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Public Information Session

Water System Upgrades

Alma, NB

Village of Fundy Albert

April 10, 2024

18073

Agenda

- Introductions - Englobe
- Part 1: Background
- Part 2: Temporary Water Supply
- Part 3: Water System Upgrade – EIA Public Meeting

Introductions

Attendance Sheet

Englobe at a Glance

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Englobe - Our sites in Atlantic Canada

- In Business since 1952 (Formerly Crandall Engineering Ltd. until 2018)
- Offices in 3 Provinces
- 275+ Employees in Atlantic Canada

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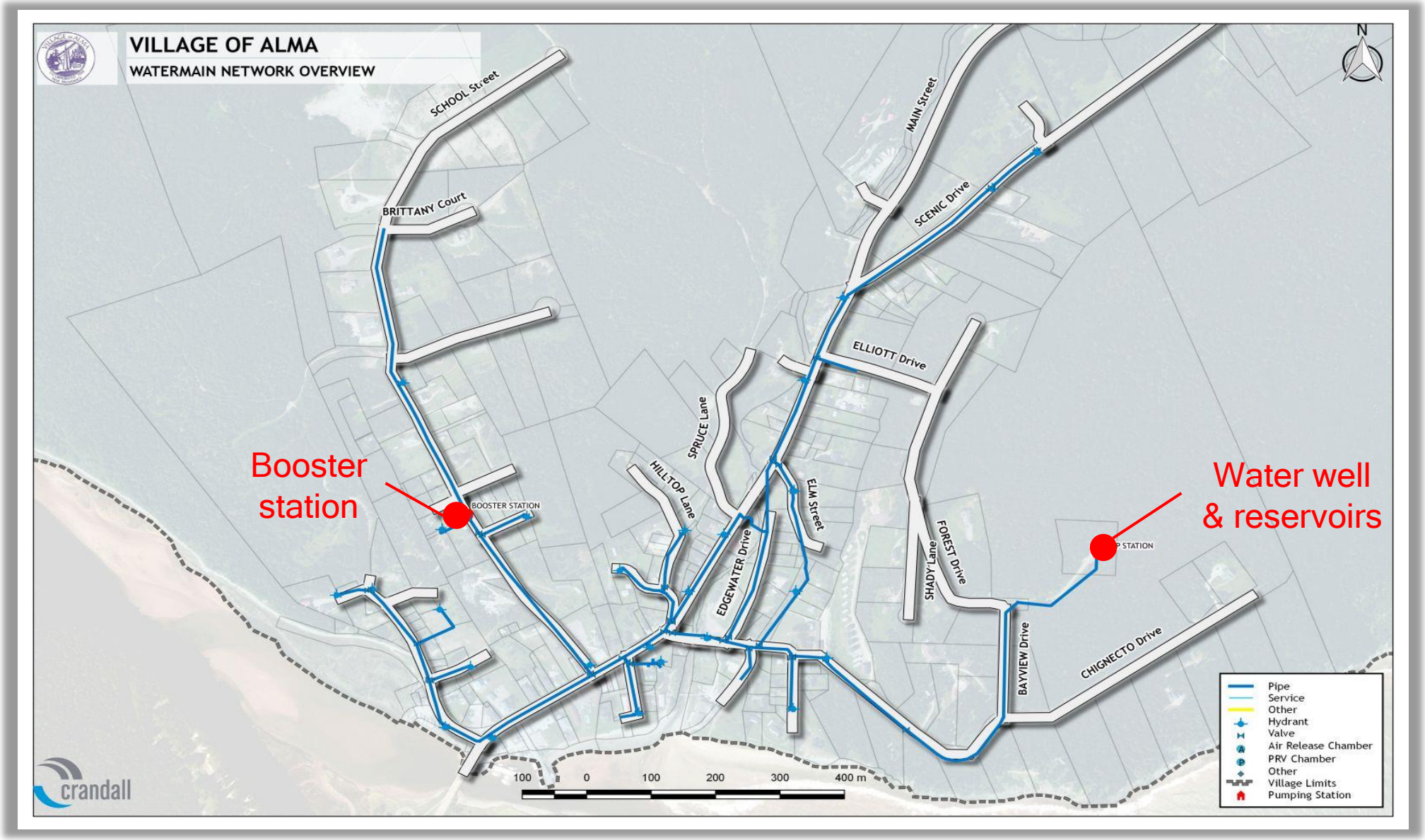
Background

