lifecycle reserves, debt-service scenarios, funding assumptions, and financial gap analysis.

Recommendations

Identification of a preferred housing strategy, implementation model, site-selection approach, and next steps.

2.6 Limitations and Assumptions

The study is being initiated before a preferred site has been selected. Accordingly:

- The analysis identifies site-specific cost estimates cannot yet be finalized, water and wastewater solutions remain conceptual, zoning and planning approvals will depend on the selected property, geotechnical, environmental, archaeological, and survey information is not yet available, servicing distances and infrastructure costs remain preliminary, the final unit count may change after site and financial analysis, funding availability and program criteria may change and projected demand does not guarantee immediate occupancy of all proposed units.

These limitations do not prevent the study from establishing a defensible housing strategy and site-selection framework.

Community members have also identified a need for temporary accommodation in regional medical centres such as Pembroke, Ottawa, and Toronto. Acquisition or leasing of out-of-area accommodation is outside the scope and financial model of this study. SABA intends to examine that need through a separate feasibility study addressing demand, eligible users, location, booking and cleaning, accessibility, liability, operating costs, ownership or leasing, and potential funding.

3. Community Profile and Housing Context

3.1 South Algonquin Community Profile

South Algonquin is a geographically large remote rural municipality with a relatively small and dispersed population. Housing demand is influenced by permanent residents, seasonal residents, tourism-related employment, local businesses, public services, and proximity to Algonquin Provincial Park.

For this study, “remote rural” is used as a functional description rather than a separate planning designation. It refers to the combination of low population density, dispersed settlement, limited local housing and services, long travel distances to higher-order healthcare and other regional services, constrained transportation choices, and higher construction and infrastructure-delivery costs. Travel times and service-access assumptions should be verified during the next study update.

The municipality’s geography creates unique housing and infrastructure challenges. New development may require private wells and septic systems or communal servicing. Construction labour and material availability may be limited, and transportation costs can increase project budgets.

The community also has important advantages, including:

- The analysis identifies a strong community identity, access to natural amenities, an established municipal centre in Whitney, existing local institutions and businesses, demand from workers and seniors, potential municipal and private land opportunities and eligibility for rural housing and infrastructure funding programs.

3.2 Population and Household Trends

DNSSAB projects the population of South Algonquin to grow from 1,065 in 2021 to approximately 1,268 by 2035. Household growth is projected to be more significant, increasing from 527 to 727 households.

These figures should be treated as planning projections rather than guaranteed growth. The next update should document the projection method, reconcile permanent and seasonal residential patterns, and incorporate the relevant 2026 Census releases when available.

Indicator	2021	2035 projection	Change
Population	1,065	1,268	+203
Households	527	727	+200
Average annual population growth	—	1.4%	—
Average annual household growth	—	2.7%	—

The faster rate of household growth compared with population growth indicates a continued reduction in average household size. This trend supports increased demand for smaller housing units.

3.3 Household Composition

DNSSAB projects an increase in one- and two-person households, while the number of households with three or more people is expected to remain comparatively stable.

This trend has several implications:

- The analysis identifies increased demand for one-bedroom and two-bedroom units, increased demand from seniors living alone or as couples, increased demand from single workers and young adults, reduced need for exclusively large detached homes, potential demand for accessible and low-maintenance housing and greater suitability of apartment, townhouse, duplex, and small-home formats.

3.4 Existing Housing Supply

South Algonquin's housing supply is predominantly market-based and consists largely of detached homes. The existing supply of purpose-built rental, affordable, supportive, and rent-geared-to-income housing is limited.

DNSSAB identifies only one existing unit in its managed stock within the community.

This statement applies only to DNSSAB-managed stock. A separate verified community inventory should identify other affordable, supportive, Indigenous, Algonquin-affiliated, non-profit, employer-provided, and informal housing resources without disclosing sensitive ownership or resident information.

This limited institutional housing supply contributes to several challenges:

- The analysis identifies few options for residents whose income declines, limited ability for seniors to downsize locally, difficulty accommodating workers, limited transitional options for young adults, little capacity to respond to urgent housing needs and continued reliance on private-market homes that may not meet affordability or accessibility requirements.

3.5 Rental and Ownership Market Conditions

Community feedback indicates that available rental housing is limited, and some property owners may be reluctant to rent because of concerns related to maintenance, tenancy risk, and property management. Workshop notes also identified concerns regarding aging housing stock, high construction costs, lack of available units, and the need for mixed-income development.

The age of the local building stock is a material redevelopment risk, but adaptive reuse should not be ruled out solely on age. Any motel or existing-building option should be retained or eliminated only after building-condition, code, environmental, accessibility, servicing, and lifecycle-cost assessments are completed.

Ownership housing remains important, but entry costs, construction costs, financing requirements, servicing costs, and limited inventory create barriers for many households.

A successful community housing strategy should therefore not rely exclusively on conventional rental or ownership housing. It should consider:

- purpose-built rental;
- affordable rental;
- rent-geared-to-income housing;
- attainable ownership;
- shared-equity models;
- co-operative housing;
- employer-supported housing;
- modular housing; and
- mixed-income development.

3.6 Existing Affordable and Rent-Geared-to-Income Housing

DNSSAB identifies the need for 18 additional rent-geared-to-income units by 2035. These units are required to house households whose incomes fall within applicable DNSSAB household income limits.

The study also identifies 25 net new affordable units, consisting of:

- 17 affordable rental units; and
- 8 affordable ownership units.

These targets should be treated as evidence-based minimums for long-range planning rather than a strict requirement that all units be delivered in one project.

3.7 Housing Affordability Conditions

Workshop participants frequently identified affordability as a primary concern. Rental affordability responses were generally concentrated between approximately \$800 and \$1,600 per month, although some respondents identified higher ranges.

The actual affordable rent level will vary by:

- household income;
- unit size;
- utility responsibility;
- accessibility needs;
- subsidy availability;
- building operating costs; and
- applicable funding-program definitions.

The financial model should therefore test multiple rent bands rather than assuming a single uniform rent.

3.8 Local Employment and Workforce Considerations

Housing availability affects the community stakeholder's ability to attract and retain:

- healthcare workers;
- tourism employees;
- industrial/manufacturing workers
- retail and service workers;
- contractors and trades;
- seasonal workers; and
- employees of local businesses.

- municipal employees;

Workshop participants repeatedly identified workforce and seasonal-worker housing as a priority. Limited housing can result in vacant positions, long commutes, reduced business hours, recruitment challenges, and constrained local economic growth.

A portion of the proposed housing program should therefore be designed to support working households whose incomes may be too high for deeply subsidized housing but insufficient to access suitable market housing.

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4. Housing Needs Assessment

4.1 DNSSAB Housing Targets

The DNSSAB Housing Targets Final Report provides the principal quantitative benchmark for this feasibility study.

By 2035, projected housing demand in South Algonquin is:

Unit size	Projected demand
One-bedroom	35
Two-bedroom	246
Three-bedroom	375
Four or more bedrooms	71
Total	727

The projected stock includes market, affordable, and rent-geared-to-income housing.

4.2 Projected Household Growth to 2035

The projected increase of 200 households between 2021 and 2035 creates a substantial need for additional housing.

Demand may be addressed through:

- private construction;
- conversion of existing buildings;
- secondary suites;
- redevelopment;
- existing homes becoming available;
- private rental activity;
- non-profit development; and
- municipal or DNSSAB-supported projects.

However, market activity alone is unlikely to address all affordability, accessibility, seniors, workforce, and rent-geared-to-income needs.

4.3 Housing Demand by Bedroom Type

The projected demand indicates that two-bedroom and three-bedroom units will continue to represent the largest overall share of the housing stock. However, the projected growth in smaller households means that one- and two-bedroom units should be emphasized in the initial project.

A preliminary unit mix could include:

Unit type	Preliminary share
One-bedroom	35%–45%
Two-bedroom	40%–50%
Three-bedroom	10%–20%
Four-bedroom	Limited or none in initial phase

The analysis identifies The final mix should be validated through: updated market data, DNSSAB waiting-list information, local employer input, senior housing demand, site capacity and financial modelling.

4.4 Affordable Rental Housing Need

DNSSAB identifies a need for 17 new affordable rental units, including:

- 12 two-bedroom units;
- 2 three-bedroom units; and
- 3 units with four or more bedrooms.

Although the DNSSAB table does not identify one-bedroom affordable rental units, community feedback and demographic trends indicate that one-bedroom units should still be considered, particularly for:

- seniors;
- single workers;
- young adults;
- people with disabilities; and
- low-income single-person households.

4.5 Rent-Geared-to-Income Housing Need

DNSSAB identifies a need for 18 RGI units:

- 13 two-bedroom units;
- 2 three-bedroom units; and
- 3 units with four or more bedrooms.

An initial development may not be able to support all 18 RGI units without substantial capital grants, operating subsidies, rent supplements, or a long-term DNSSAB agreement.

The feasibility study should therefore assess a blended model in which a portion of the units are RGI and the balance are affordable or market rental.

4.6 Affordable Ownership Housing Need

DNSSAB identifies a requirement for eight affordable ownership units:

- 3 two-bedroom units;
- 2 three-bedroom units; and
- 3 units with four or more bedrooms.

Affordable ownership could potentially be supported through:

- shared-equity arrangements;
- land leases;
- down-payment assistance;
- co-operative ownership;
- limited-equity ownership;
- below-market land contributions;
- modular construction; or
- resale restrictions.

Ownership units may be more appropriate in a later phase after the initial rental project has established servicing, access, and development infrastructure.

4.7 Market and Workforce Housing Need

Market housing accounts for the majority of projected 2035 housing demand. DNSSAB projects 682 market units across all bedroom types.

This figure represents the total projected market stock rather than a construction target. Nevertheless, it confirms that municipal housing policy should also encourage private and employer-supported housing development.

The Township's role may include:

- The analysis identifies identifying developable land, streamlining approvals, providing servicing information, preparing concept plans, facilitating partnerships, supporting funding applications, offering municipal incentives where appropriate and creating a demonstration project that reduces perceived development risk.

4.8 Priority Population Groups

Based on DNSSAB projections and workshop findings, the following groups should receive priority consideration:

Priority group	Identified need
Seniors	Accessible, low-maintenance, smaller units near services
Local workers	Stable year-round rental housing
Seasonal workers	Flexible and potentially furnished accommodation
Young adults	Entry-level rental and attainable ownership
Low-income households	Affordable and RGI housing
Families	Suitable two- and three-bedroom units
People with disabilities	Barrier-free housing near services
Single-person households	One-bedroom and compact units

4.9 Identified Housing Gaps

The principal housing gaps are:

- The analysis identifies limited purpose-built rental supply, minimal RGI housing, insufficient affordable rental options, few opportunities for seniors to downsize, limited accessible housing, limited workforce housing, limited small-unit supply, barriers to attainable ownership, high servicing and construction costs, limited private developer activity and uncertainty regarding suitable sites.

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5. Community Engagement and Workshop Results

5.1 Engagement Process

Community engagement was completed through:

- individual housing questionnaires;
- facilitated table worksheets;
- online participation;
- group discussions;
- handwritten comments; and
- open-ended feedback.

The engagement material was reviewed and coded to identify recurring themes, priorities, concerns, and suggested solutions.

Because some scanned responses were faint or incomplete, the results should be interpreted as a qualitative community-engagement summary rather than a statistically representative survey.

5.2 Workshop Participation

Participants represented a range of:

- full-time residents;
- seasonal residents;
- homeowners;
- renters;
- different age groups;
- household sizes; and
- community perspectives.

Online participation also expanded the discussion beyond those attending in person.

The results provide a useful indication of community priorities and should be combined with DNSSAB data, housing market information, employer input, and site-specific analysis.

5.3 Community Questionnaire Results

The individual questionnaires identified the following recurring concerns:

- The analysis identifies lack of available housing, housing affordability, limited rental options, housing condition and quality, unsuitable housing for household size, limited seniors housing, limited workforce housing, lack of accessible units and limited options for residents seeking to downsize.

Participants expressed interest in:

- seniors housing;
- apartments and multi-unit buildings;
- small homes;
- semi-detached and townhouse units;
- supportive housing;
- co-operative housing;
- rental housing; and
- ownership opportunities.

5.4 Table Discussion Results

The table worksheets identified several recurring themes:

- The analysis identifies need for multiple housing types, concern regarding excessive construction costs, limited serviced land, insufficient affordable rental supply, need for seniors and workforce housing, need for proximity to services, importance of water and wastewater infrastructure, support for modular construction, potential value of mixed-use or mixed-income development, need for community spaces and healthcare access and concern regarding the complexity of approvals and project delivery.

One group identified a modular-based multi-use complex serving workers, seniors, and assisted-income households as an ideal project concept.

5.5 Online Participation Results

The online discussion reinforced the need for:

- The analysis identifies small and modest homes, mixed-income housing, scattered and centralized development options, community access to services, stronger municipal coordination, improved local support services, healthcare access, rental housing, co-operative housing and development at a scale large enough to demonstrate demand and achieve operating efficiency.

The online notes also identified concerns regarding official plan requirements, approvals, service delivery, and the difficulty of advancing a project without a lead organization.

5.6 Priority Housing Types

The most frequently supported housing types were:

1. The analysis identifies seniors housing, affordable rental housing, apartments and multi-unit buildings, workforce and seasonal-worker housing, small or tiny homes, co-operative or shared-equity housing, and supportive and accessible housing.
2. semi-detached or townhouse units.

The findings indicate that no single housing type will address the full range of community needs.

5.7 Priority Population Groups

Workshop participants most frequently identified:

- seniors;
- young adults;
- local workers;
- seasonal workers;
- low-income households;
- families with children; and
- people with disabilities.

Seniors were the most consistently identified priority group.

5.8 Preferred Locations and Community Services

Whitney and areas close to existing services received the strongest overall support.

Participants emphasized proximity to:

- healthcare;
- stores;
- municipal services;
- schools;
- recreation;
- roads;
- transportation;
- internet; and
- community facilities.

Some respondents also supported rural or private locations, suggesting that the long-term strategy may include both centralized and dispersed housing.

5.9 Barriers to Housing Development

The principal barriers identified were:

- The analysis identifies affordability, lack of available units, high construction costs, land availability, water and wastewater infrastructure, roads and transportation, zoning and approvals, lack of developers, limited access to financing, maintenance concerns and uncertainty regarding project leadership.

5.10 Community-Suggested Housing Concepts

Suggested concepts included:

- The analysis identifies a modular multi-unit development, a senior's residence, a six-unit apartment project, a mixed-income housing complex, workforce housing, a small-home or tiny-home development, a co-operative housing project, shared-equity ownership, accessible apartments and housing close to Whitney services.

5.11 Key Engagement Conclusions

The engagement results support the following conclusions:

- The analysis identifies the community recognizes a genuine housing shortage, affordability and availability are the central concerns, seniors housing is a leading priority, workforce housing is closely connected to economic sustainability, smaller units are required, a mixed housing model is preferred, proximity to services is important, infrastructure and land constraints must be resolved early, multiple tenure options should be considered and the project should be phased to balance demand and financial risk.

6. Proposed Housing Program

6.1 Housing Program Objectives

The proposed housing program should:

- The analysis identifies increase the supply of suitable housing, respond to identified DNSSAB targets, prioritize seniors, workers, and smaller households, provide a range of rent levels, include accessible housing, support long-term financial sustainability, allow for future expansion, encourage mixed-income occupancy, strengthen local workforce retention and reduce the need for residents to leave the community.

6.2 Recommended Target Population

The initial development should serve a mixed resident population, including:

- independent seniors;
- local workers;
- seasonal workers;
- young adults;
- lower-income households;
- people requiring accessible units;
- couples and small families; and
- residents seeking to downsize.

A mixed resident profile would improve occupancy stability and reduce dependence on a single funding or subsidy program.

Housing and support continuum

Affordability alone will not enable every resident to obtain and retain housing. The housing program should therefore be planned along a support continuum:

independent affordable and market housing, with ordinary property management and referrals to community services;

service-enabled housing, with flexible space for visiting healthcare, wellness, employment, outreach, and tenancy-support providers;

supportive housing, where defined units are paired with funded, ongoing assistance delivered by a qualified service partner; and

transitional, respite, or short-duration emergency accommodation, subject to a distinct referral, staffing, funding, and operating model.

Supportive, transitional, respite, or emergency units should be included in the committed unit program only after the service provider, referral pathway, staffing intensity, operating funding, tenancy framework, privacy requirements, and effect on building design and funding eligibility have been confirmed. The base project should remain viable without unsupported assumptions about service funding.

6.3 Proposed Housing Types

The preferred initial housing types are:

- The analysis identifies one-bedroom apartments, two-bedroom apartments, a limited number of three-bedroom units, barrier-free units, adaptable units, potentially townhouse or ground-oriented units and common or support spaces where justified.

The building form should be selected after site evaluation. Potential forms include:

- low-rise apartment building;
- stacked townhouse;
- clustered modular units;
- small multi-building campus;
- mixed-use building; or
- combination of apartments and ground-oriented units.

6.4 Preliminary Unit Mix

A preliminary 24-unit concept could include:

Unit type	Number	Percentage
One-bedroom	10	42%
Two-bedroom	10	42%
Three-bedroom	4	16%
Total	24	100%

A preliminary 32-unit concept could include:

Unit type	Number	Percentage
One-bedroom	13	41%
Two-bedroom	14	44%
Three-bedroom	5	15%
Total	32	100%

These are working assumptions only and will be refined through demand, site, and financial analysis.

6.5 Bedroom Mix

The recommended bedroom mix should emphasize one- and two-bedroom units while retaining a limited number of larger units.

One-bedroom units would primarily serve:

- single seniors;
- single workers;
- young adults;
- people with disabilities; and
- single-person low-income households.

Two-bedroom units would serve:

- senior couples;
- small families;
- roommates;
- workers requiring flexible accommodation; and
- RGI households.

Three-bedroom units would serve:

- families;
- multi-generational households; and
- households identified through DNSSAB demand.

6.6 Rental, Ownership and Mixed-Tenure Options

The initial phase should primarily focus on rental housing because:

- The analysis identifies rental supply is limited, rental demand is clearly identified, seniors and workers require flexible housing, ownership models require more complex financing and legal structures, rental housing can accommodate RGI and affordable units a rental project is more compatible with DNSSAB partnership opportunities.

Affordable ownership, co-operative, or shared-equity housing could be introduced in a later phase.

6.7 Affordable, RGI and Market Unit Distribution

A preliminary mixed-income structure for a 24-unit project could include:

Affordability category	Units
RGI or deeply affordable	5
Affordable rental	7

Affordability category	Units
Workforce or moderate-income rental	6
Market rental	6
Total	24

For a 32-unit project:

Affordability category	Units
RGI or deeply affordable	7
Affordable rental	9
Workforce or moderate-income rental	8
Market rental	8
Total	32

The final distribution will depend on capital funding, operating subsidies, rent supplements, and project financing.

6.8 Accessibility and Aging-in-Place Requirements

The project should incorporate universal design principles, including:

- The analysis identifies barrier-free entrances, accessible parking, step-free routes, wider doors and corridors, accessible washrooms, reinforced bathroom walls, lever hardware, adaptable kitchens, elevator access where required, visual and audible alarms, mobility-device storage, emergency power considerations and proximity to services.

At least 15% to 20% of units should initially be designed as fully barrier-free, with remaining units designed to be adaptable where practical.

Mandatory design will follow the applicable Ontario Building Code, accessibility, fire-safety, and planning requirements. Accessibility Standards Canada publications, including outdoor-space and accessible-ready housing guidance, may be used as voluntary best-practice references where appropriate; they should not be described as legally binding unless incorporated through an applicable law, approval, funding agreement, or project standard.

6.9 Workforce and Seasonal Housing Considerations

Workforce housing should be designed to support:

- local employees;

- healthcare recruitment;
- industrial workforce
- municipal staff;
- tourism and park-related employment;
- retail and hospitality workers; and
- seasonal employees.

Potential features include:

- flexible lease terms;
- furnished units;
- utility-inclusive rents;
- employer master leases;
- shared two-bedroom units;
- secure storage; and
- efficient property management.

Seasonal occupancy and operating viability

Seasonal demand creates a specific vacancy and operating risk. A workforce component should not assume that six months of occupancy can support twelve months of debt service, utilities, insurance, maintenance, management, and reserves.

annual or minimum-revenue employer master leases;

a limited workforce allocation within a larger mixed-income project so year-round tenancies stabilize revenue;

furnished rooms or suites that can convert to ordinary year-round rentals outside the peak season;

shared suites with private bedrooms and, where feasible, private washrooms, supported by common kitchen and living areas;

a separate small cluster, lodge, or multi-building pilot where demand and an operating partner are demonstrated; and

off-season use by trainees, contractors, visiting workers, or approved short-duration community users where zoning, funding, and management rules permit.

Before workforce units are committed, the financial model should test six-, nine-, and twelve-month occupancy, employer guarantees, turnover and furnishing costs, utilities, cleaning, property management, and conversion to year-round use. Shared five- or six-bedroom concepts require specific zoning, rooming-house or lodging classification, Building Code, fire-safety, privacy, and operating review.

6.10 Phased Development Approach

A phased approach is recommended.

Phase 1

- 20 to 35 rental units;
- primarily one- and two-bedroom units;
- affordable, RGI, workforce, and market mix;
- accessible units;
- infrastructure sized for expansion where feasible.

Phase 2

- additional rental housing;
- seniors-specific housing;
- attainable ownership;
- co-operative or shared-equity units;
- additional family units; or
- supportive housing.

Phase 3

- further expansion based on demand;
- private-sector partnership;
- employer-supported housing;
- mixed-use or community-service components.

6.11 Future Expansion Potential

Candidate sites should be evaluated not only for the initial phase but also for their ability to support:

- additional buildings;
- shared infrastructure;
- common amenity areas;
- future ownership units;
- expanded parking;
- supportive services;
- community space; and
- potentially commercial or healthcare-related uses.

7. Housing Development Options

7.1 Option 1 – Affordable Rental Housing

This option would provide purpose-built rental housing at rents below prevailing market rates.

Advantages

- directly addresses workshop priorities;
- aligns with DNSSAB affordable rental targets;
- supports seniors, workers, young adults, and lower-income households;
- can access CMHC and public funding programs;
- allows a mix of unit sizes;
- can be municipally or non-profit owned.

Challenges

- requires capital subsidy or low-cost financing;
- operating viability may be sensitive to rent levels;
- property management capacity is required;
- deep affordability may require ongoing subsidy.

Preliminary Assessment

Affordable rental housing should form a central component of the preferred project.

7.2 Option 2 – Seniors and Accessible Housing

This option would focus on independent seniors and residents requiring accessible housing.

Advantages

- responds to the strongest community priority;
- supports aging in place;
- frees up larger existing homes;
- can be located close to services;
- creates demand for one- and two-bedroom units;
- may support community or healthcare partnerships.

Challenges

- support services may be required;
- accessible construction increases capital costs;
- limited tenant incomes may constrain rent;
- transportation and healthcare access remain important.

Preliminary Assessment

Senior's housing should be integrated into the mixed development rather than necessarily developed as a completely separate project.

7.3 Option 3 – Workforce and Seasonal Housing

This option would provide housing for local and seasonal employees.

Advantages

- supports economic development;
- improves recruitment and retention;
- assists local businesses;
- can include employer partnerships;
- may support moderate-income rents;
- can reduce vacancy risk through employer master leases.

Challenges

- seasonal demand may fluctuate;
- furnished units require higher operating costs;
- short-term rentals require active management;
- employer participation must be confirmed.

Preliminary Assessment

Workforce housing should be included as part of a mixed-income project, with a defined number of units potentially allocated through employer partnerships.

7.4 Option 4 – Mixed-Income Multi-Residential Development

This option would combine RGI, affordable, workforce, and market rental units.

Advantages

- improves financial sustainability;
- avoids concentrating poverty;
- serves multiple community groups;
- provides stable rent revenue;
- supports broader funding eligibility;
- aligns strongly with workshop findings;
- can be phased and expanded.

Challenges

- requires careful rent and subsidy structuring;
- may involve multiple funding agreements;
- tenant eligibility and unit allocation must be managed;
- public expectations must be clearly communicated.

Preliminary Assessment

This is the strongest overall development model and should be advanced as the preferred option.

7.5 Option 5 – Small Homes or Modular Housing

This option could include modular apartments, clustered small homes, tiny homes, or prefabricated units.

Advantages

- potentially shorter construction schedule;
- controlled factory quality;
- reduced on-site labour requirements;
- repeatable design;
- suitable for phased development;
- potential energy-performance advantages.

Challenges

- transportation and crane costs;
- foundation and site work remain substantial;
- servicing costs are not eliminated;
- limited local supplier competition;
- design and code coordination are required;
- tiny homes may not achieve desired density or operating efficiency.

Preliminary Assessment

Modular construction should be evaluated as a construction method rather than treated as the housing strategy itself. It may be suitable for the preferred mixed-income project.

7.6 Option 6 – Co-operative or Shared-Equity Housing

This option would involve resident participation in ownership, governance, or equity.

Advantages

- supports community participation;
- creates attainable ownership opportunities;
- can preserve long-term affordability;
- reduces reliance on conventional ownership;
- may engage private landowners;
- aligns with workshop interest.

Challenges

- requires specialized legal and governance structures;
- requires member education and capacity;
- financing may be more complex;
- long-term resale and affordability controls are required.

Preliminary Assessment

This option warrants further investigation but is more appropriate as a second phase or separate pilot project.

7.7 Comparative Assessment of Development Options

Option	Community alignment	Affordability impact	Financial viability	Implementation complexity	Overall assessment
Affordable rental	High	High	Moderate	Moderate	Strong
Seniors housing	High	High	Moderate	Moderate	Strong
Workforce housing	High	Moderate	Moderate to high	Moderate	Strong
Mixed-income development	Very high	High	High	Moderate	Preferred
Small/modular housing	Moderate to high	Moderate	Site-dependent	Moderate	Construction alternative
Co-operative/shared equity	Moderate	Moderate to high	Moderate	High	Future phase

7.8 Recommended Development Model

The recommended development model is a phased mixed-income rental project incorporating:

- affordable rental units;
- RGI units;
- accessible seniors' units;
- workforce rental units;
- market rental units;
- primarily one- and two-bedroom units;
- a limited number of family units;
- universal design;
- provision for future expansion; and
- potential use of modular or prefabricated construction.

This model provides the strongest balance of community benefit, financial viability, funding compatibility, occupancy stability, and flexibility.

8. Site Selection Framework

8.1 Site Selection Objectives

The selection of a suitable site will be one of the most important decisions affecting the feasibility, affordability, density, approval requirements, and long-term operation of the proposed South Algonquin housing development.

At this stage, no preferred property has been confirmed. Several potential properties in Whitney and Madawaska have, however, been identified for preliminary consideration, including vacant or underutilized land and existing commercial accommodation properties that may offer redevelopment potential.

The site-selection process should identify a property that can:

- The analysis identifies accommodate the recommended housing program and future phases, support an efficient multi-residential building form, provide safe, year-round access, support a scalable water and wastewater servicing solution, minimize site preparation and infrastructure costs, provide reasonable access to community services and employment, comply with, or reasonably be brought into compliance with, applicable planning requirements, avoid significant environmental and natural hazard constraints, support accessible pedestrian and vehicular circulation and provide a viable balance between land cost, density, capital cost, and operating efficiency.

The lowest-priced property will not necessarily represent the best development opportunity. A property with an apparently higher acquisition cost may provide a better overall outcome where it already contains access, hydro, buildings, servicing components, or sufficient land to accommodate future expansion.

8.2 Preliminary Candidate Property Types

The properties previously reviewed generally fall into the following categories:

Candidate property type	Potential advantages	Principal considerations
Vacant land in or near Whitney	Opportunity for a purpose-designed development; proximity to services; potential for phased construction	Site servicing, land-clearing, access, environmental conditions, zoning and total infrastructure cost
Larger Highway 60 property	Greater flexibility for housing layout, parking, wastewater treatment and expansion	Distance from community services, pedestrian connectivity, highway access approvals and cost of utilities
Existing motel or tourist-commercial property	Existing buildings, entrances, parking and accommodation use; potential for conversion or redevelopment	Building condition, zoning, code compliance, unit sizes, accessibility, fire separation, servicing capacity and conversion cost
Candidate Site W-04	Potential for a multi-storey or mixed-use building incorporating rental, short-term, workforce or market units	Existing land-use permissions, flood or shoreline constraints, servicing, building height, parking and economic viability

Candidate property type	Potential advantages	Principal considerations
Property in Madawaska	Opportunity to address housing need outside Whitney and support local residents and employers	Smaller service base, local demand, servicing, transportation, emergency access and year-round operating viability
Larger privately owned development property	Potential for multiple buildings, a campus arrangement and long-term expansion	Acquisition price, partnership terms, road and utility extensions, approvals and carrying cost

The initial screening should remain broad enough to include both vacant land and adaptive-reuse opportunities. Existing motel properties should not be dismissed solely because their current use is commercial. Their existing accommodation function, parking, access and building footprint could provide advantages, although conversion to permanent residential use would require detailed planning, building-code and servicing review.

8.3 Zoning By-law Context

The Township's Comprehensive Zoning By-law establishes the permitted uses and development standards applying to each property. The applicable zoning must be confirmed using the zoning schedules and through consultation with Township planning staff before a candidate site is advanced.

The consolidated Zoning By-law identifies four residential zones:

- Settlement Area Residential — R1;
- Settlement Area Shoreline Residential — R2;
- Shoreline Residential — SR; and
- Limited-Service Shoreline Residential — LSR.

The primary residential use expressly permitted in these zones is a detached dwelling. Secondary dwelling units are permitted in the R1 Zone, subject to the general provisions of the By-law. Apartment buildings, multi-residential buildings and townhouse developments are not expressly identified as permitted uses in the general residential-zone table.

This is an important preliminary finding. A multi-unit housing project will likely require one or more of the following:

- The analysis identifies a site-specific zoning by-law amendment, creation of a new or modified residential zone, a holding provision pending completion of servicing or other studies, a minor variance for limited dimensional relief, site plan approval, and an Official Plan amendment, if the proposed use or density does not conform to the applicable designation.
- Or a combination of these approvals.

The need for a zoning amendment should not be considered a reason to reject an otherwise suitable property. Given that the proposed housing project is intended to respond to a documented community need, the planning process can establish project-specific provisions for permitted uses, density, setbacks, parking, height, landscaping, amenity space and servicing.

The zoning analysis in this section is preliminary and should be verified against the current consolidated By-law, applicable zoning schedules and any site-specific amendments. [Comprehensive Zoning By-law 2017-527, consolidated June 4, 2026](#)

8.4 Existing Residential-Zone Standards

The general R1 and R2 zone standards include:

Requirement	R1	R2
Minimum lot area	1.0 hectare	1.0 hectare
Minimum lot frontage	60 metres	60 metres
Maximum lot coverage	30%	30%
Minimum front yard	8 metres	8 metres
Minimum exterior side yard	4.5 metres	4.5 metres
Minimum rear yard	8 metres	8 metres
Minimum interior side yard	3 metres	3 metres
Maximum building height	10 metres	10 metres

These requirements were primarily structured around low-density residential development using individual onsite servicing. They do not necessarily represent an appropriate regulatory framework for a community-led multi-residential project requiring municipal approvals and collaboration.

The one-hectare minimum lot area is particularly significant. It reflects the land area commonly required to accommodate a dwelling, well and conventional septic system. Applying this standard to each individual dwelling would result in inefficient land use and would make an affordable multi-unit development difficult to achieve.

A site-specific zone for the preferred development should therefore establish standards based on the proposed building form and communal wastewater solution rather than relying on a conventional one-lot-per-dwelling arrangement.

8.5 Commercial and Motel Properties

The By-law establishes the following commercial zones:

- Settlement Area Commercial — C1;
- Shoreline Commercial — C2;
- Highway Commercial — C3;
- Tourist Commercial — C4; and
- Camping Commercial — C5.

Hotels and motels are permitted in the C1, C3 and C4 zones. Commercial zones also permit certain accessory dwelling units, but permanent multi-residential housing is not generally identified as a principal permitted use.

The commercial-zone standards include:

Requirement	C1	C3	C4
Minimum lot area	1.0 hectare	1.0 hectare	2.0 hectares
Minimum lot frontage	40 metres	45 metres	90 metres
Maximum lot coverage	50%	35%	20%
Maximum building height	10.5 metres	10.5 metres	10.5 metres

The relatively high permitted lot coverage in the C1 Zone may be beneficial for redevelopment in a settlement area. Existing motel properties may also have established accommodation buildings, entrances and parking areas that could potentially be incorporated into a redevelopment.

However, conversion from motel accommodation to permanent residential units would constitute more than a cosmetic renovation. It would require assessment of:

- The analysis identifies whether permanent residential use is permitted, zoning amendment requirements, Ontario Building Code change-of-use requirements, fire separations and exiting, unit size and layout, kitchen and bathroom facilities, accessibility, heating, ventilation and electrical systems, domestic water capacity, wastewater treatment capacity, parking requirements, amenity space, environmental condition, building-envelope condition and lifecycle and rehabilitation costs.

A motel property could support one of three general redevelopment approaches:

1. **Conversion:** Retain and renovate the existing accommodation buildings for permanent housing.
2. **Partial redevelopment:** Retain viable buildings while adding a new apartment or modular building.
3. **Full redevelopment:** Demolish or substantially replace existing buildings and use the developed site, access and infrastructure as the basis for a new housing project.

These alternatives should be compared through a building-condition assessment and conceptual design exercise.

8.6 Whitney as a Priority Development Area

Whitney received the strongest support during the community-engagement process because it contains the Township's principal concentration of services, businesses, community facilities and employment.

A site in or close to Whitney could provide residents with improved access to:

- The analysis identifies grocery and retail services, healthcare and community services, municipal facilities, employment, schools and childcare, recreation, Highway 60, emergency services and internet and telecommunications infrastructure.

Whitney should therefore be treated as the preferred search area for the first housing development, subject to identification of a technically and financially viable property.

The suitability of a Whitney site should not be based solely on distance from the town centre. The assessment should also consider:

- The analysis identifies safe pedestrian routes, winter road maintenance, access to Highway 60, topography, availability of hydro, well-water potential, capacity for communal wastewater

treatment, neighbouring land uses, future expansion and potential compatibility with existing residential areas.

8.7 Madawaska Housing Opportunity

Madawaska should remain under consideration as part of the broader South Algonquin housing strategy.

A Madawaska housing project may support:

- The analysis identifies existing residents wishing to remain in the community, seniors seeking smaller housing, local and seasonal workers, employees connected to tourism, forestry, transportation and nearby services, smaller households and residents who do not wish to relocate to Whitney.

The first community project may achieve stronger occupancy and operating efficiency in Whitney because of its larger service base. However, this does not eliminate Madawaska from consideration. A smaller or later-phase development may be appropriate, potentially consisting of:

- The analysis identifies a four- to eight-unit apartment building, clustered modular units, seniors-oriented rental units, workforce housing, redevelopment of an existing accommodation property and a small mixed-income development.

Demand should be verified before a dedicated Madawaska project is advanced. This could include a targeted resident survey, employer interviews and a non-binding expression-of-interest process.

8.8 Land Area and Development Capacity

Site area should be assessed based on the total housing program rather than the existing one-hectare residential standard.

A multi-unit development requires land for:

- The analysis identifies building footprints, parking, internal roads and fire routes, accessible routes, snow storage, waste and recycling, amenity space, stormwater management, wells or water storage, the RBC treatment system, treated-effluent dispersal or discharge infrastructure, setbacks and buffers, construction staging and future expansion.

A site of approximately two to five acres may accommodate an initial multi-unit development, depending on topography, building form, parking ratios, water supply, effluent-management approach and regulatory setbacks. Larger sites may provide greater flexibility, but the amount of usable land is more important than the gross property area.

A property should not receive a high score merely because it is large. Wetlands, steep slopes, poor soils, shoreline setbacks, easements, flood risk or irregular lot configuration may substantially reduce the developable area.

8.9 Road Access and Transportation

New development should generally have frontage and direct access onto an improved public street maintained year-round by the Township or Province.

