Taking Stock:
Improving Housing Data Collection in NAN Territory

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Executive Summary

Introduction

This report summarizes the challenges of on-reserve housing evaluation in Nishnawbe Aski Nation (NAN) Territory and provides recommendations and options for improving the current housing data collection process. NAN is a First Nation Political Territorial Organization that represents 48 communities in remote Northern Ontario. The following report briefly describes the current housing crisis that exists in NAN Territory, which is often replicated in First Nation communities across the country.

The client has identified that mould and overcrowding in homes on-reserve have greatly impacted the condition of the housing stock, and often leads to unhealthy living conditions for community members. Therefore, the client has indicated there is a need for a more comprehensive data collection tool in order for NAN to better understand the condition of their current housing stock as it relates to mould and overcrowding. The data collection tool will be utilized for visual inspections, be easy enough for communities to implement, and thorough enough for NAN to gain a clear understanding of the rate of overcrowding and mould contamination in NAN Territory.

Methodology and Methods

Through the process of the literature review, a thorough document analysis, and input from the client, a template for a more comprehensive data collection tool and community report that focuses on collecting information about mould and overcrowding has been developed. The research examined evidence-based principles in Indigenous evaluation, evaluation of housing, evaluation of mould, and addressing housing concerns in Indigenous communities as a means of informing new evaluation criteria and format.

Key Findings

The research confirms that there is indeed a housing crisis not only in NAN Territory, but throughout First Nation communities in Canada. There is clear evidence that gaps in government programming, jurisdictional confusion, and the lasting impact of colonialism have contributed to the poor housing conditions that often exist in First Nation communities in Canada. Furthermore, it is evident that housing plays an important role in community well-being, including physical health. Close examination of the available data shows that First Nation communities are often below national standards for housing conditions, especially in terms of overcrowding.

Furthermore, research on the current evaluation methods utilized by Indigenous Services Canada reveals significant gaps in data collection on-reserve. Moreover, the government has been aware of these gaps for quite some time via government reports and audits. Information on mould growth, overcrowding, ventilation, and structural characteristics that contribute to mould

growth, has not been actively collected by Indigenous Services Canada, and therefore, the true condition of the housing stock on-reserve as it relates to mould and overcrowding is relatively unknown.

Additionally, the current methods for data collection negate the common practices specific to Indigenous evaluation found in the literature review and document analysis. Research shows current data collection does not give autonomy and control to NAN communities in terms of methodology, criteria, implementation, and ownership over the resulting data. Moreover, there are significant gaps in data sharing, and there are barriers in accessing the limited data that is collected.

NAN and its individual communities have undertaken several initiatives to address the gaps in housing data including comprehensive housing inspections by external professionals, studies connecting housing and health outcomes, and an occupant-based survey initiative. These initiatives provide further insight into the discrepancy between ISC data collection methods and the true condition of housing in NAN Territory and the impact housing conditions have on community health and well-being. While these initiatives are important and provide additional information that may help close gaps in data collection, there is still a need for an affordable, easy to implement, but comprehensive evaluation that focuses on the physical aspects of the housing units as they relate to mould and overcrowding.

The report identifies several potential areas to be evaluated based on the findings including, number of people per room, ventilation, heat source, foundation type, type of home (including air tight or R2000 homes), and the extent of any mould contamination in the home.

Options to Consider

To support smart practices for appropriate and meaningful stakeholder input and ownership in Indigenous evaluation, the report offers three options for NAN to consider:

1. **NAN can choose to focus solely on the occupant-based survey that is being developed with Together Design Lab over the next three years**. By doing so, NAN will avoid incurring any additional costs; however, data on the structural components of the home will be limited to current initiatives under Indigenous Services Canada.
2. **NAN can choose to present the provided data collection tool and community report templates to stakeholders, including community leadership, for feedback**. NAN can then incorporate the feedback into creating a new data collection tool and community report to be implemented in all communities willing to participate.
3. **Finally, NAN can choose to recruit a selection of communities to implement the data collection and community report template and then present findings and data to all communities for feedback and discussion**. Feedback would then be used to create a variation of the template that meets the expressed needs of the community and implemented in all communities willing to participate on an annual basis.

Recommendations

Immediate Actions:

- **Recommendation 1** - Identify and capitalize on affordable opportunities to present the research and general concept of a more comprehensive housing data collection tool and community report to community leadership and tribal councils.
- **Recommendation 2** - With input from community leadership and tribal councils, select an option for implementation.
- **Recommendation 3** - Identify funding opportunities for promoting and implementing the data collection tool.
- **Recommendation 4** - Identify funding opportunities for evaluation training and capacity building at the community level.

Future Actions:

- **Recommendation 5** - Incorporate stakeholder feedback into creating a final draft of the comprehensive data collection tool and community report.
- **Recommendation 6** - Implement comprehensive data collection tool on an annual basis
- **Recommendation 7** - Present findings to community members, leadership, tribal councils, and Indigenous Services Canada.
- **Recommendation 8** - Engage with communities to develop a process for collecting information that reflects the demographics of the population on housing-waitlists
- **Recommendation 9** - Use data collected to inform strategic housing plans and monitor the progress of housing initiatives

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1.0 Introduction

This report examines the development of a housing evaluation framework for the 48 First Nation communities that make up the Nishnawbe Aski Nation (NAN). NAN is a political territorial organization that represents the majority of First Nation communities in Northern Ontario, most of which are remote and accessible only by plane in the summer months and ice roads in winter (see Appendix A for map). The NAN communities currently face a large deficit in housing stock with much of the housing stock in need of extensive repair. In an effort to address the housing crisis, NAN would like to complete an evaluation of the current housing stock in their territory. This evaluation research would then be the basis for creating a long-term housing strategy that will aim to reduce or close existing housing gaps and ensure the people in NAN territory have access to safe and healthy homes.

First Nation communities across Canada are struggling to provide community members with safe, culturally appropriate, and healthy homes. Overcrowding, mould, poor construction, extreme disrepair, and policy roadblocks are all factors that contribute to the Canada-wide housing problem. While many government reports, audits, and studies have acknowledged the need for immediate intervention, there are still significant gaps in housing on-reserve (Census in Brief, 2017). While the federal government has several tools designed to evaluate the housing stock on-reserve, there are significant gaps in implementation and reporting processes that make it difficult to not only understand the full scope of housing conditions on-reserve, but also to accurately measure the impact of government and community policies, investments, and programming aimed at improving housing (Internal Audit, 2016).

1.1 Defining the Problem

The current methods used by the federal government for tracking housing conditions on-reserve have been consistently identified as problematic both by First Nation communities and government audits (Internal Audit, 2016). Currently, annual data on housing conditions in NAN territory is reported to Indigenous Services Canada using the Data Collection Instrument (DCI 41701) found in the Community Infrastructure and Housing Report (See Appendix B). Assessment is usually completed by employees at the tribal council or community level (Internal Audit, 2016, p.p. 15).

The current form of assessment is broad with categories that are not clearly defined. It focuses on housing in need of repair, replacement, or that is deemed inadequate. It also documents what type of water or wastewater system, if any, are in place. The information is then compiled in the Integrate Capital Asset Management System (ICSM), which is organized by tribal council and community (See Appendix C for sample). In the present method of data collection, there is no accounting for social determinants, occupancy rates, the presence of

mould, or the number of community members that are in need of a home (Auditor General, 2003).

As further noted by the Auditor General of Canada (2003), the definition of the categories used to assess housing conditions are also vague and lead to inconsistent reporting, with little efforts to ensure the capacity exists within the community to record this data effectively. The Auditor General also stated in a 2003 report and subsequent status reports (2006 and 2011) that inconsistent and unreliable data collection has made it impossible to measure the outcomes of government investment in housing (Auditor General, 2003) Not surprisingly, Regional Indigenous Services Canada (ISC) offices have acknowledged they do not view the reports as "reliable" or "useful" sources of information (Internal Audit, 2016, p.p.15).

Housing conditions on-reserve are also measured by the government through the Community Well-Being Index (CWB) developed by ISC and modeled after the United Nations Human Development Index (HDI) (AANDC, 2015). Housing is one of four social determinants used to calculate the CWB score of a community. This scoring system is based on the Canadian Census and, therefore, accuracy of reporting in First Nations communities is problematic in several ways. When searching CWB scores for communities in NAN territory, only 14 communities out of 48 communities are in the database, and 3 out of 14 did not have enough data to record a score in the housing category (CWB database, 2015). This means that approximately 75% of NAN's communities are not registered on the CWB, making it an inadequate means of assessing the true condition of housing in these communities. The Auditor General Spring Report (2018) notes that in the CWB process, Indigenous Services Canada did not use all available data, specifically on housing, when compiling the index (para. 5.29).

1.2 Project Client

Nishnawbe Aski Nation is the political territorial organization that represents 48 First Nation Communities in Northern Ontario. According to their website, the objectives of NAN (2018) are:

- Implementing advocacy and policy directives from NAN Chiefs-in-Assembly
- Advocating to improve the quality of life for the people in areas of education, lands and resources, health, governance, and justice
- Improving the awareness and sustainability of traditions, culture, and language of the people through unity and nationhood
- Developing and implementing policies which reflect the aspirations and betterment of the people
- Developing strong partnerships with other organizations (para. 2)

Michael McKay, Housing and Infrastructure Director at NAN, is the direct client of the project. Addressing the housing crisis in NAN territory falls under his mandate and under the portfolio of Grand Chief, Alvin Fiddler, who is currently in his second term as Grand Chief.

Nishnawbe Aski Nation has made a strong commitment to advocating for and supporting communities in improving housing conditions on-reserve. There have been several resolutions passed by community chiefs in an effort to address housing, and NAN has recently developed a position paper that outlines the priorities related to housing in NAN territory. Nishnawbe Aski Nation recognizes the need for accurate and up-to-date data collection as a fundamental building block in creating a formal strategy to address the need for housing in NAN communities.

1.3 Project Objectives and Research Questions

The main objective of this project was to develop a housing evaluation tool that NAN can implement to gain a clear picture of the current condition of housing stock in NAN Territory, in particular, the extent of mould contamination, overcrowding, and the structural characteristics that contribute to the former.

The guiding research question for this report examined how the current housing evaluation process can be improved to better reflect the condition of the existing housing stock in each of the NAN communities with a specific focus on factors that contribute to mould contamination and overcrowding. By researching this question, this project aimed to provide a data collection tool that will determine the actual condition of community housing in NAN Territory and contribute to evidence-based decision-making. This knowledge is also intended to assist NAN in future housing initiatives, including addressing this issue in the strategic planning cycle and specifically, to ensure meaningful and credible performance measures and targets are in place to track progress.

To provide context, this project further examined what current tools are in place for assessing housing needs in NAN territory and then identified what performance indicators could be used to determine the quantity and quality of housing in NAN communities. The research also examined what evaluation tools related to housing are being implemented in Indigenous communities.

By researching these specific areas, this report aims to assist NAN in compiling information about the current housing stock and measuring the success of various housing programs and initiatives through thorough data collection.

1.4 Background

Housing in First Nations communities across Canada has been a long-standing issue and concern; overcrowding, mould, poor construction, and extreme disrepair all contribute to the problem. In 2016, Statistics Canada reported that 44.2% of First Nations People living on-reserve lived in a home in need of major repairs. Furthermore, 36.8% of First Nations People living on-reserve lived in a home considered to be overcrowded based on National Occupancy Standards (Census in Brief, 2017, para 6). While the government maintains the position that assistance with housing on-reserve is not an obligation under treaty agreements or legislation, funding assistance for renovations and new builds are provided through Indigenous Services Canada (ISC) and the Canadian Mortgage and Housing Corporation (CMHC) policies. Despite the federal government's stance on this issue, it is important to note that many First Nation people believe housing is a right based on treaty obligation (Auditor General, 2003). The federal government has committed to an increased effort to address First Nation housing needs on-reserve across Canada; however, there are still many issues to address (*Internal Audit,* 2016).

