
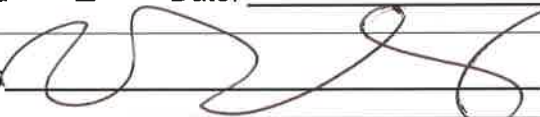


Town of Marathon Guideline

Town Of Marathon 	Guideline: System Responsibility For Licensed Water And Wastewater Operators	Section: Works & Operations
	New <input type="checkbox"/> Effective: <u>May 26, 2017</u> Revised <input checked="" type="checkbox"/> Supersedes Guideline dated: <u>April 22, 2013</u> Reviewed <input type="checkbox"/> Date: _____	
Guideline No. WO0005	Approval: 	Page 1 of 3

Purpose:

Clarify when a licensed water or wastewater operator is required.

Define the Overall Responsible Operator (ORO) and the Operator in Charge (OIC).

Scope:

The owner (Town of Marathon) must define when a licensed water or wastewater operator is required.

The owner as it relates to the water distribution system or as it relates to the wastewater collection system or the operating authority Northern Water Inc. (NWI) as it relates to the water production system or as it relates to the wastewater treatment plant must designate an operator as an ORO and one or more OIC of the subsystem. At times these two roles can be performed by the same operator.

Guideline:

A licensed water or wastewater operator is required on all matters as it relates to our water distribution system (infrastructure defined within the right of way). For further details please refer to MOE guideline # 5.1 (Drinking Water Operator / Water Quality Analyst Certification) and Licensing of Sewage Works Operators, O. Reg. 129 / 04 made under OWRA. Our current water distribution system class is II. Our current wastewater collection system class is I.

The ORO has overall operational responsibility for the system and will normally be a Level II licensed operator. Typically an ORO directs operators on operating decisions beyond the knowledge skill and experience of other operators, he/she is expected to be able to respond immediately to an emergency and may or may not be the supervisor or manager. If the ORO is absent or unable to act, responsibility for the overall operation of

Town of Marathon Guideline

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the facility may be placed with an operator who holds a license that is applicable to that type of facility and is not more than one class lower than the class of the facility and is not more than one class lower than the class of the facility. This type of operating situation shall be allowed for 150 days in any twelve month period. Should these conditions continue over 150 days in a twelve month period, the Town will retain NWI to assume operation-in-charge status until the Town operators are available to assume their responsibility.

Water

1. Lloyd Burton (Level II Water and Level II Wastewater) can hold ORO 365 days a year.
2. Mike Duhaime (Level II Water and Level II Wastewater) can hold ORO 365 days a year.
3. Jack LeSarge (Level I Water and Level I Wastewater) can hold ORO for 150 days a year.
4. Stephan Mallet (Level I Water and Level I Wastewater) can hold ORO for 150 days a year.

Wastewater

1. Lloyd Burton (Level II Water and Level II Wastewater) can hold ORO 365 days a year.
2. Mike Duhaime (Level II Water and Level II Wastewater) can hold ORO 365 days a year.
3. Jack LeSarge (Level I Water and Level I Wastewater) can hold ORO for 150 days a year.
4. Stephan Mallet (Level I Water and Level I Wastewater) can hold ORO for 150 days a year.

The OIC typically makes the day to day operating decisions and instructs other operators on system procedures. Depending on the job at hand the available OIC are as follows:

Water


1. Lloyd Burton (Level II Water and Level II Wastewater).
2. Mike Duhaime (Level II Water and Level II Wastewater).
3. Jack LeSarge (Level I Water and Level I Wastewater).
4. Stephan Mallet (Level I Water and Level I Wastewater).

Wastewater

1. Lloyd Burton (Level II Water and Level II Wastewater).
2. Mike Duhaime (Level II Water and Level II Wastewater).
3. Jack LeSarge (Level I Water and Level I Wastewater).
4. Stephan Mallet (Level I Water and Level I Wastewater).