The Zoning By-law generally requires buildings to be located on lots having frontage on an improved public street. Development on a private road may require a private-road agreement and may not provide the level of municipal, emergency and winter-maintenance service appropriate for a multi-residential project.

Each candidate site should be reviewed for:

- The analysis identifies legal and physical access, road ownership and maintenance, entrance visibility, required entrance permits, proximity to intersections, road width and condition, emergency-vehicle access, fire-route geometry, school-bus and community-transportation access, winter maintenance, pedestrian safety, accessibility and potential Highway 60 permitting requirements.

Where a site fronts on Highway 60, early consultation with the Ministry of Transportation may be required to confirm entrance locations, traffic impacts, setbacks and permit requirements.

8.10 Parking and Internal Circulation

The Zoning By-law requires parking to be located on the same lot as the associated building. It establishes two spaces per unit for a single-detached or two-unit dwelling, but it does not provide a specific multi-residential parking ratio.

Uses not otherwise listed require one space per 45 square metres of total floor area. Applying this provision directly to an apartment building may produce a parking requirement that does not reflect the actual needs of seniors, affordable-housing residents or workforce tenants.

A site-specific zoning amendment should establish an appropriate parking standard based on:

- unit mix;
- tenant demographics;
- visitor parking;
- accessible parking;
- staff or support services;
- employer transportation;
- vehicle ownership patterns; and
- available community transportation.

A preliminary planning assumption of approximately **1.25 to 1.5 spaces per unit**, including visitor parking, should be tested during concept design. Seniors housing may justify a lower ratio, while workforce housing may require a higher ratio.

Parking and circulation areas should also provide:

- The analysis identifies barrier-free spaces, safe pedestrian routes, lighting, snow storage, garbage collection access, bicycle parking, emergency access, loading and moving areas, electric-vehicle readiness where practical and sufficient turnaround space.

8.11 Water Supply

Neither Whitney nor Madawaska has a centralized municipal water system serving all properties. Candidate sites will therefore require confirmation of a reliable and sustainable water source.

Potential solutions include:

- The analysis identifies one or more drilled wells serving individual buildings, a communal well system, a centralized treatment and storage system, cisterns or supplementary storage, fire-water storage and a phased system capable of future expansion.

The preferred approach will depend on:

- The analysis identifies hydrogeological conditions, estimated daily demand, water quality, well yield, treatment requirements, fire protection, ownership and operating responsibility, redundancy, monitoring and regulatory requirements.

A multi-residential development should not be designed around an assumed well yield. Hydrogeological testing should be undertaken before the property is acquired or before major design costs are committed.

8.12 Existing Wastewater Context

Whitney and Madawaska do not have municipal wastewater collection or treatment systems. Existing buildings are generally serviced by individual septic tanks and leaching beds.

This conventional approach has several limitations for new housing development:

- The analysis identifies large land areas are required for septic beds, reserve areas may be required, soil conditions can limit development, separation from wells and waterbodies reduces usable land, density is constrained, system performance depends on individual maintenance, replacement costs can be significant and multiple systems create long-term monitoring and management challenges.

The Zoning By-law requires septic-system components, including tanks, beds and mantles, to be set back at least 20 metres from a waterbody. Additional requirements will arise under the Ontario Building Code and applicable environmental approvals.

For a multi-unit housing development, conventional septic systems could consume a substantial portion of the property and undermine the density required to make affordable housing financially viable.

8.13 Recommended Scalable RBC Wastewater Solution

The feasibility study should prioritize a **scalable Rotating Biological Contactor wastewater treatment system** as the preferred infrastructure concept for higher-density housing sites.

An RBC system provides biological treatment through a series of rotating media discs that support microorganisms responsible for treating wastewater. The system can be configured in a modular arrangement and expanded as additional units or phases are developed.

Potential advantages include:

- support for greater housing density;
- reduced reliance on large conventional leaching beds;
- a smaller infrastructure footprint;
- modular expansion;
- controlled and consistent treatment;
- centralized monitoring and maintenance;
- potential integration with multiple buildings;
- improved effluent quality;
- compatibility with phased development; and
- the ability to serve adjacent properties or future community uses, subject to approvals.

The system could be planned in stages:

Development stage	Illustrative servicing approach
Initial phase	RBC sized for the first 20–35 housing units with allowance for future treatment modules
Second phase	Additional treatment capacity added as new housing is developed
Future community expansion	Potential connection of adjacent housing, public facilities or compatible commercial uses, subject to design and regulatory approval

The analysis identifies The RBC system should be sized based on actual hydraulic and organic loading rather than dwelling-unit count alone. Design considerations will include: number and type of units, expected occupancy, peak flows, seasonal variations, commercial or community uses, influent characteristics, treatment objectives, discharge or dispersal method, redundancy, standby power, sludge management, cold-weather performance, odour and noise control, operator requirements and expansion capacity.

8.14 RBC Effluent Management

An RBC treatment unit does not eliminate the need to manage treated effluent. The preferred discharge or dispersal method will depend on the selected site and regulatory requirements.

Potential approaches include:

- The analysis identifies subsurface dispersal through a reduced-area or optimized leaching system, tertiary treatment followed by subsurface disposal, approved surface-water discharge, engineered infiltration, seasonal or controlled discharge, reuse for approved non-potable purposes and a combination of treatment and dispersal methods.

A receiving-environment and hydrogeological assessment may be required to determine the appropriate approach.

The site-selection process should therefore consider not only where the RBC equipment can be located, but also:

- The analysis identifies where treated effluent will be discharged or dispersed, setback requirements, groundwater direction, proximity to wells, waterbody sensitivity, flood elevations, soil permeability, access for maintenance, emergency storage and future expansion.

8.15 RBC Ownership and Operations

A centralized wastewater system requires a clear owner and operator.

Potential ownership models include:

- The analysis identifies Township ownership, ownership by a municipal services corporation, ownership by a non-profit housing provider, condominium or co-operative ownership, private ownership under an operating agreement and a utility-service agreement with a qualified wastewater provider.

The selected structure must establish responsibility for:

- The analysis identifies regulatory approvals, system operation, monitoring and sampling, preventative maintenance, emergency response, reporting, operator certification, electricity, sludge removal, capital replacement reserves and future expansion.

The financial model should include a wastewater operating charge or utility allowance sufficient to support routine operation and long-term capital replacement.

8.16 Hydro and Telecommunications

Candidate sites should be reviewed for:

- The analysis identifies available electrical service, proximity to distribution lines, transformer requirements, three-phase power, if required for wastewater or mechanical equipment, capacity for electric heating, emergency or standby power, internet service, cellular coverage, telephone service and potential utility-extension costs.

Rural utility-extension costs can materially affect feasibility. Written confirmation of available capacity and preliminary connection costs should be obtained for shortlisted sites.

8.17 Environmental and Natural Heritage Constraints

Each candidate site should be screened for:

- The analysis identifies wetlands, watercourses, shoreline areas, floodplains, erosion hazards, steep slopes, unstable soils, significant wildlife habitat, species at risk, archaeological potential, former commercial or industrial uses, fuel storage, contaminated soil, abandoned wells or septic systems and nearby incompatible uses.

The Zoning By-law prohibits buildings requiring waterworks, sewage or drainage facilities on lands subject to flooding or on rocky, low-lying, marshy or otherwise unstable land.

An existing motel or commercial property may require a Phase I Environmental Site Assessment, particularly where there has been fuel storage, vehicle servicing, older heating equipment or unknown fill.

8.18 Accessibility and Community Connectivity

The preferred site should support an accessible development rather than relying solely on accessible building design.

Site accessibility should include:

- The analysis identifies level or gently sloped pedestrian routes, barrier-free parking, safe building entrances, winter-maintainable walkways, reasonable proximity to services, access to community transportation, outdoor seating and amenity areas, lighting, safe road crossings and space for mobility devices.

A remote property with low acquisition cost may create long-term transportation barriers, particularly for seniors and lower-income residents. Transportation access should therefore receive significant weight in the site-evaluation matrix.

8.19 Preliminary Site Evaluation Criteria

Candidate sites should be evaluated using a weighted matrix.

Evaluation category	Suggested weighting
Location and proximity to services	15%
Land area, configuration and expansion potential	10%
Planning and zoning feasibility	10%
Road access and transportation	10%
Water supply feasibility	10%
RBC wastewater feasibility	15%
Environmental and physical constraints	10%
Hydro and telecommunications	5%
Acquisition and site-development cost	10%
Existing buildings and adaptive-reuse value	5%
Total	100%

The scoring should distinguish between:

- information confirmed through documentation;
- information based on a visual review;
- assumptions requiring investigation; and

- fatal constraints.

8.20 Preliminary Screening of Previously Identified Opportunities

Based on the categories of properties reviewed to date, the preliminary screening approach is:

Property opportunity	Preliminary development potential	Required next review
Vacant properties near Whitney	Strong potential for a purpose-built mixed-income project	Confirm zoning, developable area, water, RBC effluent solution, access and utility capacity
Existing motel properties	Potential for conversion, partial retention or full redevelopment	Building-condition assessment, code review, zoning, servicing capacity and conversion cost
Candidate Site W-04	Potential for a multi-storey or mixed accommodation/residential concept	Site constraints, shoreline or flood conditions, zoning, RBC servicing, parking and market analysis
Madawaska properties	Potential for a smaller phased development or local workforce/seniors project	Confirm local demand, site servicing, operating scale and access to services
Larger private development property	Strong long-term flexibility but potentially higher acquisition cost	Assess partnership structure, cost, servicing, phasing and total development value

No property should be selected until the infrastructure strategy is considered alongside the building concept. The ability to install and expand a communal RBC system may materially change the relative ranking of the candidate sites.

8.21 Recommended Site Due-Diligence Process

The following process is recommended:

Stage 1 — Desktop Screening

- confirm ownership;
- confirm asking price or partnership interest;
- review parcel boundaries;
- identify zoning and Official Plan designation;
- review road access;
- identify known utilities;
- review aerial photography;
- identify waterbodies, wetlands and natural hazards;
- estimate usable area; and
- identify obvious fatal constraints.

Stage 2 — Preliminary Site Inspection

- inspect access and topography;
- review existing buildings;
- identify potential well and RBC locations;
- assess neighbouring uses;
- identify drainage patterns;
- review potential building locations;
- assess pedestrian connectivity; and
- document visible environmental concerns.

Stage 3 — Concept and Infrastructure Testing

- prepare a preliminary site plan;
- test a 20-, 24-, 32- or 35-unit concept;
- determine parking and fire-route requirements;
- identify the RBC treatment and effluent-management area;
- identify well and water-storage requirements;
- assess future expansion;
- prepare a preliminary servicing concept; and
- develop order-of-magnitude costs.

Stage 4 — Detailed Due Diligence

- legal survey;
- planning opinion;
- zoning and Official Plan review;
- geotechnical investigation;
- hydrogeological assessment;
- environmental assessment;
- building-condition assessment, where applicable;
- entrance and traffic review;
- utility confirmation;
- preliminary RBC process design; and
- regulatory pre-consultation.

Stage 5 — Final Site Selection

- complete the weighted evaluation;
- compare total development cost;
- confirm project risks;
- identify required approvals;
- confirm acquisition or partnership terms;
- select the preferred property; and
- authorize concept design and funding applications.

8.22 Preliminary Site Selection Recommendation

The priority should be to identify a site in or near Whitney capable of supporting an initial **20- to 35-unit mixed-income rental development** and future expansion.

The preferred property should:

- have year-round public-road access;
- be reasonably close to services;
- contain sufficient usable land;
- support a communal water solution;
- accommodate a scalable RBC wastewater system;
- avoid significant environmental constraints;
- provide capacity for future housing phases; and
- be capable of receiving the necessary planning approvals.

The motel and other developed commercial properties should remain active candidates because adaptive reuse or redevelopment may provide value that is not captured by land price alone.

Madawaska should remain part of the long-term community strategy, with consideration given to a smaller project once demand, property availability and servicing feasibility have been confirmed.

The use of scalable RBC wastewater treatment should be treated as a central component of the feasibility study. It provides a realistic opportunity to move South Algonquin away from low-density development dictated by individual septic fields and toward more efficient, compact and financially viable housing.

9. Technical Feasibility

9.1 Technical Feasibility Overview

The proposed South Algonquin housing initiative is technically feasible, provided that the selected site can support an appropriate communal water supply, a scalable wastewater treatment system, safe road access, electrical servicing, stormwater management, and a modular multi-residential building program.

The preferred development approach is a **multi-use, mixed-income apartment project** designed to serve:

- The analysis identifies working individuals and families, seniors seeking smaller and more accessible housing, lower- and moderate-income households, residents requiring rent-gear-to-income or affordable units, local and seasonal workers, people with disabilities and residents wishing to remain in South Algonquin as their housing needs change.

The project should be structured so that it can align with governmental affordable-housing initiatives, infrastructure funding, land-development partnerships, and private-sector participation. The technical concept must therefore provide flexibility in unit mix, affordability level, ownership structure, phasing, construction method, and servicing.

The recommended development should not be designed as a single-purpose building serving only one population group. A broader mixed-income and multi-generational project will provide stronger occupancy, more stable revenues, improved funding compatibility, and greater community value.

9.2 Preferred Development Form

The preferred development form is a low- to mid-rise multi-residential building or coordinated group of modular buildings.

Potential configurations include:

- The analysis identifies a two-storey apartment building, a three-storey apartment building, two smaller apartment buildings constructed in phases, a combination of apartment and townhouse-style modular units, a mixed-use building with limited community, healthcare, commercial, or support space and a housing campus with separate buildings for seniors, workers, and mixed-income households.

The final form will depend on the selected property, zoning, site access, fire protection, parking, servicing, and capital funding.

A multi-building campus may be appropriate on a larger site because it would allow:

- The analysis identifies phased construction, separate funding streams, different tenure models, future expansion, operational separation between housing programs, flexibility in unit design and reduced initial capital exposure.

A single larger apartment building may provide stronger economies of scale through shared corridors, mechanical systems, elevators, amenity areas, and operating services.

9.3 Multi-Use and Mixed-Income Development Strategy

The development should be designed as a mixed-use and mixed-income housing project rather than a conventional single-market apartment building.

For the purposes of this study, “multi-use” may include a combination of:

- The analysis identifies residential units at different affordability levels, seniors-oriented units, workforce housing, accessible housing, short-term transitional or seasonal-worker units, community or support-service space, shared meeting or amenity rooms, healthcare or visiting-service space, property management offices, shared laundry facilities, commercial or community-serving space where appropriate and outdoor amenity and gathering areas.

The inclusion of limited non-residential space may strengthen the project by providing services directly to residents and creating opportunities for partnerships. However, the primary purpose of the development should remain permanent housing.

Any community or commercial component should be included only where:

- The analysis identifies local demand is demonstrated, the space supports residents, the space does not undermine housing funding eligibility, operating costs are recoverable, zoning permits or can accommodate the use and the space is compatible with the residential character of the project.

9.4 Alignment with Government and Land-Development Programs

The technical design should be sufficiently flexible to align with funding and partnership programs that may support:

- The analysis identifies affordable rental housing, rent-geared-to-income units, accessible housing, seniors housing, workforce housing, rural housing, energy-efficient construction, modular construction, infrastructure servicing, municipal land contributions, non-profit housing, private-sector development, mixed-income projects and land-development partnerships.

Different programs may impose requirements related to:

- The analysis identifies minimum affordability periods, maximum rents, tenant income limits, accessibility, energy performance, unit size, project readiness, ownership structure, environmental performance, lifecycle planning, capital-cost limits and long-term reporting.

The building and site concept should avoid unnecessary design decisions that would restrict future funding eligibility. The project should instead be developed around a flexible base design that can be adjusted as funding opportunities and partnership requirements are confirmed.

9.5 Preliminary Building Program

A preliminary building program should be developed around an initial phase of approximately 20 to 35 units.

The following unit range should be tested during concept development:

Unit type	Preliminary proportion	Primary users
Studio or compact one-bedroom	10%–15%	Single workers, young adults, seasonal employees
Standard one-bedroom	25%–35%	Seniors, single residents, people with disabilities
Two-bedroom	40%–50%	Senior couples, workers, roommates, small families
Three-bedroom	10%–15%	Families and larger households
Fully barrier-free units	15%–20% of total	Seniors and people with mobility needs
Adaptable units	Remaining units where practical	Long-term aging-in-place flexibility

The analysis identifies the final mix should be refined through: site capacity, DNSSAB demand information, employer input, seniors-housing demand, financial modelling, funding requirements and building efficiency.

9.6 Working-Class and Workforce Housing

A central objective of the project should be to create housing that is affordable to South Algonquin's working population.

This includes residents employed in:

- services;
- healthcare;
- education;
- tourism;
- hospitality;
- retail;
- construction;
- transportation;
- forestry;
- maintenance;
- emergency services; and
- local businesses.

Many working households may not qualify for deeply subsidized housing but may still be unable to access suitable market housing. The project should therefore include moderate-income or workforce units with rents positioned between subsidized and full market levels.

Workforce housing features may include:

- The analysis identifies practical one- and two-bedroom layouts, durable finishes, utility-efficient design, parking, storage, reliable internet, flexible lease arrangements, employer-supported leases, furnished units where appropriate, shared laundry or in-suite laundry and easy access to Highway 60 and local employment.

A portion of the development may also be suitable for employer master-lease arrangements, provided that such agreements do not compromise the long-term residential character or affordability objectives of the project.

9.7 Seniors Housing and Aging in Place

Seniors housing should be integrated into the overall development rather than isolated from the broader community.

The preferred design should allow seniors to live independently while remaining close to:

- healthcare;
- community services;
- stores;
- family;
- transportation;
- recreation; and
- social activities.

Technical design considerations should include:

- The analysis identifies barrier-free entrances, elevators where the building exceeds one storey, minimal level changes, accessible parking, wider corridors, wider doorways, accessible bathrooms, roll-in showers in selected units, reinforced bathroom walls for future grab bars, lever-style hardware, accessible kitchens, emergency call provisions, mobility-device storage, common seating areas, outdoor amenity space, good lighting, visual contrast, backup power for essential systems and adaptable unit layouts.

The building should be designed so that residents can remain in their units as their mobility needs change.

9.8 Modular Construction as the Preferred Method

Modular construction is the preferred building method for the South Algonquin housing project.

South Algonquin has a limited local skilled-labour supply. A conventional site-built project could be affected by:

- The analysis identifies difficulty attracting trades, higher travel and accommodation costs, limited local subcontractor capacity, longer construction periods, weather exposure, inconsistent labour availability, material-delivery delays and reduced competition.

Manufacturing the building modules off site and installing them on prepared foundations provides a more practical delivery method.

Potential advantages include:

- The analysis identifies controlled factory construction, reduced reliance on local trades, improved quality control, protection from weather during fabrication, shorter on-site construction duration, reduced site disruption, repeatable unit layouts, improved schedule certainty, opportunity for bulk purchasing, more consistent energy performance, reduced material waste and compatibility with phased development.

The modular approach does not eliminate the need for local construction services. Site work will still be required for:

- The analysis identifies clearing, excavation, foundations, roads, parking, drainage, water systems, wastewater infrastructure, utility connections, landscaping, module installation, exterior completion, interior stitching and finishing and commissioning.

However, the amount of skilled building work completed locally can be substantially reduced.

9.9 Modular Building Configuration

The modular building should use standardized modules and repeatable unit types wherever possible.

A typical modular apartment concept could include:

- The analysis identifies modules containing complete residential units, modules containing half-units joined on site, corridor modules, stair modules, elevator modules, mechanical and electrical service modules, amenity-space modules and entrance or common-area modules.

Standardization can reduce cost and manufacturing complexity. However, the project should avoid excessive repetition that creates an institutional appearance.

Architectural variation can be achieved through:

- roof forms;
- façade materials;
- balconies;
- porches;
- canopies;
- window arrangements;
- building offsets;
- landscaping; and
- common outdoor areas.

The completed development should appear as a permanent, high-quality residential project rather than temporary or industrial accommodation.

9.10 Modular Procurement and Delivery

The modular manufacturer should be engaged early in the design process.

Early involvement will allow coordination of:

- The analysis identifies module dimensions, transportation restrictions, structural systems, foundation design, lifting points, crane access, utility connections, fire separations, acoustic performance, envelope continuity, mechanical systems, electrical distribution, building-code compliance and installation sequencing.

The procurement model could include:

- design-build;
- construction management;
- stipulated-price modular supply and installation;
- separate site contractor and modular contractor;
- integrated project delivery; or
- developer-led delivery.

An integrated design-build approach may offer the strongest coordination because the manufacturer, consultant team, site contractor, and owner can develop the project around a shared scope and schedule.

9.11 Transportation and Module Installation

The feasibility of modular construction will depend on the ability to transport modules to the selected site.

The route assessment should review:

- The analysis identifies module dimensions, highway restrictions, bridge clearances, overhead wires, turning radii, seasonal road restrictions, escort requirements, delivery permits, site entrance geometry, staging area, crane setup, ground-bearing capacity and temporary traffic control.

The site should provide sufficient room for:

- module storage;
- delivery trucks;
- crane operations;
- worker access;
- installation sequencing;
- temporary utilities; and
- emergency access.

A constrained or steep site may reduce the advantages of modular construction.

9.12 Foundations and Structural Systems

The final foundation system will depend on geotechnical conditions and building design.

Potential systems include:

- The analysis identifies conventional concrete strip footings, concrete foundation walls, concrete slab-on-grade, insulated concrete forms, helical piles, driven steel piles, concrete piers, grade beams and a hybrid system.

The foundation must be designed to:

- The analysis identifies receive modular loads, accommodate module bearing points, control differential settlement, resist frost action, support elevator and stair cores, coordinate utility penetrations, provide crawlspace or basement access where required and support rapid module installation.

A geotechnical investigation will be required before foundation design is completed.

9.13 Building Height and Storeys

A two- or three-storey building is expected to provide the most practical balance between density, cost, accessibility, and compatibility with the local community.

Two-storey development

Advantages include:

- simpler structure;
- reduced fire and life-safety complexity;
- easier modular installation;
- potentially lower capital cost;
- lower visual impact; and
- potential to avoid an elevator in limited circumstances.

However, excluding an elevator would conflict with the objective of serving seniors and people with disabilities. A two-storey building intended for seniors should generally include an elevator unless all accessible units and common facilities are located on the ground floor.

Three-storey development

Advantages include:

- greater density;
- reduced land cost per unit;
- more efficient servicing;
- smaller building footprint;
- improved affordability potential; and
- better use of communal infrastructure.

Challenges include:

- elevator requirements;
- increased structural and fire-code requirements;
- more complex modular stacking;
- potentially higher crane requirements; and
- greater community-design sensitivity.

The preferred height should be determined through concept planning and site review.

9.14 Ontario Building Code and Fire Safety

The project must comply with the Ontario Building Code and applicable fire-safety requirements.

Key considerations include:

- The analysis identifies major occupancy classification, combustible or non-combustible construction, building area, building height, sprinkler requirements, fire alarm systems, spatial

separation, fire-resistance ratings, exits, corridor widths, stair design, emergency lighting, fire-department access, firefighting water supply, accessibility, elevator requirements, smoke control, interconnected modules and fire stopping at module joints.

The code strategy should be established early because it will materially affect:

- structural design;
- module layout;
- corridors;
- stairs;
- mechanical systems;
- project cost; and
- site layout.

9.15 Fire Protection and Emergency Access

A rural multi-residential development requires careful fire-protection planning.

The site must provide:

- The analysis identifies fire-truck access, adequate turning radii, all-season road construction, appropriate building setbacks, fire-route signage, reliable addressing, emergency lighting, access to building entrances and snow-clearing provisions.

Where municipal hydrants are not available, alternative firefighting-water provisions may be required. These could include:

- buried fire-water storage;
- above-ground tanks;
- cisterns;
- dry hydrants;
- sprinkler-water storage;
- fire-department shuttle access; or
- a combined domestic and fire-water system.

Fire-water requirements should be coordinated with the communal well system and local fire department.

9.16 Communal Water Supply

A communal water system is the preferred servicing approach for the multi-residential development.

The system may include:

- The analysis identifies one or more drilled wells, raw-water pumps, water treatment, pressure tanks, treated-water storage, distribution piping, disinfection, water-quality monitoring, backup equipment, emergency power and fire-water storage where required.

The communal system offers advantages over individual wells, including:

- centralized treatment;
- consistent water quality;
- reduced number of wells;

- improved monitoring;
- greater density;
- easier maintenance;
- shared capital cost; and
- future expansion capacity.

The system should be designed for phased growth. The initial well and treatment system may serve the first phase, while space and distribution capacity are reserved for additional wells, storage, or treatment equipment.

Hydrogeological investigations will be required to confirm:

- well yield;
- water quality;
- aquifer sustainability;
- interference with neighbouring wells;
- treatment requirements;
- source-water protection;
- seasonal performance; and
- long-term capacity.

9.17 Communal Water Treatment

A compact water-treatment system should be incorporated where raw-water quality requires treatment.

Potential treatment processes may include:

- filtration;
- iron and manganese removal;
- softening;
- ultraviolet disinfection;
- chlorination;
- pH adjustment;
- cartridge filtration;
- arsenic or mineral removal; and
- storage and pressure control.

The final treatment process must be selected based on laboratory testing.

The system should include:

- duty and standby components;
- remote alarms;
- sampling points;
- operator access;
- drainage;
- heating;
- freeze protection;
- chemical storage where applicable; and
- capacity for future expansion.

9.18 Scalable RBC Wastewater Treatment

A scalable Rotating Biological Contactor system is the preferred wastewater solution.

The RBC system should be designed to serve the initial phase while allowing additional treatment modules to be added for later phases.

The preferred system should include:

- The analysis identifies influent collection, primary treatment, flow equalization, RBC biological treatment, secondary clarification, tertiary treatment where required, disinfection where required, sludge storage, controls and monitoring, remote alarms, emergency storage, standby power and treated-effluent management.

The treatment plant could be installed in:

- a prefabricated mechanical building;
- a modular treatment enclosure;
- an underground or partially buried system;
- a dedicated utility building; or
- a combination of buried tanks and above-ground treatment equipment.

The wastewater infrastructure should be designed as a permanent utility asset rather than an enlarged private septic system.

9.19 Density Benefits of Communal Servicing

The combination of an RBC wastewater system and communal well service may reduce the land requirement associated with servicing from approximately 1.0 hectare per individual dwelling to a planning benchmark of approximately 0.1 hectare per dwelling equivalent.

This does not mean that every 0.1-hectare parcel can support one unit. The final density will still depend on:

- The analysis identifies building footprint, parking, roads, setbacks, stormwater management, fire access, environmental constraints, treatment-system location, effluent management, water supply, amenity space and regulatory approvals.

However, the communal approach can significantly improve land efficiency.

For example:

Servicing approach	Illustrative land consumption for 20 dwellings
Individual one-hectare serviced lots	Approximately 20 hectares
Communal servicing at 0.1 hectare per dwelling equivalent	Approximately 2 hectares
Multi-residential apartment building	Potentially less, depending on parking, servicing and site constraints

The analysis identifies This reduction in land consumption can materially improve: project affordability, density, walkability, proximity to services, infrastructure efficiency, land-development economics and future expansion.

9.20 Wastewater Effluent Management

The RBC system will produce treated effluent that must be managed through an approved discharge or dispersal method.

Potential approaches include:

- subsurface dispersal;
- engineered infiltration;
- tertiary treatment and reduced-area dispersal;
- seasonal discharge;
- controlled surface-water discharge;
- polishing wetlands;
- approved reuse; or
- a combined treatment and dispersal system.

The preferred method will depend on:

- site soils;
- groundwater;
- receiving environment;
- nearby wells;
- waterbodies;
- property size;
- topography;
- regulatory requirements;
- environmental sensitivity; and
- long-term operating requirements.

The selected property must contain sufficient usable area for both the treatment plant and the approved effluent-management system.

9.21 Wastewater Operations and Maintenance

A communal wastewater system will require professional operation.

Operating requirements may include:

- The analysis identifies certified operator oversight, scheduled inspections, sampling, laboratory testing, process monitoring, sludge removal, equipment maintenance, alarm response, reporting, electricity, chemical use where required, reserve funding and emergency planning.

The system will incorporate remote monitoring to reduce the need for continuous on-site attendance.

The ownership and operating model must be confirmed before construction. Potential operators include:

- the Township;
- a municipal services corporation;
- a non-profit housing provider;
- a qualified private operator;
- a utility provider; or
- a condominium or co-operative entity under contract.

9.22 Stormwater Management and Drainage

The development will create new impervious areas through:

- building roofs;
- roads;
- parking;
- walkways; and
- service areas.

A stormwater-management strategy will be required to control:

- runoff quantity;
- runoff quality;
- erosion;
- snowmelt;
- drainage to neighbouring properties;
- ponding;
- foundation drainage; and
- winter icing.

Potential measures include:

- swales;
- infiltration trenches;
- stormwater ponds;
- underground storage;
- permeable surfaces;
- rain gardens;
- roof-water collection;
- oil-grit separation;
- controlled discharge; and
- low-impact development measures.

The stormwater system should be coordinated with modular foundation design and wastewater infrastructure.

9.23 Roads, Parking and Site Circulation

The site should provide safe and efficient circulation for:

- residents;
- visitors;
- emergency vehicles;

- garbage collection;
- snow removal;
- module delivery;
- moving vehicles;
- maintenance vehicles; and
- community transportation.

A preliminary parking ratio of 1.25 to 1.5 spaces per unit should be tested.

Parking requirements may vary by tenant type:

Housing component	Preliminary parking consideration
Senior’s housing	Potentially lower vehicle ownership, but visitor and support-service parking required
Workforce housing	Higher vehicle ownership likely
Accessible units	Barrier-free spaces close to entrances
Seasonal housing	May require employer vans or shared transportation
Family units	May require more than one vehicle per household

The analysis identifies The site layout should also include:, covered entrances, accessible pedestrian routes, safe crossings, bicycle parking, snow-storage areas, lighting, loading space, garbage and recycling areas, and potential electric-vehicle charging.

9.24 Energy Efficiency and Building Performance

The modular buildings should be designed to reduce long-term operating costs.

Energy-performance measures may include:

- The analysis identifies high-performance walls, enhanced roof insulation, high-performance windows, air sealing, heat-recovery ventilation, energy-efficient heat pumps, zoned heating, LED lighting, low-flow plumbing fixtures, energy-recovery systems, smart controls, solar-ready roofs, photovoltaic systems where viable, enhanced metering and energy-efficient appliances.

Energy performance is particularly important for affordable housing because utility costs affect the actual affordability experienced by residents.

The project should evaluate whether utilities will be:

- individually metered;
- bulk metered;
- included in rent;
- partially included; or
- allocated through a utility allowance.

9.25 Mechanical Systems

Potential heating and cooling systems include:

- The analysis identifies cold-climate air-source heat pumps, ductless heat pumps, packaged terminal heat pumps, central heat-pump systems, hydronic systems, electric backup heating and ground-source systems where justified.

The preferred system should provide:

- The analysis identifies reliable cold-weather performance, individual temperature control, low operating cost, simple maintenance, readily available replacement parts, good indoor air quality and compatibility with modular construction.

Central systems may offer efficiency but can increase complexity. Individual systems may simplify tenant control and metering.

9.26 Electrical Systems and Backup Power

The electrical design should consider:

- The analysis identifies available utility capacity, electrical heating loads, domestic hot water, elevator power, wastewater treatment, water treatment, fire protection, vehicle charging, common lighting, communications, security and future expansion.

Backup power should be considered for:

- The analysis identifies water pumps, wastewater treatment, emergency lighting, fire alarm, communication systems, elevators where required for emergency operations, heating in common areas, sump pumps and essential resident-support systems.

The level of backup power will depend on project size, funding, and risk tolerance.

9.27 Internet and Telecommunications

Reliable internet is an essential housing service, particularly for:

- remote work;
- online education;
- telehealth;
- seniors;
- government services;
- employment;
- communication; and
- emergency response.

The preferred site should have access to reliable broadband or a feasible service-extension plan.

The building should include:

- The analysis identifies structured cabling, secure telecommunications rooms, wireless access in common areas, provisions for multiple service providers, cellular enhancement if required and future technology capacity.

9.28 Accessibility and Universal Design

The entire development should be based on universal-design principles.

Recommended features include:

- The analysis identifies step-free access, accessible exterior routes, automatic entrance doors, elevator access, barrier-free common areas, accessible laundry, accessible mail areas, visual and audible alarms, adaptable kitchens, accessible bathrooms, lever handles, low-threshold showers, reinforced walls, adequate turning space, accessible balconies or patios, clear signage and high-contrast finishes.

Universal design will allow the project to serve residents with different needs without creating unnecessary segregation.

9.29 Common and Amenity Spaces

Shared spaces should be carefully selected to support residents without creating excessive operating costs.

Potential spaces include:

- The analysis identifies community room, small kitchen, lounge, laundry room, tenant meeting room, visiting healthcare room, property management office, mobility-device storage, bicycle storage, shared workshop, outdoor patio, garden space, playground and walking paths.

The preferred amenity package should reflect the final resident mix.

For example, a seniors-oriented component may benefit from:

- a common lounge;
- accessible garden;
- visiting-health room; and
- mobility-device charging.

A workforce component may benefit from:

- secure storage;
- laundry;
- reliable internet;
- outdoor recreation; and
- parking.

9.30 Solid Waste and Property Maintenance

The site must include practical provisions for:

- garbage;
- recycling;
- organics where applicable;
- bulky waste;
- snow storage;
- grounds maintenance;
- wastewater sludge removal;
- water-treatment residuals;
- mechanical maintenance; and
- tenant move-in and move-out.

Waste collection areas should be:

- accessible to collection vehicles;
- screened from residential areas;
- secure;
- wildlife resistant;
- well lit;
- accessible to residents; and
- located to minimize odour and noise.

9.31 Phasing and Expandability

The site and infrastructure should be planned for phased development.

A possible technical phasing strategy is:

The analysis identifies Phase 1, 20 to 24 units, communal well and treatment system, RBC system sized for initial occupancy, core roads and parking, utility infrastructure and initial amenity space.

Phase 2

- additional 8 to 16 units;
- expansion of RBC treatment;
- additional water capacity;
- expanded parking;
- additional seniors or workforce units.

Phase 3

- further rental or ownership housing;
- additional community space;
- employer-supported housing;
- co-operative or shared-equity units;
- potential adjacent-property connections.

The initial infrastructure should not be unnecessarily oversized, but it should allow cost-effective expansion.

9.32 Preliminary Technical Comparison

Technical criterion	Conventional site-built housing	Modular multi-residential housing
Reliance on local skilled labour	High	Lower
Construction duration on site	Longer	Shorter
Weather exposure	Higher	Lower
Quality control	Variable	Factory controlled
Design flexibility	High	Moderate to high
Phased expansion	Moderate	Strong
Transportation requirements	Conventional deliveries	Oversized module delivery
Site disruption	Higher	Lower
Schedule certainty	Moderate	Generally stronger
Rural suitability	Challenging where trades are limited	Strong, subject to delivery access
Preferred approach	Secondary option	Preferred

9.33 Key Technical Risks

The principal technical risks include:

- insufficient well yield;
- poor groundwater quality;
- limited effluent-disposal options;
- unsuitable soils;
- steep topography;
- wetlands or flooding;
- insufficient electrical capacity;
- restricted module-delivery access;
- limited crane setup area;
- fire-water requirements;
- higher-than-anticipated foundation costs;
- regulatory delays;
- manufacturer capacity;
- transportation cost escalation;
- cold-weather construction;
- operating complexity of communal systems; and
- insufficient future expansion area.

These risks should be addressed through early due diligence and regulatory consultation.

9.34 Required Technical Investigations

The following investigations will be required for shortlisted sites:

- The analysis identifies legal survey, topographic survey, geotechnical investigation, hydrogeological investigation, well testing, water-quality testing, environmental screening, Phase I Environmental Site Assessment where applicable, wastewater assimilative-capacity or receiving-environment review, preliminary RBC process design, stormwater assessment, entrance and transportation review, electrical capacity confirmation, fire-protection review, module-delivery route assessment, building-condition assessment for redevelopment sites and planning and zoning review.