In order to work with the federal government to address the significant housing needs in NAN territory, the scope of the current housing crisis needs to be clearly defined. According to the Indigenous Services internal audit (2016), there is no method or framework for providing a well-rounded report that reflects the true needs in First Nation communities, including those in NAN territory. This project aims to assist in building the toolbox to provide clear information on the condition of current housing stock through a comprehensive and culturally appropriate evaluation framework in order to assist NAN in better serving their communities.

The government's response to the most recent 2016 internal audit of Indigenous Services Canada (previously Indigenous and Northern Affairs) indicates the department was going to be consulting with First Nation communities beginning fall of 2016 on improving data collection process and performance measures (*Internal Audit,* 2016, p.p. 16). In response, the federal government has worked with the Assembly of First Nations to address on-reserve housing and data collection. This initiative has included a national housing survey being distributed to band-council First Nation communities via the AFN in 2019, this initiative is still in progress (*National Data Collection*, 2018). They have also established a joint working group with the AFN, the Chiefs Committee on Housing and Infrastructure, and the federal government that has produced a draft report titled *10 Year First Nations National Housing and Related Infrastructure Strategy*. This is a long-term plan for housing that includes the eventual transfer of authority to First Nation communities (AFN, 2018, p.p.1-2). Despite these efforts to improve information about on-reserve housing, NAN is taking the initiative to develop their own tools that are reflective of the uniqueness of the communities NAN represents.

1.5 Organization of Report

The report includes a literature review of peer-reviewed material related to Indigenous housing, evaluation, and a specific focus on evaluating housing. Information on the gaps in First Nation housing and the history of government policy related to Indigenous housing on-reserve also makes up a large portion of the literature review.

Following the literature review, findings of the document analysis are presented with a focus on the results of current forms of housing evaluation and NAN's current initiatives related to housing evaluation. The discussion includes connections between the main themes found in the literature in relation to the findings. There is a focus on potential evaluation categories including mould and accessibility.

The report offers three potential options for NAN's consideration; each option has an estimated timeline and table with roles and responsibilities. Following the options there are nine recommendations organized by immediate actions and future actions.

2.0 Literature Review

Since this project focuses on First Nation on-reserve funding and evaluation, this chapter examines scholarly literature on Indigenous evaluation methods, the impact of colonialism on First Nation housing, gaps in government housing programming, and Indigenous housing evaluation. While there is a wealth of resources on Indigenous evaluation, finding research related directly to evaluating housing on-reserve proved to be difficult.

The search terms used to find scholarly sources were:

- Indigenous evaluation
- Indigenous housing
- First Nations housing
- Indigenous housing evaluation
- First Nation housing evaluation
- Mould and housing
- Mould and First Nation
- Mould and evaluation.
- National Occupancy Standard
- Ontario Building Code
- Ontario Building Code Accessibility

The databases that were used to search the above terms are: JSTOR, Indigenous Peoples North America (GALE), Canadian Public Policy Collection, google scholar, and the University of Victoria library database (Summons).

2.1 Considerations for Indigenous Evaluation

Literature on the topic of Indigenous evaluation often highlights the missteps of past researchers and the resulting cultivation of mistrust of evaluators and researchers (LaFrance & Nichols, 2008, p.p. 14). There is a large focus on the importance of including the community in each step of the process in order to avoid exploitation of the community (NCCA, 2013, p.p. 1). A large emphasis is also placed on the importance of community ownership and control of both the research evaluation process and the resulting data (LaFrance, Nichols, and Kirkhart, 2013, p.p. 72). Evaluators are encouraged to approach the process with the community's best interest at the forefront, allow for community feedback and participation throughout, and build long-term relationships within the community (NCCA, 2013, p.p. 4). Evaluators are also encouraged to take into consideration cultural perspectives in terms of evaluation. Programs and outcomes must be viewed and evaluated with consideration for the community's core values. There is a need to recognize that evaluations can only be valid if they consider the cultural context of the community (LaFrance et al., 2013, p.p. 64).

The literature often recommends involving community members, including Elders, in building and implementing the framework; this is referred to as participatory evaluation, meaning Indigenous ways of knowing are valued and incorporated into the process (Reciprocal Consulting, p.p. 7). In particular, Jocob and Desautels (2013) note there are four main groups that should be involved in evaluation in order to meet participatory standards: "decision makers and policy designers, those that implement programming, direct and indirect beneficiaries [...], and civil society and citizens (p.p. 5). They go further to use a scale to determine what stages these groups are participating in, and the level of control given to the members of the 4 groups (p.p. 5). Researchers also focus on the importance of cultural sensitivity and competence when working in Indigenous evaluation (Reciprocal Consulting, p.p.1). This means considering culture in all stages of developing the evaluation framework, including framing questions, collecting data, and analyzing data in the context of the community and culture (Jacob and Desautels, 2013, p.p. 5).

Reciprocal Consulting (2013) provides detailed suggestions in creating data collection tools including the use of mixed methods to collect data, input from stakeholders, minimizing barriers in participation, and consider language barriers and framing questions in a culturally sensitive manner (p.p. 9). Reciprocal Consulting also notes the importance of evaluation capacity building within the community as a goal for any program evaluation, which empowers communities and ensures they have control over the evaluation process (2013,p.p. 17).

2.2 Historical Impact of Colonialism on First Nation Housing

Since the forced relocation to sedentary reserves, providing housing for First Nation communities has been ripe with challenges. Though there is no direct legislation specific to housing on-reserve, the Indian Act dictates reserve land is held by the federal government for use of the Indigenous People. This means that the band cannot "own" the land, thus, it is unclear as to who "owns" the homes on-reserve (Olsen, 2016, p.p. 61). While the federal government maintains there is no legal obligation for the Crown to provide housing on-reserve, many First Nation leaders disagree and believe it is right covered under the treaties (Auditor General, 2003, para. 6.34) Despite a lack of clarity over legal obligations, the federal government has been involved on a policy level in providing funding or materials for housing on-reserve since the 1930s (Olsen, 2016, p.p. 113). Much of the literature points to the ill-designed and underfunded policies, as well as barriers created by the Indian Act, as large contributors to the current housing crisis on-reserve (MacTavish, Marceau, Optis, Shaw, Stephenson, and Wild, 2012, p.p. 209).

In the 1960s, the federal government began to take the subsidizing of housing on-reserve seriously and implemented consistent programming to provide funding for building and renovating homes on-reserve (Dyk, Patterson & Canada, 2015, p.p. 8). Shortly after, the Canadian Housing and Mortgage Corporation (CMHC) began providing funding for building and renovating homes on-reserve in the 1970s as well (Auditor General, 2003, para. 6.21). These

programs have proven to be problematic on several levels. Most importantly, government funding for housing on-reserve has consistently put primary control in the hands of the federal government, rather than the First Nation communities themselves (McTavish et al., 2012, p.p. 209). Funding programs have also been described as inflexible and difficult for communities to navigate. Furthermore, the Indian Act prevented any private ownership of reserve land, making it impossible for homeownership or any type of housing market to exist on-reserve (Olsen, 2016, p.p. 83-84). These factors made it difficult for housing programs in First Nation communities to thrive and often lead to poorly constructed homes with Eurocentric designs that proved unsuitable to the needs of community members (McTavish et al., 2012, p.p. 208).

In response to recommendations made in the Royal Commission on Aboriginal People in 1996, new programming for First Nation housing was developed by Indian Affairs and Northern Development Canada (INAC) in an attempt to give increased control to First Nation communities, more flexibility, shift towards home ownership, and look to increase training and work related to housing, thus strengthening each community's economy (Auditor General, 2003, para. 6.26). Communities were given the option to sign on to the programming, or to continue under the programming from the 1960s. This program promised investments of 140 million over 5 years; however, at the time the Assembly of First Nations estimated there was need for 750 million dollars annually and 2.5 billion dollars more to deal with the gaps in housing (Auditor General, 2003, para. 6.8).

Therefore, despite this new programming, housing conditions in First Nation communities continued to decline. In 2005 the federal government negotiated the Kelowna Accord with First Nation leaders. This agreement aimed to inject $1.6 billion dollars into First Nation housing and again, look for ways to encourage home ownership; however, the election of 2006 saw a change in federal leadership and the Kelowna Accord was never brought to fruition. Three years after the agreement, only 42% of the funds promised by the previous government had been administered (McTavish et al., 2012, p.p. 209). Thus, federal attempts to alleviate the housing crisis in First Nation communities have failed at every turn. Communities have continued to be bogged down by restrictive, burdensome, and complicated funding models; most new builds continue to mimic Eurocentric designs; lack of capacity in building and managing homes has led to poor quality of construction; and there is still a mass shortage of housing and many communities facing severe overcrowding.

Historian Sylvia Olsen (2016) has done an extensive amount of research in the history of government policy specific to First Nation housing. Through her work, Olsen theorizes that government policy for on-reserve housing has been designed to fail, and that the current housing crisis is partially a result of inadequate and culturally insensitive policy that has diminished Indigenous autonomy over housing.

2.3 Gaps in Government Programming

As previously stated, the federal government provides funding to address housing in First Nation communities. In order to track progress in this area, the government has conducted several investigations into the conditions of housing on-reserve and the current housing policy through parliamentary and senate committee reports, internal departmental audits, and audits conducted by the Office of the Auditor General of Canada. For example, the Senate produced a study in 2015 outlining the challenges and successes of on-Reserve housing (Dyk, et al., 2015); the Auditor General of Canada provided a report specific to housing on-reserve in 2003 with follow-ups in 2006 & 2011, as well as an audit on socio-economic gaps on First Nation reserves in 2018, which includes a brief overview of housing. Indigenous Services itself has also conducted internal audits as recently as 2016.

These reports provide much insight into the weaknesses of the government's approach to housing on-reserve, as well as chart the progress that has been made in improving the policy over time. The Senate study, "Housing on First Nation Reserves: Challenges and Success", touches on the significant gaps that exist in housing on-reserve as well as issues of overcrowding, poor physical conditions of buildings, gaps in building code application, the problem of mould infestation, and challenges communities face in working with the department of Indigenous Services to address housing (2015). The report states that the First Nation Financial Management Board estimates the infrastructure deficit on-reserve is between $3 and $5 billion, while the department of Indigenous Services Canada estimates the deficit at approximately $8.2 billion (Dyck et al., 2015, p.p. 8). Furthermore, the committee report notes the deficit in infrastructure often means a delay in housing construction on-reserve, which often leads to overcrowding (2015, p.p.9). Yet the bulk of the recommendations and report details focus on the financial and legislative barriers that contribute to the poor housing conditions that exist in First Nation communities rather than detailing the conditions themselves. There is an emphasis on the diverse needs of each community and the limitations faced due to inflexible government funding programs (p.p. 37). Furthermore, lack of jurisdictional clarity between the band, the province, and the federal government in addition to a failure to consistently implement building codes are flagged as contributing factors to the present housing crisis (p.p. 20).

