

Municipal Drinking Water Licensing Program

Fall 2007 Workshops

Ministry of the Environment

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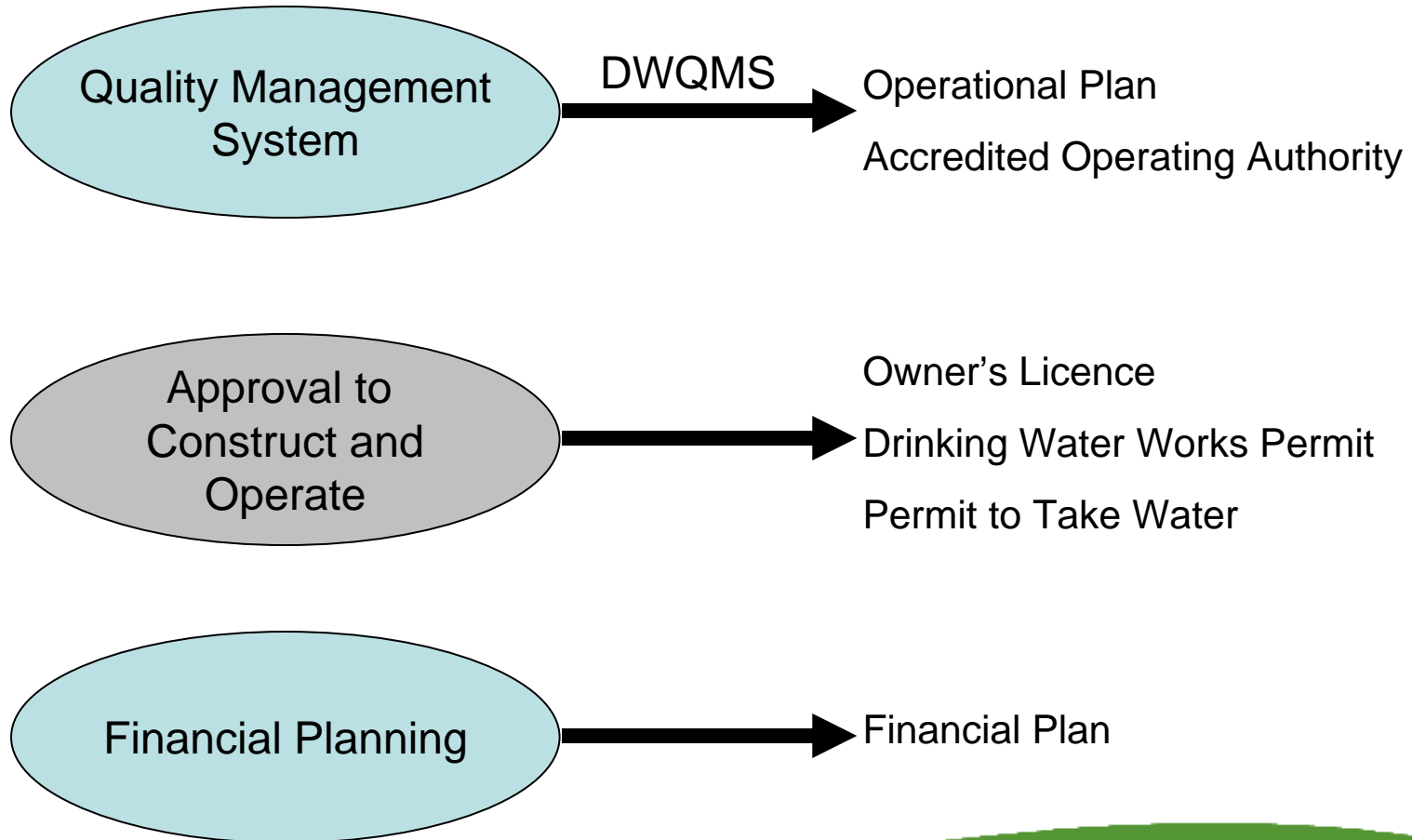
Ontario

Licensing Working Group

- The City of Toronto
- The Region of Durham
- The Region of Waterloo
- Peterborough Utilities
- Greater Napanee Utilities
- The City of Dryden
- The Town of Machin
- The City of Greater Sudbury
- The Lake Huron and Elgin Area Water Supply Systems
- The Town of North Middlesex



Municipal Drinking Water Licensing Program



Who does this program impact?

Anyone who is responsible and/or involved in the delivery of safe drinking water from a municipal residential drinking water system

For example, Mayors, Councillors, Clerks/Treasurers, CAOs, Public Works Commissioners, Superintendents, Operating Authorities, Managers, Operators, Administrative Assistants



What are the impacts?

Adds new requirements for the owner and operating authority prior to approval to operate the drinking water system

Adds requirements to increase awareness of management processes and procedures throughout the organization

Requirement for documented responsibility and accountability



What is not impacted?

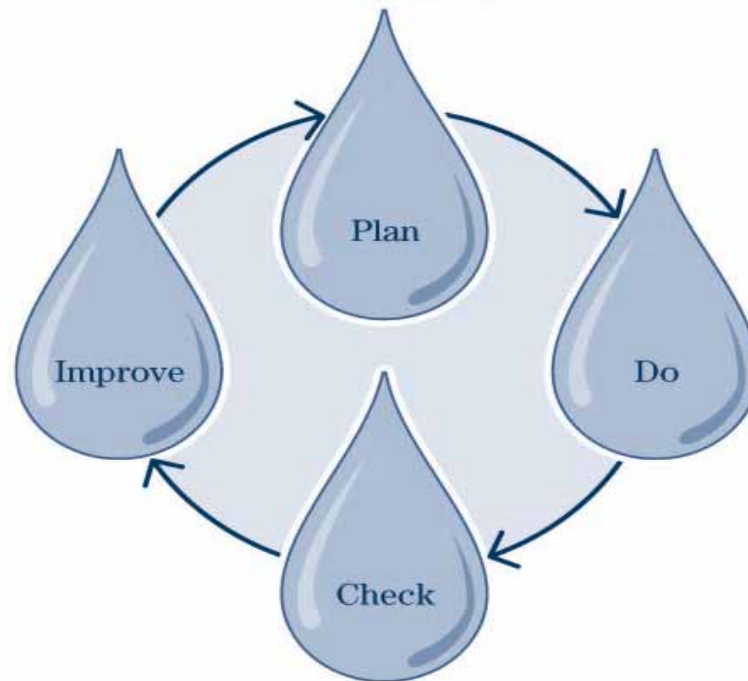
Does not change the classification for operator certification or the drinking water system

Does not change the current inspection process for achieving compliance at your drinking water system



The DWQMS

DWQMS: Drinking Water Quality Management Standard



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How does the DWQMS relate to the Licensing Program?

Two of the requirements to obtain an owner's licence that are directly related to Quality Management:

1. Operational Plan: a manual that documents the procedures and processes that are required under the DWQMS; and
2. Accredited operating authority: must pass an audit of the quality management system

Are you doing what you said you would do?



