PART 1 – CARVING OUR FUTURE

Case Studies

Case Study 1: Little Shuswap Lake Indian Band

A representative from Little Shuswap Lake Indian Band's (LSLIB) Operations and Maintenance team attended an ISC asset management workshop in the Fall of 2010 with a goal to identify tools and strategies to consolidate numerous community asset maintenance tasks and their respective timing.

Located in the Southern interior of BC in the Thompson River Basin, LSLIB is a community-driven band supporting over 300 members. LSLIB provides residential housing, water, sewer, drainage, and solid waste and recycling services to community members. They also manage the community road network, community buildings, and leased and commercial properties, including a 72-room hotel and conference facilities, and an 18-hole golf course.

Excited about the potential of asset management for their community, a small team comprised of staff from Village Operation and Maintenance, Housing, Public Works and the General Manager began developing their Phase 1 asset management program in 2011 under ISC's Asset Management Pilot Program. The community asset management program initially focused on the compilation of existing asset information and development of an inventory of ISC-funded assets (approximately 25% of community-owned assets).

To enable digital data collection in the field, LSLIB purchased a Trimble global positioning system (GPS) unit and Geographic Information System (GIS) software (ArcGIS) licenses. LSLIB shares the GPS unit with neighboring communities, including Kamloops Indian Band. Under Phase 1, with the support of a consultant, Little Shuswap Lake Indian Band developed training manuals for staff to collect the data and use the new software.

LSLIB went on to complete Phase 2 of their asset management program in 2012, working to identify data gaps and strategies to further capture and digitize field. Since then, the asset management team has grown to include staff from Village Operation and Maintenance, Housing and Building Repair/Maintenance, Public Works, the Residential Property Manager, General Manager and Finance Manager, and two Interns.

Now that the software and hardware is in place, the biggest challenge the team faces is finding the human resources to gather the community's tremendous amount of existing asset information and continue to grow their GIS program. With 50% of the community assets now in GIS, LSLIB is looking to gain further information on buried infrastructure (water, sewer, and other utilities (e.g. telecommunications, hydro)) and plan to purchase inspection equipment in 2017. Once the data is in GIS, consolidated asset information will be readily available to LSLIB staff and managers when it's needed.

Case Study 2: Gwa'sala-'Nakwaxda'xw Nations

Gwa'sala-'Nakwaxda'xw Nations (GNN) is a semi-rural community with approximately 500 community members living on-reserve. Today the Nations' primary community is Tsulquate, which is located adjacent to the District of Port Hardy on the North-eastern tip of Vancouver Island. After participating in an ISC Asset Management workshop, the Nations had a strong interest in developing their own program. They subsequently developed a cross-department asset management team with representatives from Chief and Council, Elders, Band Management, Public Works, Finance, Housing, and Capital Projects.

The first step in the initial asset management program focused on developing a consolidated inventory of Nation-owned infrastructure assets including the water system, wastewater system, and road network, as well as, community buildings, GNN-owned housing and solid waste facilities. One of the biggest challenges was that GNN had infrastructure information stored in a variety of places, including hard copy maps, as-builts, reports, and digital information held by consultants and ISC. Further, staff also retained key information of great value. All of this information, including attributes relevant to asset management decision-making (material, installation date, size/dimension, quantity/length, replacement cost, condition, etc.) was compiled by consultants into a GIS inventory. This inventory was also transferred into a spreadsheet format for direct use and update by GNN staff. This baseline information has allowed for transition of staff while maintaining shared knowledge and an overall awareness of infrastructure needs. While public works identified that some details for water service locations were unknown, GNN decided to focus on existing information for the preliminary inventory. No new asset information was collected during this step in the project and any assumptions were documented.

Draft summary maps and tables of the consolidated inventory were created and reviewed with the asset management team in a working session to fill information gaps, and document additional information. With the preliminary asset inventory GNN now has a better understanding of community owned assets and the necessary information to form the basis of asset management valuation.

Upon completion of condition and valuation, this information was assembled into one-page asset summaries by asset category. This information will be used to communicate asset management information about the community to members and Chief and Council to support future budget, staffing, infrastructure maintenance and replacement decision-making.

Many of GNN owned infrastructure assets in Tsulquate were funded by ISC and are included in the Extended Asset Condition Reporting System (E-ACRS) program. The E-ACRS assessment provided recent and relevant condition information for many of GNN's infrastructure assets; however, GNN's asset management team sought additional information to better understand and document the condition of buildings not included in the assessment.