There is also a strong emphasis on the inadequacies of funding programs through CMHC and ISC, the lack of a sustainable housing market, and barriers to private ownership and rental regimes (p.p.16-18). Furthermore, there is a significant portion of the report dedicated to the need for building capacity to manage housing and infrastructure within First Nation communities (p.p. 19). Finally, the report acknowledges the need for increased funding for remote communities due to the high cost of building and renovating in isolated communities. The current funding formula that accounts for remoteness was deemed inadequate and the committee recommended an increase to account for the high need (p.p. 25). In total, there are 13 recommendations in the report related to the above mentioned themes. Overall, the Senate's

study acknowledges the significant gaps that exist in housing on-reserve, and the challenges communities and individuals face when trying to access federal funding through Indigenous Services, private financial institutions, or CMHC.

In addition to the historical information surrounding government intervention in on-reserve housing mentioned previously, the Auditor General's Report of 2003 and subsequent follow-up reports (2006 and 2011) specifically highlight the government's responsibilities in relation to the inadequate housing conditions on-reserve. In the 2003 Report, there is a strong emphasis on the need for INAC[1] and CMHC to clearly define their roles in housing in First Nation communities (para. 6.1). It also outlines the diversity in each community and the need for funding to be flexible and streamlined, so that communities are able to access it with ease (para. 6.3). There is specific reference to the relationship between inadequate government programming and housing conditions; housing stock deteriorates quickly due to overcrowding, poor construction, and lack of proper maintenance (para. 6.14). The report also looks at the connection between economic hardship and housing conditions, pointing to the fact that unemployment is on the rise making market housing and rent regimes difficult to implement (para. 6.15).

Similar to the 2015 Senate report, the problems of mould contamination, and lack of a mould remediation plan, as well as inadequate building code enforcement are outlined (para. 6.47-6.48). There is a strong and in-depth focus on the shortcomings of CMHC and INAC funding programs, the need for financial transparency, and the fact that many community housing plans are not being implemented (para. 6.60-6.64). Furthermore, the report criticizes funding models based on population and location rather than actual need (para.6.76). Internal Audits by the department of Indigenous Services (2016) shows that there has been no shift to need-based funding (p.p. 9). Despite the department accepting the report recommendations, the subsequent follow-up reports also note there remains a confusion in terms of jurisdictional responsibility (provincial government, federal government, and First Nation Government), funding options, and a severe lack of resources to keep pace with the growing need (Auditor General, 2011).

2.4 Mould in Housing

As previously stated, mould contamination is identified as a serious concern across First Nation communities and is mentioned in numerous government reports. Mould contamination occurs when excess moisture and nutrients that help it grow are present in the home (Mould in Housing, 2018, para. 1). In response to government recommendations, CMHC has prepared information booklets on mould for occupants, housing managers, and builders and renovators

[1] The department responsible for federal service delivery has changed several times throughout the years. Indian and Northern Affairs Canada (INAC), Aboriginal Affairs and Northern Development (ANNDC), Indigenous and Northern Affairs Canada (INAC), and now Indigenous Services Canada (ISC).

(Mould in Housing, 2018). CMHC also distributed infographic posters to simplify information for the public (See Appendix E and D).

According to CMHC infographics (2018), several construction-related factors contribute to mould contamination. Firstly, poor maintenance of shingles and flashing can lead to leaks and moisture in the home. There is also a need for properly insulated and sealed attics. Secondly, foundations and basements must be inspected for leaks and moisture; efforts to improve drainage through proper landscaping is also useful in preventing moisture in the home. Thirdly, windows can often be a source for unwanted moisture; proper weather stripping, energy efficient windows, and moisture resistant framing material can reduce the risk of mould as well. Finally, using moisture resistant building materials and installing proper interior ventilation are identified as important tools for preventing mould contamination. Energy efficient exhaust fans and Heat Recovery Ventilation systems (HRVs) are also recommended. CMHC's *Mould in Housing: Housing Manager's Handbook* (2018) explains mould contamination is also attributed to any excess moisture in the home including, but not limited to, "leaky pipes, condensation on cold surfaces, or from water seeping through a wall, foundation, floor, or roof" (p.p. 1). The guide also notes that occupant activity, such as cooking, showering, and laundry, can attribute to excess moisture, and in turn, mould (p.p. 1) All of these risks for mould growth are compounded by the overcrowding that exists in many homes on-reserve. Guidelines for assessing the extent of mould contamination, as well as methods for cleaning mould, are also included in the CMHC literature.

Optis, Shaw, Stephenson, and Wild (2012) specifically investigate the presence of mould in many homes on-reserve. Their research creates links between ventilation, occupant activities, and overcrowding can lead to an increase in mould growth (p.p.17). There is also a focus on how structural integrity including housing envelop, drainage, lack of insulation, lack of eaves troughs, and poor plumbing are contributing factors to the mould problem (p.p. 18). Furthermore, Optis et al. examine how socioeconomic factors, including the lack of homeownership on-reserve, inadequate funding, foreign building methods and materials, and euro-centric home design, have compounded the mould crisis (p.p. 17-18). The link between mould contamination, air quality, and health are also mentioned (Optis et al., 2018, p.p. 14). Finally, Optis et al. confirm that the shift to energy efficient air-tight homes on-reserve (R 2000) have led to an increase in mould due to improper ventilation, which often is the result of occupants not being trained to maintain and operate HRV systems (p.p. 19).

2.5 Evaluating Indigenous Housing Programs

Many of the above mentioned government reports note the lack of efficient and reliable means of evaluating housing on reserve both in terms of actual need, mould contamination, physical condition, and the impact funding programs are having on the housing problem. In fact, the 2018 Spring Report to the Auditor General of Canada notes that the housing data available through the current ISC data collection tool is not being used by the department of Indigenous

Services to inform programming (para. 5.29). To put this point in perspective, the 2016-2017 data for NAN communities was requested from ISC by NAN for use in this project in spring of 2018; as of February 2019, the data has yet to be released to NAN.

The Auditor General of Canada Report (2003) mentions a lack of evaluation in housing programs on-reserve. As a result, Parliament is not receiving an accurate view of the housing conditions on-reserve or how funding and changes in policy are impacting the housing conditions (para. 6.4). The Internal Audit conducted by Indigenous Services in 2016 also specifically points to housing evaluation as an area that needs vast improving. The reports approach this topic from both a fiscal and socioeconomic perspective, which lends a balanced view to the topic. There is an emphasis on the need for adequate baseline data, especially in regard to mould in housing, in order to fully understand the scope of the crisis and create a plan to address it (p.p.16). In fact, all of the government reports referenced in this paper note there is a significant issue with mould in homes on-reserve, and that little has been done to assess the scope of this problem (Auditor General, 2011).

Researchers studying housing evaluation on-reserve also note that common methods of determining housing needs in mainstream Canada are inefficient when applied to the unique circumstances of First Nation housing. For example, Clatworthy (2009) notes that CMHC's has four main consumption areas that form the base for housing need assessment: affordability, adequacy, and suitability. If there is a deficiency in one of these consumption areas and there is inadequate means to purchase a new dwelling that would address the deficiency, then there is considered to be a "core housing need" (p.p. 20). Clatworthy further notes that attempts to apply this evaluation process to homes on-reserve can cause several issues. Firstly, without a thriving housing market, affordability is not an accurate means of measuring housing need. Furthermore, access to a home that would address any core housing needs may be hindered due to lack of availability, and the inability to purchase a home and/or land to build a home (p.p. 20). Clatworthy's study also exemplifies the limitations of current data. The study focuses on census data from 2001, while having to adjust data in order to make up for areas that have poor census participation (p.p. 20). Clatworthy also uses data from Indigenous Services Canada's Integrated Capital Asset Management System, which other bodies of work have noted is inaccurate and unreliable (Internal Audit, 2016). Therefore, in order to best assess the actual need of housing on-reserve across Canada, Clatworthy chooses to focus on suitability in terms of overcrowding and multiple family dwelling based on existing available data.

The bulk of research completed in housing evaluation has focused on the impact of health, the issues of overcrowding, mould, ventilation, problems with accessibility, and the need for culturally appropriate designs that also take into consideration the weather conditions of the region. For example, Larcombe, Nickerson, Singer, Robson, Dantouze, McKay, and Orr (2011) used a door-to-door survey method to compare conditions in a remote Manitoba First Nation

community and a rural community with road access to major centres. The basis of their research is that "housing and health are inextricably linked" (p.p. 142). The questions focused on Tuberculosis, general health of occupants, number of occupants and number of rooms, proper drainage and eaves troughs, ventilation systems, and heat source (p.p. 143-45). They also note that the culture of having transient guests in community homes was very common and impacted their study. McTavish et al. used a combined method of housing-related community workshops, and a survey asking community members to rank their top three housing issues. The results of that survey show that affordability, lack of housing, and durability of housing were the three most consistent concerns of residents. Affordability was related to efficiency as community members noted they have high utility bills. Accessibility, especially for the elder population, was also a large concern. Finally, the survey noted that culturally appropriate and weather appropriate design were also of concern (p.p. 211-215).

Researchers in Indigenous housing evaluation also note that there has been limited work completed in this specific area across Canada (Eberle, Thomas, Salmon, 2012, p.p. 4-5). There is a difficulty in measuring the physical condition of the homes; however, there is also little research on the connection between the condition of the home and qualitative outcomes such as community building, self-esteem, and the impact on mental health. Therefore, there has been a call for a renewed means to evaluate Indigenous housing that takes into account Indigenous perspectives and ways of knowing (Eberle et. al, 2012, p.p.4-6). There is also a strong emphasis of ownership of data and reports and building evaluation capacity within communities so that sustainable evaluation of housing programs can be achieved (Eberle et al., 2012, p.p. 6).

2.6 Summary of Literature Review Findings

The literature review supports NAN's perspective that housing in many First Nation communities is indeed in crisis. The reports detailing the pervasiveness of mold contamination, overcrowding, poor construction, and housing shortages paint a bleak picture. Furthermore, government intervention throughout the years has failed to address the root causes of the housing crisis in First Nation communities. There is a consistent theme of inadequate, culturally inappropriate, and inconsistent data collection and program evaluation taking place on-reserve. This gap in evaluation makes it difficult for communities to move forward in developing and implementing successful strategic plans in relation to housing.

3.0 Methodology and Methods

Given the urgent nature of the current housing crisis in NAN territory, Nishinawbe Aski Nation requested the report be completed in a timely manner. The report is also required to complement current housing evaluation initiatives that are in progress across NAN territory without duplicating other research taking place. Therefore, the decision to base the evaluation framework on information from the literature review, document analysis, and input from the client was made. As a result, a qualitative analysis approach was taken in order to accommodate the urgent timeline and ensure that a culturally appropriate evaluation framework developed.

3.1 Methodology

The project research framework is based on a qualitative analysis approach, which Patton describe as, "interpreting interviews, observations and documents [...] to find substantively meaningful patterns and themes" (2014, Module 1). The goal of the project is to design an evaluation framework that allows NAN to better understand the condition of the current housing stock in the 48 communities. As Patton discusses, the ultimate goal of program evaluation is to improve effectiveness of a program based on useful information (2014, Module1).

Essentially, the research for this project focused on examining housing evaluation principles that have been applied in other Indigenous and non-Indigenous communities and have produced the desired outcome of improving housing evaluation and, in turn, improving housing conditions. The research approach also included conducting document reviews of housing surveys and reports from ISC, NAN communities, Tribal Councils, and NAN. Efforts were made to find these evidence-based principles in Indigenous evaluation, especially those related to housing.

