



Taking care of your drinking water

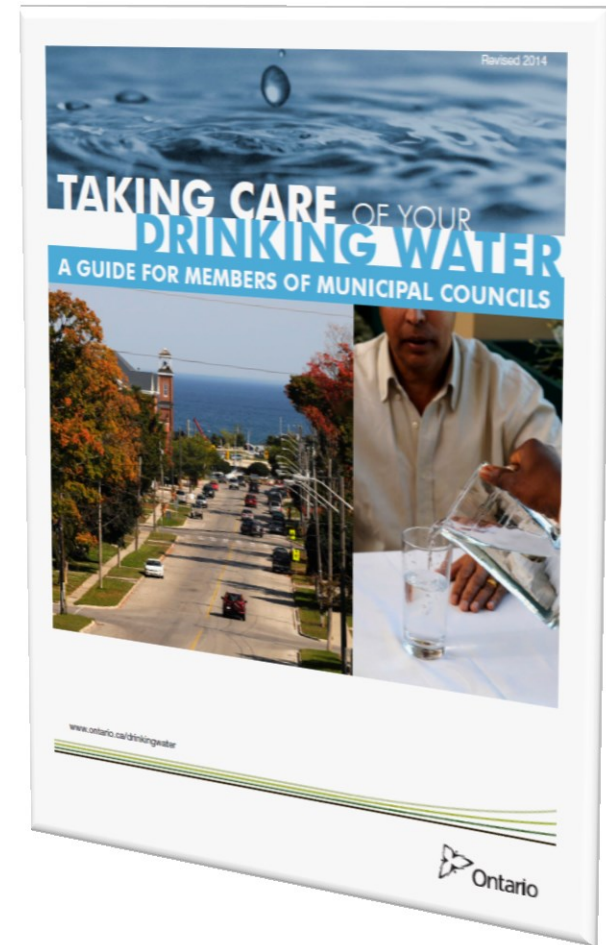
Prepared by:

Public Works Services

Date: December 12, 2018

Why are we here?

- Statutory Standard of Care
- Council, as Owner, needs to:
 - Understand personal duty.
 - Be informed: ask questions, get answers.
 - Be vigilant.
- Provide an overview of Newmarket's drinking water system.



Purpose of Quality Management

*“The purpose of the quality management approach in the context of drinking water is to **protect public health** by achieving **consistent good practice** in managing and operating a water system.”*

- Justice Dennis O'Connor, 2002,
Report of the Walkerton Inquiry

SDWA s. 19 Statutory Standard of Care – the Owner shall:

- Exercise ***level of care, diligence and skill***
 - ...that a ***reasonably prudent*** person would be ***expected to exercise*** in a similar situation; and
 - Act ***honestly, competently, with integrity***
 - ...ensuring the ***protection and safety*** of the users of the municipal drinking water system.
- ...or be guilty of an offence
(SDWA s.19(3)).

SDWA s. 19

– if found guilty of an offence:

- Maximum fines of up to **\$4 million** for a first offence and provision for ***imprisonment for up to five years***.
 - No minimum penalties are established.
 - Actual penalties would be decided by the courts depending on the severity and consequences of the offence.
- The provision of the Municipal Act, 2001 ***does not limit*** the ***personal liability*** of members of municipal councils and officials subject to the duty imposed by SDWA s.19.
 - Municipal councillors and officials could be penalized if a prosecution is commenced and a court determines they have failed to carry out the duty imposed under that section.

