DIAMETER SERVICES

Providing AMI, AMR and Meter Consulting Services

Greater | Grand Sudbury

CITY OF GREATER SUDBURY

CONTRACT ISD16-14

AMR / AMI / AMA FEASIBILITY STUDY

COUNCIL PRESENTATION – APRIL 17, 2018

AGENDA

1. Background and Introduction
2. Approach
3. Recommendations
4. Project Benefits
5. Next Steps

BACKGROUND AND INTRODUCTIONS

Introductions:

- **David Brouse**
  Project Manager
  City of Greater Sudbury
- **Joel Carty**
  Principal Consultant
  Diameter Services

BACKGROUND AND INTRODUCTIONS

RFP's Goals:

1. Recommend strategic AMR/AMI/AMA Technologies for water meter reading
2. Provide strategies to successfully adopt the technology
3. Share all communications and information

BACKGROUND AND INTRODUCTIONS

Process

- Study was conducted between 2016 and 2017
- Process allowed for full engagement
  - CGS personnel (meter shop, IT, finance and senior management)
  - GSU personnel (water billing and customer service)
- Assessed the meter to cash (M2C) process and identified financial and non-financial impacts
  - Some areas showed financial improvements
  - Others showed additional resources that would be required
- Review the long term impact on City of Greater Sudbury

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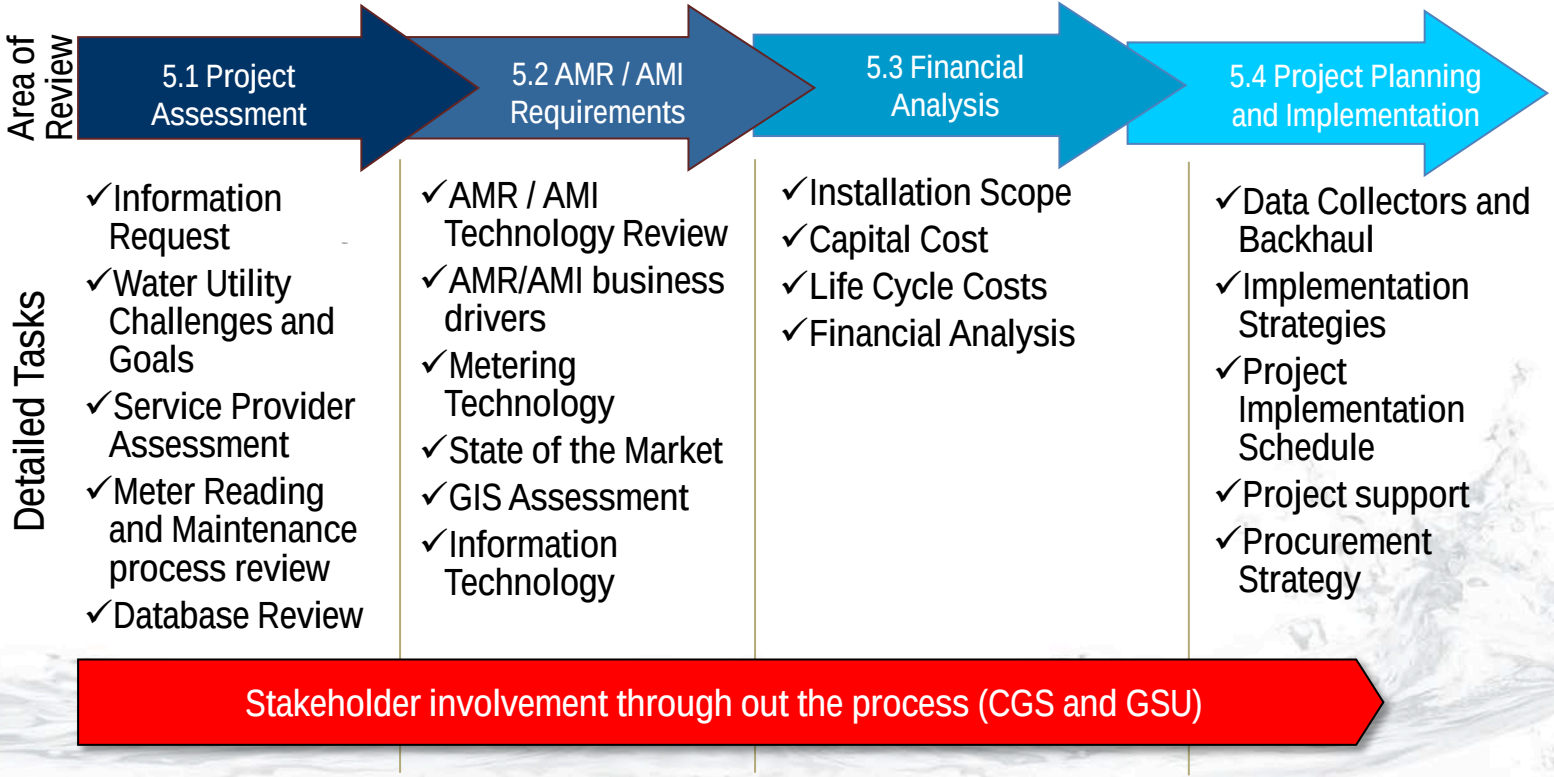
2. APPROACH