In keeping with recommendations from the literature on Indigenous evaluation, options for implementation that include community and stakeholder consultation are presented (Reciprocal Consulting, p.p. 7). Thereby ensuring the evaluation framework accurately reflects the goals and values of the communities NAN represents.

3.2 Methods

Document review and analysis were the primary means of collecting information for this report. Reviews of the following documents were conducted:

- ISC Integrated Capital Management System reports for NAN (2016-2018)
- Samples of Data Collection Tool DCI 51707 (Bearskin Lake and Deer Lake)
- Community Well-Being Index Reports for NAN communities
- Examples of community level housing plan (PATHS) (Bearskin Lake)
- NAN's position paper on housing
- Minutes from NAN's 2018 Infrastructure Summit

- NAN's Traditional Principles for housing
- Presentation and report on housing crisis in Cat Lake First Nation
- Approximately 8 current and previous housing evaluation initiatives in NAN Territory including surveys by the Assembly of First Nations and the 2016 Census
- Building and occupancy standards (Ontario Building Code, National Occupancy Standards, CMHC publications on mould)
- Reviews of current ISC policies and procedures regarding housing, in particular assessing housing needs (4 Auditor General Reports, the Senate Committee report, the INAC internal Audit, First Nations National Housing Strategy, in addition to scholarly articles in the literature review).

3.3 Data Analysis

The focus of this project was the creation of a new data collection tool. Therefore, no raw data was collected from occupants, technical professionals, or community leadership. Analysis of internal documents and data previously collected for NAN's use were used.

Throughout the project, thematic analysis was used to interpret the data. While themes for analysis were identified in the literature review, an inductive approach was also used to allow for additional themes to emerge during the data analysis (Thomas, 2006). Data and literature on the topic were read and re-read for familiarization. Themes were identified and data was used to support those themes. Throughout the process, themes were adjusted, renamed, or new themes were added based on the data. As a final step the data and the themes from the literature review and document analysis were combined in the discussion section (*About Thematic Analysis*, N.D.).

3.4 Project Limitations and Delimitations

Limitations

The diversity that exists in each NAN community in terms of culture, traditions, approach to housing, and need for housing made it difficult to produce an evaluation framework that will be universally accepted and applied within the territory. Although the data collection tool and logic model took into consideration the varying level of training and experience community housing inspectors have across NAN Territory, it is always difficult to apply a one-size-fits-all model to a diverse area and population.

The remoteness of the communities were also a factor as much of the research available focuses on rural and urban communities. These communities face some similar challenges, but the remoteness of NAN communities does seem to have a large impact on the housing situation.

Delimitations

While an important goal for NAN is to develop a long-term solution for the current housing crisis, this project will only serve as a small piece of that larger puzzle. This project will result in a new evaluation framework that will assist technicians in determining the need in terms of occupancy levels and structural integrity.

4.0 Findings: Document Analysis

4.1 Introduction

Through analysis of internal documents and a review of current government policies and strategies, several themes in housing evaluation in NAN Territory emerged. It is evident that current and past methods used to evaluate housing require improvement. Without having a well-rounded understanding of the current housing conditions in the territory that include evidence-based and accurate baseline data, measuring program success and strategically planning for the future remains difficult.

4.2 NAN's Position - Housing in NAN Territory

In 2014, NAN Chiefs acknowledged there was a housing crisis in NAN territory; this call for action was renewed during the NAN Spring Assembly in 2018, as current programming is not keeping up with the need for housing (NAN and Design Lab, 2018, p.p. 6). In response to the First Nations National Housing and Infrastructure Strategy, Nishnawbe Aski Nation has developed a position paper outlining their recommendations in regard to housing on-reserve. The paper outlines many of the themes that occur in the literature review, such as the need for self-determination in housing, the need for culturally appropriate design, the inadequacy and restrictive nature of current funding models, the unique needs that exist in each community, the connection between health and housing, and the need for participatory research when addressing housing in NAN territory (NAN and Design Labs, 2018).

According to NAN's position paper, the average person per household in NAN Territory is 4.8; this is far greater than the national average of 2.4 persons per household. Furthermore, 49% of the dwellings in NAN territory are in need of major repair (NAN and Design Lab, 2018, p.p. 4). This supports the themes of overcrowding and poor condition that appeared during the literature review.

4.3 Data Collection Instrument - Results of Available Data

The Data Collection Instrument (DCI 41701), called *Community Infrastructure and Housing Report*, is implemented at the tribal council or community level. Data is collected by technicians and submitted to Indigenous Services Canada to be compiled in the Capital Asset Management System. As previously noted, NAN requested the 2016-2017 data in spring of 2018 and has yet to receive it. Therefore, data from 2015-2016 was analyzed for the purpose of this project.

Based on the 2015-16 year, the data collection tool does not account for housing density, thus, information on dwellings was combined with population rates from Statistics Canada; however, some communities did not have adequate census results, and, ISC's calculation of the number of registered band members living on reserve was utilized. This supports the theme of

the problematic nature of relying on colonial measurement tools found in the literature review. Based on the available data, approximately 40% of NAN's communities have housing densities at or above 4.3 persons per dwelling[2]. Only the communities of Weenusk, Wahgoshig, Muskrat Dam, Webequie, Chapleau Cree, Chapleau Ojibway, and Matachewan have housing density at or below the 2.4 persons per dwelling that makes up the national average. Therefore, only 16% of NAN communities have housing density rates on par or below the national average; thus, 84% of the communities in NAN territory are above Canada's average in terms of housing density (See Appendicx D for full results).

The data also shows that water and wastewater management systems are in need of upgrading, which can impact the quality of housing. This falls under the category of related infrastructure, but at times can impact the longevity of homes. For example, 764 homes in NAN communities have truck-haul water service according to the 2015-16 ICSM data. For many, this means a water-holding tank is installed in the home. This can cause several problems including condensation, water damage, rot, and mold. As outlined by CMHC, any leakage of water from pipes, tanks, or outside seepage can result in a mould problem (*Housing Manager's Handbook*, p.p. 14-15).

In addition to the annual DCI 41701 data collection, approximately 25% of the communities in NAN Territory were evaluated in terms of housing in Indigenous Services' Community Well Being Index (CWB) Report 2011, excluding the those that were registered on the CWB but did not have enough data on housing to be rated. The remaining communities were not evaluated on the scale at all due to a lack of data in all areas; again, demonstrating the inefficiencies of colonial measurement tools when applied to Indigenous housing. According the report, "[housing] component scores are only included if the community has a population of at least 250 individuals and the sum of the numerators used to calculate the Housing component had at least an unweighted count of 4 and weighted count of 10" (*About the CWB*, 2011, para. 7). The evaluation results are presented on a scale of 0-100 with 100 being the best result possible. The following table summarizes the CWB results in comparison to the housing density, the percentage of homes in need of replacement, and the percentage of homes in need of major repair. Surprisingly, the majority of communities evaluated received a passing grade of 50 points or more despite evidence of overcrowding and a significant need for repair or replacement in the Integrated Capital Asset Management. Therefore, not only did the CWB fail to measure the housing conditions in the majority of NAN communities, the resulting point system does not clearly identify the housing issues that exist. The table below (See Table 1) compares the CWB results in 2011 to the data collected for ISC in 2015-2016

[2] Population based on ISC registered band members on reserve. Dwelling information based on ISC Capital Asset Management System

Table 1: CWB Results compared to Data Collection Instrument DC 41701

Community	CWB Housing Score out of a possible 100 points	Housing density based on population and ISC data (2015-16) Persons/dwelling	% of dwellings in need of replacement (2015-2016)	% of dwellings in need of major repairs (2015-16)
Cat Lake	53	5.0	7.9%	28.6%
Wapekeka	72	4.3	0%	0%
Long Lake #58	82	4.3	4.1%	8.2%
Constance Lake	81	3.7	30.9%	24.2%
Aroland	73	2.9	1.8%	14.2%
Keewaywin	55	4.3	0%	26.4%
Fort Severn	50	5.7	0%	17.4%
Deer Lake	47	4.8	3.1%	35.6%
Lac Seul	72	2.8	1.6%	25.8%
Muskrat Dam	82	2.5	3.9%	2.9%
Mishkeegogamang	32	4.8	8.3%	33%
North Spirit Lake	67	4.9	2.2%	17.8%

Information on accessibility, mold contamination, ventilation, housing density, and heat source were not present in any of the data analyzed. These are areas that have been identified as problematic in government reports yet little has been done to evaluate housing with these factors in mind.

4.4 Current Initiatives in Housing Evaluation

The Together Design Lab at Ryerson University, NAN, and the University of Waterloo has joined together to develop an occupant survey to be implemented across NAN territory. This survey will aim to capture the occupant experience in terms of "social and psychological community well-being" (*Whose Metrics?,* 2018, para. 1). The team notes that current methods of evaluation are restricted to "limited physical and quantitative" measures (para. 2). Throughout the process, the group hopes to develop an evaluation framework based on social and psychological determinants that will be ready for implementation within 3 years (approximately 2021). This initiative will be an important piece of NAN's overall evaluation of housing; however, to date there is no plan to include a new design for the assessment of quantitative and physical conditions of housing, which is also a necessary and important tool for evaluating housing in NAN territory. Therefore, this project will aim to revitalize the quantitative and physical data collection tools in a way that complements, but does not duplicate, the work that is being done through occupant surveys. The critical state of housing in NAN territory means that a smaller-scale solution to housing evaluation must be implemented as soon as possible. By focusing on the quantitative and physical data collection beginning next fiscal year, this project will provide some much needed insight on the current housing conditions while leadership waits for the complementary occupant-based evaluation tool to be developed and implemented.

A similar project was implemented by Eabametoong First Nation in partnership with Together Design Lab. An occupant-based survey was developed and distributed in the community. The survey was designed through consultation with community members in community workshops (NAN, 2018). The survey focused on the social and cultural role of housing. Eabametoong has not shared either the survey format and questions, or the resulting data with NAN. Therefore, analysis of the format and results for the purpose of this report was not possible.

The current data collection tool used by ISC is limited in detail and difficult to access in a timely manner. As previously stated, NAN requested the 2016-2017 housing data from Indigenous Services in spring of 2018. As of Februrary 2019, NAN has not received these numbers from ISC; thus, there is a serious lag in receiving data on housing conditions. It is extremely difficult to implement or design a housing strategy for the future when baseline data is not made available in a timely manner. Furthermore, it is difficult to evaluate program effectiveness without access to timely data. This shows that a community driven data collection tool focusing on the physical condition of housing is necessary in order for NAN and each individual community to receive timely feedback on the progress of their housing programs. Therefore, the data collection tool must be easy to implement and serve as the basis for a quick reporting process, while also ensuring it is complementary to the occupant-based survey that will be developed in the future.

As previously mentioned, ISC is working with AFN to increase engagement with First Nation communities on housing in response to the internal audit of ISC in 2016. Part of this process includes a community survey on housing that has been distributed to the over 630 band-council run communities across Canada. The questionnaire is to be filled out by community housing representatives. The survey collects community information such as population by age group, whether the community is remote, and the length of construction season. The next section of the survey is related to the individual completing the questionnaire and focuses on the individual's official role, training and career experience, what types of data is collected on housing, and whether asset management plans are in place. The third and final section of the questionnaire focuses on the existing housing stock. The survey requests information on types of dwellings in the community (i.e. apartment, single dwelling, triplex, fourplex, mobile home, etc.); number of supportive housing units, such as elder's residence or shelters and transitional houses; housing subsidies and ownership; age of home, dwellings in need of replacement and organized by type, and replacement costs; and finally houses in need of repair and the cost of repair (*National Data Collection Exercise*, 2019). This survey proves to be similar to the DC 41701 data collection tool already implemented by ISC with slight improvements to the amount of detail requested and the inclusion of the information on the person completing the questionnaire.