Duties – SDWA s.11-18

OWNER

- Ensure accredited Operating Authority (OA) operating DWS
- Report to the public on any matter required by regulations
- Agreement with accredited OA: DWS description, Owner vs. OA responsibilities (re: Act, approvals, emergencies, OP's)
- Can delegate responsibilities to OA in agreement (not S.19)
- Can rely on experts in good faith

OPERATING AUTHORITY (OA)

- Provide water meeting drinking water quality standards; labs used accredited, eligible to test
- Operate in accordance w/ Act
- Maintain DWS in fit state repair
- Satisfy req'ts for DWS Class
- Ensure DWS is operated by certified, trained persons as req'd; supervised by qualified persons (per reg's, approvals)
- Sampling, testing, monitoring requirements complied with
- Report as required

Corporate Due Diligence

Elements that help demonstrate due diligence include,

- Establishing and implementing the DWQMS
- Maintaining and auditing a system to demonstrate compliance – policies, procedures, roles and responsibilities, management review (DWQMS)
- Communication with staff on the DWQMS
- Budgets, resources, asset management strategies
- Internal and external audits and acting on results
- Meeting industry standards – understand what others are doing
- Support training programs for operators
- Communication and partnership with regulators (MECP, MOL)
- Reporting to MECP, Council and the public

DWQMS is Council's safeguard to achieving Statutory Standard of Care responsibilities

Municipal Drinking Water Licensing (MDWL) program

- **Municipal Drinking Water Licence (MDWL):**
 - May 2021 expiry (application deadline November 2020)
- **Drinking Water Works Permit (DWWP):**
 - May 2021 expiry (application deadline November 2020)
- **Permits to Take Water (PTTW):** (NA)
- **Operational plan:** updated annually (with ea. external audit) and endorsed by the Owner with each new council.
- **Accreditation maintained:** 2018 internal audit (DWQMS 2.0); 2019 external audit (DWQMS 2.0)
- **Financial Plan, 2015:**
 - Updated plan to be approved by Owner prior to MDWL application deadline in 2020

Annual QMS Activities

- **Emergency Response Training**
 - October/November 2018 tabletop exercise: major loss of chlorine residual
- **Internal audit**
 - September 2018
- **External audits**
 - January 2018
- **MECP Inspections**
 - August 2018

Annual QMS Activities

- **Annual Reports**

- targeted March timeframe
- council advised when posted.

- **Management Reviews**

- Management Review meeting in March
- Summary report posted in Spring timeline with deficiencies, decisions, action items

- **Annual Budget process**

- looking at infrastructure review, asset management, outcomes of risk assessment

Safe drinking water: a shared responsibility

1. The province:

- Ministry of the Environment, Conservation and Parks
- Ministry of Health and Long-Term Care



