Waabnoong Bemjiwang Association of First Nations

WATER MAINTENANCE PROJECT

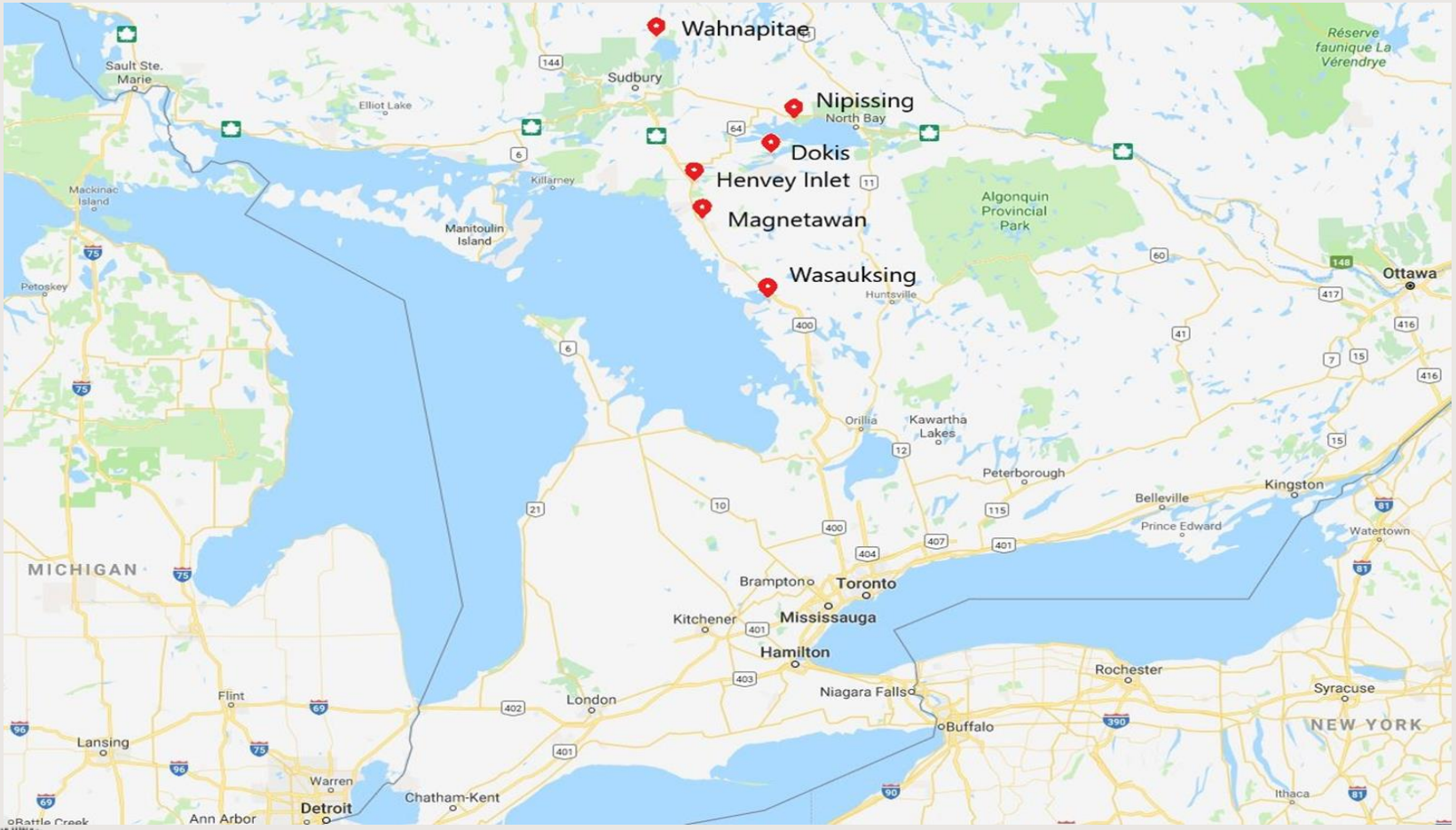
IN PARTNERSHIP WITH

ONTARIO CLEAN WATER AGENCY

AFN WATER SYMPOSIUM

February 6-8, 2018

WBAFN Members



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OCWA's Support Network

- 28 Ontario First Nation Organizations
- 170 Ontario Municipalities
- 800 + Facilities
- Over 100,000 assets in the Maintenance System
- Largest water /wastewater remote monitoring network in Canada
- Hub and Spoke Service Delivery Model

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Alliance of Ideas

- With the support of Chiefs WBAFN is working towards a Hub Type Model to ensure:
  - Consistency to manage, operate and maintain water & wastewater systems in an effective, professional and responsible manner
  - Agreed to proceed with a pilot program to review effectiveness of shared support
  - Care and Control responsibilities remain with community

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The Challenges

- Large Geographic Areas
- Significant travel time = costly and time consuming
- Independent operations and maintenance at community level don’t bring economies of scale
- Lack of tools and information for financial planning
- Turnover among First Nation plant operators
- Challenged to provide proper maintenance (planned & unplanned) at some facilities
- Data collection and analysis from water and wastewater systems is difficult and time consuming
- Responses to issues are delayed and costly
- Lack of technical and financial resources.

