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ASSET MANAGEMENT RESOURCES & TOOLKIT

A FIRST NATIONS PERSPECTIVE

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ACKNOWLEDGEMENTS

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INTRODUCTION

The First Nations Technical Services Advisory Group (TSAG) provides technical services and training for First Nations in Alberta in the Treaty 6, Treaty 7, and Treaty 8 areas – primarily supporting communities with housing, infrastructure, **asset management**, and environmental stewardship. As part of this mandate, TSAG works closely with First Nations in Alberta to identify additional training and resources to support on-reserve capacity in delivery of essential services.

*Click on **bold terms** for denfintion and examples.

In March 2019, TSAG, in collaboration with Indigenous Services Canada, released a survey to First Nations in Alberta to gather information and feedback on the current state of asset management in Alberta. In general, the State of Asset Management in Alberta First Nations Survey found that many communities have taken the first steps in asset management, however, need more education and practical experience to effectively incorporate asset management into decision making.

To provide additional support to First Nations in Asset Management, TSAG hosted a series of events that included sessions on Asset Management:

1) **Asset Condition Reporting System Workshop**
   February 6, 2020
2) **Solid Waste Management Symposium**
   February 11, 2020
3) **Circuit Riders Training Program Workshop**
   February 26, 2020
4) **Bring on the Heat Conference**
   February 26, 2020

These events included workshop style interactive activities as well as sessions that were more informative (e.g. Symposium). Participants were provided with an overview of asset management best practices and benefits of establishing a comprehensive asset management system on-reserve. Participation had attendees from three Treaty areas, including:

WORKSHOP	Treaty 6 Participants	Treaty 7 Participants	Treaty 8 Participants
Asset Condition Reporting System Workshop	8	7	6
Solid Waste Management Symposium	36	8	20
Circuit Riders Training Program Workshop	11	3	5
Bring on the Heat Conference	9	5	10

What is **ASSET MANAGEMENT?**

Asset management is more than spreadsheets and maintenance tracking. Asset management is a mindset that can be realized by working together to help ensure community assets are able to deliver the levels of service committed to the community by Chief and Council.

Effective asset management practices help a community to examine current services (e.g. water, waste removal, fire and protective services), understand and manage community risks, and make **service delivery** decisions to support a sustainable future for generations to come.

COMMUNITY ELEMENTS that are supported by **ASSET MANAGEMENT PLANNING**

SOCIAL

ECONOMY

HOUSING

GOVERNANCE

LAND + RESOURCES

HEALTH

INFRASTRUCTURE

CULTURE

What are the **BENEFITS OF ASSET MANAGEMENT?**

There are many benefits of developing asset management practices within your community. These benefits empower a Nation to:

A - ENHANCE SERVICE DELIVERY

Aligning the Nation's service delivery with the things that matter most to your members – Effective service delivery on-reserve requires that priorities are set, and decisions are made through a perspective of what matters most to your community members in the short and long-term.

B - COLLECT & ORGANIZE INFORMATION

Collect and organize information about services and assets – Taking steps in asset management requires some basic information about assets and services that is useful for more than your mandatory reporting and planning requirements, such as the Asset Condition Reporting System (ACRS) or the First Nations Infrastructure Investment Plan (FNIIP). This information can help operators in their daily maintenance responsibilities, finance managers in their reporting duties, and health and education staff in connecting service delivery decisions to community outcomes.

C - PRIORITIZE PROJECTS

Defensibly prioritize projects and allocate Nation resources – Asset management can assist your community in projecting what assets need to be replaced, when, and how to plan for future renewal. This information will assist the decision-making process and provide defensible reasoning for prioritizing budget items. It will also allow your Nation to plan better for expenses in future years that are necessary to complete within an environment of limited budgets. Implementing asset management practices will support ongoing capital management and maintenance, improve the Nation's **fiscal year-end** budgeting process, and enhance your Nation's use of ACRS data.

D - MANAGE RISKS

Understand and manage risks to services – Asset management helps a community know what their risks are, where they are, and evaluate how likely and how severe the consequences will be. Communicating about risks to services, money, support balance between getting money. It also can help to focus budget conversations on how prioritizing where and when money should be spent to appropriately manage risks, predict how much should be saved for **long-term maintenance**, and understand how to effectively respond to service level concerns from the public.

E - STAY ACCOUNTABLE

Demonstrate accountability to your community – Asset management practices help establish a systematic approach to prioritizing resources and planning for the future. Good asset management practices will also support administration staff in communicating the service impacts of their recommendations to Chief and Council. This information can help Chief and Council make more informed decisions, which demonstrates commitment and accountability to the community.

F - SOURCE FUNDING

Position your Nation to effectively advocate for funding – Understanding your community's service needs and gaps helps you articulate your commitment to a safe, healthy and sustainable community. This starts with improving internal transparency by having a consistent and clear message across all departments in the Nation when it comes to funding. Having consensus on community sustainability supported by information about service, risk, and cost can help a Nation in discussions with funders.

Why is it worth
MY TIME & EFFORT?

Starting anything new is challenging. It takes time and requires effort. But the effort and time taken now will save you in the long run once your community gets "into the swing of things". The goal is to help your community deliver services effectively, efficiently, and in a way that protects the long-term interests of the community for generations to come. In the end, this is about the assets that allow your community to operate day-to-day – knowing the complete picture of operating and maintaining your assets is critical for long-term success.

What can *YOU* do to
HELP TODAY?