2. Public Health:

- York Region Public Health
- York Region Operations & Maintenance



3. Drinking water system Owner:

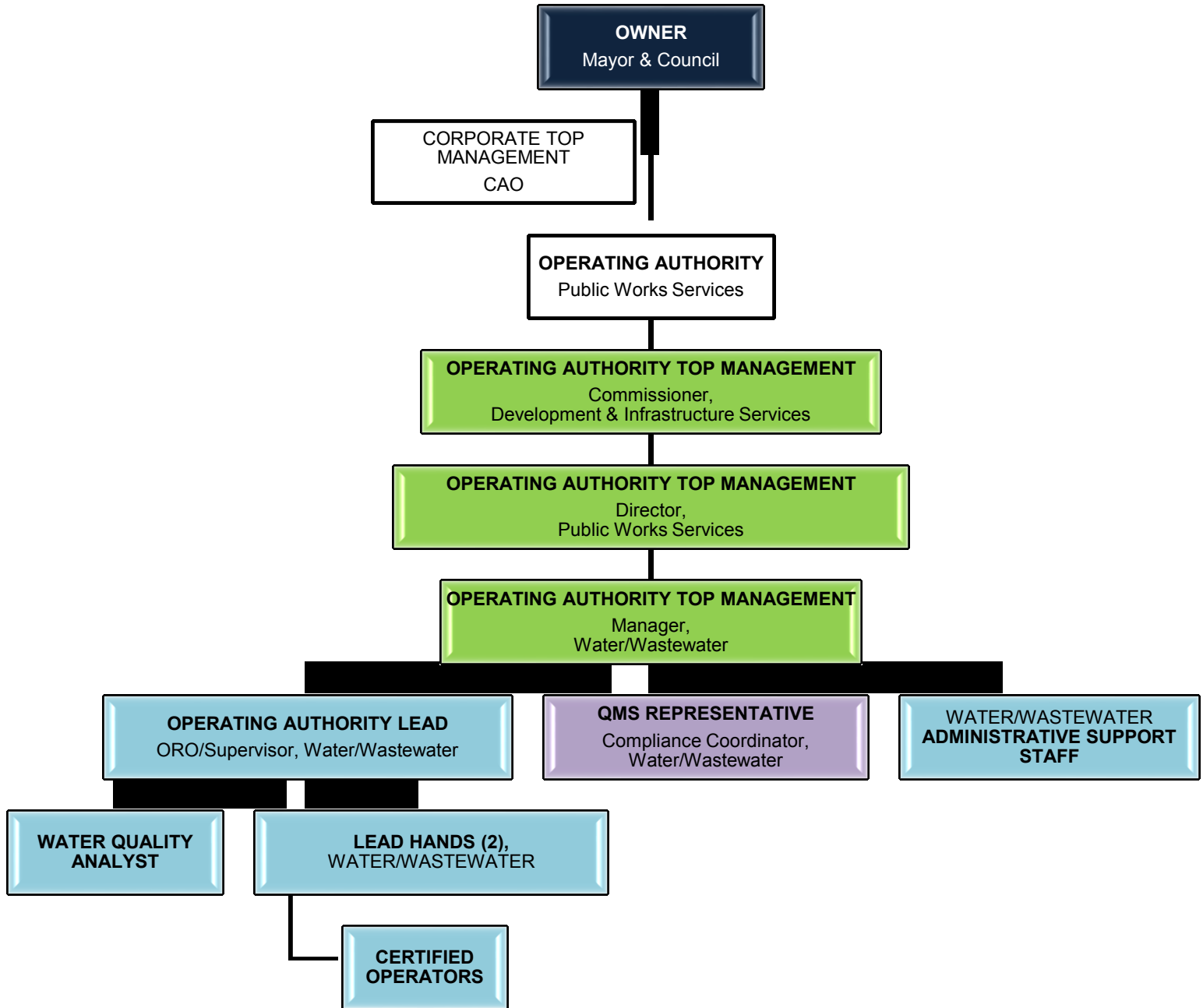
- Town of Newmarket Council

4. Accredited Operating Authority:

- Newmarket Public Works



Organization Chart



Town of Newmarket is committed to:

1. Maintenance and continual improvement of the quality management system,
2. Provide safe drinking water to our consumers, and
3. Comply with applicable legislation and regulations.

Water Waste/Water Competency and Years' Experience

Role	Minimum Competency	Competency Achieved	Years' Experience
Manager, Water / Wastewater	Class I	Class II	29+
Op. Authority Lead - ORO / Supervisor	Class I	Class II	25+
Lead Hands	Class I	Class II	10+
Certified Operators (19)	OIT	Class I and Class II	1-30 years
Water Quality Analyst	WQA Certificate	WQA Certificate	2 years