**Town of Marathon
Guideline**


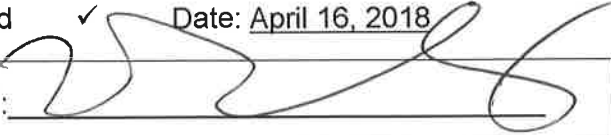
Guideline No. WO0005	Approval: 	Page 3 of 3
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A licensed water or wastewater operator is required on all matters as it relates to our water production system or wastewater treatment plant. Since these systems are currently run by an operating authority Northern Water Inc. (NWI) they will select who is designated the ORO and the OIC. Contact information for NWI is Rodger Betts at 807-228-4402 (Cell) and 807-229-1186 (Office).

Private well systems and septic systems can be serviced by either our water and wastewater operators or our building group. The choice will be at the discretion of the Supervisor, Works and Operations Manager or the On Call Manager (after attempting to have consultation with the Works and Operations Manager or the Supervisor). The facilities affected are the Visitors Information Centre, and the Airport.



Town of Marathon Guideline

Town of Marathon 	Guideline: Contingency Plan for Boil Water Advisory/Drinking Water Advisory	Section: Works & Operations
	New <input type="checkbox"/> Effective: Revised <input checked="" type="checkbox"/> Supersedes Guideline dated: <u>June 22, 2016</u> Reviewed <input checked="" type="checkbox"/> Date: <u>April 16, 2018</u>	
Guideline No. WO0009	Approval: 	Page 1 of 3

Purpose:

To establish a contingency plan to outline the step by step procedure for the issuance of a Boil Water Advisory (BWA) or Drinking Water Advisory (DWA) by the Town of Marathon.

Scope:

Presently, the treatment facilities (Booster Stations & Wells) are operated and maintained by Northern Water Inc (NWI), where the water distribution system is operated and maintained by the Works & Operations Department (Town of Marathon personnel).

There will be situations where the Corporation of the Town of Marathon will be required to issue either a BWA or DWA. Water advisories may either be precautionary in nature or be issued in response to suspected or confirmed adverse water quality. The following guideline shall be followed by Town of Marathon and NWI personnel.


Guideline:

- 1 **Confirm primary and secondary disinfection.** Works & Operations personnel shall immediately notify NWI as the treatment subsystem operating authority. NWI shall confirm that the disinfectant residual at affected locations is normal/adequate to achieve primary/secondary disinfection and shall adjust chlorine dosages accordingly as the situation warrants. NWI shall report back to Works & Operations personnel concerning the status of disinfectant residuals.

- 2 **Public notification of water advisory issuance.** Works & Operations Department personnel shall undertake public notification that involves distributing the water advisory issuance notice attached to this procedure. Note that this template for a water advisory will need to be customized prior to issuance. Most water advisories will correspond to microbiological contaminants and will be issued as a Boil Water Advisory; only extreme contamination events (typically involving chemical contaminants) will warrant a Drinking Water Advisory.

If the advisory is localized, then Works & Operations personnel shall undertake door-to-door notification. If the advisory is larger in scope or applies to the entire community, then Works & Operations personnel shall distribute the water advisory notices at prominent locations within the town, including at any location with a significant number of vulnerable persons.

Town of Marathon Guideline

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A priority list of prominent locations where the water advisory notice is likely to come to the attention of water users is provided below. Notices may be posted at some or all of these locations:

Town of Marathon website	Clinic/Hospital
Town of Marathon Facebook page	Arena
Marathon public library	Post Office
Lakeview Community Hall	Town Hall
Superior Place Mall (Rumours)	Mac's Mall (Mac's & Robin's)
Supportive Housing Units	DH Mall (Food Store Entrance)

If the water advisory is not localized and/or applies to the entire community, Town of Marathon personnel shall also notify CFNO Radio of the advisory. The radio notification should run 6x each hour for the first two hours and then be aired every 2 hours (during the day 8:00 a.m. – 8:00 p.m.) until the advisory has been rescinded.