Things to Think About

You already have most of this in place

Everyone is responsible, everyone has a role

Engage your staff and do it yourself

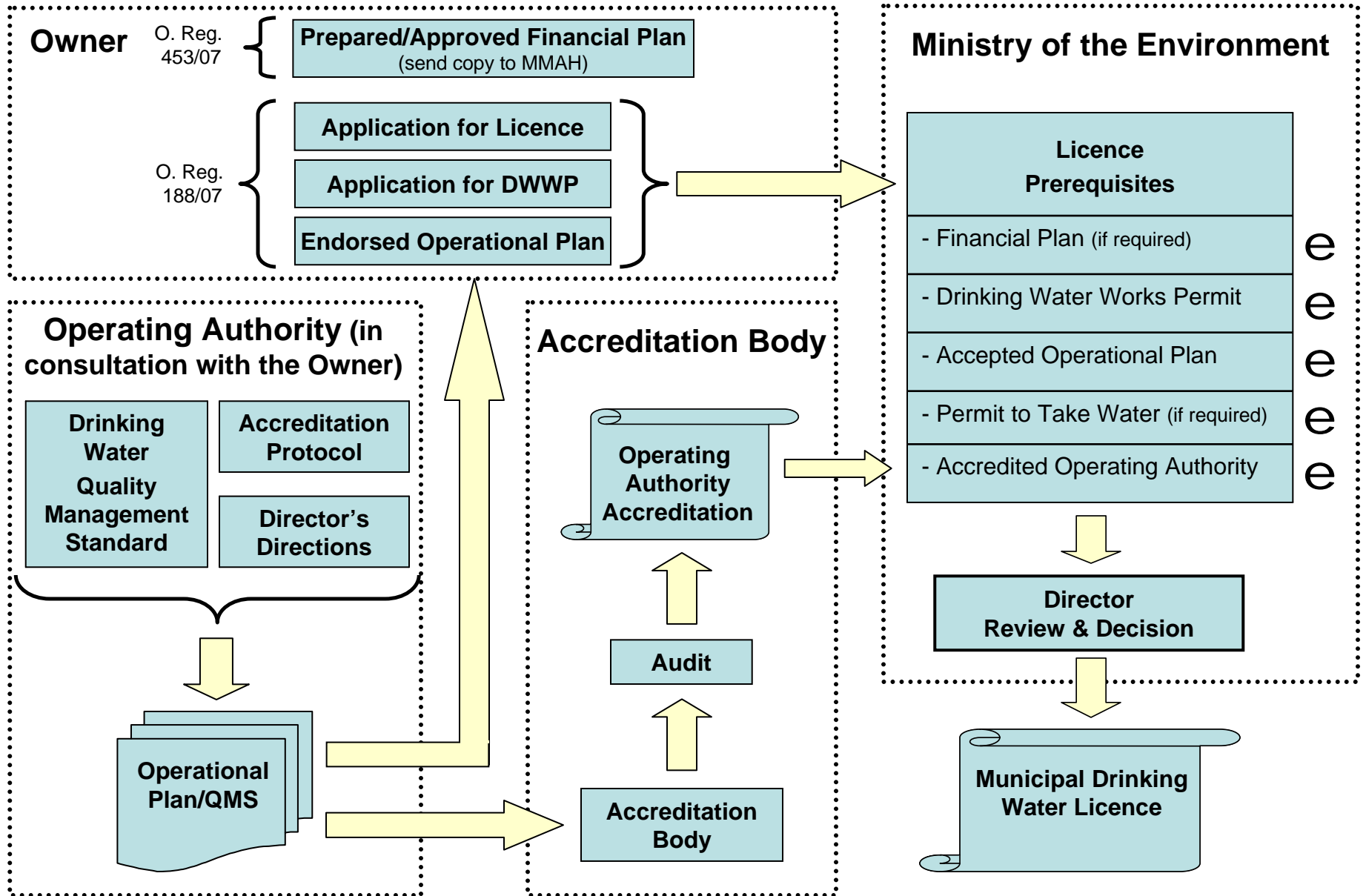
Conformance not compliance, it is your plan

You get out of it what you put in



How to obtain a Licence

Municipal Drinking Water Licensing Program



Costs

Licence and Drinking Water Works Permit

No fees will be charged for issuance of the first Licence

No fees for first DWWP issued, however existing CofA fee structure for system alterations will be in place for subsequent DWWP amendments



Implementing the DWQMS

Estimated time associated with developing an operational plan, based on in-house resources

- Small: 30-40 days
- Medium: 40-55 days
- Large: 65-80plus days

Third party accreditation costs include:

- Application Fee
- Document Review
- On-site Verification
- Costs related to an audit are estimated to range from \$1,500 to \$7,500 depending on system size

How to get started

Ensure management commitment: engage senior management now

Identify a lead to implement the DWQMS: provide them with the resources now to start the process early

Identify training opportunities: it is never too early to train your staff on the new requirements

Ask for help: the ministry as well as your colleagues are available to provide guidance



Management Systems

Basic Management System Concept

1. Document what you do
2. Perform to your documentation
3. Record your performance



Management System: *What is it?*

A **program** of planned and systematic actions...

Procedures,
commitments, goals,
plans, structure,
training

to provide **confidence** that an activity, product or service...

Supply of
safe drinking
water, maintain
compliance

will satisfy given **requirements**

Legislative
requirements,
permit conditions,
operating contract,
public interest



Management System: *Does not...*

Does not establish **values** for pollutants, water quality, or performance levels

Does not require you to surpass regulatory requirements

Does not **ensure** perfect quality

Does not **mandate** best achievable technologies



Management System: *Benefits*

The owner, administration, operations staff, and the system as a whole are striving to reduce the risks