A multi-barrier approach

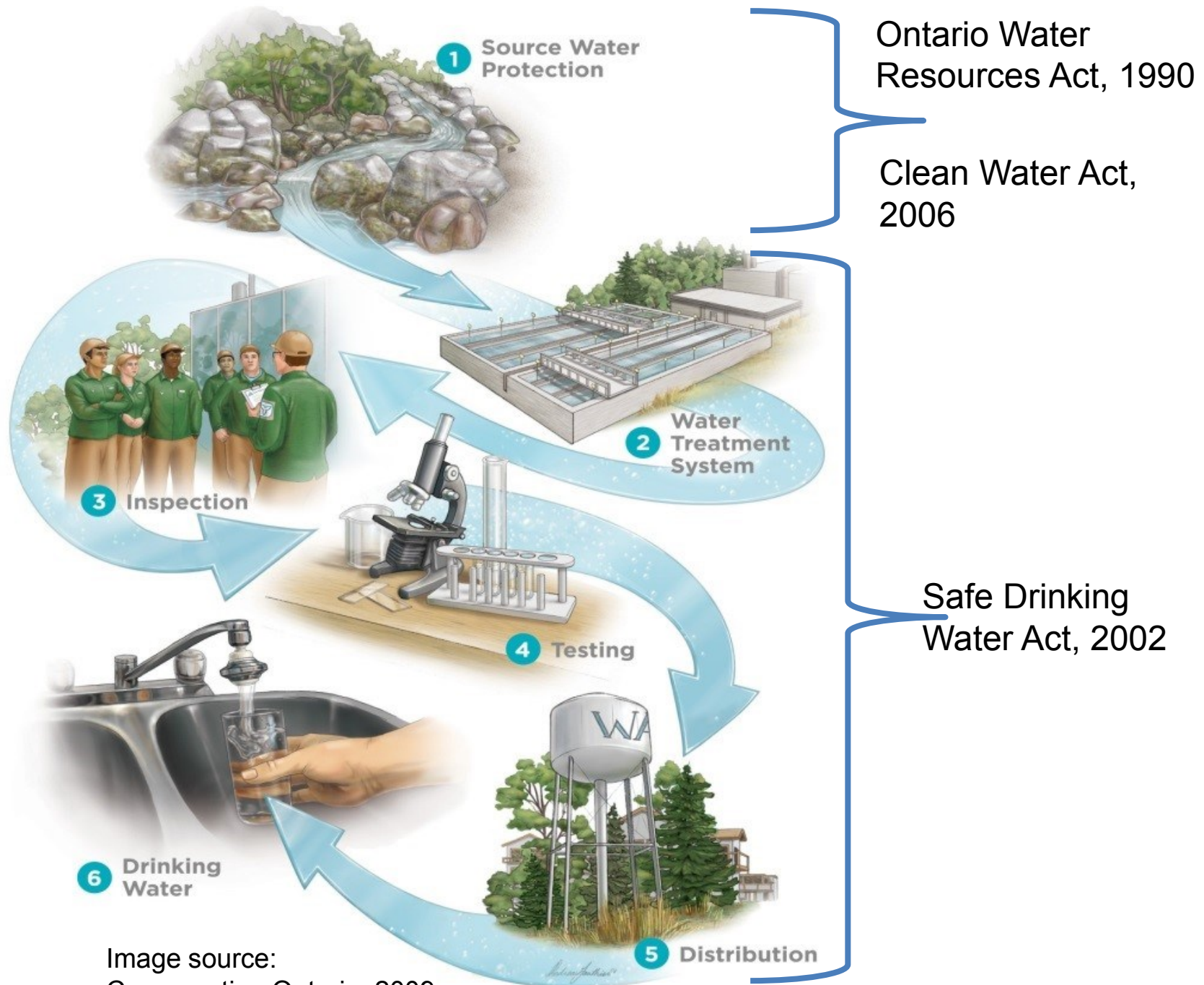
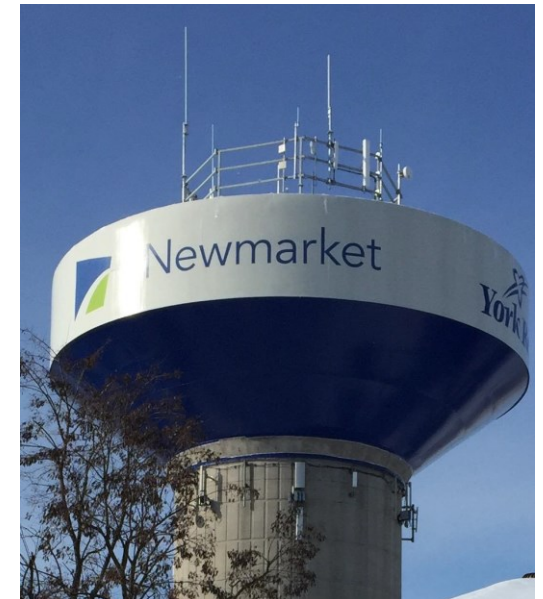