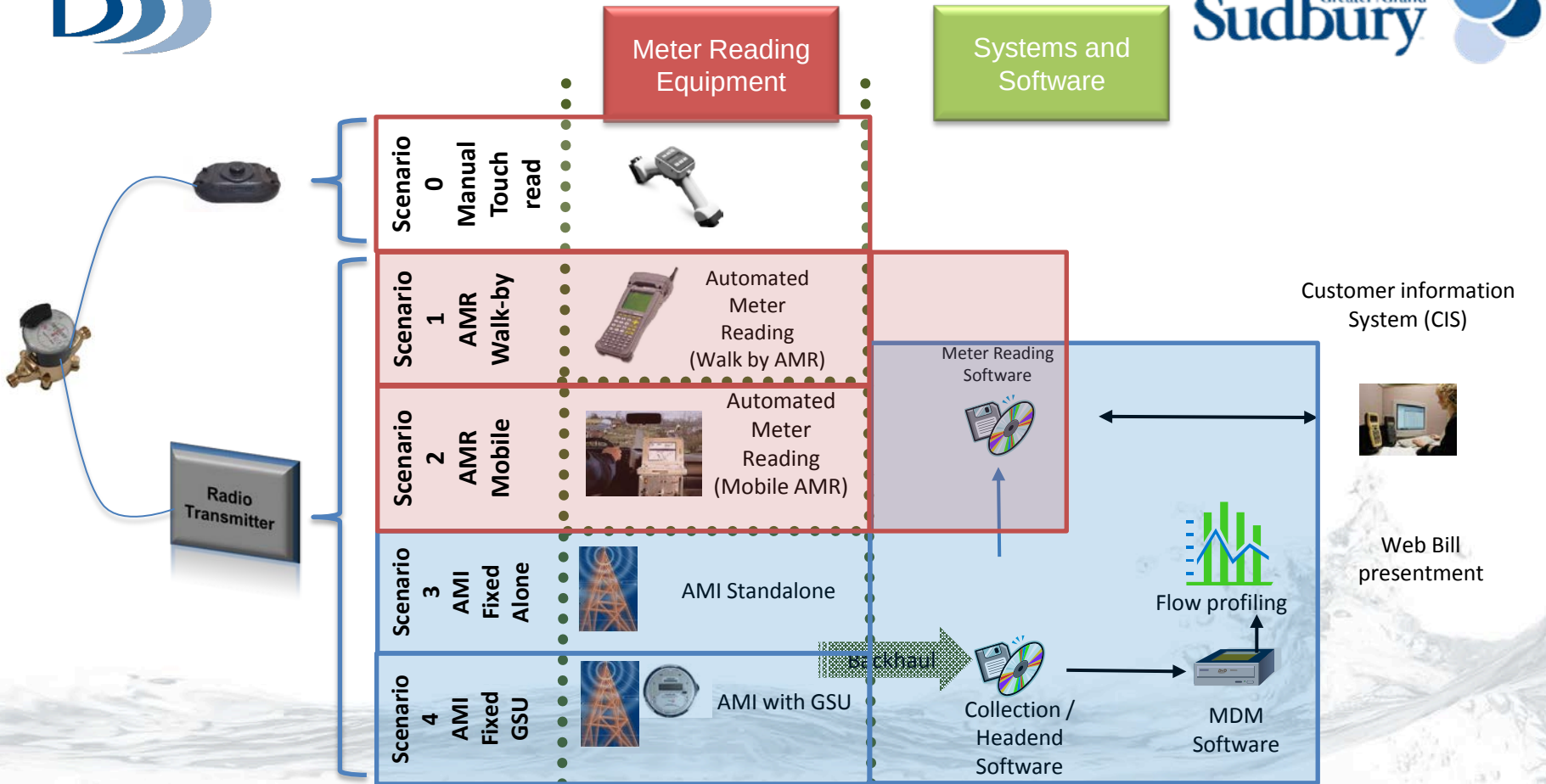
DIAMETER'S APPROACH



AUTOMATED METERING SYSTEMS (AMS)

- Key terms:
  - AMR:
    - Automated Meter Reading
    - Mobile meter reading
    - One read every two months
  - AMI:
    - Advanced Metering Infrastructure
    - Fixed base network collection meter reading
    - One read every hour
  - MDM:
    - Meter Data Management
    - Software that stores and provide access to AMI hourly data

AUTOMATED METERING SYSTEMS



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3. RECOMMENDATIONS

RECOMMENDATIONS

1. CGS should implement a fixed base AMI system across 100% of the ~48,000 customers (Scenario 3 or 4)
2. CGS implement their own Meter Analytics software
3. CGS should allow Customers on-line access to their water account, review and initiate service requests