Provides consistency to operations

Provides procedures to reduce errors

Improves teamwork and communications

Roles and responsibilities clearly identified

Everyone strives to improve where possible



Management System Methodology

PLAN

- establish the policy, objectives and procedures necessary to deliver results

DO

- implement the procedures

CHECK

- monitor and measure procedures *and report the results*

IMPROVE

- take action to continually improve performance

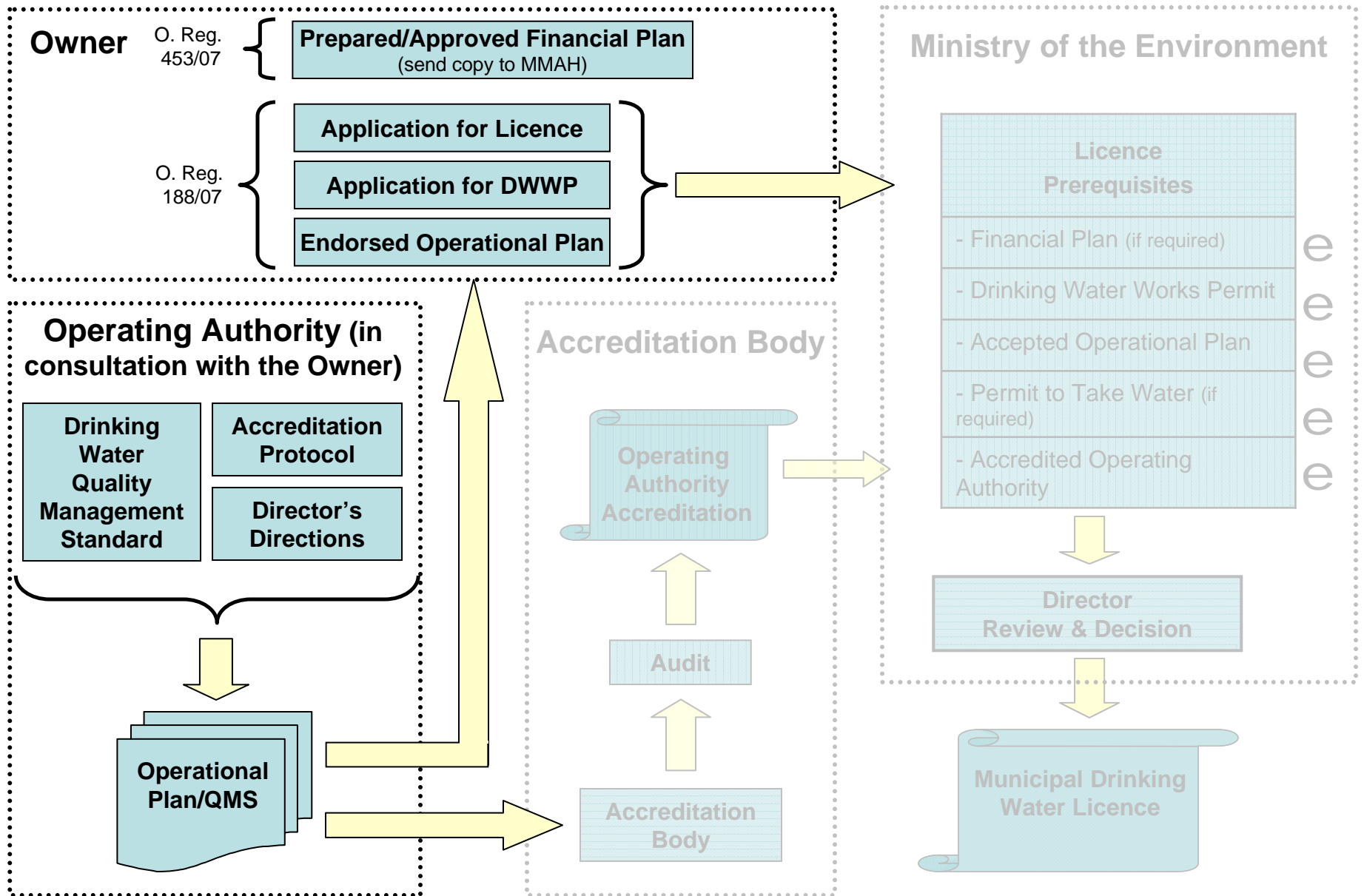
Drinking Water System Owner Roles and Responsibilities

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Who Is The Owner?

For the purpose of issuing the licence, the owner is the corporate entity that owns the system (e.g. The Corporation of the Municipality of...)

Some owner roles, responsibilities and authorities, for the purposes of the QMS, may be delegated to various staff, departments, or committees within the organization



Owner Representative

Whoever acts on behalf of the owner for the QMS should:

- Be knowledgeable about the DWS, the requirements of the DWQMS, and the QMS
- Have the authority to make decisions about the QMS
- Be able to allocate resources or at least facilitate the allocation of resources



Roles and Responsibilities

- **OWNER**

- Applies for licence and DWWP
- Endorses the operational plan
- Submits operational plan to MOE
- Owns the operational plan
- Ensures operating authority is accredited
- Monitors QMS and the need for resources to support it
- Ensures compliance with licence

- **OPERATING AUTHORITY**

- Prepares operational plan
- Endorses the operational plan
- Submits operational plan to accreditation body
- Implements the QMS
- Obtains accreditation from 3rd party accreditation body
- Communicates with owner on QMS and resource requirements
- Ensures compliance with licence

How Do I Engage Owner?

Ensure owner knows this is a continual process and regulatory requirement

Ensure regular updates on the QMS implementation process to council or committees are provided

Clearly identify owner roles and responsibilities in the operational plan

Ensure owner is aware or attends training opportunities



Agreements with Operating Authority (s. 14, SDWA)

Comes into force January 1, 2013

Agreements must include:

- What parts of DWS each is responsible for
- Responsibilities of owner and operating authority to ensure DWS meets legislation and regulations
- Responsibilities if an emergency occurs or deficiency identified
- Responsibilities to ensure operational plans are reviewed and revised



Standard of Care (s. 19, SDWA)

Comes into force January 1, 2013

Owners shall:

- Exercise a level of care, diligence, in respect of a municipal drinking-water system
- Act honestly, competently and with integrity to ensure safety of the users of the municipal drinking-water system

Standard of Care allows for owners to rely in good faith on expertise of professionals



Examples in the Standard Where Owner May Have A Role

Element 2: QMS Policy – Basis for the QMS, the operating authority needs to demonstrate certain commitments

Element 3: Commitment & Endorsement – Owner and operating authority will need to endorse the operational plan

Element 9: Organizational Structure – Owner roles, responsibilities and authorities may be included here

Examples in the Standard Where Owner May Have A Role

Element 12: Communications – As the owner, how do you want information about the QMS and drinking water system conveyed to you and to others (e.g. the public)?

Elements 14 & 15: Infrastructure – How is your infrastructure reviewed, maintained, renewed? How/when will you be required to provide resources?



Examples in the Standard Where Owner May Have A Role

Element 18: Emergency Management – What responsibilities will be yours and the operating authority's in an emergency?

Element 20: Management Review – Review the operating authority's report on the QMS. Is there anything requiring your action?



Top Management

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What Is Top Management?

Top management is a person or group of people that:

- are at the **highest management level** within the operating authority
- make decisions about the QMS
- make recommendations to the owner about the drinking water system



What Must Top Management Do?