Image source:
Conservation Ontario, 2009

Effective treatment

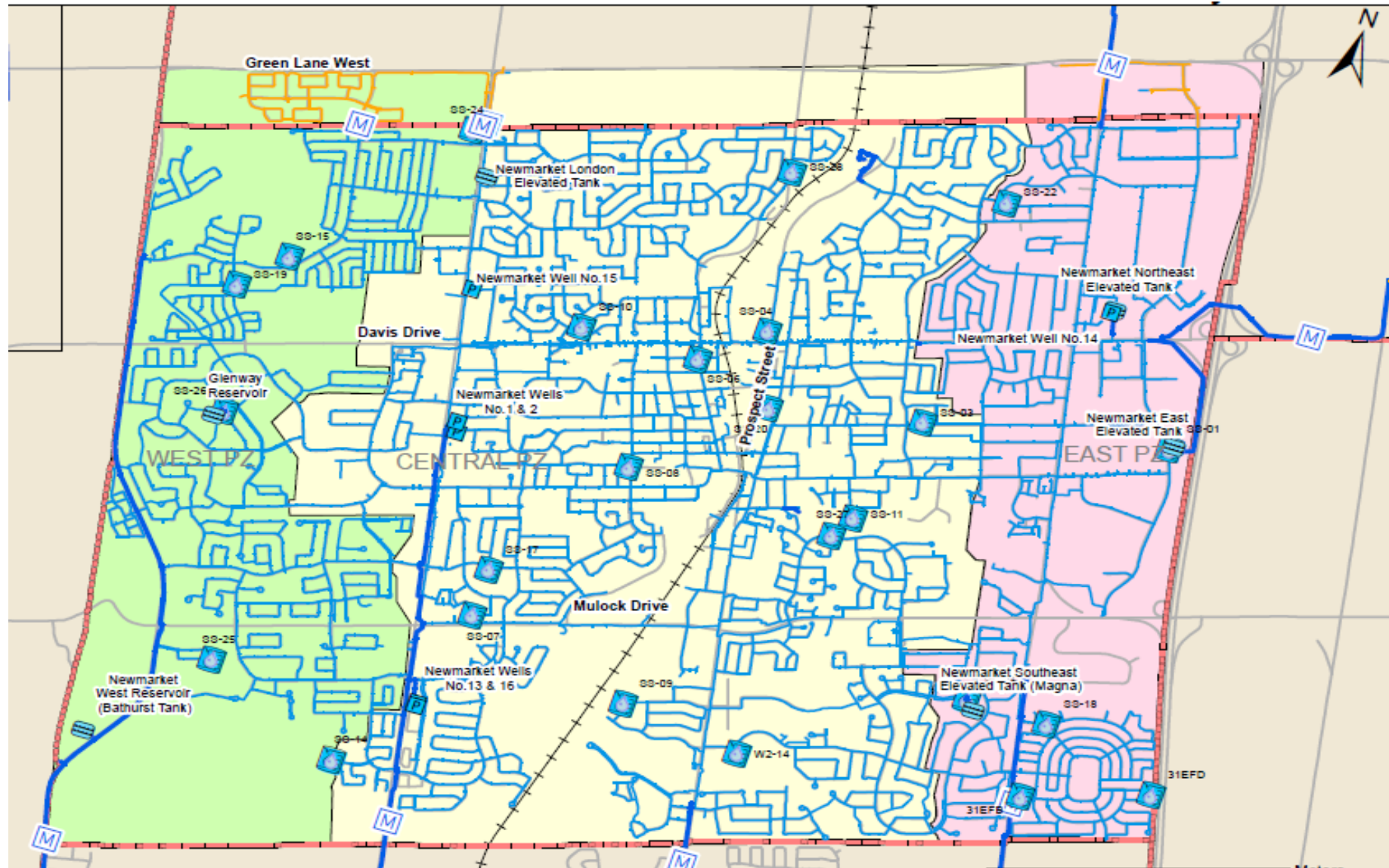
- Two main source types:
 1. surface water (York: Peel, Toronto)
 2. well water (York: 6 local wells)
- Water quality monitored continuously
- Well water treatment and chlorination is carried out by York Region.