4. Meter Replacement Criteria
   a) Small meters (15mm to 20mm) replace and install a AMI radio transmitter on all meters over 5 years
   b) 25mm and greater – upgrade and install a AMI radio transmitter on all meters

RECOMMENDATIONS

5. Project budget estimated between $16.5M to $17.5M includes:
   - AMI System, water meters, installation
   - External project support
   - Internal project support
   - Upgrades to existing meter infrastructure
     - Replacement of majority of the residential
     - Upgrade of all ICI meters
6. Project of this size typically requires 36 months to complete

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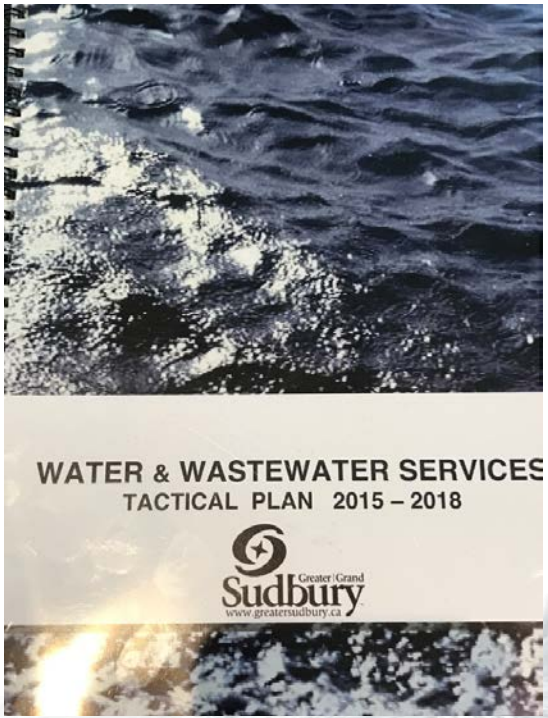
4. PROJECT BENEFITS