9.35 Preliminary Technical Feasibility Conclusion

The proposed South Algonquin housing development is technically achievable through a modular, mixed-income, multi-residential approach supported by communal water and scalable RBC wastewater infrastructure.

The strongest technical model is expected to include:

- The analysis identifies a 20- to 35-unit initial phase, primarily one- and two-bedroom apartments, a combination of affordable, RGI, workforce, seniors, and market units, modular off-site construction, a two- or three-storey building form, universal and adaptable design, a communal well and compact water-treatment system, a modular RBC wastewater system, infrastructure designed for future expansion, energy-efficient mechanical and envelope systems, reliable broadband, safe year-round road access and adequate fire-protection infrastructure.

The modular approach directly responds to South Algonquin limited skilled-labour capacity and provides a more controlled and practical delivery method than fully site-built construction.

The communal servicing strategy is equally important. By reducing reliance on individual wells and septic fields, the project can support greater density, use land more efficiently, improve long-term system oversight, and create a stronger financial basis for affordable housing.

The next step will be to test this technical model against the shortlisted properties through concept planning, servicing analysis, preliminary costing, and regulatory consultation.

10. Planning and Regulatory Review

10.1 Planning and Regulatory Context

The South Algonquin housing initiative must be evaluated against three principal municipal planning documents:

1. The analysis identifies the Township of South Algonquin Official Plan and the in-force Comprehensive Zoning By-law No. 2017-527, consolidated as of April 6, 2026.
2. the July 2026 redline discussion draft of the proposed new Comprehensive Zoning By-law.

The Official Plan provides strong policy support for affordable housing, apartments, modular housing, seniors housing, mixed housing types, communal servicing, redevelopment, and intensification within Whitney and Madawaska. The main planning challenge is not whether the proposed housing is consistent with the general direction of the Official Plan. The challenge is translating those supportive policies into site-specific zoning permissions and technical standards appropriate for a 20- to 35-unit modular apartment development.

The current Zoning By-law is considerably more restrictive than the Official Plan. It primarily regulates low-density detached residential development and does not expressly permit apartment buildings or multi-unit residential buildings in the standard residential zones. A site-specific zoning amendment will therefore likely be required for each shortlisted property.

The proposed new Zoning By-law is still a discussion draft and should not be treated as an in-force planning instrument. It is nevertheless relevant because it demonstrates the direction in which the Township is considering modernizing its residential permissions. The draft adds duplex, semi-detached, triplex and fourplex dwellings to the R1 and R2 zones and introduces a definition for a multi-unit dwelling, but it does not yet appear to establish a clear general zone permission for larger apartment buildings.

10.2 Official Plan Alignment

The Official Plan is strongly aligned with the objectives of the housing feasibility study.

The Plan directs the Township to:

- The analysis identifies accommodate a range of housing types and densities, encourage growth in Whitney and Madawaska, provide cost-effective and efficient infrastructure, support affordable housing, address seniors housing needs, encourage economic development and workforce retention, support modular housing on permanent foundations, and consider innovative servicing development standards and coordinate land-use planning with infrastructure and public-service delivery.

The housing policies expressly recognize:

- The analysis identifies semi-detached and duplex dwellings, additional residential units, tiny homes and garden suites, townhouses, apartments, condominiums, modular homes on permanent foundations and mobile homes as potential housing forms.

The proposed development is therefore consistent with the general housing direction of the Official Plan.

10.3 Affordable Housing Policies

The Official Plan places particular emphasis on affordable housing.

It directs that affordable housing opportunities should be pursued primarily through redevelopment and intensification within Whitney and Madawaska. The Plan also supports:

- The analysis identifies identifying potential housing sites, giving priority to affordable housing when disposing of surplus municipal land, incorporating housing for lower- and moderate-income households, seniors and people with disabilities into larger housing projects, supporting federal and provincial housing programs, reducing development costs through alternative lot standards, considering innovative design and servicing, encouraging partnerships with public, private and non-profit proponents, prioritizing non-profit and co-operative housing applications and working with DNSSAB to address housing needs.

The Plan encourages a minimum of 10% of new housing units to meet the applicable affordable housing definition. It also allows Council to consider requiring an affordable component in larger housing developments.

The proposed project is expected to exceed that minimum substantially. The working concept includes a blended mix of:

- rent-gear-to-income units;
- affordable rental units;
- moderate-income workforce units;
- seniors units; and
- market rental units.

This approach is well aligned with the Official Plan's intent to provide diverse and affordable housing without concentrating all subsidized housing in one location.

10.4 Village Policies

Whitney and Madawaska are designated as the Township's settlement areas and preferred locations for new development.

The Official Plan recognizes these communities as the principal locations of municipal services, commercial activity and community life. It encourages infill and intensification in both villages, while acknowledging that private servicing may limit development scale.

This is a significant policy consideration for the shortlisted properties.

A multi-residential proposal within a village boundary will generally have a stronger planning basis than a similar proposal on an isolated rural site because it:

- The analysis identifies supports intensification, makes more efficient use of roads and utilities, places residents closer to services, supports local businesses, reduces transportation barriers, aligns with affordable housing policy and limits scattered rural development.

The Official Plan also notes that scattered rural residential development may not produce a positive municipal financial return and may incrementally increase municipal-service obligations. This reinforces the preference for compact development in Whitney and Madawaska.

10.5 Apartment Building Policies

The Official Plan specifically permits apartment buildings as a housing form.

Apartment buildings are generally supported where they:

- The analysis identifies respect the character of adjacent residential properties, are compatible in height, bulk and massing, integrate with surrounding land uses, do not create traffic hazards or unmanageable congestion, provide adequate land for parking, landscaping and buffering, provide effective stormwater management, are serviced by private or communal water and sewage systems and generally do not exceed four storeys.

These policies support the proposed two- or three-storey modular apartment concept.

A three-storey building would likely offer the strongest balance of:

- density;
- modular efficiency;
- accessibility;
- construction cost;
- land use;
- infrastructure efficiency; and
- neighbourhood compatibility.

A four-storey concept could potentially be considered, but it may create greater fire-safety, elevator, structural, visual and community-compatibility requirements. At this stage, two or three storeys should remain the preferred planning assumption.

10.6 Townhouse and Ground-Oriented Housing Policies

Townhouses are also supported under the Official Plan where they provide:

- compatibility with adjacent properties;
- private and common amenity space;
- appropriate parking;
- stormwater management;
- safe traffic access; and
- adequate private or communal servicing.

Townhouses may be suitable as:

- a later development phase;
- a family-oriented component;
- an affordable ownership component;
- a co-operative housing phase; or
- an alternative for sites that are not suitable for a larger apartment building.

For the first phase, apartments remain the stronger option because they provide better land and infrastructure efficiency. However, the larger shortlisted properties should be tested for both apartments and townhouses.

10.7 Water and Wastewater Policy

The Official Plan allows development to be serviced by either individual private systems or communal systems.

This is essential to the feasibility of the proposed development. The Plan does not require every dwelling to have its own well and septic system. It expressly recognizes communal servicing as an acceptable approach, subject to appropriate design, capacity and approvals.

The preferred infrastructure concept is:

- The analysis identifies a communal well or well field, compact centralized water treatment, a scalable RBC wastewater treatment system, a managed effluent dispersal or discharge system, centralized operation and monitoring and capacity for future phases.

This infrastructure model is consistent with the Official Plan's direction to coordinate infrastructure with land-use planning and to ensure that systems are financially viable over their lifecycle.

The communal approach also provides the basis for reducing the effective servicing land requirement from approximately one hectare per conventional individual dwelling toward a planning benchmark of approximately 0.1 hectare per dwelling equivalent, subject to engineering and environmental approval.

10.8 Wastewater Approval Threshold

The proposed RBC system will likely have a design flow exceeding 10,000 litres per day.

Under the proposed new Zoning By-law discussion draft:

- sewage systems below 10,000 litres per day are addressed through the Ontario Building Code approval process; and
- systems above 10,000 litres per day require Ministry of the Environment, Conservation and Parks approval.

A 20- to 35-unit development will likely exceed the provincial threshold depending on:

- unit mix;
- occupancy;
- common spaces;
- commercial or community uses;
- peak design factors; and
- future expansion allowances.

The project should therefore proceed on the assumption that the RBC system will require an Environmental Compliance Approval from MECP.

Early MECP pre-consultation should be completed before final site selection.

10.9 Hauled Sewage Capacity

The Official Plan requires confirmation that sufficient reserve treatment capacity exists for hauled sewage generated by individual or communal servicing systems.

Even where an RBC plant provides a high level of treatment, sludge and residual solids will still require periodic removal. The feasibility study must therefore confirm:

- The analysis identifies where residuals will be hauled, whether the receiving facility has sufficient approved capacity, anticipated hauling frequency, operating cost, emergency arrangements and long-term service availability.

This issue is not expected to prevent the project from proceeding, but it must be addressed as part of the wastewater operations plan.

10.10 Current Zoning By-law

The in-force Zoning By-law establishes the following residential zones:

- R1 — Settlement Area Residential;
- R2 — Settlement Area Shoreline Residential;
- SR — Shoreline Residential; and
- LSR — Limited-Service Shoreline Residential.

The current permitted-use table primarily permits detached dwellings, cottages, home occupations, bed-and-breakfast operations and limited secondary dwelling arrangements. It does not expressly permit apartments, townhouses or larger multi-unit residential buildings in the standard residential zones.

The current minimum R1 lot requirements include:

Standard	Current R1 requirement
Minimum lot area	1.0 hectare
Minimum lot frontage	60 metres
Maximum lot coverage	30%
Minimum front yard	8 metres
Minimum exterior side yard	4.5 metres
Minimum interior side yard	3 metres
Minimum rear yard	8 metres
Maximum building height	10 metres

These standards reflect low-density development using private wells and septic systems. They are not structured for a compact multi-residential project using communal servicing.

The development will therefore require a site-specific zone with standards established specifically for the proposed housing and infrastructure.

10.11 Proposed New Zoning By-law

The July 2026 discussion draft represents a significant improvement over the current By-law by proposing additional residential permissions in the R1 and R2 zones.

The draft adds:

- duplex dwellings;
- semi-detached dwellings;
- triplex dwellings; and
- fourplex dwellings

to the R1 and R2 zones. It also adds a definition for a multi-unit dwelling.

The discussion draft is not yet enacted. The following issues should be addressed before or during its finalization:

1. The analysis identifies a clear permitted-use category should be included for apartment buildings or multi-unit dwellings, a suitable zone should be created for larger residential developments, communal water and wastewater infrastructure should be expressly recognized, alternative minimum lot-area standards should be established where communal servicing is provided, a multi-residential parking standard should be included, building-height standards should accommodate three-storey modular apartment buildings, and affordable housing incentives and site-specific standards should be supported.
2. definitions should clearly distinguish apartments, multi-unit buildings, rooming houses, motels and short-term rental accommodation.

The Township may wish to consider creating a new **Residential Multiple or Residential Multi-Unit Zone**, potentially designated R3.

10.12 Recommended Residential Multi-Unit Zone

A new site-specific or general R3 zone could provide a more transparent regulatory framework for affordable housing development.

The zone could permit:

- apartment buildings;
- modular multi-unit buildings;
- townhouses;
- seniors housing;
- affordable housing;
- supportive housing;
- workforce housing;
- common amenity areas;
- property management offices;
- visiting healthcare or support-service space;
- communal water facilities;
- communal wastewater facilities; and
- limited compatible community uses.

Preliminary performance standards could include:

Zoning element	Preliminary study assumption
Minimum lot area	Site-specific, based on servicing and design
Planning benchmark	Approximately 0.1 hectare per dwelling equivalent
Minimum frontage	30–45 metres, subject to access
Maximum lot coverage	35%–45%
Maximum building height	12–14 metres
Maximum building storeys	3, potentially 4 where appropriate
Front yard	6–8 metres
Interior side yard	4.5–6 metres
Rear yard	7.5–10 metres
Parking	1.25–1.5 spaces per dwelling
Landscaped open space	Minimum 20%–30%
Barrier-free units	Minimum 15%–20%
Communal servicing	Permitted subject to approvals
Site plan control	Required

These are working standards only. Final standards should be established after concept planning and engineering review.

10.13 Site Plan Control

Apartment buildings containing more than 10 units are subject to Site Plan Control under the Official Plan.

The entire Township is intended to be designated as a Site Plan Control area, with residential development exceeding 10 units eligible for detailed review. Site Plan Control may address:

- The analysis identifies building location, entrances, parking, internal roads, pedestrian routes, landscaping, drainage, stormwater management, lighting, garbage facilities, accessibility, communal water infrastructure, wastewater treatment, amenity areas, buffering, snow storage, fire routes and securities and implementation requirements.

All shortlisted sites should be assumed to require Site Plan Control.

10.14 Official Plan Amendment Requirement

Based on the general Official Plan policies, an Official Plan Amendment may not be required for a multi-residential project within the Whitney or Madawaska Village designation.

The Plan already supports:

- apartment buildings;
- affordable housing;
- modular housing;
- intensification;
- communal servicing;
- seniors housing; and
- redevelopment.

An Official Plan Amendment may still be required where:

- The analysis identifies a property is located outside a Village designation, the proposed development does not conform to Rural or Waterfront policies, a village-boundary adjustment is required, the project includes a major non-residential component, the property is designated for environmental protection or another incompatible use and the scale or density cannot reasonably be interpreted as conforming to the Plan.

The planning strategy should prioritize Village-designated sites to minimize the likelihood of an Official Plan Amendment.

10.15 Zoning By-law Amendment Requirement

A Zoning By-law Amendment is expected to be required for all shortlisted properties unless the new Comprehensive Zoning By-law is enacted with suitable apartment and multi-unit permissions before the project application is submitted.

A site-specific amendment should address:

- The analysis identifies apartment or multi-unit use, seniors and workforce housing, affordable and RGI units, modular construction, communal water treatment, RBC wastewater treatment, density, building height, setbacks, lot coverage, parking, landscaping, amenity space, accessory community or service uses, phasing and future expansion.

A holding symbol may be appropriate to prevent development until servicing and technical requirements are satisfied.

Potential holding conditions could include:

- The analysis identifies MECP wastewater approval, hydrogeological confirmation, communal well approval, servicing agreement, site plan agreement, road-access approval, stormwater approval, fire-water strategy, environmental studies and confirmation of project financing.

10.16 Minor Variance

Minor variances may be appropriate for limited dimensional relief after the land use and overall development framework are established.

Potential minor variance matters could include:

- small reductions in setbacks;
- limited parking reductions;
- minor height relief;
- minor lot-coverage adjustments; or

- limited encroachments.

A minor variance should not be relied upon to establish the principal multi-residential use or to resolve major density and servicing issues. Those matters should be addressed through a zoning amendment.

10.17 Land Division

A development on a single property under one ownership may not require subdivision or consent approval.

Land division may be required where:

- The analysis identifies the project includes separate ownership parcels, future phases will be sold, affordable ownership units are created, separate commercial and residential parcels are required, condominium ownership is proposed, a communal servicing parcel is created, road or utility easements are required and a private developer requires phased parcel transfer.

Consent is generally used for the creation of up to three new lots, while larger land-division proposals may require subdivision or condominium approval.

The Official Plan generally requires a hydrogeological assessment where lots smaller than one hectare are created or where development occurs near a concentration of private systems.

For the proposed apartment development, maintaining the housing, parking and servicing on one parcel will likely provide the simplest approval and operational structure.

10.18 Environmental and Natural Heritage Review

All candidate sites must be screened against:

- The analysis identifies Environmental Protection zoning, wetlands, watercourses, floodplains, steep or unstable slopes, erosion hazards, significant wildlife habitat, fish habitat, species-at-risk habitat, archaeological potential, contaminated sites, former industrial or fuel-storage uses, aggregate-resource constraints and wildland-fire risk.

The Official Plan allows Site Plan Control to apply to development within 120 metres of certain wetlands, lakes, rivers and stream valleys.

Development should generally be avoided within Environmental Protection lands. Where development is proposed near an EP area, an Environmental Impact Statement may be required.

10.19 Waterfront and Shoreline Considerations

Waterfront properties may offer development appeal but present the greatest regulatory risk.

The Official Plan and draft Zoning By-law generally require:

- The analysis identifies a 30-metre setback from water, protection of shoreline vegetation, hydrogeological review, potential lake-capacity assessment, floodplain review, stormwater management, environmental-impact assessment and restrictions on intensified residential use.

Large waterfront developments or proposals near lake-trout lakes may require additional water-quality and lake-capacity studies.

Waterfront properties should therefore receive a lower planning-feasibility score unless:

- The analysis identifies the housing can be located outside the shoreline constraint area, sufficient upland area remains for the building and infrastructure, the RBC system can be designed without adverse environmental impact, flood and erosion risks are manageable and the project can retain appropriate shoreline buffers.

10.20 Road and Highway Approvals

All development should have safe frontage and access on a publicly maintained year-round road.

Where a site fronts Highway 60 or another provincial highway, Ministry of Transportation approval may be required for:

- entrance location;
- change of use;
- increased traffic;
- building setback;
- signage;
- drainage;
- road improvements;
- construction staging; and
- module delivery.

A Traffic Impact Assessment may be required depending on project size and access conditions.

Private-road access is not preferred for the proposed housing because it creates concerns relating to:

- emergency access;
- winter maintenance;
- garbage collection;
- school and community transportation;
- accessibility;
- municipal liability; and
- long-term road ownership.

10.21 Parking Review

The current and draft Zoning By-laws do not establish a tailored parking rate for apartment buildings.

The current fallback provision requires one parking space per 45 square metres of floor area for uses not otherwise listed. This may generate an excessive requirement for a multi-residential affordable housing development.

A site-specific standard should be established through the zoning amendment.

The recommended preliminary rate is:

- **1.0 space per affordable or senior's unit;**
- **1.25 spaces per standard rental unit;**
- **1.5 spaces per workforce or family unit;**
- visitor parking equal to approximately 0.15 spaces per unit; and
- required barrier-free parking.

A blended rate of approximately 1.25 to 1.5 spaces per unit should be used for initial concept planning.

10.22 Accessibility Review

The Official Plan directs the Township to promote accessibility in housing and public spaces and, at minimum, to apply Ontario Building Code accessibility standards.

The proposed development should go beyond the minimum code requirements through:

- The analysis identifies fully accessible units, adaptable units, barrier-free parking, accessible pedestrian routes, elevators, accessible common rooms, visual and audible alarms, mobility-device storage, accessible landscaping and seating and aging-in-place features.

The site plan and zoning framework should support these features rather than requiring future variances.

10.23 Indigenous Engagement

The Official Plan requires early engagement with relevant Indigenous communities on land-use planning applications, zoning amendments, redesignations and other planning decisions.

The Plan identifies communities and organizations that may require engagement, including:

- Algonquins of Ontario;
- Algonquins of Pikwakanagan First Nation;
- Curve Lake First Nation;
- Métis Nation of Ontario; and
- Nation Wendat.

The Township should confirm the required engagement protocol during pre-consultation.

Archaeological assessment requirements should also be identified early, particularly for:

- undeveloped land;
- lands near water;
- properties with known archaeological potential; and
- sites requiring major ground disturbance.

10.24 Complete Application Requirements

The Official Plan authorizes the Township to require supporting studies for:

- Official Plan amendments;
- zoning amendments;
- minor variances;

- site plan applications;
- consents;
- subdivisions; and
- condominium applications.

Potential required studies include:

- The analysis identifies planning justification report, hydrogeological assessment, groundwater impact assessment, servicing options report, geotechnical report, Environmental Site Assessment, Environmental Impact Statement, floodplain analysis, stormwater management plan, grading and drainage plan, traffic impact study, parking study, noise study, land-use compatibility assessment, archaeological assessment, landscaping plan, species-at-risk assessment, water-impact assessment and MTO studies or documentation.

The exact list should be confirmed through formal pre-consultation.

10.25 Preliminary Approval Process

The expected planning and regulatory process is:

The analysis identifies Step 1 — Property and Planning Confirmation, confirm ownership, obtain legal description, confirm Official Plan designation, confirm existing zoning, identify site-specific exceptions, identify environmental overlays, confirm road authority and identify previous planning approvals.

Step 2 — Municipal pre-consultation

- present preliminary housing concept;
- confirm whether an Official Plan Amendment is required;
- confirm zoning amendment requirements;
- identify Site Plan Control requirements;
- confirm supporting studies;
- identify public and agency consultation;
- confirm application fees and deposits.

Step 3 — Agency pre-consultation

Potential agencies include:

- MECP;
- MTO;
- Ministry of Natural Resources;
- local public-health or sewage-system authority;
- Hydro One;
- fire department;
- DNSSAB;
- Indigenous communities; and
- other agencies identified by the Township.

Step 4 — Technical Investigations

- survey;
- geotechnical investigation;

- hydrogeological study;
- communal water assessment;
- RBC wastewater design;
- stormwater review;
- environmental review;
- transportation review;
- concept design;
- planning rationale.

Step 5 — Planning Applications

- Official Plan Amendment, if required;
- Zoning By-law Amendment;
- Site Plan Control;
- land division or condominium approval, if required;
- minor variance, if necessary.

Step 6 — Infrastructure Approvals

- MECP Environmental Compliance Approval;
- communal water approval;
- septic or effluent-dispersal approval;
- entrance permit;
- utility approvals;
- stormwater approval;
- fire-water approval.

Step 7 — Building Permit

- building-code review;
- structural approval;
- modular certification;
- fire-code review;
- accessibility review;
- mechanical and electrical permits;
- occupancy approval.

10.26 Planning Approval Schedule

A preliminary planning schedule should allow:

Approval stage	Indicative duration
Site confirmation and pre-consultation	1–2 months
Supporting studies and concept design	3–6 months
Zoning amendment application	4–8 months
Official Plan Amendment, if required	Additional 4–8 months
Site Plan Control	4–8 months
MECP approval	6–12 months or longer
Building permit	2–4 months
Overall approvals before construction	Approximately 12–24 months

These durations are preliminary. Parallel processing may reduce the overall schedule, particularly where the Township supports the project and the site does not require an Official Plan Amendment.

10.27 Preliminary Regulatory Test Against Shortlisted Properties

The shortlisted properties have not yet been confirmed through legal surveys, zoning certificates or formal planning opinions. The following assessment is therefore a preliminary test based on property type, prior review and available planning policy.

The public study uses anonymous candidate-site identifiers. Ownership, civic address, contact information, asking price, negotiation history, and other identifying information will be maintained in a separate confidential property schedule with controlled distribution and non-disclosure requirements. Public descriptions should be limited to the site characteristics needed to understand the evaluation.

10.27.1 Candidate Sites W-01 and W-02 — Preferred Mixed-Use Development Opportunities

Candidate Sites W-01 and W-02 were previously identified as having the strongest potential for mixed-use or multi-residential development.

Regulatory consideration	Preliminary assessment
Official Plan alignment	Strong if located within or adjacent to Whitney Village

Regulatory consideration	Preliminary assessment
Affordable housing policy	Strong
Apartment policy	Supported
Intensification/redevelopment	Strong potential
Existing zoning	Likely amendment required
Site plan control	Required
Communal water and RBC	Potentially suitable
Official Plan Amendment	Potentially avoidable if within Village designation
Main planning risk	Confirm exact designation, zoning and servicing area
Preliminary ranking	High

These properties should be the first candidates tested through a 24- to 35-unit modular apartment concept.

10.27.2 Candidate Site W-03 — Existing Motel Property

Candidate Site W-03 is currently operated or developed as a motel.

Regulatory consideration	Preliminary assessment
Official Plan alignment	Potentially strong through redevelopment and adaptive reuse
Existing use	Tourist-commercial accommodation
Residential conversion	Likely zoning amendment required
Existing zoning	Likely C3 or C4-type commercial zone; must be confirmed
Apartment use	Not likely permitted as of right
Site plan control	Required
Change of use	Building Code review required
Communal RBC potential	Site-specific assessment required
Official Plan Amendment	May not be required if Village or compatible commercial designation
Main planning risk	Conversion feasibility, shoreline or highway constraints, existing building condition
Preliminary ranking	Moderate to high

The property may have advantages through existing access, parking and accommodation infrastructure, but permanent residential use must be established through zoning.

10.27.3 Candidate Site W-04 — Existing Accommodation Redevelopment Opportunity

Candidate Site W-04 has been identified as another motel-related or redevelopment opportunity, potentially suitable for a multi-storey concept with accommodation or short-term rental use at the lower level and permanent residential units above.

Regulatory consideration	Preliminary assessment
Official Plan alignment	Potentially strong as redevelopment
Mixed residential/commercial use	Possible but requires site-specific zoning
Existing motel use	Potentially beneficial
Waterfront constraints	Potentially significant
Flood or erosion risk	Must be confirmed
Building height	Two or three storeys likely supportable; four storeys requires detailed review
Site plan control	Required
Communal RBC potential	Strong if adequate upland area exists
Official Plan Amendment	May be required if Waterfront policies restrict intensity
Main planning risk	Shoreline setback, floodplain, parking and effluent management
Preliminary ranking	Moderate , subject to environmental constraints

This site may have strong development potential, but the regulatory risk is higher than for a non-waterfront Village property.

10.27.4 Candidate Site W-05

The larger Highway 60 property offers significant site-planning flexibility.

Regulatory consideration	Preliminary assessment
Official Plan alignment	Depends on Village or Rural designation
Existing zoning	Likely Rural or Highway Commercial; confirmation required
Apartment use	Zoning amendment required
Official Plan Amendment	More likely if outside Village boundary
MTO approval	Likely required
Communal water and RBC	Strong physical potential
Expansion potential	Strong

Regulatory consideration	Preliminary assessment
Site plan control	Required
Main planning risk	Highway access, distance from services and rural designation
Preliminary ranking	Moderate to high

This site may perform well technically but less strongly from an intensification and community-access perspective.

10.27.5 Candidate Site M-03

Candidate Site M-03 is a larger privately held Madawaska-area parcel that may support a smaller phased project or long-term expansion. Owner-supplied information indicates paved-road frontage, adjacency to R1 lands, and Rural (RU) zoning; exact acreage, ownership, address, and supporting records will remain in the confidential property schedule and all information remains subject to municipal, survey, title, and technical confirmation.

Regulatory consideration	Preliminary assessment
Official Plan alignment	Confirm Official Plan designation and relationship to the Madawaska Village boundary
Existing zoning	Rural (RU), based on owner-supplied material; municipal confirmation required
Apartment use	Site-specific zoning amendment likely for multi-unit housing
Official Plan Amendment	Possible if outside Village designation
Communal servicing	Potentially strong
Expansion potential	Strong
Ownership or partnership	May offer negotiated development model
Main planning risk	Net developable area, Environmental Protection constraints, communal servicing, land terms, and planning complexity
Preliminary ranking	Moderate; suitable for a smaller Madawaska test concept and possible long-term expansion

Candidate Site M-03 should be tested through a Madawaska-scale concept, including one or more four- to eight-unit buildings or clustered modular units. Gross acreage should not be treated as usable area: wetlands, Environmental Protection lands, slopes, setbacks, access, well yield, wastewater receiving conditions, fire access, and infrastructure locations must be mapped before capacity is estimated. The site should remain a conditional candidate rather than a preferred site until planning and servicing feasibility and acceptable land or partnership terms are confirmed.

10.27.6 Candidate Site M-01

Regulatory consideration	Preliminary assessment
Official Plan alignment	Strong if within Madawaska Village
Affordable housing policy	Strong
Apartment policy	Supported
Existing zoning	Amendment likely required
Site plan control	Required for more than 10 units
Communal servicing	Required for efficient development
Project scale	Smaller 6- to 16-unit project may be appropriate
Main planning risk	Demand and operating scale
Preliminary ranking	Moderate to high for a later phase

10.27.7 Candidate Site M-02

Regulatory consideration	Preliminary assessment
Official Plan alignment	Strong if within Village boundary
Redevelopment potential	Site-specific
Existing zoning	Confirmation required
Communal servicing	Site area and receiving environment must be tested
Access to services	Lower than Whitney
Project scale	Likely smaller than Whitney project
Main planning risk	Local demand, site servicing and access
Preliminary ranking	Moderate

10.28 Comparative Planning Assessment

Property opportunity	Official Plan fit	Zoning complexity	Servicing opportunity	Environmental risk	Overall planning position
Candidate Site W-01	High	Moderate	High	To be confirmed	Strong

Property opportunity	Official Plan fit	Zoning complexity	Servicing opportunity	Environmental risk	Overall planning position
Candidate Site W-02	High	Moderate	High	To be confirmed	Strong
Candidate Site W-03 motel	Moderate to high	Moderate to high	Moderate	Moderate	Promising
Candidate Site W-04	Moderate	High	Moderate	Potentially high	Conditional
Candidate Site W-05	Moderate	High	High	Moderate	Technically strong
Candidate Site M-03	Moderate	High	High	To be confirmed	Long-term opportunity
Candidate Site M-01	High locally	Moderate	Moderate	To be confirmed	Strong smaller project
Candidate Site M-02	Moderate to high	Moderate to high	Moderate	To be confirmed	Conditional

10.29 Preliminary Planning Recommendation

The strongest regulatory path is to select a property:

- within the Whitney Village boundary;
- outside waterfront and natural hazard constraints;
- with frontage on a publicly maintained road;
- capable of accommodating communal water and RBC wastewater servicing;
- large enough for 20 to 35 units and future expansion;
- close to community services; and
- capable of being rezoned through a site-specific multi-residential zone.

Candidate Sites W-01 and W-02 should remain the leading candidates until their exact designations, zoning and physical constraints are confirmed.

The existing motel properties should remain under active consideration because the Official Plan supports redevelopment and adaptive reuse. However, their suitability will depend on:

- building condition;
- change-of-use requirements;
- shoreline and flood constraints;
- wastewater capacity;
- parking;
- accessibility; and
- total redevelopment cost.

The Madawaska options should be carried forward as potential smaller-scale or later-phase opportunities.

10.30 Planning and Regulatory Conclusion

The proposed modular, mixed-income apartment project is consistent with the overall intent of the South Algonquin Official Plan.

The Official Plan provides substantial support for:

- apartments;
- affordable housing;
- seniors housing;
- modular construction;
- workforce housing;
- redevelopment;
- intensification;
- private and communal servicing; and
- growth within Whitney and Madawaska.

The principal regulatory issue is the gap between the supportive Official Plan policies and the more restrictive permissions of the current Zoning By-law.

A site-specific zoning amendment will likely be required. The Township should also consider using the current comprehensive zoning review to introduce a clear multi-unit residential zone that supports communal servicing and compact affordable housing development.

From a planning perspective, the use of communal water and scalable RBC wastewater treatment is not only technically beneficial; it directly supports the Official Plan's objectives for:

- efficient infrastructure;
- affordable housing;
- alternative development standards;
- intensification;
- compact development; and
- long-term community sustainability.

11. Preliminary Concept Development

11.1 Purpose and Status of the Concept Development

The purpose of the preliminary concept development is to translate the housing needs, technical findings, planning policies, site-selection criteria, and infrastructure strategy into a practical development framework for the shortlisted properties.

At this stage, the concepts are intended to establish:

- The analysis identifies the approximate development scale, preferred building form, preliminary unit mix, site-area requirements, servicing assumptions, parking and circulation needs, accessibility objectives, phasing opportunities, community and amenity space requirements and information required for future architectural design.

The concepts are not intended to replace architectural, engineering, planning, or regulatory design. Once the preferred site or sites have been identified, **3rd Line Studio will prepare the conceptual site plans, building layouts, elevations, and architectural illustrations** required to test and communicate the development options.

The preliminary concept should remain flexible enough to respond to the specific opportunities and constraints of each shortlisted property.

11.2 Development Vision and Design Principles

The recommended vision is a **compact, modular, mixed-income and multi-generational housing development** that provides suitable housing for seniors, working households, young adults, lower-income residents, and people requiring accessible accommodation.

The development should be designed as a permanent community asset rather than a temporary housing response.

The principal design objectives are to:

- The analysis identifies increase affordable and attainable housing supply, provide a meaningful number of units within the first phase, prioritize one- and two-bedroom apartments, include a limited number of family-sized units, support seniors aging in place, provide housing affordable to working residents, integrate RGI, affordable, workforce, and market units, use modular construction to reduce reliance on local skilled labour, use land and infrastructure efficiently, support communal water and RBC wastewater servicing, accommodate future expansion, fit within the scale and character of Whitney or Madawaska, create safe and accessible pedestrian connections, provide practical parking and winter maintenance, minimize long-term energy and maintenance costs and align with government housing and infrastructure programs.

The architectural design should avoid an institutional appearance. The development should read as a well-designed residential community through building articulation, material selection, landscaping, outdoor space, covered entrances, and appropriate scale.

11.3 Preliminary Development Scale and Density

The initial development should test a range of approximately **20 to 35 residential units**.

A project below approximately 20 units may not provide sufficient economies of scale to support:

- The analysis identifies communal water treatment, an RBC wastewater system, elevators, shared amenity space, professional property management, lifecycle reserves, affordable rent levels and the administrative requirements of government funding programs.

A project significantly above 35 units may be feasible on larger properties, but it would introduce increased financial exposure, planning complexity, servicing requirements, and absorption risk.

The recommended working concepts are:

Concept	Initial units	General application
Small development	12–16	Madawaska, constrained sites, adaptive reuse or pilot phase
Base development	20–24	Minimum practical mixed-income apartment concept
Preferred development	28–32	Strong balance of scale, affordability and operating efficiency
Expanded development	33–40	Larger Whitney sites with strong servicing and expansion potential

For land-planning purposes, the study should carry forward the working benchmark of approximately **0.1 hectare per dwelling equivalent** where communal water and RBC wastewater servicing are used. This benchmark should not be applied as a strict lot-size formula. It is an initial indicator demonstrating that communal infrastructure can support substantially greater density than conventional one-hectare private-service lots.

A 24-unit development could therefore require approximately 2.4 hectares under the conservative benchmark. A well-designed apartment building may use less land where parking, access, treatment infrastructure, environmental conditions, and effluent management permit.

11.4 Preliminary Building Form and Modular Configuration

The preferred building form is a **two- or three-storey modular apartment building**, or a coordinated group of smaller modular buildings where site conditions support a campus arrangement.

Preferred three-storey concept

A three-storey apartment building is expected to provide the strongest overall balance because it can:

- The analysis identifies increase density without requiring a high-rise form, reduce land cost per unit, reduce the length of roads and utility infrastructure, support an elevator and accessible

circulation, create efficient modular stacking, reduce roof and foundation area per unit, support shared mechanical and amenity spaces and remain generally consistent with the Official Plan’s direction that apartments should not normally exceed four storeys.

A potential three-storey building may contain:

- The analysis identifies 8 to 12 units per floor, a central or double-loaded corridor, one elevator, two protected exit stairs, one- and two-bedroom modular unit types, limited three-bedroom units, a main entrance and lobby, shared laundry or in-suite laundry, resident amenity space, property management or service space, mechanical and electrical rooms and mobility-device storage.

Alternative two-storey concept

A two-storey building may be appropriate where:

- The analysis identifies the site is more rural or sensitive, building height is a compatibility concern, the property is constrained, the project has fewer units, an elevator can still be economically provided, and the development is divided into phases.

Multi-building campus concept

Larger sites may support:

- The analysis identifies one seniors-oriented building, one workforce or family building, shared RBC and water systems, common parking and internal roads, shared amenity space and future ownership or co-operative units.

Although separate buildings provide phasing flexibility, the development should avoid unnecessarily segregating residents based on income, age, or subsidy status.

11.5 Preliminary Unit Mix and Affordability Structure

The unit mix should respond to the projected increase in one- and two-person households while retaining some larger units for families.

A preliminary 30-unit concept could include:

Unit type	Units	Share
Compact one-bedroom	4	13%
Standard one-bedroom	9	30%
Two-bedroom	13	44%
Three-bedroom	4	13%
Total	30	100%

The analysis identifies The preliminary affordability structure could include: This distribution is a planning concept only. The final structure will depend on: DNSSAB participation, funding-program requirements, capital grants, rent supplements, construction costs, financing terms, operating costs, tenant incomes and ownership model.