Agenda - Part 1

- Part 1: Background
  - — Existing water system overview
    - Components & current capacity
    - Existing demand (high vs. low season)
    - Key challenges
  - — Questions / Discussion - Part 1

Existing water system overview – Components & capacity



Pumping capacity

Pump #1
3.0 l/s (11 m^3/h)
Pump #2 (backup only)
0.6 l/s (2 m^3/h)

Storage capacity

Reservoir A
36,720 liters (37 m^3)
Reservoir B
24,300 liters (24 m^3)
Total
61,020 liters (61 m3)

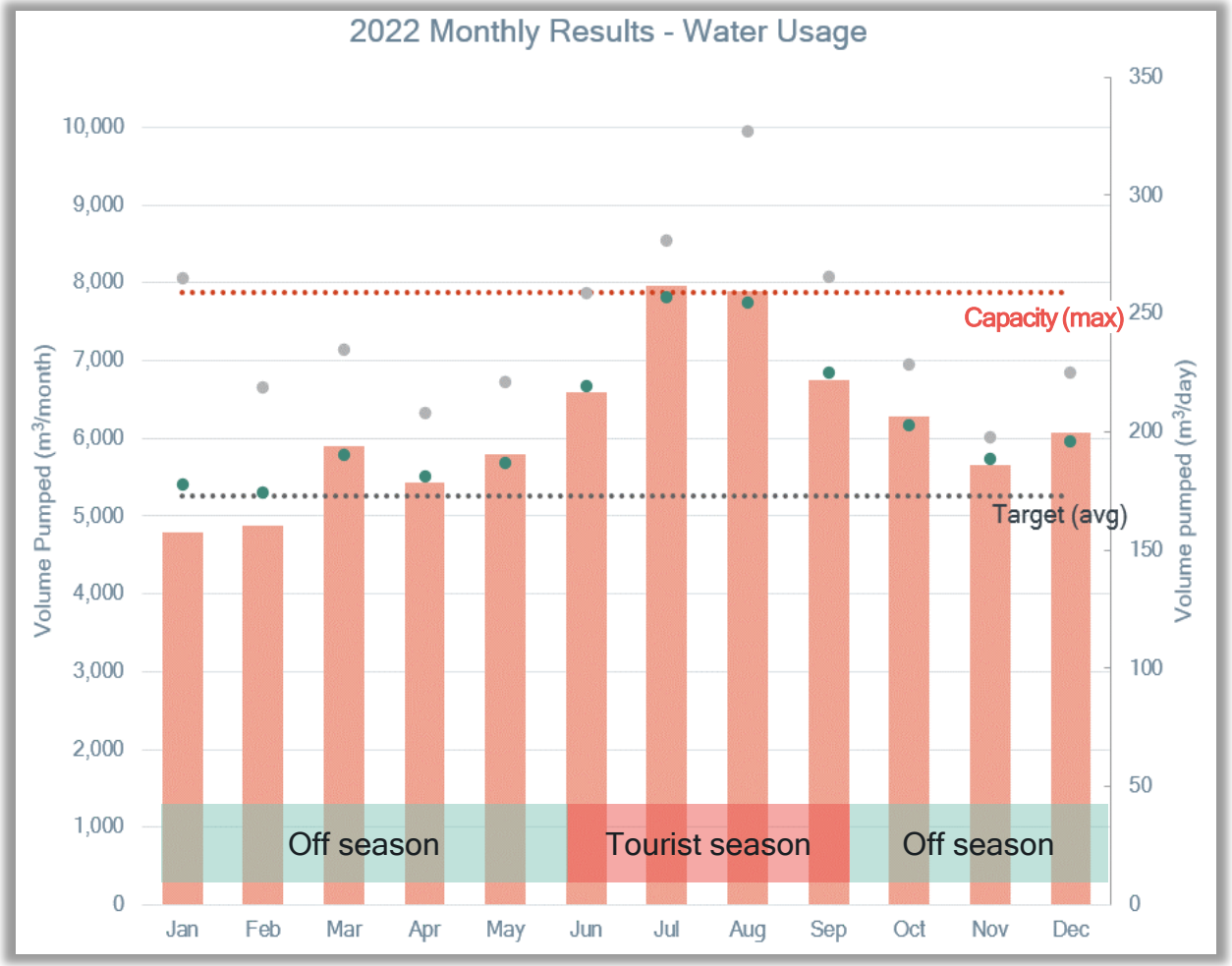
Distribution network

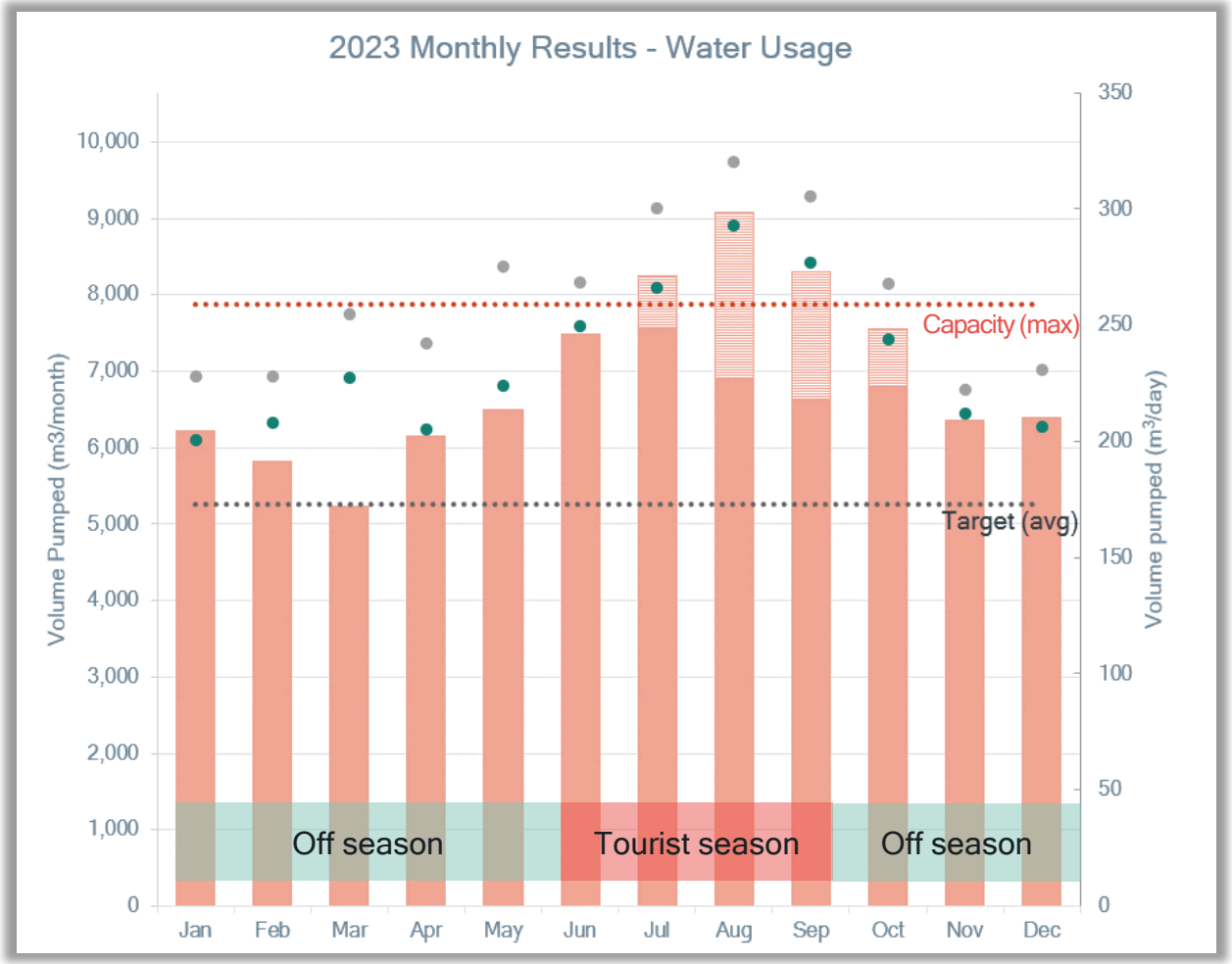
Watermain 5.4 km

150 mm -	4.3 km	(80%)
100 mm -	375 m	(7%)
50 mm -	695 m	(13%)

Existing water system overview - Demand

Well pumping targets: 12h: 132 m³/day
16h: 176 m³/day
Max. Capacity: 24h: 264 m³/day