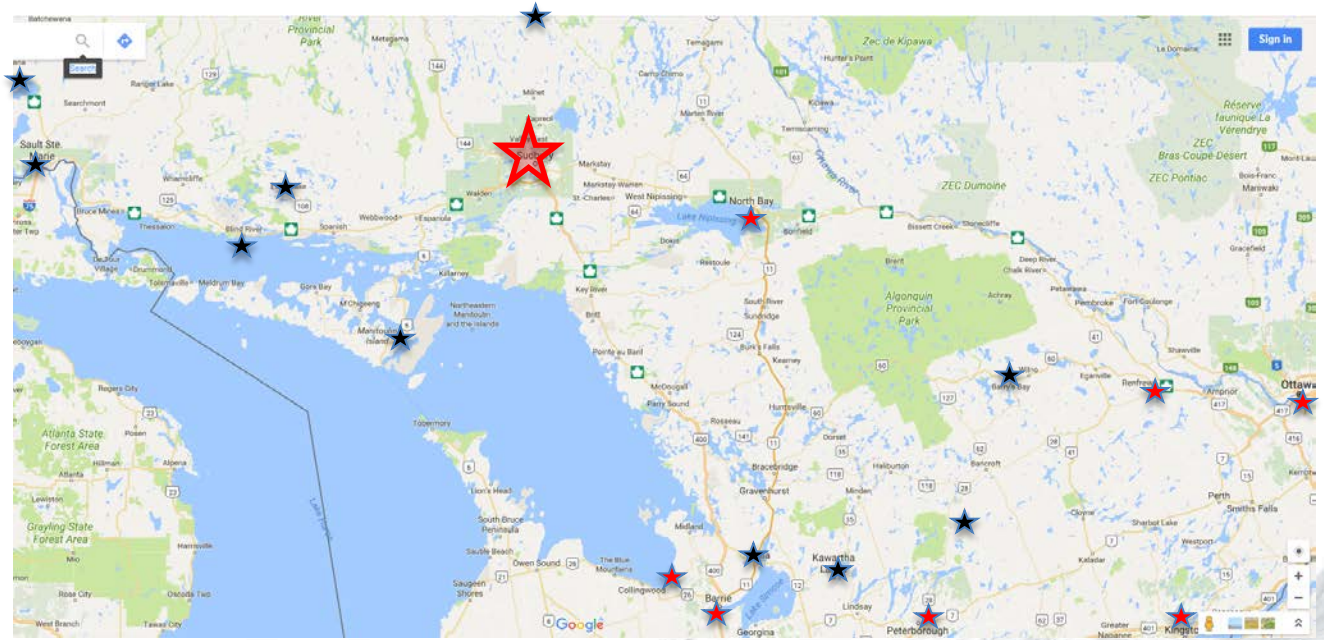
ALIGN WITH CGS EXISTING GOALS AND PLANS

1. Aligns with CGS existing goals and plans
   - AMI would help CGS achieve 7 of the 22 high priority project (32%)
   - Supports two key components of Council's strategic plan
     - Open Government and transparency
     - Sustainable infrastructure
   - AMI technology is a key tool to achieving CGS Plan



ALIGNS WITH THE INDUSTRY TRENDS

2. Aligns with Industry trends
   - Technology is proven
   - Many local utilities have or plan to implement meter reading technologies