4.5 National Occupancy Standards

The National Occupancy Standard (NOS) was developed in order to assess the suitability of housing across Canada. Suitability is defined as whether a dwelling meets the standards outline by the NOS including having an adequate number of bedrooms (*Housing Suitability*, para. 1).The standard from 2013 to present includes standards for measuring overcrowding. There are two types of measurements used: people per room and people per bedroom. Bedrooms cannot include rooms that have other purposes during the day (i.e. living rooms or kitchens etc.). The NOS set the following standards: maximum two people per bedroom; lone parent of any age have a separate bedroom; household members 18 years or older have a separate bedroom except those living as a common-law or married couple; it is acceptable for household members under 18 of the same sex to share a bedroom as long as neither one is a lone parent or part of a common law partnership or marriage; it is acceptable for opposite sex children under the age of 5 to share a bedroom if it reduces the number of bedrooms needed; individuals living alone may not require a bedroom (i.e. living in a studio or bachelor apartment) (Housing Suitability, para. 5-6).

Based on the housing density numbers in NAN territory, there may be a large number of homes that would be considered unsuitable; however, data collection for Aboriginal communities has proven difficult as communities in NAN territory have been included in part of a Census Agglomeration, meaning the results from NAN communities have been lumped together with non-Indigenous towns and cities in the Kenora district (Housing in Canada Online FAQs, 2018). The information gathered by Statistics Canada is then compiled into the Housing in Canada

Online data table. This table also aims to measure core housing needs; however, as previously mentioned, applying these systems of measurement to Indigenous communities proves difficult (Clatworthy, 2009).

4.6 Cat Lake Housing Crisis

In November of 2018, Cat Lake First Nation hired Trinity Contracting and North Rock Environmental to perform comprehensive housing inspections in the community. The draft report *Comprehensive Residential Inspections: Cat Lake* was shared with NAN and reviewed for this project. The evaluation included full Wood Energy Transfer Technology (WETT) inspection in addition to an assessment of mould (using the categories of small, less than 10 square feet; medium, 10 to 32 square feet; and large, over 32 square feet). The general form accounted for number of occupants, number of bedrooms, type of foundation, ventilation system, number of bathrooms, type of heat, building envelope, and electrical safety. 110 homes, picked at random, were inspected for general indicators, 55 homes were further inspected for mould contamination, and 55 wood-heated homes had the WETT inspection.

These inspections were completed by a team with extensive experience in construction, environment, and mould. This team was brought into the community to perform the inspections. The results were broken down into the following categories: health and life safety, building construction, and building conditions. The report shows that of the 55 homes inspected for mould 16 had small mould contamination, 18 had medium mould contamination, and 27 had large mould contamination. Of the 55 WETT inspections completed, none of the homes were in compliance with manufacturing standards or inspection standards. The remainder of the report shows significant gaps in electrical safety, fire and carbon monoxide safety, poor construction, and poor physical condition in most of the homes. In total, 87 homes were recommended for replacement, the remainder of the homes were recommended for renovations (p.p. 13). The report notes that it is difficult to estimate the total cost of replacement and renovation given the high cost of construction in the remote north (p.p. 12).

4.7 Summary

Overall, the document analysis demonstrates that housing conditions in NAN Territory are significantly below par; especially when compared to National Occupancy Standards and the census results for off-reserve housing conditions. The majority of First Nation communities have a much higher housing density, a higher portion of homes in need of major repair or replacement, and a large number of homes with truck haul water service. While these emerging themes are important, the use of colonial systems of assessment, such as the census and ISC's DCI 41701 data collection tool, demonstrate there are still gaps in knowledge on important areas of housing conditions. For instance, there is little information on mould contamination, heat source, ventilation, accessibility, as well as the number of people dwelling in the home. Current initiatives are in place to better evaluate the social impact of housing through occupant-based

surveys; however, a comprehensive structural survey for housing managers, inspectors, and technicians has not been created to date.

5.0 Discussion and Analysis

In this chapter, the information discovered in the literature review and the document analysis are synthesized and presented as a basis for recommendations and options. The chapter places the findings within the context of previous research and reinforces the necessity for a comprehensive housing evaluation framework in NAN Territory. While the findings demonstrate that there is indeed a housing crisis in NAN Territory, this chapter explains how a re-imagined data collection/evaluation tool can support NAN, individual communities, and the federal government on how to strategically address the problem.

5.1 Why Housing is Important

The literature review and document analysis demonstrate that housing in First Nations communities is extremely important and impacts First Nations communities in a variety of ways. A consistent theme throughout the research is the "inextricable" connection between housing and health outcomes with an emphasis on the direct and indirect impact overcrowding and poor construction has on the spread of communicable disease (Larcome et al., 2011, p.p. 142). Furthermore, connections between the mould contamination and respiratory health is a reoccurring theme both in the literature and NAN's internal documents (NAN's Response, 2018, p.p. 23).

While it is noted that it is scientifically difficult to establish a direct relationship between housing and health, several initiatives are underway in NAN Territory, including a study of air quality and how it impacts respiratory health. The Auditor General Report (2011) followed up with recommendations on housing made in 2003 and outlined that housing conditions were worsening in First Nation communities and could not be ignored due to the connection between housing conditions, health, education, and overall social conditions (para.4.3). Therefore, with so many factors of occupant well-being resting on the condition of housing, it is important that efficient program evaluation and accurate data collection exists.

5.2 The Need for Data Collection

While the findings show that current data collection tools demonstrate a large number of homes in NAN Territory are in disrepair, there is little information on areas that have been identified as problematic in the literature review, especially those linked to mould contamination and overcrowding. The Report to the Auditor General (2003) states, "Parliament is not receiving a complete picture of the housing situation on-reserve and what is actually being achieved with departmental and CMHC funds" (para. 6.4). The document analysis shows there is little data on type of home, number of people in each home, number of bedrooms, heat source, ventilation systems, mould contamination, and age of the home. Furthermore, the means for measuring structural damage is limited to a data collection tool with broad categories that provide little insight into the actual condition of the home; in reference to the current data collection tool, the

Report to the Auditor General (2003) states, “In our view, the information provided does not tell the whole story” (para. 6.92).

Furthermore, the research process in this report and information gathered in the literature review shows that improvements need to be made in terms of sharing data between all parties. As previously mentioned, ISC failed to provide the 2016-2017 ICMS data for NAN communities in a timely manner, which works against smart practices in Indigenous evaluation that recommend transparency and community ownership of data (LaFrance et al., 2012, p.p. 72) The Report to the Auditor General (2003) also commented on this issue stating, “the information to manage on-reserve housing assistance and measure the results achieved is inadequate and is not shared consistently between the Department and CMHC” (para. 6.75); more importantly, this information does not seem to be shared with communities in a timely manner. The Spring Report to the Auditor General (2018) shows little improvement has been made in terms of collecting and sharing data on housing noting that the Community Well Being Index initiative did not utilize much of the information available to ISC, specifically the information on housing (DC41701 data collection tool) and water quality (2018, para. 5.29). A community driven data collection process would ensure communities have up-to-date, relevant, detailed information to inform their decisions surrounding housing.

The results of the comprehensive inspection of homes in Cat Lake First Nation demonstrates the inadequacies of the current data collection tool. While the CWB rates housing in Cat Lake at a 52 out of 100, the ICAMS numbers indicate 10 homes in need of replacement and 36 in need of major repairs. These numbers are drastically different from the 87 homes identified for replacement by the comprehensive inspection team, not to mention the 27 homes with large mould contamination (Hosegood & Garetti, 2018). These results are alarming and show the discrepancy between the current forms of housing evaluation implemented on-reserve and the actual physical condition of the homes. While ideally such an in-depth inspection could be completed in each NAN community on an annual basis, the large cost involved in such an initiative makes it an unachievable goal at this point in time. Furthermore, the use of external teams brought into the community is not a long-term solution. In order to meet the goals of this report, a data collection tool must be developed that is more comprehensive than the DCI 41701, cost effective, and simple enough to be implemented by inspectors at the tribal council and community level; more must be done to build the capacity to evaluate homes within in the community rather than outsourcing this work to external experts.

As referenced in the literature review, accurate data collection and effective evaluation is essential in building a successful program. At this point in time, First Nation communities, political advocacy groups, and the federal government are managing what NAN (2018) has termed, “the most valuable asset” in a community, the homes, without all the facts; they are operating with only part of the information needed. While initiatives are underway to address

the gap in evaluating the occupant experience, there is no current initiative underway that addresses the lack of detailed data on the physical condition of the home and the home's system.

5.3 Planning for the Future

By filling in gaps information, a comprehensive data collection tool could provide important insight for future planning. For example, once information on the type of home is collected it is possible that communities may see a pattern in which type of home repeatedly exhibits the same issues. This in turn will serve the community when deciding which types of homes to build in the future. Communities will be able to track which types of homes have a pattern of chronic issues, and which homes are more sustainable. Moreover, attempts to diversify housing requires an understanding of the current housing stock; this is important in ensuring community members in all life stages have a safe place to call home. For example, if a community has a disproportionate amount of 3 bedroom homes that are inaccessible, they may be experiencing a shortage in housing for the elderly, the disabled, and single community members. With this knowledge in hand, communities can plan to diversify the types of homes being built in the future.

Furthermore, the current collection tools do not attempt to assess the overcrowding that exists in NAN Territory. Through detailed data collection a community can gain a clear understanding of the actual housing needs in their community, and therefore, have a better understanding of the cost associated with addressing the housing crisis. This allows communities to financially plan for the future and gives them a solid basis in advocating for funding from ISC and CMHC.

Finally, the overwhelming demand for a clearer understanding of the extent of the mould contamination demands that the data collection methods be re-visited. There is currently no standard evaluation tool that is being implemented in NAN communities. As the Auditor General Report (2011) states, this lack of data makes it difficult to create a strategic plan to remediate the mould in First Nation communities (para. 4.35). Without a better understanding of the extent of mould contamination it is near impossible to allocate proper funding and planning to address the situation once and for all.

5.4 Evaluation Criteria:

Based on the literature review and document analysis, as well as discussions with the client, the following areas should be included in any comprehensive survey:

1. **Mould Contamination**: CMHC has developed a scale for visual inspection of mould. These categories of small, medium, and large mould growth should be utilized in order to gain a fuller understanding of the extent of the mould problem.