Distribution system goals

- **Effective Design and Build**
 - Maximum daily use for residential and ICI customers
 - Fire fighting demand, and
 - Operational redundancy
- **Effective Operation**
 - Pressure management
 - Chlorine residual
 - Flushing and cleaning
 - Leak detection and condition assessment
- **Effective Maintenance**
 - Timely response to breakdowns
 - Preventive to ensure infrastructure longevity and reliability of service

Distribution system



Infrastructure planning

- Ensure infrastructure sustainability with 5-year plan (coordinated with Engineering and other divisions).
- Driven by:
 - Watermain age
 - Failures history (e.g. watermain breaks, water quality)
 - Condition assessments
 - Large capital maintenance and replacement projects
- Annual infrastructure meetings to discuss priorities and changing risks.
- Emergency repairs by contractors.

Effective monitoring & reporting

- Regular sampling and monitoring
 - Regulatory sampling throughout the distribution system
 - Operational chlorine residual program
- Incident response and notifications
 - Adverse water quality incidents (AWQI's)
 - Notifications to: MECP, YRPH, Owner, public
- Reports and communications

Ministry of Environment, Conservation & Parks (MECP)

- Annual MECP inspections
- Ranges of scores are between 90-100%
- Summary of other notes included
 - Backflow recommendation – what actions are taken in response
 - Other opportunities for improvement

O. Reg. 170/03 s.11

Annual Reports:

- A description of the drinking water system,
- A list of water treatment chemicals used;
- A summary of most recent water test results;
- A summary of adverse test results or other issues (including corrective actions taken)
- A description of major expenses incurred to install, repair or replace required equipment,
- The locations where this report is available.



Town Activities to Manage Water Quality Challenges

Key Challenges

- **Challenges**

- Chlorine residual maintenance
- Backflow events
- Short-staffing for winter maintenance vs. water operations

- **Plans to address these**

- Increased: sampling, preventive maintenance programs (e.g. flushing); studies with Stantec and work with York Region to improve water quality and reduce water age; changing pressure districts
- Backflow Prevention Program
- Consideration to seasonal staffing needs

Continuous Improvement

- 2018 initiatives support efficiency, cost savings and enhanced system performance
- Completed initiatives include:
 - Re-structuring of Water Waste/Water department to the following program areas – Water Quality Monitoring and Compliance, System Monitoring and Protection, System Maintenance and Waste Water Operations
 - Water sampling and enhanced sampling program
 - Comprehensive review of Standard Operating Procedures (SOP's)
 - Digitization of all forms for data capture and asset management purposes
 - QMS Awareness Training for all Staff
 - Implemented new online training and competency software for operators.
 - Pilot project for water quality data and adverse reporting
 - Working with York Region and partners/consultants to reduce water age and improve water quality and align to industry best practices

Effective Customer Service

- Water department staff respond to customer calls (7:30 am– 4:00 pm); after-hours by call centre
- Public Works Services 24/7 staff coverage.
- Same day call response, with most issues resolved over the phone.
- 85,000 customers keep eye on system.
- Potential to expand on community outreach and education events (e.g. through swabbing program, “touch-a-truck” PW initiative).

Owner Input Opportunities

- Financial plans – good until 2023
- Annual budget process to ensure sustainability of water system
- Annual Water Quality Report
- 5-year capital plan for infrastructure planning
- Customer service

Thank you

For more information, please contact

Luigi Colangelo, C. Tech. CRS

Manager of Water/Wastewater Services

Public Works Services

905-953-5300, ext. 2553

lcolangelo@newmarket.ca