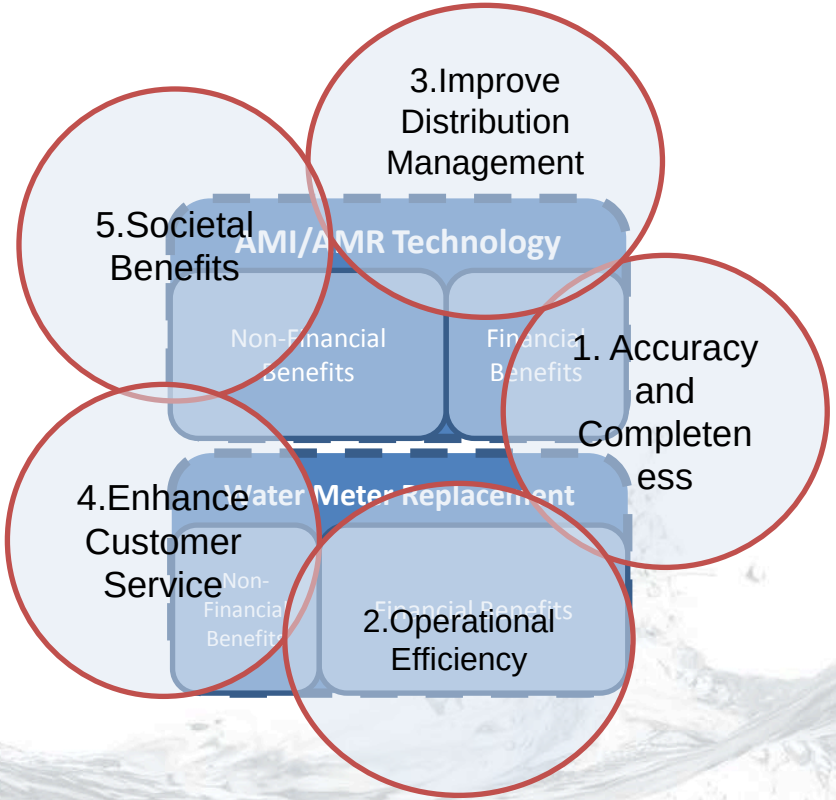


Fixed Network AMI

Mobile AMR

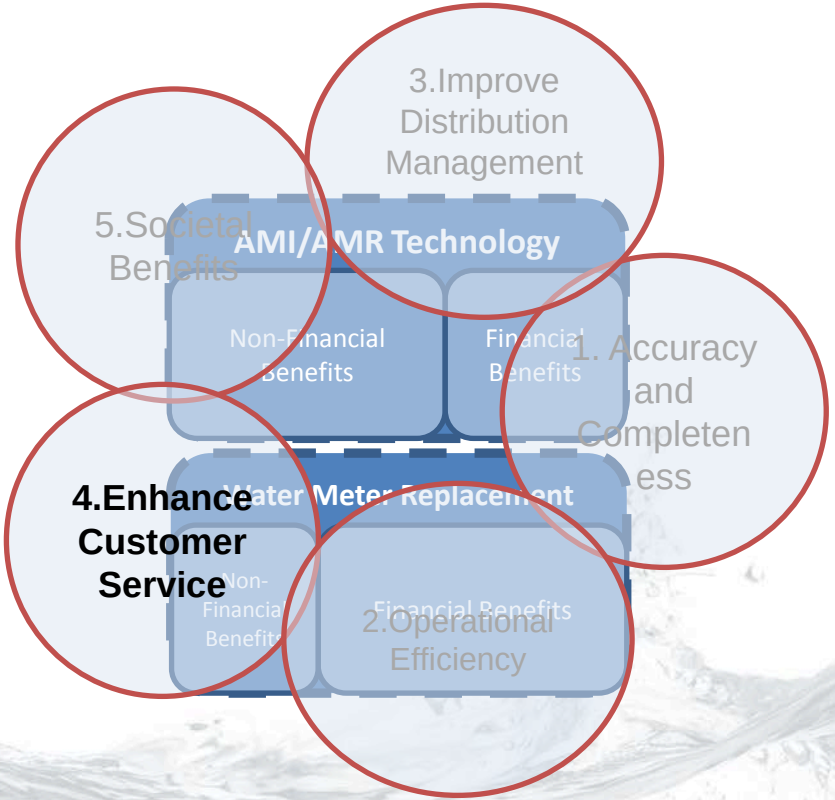
PROJECT BENEFITS

3. Payback of between 9 and 10 years
4. Identified 17 of 24 business drivers that will benefit CGS



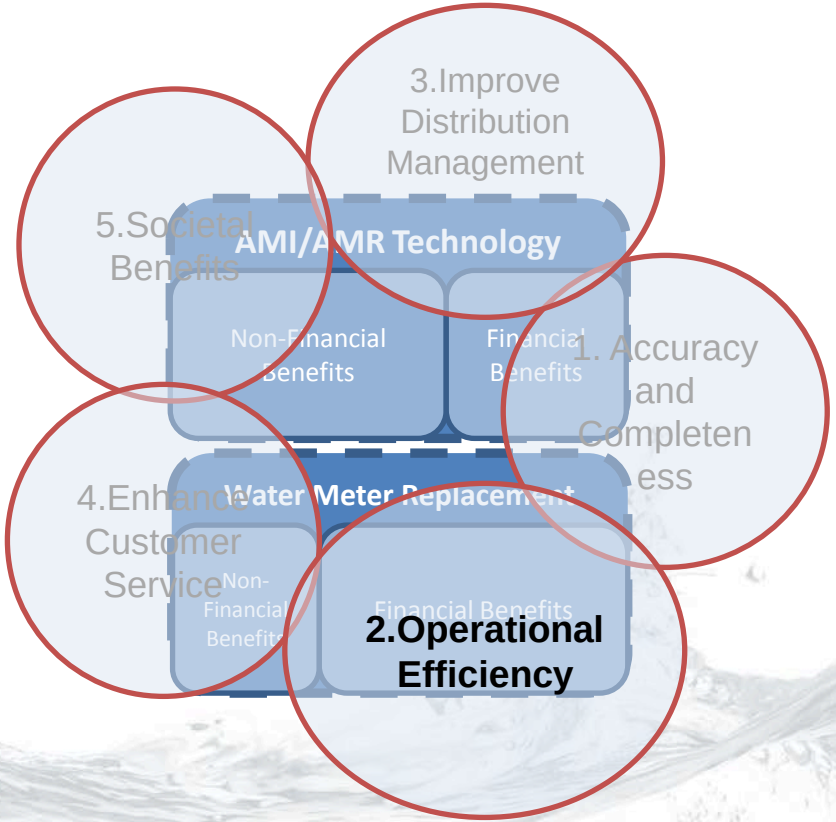
PROJECT BENEFITS

5. Enhance Customer Service
   - Eliminate estimated bills
     - Bi-monthly bill estimates 288,000
     - Unable to read estimates 21,000
   - Customer web access to consumption data and alerts
   - Better handling of high bill complaints
     - Over 1,000 per year