- 3 System flushing.** Following public notification, the Works & Operations Department will immediately start targeted flushing within the distribution system, which may include flushing at relevant dead ends. Flushing shall continue until water is free from discoloration and until an adequate chlorine residual is achieved. NWI will inform the Works & Operations Department as to when the fire hydrants can be shut down.
- 4 Water quality monitoring.** Water advisories are generally rescinded after the system has been restored to normal service and after water quality monitoring has shown that the water is safe for consumption. NWI shall conduct sampling in accordance with the type and magnitude of contamination (i.e. the parameters to be sampled will depend on the type of water advisory). Generally, Boil Water Advisories for microbiological parameters require two sets of microbiological water samples 16h to 48h apart. Works & Operations personnel can contact NWI to receive updates about the sampling program and monitoring results.
- 5 Rescinding the water advisory.** If the system has been returned to normal operation and water quality monitoring has not revealed microbiological contamination, the Town of Marathon can proceed to rescind the Boil Water Advisory. Rescinding Drinking Water Advisories for other contaminants should be completed in consultation with the Thunder Bay District Health Unit.

Once the advisory is rescinded, Works & Operations Department personnel shall promptly remove any issuance notices that were posted in prominent locations as per step 2. Works & Operations personnel shall also complete the water advisory rescind notice attached to this procedure. Note that this template for will need to be customized prior to distribution.

Town of Marathon Guideline

Guideline No. WO0009	Approval: 	Page 3 of 3
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All rescind notices shall be posted on the Town of Marathon website and the Town of Marathon Facebook page. Although not required, Works & Operations personnel may also post rescind notices at some or all of those prominent locations that were selected in step 2. If this is the case, personnel must also remove the rescind notices after a sufficient amount of time has elapsed (i.e. 1 week). If the advisory was localized, Works & Operations personnel may also distribute the rescind notice via door-to-door notification.

Where required, Town Office Staff shall also notify CFNO of the rescind notice. The rescinded notification should be aired 6x for the first two hours and once every two hours for the next 24 hours.



THE CORPORATION OF THE TOWN OF MARATHON
4 HEMLO DRIVE, P.O. BAG "TM"
MARATHON, ONTARIO
P0T 2E0

WEBSITE: WWW.MARATHON.CA
EMAIL: INFO@MARATHON.CA

PHONE: 807-229-1340
FAX: 807-229-1999

Dated: April 30, 2018

**ALL PERSONS CONSUMING WATER FROM THE
TOWN OF MARATHON'S WATER DISTRIBUTION
SYSTEM FROM THE FOLLOWING LOCATION(S):**

i.e. #22 - #42 Hemlo Drive (localized)/Town of Marathon (system)

BOIL WATER ADVISORY

**DUE TO A LOSS OF WATER PRESSURE THE SAFETY OF THE
DRINKING WATER CANNOT BE GUARANTEED.**

**ALL WATER FROM TAPS SHOULD BE BOILED FOR AT LEAST ONE
MINUTE IF IT IS USED FOR HUMAN CONSUMPTION.**

Boiling inactivates harmful bacteria in the water that may cause illness. Once boiled the water can be stored in the refrigerator in a clean food safe container and should be used for other activities where it may be ingested, including:

1. brushing teeth or soaking false teeth
2. washing fruits and vegetables
3. adding to uncooked food or drink
4. ice cubes
5. water for pets

**THIS ADVISORY SHALL REMAIN IN EFFECT UNTIL A RESCIND NOTICE
IS ISSUED. FOR MORE INFORMATION REGARDING THE REASONS FOR
OR THE LENGTH OF THIS ADVISORY CONTACT MR. LLOYD BURTON,
WORKS & OPERATIONS SUPERVISOR, 807-229-1340 x2246 OR 807-229-
5705.**