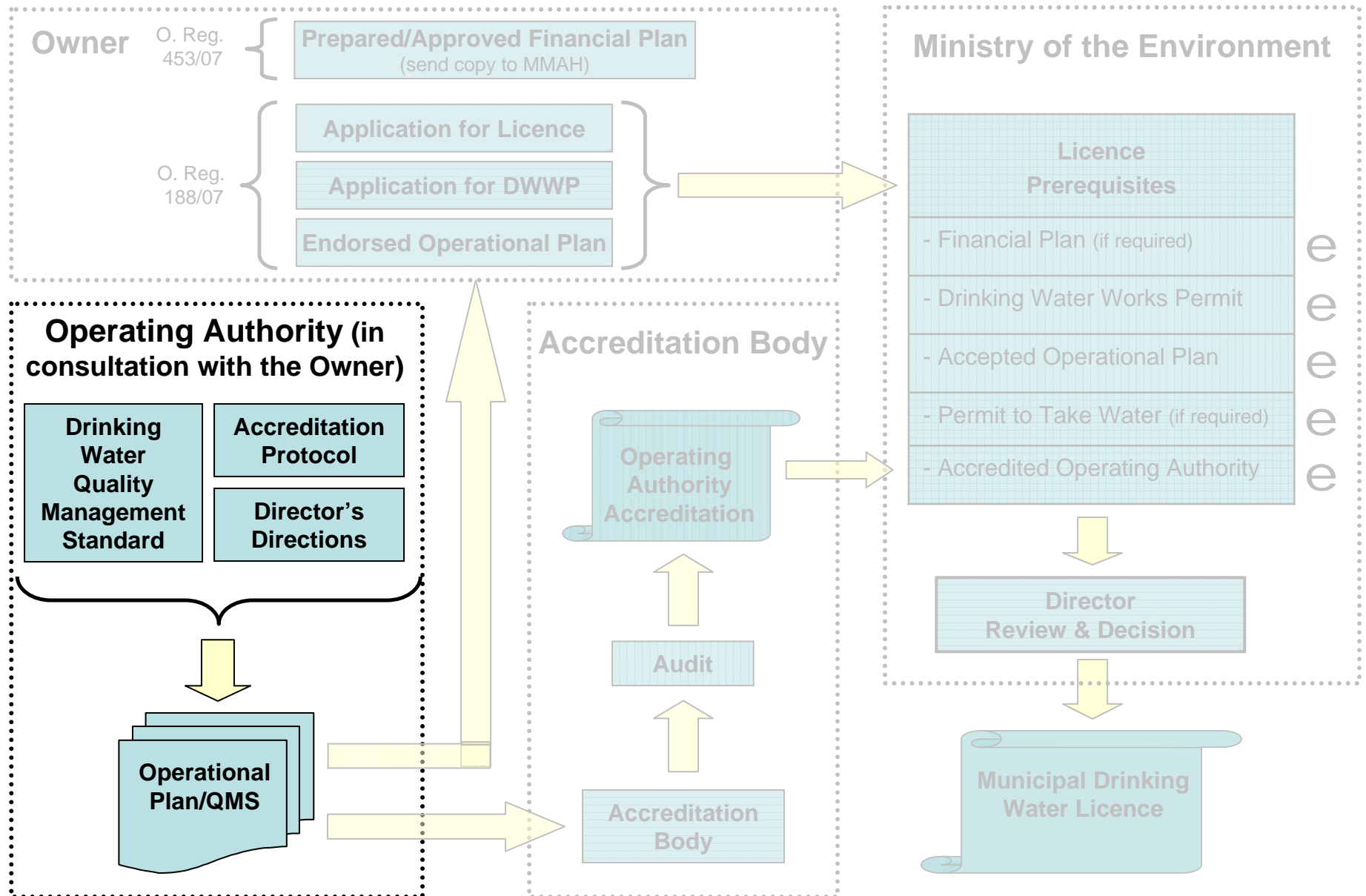
Top management **must prove its commitment to the QMS** by:

- ensuring that a QMS is in place that meets the DWQMS
- ensuring that the operating authority is aware of legislative and regulatory requirements
- communicating the QMS according to documented procedures
- determining, obtaining or providing resources needed to maintain/improve the QMS



How to Get Started

Municipal Drinking Water Licensing Program



Implementing a QMS

1. Set up QMS team
 - QMS rep
 - Training
 2. Top management commitment
 3. Gap analysis
 - Checklist
 - What do we have already?
 - What do we need to do?
- Read the words !*
- Work through each DWQMS element
 4. Select accreditation option
 5. Implementation action plan
 - Timelines
 - Responsibilities

Implementing a QMS

6. Write the operational plan

7. Implement the QMS

8. Internal audit:

- Does procedure meet the DWQMS?
- Are you following the procedure?
- Corrective actions

9. Management Review

- Develop/follow procedure that meets DWQMS identify deficiencies/ action items
- Record decisions – assign responsibility
- Report results to owner

10. Ready for external audit/accreditation

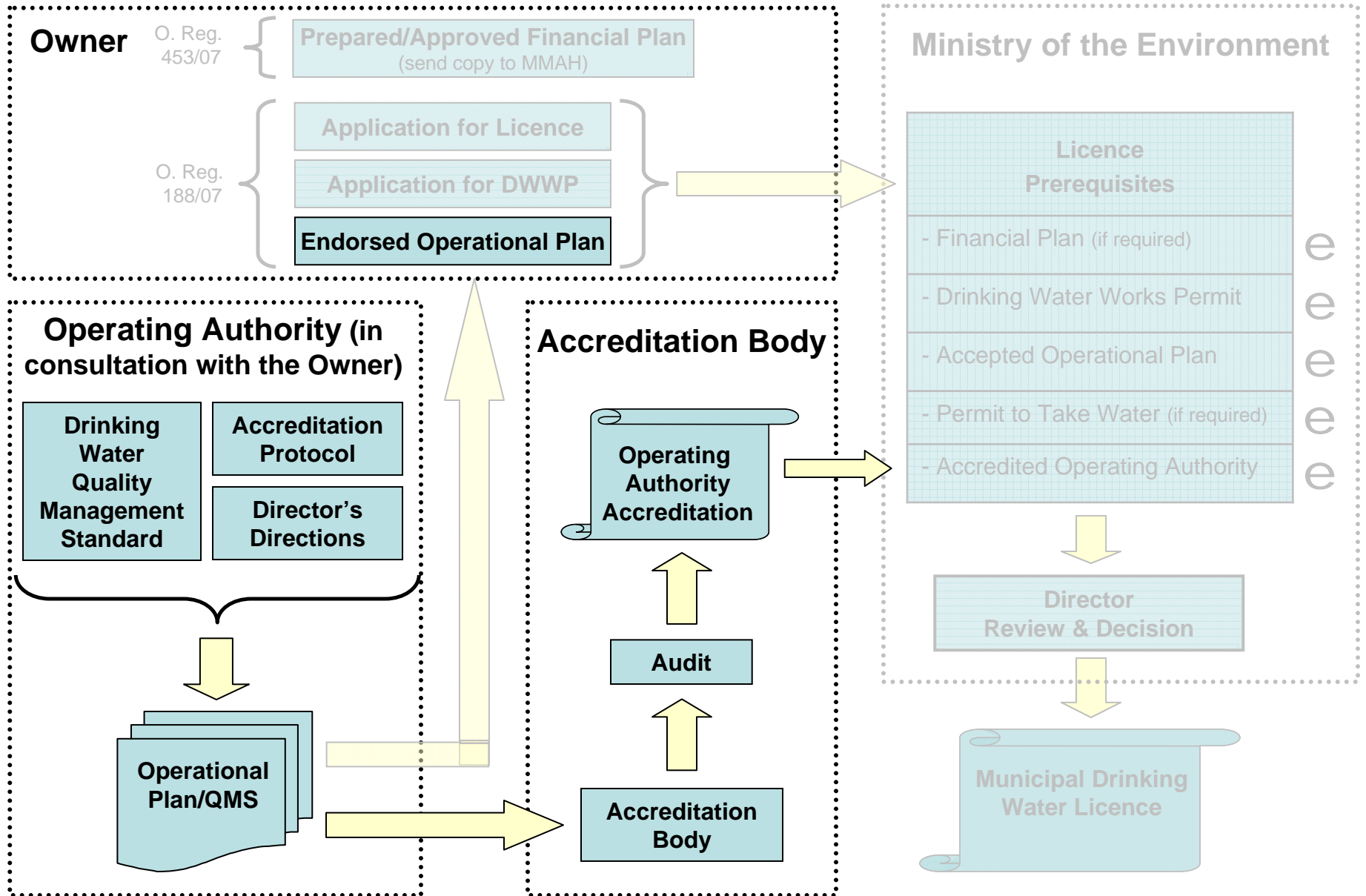
Accreditation Process

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Municipal Drinking Water Licensing Program



What is accreditation?