Total Monthly Volume Pumped (Alma) (m3)
Average Daily Volume Target
Average Daily Volume Pumped (m3)
Total Monthly Volume Pumped (FNP) (m3)
Maximum Daily Volume Target
Maximum Daily Volume Pumped (m3)

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Existing water system overview – Key challenges

Alma seasonal population fluctuation

282
Residents (2021 census)

5,000+
Summer weekly visits (anecdotal)

Boil water advisories

- Frequent occurrence, particularly during summer
- Known causes include:
  - Fluctuating turbidity levels
  - Limited system capacity, unable to replenish water reservoir
  - High water demands

Questions / Discussion - Part 1

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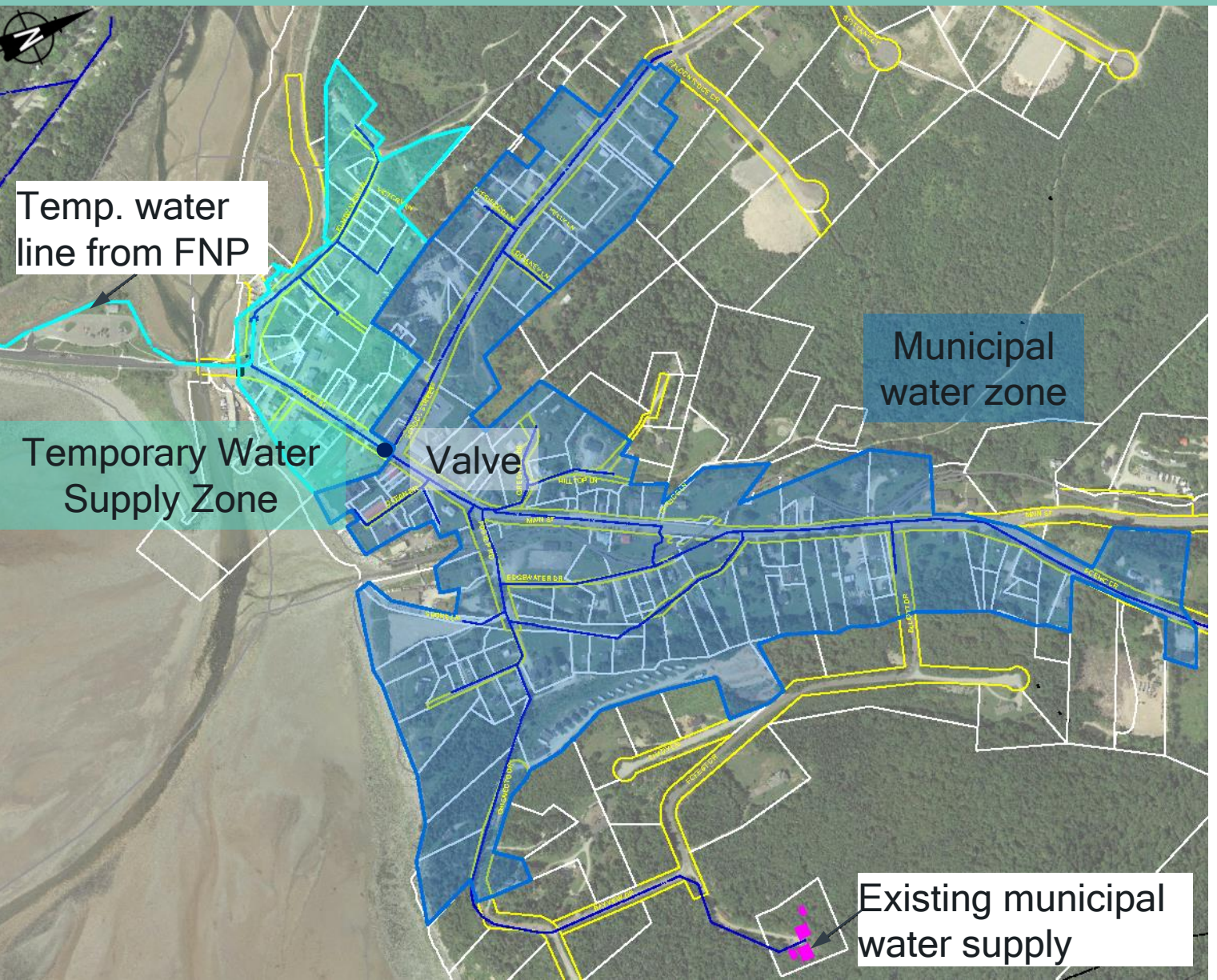
Temporary water supply from Fundy National Park

Agenda – Part 2

- Part 2: Temporary Water Supply from Fundy National Park (FNP)
  - Two distinct zones:
    - Temporary water supply zone
    - Municipal water zone
  - Anticipated timeline & impacts
  - Questions / Discussion – Part 2

Temporary water supply: Water line from FNP



Two distinct zones, both properly treated/disinfected, and monitored:

Temporary Water Supply Zone

- Water from Fundy National Park will serve Main St. from FNP Bridge to School St., incl. Fundy View Dr.