Housing category	Units	Intended residents
RGI or deeply affordable	6	Low-income households and seniors
Affordable rental	8	Lower- and moderate-income households
Workforce/moderate-income rental	8	Local workers and working households
Market rental	8	General community demand
Total	30	—

Units should not be physically distinguishable by affordability category. All units should use consistent exterior materials, entrances, common spaces, and general quality standards.

11.6 Accessibility, Seniors Housing and Universal Design

The preliminary concept should be designed around universal accessibility and aging in place.

At least **15% to 20% of the units** should be designed as fully barrier-free units. The balance should be adaptable wherever practical.

Barrier-free and adaptable features should include:

- The analysis identifies step-free access from parking to the building, automatic entrance doors, elevator access to all residential floors, wider corridors and doorways, adequate wheelchair turning space, accessible washrooms, roll-in or low-threshold showers in selected units, reinforced bathroom walls for future grab bars, lever handles, reachable controls, accessible kitchens, lowered or adjustable work surfaces where required, visual and audible alarms, accessible balconies or patios, mobility-device storage and charging, covered drop-off space and barrier-free outdoor amenity areas.

Seniors' units should be distributed throughout the building rather than confined to one isolated area. Ground-floor locations may be preferred for residents requiring immediate exterior access, while upper floors remain appropriate where reliable elevator service is provided.

The concept should also consider space for visiting healthcare, home-care consultation, or community support services. A small multipurpose room may perform this function without converting the project into an institutional or care facility.

11.7 Site Layout, Access, Parking and Outdoor Space

The site plan should create a practical, compact, and easily maintained development.

The preliminary layout should include:

- The analysis identifies one primary public entrance, a secondary emergency access where required, a clearly defined fire route, resident and visitor parking, barrier-free parking near the entrance, a covered passenger drop-off area, garbage and recycling collection, snow-storage areas, modular-delivery and crane-access planning, pedestrian routes, outdoor amenity space, landscaping and buffers, communal well and treatment facilities, the RBC wastewater plant, effluent-dispersal or discharge infrastructure, stormwater controls and space for future development.

A preliminary parking allowance of **1.25 to 1.5 spaces per dwelling unit** should be used until a site-specific parking study is completed.

For a 30-unit concept, this would produce approximately:

Parking category	Preliminary spaces
Resident parking	30–36
Visitor and service parking	5–7
Barrier-free spaces	As required by code and site plan
Preliminary total	35–43

Parking should not dominate the front of the development. Where possible, parking should be distributed along the side or rear of the building while maintaining visibility, lighting, and accessible routes.

Outdoor spaces may include:

- The analysis identifies landscaped seating areas, an accessible walking loop, raised garden beds, a small children’s play area where family units are included, a patio connected to the common room, shaded seating, bicycle parking and naturalized stormwater features.

The layout should account for winter operations from the outset. Snow-storage areas must not interfere with parking, sightlines, accessible routes, fire access, or the RBC system.

11.8 Communal Water and RBC Infrastructure Integration

Communal servicing should be treated as an integral part of the development concept, not as an infrastructure component added after the building design is complete.

The preliminary servicing concept should include:

- The analysis identifies one or more communal wells, a compact water-treatment building or modular enclosure, treated-water storage, pressure systems, potential fire-water storage, a buried wastewater collection network, an RBC treatment plant, sludge storage and removal access, standby power, remote monitoring, effluent dispersal or approved discharge, maintenance access and future expansion connections.

The RBC system should be positioned:

- The analysis identifies away from principal outdoor amenity areas, outside required environmental setbacks, where maintenance vehicles can gain access, where odour and noise can be controlled, where gravity collection is maximized where practical, where future treatment modules can be added and where effluent management can be accommodated.

The communal water and wastewater facilities may be housed in purpose-built modular utility buildings compatible with the architectural character of the development.

For larger sites, the infrastructure should be laid out as the beginning of a small community utility system capable of serving:

- later housing phases;
- additional apartment buildings;
- townhouse or ownership units;
- compatible community facilities; or
- potentially adjacent properties, subject to regulatory and ownership arrangements.

11.9 Community, Amenity and Mixed-Use Components

The development should include sufficient common space to support community life while avoiding excessive capital and operating costs.

A preliminary common-space program may include:

Common space	Preliminary purpose
Entrance lobby	Building access, mail and informal interaction
Multipurpose room	Tenant meetings, social activities and visiting services
Small kitchenette	Support for resident and community events
Laundry room	Shared laundry where not provided in units
Property management office	On-site administration and tenant support
Mobility storage room	Scooters, wheelchairs and charging
General storage	Seasonal and tenant storage
Mechanical/service rooms	Building and infrastructure systems
Outdoor patio or garden	Resident recreation and social interaction

A limited mixed-use component may be considered where it supports the housing and does not jeopardize funding eligibility.

Potential compatible uses include:

- The analysis identifies visiting healthcare or wellness services, community outreach, employment support, small administrative space, remote-work or shared computer space, property management, resident programming and local service-provider appointments.

A commercial component should only be added where a clear market and operating model exist. The first phase should not rely on speculative commercial rental income to make the housing project financially viable.

For motel redevelopment properties, the concept may test a combination of:

- permanent residential apartments;
- limited workforce or short-term accommodation;
- community-serving space; and
- retained tourist accommodation.

Any such combination must be clearly separated operationally and technically to avoid conflicts between permanent housing and transient accommodation.

11.10 Phasing and Preliminary Concepts for Shortlisted Properties

The preliminary concept should be tested differently against each property category.

Candidate Sites W-01 and W-02 — Preferred Whitney mixed-use sites

The preferred test concept should be:

- The analysis identifies 28 to 35 units, two- or three-storey modular apartment building, primarily one- and two-bedroom units, mixed-income rental model, communal well and RBC servicing, common amenity space, future second building or townhouse phase and full site plan and zoning amendment.

These properties should be treated as the leading candidates for the first full-scale project.

Candidate Site W-03 — Motel redevelopment

The concept should test:

- The analysis identifies retention and conversion of viable motel units, partial demolition and replacement, a new modular apartment addition, 12 to 24 permanent units, reuse of existing parking and access, upgrade or replacement of existing servicing and an RBC system serving both retained and new buildings.

A building-condition and code assessment is required before the conversion value can be confirmed.

Candidate Site W-04 — accommodation redevelopment candidate

The concept should test:

- The analysis identifies lower-level motel, workforce, or short-term accommodation, upper-level permanent residential apartments, two- or three-storey modular addition or replacement building, 16 to 30 total units, waterfront and flood constraints, structured separation of permanent and transient uses and RBC servicing and controlled effluent management.

This property may provide a strong mixed-use concept but carries greater environmental and regulatory risk.

Candidate Site W-05 property

The concept should test:

- The analysis identifies 24 to 35 units in Phase 1, three-storey modular apartment building, a second future building, separate seniors or ownership phase, large communal utility area, future expansion to 50 or more units and MTO-approved access and safe pedestrian design.

This site may provide the strongest long-term expansion potential.

Candidate Site M-03

The concept should test:

- The analysis identifies a long-term housing campus, phased modular apartment buildings, a combination of rental and attainable ownership, centralized water and RBC infrastructure, community space, and potential public-private partnership and infrastructure sized for multiple phases.

The concept must be tested against the acquisition or partnership cost.

Madawaska properties

The concept should be smaller and locally scaled:

- The analysis identifies 6 to 16 units, one- or two-storey modular building, seniors and workforce focus, one- and two-bedroom units, communal well and small RBC system and expansion capacity where demand is confirmed.

A Madawaska project may proceed as a later phase or as a separate demonstration project.

11.11 Concept Design Scope and Next Steps

Once the preferred sites have been narrowed to two or three candidates, 3rd Line Studio should be retained to prepare preliminary architectural concepts.

The concept-design assignment should include:

1. verification of the preliminary housing program;
2. site review and confirmation of usable development area;
3. preparation of at least one concept for each shortlisted site;
4. conceptual site plans showing buildings, roads, parking, servicing, amenity space and future phases;
5. preliminary modular building layouts;
6. unit plans for one-, two- and three-bedroom units;
7. accessible and adaptable unit plans;
8. building elevations and massing studies;
9. conceptual renderings;
10. preliminary building-area and unit-efficiency calculations; and
11. coordination with civil, structural, mechanical, electrical, wastewater, water, planning and cost consultants.

The first design exercise should compare a common base program across the sites so that the properties can be evaluated consistently.

The concept package should allow the feasibility team to confirm:

- The analysis identifies achievable unit count, building efficiency, site fit, parking requirements, infrastructure footprint, modular-delivery feasibility, planning compliance, capital cost, phasing potential, funding alignment and overall development value.

The preferred concept should not be selected based only on the highest unit count. It should provide the best balance of housing benefit, affordability, technical feasibility, regulatory risk, infrastructure cost, community integration, and long-term operating sustainability.

12. Capital Cost Estimate

12.1 Costing Methodology

The preliminary capital cost estimate establishes an order-of-magnitude budget for a modular, mixed-income apartment development in South Algonquin. It is intended to support:

- The analysis identifies comparison of shortlisted properties, evaluation of development scale, funding and financing discussions, preliminary affordability analysis, selection of the preferred concept, identification of major cost drivers and preparation of the next phase of architectural and engineering work.

The estimate is not based on completed architectural drawings, a selected modular manufacturer, site-specific engineering, contractor quotations, or a confirmed property. It should therefore be treated as an **early feasibility-level or Class D estimate**.

The working base case is a **30-unit, three-storey modular apartment development** containing:

- The analysis identifies one-, two- and limited three-bedroom units, affordable, RGI, workforce and market rental units, fully accessible and adaptable units, common amenity and support spaces, an elevator and two exit stairs, a communal well and compact water-treatment system, a scalable RBC wastewater treatment plant, parking and internal access roads, stormwater management, landscaping and outdoor amenity space and infrastructure capable of supporting future expansion.

All costs are presented in **Canadian dollars**, excluding HST unless otherwise noted.

The estimate should be updated at the following stages:

1. The analysis identifies selection of two or three preferred sites, completion of 3rd Line Studio's concept plans, preparation of preliminary civil and servicing designs, confirmation of the modular building system, completion of geotechnical and hydrogeological investigations, completion of a schematic design cost estimate, and receipt of modular manufacturer and site-contractor pricing.
2. completion of tender-ready documents.

Residential construction prices remain subject to escalation. Statistics Canada reported that the residential building construction price index for the Ontario portion of Ottawa–Gatineau increased by 4.1% between the first quarters of 2025 and 2026. This supports carrying an appropriate escalation allowance until the project's procurement and construction dates are confirmed. ([Statistics Canada](#))

Preliminary estimating classification

Estimate stage	Expected use	Relative accuracy
Feasibility/Class D	Site and option comparison	Broad range
Concept/Class C	Funding and preferred-option decision	Refined range
Design development/Class B	Budget approval and procurement planning	Detailed estimate
Pre-tender/Class A	Tender and construction authorization	Most developed estimate

At the current stage, cost ranges are more reliable than a single fixed number.

12.2 Land Acquisition Allowance

Land acquisition cost will depend on:

- The analysis identifies property location, parcel size, existing zoning, development potential, existing buildings, environmental condition, road access, availability of hydro and telecommunications, water and wastewater feasibility, demolition requirements, current commercial or motel income, partnership structure and whether the property is publicly or privately owned.

The preliminary land allowance should include more than the purchase price. It should also account for:

- The analysis identifies appraisal, legal review, title search, survey, land transfer tax where applicable, environmental due diligence, financing and closing costs, property tax adjustments, brokerage where applicable and carrying costs before construction.

Preliminary land allowances

Property type	Preliminary allowance
Municipally contributed land	\$50,000–\$200,000 for transaction and due-diligence costs
Vacant private property	\$300,000–\$750,000
Larger Highway 60 or expansion site	\$500,000–\$1,000,000
Existing motel or redevelopment property	\$750,000–\$2,000,000+
Larger strategic development property	Site-specific negotiation required

For the preliminary 30-unit base case, a **land allowance of \$600,000** is carried, together with a range of **\$300,000 to \$1,200,000**.

A higher land purchase price may still be justified where a property provides:

- existing access;
- parking;
- hydro service;
- usable buildings;
- established commercial permissions;
- accommodation revenue;
- suitable topography;
- reduced site preparation; or
- capacity for future development.

Land should therefore be evaluated based on **total development cost**, not purchase price alone.

12.3 Building Construction Costs

Building construction costs include the modular residential buildings and the work required to complete and commission them on site.

The allowance includes:

- The analysis identifies modular design and engineering, module fabrication, structural framing, exterior walls and roofing, windows and exterior doors, interior partitions and finishes, kitchens and bathrooms, plumbing, heating and cooling, ventilation, electrical systems, fire alarm, sprinkler systems where required, stairs and elevator, common areas, module transportation, crane installation, module stitching, exterior completion, interior connection work, foundation interface, testing and commissioning and contractor supervision and general requirements associated with the building.

The allowance does not include land, major site servicing, roads, parking, professional fees, furniture, contingency, or escalation.

Preliminary modular building cost assumptions

Component	Preliminary allowance
Residential modules and factory fabrication	\$7,500,000–\$9,000,000
Transportation and delivery	\$300,000–\$600,000
Crane and module installation	\$250,000–\$500,000
Foundations and structural interface	\$900,000–\$1,400,000
On-site stitching and completion	\$800,000–\$1,300,000
Elevator, stairs and common systems	Included within overall range
Total building construction	\$9,750,000–\$12,800,000

For the base estimate, a building construction allowance of **\$11,250,000** is carried.

This represents approximately:

- **\$375,000 per unit** for the core building component; and
- a preliminary building-only range of approximately **\$325,000 to \$427,000 per unit**.

The cost per unit is influenced by:

- The analysis identifies average unit size, percentage of one- versus three-bedroom units, common-area efficiency, accessibility, elevator requirements, fire protection, modular manufacturer location, transportation route, number of modules, building height, foundation design, envelope performance and repetition of unit layouts.

The modular approach should improve schedule certainty and reduce reliance on local skilled labour, but it should not automatically be assumed to produce the lowest construction price. Its principal benefits are expected to be:

- greater schedule control;
- factory quality assurance;
- reduced weather exposure;
- reduced local labour demand;
- repeatable design;
- shorter site-construction duration; and
- more predictable delivery.

12.4 Site Preparation Costs

Site preparation costs will vary substantially between the shortlisted properties.

The allowance may include:

- The analysis identifies clearing and grubbing, demolition, removal of existing septic systems, removal or relocation of existing utilities, rock excavation, unsuitable soil removal, imported granular material, bulk excavation, rough grading, erosion and sediment control, temporary access, dewatering, construction fencing, environmental remediation, tree protection, construction staging and temporary services.

Preliminary site preparation allowances

Site condition	Preliminary allowance
Relatively level vacant site	\$400,000–\$700,000
Moderately constrained or wooded site	\$700,000–\$1,100,000
Rock, steep grades or poor soils	\$1,000,000–\$1,800,000
Motel redevelopment with demolition	\$750,000–\$1,500,000
Contaminated or environmentally constrained site	To be determined following investigation

The base-case allowance is **\$850,000**.

The highest site-preparation risks are:

- shallow bedrock;
- blasting;
- poor bearing soil;
- groundwater;
- steep topography;
- existing foundations;
- demolition;
- contaminated fill;
- wetland or flood constraints; and
- restricted construction access.

A lower-priced property may become less attractive where major rock excavation or retaining structures are required.

12.5 Water and Wastewater Infrastructure

Communal water and wastewater systems are core components of the proposed development.

Communal water system

The preliminary water allowance may include:

- The analysis identifies hydrogeological investigation, test wells, production wells, pumps and controls, raw-water piping, treatment equipment, disinfection, pressure systems, treated-water storage, water-treatment enclosure, distribution piping, metering, monitoring equipment, standby systems, fire-water storage where required and commissioning.

RBC wastewater system

The wastewater allowance may include:

- The analysis identifies influent collection piping, maintenance holes, lift stations where required, primary treatment, flow equalization, RBC treatment modules, clarification, tertiary treatment, disinfection where required, controls and remote monitoring, sludge storage, mechanical enclosure, emergency storage, standby power, effluent pumping, subsurface dispersal or approved discharge, sampling equipment, commissioning and initial operator training.

A sewage works Environmental Compliance Approval may be required before the RBC facility is constructed or operated. Ontario identifies sewage works as one of the activities that may require an ECA under section 53 of the Ontario Water Resources Act. ([Ontario](#))

Preliminary infrastructure allowance

Infrastructure component	Preliminary allowance
Communal well development	\$150,000–\$300,000

Infrastructure component	Preliminary allowance
Water treatment and storage	\$250,000–\$500,000
Water distribution	\$150,000–\$300,000
RBC treatment system	\$700,000–\$1,300,000
Wastewater collection and pumping	\$250,000–\$500,000
Effluent dispersal or discharge works	\$250,000–\$700,000
Standby power, controls and monitoring	\$150,000–\$300,000
Total water and wastewater infrastructure	\$1,900,000–\$3,900,000

The base-case allowance is **\$2,650,000**.

The preliminary cost is higher than conventional servicing for a single dwelling but becomes more efficient when distributed across 20 to 35 units and future phases.

For the 30-unit base case, the water and wastewater allowance equals approximately **\$88,000 per initial unit**. This per-unit cost could decline as additional phases connect to the same infrastructure.

The final cost will depend heavily on:

- The analysis identifies well yield and water quality, treatment requirements, wastewater design flow, effluent criteria, subsurface versus surface discharge, soil permeability, receiving-water requirements, lift-station needs, system redundancy, future capacity and regulatory conditions.

12.6 Roads, Parking and Site Works

Road, parking and site-work costs may include:

- The analysis identifies site entrance, internal roads, fire route, parking, barrier-free parking, curbs or edge restraints, sidewalks and accessible routes, covered drop-off area, loading and moving area, garbage and recycling enclosure, stormwater infrastructure, swales and drainage, retaining walls, exterior lighting, signage, landscaping, outdoor amenity space, fencing and buffering, snow-storage areas, bicycle parking and site restoration.

Base-case site assumptions

The 30-unit concept assumes:

- The analysis identifies approximately 35 to 43 parking spaces, public-road access, a fire route, accessible pedestrian routes, a garbage collection area, exterior lighting, stormwater controls, basic landscaping and an outdoor resident amenity area.

Preliminary allowance

Component	Preliminary allowance
Entrance and internal road	\$250,000–\$500,000
Parking areas	\$350,000–\$650,000
Sidewalks and accessible routes	\$100,000–\$250,000
Stormwater management	\$200,000–\$500,000
Lighting and signage	\$75,000–\$175,000
Landscaping and amenity areas	\$125,000–\$300,000
Waste, loading and miscellaneous works	\$75,000–\$150,000
Total roads, parking and site works	\$1,175,000–\$2,525,000

The base-case allowance is **\$1,650,000**.

A motel redevelopment property may provide cost savings where existing entrances, parking and drainage can be retained. Those savings must be balanced against rehabilitation, demolition and code-upgrade costs.

12.7 Utility Installation

Utility costs include the infrastructure required to connect and operate the development.

Potential costs include:

- The analysis identifies hydro service extension, transformer, primary and secondary electrical distribution, natural gas or propane where applicable, telecommunications, broadband, utility trenches, exterior electrical equipment, individual or bulk metering, standby generator, connection charges, utility coordination and allowance for future electric-vehicle charging.

The development's electrical demand could be substantial because of:

- electric heating;
- domestic hot water;
- elevator;
- communal water treatment;
- RBC wastewater treatment;
- pumps;
- ventilation;
- common-area systems; and
- future vehicle charging.

Preliminary utility allowance

Utility component	Preliminary allowance
Hydro extension and transformer	\$200,000–\$450,000
Telecommunications and broadband	\$50,000–\$125,000
Standby generator and connections	\$150,000–\$300,000
Exterior distribution and metering	\$100,000–\$250,000
Total utility installation	\$500,000–\$1,125,000

The base-case allowance is **\$725,000**.

Written capacity and connection-cost confirmation should be obtained from the utility providers for each shortlisted site.

12.8 Professional and Consulting Fees

Professional fees should be carried as a percentage of the construction and infrastructure cost, supplemented by allowances for specialized investigations.

The project will likely require:

- The analysis identifies project management, architecture, planning, civil engineering, structural engineering, mechanical engineering, electrical engineering, modular coordination, wastewater process engineering, water-treatment engineering, geotechnical investigation, hydrogeological investigation, environmental studies, survey, landscape architecture, transportation review, energy modelling, accessibility review, cost consulting, legal services, funding support, contract administration, construction inspection, commissioning and owner's advisory services.

Preliminary professional fee allowance

Service category	Preliminary allowance
Architecture and modular coordination	\$450,000–\$700,000
Civil, structural, mechanical and electrical engineering	\$450,000–\$750,000
Water and wastewater engineering	\$250,000–\$450,000
Planning and approvals	\$100,000–\$200,000
Surveys and investigations	\$150,000–\$300,000
Project and construction management	\$300,000–\$500,000
Cost consulting, commissioning and specialist services	\$150,000–\$300,000

Service category	Preliminary allowance
Legal, funding and owner advisory	\$100,000–\$200,000
Total professional and consulting fees	\$1,950,000–\$3,400,000

The base-case allowance is **\$2,450,000**.

This represents approximately 12% to 15% of the preliminary hard construction and infrastructure cost, depending on final project complexity and procurement structure.

12.9 Municipal and Regulatory Costs

Municipal and regulatory costs may include:

- The analysis identifies planning application fees, zoning amendment, Official Plan amendment, if required, site plan application, minor variance, peer review deposits, building permit, development charges, where applicable, parkland dedication or cash-in-lieu, entrance permits, MTO permits, MECP approvals, utility application fees, fire review, securities, legal agreements, registration costs and occupancy approvals.

The exact costs cannot be confirmed until the preferred site, ownership model and municipal participation are determined.

The Township may consider:

- The analysis identifies waiving or deferring municipal application fees, waiving or reducing building permit fees where legally permitted, contributing municipal land, reducing securities, supporting planning applications, using a future Community Improvement Plan if one is adopted, deferring development charges where applicable and funding municipal peer reviews.

Ontario's ECA process applies administrative and technical review fees that vary according to the type of application and approval being sought. The application system calculates the applicable fee based on the proposed activity. ([Ontario](#))

Preliminary allowance

Regulatory category	Preliminary allowance
Municipal planning and peer review	\$50,000–\$125,000
Building permits and municipal approvals	\$75,000–\$200,000
Provincial and environmental approvals	\$25,000–\$100,000

Regulatory category	Preliminary allowance
Legal agreements, registration and securities administration	\$25,000–\$75,000
Total municipal and regulatory allowance	\$175,000–\$500,000

The base-case allowance is **\$300,000**.

This allowance excludes refundable securities and major development charges unless confirmed to be applicable.

12.10 Furniture, Fixtures and Equipment

Furniture, fixtures and equipment may include:

- The analysis identifies appliances, window coverings, common-area furniture, multipurpose-room furniture, property-management equipment, laundry equipment, mobility-device charging equipment, security systems, access-control equipment, waste and recycling equipment, maintenance equipment, exterior furniture, resident storage systems, signage and initial operating supplies.

The base modular building cost is assumed to include:

- kitchens;
- bathroom fixtures;
- built-in cabinetry;
- permanent lighting;
- heating and ventilation;
- permanent fire-protection equipment; and
- installed building systems.

Preliminary FF&E allowance

FF&E category	Preliminary allowance
Residential appliances	\$180,000–\$270,000
Common-area furniture	\$50,000–\$100,000
Laundry, security and management equipment	\$75,000–\$150,000
Exterior furniture and miscellaneous equipment	\$25,000–\$75,000
Total FF&E	\$330,000–\$595,000

The base-case allowance is **\$450,000**, equivalent to approximately **\$15,000 per unit**, including common facilities.

Furnished seasonal-worker units would require an additional allowance for:

- beds;
- tables;
- seating;
- kitchenware;
- linens; and
- replacement reserves.

12.11 Contingency and Escalation

A significant contingency is required because:

- The analysis identifies a property has not been selected, concept drawings are not complete, geotechnical conditions are unknown, water supply is unconfirmed, the RBC discharge or dispersal solution is not established, modular manufacturer pricing has not been obtained, utility capacity is unknown, planning conditions are not confirmed, and the procurement schedule is not fixed.
- construction-market conditions may change.

Design and construction contingency

At the current feasibility stage, a contingency of **15% to 20%** should be applied to construction, servicing and site-work costs.

The contingency is intended to cover:

- incomplete design;
- quantity development;
- site uncertainty;
- scope refinement;
- coordination gaps;
- minor regulatory requirements;
- market variability; and
- unforeseen construction conditions.

It is not intended to cover major scope changes, contaminated-site remediation, a failed water source, or a fundamentally different wastewater solution.

Escalation

A separate escalation allowance of approximately **4% to 6% annually** should be carried from the estimate base date to the anticipated midpoint of construction.

The exact allowance should be updated once the project schedule is established. Statistics Canada's first-quarter 2026 data showed continued residential construction price growth, including a 4.1% year-over-year increase for the Ontario portion of Ottawa–Gatineau. ([Statistics Canada](#))

Base-case allowances

Allowance	Base amount
Design and construction contingency	\$2,600,000
Escalation to anticipated procurement/construction	\$1,050,000
Total contingency and escalation	\$3,650,000

The escalation allowance should be recalculated rather than carried as a fixed amount once construction timing is confirmed.

12.12 Preliminary Project Budget

30-unit base-case budget

Cost category	Low range	Base allowance	High range
Land acquisition and closing	\$300,000	\$600,000	\$1,200,000
Modular building construction	\$9,750,000	\$11,250,000	\$12,800,000
Site preparation	\$400,000	\$850,000	\$1,500,000
Water and wastewater infrastructure	\$1,900,000	\$2,650,000	\$3,900,000
Roads, parking and site works	\$1,175,000	\$1,650,000	\$2,525,000
Utility installation	\$500,000	\$725,000	\$1,125,000
Professional and consulting fees	\$1,950,000	\$2,450,000	\$3,400,000
Municipal and regulatory costs	\$175,000	\$300,000	\$500,000
Furniture, fixtures and equipment	\$330,000	\$450,000	\$595,000
Contingency and escalation	\$2,750,000	\$3,650,000	\$5,100,000
Preliminary total project cost	\$19,230,000	\$24,575,000	\$32,645,000

Base-case cost indicators

Indicator	Preliminary amount
Total project cost	\$24,575,000
Number of units	30
Total cost per unit including land and infrastructure	Approximately \$819,000
Cost excluding land	Approximately \$799,000 per unit
Core modular building cost per unit	Approximately \$375,000
Water and wastewater cost per initial unit	Approximately \$88,000

The all-in cost per unit is significantly higher than the module or building cost because it includes:

- land;
- foundations;
- site work;
- communal water;
- RBC wastewater treatment;
- roads and parking;
- utility extensions;
- professional services;
- approvals;
- contingency; and
- escalation.

The high initial infrastructure cost should be evaluated over the full development capacity of the site rather than only the first phase. If the water and wastewater systems ultimately serve 50 or 60 units, the effective infrastructure cost per unit will be substantially reduced.

Funding and financing interpretation

The preliminary capital cost does not represent the amount that must be financed through rental revenue alone.

Potential sources may include:

- The analysis identifies federal and provincial capital grants, forgivable loans, low-interest financing, DNSSAB contributions, municipal land, municipal fee relief, infrastructure funding, private developer equity, employer participation, non-profit contributions, accessibility funding, energy-efficiency incentives and conventional mortgage financing.

A project of this type is unlikely to provide meaningful affordable and RGI rents without capital contributions, below-market financing, land support, operating subsidies, or a combination of these measures.

12.13 Cost Comparison by Development Option

The following comparison is intended to show the relative capital implications of different development scales and forms. The values are preliminary feasibility ranges and should not be used as tender or funding commitments.

Option A — Small 12- to 16-unit Madawaska or pilot development

Cost consideration	Preliminary assessment
Indicative total cost	\$10 million–\$16 million
Approximate all-in cost per unit	Higher than larger options
Communal servicing efficiency	Limited
Elevator viability	Challenging
Funding alignment	Potentially strong for a targeted project
Expansion potential	Site-dependent
Main advantage	Lower total initial capital
Main disadvantage	High infrastructure and professional cost per unit

A small project may be appropriate for Madawaska or a constrained redevelopment property, but it may not achieve the operating efficiencies required for a full mixed-income model.

Option B — 20- to 24-unit modular apartment development

Cost consideration	Preliminary assessment
Indicative total cost	\$15 million–\$23 million
Approximate all-in cost per unit	Moderate to high
Communal servicing efficiency	Improving
Mixed-income viability	Reasonable
Elevator and common areas	More supportable
Main advantage	Manageable first-phase scale
Main disadvantage	Fixed infrastructure costs remain concentrated

This represents the minimum practical scale for a purpose-built project with communal water, RBC wastewater and a meaningful mixed-income unit distribution.

Option C — 28- to 32-unit modular apartment development

Cost consideration	Preliminary assessment
Indicative total cost	\$20 million–\$30 million
Approximate all-in cost per unit	Better than smaller options
Communal servicing efficiency	Strong
Mixed-income viability	Strong
Government-program alignment	Strong
Main advantage	Best balance of scale and financial efficiency
Main disadvantage	Larger funding requirement

This remains the preferred development scale.

Option D — 33- to 40-unit modular apartment development

Cost consideration	Preliminary assessment
Indicative total cost	\$25 million–\$37 million
Approximate all-in cost per unit	Potentially lower
Communal servicing efficiency	Very strong
Operating efficiency	Strong
Absorption and financing risk	Higher
Main advantage	Strong economies of scale
Main disadvantage	Greater capital exposure and site requirements

This option may be suitable for Candidate Sites W-01 or W-02, Candidate Site W-05, or a larger partnership property.

Option E — Motel conversion or adaptive reuse

Cost consideration	Preliminary assessment
Indicative total cost	\$8 million–\$20 million
Existing-building value	Potentially significant
Servicing reuse	Possible but unconfirmed
Code-upgrade risk	High
Unit-layout efficiency	Variable
Main advantage	Existing access, structures and parking
Main disadvantage	Unknown building condition and conversion cost

Adaptive reuse should not be assumed to be less expensive than new modular construction. It may be cost-effective where:

- The analysis identifies the structure is sound, room sizes can be converted efficiently, fire and accessibility upgrades are manageable, existing services can be reused, hazardous materials are limited and the building envelope is in good condition.

Comparative summary

Option	Relative total capital	Relative cost per unit	Delivery risk	Preliminary position
12–16 units	Low total	High per unit	Moderate	Targeted or later phase
20–24 units	Moderate	Moderate to high	Moderate	Minimum practical scale
28–32 units	Moderate to high	Moderate	Moderate	Preferred
33–40 units	High	Potentially lower	Moderate to high	Strong on larger sites
Motel conversion	Variable	Highly variable	High until assessed	Carry forward for study

Preliminary cost recommendation

The study should continue using the **30-unit modular apartment concept** as the financial base case.

This scale provides:

- The analysis identifies sufficient units to serve seniors and working households, a meaningful affordable and RGI component, stronger infrastructure efficiency, compatibility with government housing programs, better distribution of fixed professional and regulatory costs, improved

operating efficiency, sufficient scale for professional property management and a realistic basis for future expansion.

The base-case budget of approximately **\$24.6 million**, excluding HST recovery considerations, should be carried as a working feasibility allowance until architectural concepts, site investigations and preliminary engineering are complete. A prudent current range is approximately **\$19.2 million to \$32.6 million**, reflecting the substantial uncertainty associated with land, foundations, water supply, wastewater approvals, site conditions and escalation.

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13. Financial Viability and Operating Model

13.1 Financial Assumptions

The financial viability analysis is intended to determine whether the proposed South Algonquin housing development can be constructed and operated at rents that remain affordable to seniors, working households, and lower-income residents.

The analysis uses the preliminary **30-unit modular apartment concept** and the capital cost estimate developed in Section 12.

The working project assumptions are:

Assumption	Preliminary base case
Total residential units	30
RGI or deeply affordable units	6
Affordable rental units	8
Workforce/moderate-income units	8
Market rental units	8
One-bedroom units	13
Two-bedroom units	13
Three-bedroom units	4
Preliminary capital cost	\$24,575,000
Preliminary capital cost per unit	Approximately \$819,000
Stabilized economic occupancy	95%
Initial operating reserve	Included in financing requirement
Long-term capital reserve	Funded annually through operations
Ownership horizon	Long-term public or non-profit ownership
Financial objective	Sustainable operation, not short-term profit maximization

The analysis identifies the capital estimate remains preliminary and should be updated after: site selection, concept design by 3rd Line Studio, geotechnical and hydrogeological investigations, preliminary modular pricing, water and wastewater engineering, funding-program confirmation and preparation of a detailed operating pro forma.

The project should not be evaluated as a conventional private market apartment development. Its financial structure is expected to combine:

- The analysis identifies public or non-profit ownership, capital grants or forgivable contributions, low-cost or insured financing, municipal participation, DNSSAB support, infrastructure funding, affordable and market rental revenue, rent supplements or operating support where available and long-term lifecycle planning.

13.2 Capital Funding Requirements

The preliminary project budget of approximately **\$24.6 million** is not expected to be supportable through conventional mortgage financing and tenant rents alone.

The project will require a layered capital structure.

Potential capital sources include:

Capital source	Potential project role
Municipal land contribution	Reduces land acquisition and borrowing requirements
Municipal cash contribution	Supports design, approvals, infrastructure or construction
Federal capital funding	Reduces repayable capital and supports affordability
Provincial capital funding	Supports affordable, supportive or infrastructure components
DNSSAB contribution	Supports RGI and affordable units
Infrastructure funding	Supports communal water, RBC wastewater, roads or utilities
Forgivable loan	Reduces long-term debt while preserving affordability
Low-interest financing	Supports the repayable portion of the project
Conventional mortgage	Funds revenue-supported project costs
Private developer equity	Supports partnership or mixed-income development
Employer participation	Supports workforce housing units
Community investment	Potential support for co-operative or shared-equity components

The capital stack should be structured so that the project carries only the level of debt that can reasonably be serviced by net operating income.

Illustrative capital structure

A preliminary funding structure could include:

Capital source	Illustrative amount	Share
Capital grants and forgivable funding	\$9,000,000	36.6%
Municipal land and infrastructure contribution	\$2,000,000	8.1%
DNSSAB or other public contribution	\$2,500,000	10.2%
Low-cost repayable financing	\$9,000,000	36.6%
Owner, partner or project equity	\$2,075,000	8.5%
Total	\$24,575,000	100%

This is an illustrative structure only. The final allocation will depend on the selected ownership model and available programs.

The analysis indicates that approximately **45% to 60% of the total project cost may need to be funded through grants, land, infrastructure contributions, forgivable financing, or owner equity** if the project is to support a meaningful number of affordable and RGI units.

13.3 Rental Revenue Assumptions

Rental income must be sufficient to cover:

- The analysis identifies routine operating costs, property management, insurance, utilities paid by the owner, communal water and wastewater operations, maintenance, lifecycle reserves, administration, vacancy and bad-debt allowances and debt service.

The preliminary financial model should use a blended rent structure.

Illustrative monthly rent assumptions

Unit category	Illustrative average monthly rent
RGI or deeply affordable	\$750
Affordable rental	\$1,150
Workforce/moderate-income	\$1,500
Market rental	\$1,750

These amounts are placeholders for feasibility analysis and are not recommended final rents.

Actual rents must be confirmed using:

- applicable affordable-rent definitions;
- household incomes;
- CMHC and DNSSAB benchmarks;
- local market conditions;
- bedroom type;
- utility responsibility;
- funding agreements; and
- operating costs.

Illustrative gross annual rent

Category	Units	Average monthly rent	Annual gross rent
RGI/deeply affordable	6	\$750	\$54,000
Affordable rental	8	\$1,150	\$110,400
Workforce/moderate-income	8	\$1,500	\$144,000
Market rental	8	\$1,750	\$168,000
Total	30	—	\$476,400

At 95% economic occupancy, the effective residential rental income would be approximately:

\$452,600 annually.

Additional income may be generated through:

- parking;
- laundry;
- storage;
- employer master leases;
- telecommunications agreements;
- community-room rentals;
- service-provider space; and
- limited commercial or office space.