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Hub Type Support Model

- Shared support approach to care and control of water and wastewater
- Supports will improve operations and maintenance helping to bring more consistency to the production of safe water;
- Remote monitoring may raise awareness of data and trends which may be the result of climate change impacts on water quality and quantity;
- This model uses innovative technology; and
- Development of a sharing model leads to a more sustainable water management future

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Our Starting Point

- WBAFN summarized Annual Performance Inspections of 13 systems within member communities
  - Water Source Risk
  - Design Risk
  - O & M
  - Record Keeping
  - Operator Risk
  - Calculated System Risk
- Real Property Services for INAC – Capital asset, activities, cost elements, parameters
- References, Drinking Water Quality Management Standards, Ontario Safe Drinking Water Act, Safe Drinking Water for First Nations (S-8)

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Identify Clear Objectives

- Reduce Travel time
- Hub type model will provide support and resource sharing
- Provide tools and information for financial planning
- Provide proper maintenance
- Improved data collection
- Improved response times
- Emergencies (out of service/shutdowns, etc)

Desired Outcome

To empower our communities and water & wastewater operating teams with the technology and training for remote monitoring and asset maintenance capacity using OCWA's technology and expertise for mentoring and best practices.

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Building the Advisory Group

- Water operators from each of six communities form an operational support group called Waabnoong Bemjiwang Operation Networking Advisory Group
  - Oversee the project and process
  - WBONAG will share resources for addressing issues of common concern regarding Operations and maintenance
- Opportunities for sharing include equipment sharing, bulk purchasing, operator training and back-up coverage, and general collection, distribution and treatment support

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Project Activity

- Waabnoong Bemjiwang Operations Networking Advisory Group
- Remote Monitoring and Assets Management
- Development of Procedures and Protocols
- Communication

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Remote Monitoring

- Allows water and wastewater systems to be monitored off site in near-real time.
- Enables sharing of information among local teams and WBAFN
- Benefits First Nation Communities

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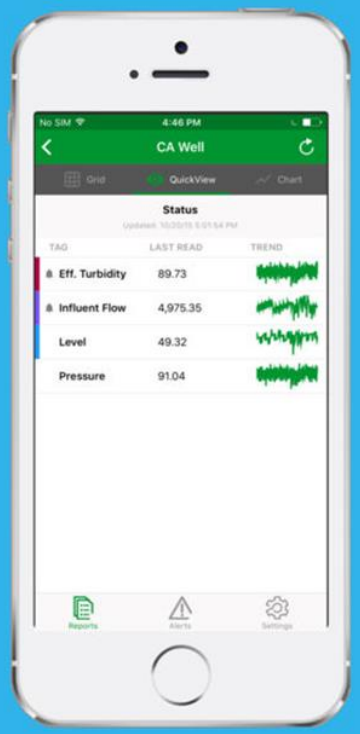
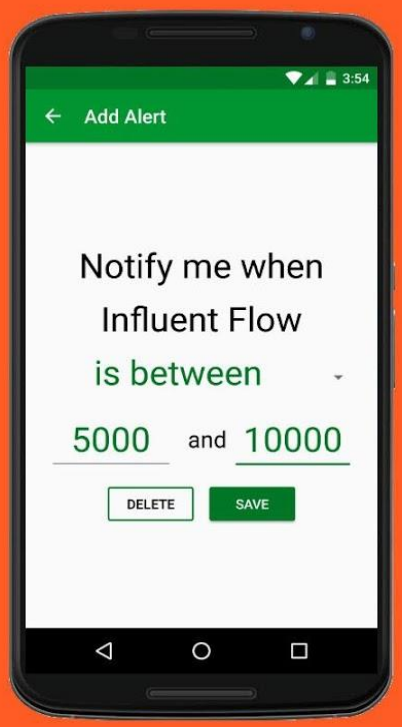
Get reports anytime, anywhere



Get real-time trend data from any historian.

Configure personal alerts.