Municipal Water Zone

- The Village well will continue to distribute water from the Forest Dr. reservoir to and including School St.

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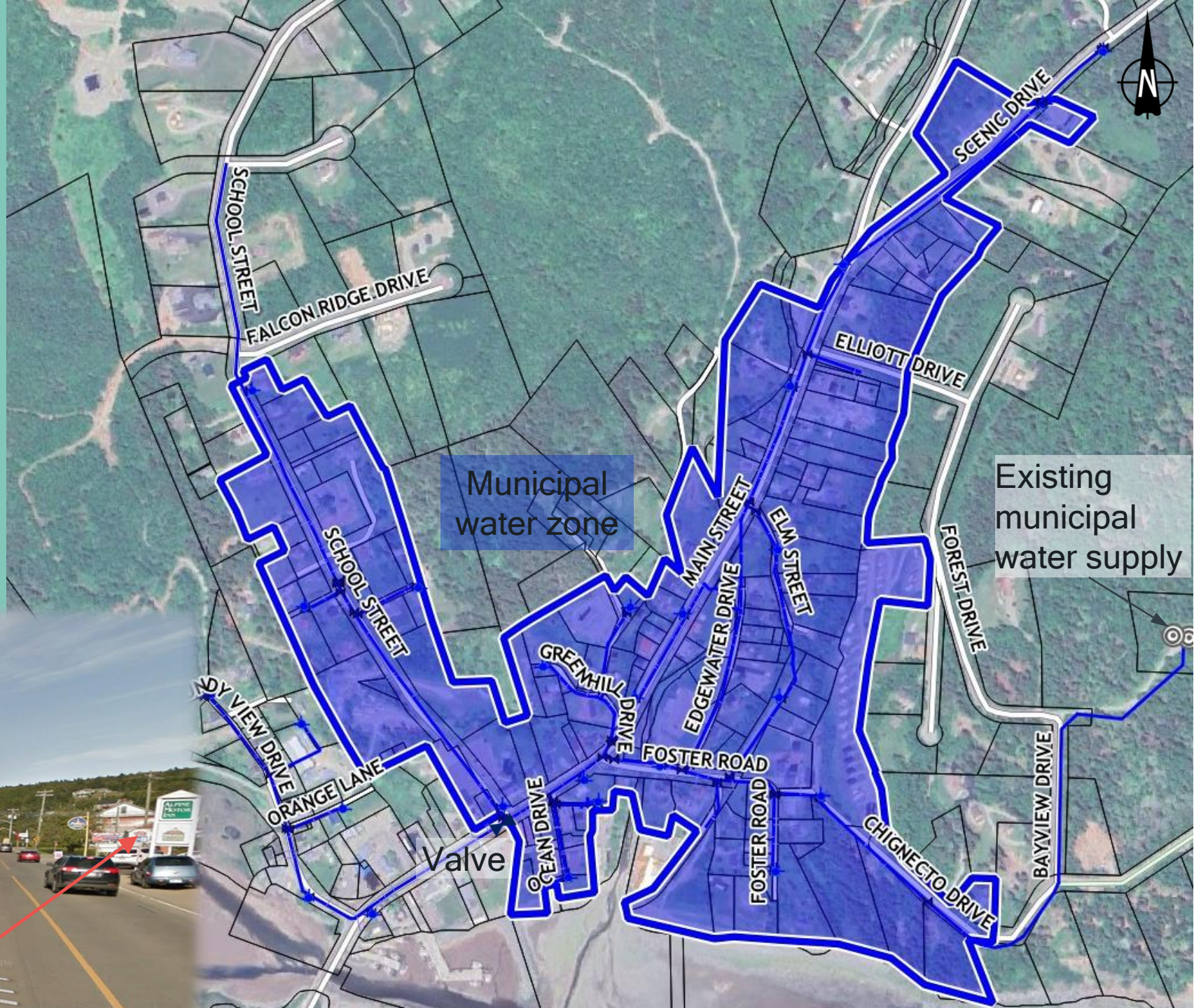
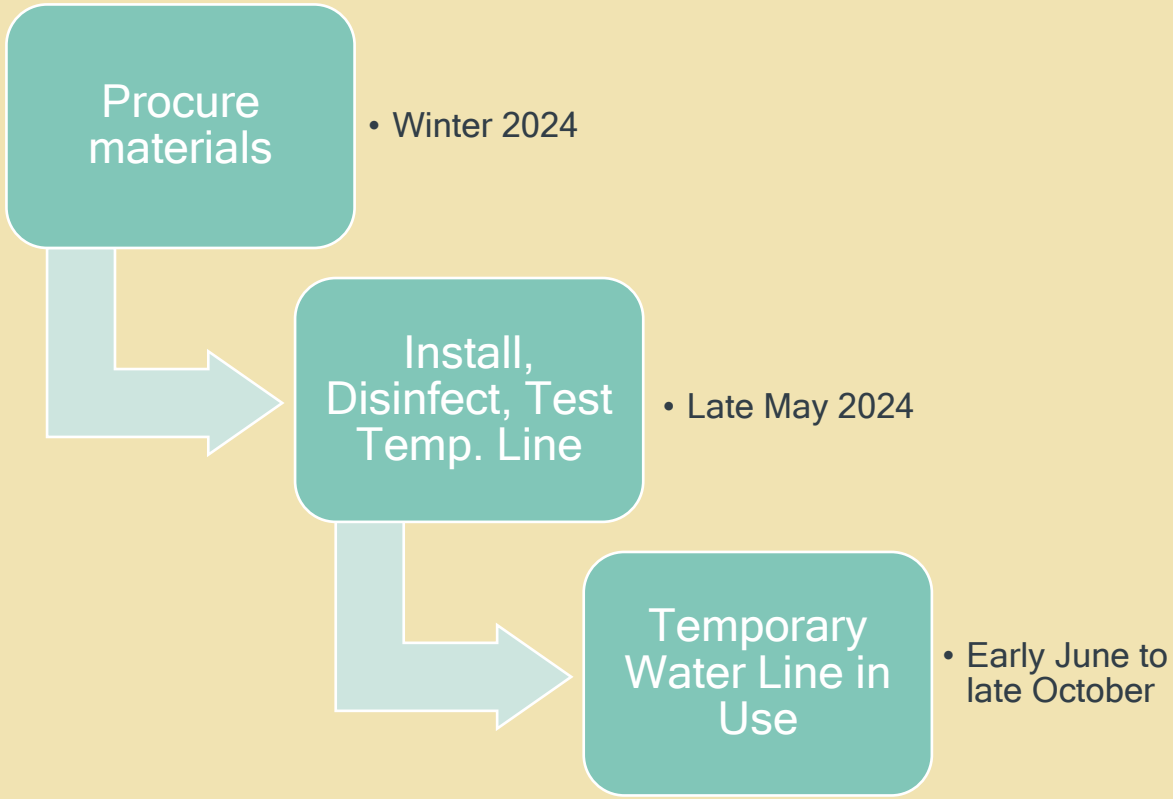
Temporary Water Supply Zone