These additional sources should be treated conservatively and should not be required to make the base housing operation viable.

13.4 Affordable Rent Assumptions

Affordable rent should be based on household income and the applicable definitions in government and funding programs.

The Official Plan defines affordable housing generally as housing for which low- and moderate-income households pay no more than 30% of gross household income. The exact program definition may vary.

The distinction between the proposed rental categories is important.

RGI or deeply affordable units

Tenant rent is generally tied directly to income. Rent received by the owner may need to be supplemented through:

- DNSSAB operating support;
- rent supplements;
- housing allowances;
- long-term operating agreements; or
- project cross-subsidy.

Affordable rental units

Affordable rents may be defined as:

- a percentage below market rent;
- a maximum rent based on household income;
- a program-specific rent threshold; or
- the lesser of market and income-based limits.

Workforce or moderate-income units

These units are intended for working residents who may not qualify for RGI housing but cannot reasonably afford higher market rents.

The project should aim to maintain rents that are attainable to households employed in:

- municipal services;
- healthcare;
- education;
- tourism;
- hospitality;
- retail;
- construction;
- forestry;
- transportation; and
- other local service sectors.

Market rental units

Market units provide an important source of revenue and improve the mixed-income character of the development. Market rents should remain reasonable in relation to local incomes and housing conditions.

The final affordable-rent framework should include:

- The analysis identifies initial rent limits, annual rent adjustment rules, tenant income testing where required, utility allowances, vacancy and turnover procedures, duration of affordability, reporting requirements and a process for replacing subsidy support if an agreement expires.

13.5 Operating Expenses

The project's operating costs are expected to be higher than those of a conventional urban apartment building because the owner will be responsible for communal water and wastewater infrastructure.

Operating expenses may include:

- The analysis identifies property management, administration, superintendent or maintenance services, insurance, common-area electricity, heating and cooling for common spaces, water-treatment electricity and consumables, RBC electricity, testing and operator services, waste collection, snow removal, landscaping, building repairs, elevator maintenance, fire-alarm and sprinkler inspections, internet and security systems, legal and accounting, tenant turnover, bad debt, regulatory reporting and reserve contributions.

Property tax is not yet priced in the preliminary annual operating budget. The updated pro forma should show a gross-tax scenario and any reduced or exempt scenario separately, supported by the confirmed ownership structure, assessment classification, and written municipal or statutory basis. Until then, no property-tax exemption or relief should be assumed.

Preliminary annual operating budget

Operating category	Preliminary annual allowance
Property management and administration	\$55,000
Building maintenance and repairs	\$45,000
Communal water operation	\$20,000
RBC wastewater operation	\$40,000
Common utilities	\$45,000
Insurance	\$30,000
Snow removal, grounds and waste	\$35,000
Elevator, fire and life-safety systems	\$20,000
Legal, accounting and compliance	\$12,000
Vacancy and bad-debt allowance	Included through 95% occupancy
Lifecycle reserve contribution	\$60,000
Miscellaneous and contingency	\$18,000
Preliminary annual operating cost	\$380,000

The preliminary operating cost is approximately:

- **\$12,700 per unit annually**; or
- approximately **\$1,055 per unit monthly** before debt service.

This preliminary amount is intentionally conservative because communal servicing, rural maintenance, and transportation costs remain uncertain.

The operating budget should be refined once the following are known:

- The analysis identifies building area, heating system, water quality, wastewater approval requirements, snow-clearing area, insurance quotes, staffing model, utility rates, reserve study and property tax treatment.

13.6 Maintenance and Lifecycle Reserves

A long-term housing project must include adequate annual reserve funding.

Failure to establish lifecycle reserves could result in:

- deferred maintenance;
- deterioration of units;
- emergency municipal funding requests;
- reduced affordability;
- major special assessments;
- infrastructure failure; and
- loss of resident confidence.

The reserve plan should address:

- The analysis identifies roofing, windows and doors, exterior cladding, balconies and entrances, elevators, heating and ventilation equipment, domestic hot-water systems, modular connection points, interior finishes, appliances, fire-protection systems, parking and roads, stormwater systems, communal water treatment, pumps and storage tanks, RBC mechanical equipment, controls and monitoring systems, standby generator and effluent-dispersal infrastructure.

A preliminary reserve contribution of **\$2,000 per unit annually** has been carried, equal to approximately **\$60,000 per year** for 30 units.

This amount should be verified through a capital replacement study before occupancy.

The lifecycle reserve should be:

- The analysis identifies held in a restricted account, reviewed annually, supported by a 30-year capital plan, adjusted for inflation, updated after major equipment replacement and protected from routine operating shortfalls.

13.7 Property Management Model

The project requires professional property and infrastructure management.

The property manager will be responsible for:

- The analysis identifies leasing, tenant selection, income verification where applicable, rent collection, arrears management, tenant communication, maintenance coordination, unit inspections, turnover work, contractor management, regulatory compliance, record keeping, operating budgets, financial reporting, reserve planning and coordination with DNSSAB and funding partners.

The property manager should not necessarily operate the communal water and wastewater systems directly.

Those systems should be operated by:

- a qualified utility operator;
- a certified wastewater operator;
- a specialized water-services contractor;
- a municipal services corporation; or
- another approved entity under a service agreement.

Potential management structures

Structure	Preliminary assessment
Township manages directly	Provides control but creates significant staffing and liability obligations
DNSSAB or established housing provider manages	Strong housing expertise, subject to partnership availability
Non-profit owner hires property manager	Flexible and commonly used
Private developer manages under agreement	Suitable for P3 model, subject to performance controls
Co-operative self-management	Requires strong member capacity and professional support

The preferred model is professional third-party property management under the oversight of the owner.

13.8 Debt Financing Capacity

Debt capacity depends on the amount of net operating income available after operating costs and reserves.

Using the illustrative assumptions:

Financial item	Annual amount
Effective rental revenue at 95% occupancy	\$452,600
Potential ancillary income	\$20,000
Total effective income	\$472,600
Operating expenses and reserves	(\$380,000)

Financial item	Annual amount
Net operating income before debt service	\$92,600

This preliminary result demonstrates the principal financial challenge.

A net operating income of approximately \$92,600 supports only a modest amount of conventional debt.

For example, depending on interest rate, amortization, and required debt-service coverage, this level of net operating income might support approximately **\$1.2 million to \$1.6 million of conventional mortgage debt**, which is far below the preliminary capital requirement.

The project may support greater debt if:

- The analysis identifies rents are higher, operating costs are lower, utilities are paid directly by tenants, the RBC and water systems serve future phases, operating subsidies are secured, rent supplements are provided, financing is offered at below-market interest rates, amortization is extended, commercial or employer lease revenue is added and grant funding reduces the debt requirement.

The debt capacity analysis confirms that the project cannot rely primarily on conventional debt.

13.9 Financing Gap Analysis

The financing gap is the difference between:

1. total development cost; and
2. the combination of supportable debt, grants, equity, land, and other contributions.

Preliminary base-case gap

Item	Amount
Preliminary project cost	\$24,575,000
Illustrative supportable conventional debt	\$1,400,000
Potential owner or partner equity	\$2,000,000
Potential municipal land/infrastructure contribution	\$2,000,000
Remaining funding requirement	\$19,175,000

This does not mean that \$19.2 million must necessarily be provided as a direct grant. The gap may be addressed through a combination of:

- The analysis identifies capital grants, forgivable loans, low-interest financing with longer amortization, operating subsidies, rent supplements, infrastructure funding, tax or fee relief, land contribution, developer equity, employer commitments and phased development.

A more realistic project structure may allow a larger portion of debt than the conservative conventional-debt calculation above, particularly where government-backed financing offers favourable terms.

Nevertheless, the analysis confirms that a major public-sector contribution is required if the preliminary capital estimate remains in the current range.

Gap-reduction strategies

The financing gap can be reduced through:

- The analysis identifies municipally contributed land, selecting a site with existing roads, hydro and parking, increasing the number of units using the same infrastructure, reducing average unit size without reducing functionality, standardizing modular designs, reducing unnecessary common space, obtaining infrastructure grants, using below-market financing, extending mortgage amortization, increasing the proportion of workforce and market units, securing employer-backed leases, phasing non-essential amenities, sharing RBC and water infrastructure with future phases, reducing parking where justified, obtaining fee relief and structuring the project as a non-profit development.

13.10 Financial Sensitivity Analysis

The project's viability is particularly sensitive to:

- capital cost;
- grant funding;
- interest rate;
- rents;
- occupancy;
- operating expenses;
- infrastructure costs;
- unit count; and
- project phasing.

Sensitivity factors

Variable	Lower-risk condition	Higher-risk condition
Capital cost	\$19.2 million	\$32.6 million
Capital grants	60% of cost	Less than 30%
Occupancy	97%	85%
Rent collection	Stable	High arrears or turnover
Operating cost	\$10,000/unit/year	More than \$14,000/unit/year
Interest rate	Below-market insured financing	Conventional commercial financing

Variable	Lower-risk condition	Higher-risk condition
Initial units	30–40	Fewer than 20
Infrastructure use	Shared by future phases	Used only by first phase
Municipal land	Contributed or discounted	Full market purchase
Wastewater solution	Standardized RBC system	Complex discharge and treatment requirements

Illustrative scenario comparison

Scenario	Key assumptions	Financial outlook
Strong funding scenario	55%–65% non-repayable contribution, low-interest debt, 95% occupancy	Potentially sustainable
Moderate funding scenario	40%–50% non-repayable contribution, blended rents, municipal land	Potentially viable with operating support
Limited funding scenario	Less than 35% non-repayable support, conventional debt	Not financially viable at affordable rents
Expanded development scenario	40+ units sharing infrastructure	Improved cost distribution and revenue
Small project scenario	12–16 units with independent infrastructure	High per-unit cost and weak debt capacity
Motel conversion scenario	Low acquisition and rehabilitation cost	Potentially viable, but highly site dependent

The sensitivity analysis supports advancing a project of approximately **28 to 40 units** rather than a small stand-alone building where full communal infrastructure is required.

13.11 Municipal Ownership Model

Under municipal ownership, the Township would own the land, buildings, and potentially the communal infrastructure.

Advantages

- long-term public control;
- ability to preserve affordability;
- direct alignment with municipal priorities;
- potential access to public funding;
- ability to contribute land;
- control over future expansion;
- opportunity to coordinate water and wastewater infrastructure;
- ability to enter agreements with DNSSAB and non-profit operators.

Challenges

- significant financial exposure;
- municipal debt and capital requirements;
- staffing and administrative obligations;
- property-management liability;
- water and wastewater operating responsibility;
- procurement requirements;
- political and budget risk;
- long-term asset-management obligations.

The Township could retain ownership while outsourcing:

- property management;
- tenant administration;
- water operations;
- wastewater operations;
- maintenance; and
- lifecycle planning.

Municipal ownership is feasible, but it should not require the Township to become the day-to-day housing operator.

13.12 Non-Profit Housing Model

A non-profit housing corporation could own and operate the development.

The corporation could be:

- The analysis identifies an existing regional housing provider, a new locally established non-profit, a municipal non-profit corporation, a charitable housing organization, a partnership involving DNSSAB and or another qualified housing provider.

Advantages

- strong alignment with affordable housing funding;
- long-term affordability protection;
- potential exemption or relief from certain taxes and fees;
- access to favourable financing;
- ability to reinvest operating surpluses;
- separation of housing operations from municipal administration;
- professional governance;
- flexibility to engage third-party property managers.

Challenges

- governance capacity must be established;
- start-up costs;
- need for experienced board members;
- financing guarantees may be required;
- operating expertise must be secured;
- the Township may still need to contribute land or funding.

This model is generally well suited to the proposed development.

A municipal or community non-profit could own the housing while specialized contractors operate the building and communal systems.

13.13 Private or Public-Private Partnership Model

A public-private partnership could involve a private developer designing, financing, constructing, owning, or operating all or part of the development.

Potential structures include:

- The analysis identifies municipality provides land and developer constructs, developer owns market units while a non-profit owns affordable units, private developer builds and leases units to a public or non-profit entity, municipality funds infrastructure and developer funds buildings, developer designs, builds and operates under a long-term agreement, mixed-use redevelopment of a motel or commercial property and developer receives incentives in exchange for affordable units.

Advantages

- private development expertise;
- reduced municipal delivery burden;
- potential access to private equity;
- integrated design and construction;
- potential schedule efficiencies;
- suitable for mixed-income development;
- potential to combine housing with commercial or tourism uses.

Challenges

- private return requirements;
- potential pressure to reduce affordability;
- complex agreements;
- need for performance monitoring;
- financing costs may be higher;
- long-term public objectives must be protected;
- risk allocation must be clearly defined.

A P3 model is most likely to succeed where:

- The analysis identifies the Township contributes land or infrastructure, the developer receives sufficient density, affordable units are supported through public funding, market or workforce units improve project revenue, and long-term affordability is secured by agreement and the communal infrastructure ownership is clearly established.

13.14 Co-operative or Shared-Equity Model

A co-operative model would involve residents becoming members of a housing co-operative rather than conventional tenants.

A shared-equity model could provide residents with a limited ownership interest while maintaining long-term affordability.

Potential applications include:

- a later ownership phase;
- townhouse units;
- small modular homes;
- workforce ownership;
- seniors co-operative housing;
- community land trust arrangements; and
- employer-supported housing.

Advantages

- resident participation;
- long-term community stability;
- potential affordability preservation;
- reduced speculative resale;
- shared governance;
- opportunity for attainable ownership;
- alignment with workshop interest in community-share models.

Challenges

- more complex governance;
- member education required;
- financing complexity;
- limited local experience;
- need for professional management;
- potential difficulty financing communal infrastructure;
- less suitable for RGI units without operating support.

A co-operative or shared-equity model is not recommended as the sole structure for the initial 30-unit development. It may be suitable for a later phase once the site and infrastructure are established.

13.15 Recommended Ownership and Operating Structure

The recommended model is a community-led non-profit ownership structure, developed with essential municipal collaboration and professional third-party operation.

The model should identify a viable minimum municipal role and a separate menu of optional municipal contributions. At minimum, implementation requires timely planning, zoning, permitting, technical review, emergency-services coordination, and decisions on any municipal infrastructure interfaces. Land, cash, debt, guarantees, bridge financing, tax relief, infrastructure ownership, or corporate participation should be treated as optional and subject to explicit Council approval. The housing entity should remain capable of advancing pre-development and partnership work if the Township limits its role to statutory and collaborative functions.

The preliminary structure would be:

Ownership

A non-profit housing corporation would own:

- the residential buildings;
- the housing land or a long-term leasehold interest;
- common areas;
- parking;
- internal roads; and
- housing-related assets.

The Township could:

- The analysis identifies retain ownership of the land and provide a long-term nominal lease, transfer the land to the non-profit with affordability restrictions, contribute infrastructure, provide guarantees or bridge financing where appropriate, support funding applications and retain approval rights over major changes.

Property management

A qualified third-party housing manager would provide:

- leasing;
- rent collection;
- tenant administration;
- maintenance coordination;
- financial reporting;
- arrears management;
- unit inspections;
- regulatory compliance; and
- reserve planning.

Water and wastewater operations

The communal well, water treatment, and RBC system should be operated by a qualified utility operator under a long-term service agreement.

The infrastructure could be owned by:

- the non-profit housing corporation;
- the Township;
- a municipal services corporation; or
- a separate utility entity.

For a system with potential to serve multiple development phases or adjacent properties, municipal or utility ownership may provide the strongest long-term structure.

DNSSAB role

DNSSAB should be engaged regarding:

- RGI allocations;
- affordable units;
- rent supplements;
- tenant referrals;
- operating agreements;
- capital contributions;
- property-management support; and
- long-term affordability monitoring.

Private-sector role

A private modular developer or design-build team would:

- assist with design development;
- manufacture the modular units;
- coordinate transportation and installation;
- complete site construction;
- provide warranties;
- and potentially support project financing or later market phases.

Recommended structure summary

Project component	Recommended responsibility
Land	Community non-profit ownership, negotiated private acquisition or long-term lease; municipal land only if expressly approved
Residential buildings	Non-profit housing corporation
Property management	Experienced third-party housing manager
Tenant selection and subsidies	Non-profit with DNSSAB support
Communal water and RBC systems	Township, utility entity or non-profit with certified operator
Modular design and construction	Private design-build team
Capital funding	Federal, provincial, DNSSAB, municipal and partner sources
Debt financing	Low-cost insured or public-sector-supported financing
Lifecycle reserves	Restricted non-profit reserve accounts
Future phases	Non-profit, Township and private partners

Financial viability conclusion

The proposed development can be viable, but not as a conventional debt-financed private apartment project at the preliminary capital cost.

The project requires:

- The analysis identifies significant capital grants or forgivable funding, municipal land or infrastructure participation, low-cost long-term financing, a mixed-income rent structure, DNSSAB involvement, professional property management, disciplined lifecycle reserves and an ownership structure focused on long-term affordability rather than short-term investment return.

The strongest model is a 30- to 40-unit community-led, non-profit mixed-income development, enabled by municipal collaboration, delivered through modular construction, and professionally operated.

This scale provides the best opportunity to:

- The analysis identifies distribute communal infrastructure costs, support seniors and working households, integrate affordable and market units, access public funding, maintain stable occupancy and preserve affordability over the long term.

14. Funding and Financing Opportunities

14.1 DNSSAB Partnership Opportunities

The District of Nipissing Social Services Administration Board should be treated as a central partner in the development of the South Algonquin housing initiative.

DNSSAB's housing target identifies the need for:

- 18 additional rent-geared-to-income units;
- 17 affordable rental units;
- 8 affordable ownership units; and
- a broader increase in housing supply to accommodate projected household growth.

A partnership with DNSSAB could support both the capital and operating components of the project.

Potential DNSSAB roles include:

- The analysis identifies capital contributions for affordable or RGI units, rent supplements, long-term operating agreements, tenant eligibility and income verification, tenant referrals, administration of RGI units, participation in property management, assistance with federal and provincial applications, funding for accessibility features, coordination with homelessness-prevention programs, operating subsidies for deeply affordable units, and participation in governance or ownership.

A formal partnership could be structured through:

1. The analysis identifies a capital contribution agreement, an operating and affordability agreement, a master lease for a defined number of units, a rent-supplement agreement, and co-ownership or participation through a housing corporation.
2. a combined capital and operating partnership.

The feasibility study should distinguish between:

- The analysis identifies units that can remain affordable through capital funding alone, units that require ongoing rent supplements, units that require full RGI operating support and workforce and market units that can operate without subsidy.

DNSSAB should be engaged before the final unit mix and financial model are established. Its participation could materially improve the project's ability to provide deeply affordable housing without creating an unsustainable operating deficit.

All DNSSAB roles described in this study are prospective and require formal confirmation. SABA and the future housing entity should clarify program eligibility, procurement and vendor-of-record requirements, partnership authority, funding intakes, and the distinction between service procurement and a housing capital or operating agreement before treating DNSSAB participation as committed.

14.2 Canada Mortgage and Housing Corporation Programs

Canada Mortgage and Housing Corporation offers several programs that may support the proposed development. The most relevant programs should be reviewed as complementary rather than interchangeable funding sources.

Affordable Housing Fund

The Affordable Housing Fund provides low-interest loans, forgivable loans, and contributions for new affordable housing and the repair or renewal of existing housing. It may be relevant to:

- affordable rental units;
- RGI units;
- seniors housing;
- accessible units;
- non-profit ownership;
- energy-efficient construction; and
- motel conversion or redevelopment.

The Affordable Housing Fund should be examined as a potential source of non-repayable or partially forgivable capital support. ([Canada Mortgage and Housing Corporation](#))

Apartment Construction Loan Program

The Apartment Construction Loan Program provides low-cost financing for eligible rental apartment developments. It is open for applications and supports standard rental and independent-living seniors projects. CMHC indicates that financing may extend from construction through stabilized operation, with potential eligibility for long amortization and high loan-to-cost financing, depending on the strength of the application. ([Canada Mortgage and Housing Corporation](#))

The South Algonquin project may align with this program because it proposes:

- purpose-built rental housing;
- independent seniors' units;
- accessible units;
- mixed-income occupancy;
- energy-efficient modular construction;
- professional property management; and
- long-term rental operation.

The program should be used to finance the portion of the project that can be supported by net operating income. It does not eliminate the need for capital grants or equity where rents are below market.

Affordable Housing Innovation Fund

The Affordable Housing Innovation Fund may be relevant where the project demonstrates innovation through:

- modular construction;
- scalable RBC wastewater treatment;

- communal water servicing;
- mixed-income development;
- rural housing delivery;
- alternative ownership;
- repeatable designs; or
- partnerships between the municipality, non-profit sector, and private developers.

Co-op Housing Development Program

This program may support a later co-operative phase through forgivable and low-interest repayable loans. It is more likely to apply to a second phase involving townhouse, shared-equity, or member-controlled housing than to the initial mixed-income rental building. ([Canada Mortgage and Housing Corporation](#))

Mortgage loan insurance

CMHC-insured financing may improve:

- interest rates;
- amortization periods;
- lender confidence;
- loan-to-cost ratios; and
- long-term debt affordability.

The project should be structured from the beginning to meet CMHC requirements for:

- affordability;
- accessibility;
- environmental performance;
- borrower capacity;
- construction readiness;
- operating viability; and
- reserve funding.

Program status caution

Program requirements, intake availability, contribution levels, and scoring criteria may change. CMHC Seed Funding is no longer accepting new applications, so the project should not rely on that former pre-development funding source. ([Canada Mortgage and Housing Corporation](#))

14.3 Provincial Housing Programs

Provincial support may be available through housing, infrastructure, accessibility, energy, and rural development initiatives.

The most relevant provincial opportunities are expected to relate to:

- The analysis identifies housing-enabling infrastructure, water and wastewater systems, roads and access, affordable and supportive housing, municipal incentives, modular construction, accessibility, energy efficiency and low-cost municipal borrowing.

Municipal Housing Infrastructure Program

Ontario's Municipal Housing Infrastructure Program supports core infrastructure needed to enable housing. The program includes streams related to:

- drinking water;
- wastewater;
- stormwater;
- roads;
- bridges;
- culverts;
- health and safety water infrastructure; and
- housing-enabling core servicing. ([Ontario](#))

The proposed communal well, compact water-treatment system, RBC wastewater plant, collection system, access roads, stormwater infrastructure, and associated works are consistent with the general types of housing-enabling infrastructure supported through this program.

Housing-Enabling Water Systems Fund

The Housing-Enabling Water Systems Fund has supported municipal drinking water, wastewater, and stormwater infrastructure intended to unlock housing. Previous intakes have funded treatment plants, pump stations, collection systems, storage tanks, distribution systems, and related infrastructure. Current intakes are closed, but the program demonstrates strong provincial recognition of water and wastewater infrastructure as essential to housing development. ([Ontario](#))

The Township should maintain a funding-ready infrastructure package in case an additional intake or successor program becomes available.

Health and Safety Water Stream

Ontario's Health and Safety Water Stream supports municipalities and First Nations undertaking water, wastewater, stormwater, flood, and erosion infrastructure projects. The Province announced more than \$875 million for this stream in 2026. ([Ontario Newsroom](#))

This stream may be relevant where the communal systems are presented as:

- safe drinking-water infrastructure;
- replacement of inadequate private servicing;
- protection of groundwater;
- modernization of wastewater management;
- climate-resilient infrastructure; and
- support for existing and new housing.

Infrastructure Ontario financing

The Infrastructure Ontario Loan Program may provide municipalities with longer-term financing for eligible infrastructure. Ontario's 2026 Budget states that up to \$1 billion in loans is available through a housing-enabling water-infrastructure lending stream. ([Ontario Budget](#))

This could finance a municipal share of the communal water, RBC wastewater, road, or stormwater infrastructure where grants do not cover the full cost.

Ontario Community Infrastructure Fund

The Ontario Community Infrastructure Fund provides formula-based funding to eligible small, rural, and northern municipalities. Ontario is providing \$400 million to 423 communities in 2026, with a minimum annual allocation of \$125,000 for eligible recipients. Municipalities may accumulate allocations for up to five years. ([Ontario](#))

OCIF may be used strategically as:

- The analysis identifies part of the municipal matching contribution, funding for road or drainage works, support for utility infrastructure, a contribution toward preliminary infrastructure phases and complementary funding where stacking is permitted.

14.4 Federal Housing Programs

Federal funding opportunities should be divided into two categories:

1. funding for the housing buildings and units; and
2. funding for the infrastructure required to enable the housing.

The South Algonquin project is well positioned because it combines:

- The analysis identifies affordable housing, seniors housing, workforce housing, modular construction, rural development, accessible design, communal infrastructure, modern wastewater treatment, energy efficiency and municipal and non-profit participation.

Build Canada Homes

Build Canada Homes is the federal entity focused on building and financing affordable housing. Its stated direction includes the use of public lands, flexible financial tools, private capital, portfolio-scale delivery, and modern construction methods. This direction aligns with the proposed modular delivery model and community-led non-profit structure developed with municipal collaboration. (Housing Canada)

Potential alignment includes:

- modular manufacturing;
- affordable rental supply;
- public or municipal land;
- rural housing;
- repeatable building designs;
- mixed public-private financing; and
- scalable development.

The project should be presented as a potential demonstration of how modern modular construction and communal infrastructure can unlock affordable housing in a rural municipality.

National Housing Strategy programs

Canada’s National Housing Strategy remains the umbrella for several federal housing programs and has committed substantial funding to new housing and preservation of community housing. ([Housing Canada](#))

Relevant opportunities include:

- The analysis identifies Affordable Housing Fund, Apartment Construction Loan Program, Co-op Housing Development Program, Affordable Housing Innovation Fund, Indigenous housing programs where applicable, federal land opportunities and future Build Canada Homes initiatives.

Federal funding positioning

To remain competitive, the South Algonquin project should demonstrate:

- The analysis identifies documented housing need, municipal support, secured or controlled land, planning readiness, a credible ownership structure, affordability commitments, accessibility, energy performance, modular construction readiness, realistic capital and operating budgets, a defined infrastructure solution, future expansion potential and measurable housing outcomes.

14.5 Infrastructure Funding

Infrastructure funding is fundamental to the viability of the project.

The proposed housing cannot reach the preferred density if each dwelling requires a separate one-hectare property, individual well, and septic field. The communal well, compact water-treatment system, and scalable RBC wastewater plant are therefore not secondary improvements. They are **housing-enabling infrastructure**.

Build Communities Strong Fund

The official federal program is the **Build Communities Strong Fund**, sometimes referred to informally as the Build Canada Strong Fund.

The Fund provides **\$51 billion over 10 years beginning in 2026–27, plus \$3 billion annually on an ongoing basis**, for infrastructure that supports housing, economic prosperity, community facilities, transportation, health, education, and climate adaptation. Eligible infrastructure categories include housing-related water systems, roads, transit, and active transportation. ([Housing Canada](#))

The Fund has three streams:

BCSF stream	Funding envelope	Potential relevance
Provincial and Territorial Stream	\$17.2 billion over 10 years	Housing-enabling water, wastewater, roads, and related infrastructure
Direct Delivery Stream	\$6 billion over 10 years	Regionally significant, climate adaptation, and community infrastructure
Community Stream	\$27.8 billion over 10 years, plus ongoing funding	Local infrastructure priorities through the restructured Canada Community-Building Fund

([Housing Canada](#))

The **Provincial and Territorial Stream** is particularly significant. It supports housing-related infrastructure and will be delivered through federal-provincial agreements. Ontario's total allocation is identified as approximately \$6.06 billion, including approximately \$4.41 billion for housing- and education-related infrastructure. At least 20% of the stream is to be directed toward rural, northern, and Indigenous communities. ([Housing Canada](#))

This creates a strong strategic fit for South Algonquin as a small rural and northern municipality.

Potential BCSF project components

The project should be divided into fundable infrastructure components, potentially including:

- The analysis identifies communal production wells, water-treatment facility, treated-water storage, water-distribution piping, fire-water storage, scalable RBC wastewater treatment plant, wastewater collection systems, lift stations, effluent-dispersal or discharge infrastructure, sludge-handling infrastructure, standby power, controls and remote monitoring, stormwater management, public access road improvements, internal public utility corridors, culverts and drainage, pedestrian connections, active transportation and climate-resilient infrastructure.

The application should explain that these systems will enable:

- The analysis identifies the initial 20- to 35-unit development, future housing phases, greater density, smaller serviced land requirements, affordable housing, workforce housing, and seniors housing and potentially adjacent public or residential development.

BCSF as a primary project contributor

The Build Communities Strong Fund should be considered one of the project's most important potential funding sources.

It may contribute to two interconnected parts of the initiative:

1. **Housing-enabling infrastructure** required for the initial development; and
2. **Community-scale infrastructure** capable of supporting future growth.

A strong BCSF strategy would avoid presenting the RBC and water systems as private building services serving only one apartment building. Instead, they should be designed and described as scalable public or community infrastructure with the potential to serve multiple development phases.

This may require:

- The analysis identifies municipal or utility ownership, easements or dedicated infrastructure lands, an asset-management plan, lifecycle costing, certified operation, capacity planning, confirmation of public benefit and commitments regarding the number of housing units enabled.

Direct Delivery considerations

The current Direct Delivery intake is focused on eligible shovel-ready projects, with specific application timing and readiness requirements. The broader stream supports regionally significant projects, climate adaptation, and community infrastructure. ([Housing Canada](#))

The South Algonquin project should monitor future Direct Delivery intakes, but the Provincial and Territorial Stream may provide the clearer pathway for municipal housing-enabling infrastructure.

Canada Housing Infrastructure Fund

The Canada Housing Infrastructure Fund remains relevant because it supports capital and planning projects for drinking water, wastewater, stormwater, and solid-waste infrastructure that enables housing growth and denser communities. ([Housing Canada](#))

The project team should determine whether the housing infrastructure can be advanced through:

- BCSF;
- CHIF;
- an Ontario-administered stream;
- a combined or phased application; or
- whichever program offers the strongest current eligibility and cost-sharing.

Double funding of the same eligible cost must be avoided, but different programs may potentially support distinct project components where stacking rules permit.

14.6 Indigenous and Rural Housing Programs, Where Applicable

South Algonquin is not itself an Indigenous government, but the project is located within the traditional territory of the Algonquin Anishinaabeg and may involve Indigenous engagement, partnerships, employment, or housing participation.

Potential opportunities include:

- The analysis identifies partnerships with Indigenous housing providers, Indigenous contractor and supplier participation, Indigenous employment and training, housing units serving Indigenous residents, cultural design input, collaboration with nearby First Nations or Algonquin organizations, and funding for urban, rural, northern Indigenous housing and infrastructure projects that provide regional or shared benefits.

Build Canada Homes has indicated that approximately \$1.7 billion will support Indigenous housing in urban, rural, and northern communities, with further program information forthcoming. ([Housing Canada](#))

The Build Communities Strong Fund also places emphasis on equitable investment in rural, northern, and Indigenous communities, including the minimum 20% allocation under the Provincial and Territorial Stream. ([Housing Canada](#))

Any Indigenous funding application or partnership must be genuine and developed collaboratively. Indigenous funding should not be treated simply as a supplementary source for a municipally controlled project without meaningful participation or benefit.

The project may also qualify for rural and northern consideration because of:

- The analysis identifies South Algonquin's small population, limited construction labour, lack of central water and wastewater systems, distance from major urban markets, high servicing costs, workforce housing shortages, seniors housing need and limited private development activity.

14.7 Municipal Contributions and Incentives

Municipal participation will be important even where the majority of funding comes from senior governments.

Potential Township contributions include:

- The analysis identifies municipally owned land, long-term nominal land lease, acquisition of a strategic property, funding of feasibility and concept design, planning and approval support, waived or deferred municipal fees, property tax relief where legally available, reduced parking requirements, expedited approvals, zoning amendments, provision of roads or infrastructure, use of OCIF or Community Stream allocations, bridge financing, loan guarantees, contribution of staff time, support for grant applications and ownership of the communal infrastructure.

Municipal support demonstrates project commitment and can strengthen funding applications.

However, the Township should define a maximum financial exposure before proceeding. Municipal commitments should be tied to:

- The analysis identifies secured senior-government funding, confirmation of the preferred site, a viable operating model, affordability commitments, proper governance, professional property management, a lifecycle reserve plan and defined risk allocation.

Potential Future Community Improvement Plan

South Algonquin does not currently have a Community Improvement Plan. If Council adopts one in the future, it could support:

- The analysis identifies planning and building permit grants, tax increment equivalent grants, façade and accessibility improvements, environmental site assessment, demolition or redevelopment, servicing costs, adaptive reuse and affordable housing incentives.

A future CIP may be useful for adaptive reuse, mixed-use redevelopment, or privately delivered housing in Whitney or Madawaska, but no current project funding or financial assumption should depend on it.

Development charges and BCSF alignment

The BCSF Provincial and Territorial Stream requires provinces to demonstrate action on development charges where they materially restrict housing supply. Ontario has introduced a Development Charge Reduction Program connected to its federal-provincial BCSF arrangement, although the recent intake is closed. ([Housing Canada](#))

South Algonquin should confirm whether development charges apply and whether fee reductions or exemptions could improve eligibility under future infrastructure programs.

14.8 Private Financing

Private financing will likely be required for the portion of the project not covered by grants, municipal contributions, or public financing.

Potential private sources include:

- The analysis identifies conventional mortgage debt, construction financing, private developer equity, impact investment, pension or institutional capital, credit union financing, community bonds, employer investment, vendor financing, and modular manufacturer financing.
- landowner participation.

Private financing should be used carefully because the project's affordable rent structure limits supportable debt.

The preferred sequence is:

1. The analysis identifies maximize non-repayable capital contributions, secure municipal land and infrastructure participation, obtain low-cost federal or insured financing, establish DNSSAB operating support, and determine stable net operating income.
2. use private debt or equity only for the remaining financially supportable portion.

Private developer participation

A developer may contribute:

- pre-development funding;
- land;
- design;
- modular procurement;
- site construction;
- equity;
- financing guarantees;
- property management; and
- future market phases.

In return, the developer may require:

- market-rate units;
- development fees;
- ownership interest;
- preferred returns;
- long-term management contracts; or
- rights to later development phases.

The partnership agreement must preserve:

- affordability;
- municipal objectives;
- infrastructure access;
- quality;
- completion schedule;
- lifecycle obligations; and
- public funding requirements.

14.9 Community and Employer Partnerships

Community and employer participation can help confirm demand, strengthen occupancy, and reduce financial risk.

Potential partners include:

- The analysis identifies local tourism operators, healthcare providers, municipal employers, local businesses, contractors, forestry employers, school and community-service organizations, non-profit organizations, seniors' groups, service clubs, charitable foundations, local landowners and community investors.

Employer-supported housing

Employers could support the project through:

- The analysis identifies master leases, guaranteed unit commitments, capital contributions, employee rent assistance, furnishing of designated units, transportation support, payroll-supported rent payment, land or servicing contributions and participation in a workforce-housing fund.

Employer commitments should not result in all workforce units becoming transient or employer-controlled accommodation. The project's primary role should remain stable residential housing.

Community investment

Potential community mechanisms include:

- The analysis identifies community bonds, donations, charitable contributions, fundraising for amenity spaces, donated materials or services, local trades participation, sponsorship of accessible units, garden and common-space partnerships and resident volunteer programs.

Community financing should supplement, not replace, government investment in core housing and infrastructure.

14.10 Recommended Funding Strategy

The recommended approach is to separate the project into coordinated but financially distinct components:

Component 1 — Housing development

This component would include:

- modular apartment buildings;
- foundations;
- residential units;
- common areas;
- accessibility;
- energy-efficiency measures;

- building systems;
- furniture and equipment; and
- housing-related professional fees.

Potential funding sources include:

- The analysis identifies CMHC Affordable Housing Fund, CMHC Apartment Construction Loan Program, Build Canada Homes, DNSSAB, provincial housing programs, municipal land, non-profit equity, private or developer equity, employer participation and conventional or insured debt.

Component 2 — Housing-enabling infrastructure

This component would include:

- The analysis identifies communal wells, water treatment, storage and distribution, scalable RBC wastewater treatment, collection and pumping, effluent management, stormwater works, roads, drainage, utilities, standby power, pedestrian connections and infrastructure for future phases.