**INQUIRIES CAN ALSO BE DIRECTED TO THE THUNDER BAY DISTRICT
HEALTH UNIT.**



THE CORPORATION OF THE TOWN OF MARATHON
4 HEMLO DRIVE, P.O. BAG "TM"
MARATHON, ONTARIO
P0T 2E0

WEBSITE: WWW.MARATHON.CA
EMAIL: INFO@MARATHON.CA

PHONE: 807-229-1340
FAX: 807-229-1999



Dated: April 30, 2018

TO ALL PERSONS CONSUMING WATER FROM THE
TOWN OF MARATHON'S WATER DISTRIBUTION
SYSTEM FROM THE FOLLOWING LOCATION(S):

i.e. #22 - #42 Hemlo Drive (localized)/Town of Marathon (system)

PLEASE BE ADVISED THAT THE
BOIL WATER ADVISORY IS
HEREBY RESCINDED

Town of Marathon Guideline

Town Of Marathon 	Guideline: Contingency Plan for Water Main Break	Section: Works & Operations
	New <input type="checkbox"/> Effective: <u>June 1, 2016</u> Revised <input checked="" type="checkbox"/> Supersedes Guideline dated: <u>June 29, 2015</u> Reviewed <input type="checkbox"/> Date: _____	
Guideline No. WO0010	Approval: _____ 	Page 1 of 4

Purpose:

To establish a contingency plan in the event of a water main break. The physical failure of a water main, service pipe or appurtenance (a "break") and associated emergency repairs pose a potential for drinking water contamination.

Scope:

This Contingency Plan applies to all employees involved in the repair of a water main break.

Regulatory instruments state that service pipes greater than 100 mm are considered to be watermains. For service pipes of diameter less than 100 mm, operating authorities are required to maintain sanitary conditions during installations and repairs, and must clean and flush prior to placing in service. For the purposes of this Contingency Plan, all service pipes irrespective of size are considered to be watermains.

Guideline:

- 1 Ensure notification of both W&O Manager and ORO.** Once the W&O Manager or the ORO is notified that there is a possibility of a water main break, he/she shall notify the other about the situation.
- 2 Inspect break site and develop work plan.** An inspection of the break site by the ORO or OIC shall occur in order to assess the situation and to develop a work plan to address the break. Such items to be discussed are the size of work crew, equipment requirements, notification requirements, necessary materials, etc. It may also be determined whether flow can be maintained to the break site until the water main is excavated (ideal scenario).
- 3 Notify treatment operating authority.** The ORO or OIC shall notify the Well Supply System Operating Authority of the break situation. The contact numbers are as follows; regular business hours – 229-1186, after hours on-call number - 228-4402.
- 4 Obtain locates.** The ORO or OIC shall contact the public utilities for locates prior to excavating the break. The contact numbers are as follows:
 - a) Bell Canada – 1-800-465-6924
 - b) Hydro 1-800-434-1235
 - c) Cable (TV) – 807-229-0731
 - d) On1Call – 1-800-400-2255

Town of Marathon Guideline

Guideline No. WO0010	Approval: 	Page 2 of 4
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- 5 Begin excavation.** Once all notifications, locates and approvals are in place, the necessary equipment and personnel shall be assembled at the break site. All staff involved in the excavation and repair process will be required to thoroughly review this plan and any other applicable plans and guidelines prior to commencing work.

Begin excavating the break while taking care to not create further damage. If possible, the goal is to maintain positive pressure and flow until an air gap is established. Flow may be reduced by throttling valves while maintaining sufficient flow from the break to minimize the potential for contamination. Flow may be discontinued after an air gap has been established.

- 5.1 Notify affected customers if flow must be discontinued.** The work crew shall provide immediate notification to affected customers if flow must be discontinued. This will be accomplished by delivering the standardized notification form (temporary loss of service); the W&O secretary maintains a digital copy of this form.

- 6 Expose and categorize the break.** Expose the break to determine what repairs, parts or materials are required. Upon completion of excavation, the ORO/OIC shall conduct a visual inspection to determine the nature of the break. The ORO/OIC will assess the evidence of contamination or its potential of the watermain before and during the repair procedure, and shall classify the break as either Category 1 or Category 2 (in addition to determining whether there are any special cases such as sewage or chemical contamination).