The first thing to do is to think about how asset management could be connected to the tasks you complete every day. There are many other steps you start taking to support asset management in your community:

1) Learn more about asset management by attending workshops and sharing your learnings with others in your community.
2) Talk to counterparts in other communities that have implemented asset management practices.
3) Apply an asset management mindset by working together and collaborating across departments.
4) Identify an **asset management champion** in your organization.
5) Explore the information you have about assets (where is the information, who has access, what is included in that information).

First steps in Asset Management Implementation:

A TOOLKIT

Knowing where to begin on a comprehensive initiative can feel daunting. One of the most common questions when beginning on your asset management journey is – ***Where do we start?***

Before embarking on this journey, here are some things to consider:

- **Start Where You Are:** Most communities are already doing some form of asset management. Think of your ACRS process, capital planning sessions with Directors, or completing your FNIIP. All of these are part of an asset management system on-reserve! It's important to recognize where you are currently and not rushing through some important tasks.
- **Communication and Information Management:** Communication and information management are the foundation of asset management, because making good decisions requires that the right people have the right information at the right time. So, think about how you store data and information, and how you share that information with other important departments in the Nation.
- **Always a Work in Progress:** Gathering lessons learned and continuously improving your asset management program will be a constant process – it's meant to be. Any documents that you develop should be treated as living documents, and any processes you develop should be revisited on a regular basis to make sure they are still useful and relevant.

Now that a few foundational ideas have been set, here are a few steps you can take to get going with implementing asset management in your community.

- **IDENTIFY A CHAMPION AND BUILD A TEAM.** The team should include people who have experience in the Nation's finance, operations, planning, and engineering. The champion needs to be able to bring people together and keep it going.
- **ASSESS ASSETS.** Bring together available information on your assets to get a high-level snapshot of what you own, the **level of service** you're delivering, asset risks, and costs. This includes your ACRS, FNIIP and other tools used in your community for capital planning. Compile these tools / documents into a central inventory or location. Use the information you have as a start. You can improve it later.
- **ASSESS ASSET MANAGEMENT PRACTICES.** As a team (and maybe even more broadly) assess your current practices related to understanding services, risks, and costs, and making decisions. You might already be doing asset management in certain areas but calling it something else. We have researched several resources and found The Federation of Canadian Municipalities' Asset Management Readiness Scale (https://fcm.ca/sites/default/files/documents/resources/tool/asset-management-readiness-scale-mamp.pdf) is a good assessment tool that can be used help you with this.
- **IDENTIFY PRIORITIES FOR IMPROVEMENT.** Based on your assessment of assets and asset management practices, select priorities for improvement. These might be capital or operational projects to mitigate risk or increase service, or they might be initiatives for improving understanding of service, risk, or costs and funding.
- **IMPLEMENT AND MONITOR**. Implement what you've planned to address your top priorities. This might include capital projects, conducting maintenance, or developing policies, strategies, or plans.

Engaging Chief & Council in **ASSET MANAGEMENT**

Chief and Council have the final say in major decisions about service, risk, and cost – and therefore it is critical that Chief & Council are informed and engaged on an ongoing basis about asset management. You may communicate with Chief & Council and share information such as:

- The benefits of asset management, in the specific context of your community.
- The need for asset management as an ongoing practice to inform decision making.
- A summary of the connections between services, risk, and cost at your municipality.

Some communities choose to seek a Chief & Council directive for building an asset management program before investing efforts. Other communities seek a Chief & Council directive after doing some basic groundwork to understand assets, services, risks, and costs in order to highlight the importance of practicing asset management. A Chief & Council directive may come later, in the form of an endorsed asset management policy. Whichever path you choose, the main objective is to have formal endorsement of building an asset management practice in your community.

Things to address:

- Existing initiatives (ACRS, FNIIP, etc), how they connect to AM
- The idea of a working document vs. a complete one
- Start with where you are
- Communication and Information Management!
- These will always require work and will never be “done”