Potential funding sources include:

- The analysis identifies Build Communities Strong Fund, Canada Housing Infrastructure Fund, Ontario Municipal Housing Infrastructure Program, Ontario Community Infrastructure Fund, Infrastructure Ontario lending, municipal contributions, utility contributions and developer cost sharing.

Recommended funding stack

An illustrative funding strategy for the \$24.6 million base project could be:

Funding source	Illustrative target	Intended use
BSCF and other infrastructure grants	\$4.0M–\$7.0M	Water, RBC wastewater, roads, stormwater and enabling works
CMHC or Build Canada Homes capital support	\$5.0M–\$8.0M	Affordable housing construction
DNSSAB contribution	\$1.5M–\$3.0M	RGI and affordable units
Municipal land and contributions	\$1.0M–\$2.5M	Land, approvals and local infrastructure
Low-cost CMHC financing	\$4.0M–\$7.0M	Revenue-supported residential cost
Non-profit, private or employer equity	\$1.0M–\$2.5M	Financing gap and workforce units
Potential combined funding	\$16.5M–\$30.0M	Subject to eligibility and non-duplication

This range is illustrative and reflects potential overlap. The final capital stack cannot exceed eligible project costs, and each program's stacking rules must be confirmed.

Recommended implementation sequence

1. Confirm the preferred site and backup site.
2. Establish whether the Township, a non-profit corporation, or a partnership will own the housing and infrastructure.
3. Prepare preliminary concept drawings through 3rd Line Studio.
4. Complete hydrogeological, wastewater, environmental, geotechnical, and planning studies.
5. Separate the building and infrastructure budgets.
6. Prepare a Class C estimate for the preferred concept.
7. Confirm the number of units enabled by the infrastructure, including future phases.
8. Begin formal discussions with DNSSAB.
9. Engage CMHC and Build Canada Homes before finalizing the financing structure.
10. Prepare the BCSF infrastructure business case.
11. Confirm municipal land, fee, and infrastructure contributions.
12. Obtain employer or community expressions of interest.
13. Submit coordinated funding applications.
14. Secure bridge or pre-development financing.
15. Proceed to detailed design only after a credible funding pathway is established.

Priority funding position

The **Build Communities Strong Fund** should be treated as a **major potential contributor**, particularly for the water, RBC wastewater, road, drainage, and housing-enabling infrastructure.

The application should establish that the proposed infrastructure:

- The analysis identifies directly enables new housing, supports affordable, seniors, and workforce units, allows higher density, reduces the land required per dwelling, replaces inefficient individual servicing, can be expanded, supports future municipal growth, is publicly beneficial, is climate resilient and is financially sustainable over its lifecycle.

The strongest overall funding model is expected to combine:

- The analysis identifies BCSF or comparable infrastructure grants, CMHC or Build Canada Homes housing support, DNSSAB capital and operating participation, municipal land and approvals, low-cost long-term financing, non-profit ownership and limited private or employer investment.

No single funding program should be expected to finance the entire initiative. The project should be advanced as a coordinated **housing-and-infrastructure investment**, with each source applied to the component it is best positioned to support.

15. Lifecycle and Sustainability Assessment

15.1 Purpose of the Life-Cycle Assessment

The purpose of the life cycle and sustainability assessment is to evaluate the proposed housing development beyond the initial capital cost.

A lower construction price does not necessarily result in the lowest long-term cost. The preferred development should be assessed based on:

- The analysis identifies energy consumption, water use, wastewater operating cost, maintenance requirements, replacement cycles, durability, staff and operator requirements, resilience, tenant utility costs, accessibility, adaptability, greenhouse-gas emissions and long-term asset value.

This approach is particularly important for affordable housing. High operating costs can make an otherwise affordable unit unaffordable to the resident or financially unsustainable for the owner.

The preliminary life-cycle assessment should use a minimum **30-year planning horizon**, with longer-term consideration given to major building and infrastructure components expected to remain in service for 40 to 60 years.

15.2 Life-Cycle Costing Methodology

The life-cycle cost analysis should include:

1. The analysis identifies initial capital cost, annual energy and utility costs, routine maintenance, property management and operator costs, water and wastewater operation, scheduled equipment replacement, major building-envelope replacement, reserve-fund contributions, inflation and escalation, and residual value.
2. avoided costs associated with more durable or efficient systems.

The preliminary analysis should compare at least three building-performance levels:

Option	General description
Base Code	Building designed to minimum applicable code requirements
High-Performance	Improved envelope, air sealing, ventilation and mechanical efficiency
Enhanced/Net-Zero Ready	Further reductions in energy demand, renewable-energy readiness and enhanced controls

The analysis identifies The preferred option should not be selected solely on the lowest net present cost. It should also consider: resident comfort, operational simplicity, maintenance capacity, funding eligibility, equipment availability, resilience and the ability to maintain affordability.

15.3 Building Envelope and Durability

The building envelope should be designed for South Algonquin's cold climate and rural operating conditions.

Key considerations include:

- The analysis identifies high insulation values, continuous air and vapour control, reduced thermal bridging, durable exterior cladding, high-performance windows, properly detailed modular connections, effective roof drainage, protection against snow and ice, freeze-thaw resistance, moisture management, insect and wildlife resistance, and simple access for maintenance.

Modular buildings require particular attention at:

- module-to-module joints;
- roof connections;
- exterior wall transitions;
- foundation interfaces;
- balconies;
- service penetrations;
- fire separations; and
- air-barrier continuity.

The final design should require field testing and commissioning to confirm that factory-built and site-completed components perform as one integrated building.

Recommended quality-control measures include:

- shop-drawing review;
- factory inspections;
- air-leakage testing;
- thermographic review;
- window and roof inspections;
- moisture testing;
- fire-stopping inspections;
- mechanical commissioning; and
- post-occupancy performance review.

15.4 Energy Performance and Utility Costs

Energy efficiency is essential to both resident affordability and project operating viability.

The principal building energy loads will include:

- space heating;
- domestic hot water;
- ventilation;
- common-area lighting;
- elevators;
- pumps;
- water treatment;

- wastewater treatment;
- exterior lighting; and
- miscellaneous electrical loads.

The preferred energy strategy should include:

- The analysis identifies cold-climate air-source heat pumps, high-efficiency heat-recovery ventilation, enhanced insulation, high-performance windows, LED lighting, low-flow fixtures, efficient domestic hot-water systems, programmable controls, individual metering where appropriate, energy monitoring, solar-ready roof design and backup heating for extreme conditions.

A high-performance envelope can reduce the size and operating time of mechanical equipment. This can lower:

- tenant utility costs;
- owner-paid common utilities;
- peak electrical demand;
- backup-power requirements; and
- equipment replacement costs.

The feasibility study should evaluate whether residential utilities are:

- paid directly by residents;
- included in rent;
- partially included;
- individually sub metered; or
- subject to a utility allowance for affordable units.

Where residents pay utilities directly, affordability calculations should include the combined cost of rent and essential utilities.

15.5 Water Efficiency and Communal Water Operations

The communal water system should be designed to minimize both consumption and operating complexity.

Water-efficiency measures should include:

- The analysis identifies low-flow faucets and showerheads, high-efficiency toilets, leak-detection systems, individual or suite-level metering where practical, automatic shut-off controls, pressure management, water-efficient appliances, drought-tolerant landscaping and operator monitoring of abnormal consumption.

Reduced water consumption also reduces:

- well pumping;
- treatment requirements;
- wastewater flow;
- RBC loading;
- effluent-management requirements;
- energy consumption; and
- operating cost.

The communal water system should include:

- The analysis identifies duty and standby pumps, accessible treatment equipment, remote alarms, water-quality sampling points, secure chemical or treatment areas, emergency storage, freeze protection, backup power and expansion capacity.

Long-term operating viability will depend on maintaining:

- certified or qualified oversight;
- regular testing;
- preventative maintenance;
- replacement reserves;
- reliable parts supply; and
- emergency-response procedures.

15.6 RBC Wastewater Life-Cycle Performance

The proposed RBC wastewater system should be evaluated as a long-term community infrastructure asset.

Life-cycle costs will include:

- The analysis identifies electricity, certified operator services, sampling and laboratory testing, mechanical maintenance, sludge removal, pump replacement, bearings and drive components, controls, alarms, emergency storage, standby power, treatment-building maintenance and eventual process-equipment replacement.

The RBC system offers several potential long-term advantages:

- The analysis identifies modular capacity expansion, consistent treatment, centralized maintenance, reduced land use, improved monitoring, lower dependence on numerous individual septic systems, clearer responsibility for operation and potential service to future development.

The design should prioritize:

- The analysis identifies simple mechanical systems, standard replacement parts, remote monitoring, cold-weather reliability, redundancy, bypass prevention, accessible maintenance areas, low odour and noise, energy efficiency and staged expansion.

The reserve plan should specifically identify replacement timelines for:

- motors and drives;
- pumps;
- blowers, where used;
- controls;
- sensors;
- disinfection equipment;
- tanks;
- piping;
- standby generators; and
- effluent-distribution components.

The system should not be oversized significantly for the first phase unless funding requires or supports full build-out. A staged modular approach will generally provide a better balance between initial capital cost and future expansion.

15.7 Maintenance and Replacement Planning

The owner should maintain a 30-year capital replacement plan beginning before occupancy.

The plan should identify:

Asset category	Typical planning consideration
Roofing	Inspection, membrane renewal and drainage
Windows and doors	Seal replacement and eventual unit replacement
Exterior cladding	Joint maintenance, repainting or panel replacement
HVAC equipment	Replacement of heat pumps, fans and controls
Domestic hot water	Tank, heat-pump or boiler replacement
Elevators	Annual maintenance and major modernization
Fire systems	Inspections, pumps, alarm panels and sprinkler components
Interior finishes	Flooring, painting, cabinetry and common areas
Appliances	Planned turnover and replacement
Parking and roads	Resurfacing, drainage and line painting
Water system	Pumps, treatment media, controls and tanks
RBC system	Drives, pumps, controls, treatment media and tanks
Generator	Servicing and replacement
Stormwater systems	Cleaning, erosion repair and structural renewal

A preliminary lifecycle reserve of approximately **\$2,000 per unit annually** has been carried in the financial model. This should be verified through a formal reserve-fund study.

The reserve contribution may need to increase over time based on:

- building age;
- inflation;
- actual performance;
- warranty claims;
- equipment replacement;
- regulatory changes; and
- expansion of the communal infrastructure.

15.8 Climate Resilience and Emergency Preparedness

The development should be designed for:

- The analysis identifies extreme cold, heat waves, heavy rainfall, snow accumulation, freezing rain, prolonged power outages, wildfire smoke, groundwater variability, flooding, erosion, supply-chain disruption and emergency access constraints.

Recommended resilience measures include:

- The analysis identifies high-performance insulation, passive survivability during power outages, backup power for essential systems, emergency water storage, protected mechanical rooms, elevated critical equipment where flood risk exists, stormwater controls, durable roofing, snow-load design, heat-pump systems with backup heating, cooling in all units or designated cooling space, filtered ventilation, emergency lighting, communications backup, fire-resistant landscaping where applicable and resident emergency plans.

Backup power should prioritize:

- The analysis identifies communal water pumps, RBC wastewater treatment, emergency lighting, fire alarm, heating for critical areas, sump pumps, communications, and access control and selected common areas.

The development should avoid sites where natural hazards would require excessive structural mitigation or create ongoing emergency-response risks.

15.9 Low-Carbon and Renewable-Energy Opportunities

The project should investigate low-carbon design measures that provide a reasonable financial and operational return.

Potential measures include:

- The analysis identifies all-electric building systems, cold-climate heat pumps, enhanced insulation, heat-recovery ventilation, solar photovoltaic panels, solar-ready electrical infrastructure, battery-ready electrical rooms, electric-vehicle charging, low-carbon materials, reduced concrete use where structurally appropriate, prefabrication and reduced construction waste, local or regional sourcing, high-efficiency wastewater equipment and energy-use monitoring.

Modular construction may reduce:

- on-site waste;
- weather-damaged materials;
- rework;
- construction travel;
- prolonged temporary heating; and
- site disturbance.

The feasibility study should not assume that net-zero certification is required. The preferred approach is to establish a high-performance base building and then evaluate renewable-energy measures based on:

- lifecycle savings;
- available incentives;
- roof area;
- electrical capacity;
- maintenance requirements; and
- funding-program scoring.

15.10 Sustainability and Life-Cycle Recommendation

The preferred sustainability strategy is a **high-performance modular building**, rather than minimum-code construction or an overly complex demonstration project.

The recommended approach includes:

- enhanced thermal envelope;
- rigorous air sealing;
- cold-climate heat pumps;
- heat-recovery ventilation;
- low-flow fixtures;
- durable exterior materials;
- individual energy monitoring;
- solar-ready roof;
- efficient lighting;
- simple mechanical systems;
- communal water monitoring;
- modular RBC treatment;
- remote infrastructure alarms;
- lifecycle reserves;
- full commissioning; and
- post-occupancy performance review.

The life-cycle analysis should compare the added capital cost of the high-performance package against:

- The analysis identifies reduced utility costs, lower tenant energy burden, smaller mechanical equipment, improved comfort, reduced emissions, funding eligibility, fewer moisture and durability problems and improved long-term asset value.

The project should avoid systems that require specialized maintenance not reasonably available in the region unless a long-term service agreement is secured.

15.11 Lifecycle and Sustainability Conclusion

The proposed project can provide a durable and financially responsible housing asset if the building and infrastructure are designed around long-term operation from the outset.

The most important life-cycle principles are:

- The analysis identifies do not minimize capital cost at the expense of durability, keep mechanical systems practical and serviceable, build sufficient reserves, use energy efficiency to protect affordability, design the RBC and water systems for staged expansion, commission all systems, monitor actual operating performance and assign clear responsibility for every major asset.

The preferred modular, communal-servicing model has a higher initial infrastructure requirement than conventional individual servicing. However, it can provide substantially better land efficiency, centralized maintenance, improved treatment performance, and lower servicing cost per unit as future development phases are added.

16. Economic and Community Benefits

16.1 Purpose of the Benefits Assessment

The housing initiative should be assessed not only as a construction project but also as an investment in the long-term economic and social sustainability of South Algonquin.

The direct benefit is the creation of new housing. The broader benefits include:

- The analysis identifies workforce attraction, workforce retention, support for seniors, local business stability, population retention, improved access to services, increased assessment, new construction activity, improved infrastructure, community renewal and future private development.

The economic and community benefits are expected to extend beyond the residents of the initial 20- to 35-unit development.

16.2 Increase in Local Housing Supply

The proposed development would create a meaningful increase in South Algonquin's supply of:

- purpose-built rental housing;
- affordable units;
- RGI units;
- accessible apartments;
- seniors housing;
- workforce housing; and
- one- and two-bedroom units.

A 30-unit project would directly address a portion of the DNSSAB-identified need while creating a housing form that is currently limited in the community.

The development would also demonstrate that higher-density housing can be delivered in a rural community through:

- modular construction;
- communal water;
- RBC wastewater treatment;
- mixed-income rents; and
- public and private partnerships.

This may reduce perceived risk for later housing providers and developers.

16.3 Support for Seniors and Aging in Place

Seniors were identified as one of the highest-priority groups through the community workshop and demographic review.

The development would allow seniors to move from:

- larger detached homes;
- homes requiring extensive maintenance;
- inaccessible dwellings;
- isolated rural properties; or
- unsuitable seasonal housing

into smaller, accessible and lower-maintenance units.

Benefits include:

- The analysis identifies remaining close to family and community, reduced isolation, improved access to healthcare and services, lower property-maintenance responsibilities, improved accessibility, greater housing security and reduced pressure to relocate outside the community.

Senior downsizing may also release existing detached homes to:

- young families;
- workers;
- new residents; or
- buyers entering the local market.

This secondary market effect could improve housing mobility without requiring every household need to be met through new construction.

16.4 Workforce Attraction and Retention

Housing availability directly affects the ability of employers to recruit and retain staff.

The proposed project could support employees in:

- municipal government;
- healthcare;
- schools;
- tourism;
- hospitality;
- retail;
- construction;
- forestry;
- transportation;
- emergency services;
- community services; and
- small businesses.

Workforce housing benefits may include:

- The analysis identifies reduced vacancies, shorter recruitment periods, lower employee turnover, reduced commuting, more stable business hours, increased local spending, improved emergency coverage, stronger healthcare access and greater capacity to deliver municipal services.

The workforce component should focus on stable residential housing rather than only seasonal accommodation.

A limited number of furnished or flexible-lease units may still be valuable for:

- newly recruited employees;
- seasonal staff;
- contract workers;
- healthcare professionals; and
- residents transitioning to permanent accommodation.

16.5 Support for Local Businesses and Services

New permanent residents generate local demand for:

- groceries;
- fuel;
- restaurants;
- retail;
- trades;
- personal services;
- healthcare;
- recreation;
- transportation;
- property maintenance; and
- community programming.

The development can support existing businesses by:

- The analysis identifies increasing the year-round customer base, housing employees locally, reducing unfilled positions, supporting new services, improving business confidence, encouraging reinvestment and stabilizing seasonal economic activity.

A stronger residential base may also improve the viability of services that depend on minimum population or customer thresholds.

16.6 Population Retention and Community Stability

South Algonquin has experienced youth out-migration and an aging population.

The housing project can help retain:

- young adults;
- families;
- seniors;

- local employees;
- people returning to the community;
- residents whose housing needs have changed; and
- lower- and moderate-income households.

Without suitable housing, residents may leave not because they want to relocate, but because no appropriate rental, accessible, or affordable unit is available.

A broader housing mix supports a more balanced population and helps maintain:

- school enrolment;
- volunteer organizations;
- recreation programs;
- emergency services;
- local businesses;
- community events; and
- municipal capacity.

16.7 Construction and Local Employment Benefits

Although modular construction reduces reliance on local skilled labour, it does not eliminate local economic benefits.

Local and regional work may include:

- The analysis identifies surveying, excavation, road construction, foundations, utility installation, water and wastewater infrastructure, crane and logistics support, electrical and mechanical connections, landscaping, security, inspections, building finishing, snow removal, property maintenance and long-term operations.

The procurement strategy should encourage qualified local and regional participation where this does not compromise:

- cost;
- quality;
- schedule;
- safety; or
- funding requirements.

The project may also create permanent or recurring employment for:

- property management;
- maintenance;
- cleaning;
- groundskeeping;
- water-system operation;
- wastewater-system operation;
- administration; and
- resident support services.

16.8 Municipal Assessment and Fiscal Benefits

The development may create new municipal assessment and property-tax revenue, depending on:

- ownership;
- tax status;
- unit count;
- building value;
- non-profit exemptions;
- municipal agreements; and
- the treatment of communal infrastructure.

Potential fiscal benefits include:

- The analysis identifies new assessment, increased utility or service revenue, more efficient use of existing roads and services, reduced pressure for scattered rural development, attraction of further investment, reuse of underutilized properties and economic activity associated with construction and occupancy.

These benefits must be weighed against municipal responsibilities such as:

- road maintenance;
- emergency services;
- planning administration;
- possible infrastructure ownership;
- grant matching;
- oversight; and
- long-term asset management.

A compact Village-based development is generally expected to produce a better municipal service outcome than dispersed housing requiring extended roads and infrastructure.

16.9 Infrastructure as a Catalyst for Future Growth

The communal well, water treatment and scalable RBC system can create benefits beyond the first apartment building.

Subject to design and approvals, the infrastructure may support:

- The analysis identifies later apartment phases, townhouses, affordable ownership units, seniors housing, workforce housing, public facilities, redevelopment of nearby sites, private-sector partnerships and community expansion.

This is a major distinction between the recommended model and individual septic servicing.

The project can establish a serviced development node that:

- reduces future infrastructure duplication;
- lowers later-phase costs;
- supports higher density;
- improves environmental oversight;
- creates investment-ready land; and

- strengthens future funding applications.

The long-term economic value of the infrastructure should therefore be assessed based on total units enabled, not only the first-phase unit count.

16.10 Social, Health and Accessibility Benefits

Stable, affordable housing is closely connected to:

- physical health;
- mental health;
- financial security;
- reduced stress;
- social participation;
- employment stability;
- educational continuity;
- personal safety; and
- community belonging.

The proposed development may provide particular benefits for:

- seniors;
- people with disabilities;
- single-person households;
- low-income households;
- workers in lower-wage sectors;
- residents experiencing housing instability; and
- households living in unsuitable housing.

Accessible units and common spaces can reduce dependence on institutional or out-of-community housing.

Community and amenity spaces can support:

- social activities;
- resident meetings;
- visiting healthcare;
- community outreach;
- tenant support;
- remote work;
- education; and
- reduced social isolation.

The mixed-income model can also avoid the stigma and concentration associated with a single-purpose subsidized housing project.

16.11 Broader Community Benefit Conclusion

The proposed housing development has the potential to create significant and lasting community value.

Its benefits include:

- The analysis identifies new affordable and attainable housing, support for seniors, workforce recruitment and retention, improved housing choice, population stability, local economic activity, redevelopment of underused land, new municipal infrastructure, greater development density, improved environmental management, increased readiness for future investment and stronger alignment between housing, services and economic development.

The project should therefore be treated as both:

1. a housing initiative; and
2. a community-development and infrastructure initiative.

The strongest long-term benefit will be achieved where the selected site and communal infrastructure support multiple phases. Under that model, the initial apartment building becomes the first component of a broader housing strategy rather than an isolated project.

17. Risk Assessment

17.1 Land and Site Availability Risk

The project cannot proceed until a suitable property is secured under terms that support the preferred housing and infrastructure model.

Key risks include:

- preferred properties may not be available;
- asking prices may exceed the project budget;
- landowners may be unwilling to enter a long-term partnership;
- legal access, easements or title conditions may limit development;
- gross site area may overstate the amount of usable land;
- environmental, shoreline, floodplain or topographic constraints may reduce development capacity;
- existing buildings may have limited reuse value;
- property acquisition may occur before servicing feasibility is confirmed; and
- a site may support the initial building but not future expansion.

A lower purchase price does not necessarily indicate the strongest site. The selection should be based on total development value, including:

- The analysis identifies usable land area, location, planning conformity, communal water potential, RBC wastewater feasibility, road access, utility capacity, environmental risk, redevelopment value and future phases.

Risk rating

Moderate to High until control of a preferred property is secured and due diligence is completed.

Principal mitigation

- retain at least two viable candidate sites;
- secure a conditional purchase agreement or option rather than completing an immediate acquisition;
- make acquisition conditional on planning, environmental, geotechnical, hydrogeological and servicing investigations;
- obtain an independent appraisal;
- verify title, easements and legal access;
- complete preliminary concept plans before final selection;
- compare total site-development cost rather than purchase price alone; and
- confirm expansion potential before committing to the site.

17.2 Planning and Approval Risk

The Official Plan supports apartments, affordable housing, modular housing, communal servicing, redevelopment, and growth in Whitney and Madawaska. However, the current Zoning By-law does not generally permit apartment or larger multi-unit residential buildings as-of-right.

The project may require:

- a site-specific zoning amendment;
- an Official Plan amendment where a site is outside the Village designation;
- Site Plan Control approval;
- minor variances;
- land division or condominium approval;
- MTO permits;
- MECP approval;
- environmental studies;
- Indigenous engagement;
- public consultation; and
- building and fire-code approvals.

Risks include:

- The analysis identifies an application being considered incomplete, additional studies being requested, delay during public consultation, objections from neighbouring property owners, agency review timelines, changes arising from the new Zoning By-law process, appeal to the Ontario Land Tribunal, conditions that materially reduce density and inconsistent interpretation of communal servicing.

Risk rating

Moderate, provided the preferred site is within Whitney or Madawaska and outside major environmental constraints.

Principal mitigation

- prioritize Village-designated properties;
- complete formal municipal pre-consultation;
- prepare a detailed planning justification report;
- establish a site-specific multi-residential zone;
- use a holding provision to address servicing conditions rather than delaying the zoning decision;
- coordinate planning and engineering submissions;
- engage neighbouring residents early;
- confirm Indigenous consultation requirements;
- maintain consistency with the emerging Zoning By-law; and
- avoid relying on minor variances for fundamental land-use permissions.

17.3 Servicing Risk

Servicing is one of the most important project risks because Whitney and Madawaska do not have centralized municipal water or wastewater systems.

The preferred approach relies on:

- a communal well or well field;
- compact water treatment;
- a scalable RBC wastewater system;

- an approved effluent-management solution;
- electrical power;
- standby systems;
- certified operation; and
- lifecycle reserves.

Potential risks include:

- The analysis identifies insufficient well yield, poor raw-water quality, interference with neighbouring wells, treatment requirements being more complex than anticipated, unsuitable soils for effluent dispersal, lack of an acceptable receiving environment, higher-than-anticipated wastewater design flows, cold-weather operating problems, odour or noise concerns, inadequate hydro capacity, regulatory approval delays, hauled sludge capacity limitations, operator availability and higher operating costs.

The planning benchmark of approximately 0.1 hectare per dwelling equivalent is dependent on successful communal servicing. It should not be treated as guaranteed until site-specific investigations confirm capacity.

Risk rating

High until hydrogeological testing, preliminary process design and regulatory pre-consultation are complete.

Principal mitigation

- complete test wells and hydrogeological assessment early;
- undertake raw-water quality testing;
- prepare a preliminary water-demand model;
- complete an RBC feasibility and process design;
- identify the preferred effluent-disposal or discharge approach;
- consult MECP before final site acquisition;
- confirm sludge hauling and receiving capacity;
- include process redundancy and emergency storage;
- provide standby power;
- secure a certified operating arrangement;
- design infrastructure in expandable modules; and
- maintain a contingency servicing option for each shortlisted site.

17.4 Environmental Risk

Environmental constraints may affect both the development footprint and the servicing solution.

Potential issues include:

- wetlands;
- floodplains;
- watercourses;
- shoreline setbacks;
- unstable slopes;
- shallow bedrock;
- poor soils;
- groundwater sensitivity;
- fish habitat;

- species at risk;
- archaeological potential;
- former fuel storage;
- contaminated soil;
- abandoned septic systems;
- stormwater impacts;
- wildfire exposure; and
- impacts on adjacent natural features.

Waterfront or motel properties may present higher environmental risk because of:

- shoreline proximity;
- flood or erosion concerns;
- existing underground infrastructure;
- historic commercial use;
- unknown fill;
- former fuel tanks; and
- limited space for effluent management.

Risk rating

Moderate, with potential to become High for waterfront, flood-prone or previously developed commercial properties.

Principal mitigation

- undertake desktop environmental screening before shortlisting;
- complete a Phase I Environmental Site Assessment for developed properties;
- complete a Phase II investigation where concerns are identified;
- obtain topographic and legal surveys;
- identify flood and hazard limits;
- complete environmental-impact studies where required;
- avoid locating buildings or treatment facilities in constrained areas;
- maintain shoreline and natural-feature buffers;
- incorporate stormwater controls;
- prepare erosion and sediment-control plans; and
- include remediation allowances only where evidence supports them.

17.5 Construction Cost Risk

The preliminary project budget is based on an early feasibility-level estimate without completed concept drawings, site investigations, modular quotations or detailed engineering.

The principal cost risks include:

- land-price escalation;
- rock excavation;
- poor soil conditions;
- foundation complexity;
- module transportation;
- crane access;
- limited contractor competition;
- utility extensions;

- fire-water requirements;
- wastewater approval conditions;
- water-treatment complexity;
- building-code requirements;
- elevator and sprinkler systems;
- inflation;
- material-price volatility;
- remote project logistics;
- project delays;
- design changes; and
- incomplete coordination between the modular manufacturer and site contractor.

Modular construction reduces certain schedule and labour risks but introduces others, including:

- manufacturer capacity;
- transportation permits;
- module-size restrictions;
- factory payment schedules;
- shipping damage;
- crane availability;
- module tolerances;
- site readiness; and
- responsibility for module stitching.

Risk rating

High at the present stage.

Principal mitigation

- retain 3rd Line Studio to prepare comparable concepts;
- engage modular manufacturers during concept design;
- obtain multiple budget quotations;
- complete geotechnical and servicing investigations before detailed design;
- use standardized unit layouts;
- clearly divide manufacturer and site-contractor scope;
- prepare a detailed responsibility matrix;
- obtain route and crane-access studies;
- carry appropriate contingency and escalation;
- update estimates at Class C, B and A stages;
- use early contractor involvement or construction management where appropriate; and
- avoid committing to a fixed project budget before scope and site conditions are sufficiently defined.

17.6 Funding and Financing Risk

The project is not expected to be viable through conventional debt and rental revenue alone.

Its success depends on a coordinated funding structure involving:

- Build Communities Strong Fund or other infrastructure funding;
- CMHC programs;
- Build Canada Homes;
- DNSSAB;

- provincial housing and infrastructure programs;
- municipal contributions;
- low-cost financing;
- non-profit equity;
- employer participation; and
- potentially private developer investment.

Risks include:

- The analysis identifies programs not being open when the project is ready, changing eligibility criteria, insufficient grant contribution, inability to stack programs, ineligible land or infrastructure costs, affordability requirements exceeding operating capacity, funding approval delays, cost escalation after funding approval, required municipal matching contributions, cash-flow and bridge-financing pressure, inability to support required debt and withdrawal of a partner.

Risk rating

High, because the preliminary financial model requires substantial non-repayable support.

Principal mitigation

- separate the housing and infrastructure budgets;
- advance multiple funding pathways concurrently;
- develop a funding-ready infrastructure package for BCSF;
- confirm eligible and ineligible costs early;
- secure municipal land or site control;
- obtain DNSSAB commitment before finalizing the affordability mix;
- use low-cost insured financing for the revenue-supported portion;
- maintain a phased fallback option;
- include escalation allowances in funding requests;
- secure bridge financing before committing to contracts;
- avoid starting construction before the capital stack is complete; and
- structure agreements so affordability obligations match the available subsidy.

17.7 Operating and Occupancy Risk

The project must generate sufficient revenue to cover operating costs, reserves and debt service.

Key risks include:

- rents being unaffordable to target households;
- insufficient operating subsidies;
- lower-than-expected occupancy;
- rent arrears;
- high tenant turnover;
- unexpected utility costs;
- RBC and water-system operating costs;
- insurance increases;
- inadequate reserve contributions;
- limited property-management capacity;
- difficulty maintaining accessible and common areas;
- seasonal changes in workforce demand; and

- overreliance on employer master leases.

A project with too many deeply affordable units and insufficient operating support may produce a structural annual deficit. Conversely, a project with too many market units may fail to address the identified housing need.

Risk rating

Moderate to High.

Principal mitigation

- use a mixed-income rent structure;
- obtain DNSSAB rent supplements or operating agreements;
- validate demand before construction;
- maintain a waiting list or expressions of interest;
- phase unit delivery;
- retain an experienced property manager;
- separately contract qualified water and wastewater operators;
- include realistic operating and vacancy allowances;
- establish restricted lifecycle reserves;
- monitor utility consumption;
- conduct annual rent and operating reviews;
- limit speculative commercial space; and
- avoid relying on ancillary income to balance the core operating budget.

17.8 Community Acceptance Risk

Community support is generally strong for additional housing, particularly for seniors, working households and affordable rental units. However, support for housing need does not automatically translate into support for every site or building concept.

Potential concerns may include:

- building height;
- density;
- traffic;
- parking;
- neighbourhood character;
- affordable or RGI tenants;
- property values;
- wastewater treatment;
- odour;
- groundwater impacts;
- short-term or seasonal units;
- public cost;
- site selection;
- perceived preference for one community over another; and
- the visual appearance of modular buildings.

There may also be concern if the project is described as serving only one population group.

Risk rating

Moderate.

Principal mitigation

- continue transparent community engagement;
- present factual information about housing need;
- emphasize mixed-income and multi-generational occupancy;
- show high-quality modular architectural concepts;
- explain the RBC treatment process and safeguards;
- address traffic, parking and buffering through design;
- locate the project near existing services;
- demonstrate that public contributions enable long-term community assets;
- avoid physically distinguishing subsidized units;
- provide clear information about management and tenant selection; and
- consult residents before, not after, the planning application is finalized.

17.9 Municipal Collaboration and Governance Risk

The initiative is community-led, but implementation cannot proceed successfully without municipal collaboration on matters within Township and Council authority. Community leadership does not remove the need for lawful planning approvals, permits, technical review, infrastructure coordination, emergency-services input, taxation decisions, and explicit authorization of any municipal financial or ownership role.

Key risks include:

- the Township declining or delaying collaboration on zoning, planning, permits, infrastructure, or pre-consultation;
- community expectations exceeding the municipal role that Council is prepared or legally able to assume;
- the project relying on municipal land, cash, guarantees, bridge financing, tax relief, or infrastructure ownership before those contributions are approved;
- unclear division of authority between SABA, the future housing entity, Council, Township staff, DNSSAB, funders, and operators; and
- acceptance of the feasibility study being misunderstood as municipal approval of a site, budget, ownership structure, or construction project.

Risk rating

Moderate to High until municipal pre-consultation, decision gates, the minimum municipal role, and any optional municipal contributions are formally defined.

Principal mitigation

- request early planning, zoning, building, fire, infrastructure, finance, and legal pre-consultation;
- separate community mandate decisions from Council's statutory, corporate, and financial decisions;
- adopt a written role protocol and RACI matrix;
- identify a viable project pathway that does not assume municipal ownership or financial participation;
- present optional municipal contributions individually with exposure limits and conditions;

record Council and community decisions at defined gates; and
communicate clearly that study acceptance authorizes investigation only.

17.10 Schedule Risk

The project requires coordination of:

- land acquisition;
- planning approvals;
- concept design;
- modular procurement;
- funding applications;
- geotechnical and hydrogeological investigations;
- MECP approvals;
- water-system approvals;
- utility capacity;
- site plan approval;
- building permits;
- construction financing;
- manufacturing;
- site preparation;
- module installation; and
- commissioning.

A delay in any critical activity could affect:

- funding eligibility;
- construction season;
- manufacturing slots;
- module delivery;
- escalation;
- occupancy;
- bridge financing; and
- public confidence.

The MECP process, funding approvals and property acquisition are likely to be among the most schedule-sensitive items.

Risk rating

High until the site, approvals path and funding strategy are confirmed.

Principal mitigation

- prepare an integrated master schedule;
- identify the critical path;
- begin regulatory pre-consultation early;
- advance planning, servicing and funding in parallel;
- reserve modular manufacturing capacity only after financing is credible;
- include decision deadlines;
- maintain a responsibility matrix;
- complete monthly schedule reporting;

- establish contingency time;
- avoid unrealistic construction-start commitments;
- phase the project where necessary; and
- keep a backup site and servicing strategy available until the preferred option is secure.

17.11 Risk Mitigation Measures

The following consolidated mitigation strategy is recommended.

Risk category	Key mitigation measure
Land	Conditional acquisition and backup sites
Planning	Early pre-consultation and site-specific zoning
Servicing	Hydrogeological testing and MECP pre-consultation
Environmental	Desktop screening followed by targeted studies
Construction cost	Concept design, modular quotations and staged estimates
Funding	Layered capital stack and separate infrastructure application
Operations	Mixed-income rents, DNSSAB support and professional management
Occupancy	Demand validation and phased delivery
Community	Early engagement and clear concept communication
Schedule	Integrated critical-path schedule and parallel workstreams
Lifecycle	Restricted reserves and long-term asset-management plan
Governance	Clear ownership and operating agreements, a defined minimum municipal role, optional-contribution limits, and separate community/Council decision gates

Additional project-wide measures should include:

- a formal risk register;
- assigned risk owners;
- probability and impact scoring;
- monthly review during pre-development;
- cost and schedule contingencies;
- defined decision gates;
- change-control procedures;
- independent cost review;
- legal review of partnership agreements;
- confirmation of insurance requirements;
- documented procurement strategy;
- commissioning plan; and
- post-occupancy evaluation.

Recommended decision gates

The project should not advance automatically from one stage to the next.

Gate 1 — Site Shortlisting

Proceed only where at least two properties remain technically and financially credible.