Third-party verification that you have a QMS that meets the requirements of the DWQMS

Operating authorities must pass an audit prior to the issuance or renewal of a licence

Owners must ensure that their operating authorities are accredited



Who are the auditors?

Professionally trained ISO certified auditors

Knowledge of the drinking water sector and DWQMS training

Assigned to each operating authority by the accreditation body



Audits vs. Inspections

Audits assess conformance with the requirements of the DWQMS

Inspections assess compliance with legislative and regulatory requirements

Note: under s. 26 of the SDWA if an auditor becomes aware of a violation of the Act then the Director must be notified as soon as practicable

Categories of Accreditation

Limited Scope – Partial DWQMS

Limited Scope – Entire DWQMS

Full Scope – Entire DWQMS

Limited Scope – Transitional

Limited Scope – Emergency

Address specific
scenarios for
existing accredited
operational
authorities

1. Quality Management System
2. Quality Management System Policy
3. Commitment and Endorsement
4. QMS Representative
5. Document and Records Control
6. Drinking-Water System
7. Risk Assessment
8. Risk Assessment Outcomes
9. Organizational Structure, Roles, Responsibilities and Authorities
10. Competencies
11. Personnel Coverage
12. Communications
13. Essential Supplies and Services
14. Review and Provision of Infrastructure
15. Infrastructure Maintenance, Rehabilitation and Renewal
16. Sampling, Testing and Monitoring
17. Measurement and Recording Equipment Calibration and Maintenance
18. Emergency Management
19. Internal Audits
20. Management Review
21. Continual Improvement

Limited Scope – Partial DWQMS

Document 12 elements of the Standard in your operational plan and implement in your organization

Documentation review and site visit

Must apply for full scope accreditation within 12 months of the issuance of a Limited Scope Certificate

1. Quality Management System
2. Quality Management System Policy
3. Commitment and Endorsement
4. QMS Representative
5. Document and Records Control
6. Drinking-Water System
7. Risk Assessment
8. Risk Assessment Outcomes
9. Organizational Structure, Roles, Responsibilities and Authorities
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11. Personnel Coverage
12. Communications
13. Essential Supplies and Services
14. Review and Provision of Infrastructure
15. Infrastructure Maintenance, Rehabilitation and Renewal
16. Sampling, Testing and Monitoring
17. Measurement and Recording Equipment Calibration and Maintenance
18. Emergency Management
19. Internal Audits
20. Management Review
21. Continual Improvement

Limited Scope – Entire DWQMS

Document 20 elements of the Standard in your operational plan

Documentation review only

Must apply for full scope accreditation within 12 months of the issuance of a Limited Scope Certificate

1. Quality Management System
2. Quality Management System Policy
3. Commitment and Endorsement
4. QMS Representative
5. Document and Records Control
6. Drinking-Water System
7. Risk Assessment
8. Risk Assessment Outcomes
9. Organizational Structure, Roles, Responsibilities and Authorities
10. Competencies
11. Personnel Coverage
12. Communications
13. Essential Supplies and Services
14. Review and Provision of Infrastructure
15. Infrastructure Maintenance, Rehabilitation and Renewal
16. Sampling, Testing and Monitoring
17. Measurement and Recording Equipment Calibration and Maintenance
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19. Internal Audits
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21. Continual Improvement

Full Scope – Entire DWQMS

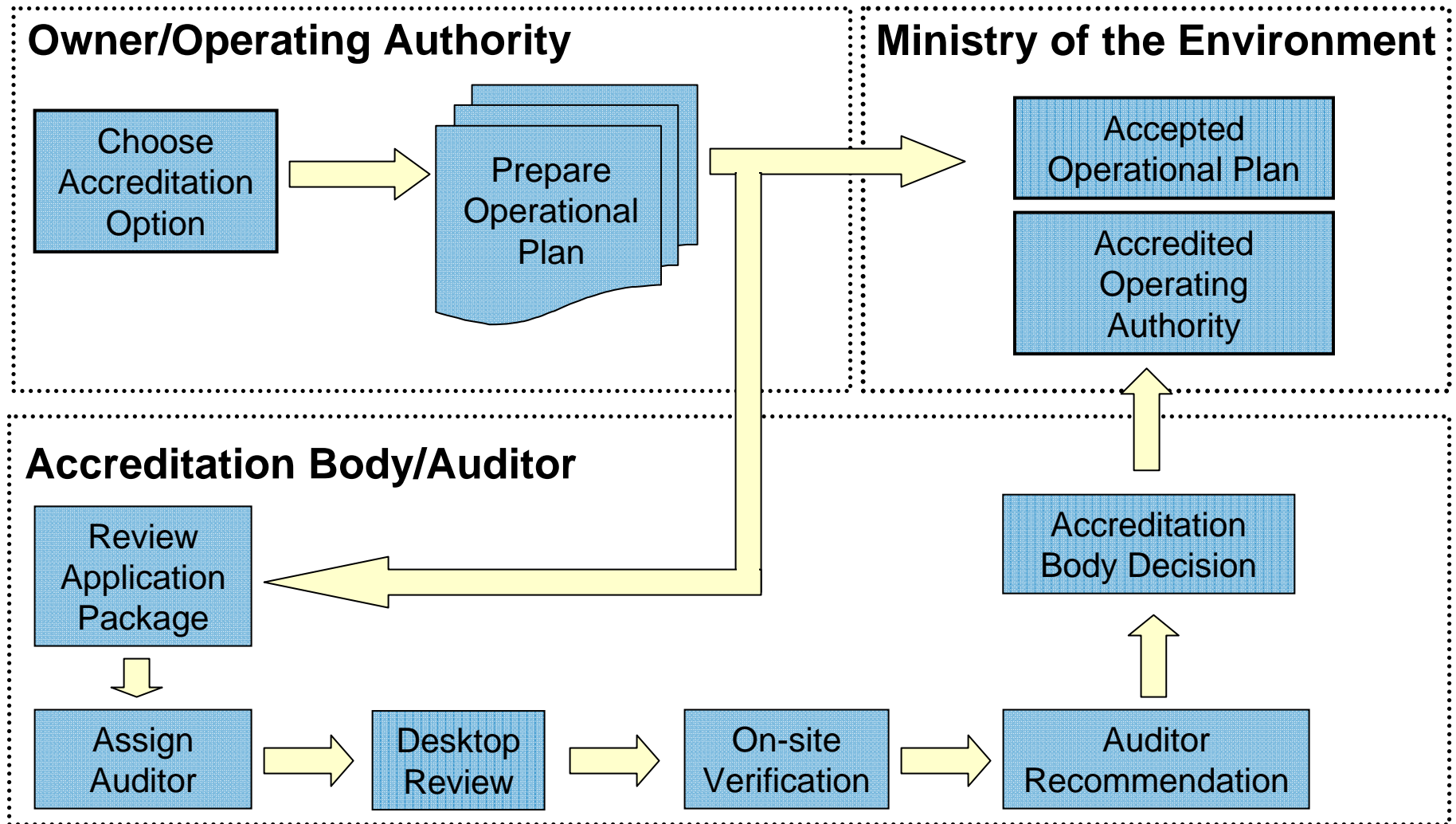
Document all elements of the Standard in your operational plan and implement in your organization