How these tools work in the **FIRST NATION CONTEXT**

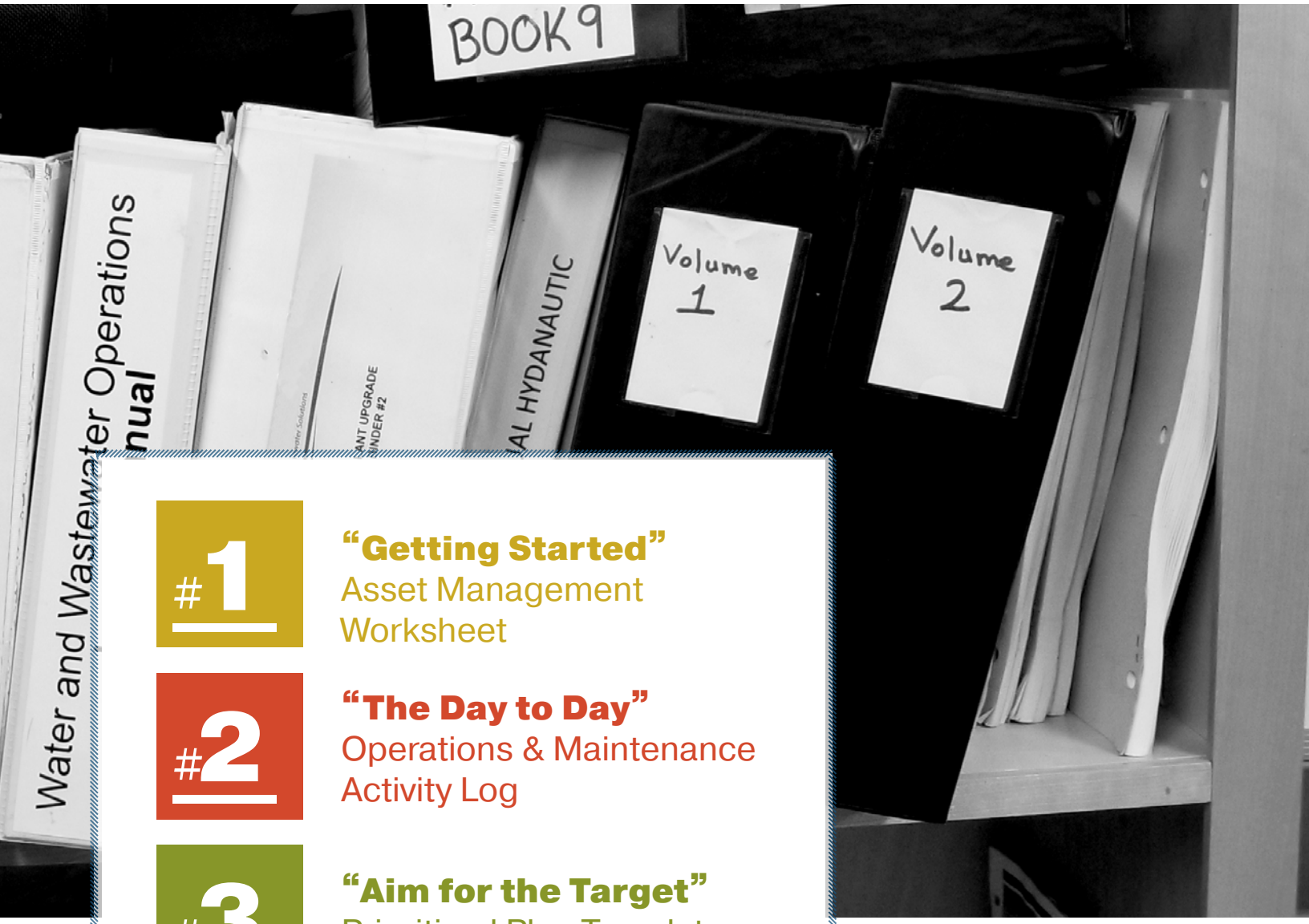
EXISTING REPORTING TOOLS

Tool & Definition	Intent	Completed by	Submitted To
ACRS – Asset Condition Reporting System (3-year reporting cycle. Paper copy.).	Reports current condition of all the Nation's assets and provides recommendations on the type of repairs ad maintenance activities that should be undertaken to maintain the asset.	TSAG.	TSAG, ISC, shared with Nation's Public Works.
API – Annual Performance Inspections (Completed annually. Digital and printed copies).	Annual inspection of First Nations water systems to ensure all quality standards are met.	Licensed Engineer.	Band Council and ISC.
SVR – Site Visit Reports (Completed at end of each site visit. Paper copy.).	To performance and some condition information about Nation assets.	Circuit Riders.	TSAG, shared with Nations and ISC.
FNIIP – First Nations Infrastructure Investment Plan (Ongoing. Digital Reporting Software).	List/inventory of important initiatives/projects for a Nation. Informed by ACRS, APIs, potentially SVRs, as well as other studies/ plans. Often provides leverage for funding.	Updated by Nation in partnership with ISC.	ISC.

ASSET MANAGEMENT TOOLKIT

Tool & Definition	Intent	Completed by	Submitted To
Tool #1 **"Getting Started"** Asset Management Worksheet	This tool is a high-level method of evaluating the conditions of your assets. Understanding the current and potential future state of assets is the guiding factor in making decisions regarding its maintenance and upkeep.	Nation (Operators, Public Works).	Can be shared with ISC as required.
Tool #2 **"The Day to Day"** Operations & Maintenance Activity Log	Records what was done, when it was done, how long it took, what materials were needed, who did it, anything that they noticed or challenges they encountered.	Nation (Operations and Maintenance Staff).	Can be shared with ISC as required.
Tool #3 **"Aim for the Target"** Prioritized Plan Template	Provides a place to build a summary of what's most important to do next, based on all of the information, reports and studies you have available to you. This is where ACRS, FNIIP, feasibility studies and master plans can come together in one place.	Nation (Band Managers, Department Managers).	Chief and Council, ISC as required.
Tool 4 **"Create History"** Project Sheet Template & Example	Records the story behind why a capital or O&M spend is needed and identifies next steps and actions to take to start rectifying the challenge.	Nation (Operators, Public Works, Capital Project managers).	Chief and Council, Band Managers, ISC as required.

The **TOOLKIT**



#1 **"Getting Started"**
Asset Management Worksheet

#2 **"The Day to Day"**
Operations & Maintenance Activity Log

#3 **"Aim for the Target"**
Prioritized Plan Template

#4 **"Create History"**
Project Sheet Template & Example

This Toolkit was developed over a series of workshops hosted by the First Nations Technical Services Advisory Group with input from First Nations in Alberta communities in Treaties 6, 7, and 8. The Toolkit is intended to support First Nation communities in their journey into asset management and provides a range of tools to get started. Whether you're an operator in the Public Works department, a department head, or the Band Administrator – this Toolkit can be used to support day-to-day operations or help plan for the long term.

TOOL #1

"Getting Started" Asset Management Worksheet

WHAT CAN THIS TOOL DO FOR YOU?

WHAT THIS TOOL DOES:

- This tool is a high-level method of evaluating the conditions of your assets. Understanding the current and potential future state of assets is the guiding factor in making decisions regarding its maintenance and upkeep.
- The fire truck activity below looks at the current state of an asset and explores a possible maintenance path. This tool also helps a Nation make critical decisions about when to purchase a new asset versus ongoing maintenance of the existing asset.
- The first step is to catalog the components and overall value of the asset as well as typical maintenance activities. This will help you understand the potential full cost of ownership. Then, using knowledge about the current state, possible future conditions of the asset can be estimated. This will allow a plan to be developed the outlines the criteria for when replacement of an asset becomes a realistic option. The plan will help to ensure that assets are not replaced prematurely before the full value has been utilized.