Excavation dewatering shall continue for the duration of the repairs such that the air gap between the break location in the watermain and the water in the excavation is maintained. If the pipe is cut and a section is removed, examine the remaining pipe ends and remove pieces of pipe, scale, or other debris. Provide temporary plugs for the open ends of pipes. If the air gap is not maintained after flow has stopped, then the break becomes Category 2.

- 6.1 Remove contaminants (Category 2 & Special Cases only).** Additional steps must be taken to remove contaminants from the watermain, including the mechanical removal of contaminants, flushing into the excavation, and higher velocity flushing after repairs where practical and feasible.

- 7 Notify public agencies as required.** Contact the Well Supply System Operating Authority for any assistance respecting public agency notification.

Category 1 breaks are not required to be reported to public agencies.

Category 2 breaks are also not required to be reported unless the operating authority believes that contaminated water was directed to users. This constitutes an observation of improper disinfection that must be immediately reported to the MOECC Spills Action Centre (Phone: 1-800-268-6060) and to the local Medical Officer of Health (Phone: 1-888-294-6630; After Hours Phone: 807-623-7451 – Nurses' Registry), and any additional instructions must be followed. If for any reason a Water Advisory has been declared, notify the local MOECC office (Water Inspector Phone: 807-475-1633) as soon as reasonably possible during business hours (or by email no later than 10 AM the next business day). Follow existing public notification protocols respecting Water Advisory issuances and rescinds.

Town of Marathon Guideline

Guideline No. WO0010	Approval: 	Page 3 of 4
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For special cases involving sewage or chemical contamination, notify the local Ministry office (Water Inspector) as soon as reasonably possible during business hours or the Spills Action Center after business hours. The Ministry will assist with the development and implementation of a site-specific sampling, disinfection and/or decontamination plan.

- 8 Clean and disinfect surfaces and repair parts.** At the excavation site, clean and disinfect all surfaces and repair parts which will come into contact with drinking water using a minimum 1% sodium hypochlorite solution immediately prior to installation.

Prior to cutting or disconnecting any parts on the existing water distribution system, the exposed piping shall be thoroughly cleaned to ensure that it is free of soil, foreign materials or any contaminants. If cutting out a section of pipe, the interior surfaces of the cut ends of the existing main shall also be disinfected with the solution, swabbed or sprayed as far as can be practically reached.

- 8.1 Additional disinfection procedures (Category 2).** Site specific disinfection procedures, including preliminary flushing and super-chlorination, may also be used depending on the severity or nature of the contamination. These steps may include the disinfection procedures for new watermains as per ANSI/AWWA Standard C651. Town of Marathon Guideline WO 0013 (Disinfect Water Main within Distribution System) includes disinfection protocols that may be used for a Category 2 repair.
- 8.2 Additional disinfection procedures (Sewage Contamination).** If there is evidence of suspected sewage contamination of a watermain, continue to develop and implement a plan with site specific procedures for disinfection and sampling. These steps may include the disinfection procedures for new watermains as per ANSI/AWWA Standard C651.
- 8.3 Additional disinfection/decontamination procedures (Chemical Contamination).** If there is evidence of suspected chemical contamination of a watermain, develop and implement a plan with site specific procedures for disinfection and/or decontamination and sampling. The plan must be finalized with the local Ministry office and the MOH.
- 9 Install repair parts.** Install the repair parts and ensure that contaminants do not enter the watermain. Workers shall prevent contamination of the existing piping and repair parts by using rubber or latex gloves. Also, the workers shall wear non-contaminated clothing.
- 10 Post-repair flushing.** Create a temporary dead end downstream of the break through valve operation, and flush through the location of the repair and direct water to either a road or storm sewer. Flushing shall continue until the discharged water is free from discoloration and secondary disinfection has been restored (free chlorine residual of at least 0.20 mg/L).
- 10.1 Microbiological sampling (Category 2).** After the completion of flushing and restoration of secondary disinfection, at least one microbiological sample (EC/TC) shall be collected as soon as reasonably possible. Flow shall be directed to ensure that the sample represents water that has passed through the location of the repair. Samples can be collected from hydrants or premise plumbing.