2. **Ventilation**: Since ventilation is identified as one of the contributing factors to mould contamination, it is important to document what type of ventilation systems, if any, are in place and functional.
3. **Heat source**: Heat source can also play a role in ventilation and mould contamination as some systems actively move air throughout the home (i.e. furnace system with air ducts), while others radiate heat from one source in the home (i.e. a woodstove).
4. **Overcrowding**: Using the criteria provided by the National Occupancy Standards (NOS), information on overcrowding can be collected. In order to avoid duplicating variables that will be collected by the occupant-based survey in the future, evaluation should focus on number of people per home and the number of bedrooms per house. Evaluator should ensure that transient guests are included in these numbers as this issue has been highlighted throughout the literature review. Housing density for the entire community should also be included. Information from the band office regarding the number of people waiting for homes to become available should also be collected.
5. **Type of home**: In order to diversify housing and meet population needs, as well as track sustainability of certain designs, the type of home should be recorded. The following categories are applicable: mobile home, log home, single-detached, duplex, triplex, fourplex, or apartment building. Special notes should be made for R2000 energy rated homes, as the client and literature review suggests the airtight nature of these homes can cause ventilation and mould problems (Optis et al., 2008, p.p. 19).
6. **Foundation type**: As directed by the client, the following categories should be considered for evaluation: crawlspace, concrete core floor, basement, post and beam foundation, and wood core floor.
7. **Water and Sewage**: Categories that currently measure water and sewage service in the DCI 41701 data collection tool utilized by ISC is adequate and provides important information including the presence of water-holding tanks (truck haul water), which can lead to excess moisture and mould growth in the home.
8. **Repairs:** The current categories for measuring repairs needs to be more clearly defined. In consultation with the client, the category of major repairs should include any repairs over $5000.00 in cost and/or any repairs needed to improve the structural integrity of the home and/or tenant health and safety. Minor repairs should also be recorded and categorized as any repairs that would cost less than $5000.00 and/or do not impact the structural integrity of the home or tenants' health and safety. Replacement should be categorized as homes where the cost of repair is less than the cost of replacement and/or the home in its current state is not safe for tenant occupation. Adequate homes can be categorized as those that meet the occupational health and safety standards outlined by CMHC.

5.5 Summary

With the inadequate, cumbersome, and limiting evaluation tools currently being utilized in First Nation housing, it is clear that a different approach must be created. The occupant-based survey that will be rolled-out over the next three years will provide a much needed look at how housing is impacting community members; however, the issue of adequately assessing the physical condition of the home still must be addressed.

6.0 Options to Consider and Recommendations

6.1 Introduction

Given the complex nature of the current housing crisis in NAN Territory, the report offers three options for NAN's consideration. By providing three options, the report allows for NAN to have complete control over the implementation of the comprehensive tool, as well as the data. It also allows for NAN to consult stakeholders and community leaders, while still implementing a comprehensive data collection tool in a timely manner.

6.2 Options to Consider

Option 1: Focus on Occupant-Based Survey

As previously stated, NAN has undertaken a significant project with Together Design Labs to design and implement an occupant-based survey on housing (see Appendix G for simplified timeline). Since considerable time and money will be invested in this project, NAN could choose to solely focus on the occupant experience when evaluating housing. Occupant experience may provide a better understanding of the socioeconomic impact of housing, as well as the relationship between housing conditions and health. This will be beneficial as it will provide important baseline data for NAN, and each individual community, to use for negotiating improved funding models and focused government action on housing in NAN territory. This would be the most fiscally reasonable option, since funding has already been allocated and the process is underway. Furthermore, this option allows for a completely community-driven form of evaluation.

However, by focusing solely on the occupant-based survey, there will continue to be a lack of information on the structural integrity of the homes, as well as the estimated costs to repair and replace units. While occupants provide a very important perspective in evaluating, many occupants may not have the training or technical knowledge to evaluate structural integrity, accessibility, and mould. If this option is chosen, NAN will still have the data on physical housing conditions from the Integrated Capital Asset Management System; however, as evident in the literature review, this data is unreliable at best (Auditor Genera, 2003, para. 6.3). Finally, the occupant-based survey is expected to take three years to complete (See Appendix G for draft timeline). While the product will be worth the wait, there is a need for an interim solution as housing has been declared a crisis situation in NAN territory (NAN's Position, 2018, p.p. 6). Furthermore, there will be a federal election in the fall of 2019 and the current government is under increased pressure to meet their platform goals on First Nation housing. By focusing solely on the occupant-based survey, there may be missed opportunities to capitalize on the current government's drive to adequately address housing prior to the election (Liberal Party of Canada, 2015). Overall, focusing on the occupant-based survey will provide NAN with new and valuable data related to housing. It also offers the most fiscally viable option as the funding

has already been allocated. However, this options still leaves gaps in data related to the physical condition of the home and will take a significant amount of time to implement.

Option 2: Present Data Collection Tool for Stakeholder Feedback

Appendix H provides a template for an enhanced data collection tool that incorporates evaluation criteria from the findings of the report and focuses on physical condition of the home. This tool is designed for the evaluation of each housing unit on-reserve. It will close gaps in information on important aspects of housing such as, number of occupants per dwelling, type of dwelling, heat source, ventilation, accessibility, mould contamination, and more detailed criteria for categorizing necessary renovations and units needing replacement. This tool would be implemented by community and tribal council housing inspectors and would be considered a visual inspection tool (See Appendix J for roles and responsibilities). Appendix I is a template for compiling the information collected through the enhanced data collection tool (Appendix H) into a community report. This template would provide an accessible and easy-to-read snapshot of each community's housing conditions. Using these templates would allow for NAN, and each individual community, to have total control and ownership over the data collected. Furthermore, with a more detailed understanding of the physical conditions of the current housing stock, NAN would be able to develop plans for advocacy and current asset management in a more informed manner.

The comprehensive data collection tool and report template in its present form could be presented to NAN communities and tribal councils for feedback prior to implementation (See Appendix J for timeline). While the DCI 41701 used to collect the ICAMS data is mandatory, the enhanced data collection tool would need to be piloted in communities on a voluntary basis. Allowing stakeholders the opportunity to provide feedback on the data collection tool may increase participation in the data collection process. This option also aligns with recommendations on Indigenous evaluation by allowing community and stakeholder input throughout the entire data collection process. However, this option does require a time commitment in terms of soliciting feedback from community leadership and possible training of evaluators. Nonetheless, this option could still be achieved in a relatively short time compared to Option 1.

Implementing the comprehensive data collection tool would have a cost associated with it. Promotional material for community consumption would need to be developed and distributed; depending on the experience level of the community housing evaluator, training may be required to ensure the evaluation is executed properly; and finally, since compiling the data would be done in-house, additional funding may be required to hire new staff/intern, or train existing staff/interns. Costs associated with gaining stakeholder feedback and promoting the data collection tool amongst community leadership could be minimal if these tasks were incorporated into existing Chief's assemblies or infrastructure summits and meetings.

With pressure mounting on the current government to address the housing problem and a federal election on the horizon, there is opportunity to gain financial support for community driven initiatives such as this one. Time is of the essence as a federal election could also mean a shift in government. Time is also important given the condition of housing in NAN Territory is in a state of crisis. By allowing for community input prior to implementing the data collection tool, there will be a delay in receiving the baseline data. This could be problematic due to the urgent nature of the current housing situation in NAN Territory.

Option 3: Implement Data Collection Tool Immediately

Implementing the enhanced data collection tool immediately and foregoing the stakeholder engagement process could be beneficial in terms of time (See Appendix K for timeline). The data collection tool has been created with input from the client and informed by literature on the topic. It addresses many of the informational gaps outlined in the literature review and in NAN's internal documents. It could be used as an interim solution while NAN continues to work with Together Design Lab in creating an occupant-based assessment; furthermore, stakeholder feedback on the tool could be collected after the implementation. Adjustments could be made accordingly for the next annual evaluation. Ideally this would be carried out with several pilot communities that represent the diversity in NAN communities.

The cost would be similar to Option 2 in terms of the promotion of the program and any competency training that may be required to ensure evaluators are comfortable in using the new tool. By implementing the tool immediately, NAN can assist communities in managing their current housing stock, plan strategically for new housing and renovations, and have accurate baseline data when advocating for government funding. The shorter timeline would also mean the data would be available for community, tribal council, and NAN's use in advocating for funding prior to the federal election in 2019. As previously stated, the current government is facing increased pressure to meet platform promises on First Nation housing prior to the election, and any change in government may mean a change in willingness to address the housing crisis.

This plan may be problematic in that by delaying the community and stakeholder feedback process to commence after implementation, there may be a decrease in voluntary participation. Stakeholders may reject the data collection tool, since they were not directly involved in the creation process. However, by having the examples of the data collection in pilot communities, NAN will be able to present concrete results that may persuade more communities to voluntarily participate in the data collection process.

6.3 Recommendations

In order to achieve success, the option selected must be easy to utilize, executed in a timely manner, build evaluation capacity within the community, and offer opportunity for stakeholders to provide feedback and recommendations for improvement. It must serve as an interim solution while NAN awaits the results of the occupant-based survey, but also serve as complementary tool that can continue to be utilized in partnership with the occupant based survey.

Immediate Actions:

- **Recommendation 1** - Identify and capitalize on affordable opportunities to present the research and general concept of a more comprehensive housing data collection tool and community report to community leadership and tribal councils.
- **Recommendation 2** - With input from community leadership and tribal councils, select an option for implementation.
- **Recommendation 3** - Identify funding opportunities for promoting and implementing the data collection tool.
- **Recommendation 4** - Identify funding opportunities for evaluation training and capacity building at the community level.

Future Actions:

- **Recommendation 5** - Incorporate stakeholder feedback into creating a final draft of the comprehensive data collection tool and community report.
- **Recommendation 6** - Implement comprehensive data collection tool on an annual basis
- **Recommendation 7** - Present findings to community members, leadership, tribal councils, and Indigenous Services Canada.
- **Recommendation 8** - Engage with communities to develop a process for collecting information that reflects the demographics of the population on housing-waitlists
- **Recommendation 9** - Use data collected to inform strategic housing plans and monitor the progress of housing initiatives

7.0 Conclusion

The body of this report provides detailed support for what NAN leadership and stakeholders have known for years; the current method of data collection is not reflective of the actual housing conditions in NAN Territory. The communities have identified this problem for decades and it has been thoroughly supported by literature on the topic as well as a number of government reports and internal audits.

This lack of reliable data has hindered housing program on-reserve and has made it difficult to assess and evaluate the past and present program initiatives. Government intervention in housing on-reserve has created many problems as outlined in the literature review; the current method for collecting and tracking data for on-reserve housing works against all recommendations in Indigenous evaluation discussed in this paper. At the moment, communities have little control over the method of data collection, the compilation of this data, and while the data is said to belong to the communities, there are significant barriers in accessing it and using it to create effective strategic plans and evaluate program successes and failures. Moreover, communities and parliament are not receiving a clear picture of the crisis level that exists in housing on-reserve.

Housing data collection on-reserve must change. It must utilize criteria that has been identified as critical to measuring the current housing crisis: mould, overcrowding, level of repair, access to essential infrastructure, and structural integrity must be examined. This new process of data collection must incorporate stakeholder feedback, be easy to implement, build evaluation capacity within the communities, and ensure complete community ownership over data. The research shows it is time for change, and the communities themselves hold the solutions.

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Appendices

Appendix A: Figure 1: Map of NAN Territory

PART 1 - INTRODUCTION

Purpose: The Community Infrastructure and Housing Annual Report provides a summary of changes in housing, housing infrastructure, and community services. The data from this report is used to demonstrate a measure of progress and accountability to Parliament as well as for planning purposes to determine outstanding requirements.

Reporting Period: For the previous fiscal year ending March 31;
Exception(s): SK – For the current fiscal year ending March 31.

Due Date: March 31st each year or as determined otherwise by AANDC regional office;
Exception(s):
BC – April 30th each year or as determined otherwise by AANDC regional office,
ON – October 15th each year or as determined otherwise by AANDC regional office,
QC – April 30th each year or as determined otherwise by AANDC regional office,
SK – October 15th each year or as determined otherwise by AANDC regional office.

PART 2 - BUSINESS RULES

NOTE: Any change to the sheet's structure or format will prevent the import of data into ICMS.