Documentation review and site visit

Initial Accreditation

Accreditation Option	Considerations
Limited Scope – Partial DWQMS	<ul style="list-style-type: none">• Phased-in approach• Additional 12 months to implement full QMS• Two site visits by auditor
Limited Scope – Entire DWQMS	<ul style="list-style-type: none">• Phased-in approach• Additional 12 months to implement full QMS• One site visit by auditor• Two documentation reviews
Full Scope – Entire DWQMS	<ul style="list-style-type: none">• One site visit by auditor• Full QMS must be implemented by prescribed date

The Accreditation Process



1. Quality Management System
2. Quality Management System Policy
3. Commitment and Endorsement
4. QMS Representative
5. Document and Records Control
6. Drinking-Water System
7. Risk Assessment
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16. Sampling, Testing and Monitoring
17. Measurement and Recording Equipment Calibration and Maintenance
18. Emergency Management
19. Internal Audits
20. Management Review
21. Continual Improvement

Limited Scope – Transitional

Document 9 elements of the Standard in your operational plan

Documentation review only

Must apply for full scope accreditation within 6 months of the issuance of a Limited Scope Certificate

Limited Scope – Emergency

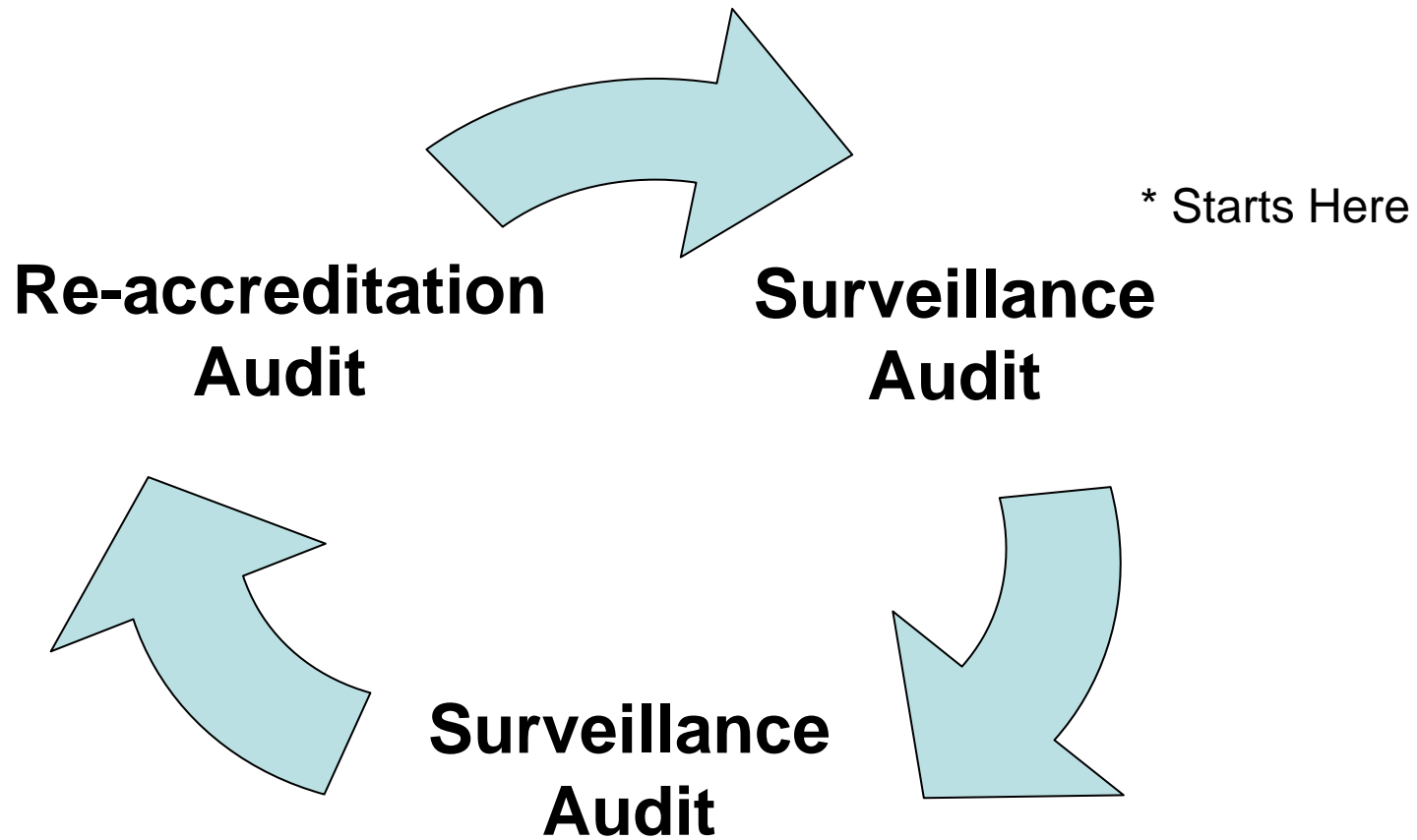
Used where the existing operating authority becomes incapable of operating the system or loses its accreditation

Requires written confirmation that the new operating authority has reviewed the existing operational plan for the system

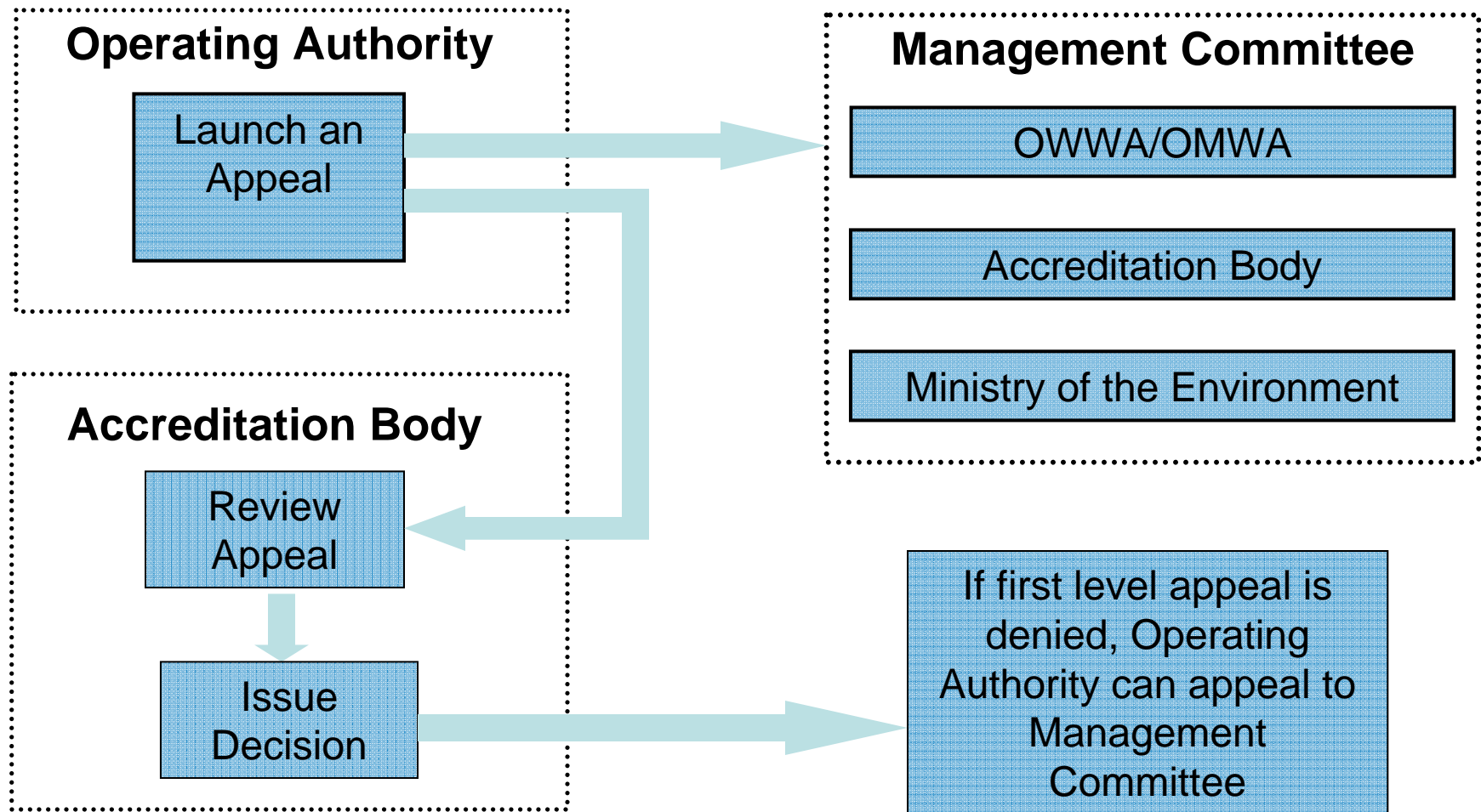
Must apply for full scope accreditation within 6 months of the issuance of a limited scope certificate