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Asset Management

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Asset Management - Benefits

- Improved financial performance
- Informed asset investment decisions
- Managed Risk
- Improved customer services and outputs
- Demonstrated social responsibility
- Demonstrated compliance
- Enhanced reputation
- Improved organizational sustainability
- Improved efficiency and effectiveness

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Life Cycle Delivery

Maintenance Delivery

- Effective and efficient coordination of resources needed to deliver the maintenance services
- Each task is represented by a work order that must be prioritized, planned, scheduled , delivered and reported
- Every task requires resources i.e. Electrician, skilled labour
- Sites and facilities may be geographically dispersed so travel time may be significant
- Inventory management
- Certification of staff
- Warranty management
- In-sourcing vs outsourcing of maintenance services

Computerized Maintenance Management System

- Assets will be tagged at Wasauksing and Nipissing
- Review and /or development of maintenance protocols with appropriate level of service and may include adjustments, cleaning. Lubrication, routine repairs, painting etc
- Unplanned maintenance activities will be included
- Feedback from the Advisory Group will be used to make adjustments to the system

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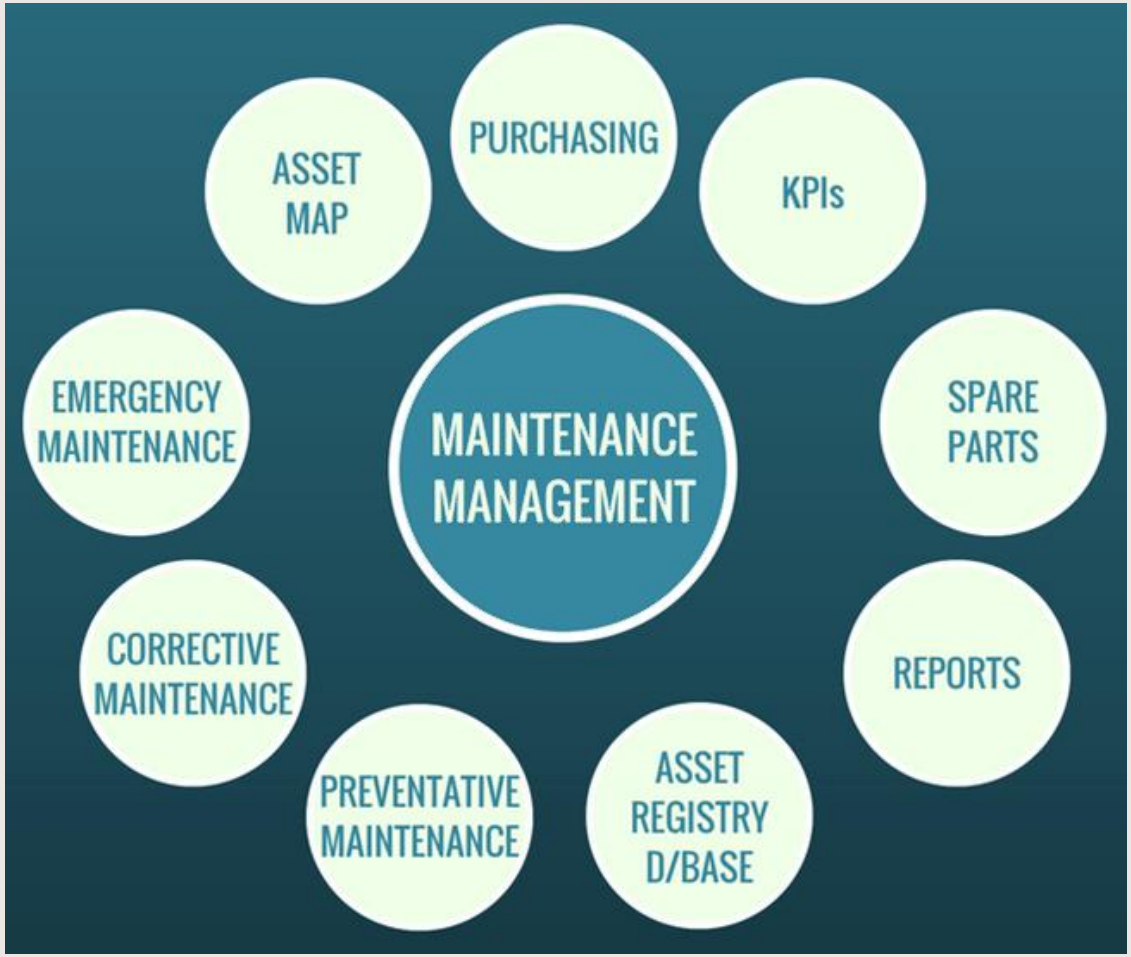
Pieces of the CMMS



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Computerized Maintenance Management vs Other Methods

CMMS	Paper Based	Excel Based
➢ Automated Analysis ➢ Effective Alerting ➢ Organized Workflow ➢ Enhanced Data security ➢ Minimize human error ➢ Integrate with other systems	➢ Manual analysis ➢ No alerts ➢ Workflow changes ➢ No data security ➢ Greater chance of human error ➢ No integration	➢ Non-automated analysis ➢ Non-standard workflow ➢ Some security ➢ Some human error ➢ Difficult to integrate