WHY IT IS HELPFUL AND WORTH MY TIME:

- Is a way to keep track of what attention an asset will need after you buy it.
- If you complete this for many assets, it can help you tell the story of all the O&M requirements to maximize the **useful life** of what you own.
- Records the plan for an asset so that history is recorded in case of staff turnover.

WHO IS THIS FOR AND HOW DO I SHARE IT?

Who completes it?

- Operators, public works.

Who needs to hear about it?

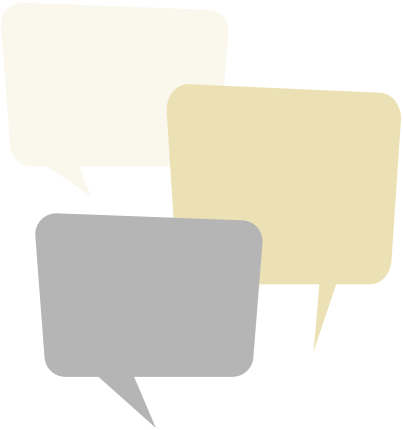
- These plans should be shared with public works managers, capital project managers and potentially band managers. They can also be used to support funding applications.

How:

- Digitally via email.
- Digitally saved in public location.
- Pinned up in band office or public works building.

How Often:

- Should be updated annually, proactively to support equipment purchases/assets.



FYI: Regular maintenance includes oil changes, topping up fluids, regular inspections etc. In asset management, these tasks make up part of **preventative maintenance**, which may also include replacing aging parts as outlined by the asset's manufacturer.

Tips for Sharing: Save the asset management plans in a common place for quick and easy access. If completed in paper copy, ensure the plans are scanned or that a picture is taken of the plan and saved in a central location.

TOOL #1

"Getting Started" Asset Management Worksheet

COLLECT STATISTICS ON THE ASSET

Your Fire Engine: 2004 GMC C8500

Current value: $84,000

General Information:

The fire engine was purchased new for the station in 2004. In general, the engine and equipment have been operating fine with minimal repairs. In 2010 a new set of tires was purchased for the engine. Last year the pressure gauge on the pump was replaced. In the past few months, it has been noted that the main hose appears to be cracking, which may lead to small leaks. Historically the crew goes on 85 trips per year, which includes training sessions and calls. The most common type of call is emergency response to vehicle accidents on the main highway that is 15km from the station. Last year, 20 small house and plains fires were responded to. The engine undergoes vehicle inspections every year and pump recertifications every 3 years. The last vehicle inspection was June 28, 2019.

Specifics of your Fire Engine:

Fort Garry Fire Trucks Ltd.
2004 GMC C8500 Chassis
Allison Transmission
Siren: Q2B
Top Mounted Pump Panel
Pump: Darley LDM 84046
Pumps 4000 LPM

Operational Costs:

$5,500 per year (fuel, oil, filters, recertifications etc.)

Mileage: 29,300 km

Photo courtesy of Alexander First Nation

Equipment and Parts Supply Cost:

Item	Supply Cost	Item	Supply Cost
Fire Pump Parts: Slow Closing Valve Control	$678	Exterior Cab: 1500w 240v Light Bulb	$70
Fire Pump Parts: EB40 Seal Kit	$365	Equipment: Jaws of Life- 700E2 Cutter (battery powered)	$11,620
Exterior Cab: 21" Air Horn	$450		
Equipment: 1.5-inch 50 ft Hose Redskin Industrial	$420	Complete pump replacement	$40,000

New Vehicle Purchase Costs:

Vehicle Type	Tenders/ Tankers (3ooo gal.)	First Response Vehicle	Pumper Trucks	Rescue Unit
Purchase Cost (New)	$500,000	$90,000	$550,000	$600,000

GETTING STARTED *– Most of the information you need to start can be found easily and quickly. Reach out to your Public Works / Infrastructure department to request information related to specific assets. Most of the information you need to get going can be found in ACRS, FNIIP, or internal filing systems.*

TOOL #1

"Getting Started" Asset Management Worksheet

ASSET MANAGEMENT WORKSHEET FOR A FIRETRUCK

Capital Plan Version	Firetruck - 2004 GMC C8500
Date Last Modified	May 4, 2024

Year	Activities	Cost of Activity	Total Annual Cost
2020	Preventative maintenance and upkeep.	$5,500	$8,385
	In late June, the annual inspection determined that the seal on the pump was loose and needs replacement.	$365	
	In December, when responding to a small structure fire the main hose split open and failed. The building was not saved due to the equipment failure. It is best practice to replace all 6 hoses at once.	$420 x 6 = $2,520	
2021	Preventative maintenance and upkeep.	$5,500	$5,500
	Yearly inspection conducted in late June, no issues discovered.		
2022	Preventative maintenance and upkeep.	$5,500	$5,850
	3 Exterior lights burn out in May, replace all 5 at once.	$70 x 5 = $350	
	Annual inspection conducted in late June, no issues discovered, but indicated that the pump is beginning to near the end of its life.		
2023	Preventative maintenance and upkeep.	$5,500	$6,178
	At the annual inspection in June it is determined that the slow close release valve on the pump is no longer operating correctly and must be replaced.	$678	
2024	In February, during a training exercise the pump quit. It is no longer functional, and replacement of a few pieces will not fix the problem. The entire structure must be replaced.	$40,000	

Assumptions Made

- To uphold standard practice and procedures the recommendations from the annual inspection were always followed.
- To ensure the truck remained a reliable piece of equipment that would function as expected, maintenance was consistently conducted.