The Audit Cycle



The Appeal Process

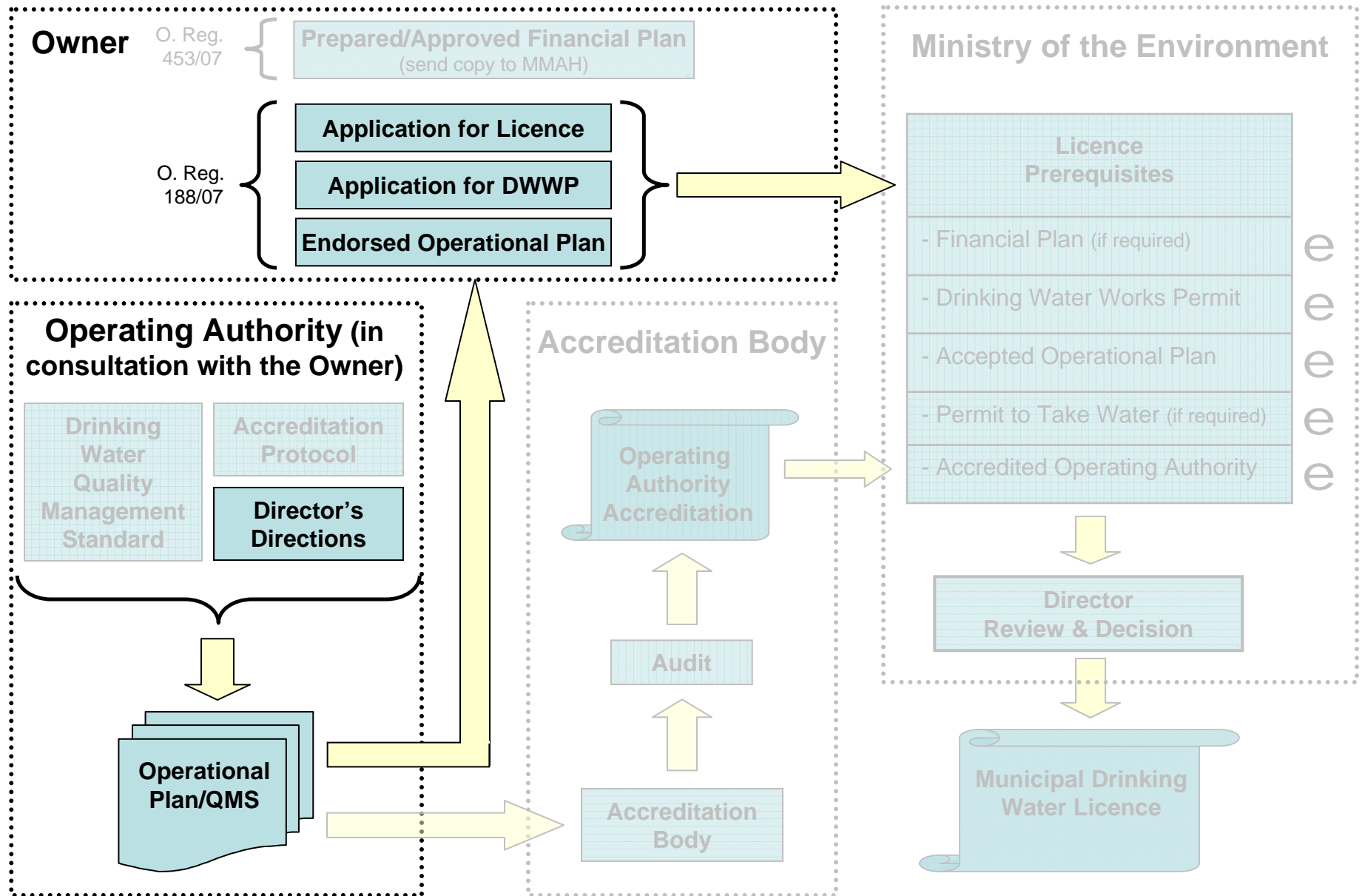


Submissions to MOE Director

*Municipal Drinking Water Licences
Drinking Water Works Permits
Operational Plans*



Municipal Drinking Water Licensing Program



Current vs. Future Approvals Program

Municipal Residential Drinking Water Systems	Current Process	Licensing Program	
	Certificate of Approval (C of A)	Licence	Drinking Water Works Permit
Authority to Establish or Alter	•		•
Authority to Operate	•	•	
Expiry Date	Generally No	Yes (< 5 years)	Generally No
Conditions	Operations + Physical Works	Primarily Operations	Primarily Physical Works
Number of Instruments	Multiple Cs of A Per System	One Licence per System	One DWWP per System

Licence Content

Licence

Identify Owner

Accredited Operating Authorities

Financial Plan # (if applicable)

Operational Plan(s) #

PTTW(s) # (if applicable)

Expiry Dates

Deadline for Application for Renewal

Conditions - Operations

Requirements for Licence Application

Information respecting the prerequisites:

