



MAINTENANCE MATTERS: BUILDING STRONGER FIRST NATIONS INFRASTRUCTURE

**Enhancing community
resilience through effective
upkeep**

INTRODUCTION AND PURPOSE



MAINTENANCE MATTERS: BUILDING STRONGER FIRST NATIONS INFRASTRUCTURE

Importance of Maintenance

Structured maintenance management improves reliability, safety, and financial sustainability of community infrastructure.

Empowering First Nations Communities

The MMP program supports communities in taking control of their assets through intentional maintenance practices.

Building on Existing Knowledge

Improvement is achieved by refining current practices and honoring the knowledge within First Nations operations teams.

Creating Long-term Trust

Reliable water systems and efficient public works foster trust and resource stewardship in communities.

IMPORTANCE OF MAINTENANCE



WHY MAINTENANCE MATTERS

Safety and Reliability

Proper maintenance ensures infrastructure safety and reliability, protecting community health and essential services.

Building Community Trust

Effective maintenance demonstrates leadership commitment, fostering trust through proactive service management.

Cost Efficiency

Planned maintenance reduces costs by preventing failures and extending asset life, especially in resource-limited areas.

Strategic Asset Stewardship

Disciplined maintenance shifts communities from crisis management to strategic, data-driven asset stewardship.



CURRENT CHALLENGES IN INFRASTRUCTURE

Aging Infrastructure Issues

Many communities struggle with aging infrastructure that requires urgent repairs and upgrades to ensure safety and reliability.

Reactive Maintenance Challenges

Maintenance often occurs reactively, responding to issues after breakdowns, causing inefficiency and risk.

Lack of Structured Systems

Absence of standardized processes and asset management hinders tracking and justifying funding for infrastructure.

Need for Collaborative Solutions

Effective improvements require culturally relevant, adaptable solutions developed collaboratively with community knowledge.

SHIFT IN MAINTENANCE THINKING



FROM REACTIVE TO INTENTIONAL MAINTENANCE

Limitations of Reactive Maintenance

Reactive maintenance leads to higher costs, increased downtime, and risks to safety and reliability.

Principles of Intentional Maintenance

Intentional maintenance is based on planned work aligned with asset condition, usage, and criticality.

Benefits of Intentional Maintenance

This approach improves efficiency, reduces team stress, and aligns maintenance with long-term goals.

Cultural Transformation Required

Adopting intentional maintenance needs commitment, training, and leadership support for success.

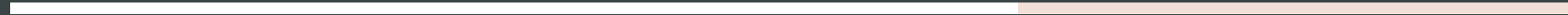
OVERVIEW OF THE MMP PROGRAM

WHAT IS THE MAINTENANCE MANAGEMENT PROFESSIONAL PROGRAM?



- Comprehensive Skill Development
 - The MMP program builds knowledge in asset and maintenance management through structured learning modules.
- Global Standards and Credentials
 - Developed by PEMAC, the program aligns with global standards, providing recognized credentials and practical expertise.
- Empowering First Nations Communities
 - The program strengthens local capacity for infrastructure management in First Nations communities through relevant training.
- Practical and Collaborative Learning
 - Emphasizing real-world application and teamwork, the program encourages sharing operational challenges and experiences.

MODULE 1: INTEGRATED MAINTENANCE STRATEGY





FOUNDATIONS AND EVOLUTION OF MAINTENANCE

Maintenance Evolution Overview

Maintenance has evolved from reactive to preventive and predictive methods over recent decades.

Tailored Maintenance Strategies

Effective maintenance strategies must be customized to suit each organization's unique needs and contexts.

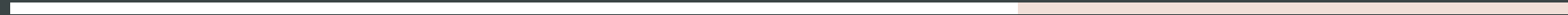
Key Frameworks Introduction

PEMAC Asset Management Framework and Uptime Elements provide structured decision-making approaches.

Building Flexible Programs

Knowledge enables building adaptable, consistent, and reliable maintenance programs for changing conditions.

MODULE 6: MAINTENANCE WORK MANAGEMENT



PLANNING, SCHEDULING, AND WORK CONTROL



- Principles of Maintenance Management
 - Effective planning, scheduling, and control are essential to optimize resources and ensure maintenance consistency.
- Standardized Work Processes
 - Work request and work order systems help capture, prioritize, and track maintenance activities systematically.
- Routine and Corrective Maintenance
 - Scheduled inspections and corrective actions based on data analysis improve reliability and reduce variability.
- Systems Supporting Execution
 - Successful maintenance relies on disciplined systems and processes beyond just technical skills.

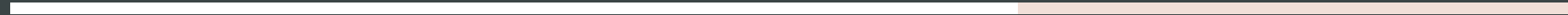
CORE
MAINTENANCE
BUILDING BLOCKS

ASSET REGISTER AND WORK MANAGEMENT SYSTEMS



- Comprehensive Asset Register
 - An asset register catalogs all assets, detailing location, usage, and operational criticality for effective maintenance planning.
- Work Management Systems
 - Work management systems streamline maintenance via work request submission, order generation, and progress tracking.
- Standardized Processes
 - Standardizing work processes ensures consistent capture and management of all maintenance activities across the organization.
- Proactive Maintenance Enablement
 - Together, asset registers and work management systems enable prioritization, efficient resource allocation, and performance measurement.

MAINTENANCE STRATEGIES





REACTIVE, PREVENTIVE, AND PREDICTIVE APPROACHES

Reactive Maintenance

Reactive maintenance fixes equipment after failure but is costly and risky, so it should be minimized whenever possible.

Preventive Maintenance

Scheduled inspections and part replacements reduce failure risk and maintain equipment reliability proactively.

Predictive Maintenance

Data-driven condition monitoring predicts issues early, allowing targeted maintenance before failures occur.

Strategic Maintenance Decisions

Assigning proper maintenance strategies optimizes performance, cost, and resource use based on asset criticality.

REAL EXPERIENCE AND LEARNING



100+ HOURS OF FOUNDATIONAL LEARNING



Deep Engagement in Learning

Participants dedicated over 100 hours to deeply understand maintenance management principles, beyond just theory.

Exploration of Maintenance Evolution

The learning journey included revisiting the history and strategies of maintenance to build programs from the ground up.

Collaborative Knowledge Building

Participants connected concepts with experience through reflection, discussion, and shared insights, fostering collaboration.

Customized Community Approaches

Learning emphasized that each community must develop unique maintenance approaches suited to their specific needs and strengths.

COMMUNITY IMPACT

KEY TAKEAWAYS



FOUNDATIONS FOR SUCCESS

Strong Foundations in Maintenance

Effective maintenance depends on intentionality, structure, and a solid foundation for long-term success.

Leveraging Team Knowledge

Existing skills and knowledge within teams are valuable and can be enhanced through structured learning.

Continuous Improvement Commitment

Success comes from continuous improvement and dedication to doing things better every day.

MMP Program Tools

The MMP program offers tools and frameworks to organize knowledge and enhance performance.

CLOSING REFLECTION

BUILDING ON STRENGTHS AND SHARED LEARNING



Acknowledging Existing Strengths

Recognize and value the expertise and strengths within First Nations communities as a foundation for growth.

Mutual Learning Journey

Learning through the MMP program is reciprocal, enriching all participants with valuable insights.

Enhancing Existing Capabilities

Focus on refining and building upon current skills and structured approaches to improve outcomes.

Collaboration and Sustainability

Strong relationships and mutual respect drive sustainable infrastructure development for future generations.