Notes on Decision Making

****2024** This represents a critical decision point where the Nation decided that the ongoing maintenance costs over the long-term would outweigh the purchase of a new asset.**

When the pump failed in 2024, it was decided that rather than replacing the pump on a 21 yr old truck (originally purchased 2004), an investment would be made to purchase an entirely new unit. The standard practice is to retire the truck and equipment after 25 years. If in 2022, the reports of the pump soon reaching its end of life had been more carefully considered, the $678 spent in 2023 would not have been wasted and could contributed to the purchasing of the new unit.

You can also download an Word version of this document HERE

TOOL #2

"The Day to Day" Operations & Maintenance Activity Log

WHAT CAN THIS TOOL DO FOR YOU?

WHAT THIS TOOL DOES:

- Records what was done, when it was done, how long it took, what materials were needed.
- Notes anything out of the ordinary or challenges encountered.
- Records the individual who completed the O&M activity.

WHY IT IS HELPFUL AND WORTH MY TIME:

- When you have a running record of where you spend your time, it makes it easier to communicate both successes and challenges to others. While you may know what the problems are, others do not have your context and won't automatically "get it".
- Allows for continuity in case of staff turnover or change in roles.

WHO IS THIS FOR AND HOW DO I SHARE IT?

Who completes it?

- Technical staff that are completing O&M activities.

Who needs to hear about it?

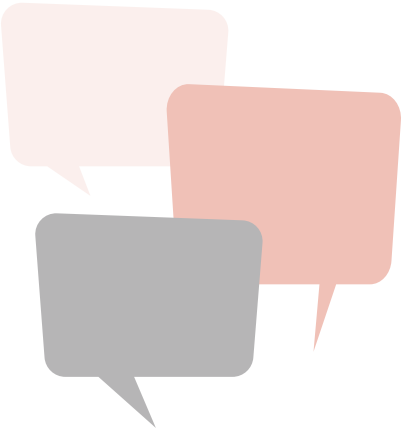
- Other O&M staff, managers and supervisors.
- Finance department if costs over and above original budget are incurred or purchases are required.

How:

- By hand on paper copies of O&M Activity Log and/or digitally by filling out PDF version.
- Potential to explore / develop web application with ability to store O&M Activity in real time.

How Often:

- Based on manufacturer's warranties, this may be daily, weekly, monthly, or on an as-needed basis, depending on the scenario.



Tips for Sharing: If paper records are how your Nation keeps activity logs, dedicate a central location to save the records (ex. Filing cabinet) and have the team make a point of collecting the papers and digitizing (scanning, taking a picture) on a regular basis (ex. monthly). At the point of digitizing it might be worth reviewing the Notes/Observations to see if any actions are required (ex. adding equipment to a truck that gets used regularly).

OPERATIONS & MAINTENANCE ACTIVITY LOG

Tracking	Solid Waste Operations and Maintenance
Last Updated	Feb 2020

Date	Activity	Required Equipment	Who was Involved	Time Required to Complete	New Materials Purchased/Required	Who Needs to know	Notes / Observations
16-Nov-19	Confirming report of unauthorized waste dump site.	Pickup Truck.	2 operators - Joe and Greg.	4 hours - includes driving time to and from site; description of location was not accurate and took us longer to locate the dump site.	None	Director of Public Works	The material at the dumpsite was an old couch- we loaded the couch into the pickup and took it to the waste management facility. Report number is 2237.
02-Dec-19	Cleaning, pick up and disposal of waste at transfer station.	Garbage truck.	2 operators - Ralph and Greg.	5 hours - going to all transfer station throughout the reserve and trips to and from waste management facility.	1 new waste bin is required at N/S road location as the existing bin is damaged.	1. Director of Public Works 2. Finance	Bins at this transfer station were consistently overflowing. Send notice to residents reminding them not to dump of bins are full and redirect them to another transfer station.
28-Jan-19	Equipment Maintenance and Repair - Scale at waste management facility.	Pickup truck to get to site, standard hand tools.	1 operator - Jerry.	1.5 hours - travelling to and from the waste management facility dismantling and inspecting scale.	New circuit for scale required - approximately $1075.00.	1. Director of Public Works 2. Finance	Crowbar and hand tools were needed for dismantling of scale - had to return to yards to get crowbar.

GETTING STARTED – *Best practice to have a separate log kept for each piece of equipment. All of the Tools within this Toolkit are available to be printed (refer to* Appendix A *for printable versions of each Tool) or digitally, via the interactive link at the bottom of each Toolkit page. Pick the option that makes the most sense for your role and your Nation.*

You can also download an Excel version of this document HERE

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TOOL #3 "Aim for the Target" Prioritized Plan Template

WHAT CAN THIS TOOL DO FOR YOU?

WHAT THIS TOOL DOES:

- Provides a place to build a summary of what's most important to do next, based on all of the information, reports and studies you have available to you. This is where ACRS, FNIIP, feasibility studies and master plans can come together in one place.
- Also provides a place to do a rough **cash flow needs projection** into the future, to support your Nation in planning for where to put your energy in grant writing and funding discussions.
- There is no clear-cut way to prioritize your projects. These are decisions that each Nation needs to make based on the particular circumstances in the community. This tool provides a framework to begin discussions with community leadership and senior management. Factors to consider when prioritizing include:
  - » Health and safety
  - » Local economy
  - » Social impacts
  - » Financial impacts

WHY IT IS HELPFUL AND WORTH MY TIME:

- We've heard "no more studies! No more plans!". This is a tool to make all of the studies and plans you already have do some work for you. This can support Chief and Council in making trade-off decisions between priorities, and can help in discussions with funders.
- Supported by Tool #4, Project Sheet Template.