With the support of a consultant, public works staff undertook a field review. The assessment was based on visual observation, using a cursory 1-5 rating limited to the exterior and interior building, mechanical and electrical systems and safety (e.g. fire protection) components of the buildings with photo documentation for reference. Asset information and any maintenance issues were also collected to supplement the information contained in the inventory (e.g. year

of construction, area, number of storeys, construction material, and interior and exterior finishes) and update maintenance management plans. A one-page condition summary sheet was developed for each building assessed through the field review.

The condition information was reviewed with the asset management team to understand the state of GNN's assets and confirm the results of the assessment. The GNN asset management team now has the background information necessary for discussions in future phases of the program to evaluate potential risks and understand levels of service.

Case Study 3: Westbank First Nation

Westbank First Nation (WFN) initially developed its asset management program to establish a servicing strategy for water, sewer and roads to accommodate the significant existing and future development projected on Westbank lands. WFN currently provides services to over 600 members and over 9,000 non-members on reserve. Due to their unique context and focus on economic growth, the community wanted to ensure the efficient use of financial resources and build capital reserves that would be adequate to complete critical upgrades when required. After speaking with ISC, WFN expanded their initial servicing strategy project scope to include asset management. WFN's Asset Management Team consists primarily of representatives from Engineering, Utilities, Public Works, ISC, and external consultants.

In the spring of 2016, WFN prepared an Asset Management Investment Plan (AMIP) and Asset Management Financial Policy to provide the community with a 20-year cash flow analysis. The analysis includes all of the Nation's water, wastewater, stormwater, road, equipment, and building infrastructure. One of the biggest challenges encountered was updating the community asset inventory and completing condition assessments for existing assets. WFN owns and operates the Nation's water distribution systems and sanitary sewer collection systems. Input on the current condition of WFN's sanitary assets was provided by Regional District of Central Okanagan, as they provide wastewater treatment for WFN under a Municipal Type Service Agreement. In 2013, a pavement assessment was completed by an engineering consultant. The consultant provided training for WFN public works staff to enable the Nation to complete basic assessments of their road infrastructure in the future. Maintaining a record of current construction costs relevant to the area was very helpful when updating the inventory. The Nation has also been tracking costs for operation to inform budgets for all existing assets.

With the new AMIP, Westbank First Nation now has a better understanding of the funding required to manage infrastructure over the long term. WFN Engineering is currently working to complete a servicing strategy for water, sewer and roads to accommodate anticipated future growth. Once completed, it will be incorporated with the AMIP to form an integrated financial strategy that outlines how the community plans to manage its infrastructure as it ages and to meet WFN's development needs. The strategy will be provided to Chief and Council to inform infrastructure decision making.

Asset management financial planning has provided WFN with the tools and strategies needed to make informed infrastructure decisions. By planning early, WFN will have the time to build financial reserves for their infrastructure's renewal.

Case Study 4: Skeetchestn Indian Band

Skeetchestn Indian Band (SIB) began developing their asset management program in Spring 2016 under ISC's Asset Management Pilot Program. SIB's program was initiated with a focus on establishing tools to support the day-to-day management of community infrastructure assets, and to inform the long term planning and funding of assets.

The Skeetchestn Traditional Territory lies in south-central British Columbia to the west of Kamloops Lake and includes four reserves. SIB provides housing, water, wastewater, and stormwater services to 250 community members, and manages over 16km of roads, two bridges, over ten community buildings, and several vehicles and equipment.

In Spring 2016, SIB held a full-day workshop with public works and housing staff to define the goals and objectives of their asset management program. SIB also connected with staff from Little Shuswap Lake Indian Band (LSLIB) to learn from their experiences in developing their asset management program. Building on this input, SIB staff worked together to develop a maintenance log outlining the tasks required to maintain community assets on a month-by-month and season-by-season basis. A printed version of this log is posted in the Maintenance Shop and lists the time required to complete each task, with a schedule of when tasks need to happen. This tool has proved a valuable resource for scheduling work and has enabled staff to record critical, internally held knowledge about community assets and maintenance needs.

In addition to using spreadsheets and posters, SIB is currently in the process of implementing a software system to manage asset information and maintenance tasks. With support from a consultant, SIB evaluated eight software packages and selected ManagerPlus as the system that best meets the needs and objectives of their asset management program. SIB has used the system to develop a consolidated inventory of community assets by inputting data from their 2014 and 2016 Asset Condition Reporting System (ACRS) Reports and confirming this data through field reviews. The greatest challenge encountered in implementing their software system has been the significant time and resources required for data input to get the system up and running.

Once the software is up and running in early 2017, it will be used to schedule maintenance tasks, predict asset depreciation, manage work orders, keep inventory data up-to-date, and track purchase orders using tablet computers in the field. SIB has already begun using the software to track purchasing orders for staff equipment. Keeping a record of expenditures on an asset-by-asset basis all in one place has made it easier for staff to account for band-owned equipment and report on department spending and budget needs.