**Town of Marathon
Guideline**

Guideline No. WO0010	Approval: 	Page 4 of 4
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- 10.2 Microbiological sampling (Sewage Contamination).** Sampling plans for sewage contamination special cases must include as a minimum taking 2 sets of microbiological samples at least 24 hours apart.
- 11 Return to normal service.** Once disinfection has been restored, return the system to normal service by having all valves returned to normal operating positions.
- 11.1 Return to normal service (Special Cases).** The return to normal service for special cases will depend upon the corrective actions and sampling plan being completed to the satisfaction of the local Ministry office and MOH (health unit). Affected watermains may not be put back in service before the corrective actions and sampling plan are completed, unless a Water Advisory is declared.
- 12 Document the repair process.** Record all repair activities on the *Water Distribution System Repairs Form* (included within this Contingency Plan). This form includes all required minimum information, and must be completed in its entirety. All pertinent information regarding the break shall also be logged in the water distribution logbook. Finally, information shall be recorded on the water distribution plans attached to the walls in the Works and Operations Supervisor's Office.

Water Distribution System Repairs Form

This form includes all required information that must be recorded respecting emergency repairs, in accordance with section 4 (Documentation) of the MOECC's Watermain Disinfection Procedure

Repair Information and Assessment	
Date:	Location (Municipal Address):
Flow maintained at the site until air gap created? (Yes/No):	
Evident or suspected contamination of watermain before or after repair process? (Yes/No): No = Category 1; Yes = Category 2	
Special Case present (sewage or chemical contamination)? (If yes, specify):	
Name of ORO/OIC who classified watermain break as Category 1 or Category 2:	
Component affected (i.e. main/service, valve, indicate size and material):	
If water main break, indicate type of break: (i.e. circumferential, longitudinal, split bell, spiral, rupture, blow-out, hole, leak at main stops/tapping valves, etc.)	
If planned maintenance, indicate type of planned maintenance (i.e. valve replacement): Note: Disinfection procedures for Category 1 watermain breaks apply to the installation/ replacement/repairs of appurtenances and/or fittings. If contamination is evident or suspected, the procedures for Category 2 breaks shall apply.	
Public Agency Notification	
Water Advisory declared: (Yes/No/Not Applicable – If yes, specify date and time of issuance)	
Local Ministry office (i.e. Water Inspector) notified: (Yes/No/Not Applicable – If yes, specify date and time of notification)	
Spills Action Centre notified: (Yes/No/Not Applicable – If yes, specify date and time of notification)	
Local Medical Officer of Health notified: (Yes/No/Not Applicable – If yes, specify date and time of notification)	
Local MOH instructions (if applicable):	
Common Disinfection and Repair Procedures	
Air gap maintained, once established, throughout repair process? (Yes/No): (If no, Category 1 breaks are reclassified as Category 2 breaks)	
Type of repair (clamp, cut out, etc.):	
Pipe and repair parts disinfected (required for all repairs)? (Yes/No):	
Post-repair flushing undertaken (required for all repairs, discharged to road or storm sewer)? (Yes/No):	
Disinfectant residual following post-repair flushing – must be greater than 0.20 mg/L:	
Date and time of return to normal service:	
Special Disinfection and Repair Procedures	
For Category 2 breaks, describe additional steps taken: (i.e. removal of contaminants and additional disinfection procedures)	
For Category 2 Special Cases, describe site specific plan: (if chlorine disinfection used, indicate initial concentration, contact time, final concentration and final concentration as percentage of initial concentration)	
Microbiological samples taken: (Yes/No/Not Applicable – If yes, specify dates and locations of samples)	
Form completed by:	

ATTENTION

TO: _____


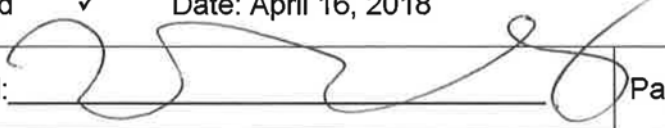
FROM: **THE Town of Marathon
WORKS & OPERATIONS DEPT.**

Please be advised that your water will be shut-off on
_____ from _____ to _____.