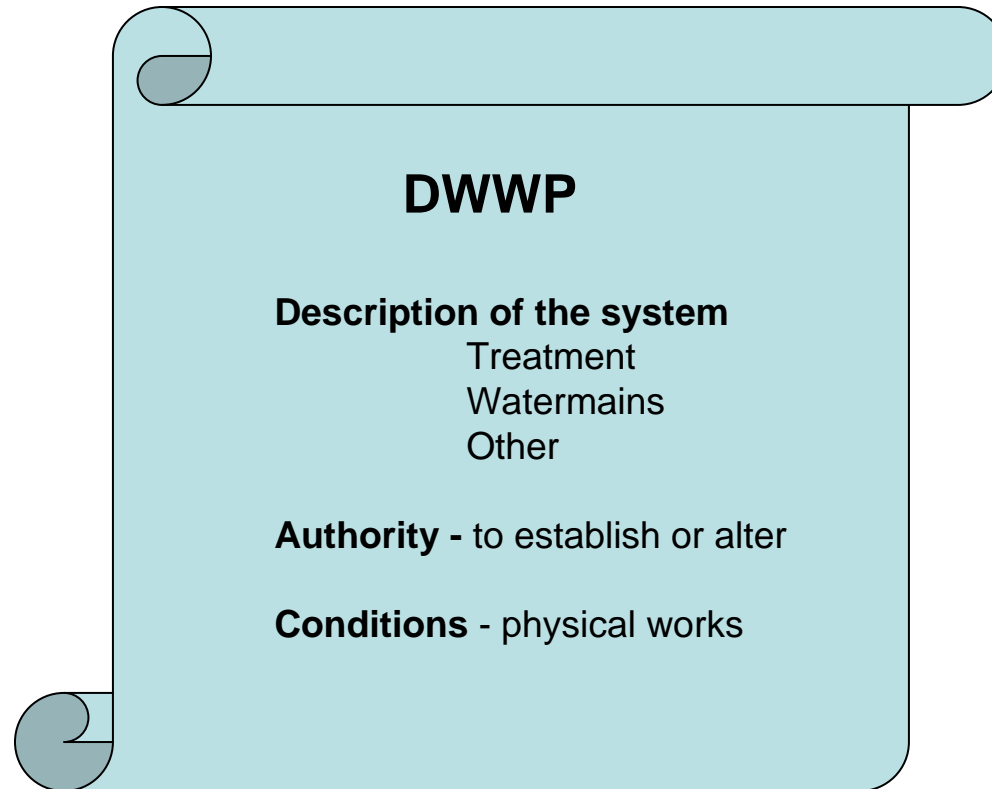
- Operational plans
- Financial plans
- DWWP (in most cases – the application)
- Accredited operating authority(ies)
- PTTW(s)

Raw water characterization for each treatment component



DWWP Content

Three Primary Functions/Sections:



Requirements for DWWP Application

Description of system:

- Treatment;
 - information from existing CofA plus any proposed works

- Distribution/watermains
 - graphical description to be submitted

- Other – reservoirs, pumping stations (other than treatment or distribution)
 - description to be submitted

DWWP Format – Treatment and Other

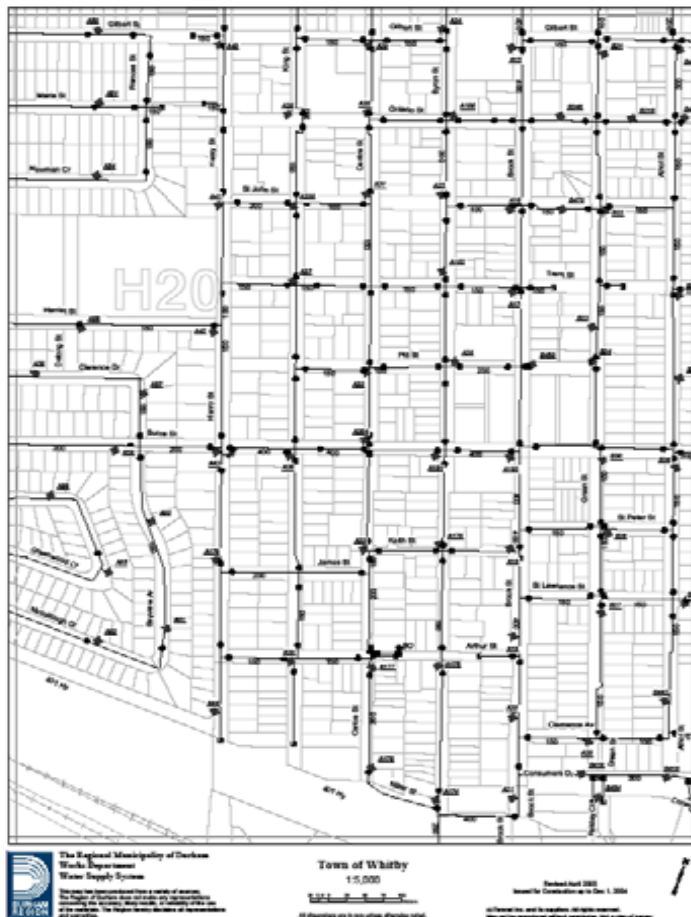
Tabular Format for Treatment System Description

Preliminary Treatment

Item	Detail	Qty	Description	Nominal Size/ Rating
Flocculator		2	Microfloc parallel solids contact clarifiers	60 m ³
Backwash Water			Backwash directed to sanitary sewer	n/a
Coagulation	Storage	1	Liquid alum tank	19000 L
		1	Alum day tank	780 L
	Injection Point	1	Immediately upstream of solids contact clarifier	n/a
	Feed System	2	Metering pumps	90 L/hr (each)
Polymer Feed	Storage	1	Polymer tank	380 L
	Pump (duty)	1	Metering pumps	XX L/hr
	Pump (standby)	1		
	Injection Point	2	At rapid mix zone of solids contact clarifiers	n/a
Clarifier		2	Clarifier zone	700 m ³

DWWP Format - Watermains

Graphical Format for Distribution System Components



- Map
- Street Names
- General Location
- Pipe Diameter
- Appurtenances (Hydrants/Valves/etc.)

DWWP Format - Watermains

Watermain description

1.1. Drinking Water Subsystem 2: Watermains

Watermains within the distribution system as follows:

1.1.1. Watermains as described in the following documents or files:

Document or File	Dated
Broken Antler Water Distribution System	January 6, 2007

1.1.2. Watermains including alterations and extensions which have been approved by the Director and altered or extended on or after the date of the documents included in 1.1.1

Alterations (including extensions) of watermains to be authorized by 'notice' of amendment to the original DWWP

Revocation, Suspension DWWP and Licence

The Director **may**:

- Revoke or suspend a licence
- Revoke a DWWP

Criteria in SDWA

- Not automatic – Director discretion

Owner may appeal to the Environmental Review
Tribunal

Ministry Resources

Ensure staff have access to all relevant information:

- O. Reg. 188/07 Licensing of Municipal Drinking Water Systems
- O. Reg. 453/07 Financial Plan requirements and Guideline
- Accreditation Protocol
- Director's Direction
- DWQMS Guidance document
- DWQMS Pocket Guide
- Licensing Overview Guide
- Presentation CD with voice-over
- Walkerton Clean Water Centre Courses

Ministry contact information

Call us at 1-877-955-5455 or 416-314-1651

E-mail at mdwlp@ontario.ca

Website www.ontario.ca/drinkingwater

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Remember, this is only a summary

To be clear about your specific legal requirements, you should refer to the *Safe Drinking Water Act, 2002*, and the regulations and other instruments made under that Act. For more information, please access the Drinking Water Ontario portal at www.ontario.ca/drinkingwater or the Ministry's Public Information Centre at 1-800-565-4923.