Municipal Water Zone



Temporary water supply: Water line from FNP

Timeline



Impacts – boil advisory?

- Proactive approach - to be installed, disinfected and brought online before peak season
- 2023 boil advisory was initiated BEFORE temporary line was installed
- Goal: minimize potential for boil advisories
- Communication is key
  - Residents - know your zone
  - NB Department of Health - evaluate risk associated with temporary line and partnership with FNP
- Temporary measure - not long-term solution
- Water conservation is still important
- Planed for 2024 and possibly 2025

Questions / Discussion - Part 2

Water System Upgrade:

EIA Public Consultation Session

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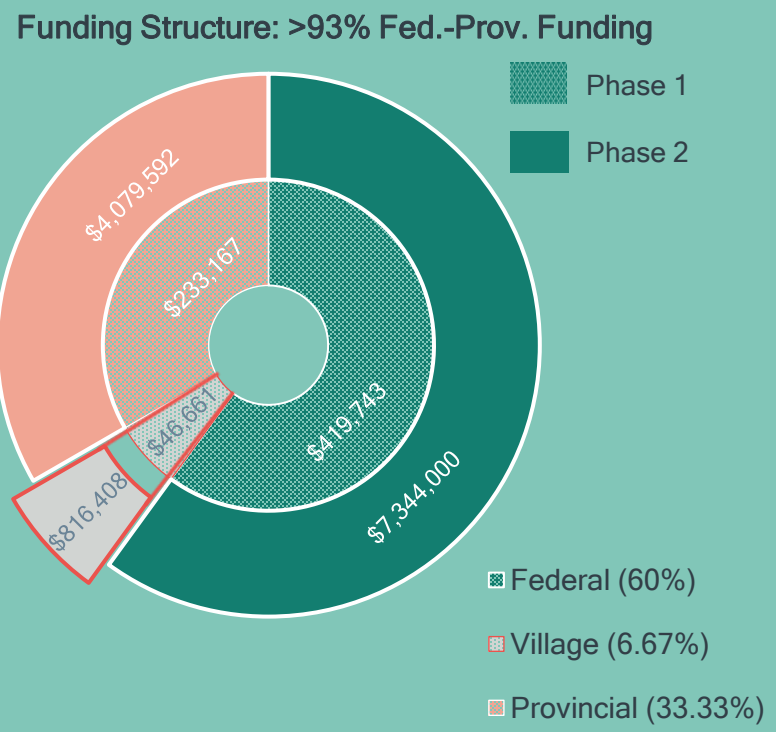
Agenda - Part 3

- Part 3: Water System Upgrade - EIA Public Meeting
  - — Water System Upgrade & EIA Overview
  - — Phase 1: Exploration (complete)
  - — Phase 2: New infrastructure
    - Part A: Boil Advisory resolution
    - Part B: Water System Expansion
  - — Anticipated timeline
  - — Capital costs and user fees

Water System Upgrade & EIA Overview



- Primary goal: resolving long-term boil advisories
- How: Additional system capacity
  - Water production (well) capacity
  - Water storage capacity
  - Booster station capacity
- Two Phases:
  - Phase 1: Well Exploration & EIA
  - Phase 2: New Water Infrastructure
- Funding structure: 93.33% Federal-Provincial - 6.67% Municipal
  - Village contribution: < $46,700 / $699,571 (Phase 1)
    < $816,500 / $12.24M (Phase 2)

Water System Upgrade Phase 1 Overview: EIA

Preliminary Studies, EIA-WSSA, Well Exploration & Pump Testing

- Preliminary study to identify test well targets
- EIA registration, WSSA & Review
- Test well drilling (3 sites)
- Well Construction
- Pumping tests & Hydrogeological Assessments (long-term safe yield)
- Public and Indigenous Consultations
- EIA Approval

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Municipal well development

Environmental Impact Assessment (EIA) registration
Water Supply Source Assessment (WSSA)

Alma Water Phase 1: Preliminary Studies, EIA, Well Exploration & Pump Testing

Water system upgrade Phase 1: EIA & Exploration Timeline

2019 - 2021	2022 - 2024

Environmental Impact Assessment

Drilling at sites No. 1 & 2
(not pursued; unfavourable results)

Drilling at site No. 3
- 2 pumping wells constructed, tested
- Hydrogeological assessment
- Public consultation (today)
- EIA approval process - pending COD

Water System Upgrade Phase 2 Overview: New Infrastructure

Multiple construction phases

Part A: Water Capacity Improvements

- Two new wells & related infrastructure
- Water transmission main
- New water reservoir
- Existing Booster station upgrades

Major infrastructure to be sized for 25-years

Evaluation of new well capacity vs. projected water demand in progress

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Water System Upgrade Phase 2 Overview: New Infrastructure

Multiple construction phases

Part B: Water system expansion

- Initial concept developed to show a viable expansion option for funding (School St.)
- Expansion on targeted areas of concern
- Goal to increase user base
- Part A design must proceed to better define Part B priorities and available well capacity for expansion