Identification Information

FIELD NAME	INPUT	CONSTRAINTS	ADDITIONAL INFORMATION
Tribal Council Name	Read Only		The official and legal name of the Tribal Council.
Tribal Council Number	Read Only		The number assigned to the Tribal Council by AANDC.
Band Name	Read Only		The official and legal name of the band.
Band No.	Read Only		The number assigned to the band by AANDC.
Site Name	Read Only		The legal name of the site or reserve.
Site No.	Read Only		The number assigned to the site by AANDC.

Community Services

FIELD NAME	INPUT	CONSTRAINTS	ADDITIONAL INFORMATION
Electrification	Mandatory	An integer from 0 to 999999	The number of houses without electrification at this site. Electrification is defined as: •Grid; •Diesel Generated, Full

			Service; •Other Generated, Full Service.
Solid Waste Service	Mandatory	An integer from 0 to 999999	The number of houses without solid waste services at this site. Solid Waste Service is defined as: •The solid waste from the housing unit is disposed to a facility that is consistent with provincial/territorial practice and DRM 10-7/42 (under revision) and does not constitute a health or environmental threat. Note: A solid waste facility should not be deemed inadequate due to poor operator technique, neglect or improper operation.
Road Access	Mandatory	An integer from 0 to 999999	The number of houses without road access throughout the entire year.
Broadband (Yes/No)	Conditional	Broadband is mandatory when there are housing units. 0 - No 1 - Yes	The type/level of broadband connectivity service provided to this site. Broadband is defined as: •Satellite Consumer Broadband - Capacity of 1.0Mb/s ≥ 4Mb/s downstream and 128Kb/s ≥ 512Kb/s upstream; •Terrestrial Consumer Broadband - Capacity of ≥ 1.5Mb/s downstream and ≥ 256Kb/s upstream; •Industrial Broadband - Capacity of 10Mb/s or higher.

FIELD NAME	INPUT	CONSTRAINTS	ADDITIONAL INFORMATION
Housing Plan (Yes/No)	Conditional	Housing Plan is mandatory when there are housing units. 0 - No 1 - Yes	Is there a Housing Plan currently in place for the community? A Housing Plan includes: 1.Changes in local housing policies and programs, community housing conditions and maintenance and insurance programs; 2.Actual and proposed new construction and renovation activities; 3.Measures to link housing with community infrastructure (particularly servicing existing and new housing lots), training, employment and business development plans; and 4.An updated resource plan for the next five years detailing what work will be undertaken, how much it will cost and how it will be funded. *** Housing Plan is to be supplied upon request to AANDC only if First Nation is funded under the 1996 On-Reserve Housing Policy or the Housing Demonstration Initiative.

Housing Units

FIELD NAME	INPUT	CONSTRAINTS	ADDITIONAL INFORMATION
Total Housing Units	Mandatory	An integer from 0 to 999999	This is the Actual Total Number of housing units on the site during the reporting period.

			It will be calculated automatically if using the electronic form, otherwise calculate the total and enter it in this field.

Housing conditions

FIELD NAME	INPUT	CONSTRAINTS	ADDITIONAL INFORMATION
Replacement Required	Mandatory	An integer from 0 to 999999	
Major Renovations Required	Mandatory	An integer from 0 to 999999	
Adequate Units	Read Only		The number of housing units that are considered adequate. An "Adequate" dwelling is defined as one that does not require Major Renovations or Replacement and does possess basic plumbing facilities, specifically, hot and cold running water, inside toilets and installed baths or showers.
Comments	Optional	Text, max. 4000 characters	

Water Servicing - Water Source

FIELD NAME	INPUT	CONSTRAINTS	ADDITIONAL INFORMATION
Ground	Mandatory	An integer from 0 to 999999	The number of housing units with a ground water source supply.
Surface	Mandatory	An integer from 0 to 999999	The number of housing units with a surface water supply.
Total Units	Read Only		

Water Servicing - Water Delivery

FIELD NAME	INPUT	CONSTRAINTS	ADDITIONAL INFORMATION
Community System	Mandatory	An integer from 0 to 999999	The number of housing units with water service provided by a community system. The system consists of a water supply, treatment and storage facility (water reservoir), and a piped distribution system to residences and other community users. This level of service can be realized using a community piped water distribution system with or without fire protection capacity. This includes both surface water source and groundwater (well) source systems.
Individual System	Mandatory	An integer from 0 to 999999	The number of housing units with water service provided by an individual system, which can be an individual well or a surface water intake with full or partial treatment and is connected to the house by pipe.
Truck A	Mandatory	An integer from 0 to 999999	The number of housing units with water services provided by a truck. The houses have plumbing and are equipped to accept the trucked water service (i.e., cistern and pressured system).
Truck B	Mandatory	An integer from 0 to 999999	The number of housing units with water service provided by a truck and stored in 45 gallon barrel drums. Because the houses have not

			been plumbed to accept the service (i.e., cistern and pressurized system), Truck B is not considered as a basic level of service.
No Service	Mandatory	An integer from 0 to 999999	The number of housing units with no water service.
Total Units	Read Only		

Sewage Servicing - Sewage Disposal Destination

FIELD NAME	INPUT	CONSTRAINTS	ADDITIONAL INFORMATION
Treatment Facility	Mandatory	An integer from 0 to 999999	The number of housing units with sewage disposal to a treatment facility. A "treatment facility" includes lagoons, aerated lagoons, extended aeration plants, rotating biological contactors, sequencing batch reactors, etc.
Ground	Mandatory	An integer from 0 to 999999	The number of housing units with sewage disposal to ground. Ground disposal means septic tile fields (individual and community) that meet applicable environmental and health standards.
Total Units	Read Only		

Sewage Servicing - Mode of Sewage Collection

FIELD NAME	INPUT	CONSTRAINTS	ADDITIONAL INFORMATION
Piped Community	Mandatory	An integer from 0 to 999999	Indicate the number of housing units with piped sewage collection to a community septic tank and field.
Piped Individual	Mandatory	An integer from 0 to 999999	Indicate the number of housing units with waste water

			disposal provided by an individual septic tank and field.
Trucked	Mandatory	An integer from 0 to 999999	The number of housing units with waste water disposal provided by a septic truck.
No Service	Mandatory	An integer from 0 to 999999	The number of housing units with no service for sewage collection.
Total Units	Read Only		
Comments	Optional	Text, max. 4000 characters	A short description of the details or rationale for an addition, update or removal of an asset.

Approval Information

Contact information of the approver who attests that the responses provided are accurate to the best of the their knowledge and the date of the approval.

FIELD NAME	INPUT	CONSTRAINTS	ADDITIONAL INFORMATION
Business Contact - Given Name			Given name of the approver
Family Name			Family Name (surname) of approver
Title			Title of approver
Tribal Council/Firm/First Nation Name			Organization of approver
Date (YYYYMMDD)			Date of approval

Appendix B: Data Collection Instrument DC 41701

Aboriginal Affairs and Northern Development Canada

DCI 41701.GCIMS

Page 1 of 1

COMMUNITY INFRASTRUCTURE AND HOUSING ANNUAL REPORT

Tribal Council Name	Tribal Council Number	Band Name	Band No.	Site Name	Site No.

► All the amounts in Total Unitsfor the Current Year must be the same value. Please comment if Total Units is different from those of the Previous Year.

	Housing Units Without			community Services	housing Plan	Housing Units	Housing conditions		
Year	Electrification	Solid Waste Service	Road Access	road band (Yes/No)	housing Plan (Yes/No)	Total Housing Units	Replacement Required	Major Renovations Required	Adequate Units
previous									
urrent									

Comments

	Water Servicing	Sewage Servicing

	Water Source			Water Delivery						Sewage Disposal Destination			Mode of Sewage Collection				
ear	round	urface	otal Units	ommunity System	ndividual System	ruck A	ruck B	o Service	otal Units	reatment Facility	round	otal Units	iped Community	iped Individual	ucked	o Service	otal Units
revious																	
urrent																	
Comments																	

The information provided is

Business Contact - Given Name	Family Name	Title	Tribal Council/Firm/First Nation Name	Date (YYYYMMDD)
				2015

Appendix C: Sample of ISC's Integrates Capital Asset Management Report

NAN Housing - INAC 2015/16 Integrated Capital Management System data										
Independent Bands										
NAN Community	Total Housing Units	Replacement Required	Major Renovations Required	Total Adequate Units	Units Connected to Water	Units Connected to	No service-Water	Units Connected to Sewage	Units Connected to	No Ser Sewage

						Truck Haul Water			Truck Haul Sewage	
Mishkeegogamang FN 63A	39	4	15	20	35	4	0	36	0	
Mishkeegogamang FN 63B	82	6	25	51	61	21	0	61	0	
Mocreebec Council of the Cree Nation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Sandy Lake FN	422	55	55	312	264	158	0	264	158	
Weenusk FN (Peawanuk)	88	0	11	77	88	0	0	88	0	
Wahgoshig FN	53	0	2	51	53	0	0	53	0	
Hornepayne FN	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Independent First Nation Alliance										
Muskrat Dam FN	104	4	3	97	100	4	0	100	4	
Pikangikum FN	520	115	125	280	10	79	431	0	83	
Lac Seul FN	322	5	83	234	318	0	4	318	0	

Appendix D: Integrated Capital Asset Management System Data 2015-2016 in Percentages

Community	People per house	% of homes needing major repair	% of homes needing replacement	% with Truck Haul water	% with No water	%with No Sewage Service
Mishkeegogamang	4.8	33	8.3	21	0	20
Sandy Lake	4.4	13	13	37	0	0
Weenusk	2.5	13	0	0	0	0
Wahgoshig	2.2	4	0	0	0	0
Muskrat Dam	2.5	3	4	4	0	0
Pikangikum	5.4	24	22	15	83	84
Lac Seul	2.8	26	2	0	0	2
Deer Lake	4.8	36	3	72	0	0
Fort Severn	5.7	17	3	0	0	0
Keewaywin	4.3	26	0	0	0	0
North Spirit Lake	4.9	18	2	56	0	0
Poplar Hill	5.2	0	2	70	0	0
Aroland	2.9	14	2	0	0	0
Constance Lake	3.7	24	31	0	0	0
Eabametoong	6.2	43	30	0	0	0

Ginoogaming	3.2	32	12	0	0	0
Long Lake #58	4.3	8	4	0	0	0
Marten Falls	4.9	0	1.4	0	0	0
Neskantaga	4.6	27	16	0	0	0
Nibinamik	2.9	6	62	0	0	0
Webequie	2.1	21	12	0	0	0
Attawapiskat	5.9	49	17	0	0	0
Chapleau Cree	2.4	0	0	0	0	0
Fort Albany		77	9	0	0	0
Kashechewan		31	29	0	1	1
Moose Cree	3.9	24	2	0	0	0
New Post	5.6	36	0	0	0	0
Kasabonika	6.2	8	6	7	5	5
Kingfisher Lake	4.4	85	15	2	35	2
Wapekeka	4.3	0	0	11	0	0
Wawakapewin	2.7	20	0	0	0	0
Wunnimun Lake	4.4	39	23	0	8	8
Brunswick House	6.7	16	0	0	0	0

Chapleau Ojibway	2.5	25	0	0	0	0
Matachewan	2.1	15	0	0	0	0
Mattagami	2.8	93	4	0	0	0
Bearskin Lake	2.9	41	10	77	0	0
Cat Lake	5	29	8	0	0	2
Koochechin g		0	100	0	100	100
North Caribou	3.1	25	1	17	0	<1
Sachigo Lake	3	33	12	22	3	0
Slate Falls	3.9	0	0	0	0	0

Appendix E: CMHC Mould in Housing: How to Clean up Mould in Your Home

MOULD IN HOUSING

HOW TO CLEAN UP MOULD IN YOUR HOME

Mould should be removed as soon as possible.
Here are some ways that you can find and fix affected areas.