Gate 2 — Preferred Site

Proceed only after preliminary planning, environmental and servicing feasibility are confirmed.

Gate 3 — Concept Approval

Proceed only after 3rd Line Studio's concept establishes acceptable unit count, site fit and modular feasibility.

Gate 4 — Funding Readiness

Proceed only after a credible capital stack and municipal contribution are identified.

Gate 5 — Detailed Design

Proceed only after site control, regulatory direction and funding probability are sufficient.

Gate 6 — Construction Authorization

Proceed only after funding, financing, permits, contracts, contingency and operating arrangements are secured.

17.12 Overall Risk Profile

The proposed housing initiative has a **Moderate-to-High overall risk profile** at the current feasibility stage.

This rating reflects the combined uncertainty associated with:

- site selection;
- communal water supply;
- wastewater approval;
- capital cost;
- grant funding;

- debt capacity;
- planning approvals;
- modular procurement;
- operating subsidies; and
- project schedule.

The risk profile is not unusual for a rural affordable-housing project that requires new communal infrastructure.

The most significant current risks are:

1. servicing feasibility;
2. funding and financing;
3. construction cost;
4. schedule;
5. land availability; and
6. long-term operating viability.

The project also has several important risk-reducing strengths:

- The analysis identifies documented housing need, strong Official Plan support, community support for seniors and workforce housing, availability of several candidate properties, modular construction as a practical rural delivery method, a scalable RBC wastewater concept, potential BCSF infrastructure support, potential DNSSAB involvement, a mixed-income operating model, ability to phase development and potential to use infrastructure for future housing phases.

Overall risk conclusion

The project should proceed to the next stage, but through a controlled and phased process.

It should not proceed directly to detailed design or land acquisition without:

- The analysis identifies confirming the preferred site, validating communal water and RBC feasibility, establishing the planning pathway, preparing concept drawings, refining the Class C capital estimate, obtaining preliminary funding feedback, confirming DNSSAB participation and selecting the ownership and operating structure.

With these measures in place, the overall risk can reasonably be reduced from **Moderate-High** to **Moderate**, which would be appropriate for advancing into detailed design, approvals and funding applications.

18. Evaluation of Alternatives

18.1 Purpose of the Alternatives Evaluation

The purpose of this section is to compare the principal development, servicing, ownership, and delivery alternatives considered for the South Algonquin housing initiative.

The evaluation is intended to identify the approach that provides the strongest overall balance of:

- The analysis identifies housing benefit, affordability, technical feasibility, site efficiency, planning compatibility, capital cost, operating sustainability, funding eligibility, delivery risk, community acceptance, expansion potential and long-term community value.

No single option performs best under every criterion. The recommended approach should therefore be based on total project value rather than the lowest initial construction cost or the highest possible unit count.

The alternatives reviewed are:

1. The analysis identifies continued reliance on conventional low-density development, small-scale scattered housing, small multi-unit development, purpose-built modular apartment development, motel conversion or adaptive reuse, mixed-use motel and residential redevelopment, townhouse or ground-oriented development, communal servicing versus individual servicing, Whitney versus Madawaska development, and single-phase versus phased development.
2. alternative ownership and operating structures.

18.2 Evaluation Criteria

The alternatives have been assessed against the following criteria:

Criterion	Evaluation consideration
Housing need response	Number and type of households served
Affordability	Ability to support affordable, RGI and workforce rents
Capital cost	Total initial development cost
Cost per unit	Distribution of fixed project and infrastructure costs
Operating viability	Ability to cover operations, reserves and debt
Technical feasibility	Building, servicing, access and site practicality
Planning feasibility	Official Plan, zoning and approval complexity
Funding alignment	Compatibility with housing and infrastructure programs
Delivery feasibility	Labour availability, procurement and schedule

Criterion	Evaluation consideration
Environmental performance	Land use, water, wastewater and energy impacts
Community integration	Access to services, compatibility and acceptance
Expansion potential	Ability to support later housing phases
Risk	Combined financial, regulatory, technical and operating exposure

The assessment is preliminary and should be revisited after the preferred properties are tested through architectural concept design and engineering investigations.

18.3 Alternative 1 — Conventional Low-Density Development

Under this alternative, new housing would continue to be provided primarily through detached dwellings on large lots using individual wells and septic systems.

Potential advantages

- familiar development model;
- limited communal infrastructure responsibility;
- lower municipal operating involvement;
- conventional planning and building process;
- suitable for private ownership;
- established local acceptance.

Principal disadvantages

- significant land requirement;
- inefficient infrastructure use;
- high land and servicing cost per dwelling;
- limited rental and affordable housing;
- poor response to seniors and one-person households;
- reliance on private builders and purchasers;
- limited compatibility with RGI housing;
- continued scattered development;
- higher transportation dependence; and
- limited ability to create a meaningful number of units quickly.

Using the existing one-hectare residential standard, 30 detached dwellings could require approximately 30 hectares before accounting for roads, environmental constraints, irregular parcel configuration, and public amenities.

This approach does not respond effectively to the identified need for affordable rental, seniors, accessible, and workforce housing.

Preliminary assessment

Not recommended as the principal housing strategy.

Detached housing will remain part of the overall market, but it should not be relied upon to address the Township's identified affordable and rental housing needs.

18.4 Alternative 2 — Scattered Small Homes or Tiny Homes

This alternative would develop individual small homes, tiny homes, garden suites, or clustered detached modular units.

Potential advantages

- smaller individual building size;
- potential for phased construction;
- appeal to seniors and single residents;
- potential attainable ownership;
- lower cost per individual structure;
- compatibility with modular construction;
- less institutional appearance.

Principal disadvantages

- substantial site infrastructure per unit;
- individual or dispersed servicing;
- lower density than apartments;
- greater road and utility length;
- higher maintenance area;
- limited economies of scale;
- more exterior envelope per unit;
- potentially higher heating costs;
- difficult property management;
- limited capacity for elevators or shared services; and
- potential conflict with minimum lot standards.

Clustered small homes could be appropriate where communal servicing is available. However, constructing many detached units may still produce a higher all-in cost per unit than a compact apartment building.

Preliminary assessment

Suitable as a secondary or later-phase option, particularly for:

- attainable ownership;
- seniors seeking ground-oriented units;
- co-operative housing;
- shared-equity development; or
- smaller Madawaska projects.

It is not the preferred first-phase solution for the largest identified housing needs.

18.5 Alternative 3 — Small Multi-Unit Development

This option consists of approximately 6 to 16 units in a one- or two-storey modular apartment, fourplex, six plex, or small coordinated building group.

Potential advantages

- lower total capital requirement;
- easier fit on smaller properties;
- potentially simpler neighbourhood integration;
- suitable for Madawaska;
- possible adaptive reuse;
- easier project phasing;
- lower initial market-absorption risk.

Principal disadvantages

- high infrastructure cost per unit;
- professional and approval costs spread over fewer units;
- reduced financial capacity for elevators and common spaces;
- limited mixed-income distribution;
- fewer units available for RGI, seniors and workforce groups;
- weaker debt capacity;
- reduced property-management efficiency;
- operating vulnerability from a small number of vacancies.

A 12-unit project requiring its own communal well and RBC system may have disproportionately high servicing and operating costs. The same infrastructure supporting 30 or more units generally provides better value.

Preliminary assessment

Conditionally recommended for Madawaska or a constrained redevelopment site.

For the first major Whitney project, this option is less efficient than a 28- to 35-unit development.

18.6 Alternative 4 — Purpose-Built Modular Apartment Development

This alternative consists of a two- or three-storey modular apartment building containing approximately 28 to 35 units.

The building would provide a mix of:

- affordable rental;
- RGI units;
- seniors housing;
- accessible units;
- workforce housing;
- moderate-income housing; and
- market rental units.

Potential advantages

- strongest response to identified housing need;
- efficient use of land;
- efficient communal servicing;
- strong modular-construction suitability;
- reduced reliance on local skilled labour;
- repeatable unit design;
- strong funding alignment;
- improved accessibility;
- professional property-management efficiency;
- mixed-income potential;
- lower building-envelope area per unit;
- stronger long-term operating capacity;
- future expansion opportunity.

Principal disadvantages

- high total capital requirement;
- zoning amendment likely required;
- more complex approvals;
- elevator and fire-protection costs;
- substantial grant funding required;
- communal infrastructure operation;
- potential community concern regarding scale and density.

This option has the highest initial total cost but provides the strongest overall housing, infrastructure, and community outcomes.

Preliminary assessment

Preferred development option.

The recommended base concept remains approximately 30 units, with the final range to be confirmed through site-specific design.

18.7 Alternative 5 — Motel Conversion and Adaptive Reuse

This alternative involves converting an existing motel or accommodation property into permanent rental housing.

Potential approaches include:

- The analysis identifies converting existing motel rooms into studio or one-bedroom apartments, combining rooms to create larger units, retaining part of the building and replacing other sections, and adding a modular apartment wing.
- retaining limited accommodation use while adding permanent housing.

Potential advantages

- existing buildings;
- established access;
- existing parking;

- accommodation-related use;
- potentially reduced construction time;
- redevelopment of underused property;
- possible continued income during phased work;
- potential alignment with affordable housing rehabilitation programs.

Principal disadvantages

- unknown structural and building-envelope condition;
- potential hazardous materials;
- fire separation and exiting upgrades;
- accessibility upgrades;
- inadequate room sizes;
- inefficient layouts;
- plumbing and electrical replacement;
- limited insulation;
- wastewater limitations;
- shoreline or flood constraints;
- change-of-use approvals;
- possibility that renovation cost exceeds replacement value.

Adaptive reuse should not be assumed to be less expensive than new construction. Its viability depends on the condition, configuration, and location of the existing building.

Preliminary assessment

Carry forward for detailed testing.

Each motel property should undergo:

- building-condition assessment;
- code and accessibility review;
- environmental assessment;
- servicing assessment;
- measured building review;
- conversion concept;
- comparative renovation and replacement estimate.

Where the existing building is poor, the site may remain valuable for full redevelopment.

18.8 Alternative 6 — Mixed Motel, Short-Term and Permanent Residential Development

This alternative would retain or introduce a combination of:

- motel rooms;
- short-term accommodation;
- seasonal workforce units;
- permanent residential apartments;
- affordable units;
- limited community or service space.

Potential advantages

- diversified revenue sources;
- continued tourism function;
- workforce accommodation;
- possible year-round property utilization;
- stronger use of existing commercial sites;
- flexibility during development phases;
- potential private-sector participation.

Principal disadvantages

- operational conflict between transient and permanent residents;
- different building-code and fire-safety requirements;
- more complex zoning;
- uncertain funding eligibility;
- higher management demands;
- parking pressure;
- noise and privacy concerns;
- difficulty maintaining a stable residential community;
- commercial-income risk.

The model may be appropriate at Candidate Site W-04 or another established accommodation property, but permanent residents and transient guests should have:

- separate or controlled entrances;
- clear operational separation;
- appropriate sound control;
- dedicated parking;
- defined common areas;
- secure residential access;
- separate financial accounting.

Preliminary assessment

Potentially viable as a site-specific redevelopment model, but not the preferred standard for the first community supported housing project.

The permanent housing component should remain the primary objective.

18.9 Alternative 7 — Townhouse or Ground-Oriented Development

This alternative would consist of modular rowhouses, townhouses, semi-detached buildings, or stacked townhouses.

Potential advantages

- suitable for families;
- private entrances;
- outdoor space;

- potential affordable ownership;
- flexible phasing;
- familiar residential form;
- reduced common corridors;
- potential co-operative or shared-equity use.

Principal disadvantages

- more land required than apartments;
- longer utility and road networks;
- greater building-envelope area;
- reduced accessibility for multi-storey units;
- less efficient seniors accommodation;
- snow and exterior maintenance;
- lower density;
- potentially higher cost per unit.

Townhouses may be well suited to a larger property where the RBC and communal water infrastructure are already established.

Preliminary assessment

Recommended as a second-phase or complementary housing form, particularly for:

- families;
- affordable ownership;
- co-operative housing;
- workforce households; and
- residents seeking ground-oriented units.

Apartments remain the preferred first phase.

18.10 Individual Servicing Versus Communal Servicing

Individual well and septic systems

Potential advantages include:

- familiar approval model;
- independent responsibility;
- reduced centralized operational requirements;
- simpler for isolated detached dwellings.

Disadvantages include:

- The analysis identifies large land requirements, lower density, multiple wells and septic beds, reduced monitoring, replacement responsibility for each household, groundwater cumulative-impact risk, poor fit with apartments and inefficient use of valuable Village land.

Communal well and RBC wastewater system

Potential advantages include:

- The analysis identifies significantly greater density, smaller effective land requirement per dwelling, centralized treatment, professional monitoring, scalable infrastructure, support for apartment development, potential to serve future phases, improved funding alignment and reduced duplication.

Disadvantages include:

- higher initial capital cost;
- regulatory approval requirements;
- certified operations;
- lifecycle obligations;
- system-wide consequences of failure;
- need for clear ownership and reserve funding.

Preliminary assessment

Communal water and scalable RBC wastewater servicing are strongly preferred for the multi-unit development.

The communal system is essential to achieving the density and affordability objectives of the project.

18.11 Whitney Versus Madawaska

Whitney

Advantages include:

- The analysis identifies larger concentration of services, stronger community workshop support, better access to retail, healthcare and community facilities, larger potential tenant pool, stronger workforce demand, greater operating efficiency, improved funding rationale and stronger potential for 20 to 35 units.

Risks include:

- limited available land near services;
- potential higher acquisition cost;
- neighbourhood compatibility concerns;
- Highway 60 access issues for some properties.

Madawaska

Advantages include:

- The analysis identifies addresses local housing need outside Whitney, may support local seniors and workers, potential property opportunities, strengthens the eastern portion of the Township and suitable for a smaller demonstration project.

Risks include:

- smaller tenant base;
- fewer nearby services;
- weaker operating scale;
- higher per-unit infrastructure cost;
- transportation limitations;
- higher vacancy sensitivity.

Preliminary assessment

Whitney is preferred for the first major development.

Madawaska should remain an active second-phase or smaller-project opportunity, subject to confirmation of demand and servicing feasibility.

18.12 Single-Phase Versus Phased Development

Single-phase development

Potential advantages include:

- full unit delivery at one time;
- infrastructure cost spread across more units;
- one procurement process;
- reduced repeat mobilization;
- stronger immediate housing impact.

Disadvantages include:

- larger initial capital requirement;
- increased funding risk;
- greater occupancy risk;
- higher exposure to construction cost;
- reduced flexibility.

Phased development

Potential advantages include:

- manageable initial capital;
- ability to confirm demand;
- opportunity to refine operations;
- modular expansion;
- reduced early financing exposure;
- ability to align later phases with new funding programs.

Disadvantages include:

- The analysis identifies repeated mobilization, possible cost escalation, duplicated design and approval effort, temporary site disruption, risk that later phases are not funded, and infrastructure may initially appear expensive per unit.

Preliminary assessment

A **planned phased development** is preferred, but the first phase should still be large enough to operate efficiently.

The recommended structure is:

- Phase 1: approximately 24 to 32 units;
- Phase 2: approximately 8 to 20 additional units;
- Phase 3: townhouses, ownership, co-operative, seniors, or workforce expansion.

The site and servicing infrastructure should be planned for the full development, while construction proceeds in financially manageable stages.

18.13 Ownership and Delivery Alternatives

Direct municipal ownership

Provides long-term control but creates significant capital, staffing, liability, and operating obligations.

Non-profit ownership

Supports long-term affordability, funding eligibility, and professional governance while separating routine housing operations from the Township.

Private development

Provides development capacity and equity but requires sufficient financial return and strong affordability agreements.

Public-private partnership

Can combine municipal land and infrastructure with private design, construction, financing, and management capacity.

Co-operative ownership

Provides resident involvement and long-term community stability but requires substantial governance and financing capacity.

Preliminary assessment

The preferred ownership and delivery model remains:

- community-led with municipal collaboration;
- non-profit owned;

- professionally managed;
- privately designed and constructed;
- DNSSAB supported;
- communally serviced under a qualified utility arrangement.

A public-private partnership may remain appropriate for motel redevelopment or a property already controlled by a developer.

18.14 Comparative Evaluation Matrix

The following matrix uses a five-point scale:

- 1 — Poor;
- 2 — Weak;
- 3 — Moderate;
- 4 — Strong;
- 5 — Very strong.

Alternative	Housing response	Affordability	Technical feasibility	Funding alignment	Operating efficiency	Expansion	Overall
Conventional detached housing	2	1	4	2	2	2	2.2
Scattered small/tiny homes	3	3	3	3	2	3	2.8
Small 6–16-unit development	3	3	4	3	2	3	3.0
Modular 28–35-unit apartment	5	5	4	5	5	5	4.8
Motel conversion	4	3	3	4	3	3	3.3
Mixed motel/residential	3	3	3	2	3	3	2.8
Townhouse development	4	3	4	4	3	4	3.7
Individual servicing	1	1	3	1	2	1	1.5
Communal well and RBC	5	4	4	5	4	5	4.5

The scores are preliminary consultant assessments and should be updated once:

- the properties are confirmed;
- 3rd Line Studio prepares concept drawings;
- capital estimates are refined;
- servicing investigations are completed; and
- funding partners provide input.

18.15 Site Alternative Comparison

The shortlisted properties should be compared using a consistent base concept.

Site alternative	Principal opportunity	Principal risk	Preliminary position
Candidate Site W-01	Strong mixed-use and apartment potential	Exact servicing and zoning confirmation	Leading candidate
Candidate Site W-02	Strong mixed-use and expansion potential	Acquisition and site-development cost	Leading candidate
Candidate Site W-03 motel	Existing building, access and parking	Conversion and code-upgrade cost	Carry forward
Candidate Site W-04	Mixed accommodation and residential potential	Waterfront, flood and operational complexity	Conditional
Candidate Site W-05 site	Strong expansion and servicing area	MTO access and distance from services	Strong technical alternative
Candidate Site M-03	Long-term housing campus potential	Acquisition cost and infrastructure investment	Longer-term opportunity
Candidate Site M-01	Smaller seniors/workforce project	Operating scale and demand	Preferred Madawaska option
Candidate Site M-02	Local redevelopment opportunity	Servicing and site constraints	Secondary option

The site comparison should not be finalized until each property has been tested using:

- the same unit target;
- comparable parking assumptions;
- communal servicing;
- modular building configurations;
- preliminary capital costs;
- planning approval requirements; and
- expansion capacity.

18.16 Preferred Alternative

The preferred alternative is a **phased, purpose-built modular apartment development in or near Whitney**, supported by:

- The analysis identifies approximately 28 to 35 units in the initial development, primarily one- and two-bedroom units, a limited number of family units, affordable, RGI, seniors, workforce and market rents, universal and adaptable design, a communal well and compact water-treatment system, scalable RBC wastewater treatment, professional property management, qualified infrastructure operation, community-led non-profit ownership with municipal collaboration, future apartment or townhouse expansion and coordinated federal, provincial, DNSSAB and municipal funding.

This alternative provides the strongest overall balance of:

- housing impact;
- land efficiency;
- affordability;
- funding eligibility;
- modular delivery practicality;
- operating scale;
- future expansion; and
- community benefit.

Motel conversion should remain a parallel alternative until building-condition and conversion-cost assessments are completed.

A smaller Madawaska development should remain part of the longer-term housing strategy.

18.17 Alternatives Evaluation Conclusion

The alternatives analysis confirms that no conventional low-density or small isolated project can address the community's housing need as effectively as a compact, modular, communally serviced apartment development.

The strongest housing strategy is not a single building type in isolation. It is an integrated model consisting of:

- The analysis identifies a suitable Village-area property, modular multi-residential construction, mixed-income occupancy, communal water and RBC wastewater treatment, phased expansion, non-profit ownership, municipal and DNSSAB support, senior-government capital funding and professional operations.

The preferred alternative should now be carried into the recommended housing strategy and implementation planning sections.

The recommendation remains subject to confirmation through:

- The analysis identifies property control, architectural concepts by 3rd Line Studio, site-specific servicing studies, environmental due diligence, planning pre-consultation, refined capital costing, DNSSAB participation and funding-program assessment.

19. Recommended Housing Strategy

The recommended housing strategy is necessarily high level at this stage. A final recommendation cannot be made until the preferred property, servicing capacity, planning permissions, capital funding, operating support, and ownership structure are confirmed.

The current recommendation should therefore be understood as a **strategic direction for further development**, not as a final project authorization.

The principal restrictions affecting the recommendation are:

- no preferred site has been secured;
- site-specific zoning and environmental conditions remain unconfirmed;
- communal well capacity has not been tested;
- the RBC wastewater system has not been designed or approved;
- modular manufacturer pricing has not been obtained;
- capital costs remain at feasibility-level accuracy;
- funding programs and contribution levels are not secured;
- DNSSAB participation has not been formalized;
- rental demand has not been validated through a waiting list or tenant survey;
- final ownership and governance have not been established; and
- architectural concepts have not yet been prepared by 3rd Line Studio.

Within those limitations, the findings to date support the following recommended strategy.

19.1 Recommended Development Concept

The preferred strategic concept is a **phased, modular, mixed-income apartment development**, initially located in or near Whitney and supported by communal water and scalable RBC wastewater infrastructure.

The preferred first-phase concept should test:

- approximately 28 to 35 residential units;
- a two- or three-storey modular apartment building;
- primarily one- and two-bedroom apartments;
- a limited number of three-bedroom family units;
- accessible and adaptable units;
- affordable, RGI, workforce, seniors, and market rental housing;
- shared indoor and outdoor amenity space;
- professional property management;
- a communal well and compact water-treatment system;
- a scalable RBC wastewater treatment plant;
- infrastructure capable of supporting future phases; and
- a site layout that allows later apartment, townhouse, or ownership development.

This concept provides the best balance of:

- housing impact;
- land efficiency;
- infrastructure efficiency;
- modular construction practicality;

- affordability;
- funding alignment;
- operating scale;
- accessibility;
- future expansion; and
- community benefit.

The recommendation does not exclude motel conversion, mixed-use redevelopment, or a smaller Madawaska project. Those alternatives should remain under consideration until their property-specific feasibility is confirmed.

The project should not be presented as a large urban-style apartment complex. It should be designed as a modestly scaled rural housing community that reflects the character of South Algonquin.

19.2 Recommended Unit Mix

The preliminary unit mix should respond to the projected growth in smaller households, the needs identified by DNSSAB, and the workshop emphasis on seniors, working residents, and families.

A recommended planning range is:

Unit type	Recommended proportion	Typical resident groups
Compact and standard one-bedroom	35%–45%	Seniors, single workers, young adults, people with disabilities
Two-bedroom	40%–50%	Senior couples, working households, roommates, small families
Three-bedroom	10%–15%	Families and larger households

For a 30-unit concept, an illustrative mix would be:

Unit type	Illustrative units
One-bedroom	13
Two-bedroom	13
Three-bedroom	4
Total	30

At least 15% to 20% of the total units should be fully barrier-free, with the remaining units designed to be adaptable wherever practical.

The final unit mix should be confirmed through:

- DNSSAB waiting-list and housing-demand information;
- local employer input;
- seniors demand;
- concept-design efficiency;

- funding-program requirements;
- rental-market testing;
- capital-cost analysis; and
- the physical capacity of the preferred site.

The project should avoid an excessive number of very small units if they cannot support long-term residency. Compact units should remain functional, accessible, and suitable for permanent occupancy.

19.3 Recommended Affordability Mix

The preferred affordability structure is a mixed-income model.

A preliminary target for a 30-unit project could include:

Housing category	Illustrative units	Preliminary share
RGI or deeply affordable	6	20%
Affordable rental	8	27%
Workforce or moderate-income rental	8	27%
Market rental	8	26%
Total	30	100%

This mix is not final. It reflects the need to balance social objectives with operating sustainability.

A project consisting entirely of deeply affordable units would likely require substantial ongoing operating subsidy. A project consisting mainly of market units would not adequately respond to the identified housing need.

The recommended mixed-income approach would:

- serve households at different income levels;
- reduce concentration of poverty;
- improve revenue stability;
- support workforce housing;
- preserve a meaningful affordable component;
- improve compatibility with funding programs;
- create a more inclusive residential community; and
- reduce reliance on a single funding source.

The final affordability mix should only be confirmed after DNSSAB determines:

- The analysis identifies the number of RGI units it can support availability of rent supplements, operating subsidy capacity, tenant eligibility rules, affordability periods and reporting requirements.

The Official Plan encourages at least 10% affordable housing, but the proposed project should aim substantially higher because affordable housing is a central purpose of the initiative.

19.4 Recommended Tenure Model

The recommended initial tenure is **long-term rental housing**.

Rental tenure is preferred for the first phase because it:

- addresses the most immediate identified housing gap;
- supports seniors wishing to downsize;
- accommodates working residents who cannot access ownership;
- allows RGI and rent-supplement participation;
- aligns with CMHC and DNSSAB programs;
- supports mixed-income occupancy;
- permits centralized property management;
- is compatible with communal infrastructure; and
- allows long-term affordability controls.

The first phase should not be divided into individual ownership units unless required by the selected development partner or funding structure.

Potential future tenure types may include:

- affordable ownership;
- shared-equity ownership;
- co-operative housing;
- rent-to-own;
- townhouse ownership;
- life-lease seniors housing; or
- employer-supported housing.

These alternatives may be appropriate in later phases after:

- the communal infrastructure is established;
- demand is confirmed;
- operating systems are proven;
- additional land is available; and
- suitable financing programs are identified.

The recommended strategy is therefore:

1. establish a stable mixed-income rental project first; and
2. introduce ownership or co-operative options in later phases.

19.5 Recommended Ownership and Operating Model

The recommended ownership structure is a community-led non-profit housing model developed with essential municipal collaboration.

Under this model:

- the Township would contribute or control the land;
- a non-profit housing corporation would own or lease the residential development;
- DNSSAB would support RGI and affordable housing components;

- a professional housing manager would operate the property;
- a qualified operator would manage the communal water and RBC systems;
- private-sector consultants and contractors would design and construct the project; and
- federal and provincial programs would provide capital and financing support.

The recommended division of responsibilities is:

Project component	Recommended responsibility
Land	Community non-profit ownership, negotiated private acquisition or long-term lease; municipal land only if expressly approved
Housing buildings	Non-profit housing corporation
Property management	Experienced third-party housing provider
RGI and affordability administration	Non-profit with DNSSAB support
Water and wastewater infrastructure	Township, utility entity, or non-profit under qualified operation
RBC operation	Certified or qualified specialist operator
Modular design and construction	Private design-build or coordinated consultant-contractor team
Lifecycle reserves	Restricted accounts controlled by the owner
Funding administration	Owner with Township and DNSSAB support

This structure provides:

- long-term affordability control;
- separation between municipal governance and daily property management;
- access to non-profit funding;
- professional operations;
- clearer accountability;
- ability to retain public control of infrastructure;
- future expansion capacity; and
- reduced pressure for short-term investment returns.

Direct municipal operation is not recommended unless the Township has sufficient staffing, governance, financial capacity, and appetite for long-term housing administration.

A public-private partnership may be appropriate for a motel property or developer-owned site, but affordability and public infrastructure interests would need to be protected through binding agreements.

19.6 Recommended Location Criteria

The preferred location should be selected based on total development feasibility rather than acquisition price alone.

The leading site should meet as many of the following criteria as possible:

- located within or adjacent to the Whitney Village area;

- close to stores, healthcare, community services, and employment;
- frontage on a publicly maintained year-round road;
- safe access for emergency vehicles and modular delivery;
- sufficient usable area for 28 to 35 units;
- capacity for future expansion;
- outside floodplains and major environmental constraints;
- suitable for a communal well or well field;
- sufficient area for RBC treatment and effluent management;
- access to hydro and reliable telecommunications;
- manageable topography;
- limited rock excavation;
- compatibility with nearby land uses;
- ability to obtain site-specific multi-residential zoning;
- reasonable acquisition cost; and
- potential eligibility for public infrastructure funding.

Whitney should remain the preferred location for the first major project because it offers:

- The analysis identifies the strongest service base, the largest likely tenant pool, better workforce demand, greater access to community facilities, stronger operating potential, better alignment with intensification policies and stronger potential for a 20- to 35-unit development.

Madawaska should remain part of the long-term strategy, particularly for a smaller seniors or workforce project.

Waterfront and motel properties should only be preferred where:

- The analysis identifies flood and shoreline constraints are manageable, sufficient upland development area exists, the building has genuine reuse value, the RBC and water systems are feasible, and permanent housing can be safely separated from transient uses and redevelopment cost is competitive with new construction.

19.7 Recommended Phasing

The preferred strategy is phased development, but the first phase must be large enough to provide operating and infrastructure efficiency.

Pre-development phase

The immediate phase should include:

- confirmation of candidate properties;
- conditional site control;
- municipal and agency pre-consultation;
- hydrogeological and environmental screening;
- planning review;
- preliminary RBC design;
- concept drawings by 3rd Line Studio;
- updated capital cost estimate;
- DNSSAB discussions;
- ownership structure development;
- funding strategy; and
- community consultation.

Phase 1

The preferred first construction phase should include:

- The analysis identifies approximately 24 to 32 units, communal well and water treatment, scalable RBC wastewater treatment, core roads and parking, common amenity space, primarily one- and two-bedroom rental units, and RGI, affordable, workforce, seniors, market units and infrastructure designed for future expansion.

A first phase below approximately 20 units should only be selected where:

- site constraints require it;
- a smaller Madawaska project is being pursued;
- an existing building can be economically converted; or
- funding limits prevent a larger initial phase.

Phase 2

A second phase may include:

- The analysis identifies 8 to 20 additional rental units, expansion of water and RBC capacity, additional seniors or workforce units, a second modular apartment building, additional accessible units and expanded outdoor amenities.

Phase 3

A later phase may include:

- townhouses;
- affordable ownership;
- shared-equity housing;
- co-operative housing;
- small modular homes;
- employer-supported housing;
- community-serving space; or
- servicing of adjacent land.

The site, infrastructure, and zoning should be planned for the long-term development concept even where construction proceeds in smaller stages.

19.8 Alignment with DNSSAB Housing Targets

The recommended strategy is generally aligned with the DNSSAB housing projections and targets for South Algonquin.

DNSSAB projects an increase from 527 households in 2021 to approximately 727 households by 2035, representing approximately 200 additional households. The projected demand is concentrated in one-, two-, and three-bedroom housing.

DNSSAB's identified targets include:

Housing category	Target
New RGI units	18
Affordable rental units	17
Affordable ownership units	8
Market housing	Remaining projected growth

The recommended first-phase concept could contribute:

- 6 RGI units;
- 8 affordable rental units;
- 8 workforce or moderate-income units;
- 8 market rental units.

This would represent a meaningful first contribution toward the targets while leaving capacity for later phases.

The recommended strategy does not attempt to satisfy all projected housing growth through one development. Instead, it establishes a scalable model that can be expanded or replicated.

The strategy aligns with the DNSSAB findings by:

- The analysis identifies emphasizing one- and two-bedroom units, including three-bedroom family units, providing RGI and affordable rentals, supporting future affordable ownership, expanding purpose-built rental supply, accommodating seniors and smaller households, maintaining a market component and providing infrastructure for future housing.

The exact allocation should be confirmed with DNSSAB to avoid duplicating other planned housing investments and to ensure that operating support is available.

19.9 Alignment with Community Workshop Results

The recommended strategy is strongly aligned with the themes identified during the community engagement process.

The workshop identified a need for:

- The analysis identifies affordable rental housing, seniors housing, workforce housing, apartments and multi-unit housing, small and accessible units, family housing, modular construction, mixed-income development, housing near services, improved water and wastewater solutions, co-operative or shared-equity opportunities, high-quality construction and maintenance and a phased, practical implementation approach.

The recommended strategy responds to these themes through:

Community priority	Recommended response
Affordable housing	RGI and affordable rental units
Working-class housing	Workforce and moderate-income units
Seniors	Accessible one- and two-bedroom units
Young adults	Compact rental units
Families	Limited three-bedroom units and later townhouses
Accessible housing	Barrier-free and adaptable units
Apartments	Two- or three-storey modular building
Quality and maintenance	Professional management and lifecycle reserves
Local labour limitations	Off-site modular construction
Servicing constraints	Communal well and RBC wastewater system
Whitney location	Preferred first-project location
Madawaska needs	Smaller future phase
Mixed-income community	Integrated affordability structure
Co-operative interest	Potential later ownership phase
Phased growth	Expandable site and infrastructure

The analysis identifies The recommendation also reflects the workshop concern that housing should not be developed in isolation from: transportation, healthcare, employment, community services, infrastructure, accessibility and long-term maintenance.

Recommended strategy conclusion

Based on the information currently available, the recommended direction is:

Proceed with the structured evaluation of a phased, 28- to 35-unit modular, mixed-income rental development in or near Whitney, supported by communal water and scalable RBC wastewater infrastructure, community-led non-profit ownership with municipal collaboration, DNSSAB participation, professional property management, and capacity for future expansion.

This recommendation remains conditional on:

- The analysis identifies securing a suitable site, confirming well and wastewater feasibility, completing planning and environmental due diligence, preparing concept designs, refining

capital and operating costs, securing senior-government funding, confirming DNSSAB support, establishing the ownership entity, validating tenant demand and obtaining the required approvals.

The recommendation is sufficiently supported to justify moving into the next stage of site confirmation and concept development, but not yet to authorize property acquisition, detailed design, or construction.

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20. Implementation Plan

The implementation plan establishes a practical path for advancing the South Algonquin housing initiative from feasibility study to a development-ready project.

The plan is intentionally staged. The project should not proceed directly to land acquisition, detailed design, or construction until the major uncertainties identified in this study have been addressed.

The immediate objective is to move from a high-level recommended strategy to a confirmed project based on:

- a suitable and controlled site;
- verified planning permissions;
- proven communal water capacity;
- a feasible RBC wastewater solution;
- an updated concept and capital estimate;
- a viable ownership and operating model;
- confirmed DNSSAB participation;
- a credible funding and financing structure; and
- municipal approval to proceed.

Each implementation stage should conclude with a formal decision point before additional costs or commitments are authorized.

20.1 Immediate Actions

The first implementation stage should focus on organizing the community-led project, confirming the community mandate, initiating structured municipal collaboration, and preparing the information required to evaluate anonymous candidate sites consistently.

The following actions should be initiated immediately:

1. Immediate actions are to present the findings to SABA, the community, the Township, DNSSAB, and prospective partners; confirm the community mandate and high-level strategy; establish a community housing implementation working group; initiate municipal planning and technical pre-consultation; confirm the preliminary 28- to 35-unit test program while retaining a smaller Madawaska option; verify the anonymous candidate-site shortlist through the confidential property schedule; begin funding and employer discussions; and establish the proposed non-profit ownership and governance pathway.
2. create a project schedule, risk register, and decision log.

A separate targeted-review schedule should identify the Municipality, DNSSAB, Community Futures, major tourism and forestry or lumber employers, healthcare and community-service providers, prospective operators, funders, and technical reviewers. It should record the material provided, confidentiality level, questions assigned, response date, decision impact, and required follow-up. The same schedule should include a hybrid community presentation after technical review and before the next major project decision.

A separate confidential property schedule should maintain the crosswalk between public candidate-site IDs and ownership, address, contacts, asking price, title, zoning evidence, negotiation status, and due-diligence records. It should not be appended to the public study.

The project should be formally divided into two connected workstreams:

The analysis identifies Housing workstream, This workstream should address:, unit mix, affordability, modular building design, ownership, property management, CMHC and housing funding, operating viability and tenant demand.

Infrastructure workstream

This workstream should address:

- communal wells;
- water treatment;
- RBC wastewater treatment;
- effluent management;
- roads;
- stormwater;
- utilities;
- public ownership;
- lifecycle management; and
- infrastructure funding, including the Build Communities Strong Fund.

The two workstreams must remain coordinated because the housing concept cannot be finalized without a confirmed servicing solution.

20.2 Candidate Site Identification

The first site-selection step should establish a verified list of candidate properties.

The current candidates include:

- The analysis identifies Candidate Sites W-01 and W-02, previously identified as leading mixed-use and apartment development opportunities, the motel properties, Candidate Site W-04, Candidate Site W-05, the Candidate Site M-03, Candidate Site M-01 and Candidate Site M-02.