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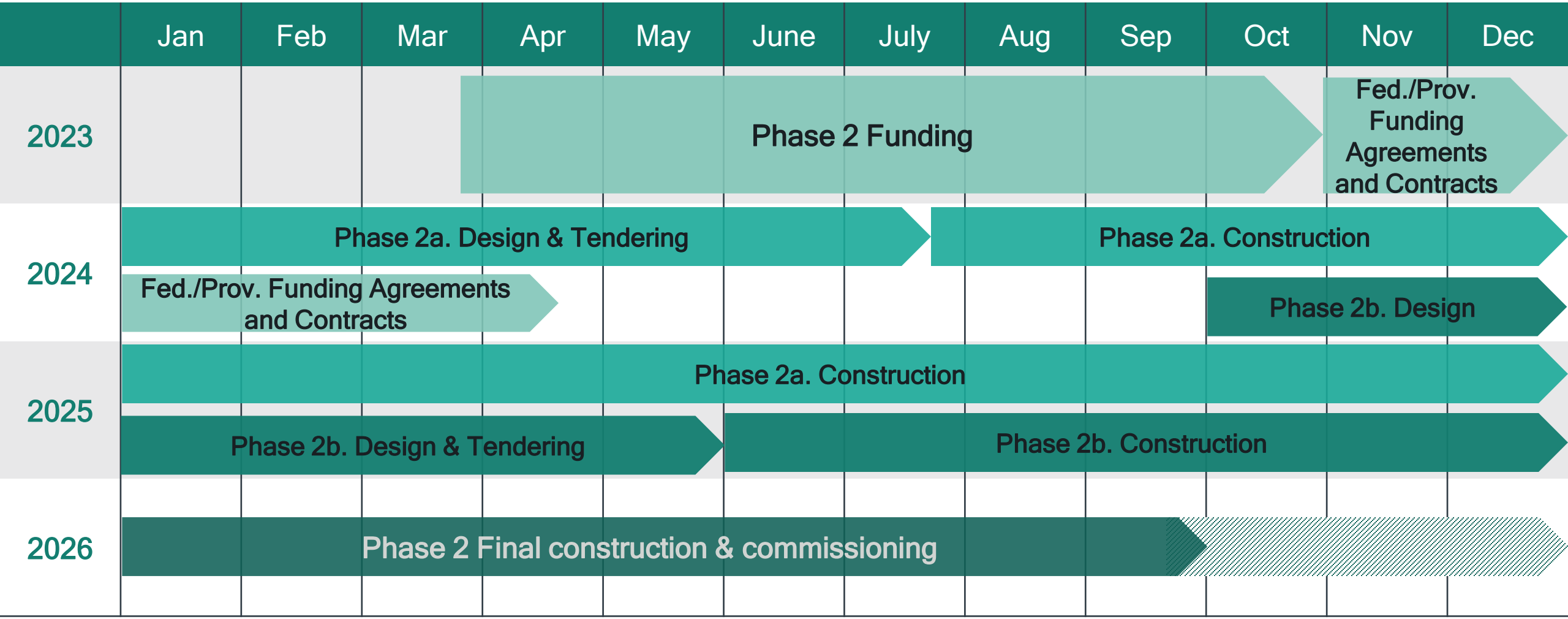
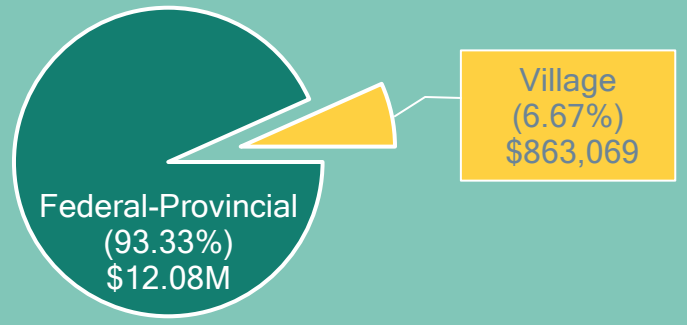
Water system upgrade Phase 2: Anticipated timeline



Water system upgrade:
Capital cost and annual user fees

Total Ph.1& 2
Capital Cost
$12.94M



User rates are set based on factors such as:

- Actual cost to operate the system
- Surplus or deficits from previous year
- Project financing (loan re-payment)
- Periodic equipment maintenance or replacement
- Number of users

Significant unforeseen costs were incurred in 2023, including temporary water supply from FNP

Further study of rates and rate structure is planned

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Selected 2022 user rates from other municipalities are provided for comparison purposes

Important to consider communities that have done recent upgrades in comparisons

(reference: 2022 Local Government Statistics for New Brunswick).

Questions / Discussion - Part 3 / General

Thank you for your patience and your participation!

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