WHO IS THIS FOR AND HOW DO I SHARE IT?

Who completes it?

- Band managers, capital projects managers, in consultation with all departments.

Who needs to hear about it?

- Chief and Council.

How:

- Regular sharing of Prioritized Plan(s) updates with Chief & Council. This can happen during C&C meetings or via email updates.

How Often:

- Recommend quarterly updates at a minimum, but can be circulated to the relevant group any time an update is made to the template.
- Update Prioritized Plan template when ACRS and FNIIP revisions come through.

Tips for Sharing: In addition to supporting decisions with Chief and Council, Prioritized Plans can be valuable tools to reference when putting together funding applications.

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TOOL #3

"Aim for the Target" Prioritized Plan Template

PRIORITIZED PLAN

Remember, prioritizing your Nation projects requires discussion with leadership and senior management with consideration to a broad range of factors that impact your community.

Capital Plan Version	Public Works Prioritized Plan - Version 1
Date Last Modified	May 4, 2020

								2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030		Funding				
Source of Project Information	ACRS Asset Component Code No.	ACRS Deficiency Description	Project Description (What is this project going to do?)	Responsibility for Setup/Implementation	Driver and Reason for Project and Priority Level (Level of service, risk)	Start Date	**Total Cost**	Estimated Spending Profile											**Total**	ISC O&M Funding	ISC Capital Funding	User Fees	Trust	Band Source
ACRS	A2.8	Replace exterior door	Improve door seal and function	Winslow to write work plan and secure funding. Tyler to contact suppliers for prices, procure service, and manage contract.	Poor seal makes front entry uncomfortably cold in the winter. Is also a security risk.	2020	**6,000**	6,000											**6,000**	6,000				
ACRS	A4.8	Install handrail(s) on interior stairs or ramp	Bring stairway into compliance with code	Tyler to write work plan and secure funding. Monica to purchase and install hand rail.	Addresses a health and safety risk, as well as conform to code	2022	**2,000**			2,000									**2,000**	2,000				
FNIIP	n/a	n/a	Waterline Feasibility Study	Winslow to find consultants to complete the study	Addresses health risk - boil water advisory	2021	**100,000**		100,000										**100,000**		100,000			
CCP	n/a	n/a	Solid Waste Management Plan	Monica to find consultants to develop new SWMP for the Nation	Landfill capacity is limited	2023	**75,000**				75,000								**75,000**		75,000			
						TOTAL	**183,000**	**6,000**	**100,000**	**2,000**	**75,000**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**183,000**	**8,000**	**175,000**	**0**	**0**	**0**
						Projected Funding																		

GETTING STARTED – *It is likely that each Nation will have multiple Prioritized Plans in place at any given time. There may be one or more for each are of focus within a Capital Works / Infrastructure Department. (ex. roads, water, Nation-owned buildings etc).*

You can also download an Excel version of this document HERE

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TOOL #4

"Create History" Project Sheet Template

WHAT CAN THIS TOOL DO FOR YOU?

WHAT THIS TOOL DOES:

- Records the story behind why a capital or O&M spend is needed and identifies next steps and actions to take to start rectifying the challenge.
- Stores the details of the "why" in a place other than operators' brains, which supports Nations in **succession planning** and reducing impact during staff turnover.
- Identifies resources needed (time and money) to deal with the problem
- Supports conversation about impacts to services and risk, rather than just "it's broken".

WHY IT IS HELPFUL AND WORTH MY TIME:

- Helps you organize your thoughts and get them out of your brain.
- Is a conversation-starter with other roles that will need to play a part in implementation.
- Can support the development of the Tool #3, Prioritized Plan Template.
- Can help build communication with Chief and Council, as well as funders.
- Helps bring risk and service delivery into the conversation.

WHO IS THIS FOR AND HOW DO I SHARE IT?

Who completes it?

- Operators, public works, capital projects managers.
- Consultants, on behalf of the Nation.

Who needs to hear about it?

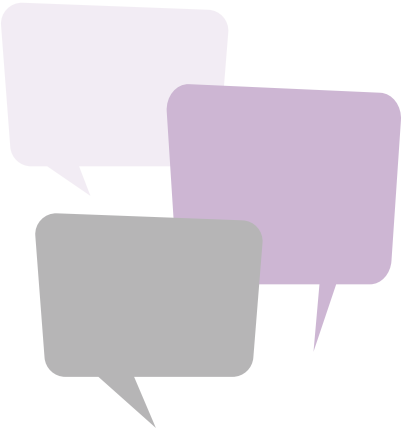
- Band managers, Chief and Council.

How:

- Digital version of the Project Sheet Template that is shared in a digital location where it can be accessed by multiple users.

How Often:

- Ongoing, with a new project sheet template initiated in advance of or at the start of a each new major project.



Tips for Sharing: Project Sheet Templates will likely take some time to get completed and will have input from several different people/teams. They can act as living documents that get updated on a regular basis. Because of this, completing them in digital format is beneficial in the long run.