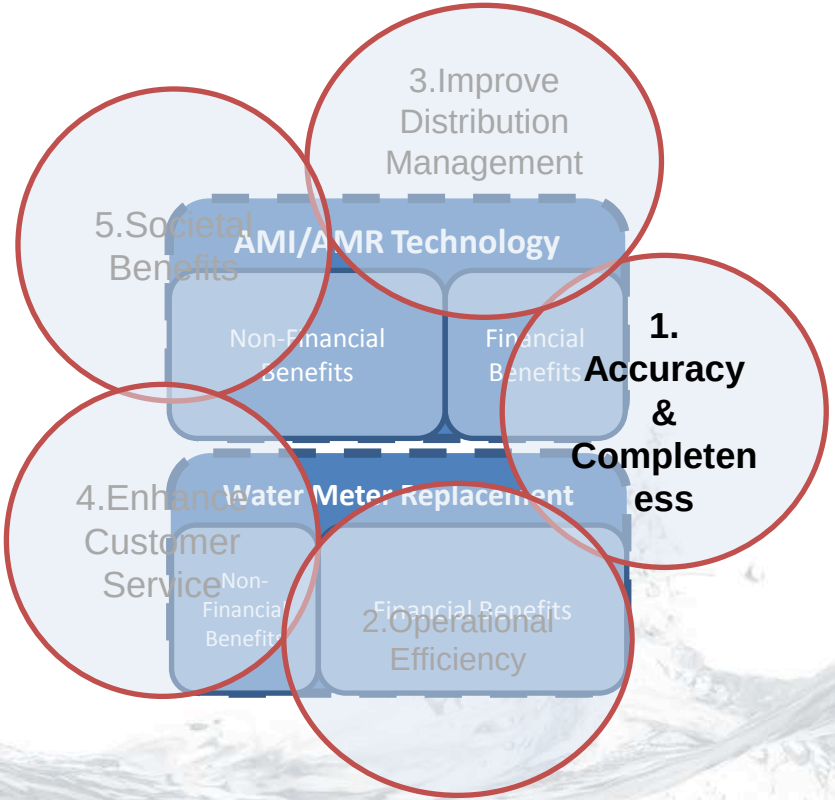
PROJECT BENEFITS

6. Operational Efficiency
   - Eliminates manual water meter reading costs (~$400K / year)
   - Reduce meter reading exceptions & reliability
   - Expedites same day special reads
   - Minimize the 1,084 high/ low field visits
   - Reduce frozen meter repair and reduction in operational repair time



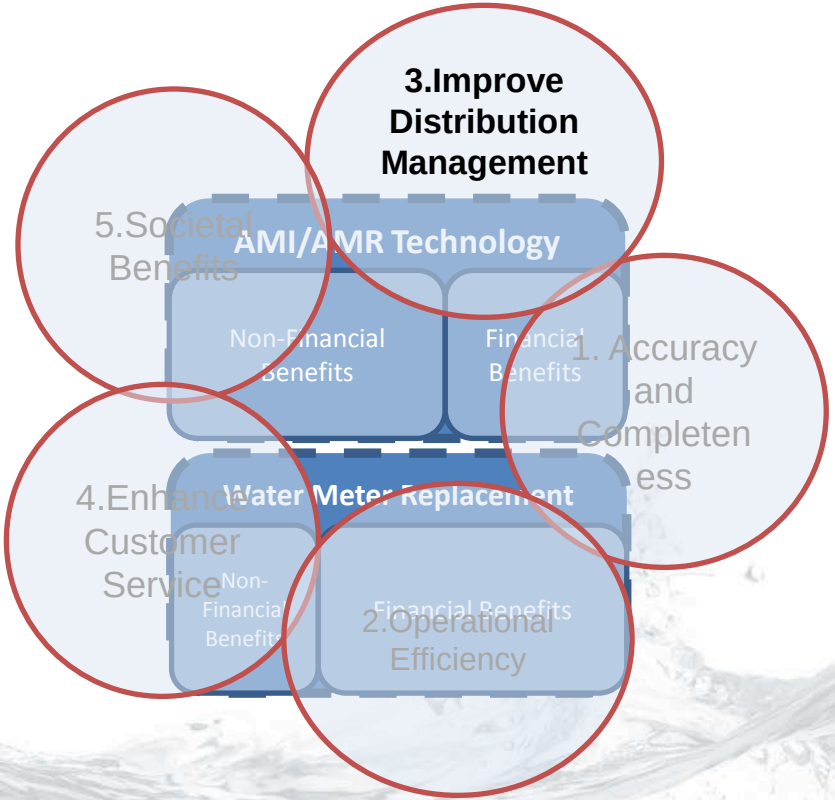
PROJECT BENEFITS

7. Accuracy & Completeness
   - Detect water meter damage sooner
     - CGS detects on average 82 events per year
     - This system will allow more detections and greater revenue recovery
   - Improve water meter accuracy
     - 48,000 meters record $40M / year in water and waste water revenue
     - We expect an improvement in meter accuracy