Additional municipal, Crown, institutional, or privately owned properties may also be identified.

For each candidate, the project team should obtain:

- The analysis identifies municipal address, legal description, ownership, parcel identification number, current assessment, property size, frontage, road authority, Official Plan designation, zoning, site-specific zoning exceptions, previous planning approvals, known easements, available surveys, existing wells and septic systems, utility information, existing buildings, environmental history, asking price or partnership expectations and willingness of the owner to provide conditional site control.

The Township should also review:

- The analysis identifies surplus municipal land, underused municipal sites, land adjacent to public facilities, properties that could be assembled, and properties with redevelopment potential and publicly owned lands that could support infrastructure or future housing.

No property should be eliminated based solely on its current zoning. A zoning amendment may be reasonable where the site otherwise performs strongly.

Similarly, no property should be preferred based only on a low purchase price. The evaluation must consider total development cost and long-term value.

20.3 Site Screening and Due Diligence

The candidate sites should be evaluated through a two-stage process.

Stage 1 — Preliminary screening

The purpose of preliminary screening is to identify fatal flaws before significant professional costs are incurred.

The screening should review:

- The analysis identifies Official Plan conformity, existing zoning, Village versus Rural or Waterfront designation, road access, proximity to services, parcel size, preliminary building capacity, potential communal well area, RBC and effluent-management area, floodplain and shoreline constraints, wetlands and watercourses, topography, hydro access, module-delivery access, surrounding land-use compatibility, acquisition cost, and potential for expansion and expected planning complexity.

The weighted site-selection matrix established in Section 8 should be used to provide a transparent comparison.

The highest-ranked two or three properties should proceed to detailed due diligence.

Stage 2 — Detailed due diligence

Detailed due diligence should include:

- The analysis identifies title review, legal survey, easement confirmation, independent appraisal, Phase I Environmental Site Assessment, building-condition assessment for developed sites, zoning confirmation, planning pre-consultation, preliminary geotechnical review, preliminary hydrogeological assessment, servicing concept, site access review, utility-capacity review, concept fit test, preliminary capital cost comparison and owner negotiations.

The Township or project entity should seek conditional control of the preferred site through:

- The analysis identifies an option to purchase, conditional agreement of purchase and sale, long-term lease, memorandum of understanding, development agreement, right of first refusal and land contribution agreement.

Conditions should include satisfactory:

- planning review;
- environmental due diligence;

- geotechnical conditions;
- water supply;
- wastewater feasibility;
- funding;
- Council approval; and
- project financing.

20.4 Preliminary Site Investigations

The preferred and backup sites should undergo targeted technical investigations before the final site recommendation is confirmed.

The required investigations are expected to include:

The analysis identifies Legal and topographic survey, The survey should identify:, property boundaries, easements, road allowances, existing buildings, watercourses, shoreline, elevations, slopes, existing access, utilities, trees, drainage features and potential development constraints.

Geotechnical investigation

The geotechnical investigation should assess:

- soil profile;
- bearing capacity;
- depth to bedrock;
- groundwater;
- frost conditions;
- rock excavation;
- foundation options;
- pavement design;
- site grading; and
- suitability for water and wastewater infrastructure.

Hydrogeological assessment

The hydrogeological work should confirm:

- potential well locations;
- well yield;
- raw-water quality;
- aquifer sustainability;
- neighbouring well impacts;
- treatment requirements;
- groundwater direction;
- seasonal variability; and
- source protection requirements.

Wastewater feasibility assessment

The wastewater study should address:

- The analysis identifies preliminary design flow, RBC sizing, treatment objectives, collection system, lift stations, treatment-building location, sludge management, effluent dispersal or discharge, receiving environment, expansion capacity, regulatory pathway and estimated capital and operating cost.

Environmental investigation

Depending on the site, this may include:

- The analysis identifies Phase I and Phase II Environmental Site Assessments, wetland screening, species-at-risk review, fish-habitat assessment, floodplain review, erosion and slope assessment, archaeological assessment, wildland-fire assessment and Environmental Impact Study.

Existing-building assessment

For motel or redevelopment sites, the assessment should examine:

- The analysis identifies structure, building envelope, roof, foundations, mechanical and electrical systems, fire separations, accessibility, hazardous materials, energy performance, code compliance, conversion potential and estimated rehabilitation cost.

The technical investigations should be completed to a level sufficient to determine whether the site remains viable. Full detailed engineering is not required before the preferred site is selected.

20.5 Planning and Approvals

The planning and approvals process should begin with formal pre-consultation rather than submission of an incomplete application.

The pre-consultation should confirm:

- The analysis identifies Official Plan conformity, whether an Official Plan amendment is required, zoning amendment requirements, appropriate site-specific zone, holding provisions, Site Plan Control requirements, required studies, Indigenous engagement, agency circulation, public-consultation expectations, application fees, peer-review deposits and estimated approval timeline.

The anticipated approval pathway for a preferred Village-area site is:

1. The analysis identifies zoning confirmation, zoning amendment, Site Plan Control, MECP pre-consultation, Environmental Compliance Approval for the wastewater system where required, communal water approvals, road or MTO entrance permit where required, stormwater approval, utility approvals, building permit, and occupancy approval.
2. operational approvals and agreements.

An Official Plan amendment may be avoided where the site is within Whitney or Madawaska and the proposal conforms to the apartment, affordable housing, redevelopment, and communal servicing policies.

The zoning amendment should establish clear permissions for:

- The analysis identifies multi-unit residential use, modular apartment buildings, affordable and workforce housing, seniors housing, communal water infrastructure, RBC wastewater treatment, accessory property-management and community space, appropriate height, density, setbacks, parking, landscaping, amenity space and future phases.

A holding symbol may be used to prevent construction until conditions such as servicing approval, site plan approval, and funding are satisfied.

The Official Plan supports apartment housing, modular construction, affordable housing, communal services, and intensification within Whitney and Madawaska, providing a strong high-level planning basis for the project.

20.6 Funding Applications

Funding applications should be prepared as a coordinated program rather than as isolated submissions.

The funding strategy should separate eligible costs into:

Housing costs

- modular buildings;
- foundations;
- accessibility;
- energy-efficiency measures;
- common areas;
- professional fees;
- furniture and equipment; and
- affordable housing components.

Infrastructure costs

- wells;
- water treatment;
- water storage and distribution;
- RBC wastewater treatment;
- collection piping;
- lift stations;
- effluent management;
- roads;
- stormwater;
- utilities;
- active transportation;
- standby power; and
- future expansion capacity.

Priority funding discussions should include:

- The analysis identifies Build Communities Strong Fund, Canada Housing Infrastructure Fund, CMHC Affordable Housing Fund, CMHC Apartment Construction Loan Program, Build Canada Homes, DNSSAB, Ontario Municipal Housing Infrastructure Program, Infrastructure Ontario, Ontario Community Infrastructure Fund, accessibility and energy programs, employer partners and private or non-profit equity partners.

The Build Communities Strong Fund should be a major focus for the infrastructure workstream. The application should demonstrate that the infrastructure:

- The analysis identifies directly enables housing, supports affordable, seniors, and workforce units, permits compact development, replaces inefficient individual servicing, supports future phases, has a public or community benefit, is scalable, is climate resilient, can be professionally operated and has a lifecycle asset-management plan.

The recommended sequence is:

1. The analysis identifies confirm site control, establish ownership, prepare concept design, complete preliminary servicing studies, update capital estimates, confirm unit yield, identify eligible costs, obtain municipal funding authorization, secure DNSSAB support, prepare coordinated funding applications, confirm stacking rules, obtain conditional funding, and finalize financing.
2. proceed to detailed design and procurement.

Funding applications should include sufficient escalation and contingency to avoid an immediate funding shortfall.

20.7 Procurement of Professional Services

The professional team should be procured in stages to match the project's development status.

The initial team should include:

- The analysis identifies project manager, architect, planner, civil engineer, water and wastewater process engineer, hydrogeologist, geotechnical engineer, surveyor, environmental consultant, cost consultant and legal advisor.

As the project advances, the team should expand to include:

- The analysis identifies structural engineer, mechanical engineer, electrical engineer, landscape architect, transportation consultant, accessibility consultant, energy modeller, modular manufacturer or modular specialist, commissioning agent, fire-protection consultant, property-management advisor and financing advisor.

Role of 3rd Line Studio

3rd Line Studio should be considered for the architectural concept phase, subject to the Township's applicable procurement requirements.

The concept-design scope should include:

- The analysis identifies comparable concepts for the shortlisted sites, conceptual site plans, building massing, preliminary floor plans, modular layouts, unit plans, elevations, preliminary renderings, accessible-unit concepts, building-area calculations, parking and amenity layouts, future-phase planning and coordination with the servicing engineers and cost consultant.

Procurement approach

The professional services may be procured through:

- request for proposal;
- standing offer or roster;
- direct award where legally permitted;
- negotiated assignment;
- integrated design team procurement; or
- design-build advisory arrangement.

The Township should retain ownership and control of all design documents required to continue the project if a consultant or development partner changes.

20.8 Concept and Detailed Design

Design should proceed through clearly defined stages.

Stage 1 — Concept design

Concept design should test the two or three leading properties using a common base program.

The concept package should establish:

- The analysis identifies achievable unit count, unit mix, building form, site access, parking, outdoor amenity space, RBC location, communal well area, stormwater, future phases, modular installation access, preliminary planning compliance and preliminary capital cost.

The concepts should be presented to the Township, SABA, DNSSAB, and community representatives before a final site is selected.

Stage 2 — Schematic design

Once the preferred site is confirmed, schematic design should include:

- The analysis identifies coordinated building plans, preliminary structural system, modular grid, foundation concept, building envelope, mechanical and electrical concepts, water and wastewater systems, roads and grading, stormwater, landscaping, fire access, preliminary specifications, energy strategy and updated Class C cost estimate.

Stage 3 — Design development

Design development should resolve:

- The analysis identifies unit layouts, accessibility, finishes, modular interfaces, building-code strategy, fire protection, elevator, heating and cooling, water treatment, RBC process, utility coordination, site drainage, construction phasing and commissioning requirements.

A Class B cost estimate should be prepared at this stage.

Stage 4 — Permit and tender documents

The final design phase should include:

- The analysis identifies building permit drawings, engineering drawings, specifications, modular shop-drawing requirements, site-work documents, tender packages, commissioning requirements, contract conditions, construction schedule and Class A pre-tender estimate.

No major design decision should be deferred to construction unless responsibility and cost are clearly assigned.

20.9 Construction Procurement

The construction procurement model should be selected after the concept and financing structure are confirmed.

Potential approaches include:

Design-bid-build

The consultant team completes the design, and the work is tendered to a general contractor.

Advantages include:

- clear design control;
- competitive tendering;
- familiar municipal process.

Challenges include:

- longer schedule;
- limited early contractor input;
- potential coordination issues with modular manufacturing.

Design-build

A design-build team provides the modular building and site construction under one agreement.

Advantages include:

- single point of responsibility;
- integrated modular coordination;
- potential schedule efficiency.

Challenges include:

- less direct owner design control;
- need for a detailed owner's statement of requirements;
- risk of reduced quality if performance requirements are unclear.

Construction management

A construction manager is engaged early to advise on cost, schedule, procurement, and trade packages.

Advantages include:

- early cost input;

- modular coordination;
- phased procurement;
- ability to tender site and building packages separately.

Challenges include:

- more owner involvement;
- final cost may not be fixed early;
- requires strong project management.

Separate modular and site contracts

The owner separately contracts with:

- the modular manufacturer; and
- the site and installation contractor.

Advantages include:

- direct access to modular pricing;
- competition for site work;
- flexibility.

Challenges include:

- interface risk;
- potential disputes over foundations, delivery, installation, and stitching;
- greater coordination responsibility for the owner.

Recommended preliminary approach

The preferred procurement strategy is either:

- an integrated design-build model; or
- construction management with early modular manufacturer involvement.

Whichever model is selected, the contract documents must clearly allocate responsibility for:

- The analysis identifies design, modular certification, foundations, transportation, permits, crane, temporary bracing, module installation, weather protection, structural connections, utility connections, fire stopping, exterior closure, interior stitching, commissioning, deficiencies, warranties and final occupancy.

20.10 Construction and Occupancy

Construction should be planned around the advantages of modular delivery.

The likely construction sequence is:

1. The analysis identifies secure permits and financing, mobilize the site, complete clearing and grading, construct foundations, install underground services, construct the water and

wastewater infrastructure, complete utility connections, manufacture modules off site, inspect modules during fabrication, prepare the site for delivery and crane operations, transport and install modules, complete building stitching, complete exterior and interior finishes, complete roads, parking, landscaping, and stormwater, commission the building and infrastructure, complete deficiencies, obtain occupancy approval, train operating personnel, and begin staged tenant occupancy.

2. complete post-occupancy review.

Factory manufacturing and site construction should occur concurrently where possible.

Occupancy planning should include:

- The analysis identifies tenant-selection process, DNSSAB referrals, income verification, lease preparation, accessibility matching, property-management systems, operating manuals, emergency procedures, water and wastewater operating agreements, reserve accounts, insurance, maintenance contracts, and resident orientation and move-in scheduling.

A phased move-in may be preferable to allow:

- testing of building systems;
- operator familiarization;
- completion of deficiencies;
- orderly tenant support; and
- monitoring of water and wastewater loading.

20.11 Preliminary Implementation Schedule

The following schedule is preliminary and assumes that the project receives timely municipal direction and that the preferred site does not require an extensive Official Plan amendment or environmental remediation.

Phase	Principal activities	Preliminary duration
1. Project initiation	Governance, work plan, DNSSAB and funder discussions	1–2 months
2. Site identification	Property information, owner discussions, initial screening	2–3 months
3. Due diligence	Survey, planning, environmental, geotechnical and hydrogeological review	3–6 months
4. Concept development	3rd Line Studio concepts, servicing concepts and Class C cost	3–4 months
5. Preferred site decision	Site selection, conditional acquisition and Council authorization	1–2 months
6. Funding applications	BCSF, CMHC, DNSSAB, provincial and municipal funding	4–12 months
7. Planning approvals	Zoning amendment, site plan and related reviews	6–12 months

Phase	Principal activities	Preliminary duration
8. Infrastructure approvals	MECP, water, access, stormwater and utility approvals	6–15 months
9. Detailed design	Schematic, design development, permit and tender documents	6–9 months
10. Construction procurement	Contractor and modular manufacturer procurement	3–5 months
11. Construction	Site works, manufacturing, installation and completion	12–18 months
12. Commissioning and occupancy	Testing, approvals, tenant selection and move-in	2–3 months

The overall timeframe from project initiation to occupancy is approximately **30 to 48 months**.

A shorter schedule may be achievable where:

- municipal land is available;
- planning conformity is clear;
- servicing investigations are positive;
- funding applications are successful;
- the modular manufacturer is engaged early;
- approvals proceed concurrently; and
- no major environmental constraints are identified.

A longer schedule should be expected where:

- The analysis identifies property acquisition is complex, an Official Plan amendment is required, MECP requires additional studies, funding intakes do not align with project readiness, infrastructure ownership remains unresolved, a site requires remediation and project financing is delayed.

Preliminary decision milestones

Milestone	Recommended decision
Feasibility study acceptance	Authorize site confirmation
Initial site screening complete	Select two or three sites
Preliminary investigations complete	Select preferred and backup sites
Concept design and Class C cost complete	Confirm development concept
Funding strategy confirmed	Authorize planning and detailed design
Approvals and capital stack secured	Authorize procurement
Tender within approved budget	Authorize construction

Milestone	Recommended decision
Commissioning complete	Authorize occupancy

20.12 Roles and Responsibilities

A clear governance structure is required before implementation begins.

Township of South Algonquin

The Township should:

- The analysis identifies provide strategic direction, establish the project governance structure, identify municipal land and contributions, lead or support site acquisition, coordinate planning approvals, support public consultation, lead infrastructure-funding applications, determine infrastructure ownership, authorize municipal expenditures, approve project milestones and protect the long-term public interest.

South Algonquin Business Alliance

SABA may:

- The analysis identifies maintain community and business engagement, assist with employer-demand information, support workforce-housing partnerships, assist with property identification, support funding advocacy, coordinate local stakeholder input and communicate the economic-development benefits.

DNSSAB

DNSSAB should be requested to:

- The analysis identifies validate housing demand, confirm unit targets, support the affordability mix, identify RGI and rent-supplement capacity, contribute capital where possible, assist with tenant eligibility and referrals, advise on property management, participate in operating agreements and support funding applications.

Non-profit housing owner

The future non-profit entity should:

- The analysis identifies own or lease the residential property, enter funding and financing agreements, retain property management, manage affordability obligations, approve operating budgets, maintain reserves, oversee tenant administration, report to funders, maintain the housing assets and coordinate future phases.

Project manager

The project manager should:

- The analysis identifies coordinate the overall implementation, maintain the master schedule, manage consultants, monitor cost and risk, lead project reporting, coordinate decisions, manage funding requirements, administer procurement, oversee construction, maintain the responsibility matrix, manage changes and support commissioning and close-out.

3rd Line Studio and design consultants

The design team should:

- The analysis identifies prepare architectural concepts, coordinate modular design, complete planning-support drawings, lead detailed building design, coordinate engineering, support approvals, prepare tender documents, review construction, manage design changes and support occupancy.

Civil and servicing engineers

The engineering team should:

- The analysis identifies design communal water systems, design RBC wastewater treatment, prepare roads and grading, design stormwater systems, coordinate utility infrastructure, support MECP approvals, prepare capital and operating estimates, support funding applications and provide construction inspection and commissioning.

Modular manufacturer

The modular manufacturer should:

- The analysis identifies confirm modular feasibility, assist with unit standardization, provide budget pricing, coordinate transportation, complete factory design and fabrication, meet applicable building requirements, support installation, provide quality documentation, address deficiencies and provide warranties.

Property and infrastructure operators

The property manager and certified utility operators should:

- The analysis identifies participate in design review, confirm maintainability, establish operating procedures, prepare staffing and service agreements, support commissioning, operate the building and utilities, maintain records, monitor performance and report to the owner and regulators.

Community and employers

Community and employer partners may:

- The analysis identifies validate housing demand, participate in engagement, provide letters of support, identify workforce needs, consider master leases, provide contributions, support resident services and assist with long-term community integration.

Recommended governance structure

The project should be overseen through:

- The analysis identifies a municipal steering committee, a project management working group, a technical consultant team, a funding and finance working group, periodic Council reporting and structured community engagement.

The implementation process should remain transparent, but decision-making authority must be clearly defined to avoid delay and duplication.

The immediate implementation priority is not construction. It is to create sufficient certainty around the preferred site, communal servicing, ownership, capital cost, funding, and operating structure to justify the next level of investment.

A **RACI chart would be beneficial**, especially in Section 20.12, because implementation involves the Township, SABA, DNSSAB, the future housing owner, project manager, consultants, modular contractor, funders, and infrastructure operators.

It would add value by showing:

- The analysis identifies who makes each major decision, who performs the work, who must be consulted, who receives updates, and where responsibility transfers between feasibility, design, funding, construction, operations and how overlap or gaps will be avoided.

The chart should remain **high level**. A very detailed construction RACI would be premature before the ownership entity, procurement model, and funding agreements are established.

Recommended RACI Definitions

Designation	Meaning
R – Responsible	Performs or coordinates the work
A – Accountable	Owns the decision and provides final approval
C – Consulted	Provides technical, operational, funding, or community input
I – Informed	Receives progress and decision updates

Each activity should generally have **one accountable party**, although several parties may be responsible or consulted.

Preliminary Implementation RACI Matrix

Implementation activity	Township	SABA	DNSSA B	Housing owner	Project manager	Design and technical team	Modular/constructor	Funders and regulators	Property and utility operators
Approve strategic direction	A	C	C	I	R	I	I	I	I
Establish governance structure	A/R	C	C	C	R	I	I	I	I
Identify candidate properties	A	R	C	C	R	C	I	I	I
Complete site screening	A	C	C	C	R	R	I	C	C
Secure conditional site control	A/R	C	C	C	R	C	I	I	I
Confirm housing demand and unit mix	C	C	A/R	C	R	C	I	I	C
Confirm preferred site	A	C	C	C	R	R	I	C	C
Prepare concept design	C	C	C	A	R	R	C	C	C
Confirm communal servicing feasibility	C	I	I	A	R	R	C	C	C
Establish ownership entity	A/R	C	C	C	C	I	I	C	I
Define affordability and RGI structure	C	I	A/R	R	C	I	I	C	C
Prepare capital and operating model	C	I	C	A	R	C	C	C	C
Prepare infrastructure funding applications	A	C	C	C	R	R	C	C	I
Prepare housing funding applications	C	I	C	A	R	R	C	C	I
Submit planning applications	A	I	C	R	R	R	I	C	C
Obtain MECP and servicing approvals	C	I	I	A	R	R	C	C	C
Approve concept and project budget	A	I	C	A	R	C	C	I	I
Complete detailed design	C	I	C	A	R	R	C	C	C
Select construction procurement model	C	I	I	A	R	C	C	C	I

Implementation activity	Township	SABA	DNSSAB	Housing owner	Project manager	Design and technical team	Modular/constructor	Funders and regulators	Property and utility operators
Procure modular and site construction	C	I	I	A	R	C	C	I	I
Manufacture modular units	I	I	I	A	R	C	R	I	I
Complete site and infrastructure works	I	I	I	A	R	C	R	C	C
Construction administration and inspections	I	I	I	A	R	R	R	C	C
Commission building and infrastructure	I	I	I	A	R	R	R	C	R
Establish tenant-selection process	I	I	R	A/R	C	I	I	C	C
Manage occupancy and move-in	I	I	C	A	C	I	I	I	R
Operate residential property	I	I	C	A	I	I	I	I	R
Operate water and RBC infrastructure	C	I	I	A	I	C	I	C	R
Monitor affordability commitments	C	I	R	A/R	I	I	I	C	C
Maintain lifecycle reserves	I	I	C	A	I	C	I	I	R
Approve future development phases	A	C	C	A	R	C	C	C	C

Important Qualification

This should be titled “**Preliminary Implementation RACI Matrix**” because several assignments remain conditional.

Before the matrix is finalized, the project must confirm:

- The analysis identifies whether the Township or non-profit entity owns the land, whether the Township or housing owner owns the communal infrastructure, the formal role of DNSSAB, the lead applicant for housing and infrastructure funding, the construction procurement model, and whether one design-build entity or separate modular site contractors are used and the identity of the long-term property and utility operators.

The final RACI should be adopted as part of the project governance plan and reviewed at each major decision gate. This preliminary version would work well as a visual summary immediately following Section 20.12.

21. Conclusion

This conclusion is preliminary and reflects the information available at the feasibility-study stage. It should be updated once the preferred site, technical investigations, servicing solution, concept design, capital cost, funding structure, and operating partnerships are confirmed.

21.1 Summary of Findings

The study confirms that South Algonquin is experiencing a meaningful housing shortage that affects seniors, working households, young adults, lower-income residents, families, and people requiring accessible accommodation.

The strongest needs identified through the housing analysis and community engagement are:

- The analysis identifies affordable and attainable rental housing, one- and two-bedroom units, seniors housing, accessible and adaptable units, workforce housing, a limited number of family-sized units, housing located near community services and practical servicing and construction solutions suited to a rural municipality.

The community workshop findings generally support:

- The analysis identifies modular construction, multi-unit housing, mixed-income development, seniors housing, workforce housing, smaller and accessible units, housing in or near Whitney, future opportunities in Madawaska, communal servicing, phased implementation and long-term quality and maintenance.

DNSSAB's housing projections identify continued household growth and a significant need for RGI, affordable rental, affordable ownership, and market housing. The greatest projected demand is for two- and three-bedroom housing, with additional need for one-bedroom units and very limited existing publicly supported housing in South Algonquin.

The planning review indicates that the Township's Official Plan generally supports:

- The analysis identifies affordable housing, apartment development, modular construction, seniors housing, redevelopment, communal water and wastewater servicing, alternative residential standards, intensification in Whitney and Madawaska and partnerships with non-profit and public-sector housing providers.

The current Zoning By-law remains a significant implementation constraint because it does not generally permit larger multi-unit residential development as-of-right. A site-specific zoning amendment is therefore likely to be required for most candidate properties.

The technical analysis indicates that individual wells and septic systems are not well suited to the preferred 20- to 35-unit development model. A communal well, compact water-treatment system, and scalable RBC wastewater treatment plant provide the strongest opportunity to:

- reduce land requirements;
- support higher density;
- provide centralized monitoring;
- enable future phases;
- improve infrastructure efficiency; and

- align with housing-enabling infrastructure funding.

The proposed 0.1-hectare-per-dwelling-equivalent benchmark is useful for preliminary planning where communal servicing is available, but it is not a guaranteed density or planning entitlement. Final capacity will depend on:

- well yield;
- water quality;
- hydrogeology;
- wastewater design flow;
- effluent management;
- setbacks;
- roads;
- stormwater;
- parking;
- fire protection;
- environmental constraints; and
- regulatory approvals.

The preferred high-level development concept is a phased, two- or three-storey modular apartment building containing approximately 28 to 35 units, primarily in Whitney.

The preliminary unit mix should emphasize:

- one-bedroom units;
- two-bedroom units;
- a limited number of three-bedroom units;
- 15% to 20% fully barrier-free units; and
- adaptable design throughout the balance of the building.

The recommended affordability structure is a mixed-income model combining:

- RGI or deeply affordable units;
- affordable rental units;
- workforce or moderate-income units; and
- market rental units.

The preferred ownership structure is community-led non-profit ownership with municipal collaboration with:

- professional third-party property management;
- DNSSAB participation;
- qualified water and wastewater operation;
- private-sector design and construction;
- restricted lifecycle reserves; and
- long-term affordability controls.

The financial analysis confirms that the project is unlikely to be viable through conventional debt and rental income alone. Significant public-sector participation will be required through:

- capital grants;
- infrastructure funding;
- municipal land or infrastructure contributions;
- DNSSAB support;
- low-cost financing;

- rent supplements;
- non-profit participation; and
- potentially private or employer partnerships.

The Build Communities Strong Fund may be a major contributor to the water, wastewater, roads, stormwater, utility, and other housing-enabling infrastructure components.

21.2 Feasibility Determination

Based on the information currently available, the proposed housing initiative is considered **conditionally feasible**.

The project demonstrates:

- The analysis identifies a clear and documented housing need, general community support, strong alignment with the Official Plan, a practical modular construction approach, a credible mixed-income housing model, potential access to housing and infrastructure funding, multiple candidate properties, potential for scalable communal infrastructure, opportunity for future phases and significant economic and community benefits.

The feasibility determination remains conditional because several critical matters have not yet been confirmed.

These include:

- The analysis identifies selection and control of a suitable property, exact zoning and Official Plan designation, legal access and title, usable development area, communal well capacity, raw-water quality, wastewater treatment and effluent feasibility, environmental constraints, geotechnical conditions, utility capacity, modular building configuration, site-specific capital cost, funding-program eligibility, DNSSAB participation, ownership and governance, operating subsidies, rental demand, debt capacity and regulatory approvals.

The project should therefore not yet be considered:

- fully development-ready;
- financially committed;
- technically confirmed;
- approved for land acquisition;
- approved for detailed design; or
- authorized for construction.

The current findings are sufficient to justify advancing to the next stage of due diligence, concept development, servicing investigations, and funding discussions.

Preliminary feasibility determination

Area	Preliminary determination
Housing need	Confirmed
Community support	Generally positive
Official Plan alignment	Strong
Current zoning conformity	Not confirmed; amendment likely
Modular construction feasibility	Promising
Communal servicing feasibility	Promising but unconfirmed
Environmental feasibility	Site dependent
Capital affordability	Challenging
Operating viability	Conditional on mixed income and subsidies
Funding potential	Strong but competitive and unconfirmed
Ownership model	Viable in principle
Overall project feasibility	Conditionally feasible

The highest-risk matters requiring confirmation are:

1. site suitability;
2. communal water supply;
3. RBC wastewater approval;
4. capital funding;
5. operating support;
6. total construction cost; and
7. long-term infrastructure ownership and operation.

21.3 Recommended Path Forward

The recommended path forward is to advance the project through a controlled pre-development phase.

The immediate objective should not be to approve construction. It should be to determine whether one or more candidate properties can support a technically, financially, and operationally viable housing development.

The recommended next steps are:

1. Confirm the community mandate and municipal collaboration

SABA and community stakeholders should confirm the mandate to continue investigating the following strategic direction. Council should separately determine whether and how the Township will collaborate on matters within municipal authority:

- a 28- to 35-unit modular mixed-income rental development;
- Whitney as the preferred first-project location;
- Madawaska as a future or smaller-project opportunity;
- communal water and RBC wastewater infrastructure;
- community-led non-profit ownership with municipal collaboration; and
- phased implementation.

2. Confirm the candidate properties

The project team should establish a verified shortlist of two or three anonymous candidate sites, in consultation with Township planning and technical staff.

Each property should be reviewed consistently against:

- The analysis identifies land availability, acquisition cost, planning conformity, usable area, access, hydrogeology, wastewater feasibility, environmental constraints, utility capacity, modular delivery, capital cost, future expansion and community location.

3. Secure conditional site control

The preferred property should be secured through a conditional agreement, option, lease, or memorandum of understanding.

The conditions should protect the community housing entity and any participating public body if:

- The analysis identifies servicing is not feasible, planning approval cannot be obtained, environmental conditions are unacceptable, funding is not secured, acquisition cost is not justified and Council does not approve the final project.

4. Complete preliminary technical investigations

The preferred and backup sites should undergo:

- survey;
- planning review;
- geotechnical investigation;
- hydrogeological testing;
- water-quality assessment;
- wastewater feasibility;
- environmental screening;
- utility-capacity review;
- access review; and
- existing-building assessment where applicable.

5. Prepare comparable concept plans

3rd Line Studio should prepare concept plans for the leading properties using the same base housing program.

The concepts should show:

- The analysis identifies building location, unit count, modular layout, parking, fire access, communal well area, RBC location, effluent management, stormwater, outdoor amenity areas, delivery and crane access and future phases.

6. Update the capital and operating models

The project team should prepare:

- site-specific Class C estimates;
- infrastructure estimates;
- modular budget pricing;
- operating cost estimates;
- rent scenarios;
- debt-capacity analysis;
- funding-gap analysis; and
- lifecycle reserve requirements.

7. Formalize DNSSAB participation

The project team and future housing entity should seek formal confirmation from DNSSAB regarding:

- RGI units;
- affordable rental targets;
- rent supplements;
- operating support;
- capital contributions;
- tenant referrals;
- property management;
- affordability monitoring; and
- participation in governance.

8. Establish the ownership model

The community housing implementation body should recommend the preferred structure, with Council determining only those elements requiring municipal participation or approval. Options include:

- an existing non-profit housing provider;
- a new municipal non-profit corporation;
- a community-based non-profit;
- a partnership with DNSSAB;
- or a public-private partnership.

9. Advance funding discussions

The housing and infrastructure workstreams should be advanced in parallel.

Priority discussions should include:

- The analysis identifies Build Communities Strong Fund, CMHC, Build Canada Homes, DNSSAB, provincial housing and infrastructure programs, Infrastructure Ontario, municipal contributions, employer partnerships and private or non-profit financing.

10. Return for formal project authorization

Council should only authorize detailed design and full funding applications after receiving:

- The analysis identifies a preferred site recommendation, concept plans, technical feasibility findings, updated capital costs, updated operating model, ownership recommendation, funding strategy, risk register, implementation schedule and confirmation that no fatal flaw has been identified.

21.4 Community Decision Points

The project requires several staged decisions rather than one immediate approval.

Decision Point 1 — Acceptance of the Feasibility Study

SABA and the community should determine whether the study provides sufficient justification and mandate to continue project investigation. Council should separately decide whether the Township will participate in the next stage and on what terms.

Acceptance of the study should not be interpreted as:

- approval to purchase land;
- approval of a final development;
- commitment to the preliminary capital budget;
- approval to incur construction debt;
- approval of a specific site; or
- authorization to begin construction.

The decision would authorize the next phase of site and project confirmation.

Decision Point 2 — Confirmation of the Strategic Direction

SABA and the community implementation body should confirm whether the project should continue to test the following strategic concept. Council should confirm only the municipal collaboration, approvals pathway, and potential contributions that it is prepared to investigate:

- The analysis identifies a modular apartment development, approximately 28 to 35 units, mixed-income rental tenure, communal well and RBC wastewater treatment, Whitney as the preferred first location, community-led non-profit ownership with municipal collaboration and future phased expansion.

A change in these core assumptions may materially affect site requirements, capital costs, funding, and operating viability.

Decision Point 3 — Site Shortlisting

The project team should identify the strongest two or three anonymous candidate sites and seek the approvals required for due diligence. Council authorization is required where municipal land, funds, staff resources, agreements, or statutory decisions are involved.

At this stage, the public should be informed of:

- the site-selection criteria;
- the candidate locations;
- the reasons properties are being carried forward;
- the investigations still required; and
- the fact that no final site has been selected.

Decision Point 4 — Preferred Site Selection

The community housing entity should recommend a preferred site after reviewing the matters below. Council approval is separately required for municipal land, financial participation, planning decisions, infrastructure commitments, or other matters within municipal authority:

- The analysis identifies concept fit, planning feasibility, environmental findings, geotechnical conditions, communal water feasibility, wastewater feasibility, acquisition terms, capital costs, access, utility capacity, community impacts and expansion potential.

A backup property should remain available until site control and servicing feasibility are sufficiently secure.

Decision Point 5 — Ownership and Partnership Structure

The project proponents and Council should decide the following matters within their respective ownership, funding, statutory, and corporate authorities:

- The analysis identifies who owns the land, who owns the housing, who owns the communal infrastructure, who acts as the funding applicant, who carries project debt, who manages the property, who operates the water and wastewater systems and how affordability is protected.

This decision must precede final funding and financing commitments.

Decision Point 6 — Funding and Municipal Contribution

Council should review:

- The analysis identifies secured and pending funding, municipal land contribution, municipal cash contribution, infrastructure ownership, bridge-financing requirements, loan guarantees, operating exposure, lifecycle liabilities and financial risks.

Council should establish a maximum municipal contribution and clearly identify the conditions attached to that commitment.

Decision Point 7 — Approval to Proceed to Detailed Design

Detailed design should only be authorized once:

- The analysis identifies the preferred site is controlled, technical feasibility is established, planning direction is confirmed, funding probability is credible, DNSSAB participation is defined, ownership is established, concept design is approved and the project remains within an acceptable cost range.

Decision Point 8 — Construction Authorization

Construction should only be authorized after:

- The analysis identifies the capital funding stack is complete, financing is secured, permits and approvals are in place, construction pricing is acceptable, contingency is adequate, operating arrangements are confirmed, property and utility operators are retained, insurance is confirmed, lifecycle reserves are established and the final risk profile is acceptable.

Community decision and engagement points

The community should be engaged at key stages, including:

1. The analysis identifies after acceptance of the feasibility study, during site shortlisting, during concept design, before submission of major planning applications, and after selection of the preferred concept.
2. before final construction authorization.

Community engagement should provide clear information on:

- The analysis identifies who the housing will serve, how affordability will be defined, how tenants will be selected, the appearance and scale of the project, traffic and parking, water and wastewater treatment, municipal cost, funding sources, ownership, property management, future phases and project schedule.

Preliminary conclusion

The study supports continued advancement of the South Algonquin housing initiative.

The evidence available to date indicates that a phased, modular, mixed-income rental development supported by communal water and RBC wastewater infrastructure could provide a practical response to the community's housing needs.

The initiative should proceed cautiously and deliberately. The next stage must convert the current strategic concept into a site-specific, technically verified, financially supportable, and fundable project.

The project should therefore proceed to:

- candidate-site confirmation;
- conditional site control;
- preliminary investigations;
- architectural concept development;
- servicing pre-design;
- DNSSAB negotiations;
- ownership development;
- and coordinated housing and infrastructure funding discussions.

The final recommendation and conclusion should be updated once the outstanding technical, financial, property, funding, and partnership information has been obtained.

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