FIVE STEPS TO REMOVING MOULD FROM YOUR HOME

1. FIND, STOP AND FIX THE SOURCE OF THE MOISTURE PROBLEM
2. **PREVENT EXPOSURE TO MOULD AND DEBRIS**
3. **REMOVE ALL WET OR DAMAGED MATERIALS**
4. CLEAN UP THE MOULD
5. **RESTORE OR RENOVATE THE CLEANED UP AREA**

SMALL MOULD PROBLEM

- Has less than three patches.
- One square metre in size each.
- Can clean it yourself if you are in good health.
- Clean using water and unscented dishwashing detergent.

MEDIUM MOULD PROBLEM

- Has more than three patches.
- Total area is smaller than three square metres.
- Should be cleaned up by qualified and trained maintenance staff.

LARGE MOULD PROBLEM

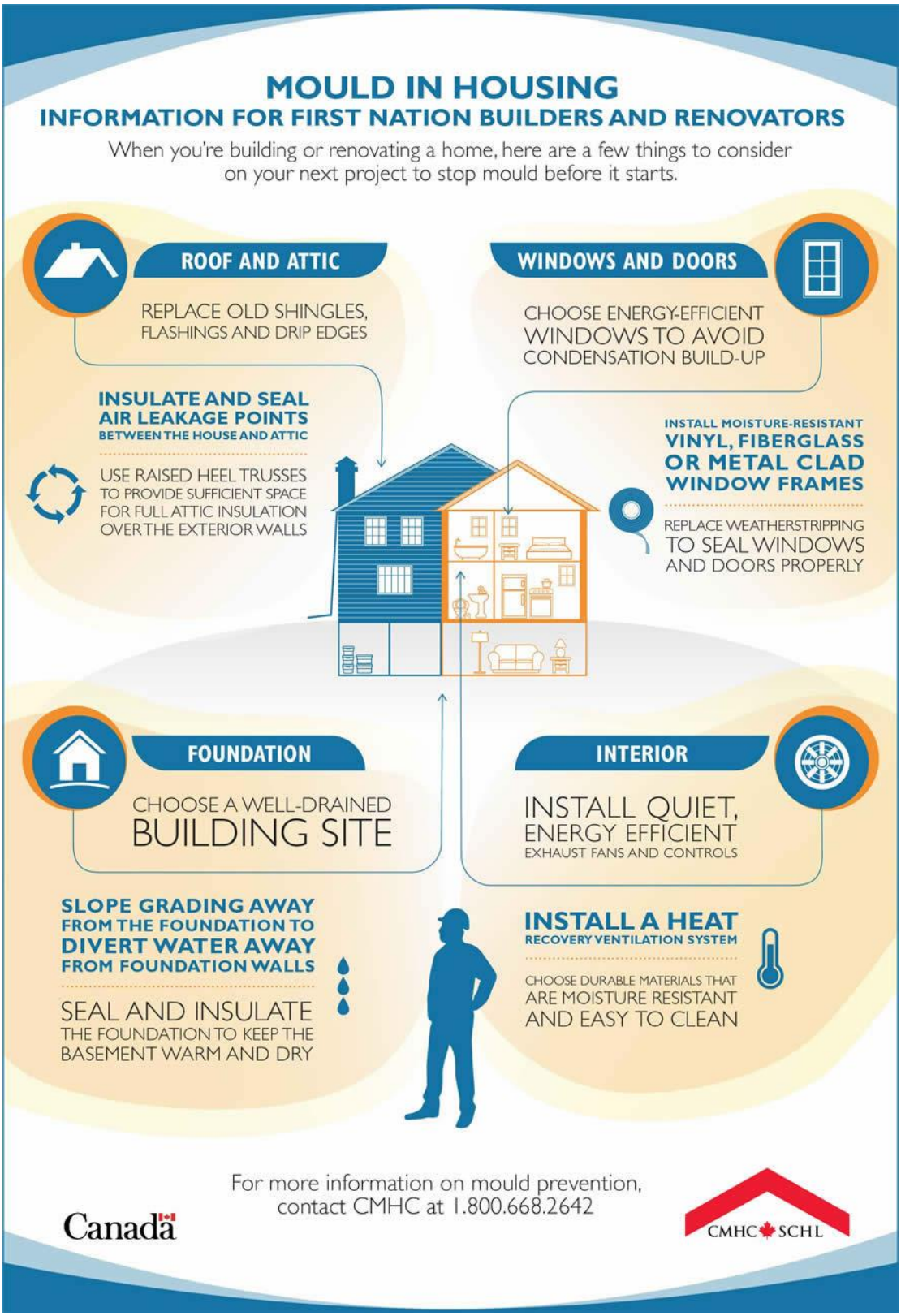
- Total area covers more than three square metres.
- Large patches throughout the home.
- Should be cleaned up by qualified and trained mould remediation contractors.

Canada

For more information on mould prevention, contact CMHC at 1.800.668.2642

CMHC SCHL

Appendix F: CMHC Mould in Housing Information for First Nation Builders & Renovators



Appendix G: Timeline for Occupant-Based Survey from Whose Metrics?

Appendix H: Comprehensive Data Collection Tool

Definitions:

Type of home	Single-detached, duplex, triplex, fourplex, apartment complex, mobile home, log home	Minor Repairs	Homes that require less than $5000.00 in repairs. Repairs should NOT impact the structural integrity of the unit, and/or the health and safety of occupants.
Major Repairs	Repairs require more than $5 000.00 in repairs and/or the damage impacts the structural integrity of the home and/or the health and safety of the occupant. Including mould remediation.	Replacement	The cost to renovate the home exceeds the cost of replacement. There is significant damage to that impacts the structural integrity of the home and and/or the health and safety of occupants. Including mould remediation.
Small Mould Problem[3]*	Less than three patches smaller than one square meter each in size	Medium Mould Problem*	Has more than three patches. Total area is less than three square meters

[3] * based on CMHC recommended mould evaluation (CMHC, *Mould Clean-up at a Glance*, 2018).

Large Mould Problem*	Total area covers more than three square meters. Large patches throughout the home	NOS- National Occupancy Standard	While there are many variables included in the National Occupancy Standard, for the purpose of this evaluation the calculation of 2 people per bedroom will apply. It is important to note that rooms that serve a different purpose during the day are not considered bedrooms.

Community Name			Inspector:		Title:			
Lot #		Type of dwelling:		Age of Home in years		# of Occupants		
# of rooms		# of bedrooms		# of stories/levels in unit		Meets NOS		YES NO
Heat Source: (Select all that apply)	Oil or gas furnace	Electric Baseboard heat	Electric furnace	Certified woodstove	Uncertified woodstove	Electric or oil space heater	Other (please specify)	
Ventilation (Select all that apply)	Operating HRV or ERV system		Non-functioning HRV or ERV system		Kitchen &/or bathroom Exhaust fans		Other (Please Specify)	
Mould Problem	No sign of a mould problem		Small Mould Problem	Medium Mould Problem	Large Mould Problem			
Foundation Type	Concrete Core Floor	Wood Core Floor	Crawl space	Post and Beam	Basement	Other (please specify)		
Level of repair needed	Major Repair		Minor Repair		Replacement	No Repairs needed		
Notes on repairs needed								
Water Services	No Service-Water	Truck Haul Water Service	Connected to water service		Water holding tank in the unit	YES NO		
Sewage Services	No Service-Sewage	Connected to Truck haul sewage	Connected to sewage		Other			

Appendix I: Community Data Report

Community Name:		Total Population:		Total # of Units	
Inspector Name:		Title:			
Housing Density		# of People on housing wait-list		# of Homes that meet NOS	

Types of dwelling	Single-detached	duplex	Triplex	Fourplex	Apartment Complex	Mobile home	Log home	Other

Age of home	1-5 years		5- 10 years		15-2u0 years		20 + years	unknown
Heat Source	Oil/gas furnace	Electric furnace	Electric baseboard heat	Certified woodstove	Uncertified woodstove	Oil/Electric space heater	Other	Unknown
Ventilation	Functioning HRV/ERV system		Non-Functioning HRV/ERV system		Bathroom/Kitchen Exhaust fans		Other	
Mould in Homes	No mould problem observed		Small Mould Problem		Medium Mould Problem		Large Mould Problem	
Foundation	Wood core foundation		Concrete core foundation		Post and Beam	Crawl space	Basement	Other
Level of Repair	Minor Renovations		Major Renovations		Replacement		Adequate	
Water Service	No Service-Water		Units with truck haul water service		Units connected to water service		Units with water holding tanks	
Sewer Services	No Service-Sewage		Units with truck haul sewage service		Units connected to sewage service		Other	

Appendix K: Timeline Option 2

Date	Action	Roles &Responsibilities	Cost
Spring 2018	Present concept of enhanced data collection tool and options to community leadership at the NAN Housing Summit	-Housing Director and team present research and develop a format for feedback collection	$200.00 for promotional print material
Summer 2019	Edit and adjust data collection tool and community report based on stakeholder feedback	-Housing Director and team	N/A
Summer 2019	Implement any training necessary for evaluators	-Tribal Councils in partnership with community leadership and NAN Housing team	$5,000 - 15,00 (depending on number of individuals needing training)
Fall 2019	Implement data collection tool throughout NAN territory	-Community/tribal council inspectors	Limited cost if completed in tandem with annual ISC data collection
Winter 2019	Compile community data and present to community leadership, tribal councils, and ISC	-NAN Housing team (possible intern or new staff needed to complete)	$30,000-35,000 if additional staff is needed
2020 and beyond	-Implement data collection tool and community report annually	-Community Housing team and/or tribal council technicians	Perform in tandem with ISC reporting to avoid incurring additional costs
	-Use data to advocate for funding, inform community housing plans, and evaluate program performance -Continually communicate with stakeholders and adjust data collection process as	-NAN Housing team	

	necessary to meet the needs of the communities		

Appendix L: Timeline for Option 3

Date	Action	Roles &Responsibilities	Cost
Spring 2018	-Present template of enhanced data collection tool and options to community leadership at the NAN Housing Summit -Recruit pilot communities to implement tool and community report	-Housing Director and team present research and develop a format for feedback collection	$200.00 for promotional print material
Summer 2019	Implement Housing evaluation tool and community report in pilot communities	-Community Housing team and/or Tribal Council Technicians	Limited cost if completed in tandem with annual ISC data collection
Summer 2019	Implement any training necessary for evaluators	-Tribal Councils in partnership with community leadership and NAN Housing team	$5,000 - 15,00 (depending on number of individuals needing training)
Fall 2019	Compile community data and present to community leadership, tribal councils, and ISC Provide opportunity for community feedback on data collection tool and community report. (recommended this coincide with Chiefs Assembly or housing summit in order to save costs)	-NAN Housing team (possible intern or new staff needed to complete)	$30,000-35,000 if additional staff is needed
Winter 2019	Alter data collection tool and community report to reflect stakeholder feedback Recruit more communities (potentially all	-NAN Housing Team	No cost

	48) to implement data collection tool		
2020 and beyond	-Implement data collection tool and community report annually	-Community Housing team and/or tribal council technicians	Perform in tandem with ISC reporting to avoid incurring additional costs
	-Use data to advocate for funding, inform community housing plans, and evaluate program performance -Continually communicate with stakeholders and adjust data collection process as necessary to meet the needs of the communities	-NAN Housing team	