TOOL #4

"Create History" Project Sheet Template

PROJECT SHEET TEMPLATE

Project Name	Water pipe and valve replacement
Project Location	Nation Townsite
Last Updated	February 2020
Last Updated By	Winslow from Public Works

Project Description	Develop a multi-year plan and first two years of **preliminary design** to do a **phased replacement** of all water mains, hydrants and isolation valves in Townsite distribution system.
Project Driver(s)	• Water line breaks are happening more and more often (6 recorded in the last 6 months). • Water lines are old, and breaks are happening in the pipe material itself. • When breaks happen, we've discovered a lot of our isolation valves don't work. Whenever there is a break, we have to shut off half to all of the Townsite for several hours, prompting a precautionary boil water advisory. • 90% of our boil water advisories are due to line breaks rather than treatment issues.
Related Projects/ Initiatives	• Replacement of sanitary lines (whenever we disturb the ground next to the water lines, there is usually a failure that follows shortly after). • Implementation of a GIS system is underway which should give us better understanding of where our infrastructure is.
Service Implications	• Townsite users are without water frequently for hours to days at a time. This has reduced trust in our water and system, and more people are buying bottled water. • Interruptions to water service have negative impacts on businesses (they have to close unexpectedly).
Risk Implications	• Few working isolation valves mean little control over the system, larger losses during breaks. • Shut down of entire system means we have no fire hydrant protection. • Re-starting entire system every time means a boil water advisory, stagnant water in pipes that may not meet quality standards and greater potential for migration of contaminants into water pipes. • When we have to shut down the system for repairs, **fire flow** is not available putting community buildings at significant risk. • Replacement of all lines would need to be phased to reduce impact to membership and businesses.
Cost Implications	• These breaks are always an emergency repair that are more expensive to fix, and we don't always have spare valves on hand to install when the old ones break. • It will cost us about $100,000 in consulting fees to develop a plan and do two years of preliminary design. • There will be further costs to do detailed design, tendering, and construction, but those are unknown now (will be estimated as part of preliminary design).

PROJECT SHEET TEMPLATE - CONTINUED

Project Name	Water pipe and valve replacement
Project Location	Nation Townsite
Last Updated	February 2020
Last Updated By	Winslow from Public Works

Funding Implications	• Water line replacement has been identified in our First Nations Infrastructure Investment Plan for several years, but is listed as one $20,000,000 line item. • ACRS doesn't identify every valve that needs replacement (we don't discover them until there's a water line break), but operators have been keeping track of all breaks that happen in site visit reports and photos. • As a department, we don't seem to be allocated enough annual O&M funding to proactively address these challenges.
Trade-Off Considerations	• We need a long-term plan for replacement that spans multiple fiscal years • Service is interrupted frequently and is resulting in loss of trust of our water, staff, and leadership. • Frequent boil water advisories are a health and safety risk (but are also a targeted priority of the federal government). • It will cost money to do the plan, but doing the plan first will likely make construction go smoother (fewer surprises along the way), and there may be some efficiencies if we partner with the neighbouring community. • Funding will require conversations with Indigenous Services Canada… we don't know who to contact there yet. • Recent staff changes mean that our current operators don't have detailed knowledge of our system – we need to make sure they are involved in the planning, design and construction of replacement infrastructure so they gain a better understanding of how everything works. • We don't know if it makes sense to just replace the valves in our system with new ones or if we should replace the water pipe too.
Action Items	• Capital projects manager to get in touch with Indigenous Services Canada to find out who to talk to, and share this project sheet with. • Band Administrator to bring forward a Band Council Resolution to Council to signal importance of multi-year efforts to replace water system. • Operator to compile all previous site visit reports that document water line breaks or broken valves, and invoices for all emergency repair work.

You can also download an Word version of this document HERE

GETTING STARTED *– Getting the Consulting Project team that supports the Nation involved in the project Sheet Template may be beneficial as they can share input on cost and workflow implications.*

GLOSSARY

Word / Term	Definition	Example / Possible Scenario
Asset Management	Practices that identify what is owned (equipment and services) and what needs to be completed to operate and maintain these assets. The goal is to ensure that community assets are able to deliver the level of service required by the needs of the residents.	The Nation owns and operates their water distribution system. Understanding the system's current state and what possible future repairs may be required will help the Nation make effective decisions that balance costs with potential risks with the end goal of delivering clean water to the community.
Asset Management Champion	An individual that is responsible for the asset management program. They will build a team to help in the process.	This is an individual who can bring people together and build a team of people that collectively have experience in the Nation's finance, operations, planning and engineering.
Cash Flow Needs Projection	Calculating what fees are associated with the asset and how it can be expected to change over time.	A project will aide in creating a budget so that preventative maintenance can be completed.
Circuit Riders	Technical advisors from TSAG that provide on-site training and mentoring services to water and wastewater operators in communities.	The training program allows local operators to become appropriately informed in processes so they can maintain the water and wastewater systems.
Equipment and Parts	In the context of the toolkit, replacement or spare parts for the equipment are considered a part of the asset.	The cost of buying a new pump seal for the community's fire truck is considered under the operation and maintenance fees of the asset.
Fire Flow	The minimum volume of water at the specified rate at fire hydrants that is required to fight fires.	Being unable to provide the fire flow rating to hydrants may mean that there is not enough water available to fight fires and prevent the spread throughout the community.
Fiscal Year-End	The twelve-month reporting period used to calculate annual statements.	The fiscal year end for Indigenous reporting and budgeting processes is typically April 1 to March 31.
Level of Service	A measure of the quality, quantity, and/or reliability of a service from the perspective of residents, businesses, and customers in the community.	The frequency of waste collection (e.g. once a week vs. once every two weeks).
Long-Term Maintenance	Repairs and replacements that are ongoing for an extended period. These are required for the successful operation of an asset.	A community has a plan to operate the water valves every 2 years to determine its condition and which need to be replaced.
Phased Replacement	When the replacement of asset occurs in stages over a period of time.	When a water system is deteriorating the critical areas will be addressed first, non-critical areas may not be reconstructed for many years.