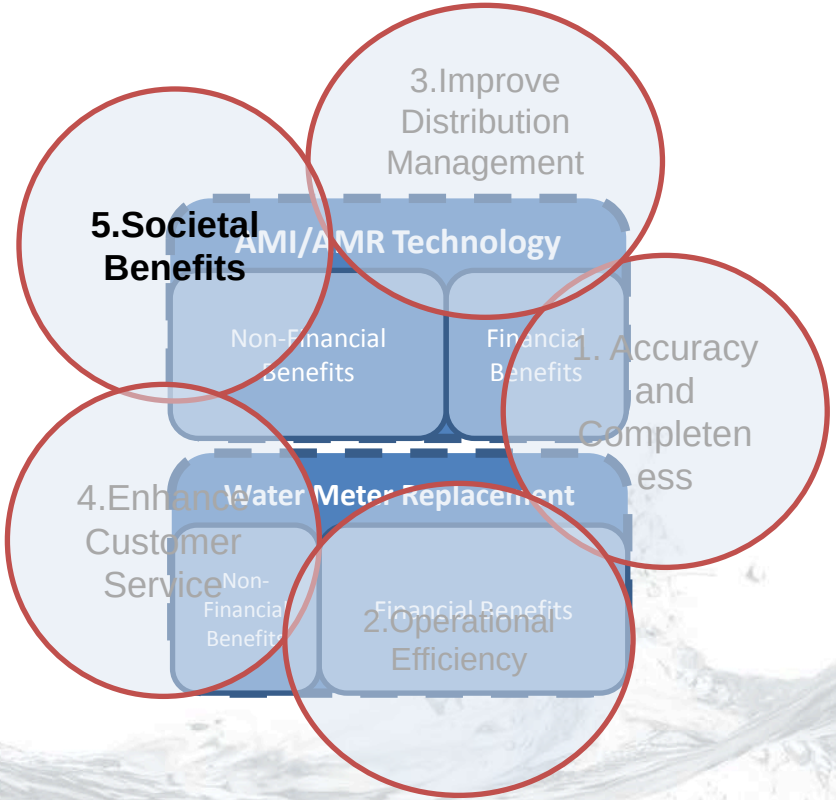
PROJECT BENEFITS

8. Distribution Management
   - Better understanding water loss across the systems
   - Prioritize systems upgrades based on system water loss
   - Improved consumption recognition
     - Know exactly how much water is being consumed each year.
     - Currently it is estimated due to bi-monthly reading schedule



PROJECT BENEFITS

9. Societal Benefits
   - Reduced CO2 emissions
     - Reduced truck rolls for
       - Manual meter reading
       - Final reads
       - High / low investigations
   - Supports any water conservation initiatives
   - Protects our natural resource



PROJECT BENEFITS

10. Changes to on-going resource requirements
    - Eliminate the need for meter readers (Olameter)
    - Reduced truck rolls for CGS meter shop
    - Additional resources to:
        - monitor the network
        - Analyze the consumption data
        - Maintain and support interface
    - Improved efficiency on water billing
    - Improved ability to manage customer high consumption calls

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5. NEXT STEPS

NEXT STEPS

a) Issue a RFP for selecting an Implementation partner that will supply hardware, software and related expertise to establish a AMR/AMI solution
b) Establish a municipally-owned meter data management software system
c) Create an on-line customer service portal to permit real-time access to personal consumption data, initiated or managed service requests and other features based on the submitted proposals

NEXT STEPS

- Report recommendations to Finance and Administration Committee with a detailed implementation plan:
  a) Financing plan to cover estimated capital cost
  b) Changes in customer service levels and process to achieve the programs expected benefits
  c) Changes in terms with Greater Sudbury Utilities
  d) Communication Strategies for informing customer about pending changes
  e) A detailed implementation schedule

NEXT STEPS

- Project Timelines:

Steps	Duration	Schedule
Prepare RFP	4 to 5 months	May to Sept 2018
Tender RFP and response period	2 to 3 months	Sept to Nov 2018
Evaluate responses, financial implications	4 to 5 months	Dec to April 2019
Report to Finance		Apr or May 2019
Installation period	24 to 30 months	2019 to 2021

NEXT STEPS

- Financial implications
  - Next steps cost $138,300 for procurement and business evaluation

Thank You!

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