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Benefits of Good Maintenance

- Reduced equipment failure
- Increased maintenance productivity
- Improved processes including health & safety and compliance
- Knowing when to replace or replace
- Extended Asset Life

Maintenance Management can help your Asset Management Plan…

- Better organize assets
- Better understand assets and how they work together
- Engage best practices to extend asset life
- Provides information to develop a long term plan for infrastructure

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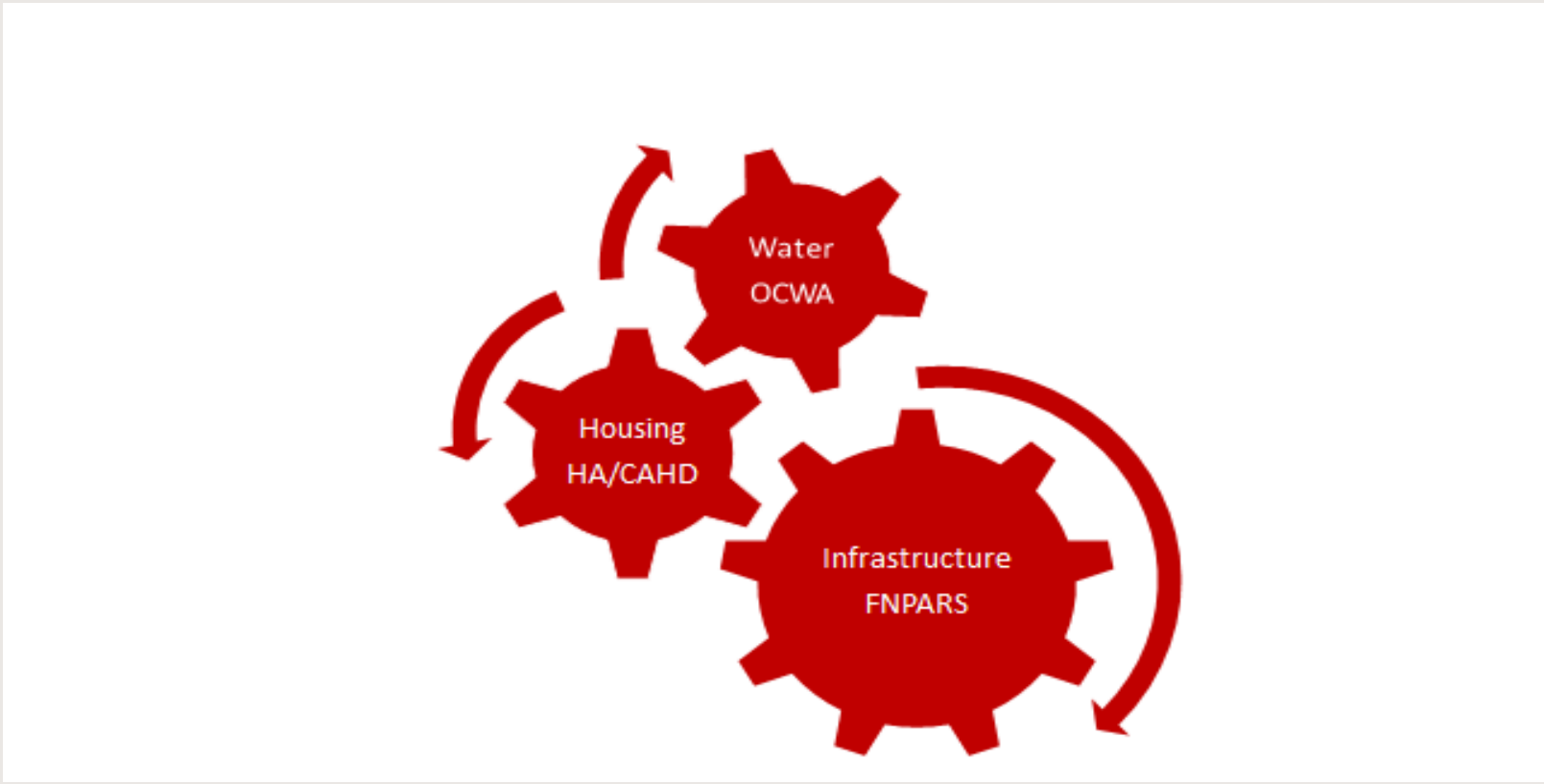
WBAFN Strategy – An Integrated Shared Approach to Infrastructure Solutions



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Thank You

Gary Naponse
Infrastructure Database Technologist
Waabnoong Bemjiwang Association of First Nations

John Kingsbury
Director Business Development
Ontario Clean Water Agency

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