Word / Term	Definition	Example / Possible Scenario
Preliminary Design	The initial phase of an infrastructure / construction project includes gathering relevant information, investigating possible solutions and forming basic drawings. Detailed work must be completed before construction can occur.	If a community needs multiple roads in their network repaired, a survey and geotechnical investigation could occur that will provide information. This information will be used in determining what possible road designs might be.
Preventative (Regular) Maintenance	Inspections, repairs, and upgrades that are regularly preformed on an asset to lessen the probability of it failing and maximizing its useful life.	If a hydrant is noticed to be leaking, repairing the hydrant, and replacing the cracked piece will prevent the whole water main from breaking.
Service Delivery	The method in which the systems, that the Nation owns and operates to meet the resident's basic needs, are distributed.	Your community does not have a pressurized water distribution system. Water is provided to the residents via water trucks and cisterns. This is how the basic need of clean water is delivered to the residents.
Succession Planning	In the context of the toolkit, properly documenting the methodology and the history behind an asset so that new employees have the required information to make choices. A succession plan should involve procedures for training new staff members, this will ensure that they receive the required information at the start of their job.	When Jim, a new employee, begins working in the public works department, his training will includes reviewing important background information on the equipment and the systems in the Nation. 2 years later, when a water main breaks and Jim is the only employee working, he will know where the closest shut off valve is and minimize the damage.
Useful Life	It is an estimate of the number of years an asset is likely to remain in service while the cost of operating and maintenance does not outweigh the effectiveness.	An asset has been appropriately managed when its useful life is maximized. Once this limit is reached, inputting further operation and maintenance costs are ineffective at prolonging the life of the asset. A 22-year fire truck that needs to have the pump replaced has reached the end of its useful life. Investing the funds that would be used to replace the pump into a new fire truck is a more sustainable purchase.

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APPENDIX

PRINTER FRIENDLY TOOLS

TOOL #1

"Getting Started" Asset Management Worksheet

ASSET MANAGEMENT WORKSHEET

Type of Asset	
Last Updated	

Year	Activities	Cost of Activity	Total Annual Cost

Assumptions Made

Notes on Decision Making

You can also download an Word version of this document HERE

OPERATIONS & MAINTENANCE ACTIVITY LOG

Project Name	
Last Updated	

Date	Activity	Required Equipment	Who was Involved	Time Required to Complete	New Materials Purchased/Required	Who Needs to know	Notes / Observations

GETTING STARTED – *All of the Tools within this Toolkit are available to be printed (refer to Appendix A for printable versions of each Tool) or digitally, via the interactive link at the bottom of each Toolkit page. Pick the option that makes the most sense for your role and your Nation.*

You can also download an Excel version of this document HERE

TOOL #3

"Aim for the Target" Prioritized Plan Template

PRIORITIZED PLAN

Remember, prioritizing your Nation projects requires discussion with leadership and senior management with consideration to a broad range of factors that impact your community.

Capital Plan Version	
Date Last Modified	

								2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030		Funding				
Source of Project Information	ACRS Asset Component Code No.	ACRS Deficiency Description	Project Description (What is this project going to do?)	Responsibility for Setup/Implementation	Driver and Reason for Project and Priority Level (Level of service, risk)	Start Date	**Total Cost**	Spending Profile											**Total**	ISC O&M Funding	ISC Capital Funding	User Fees	Trust	Band Source
							TOTAL																	
							Projected Funding																	

GETTING STARTED – *It is likely that each Nation will have multiple Prioritized Plans in place at any given time. There may be one or more for each are of focus within a Capital Works / Infrastructure Department. (ex. roads, water, Nation-owned buildings etc).*

You can also download an Excel version of this document HERE

TOOL #4

"Create History" Project Sheet Template

PROJECT SHEET TEMPLATE

Project Name	
Project Location	
Last Updated	
Last Updated By	

Project Description	*In a short statement, what is the project that's proposed? (If you have any photos of the problem that will help to tell the story, add them in too)*
Project Driver(s)	*Why is this project important? What problem is it expected to fix? Who is this project important to? Is this a response to aging infrastructure? Identified risks? Growth and development? Infrastructure capacity or performance? Is this project identified in previous studies/documents?*
Related Projects/ Initiatives	*Are there related capital, operational, or other projects/initiatives on the go?*
Service Implications	*How does this project address previously identified gaps/changes in levels of service? What are the anticipated changes? Are there any Indigenous Services Canada Levels Of Service Standards we need to abide by?* *Are there opportunities to collaboratively deliver this service with others? What other departments might be affected by this project? Who else would benefit?*
Risk Implications	*Does this project reduce or mitigate an identified and assessed risk? Is this risk relatively high when compared to other proposed projects and risks? What is the risk of not doing this project? Do we have a condition rating on the infrastructure that gives us some information on likelihood of failure?*
Cost Implications	*How much will this project cost in staff time and resources? Do we need external support to complete it, if so what is that cost? What are the anticipated yearly O&M costs, and how will that impact our current staff complement? Do we need a higher level of operator, or someone with specialized skills?* *How long to we think the project will take, and what funding will we need, when?*
Funding Implications	*What are the implications of either doing or not doing this project with respect to trade-offs? What are the hard choices to be made?*
Trade-Off Considerations	*What was talked about in conversation? What came up as most important?*
Action Items	

You can also download a Word version of this document HERE

TOOL #4

"Create History" Project Sheet Template

PROJECT SHEET TEMPLATE

Project Name	
Project Location	
Last Updated	
Last Updated By	

Project Description	
Project Driver(s)	
Related Projects/ Initiatives	
Service Implications	
Risk Implications	
Cost Implications	
Funding Implications	
Trade-Off Considerations	
Action Items	

You can also download a Word version of this document HERE

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