This interruption is due to water line maintenance.

The Town of Marathon apologizes for any inconvenience this
may cause.

Town of Marathon Guideline

 Town of Marathon	Guideline: Contingency Plan for Water Pressure Loss	Section: Works & Operations
	New <input type="radio"/> Effective: Revised <input type="radio"/> Supersedes Guideline dated: June 22, 2016 Reviewed <input checked="" type="radio"/> Date: April 16, 2018	Approval: 
Guideline No. WO0011	Page 1 of 2	

Purpose:

To establish a contingency plan in the event of a normal pressure loss in the water distribution system.

Scope:

For all employees involved in operating the water distribution system.

Guideline:

- 1 **Notify Operator-In-Charge.** Once the Works & Operations Manager or his designate is notified that there is a possibility of loss of pressure in the distribution system, he/she will notify the Water Distribution Operator in charge to begin investigative procedures.

- 2 **Assessment and corrective actions.** The Works & Operations Manager and the Water Distribution Operator in charge will assess the situation to determine which type of loss of pressure situation has occurred. There are three independent pressure zones within the distribution system: 1) Zone 1 – the main town site section, 2) Zone 2 – Penn Lake Heights subdivision, and 3) Zone 3 – the Industrial Park area. There are three types of abnormal pressure situations:
 - 2.1 Only one water service connection is affected (i.e. home owner notices a decrease in water pressure). The water distribution operator will conduct a site inspection of the property in question to determine if there is a leak in the service line supplying water to the property or the building. This task can be completed by shutting off the curb box or listening for noise (running water) in the basement of the building and/or comparing static water pressure on the plumbing in the building to static water pressure at the nearest fire hydrant. Leak detection equipment may also be used to investigate any potential leaks.

Depending on the findings the operator will determine which property the leak is located on (town property vs homeowner property). If on town property, the operator will repair the break in accordance with the contingency plan for repairing a water main/service connection break. If the leak is on the homeowner's property, the operator will describe the options available to the homeowner to correct the problem. The operator may shut off the curb stop at the property line if there is no water at the property or if there is evidence of water contamination (i.e. sand).

**Town of Marathon
Guideline**

Guideline No. WO0011

Approval: _____



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- 2.2 More than one water service connection affected. The water distribution operator will immediately inspect the water distribution system in the area where the complaints have been received to determine if any water is visible on the surface. The operator may also consider isolating sections of main to determine the location of the leak. If a leak is found the operator will repair the break in accordance with the contingency plan for water main breaks. If no leak is found, the operator will verify that the main line water valves are in the "open" position. If it is determined that one of the valves is in the closed position, the operator will open the valve in accordance with the contingency plan for turning valves.

If there is no indication as to why a loss of pressure has occurred, the operator will contact the water treatment plant operating authority (during regular business 229-1186 or the 24/7 on-call number 228-4402) to determine if there is any equipment malfunctioning regarding the well pumps or booster stations, and if the water consumption rate is outside the normal daily average for that time of year. If everything is within normal operating conditions, the water distribution operator will conduct a leak detection survey to determine where the leak is located.

- 2.3 An entire pressure zone notices a decrease in pressure. The water distribution operator will contact the water treatment plant operating authority (during regular business 229-1186 or the 24/7 on-call number 228-4402) to determine if there is any equipment malfunctioning regarding the well pumps and the booster stations. If this is the case the water treatment plant operating authority will make the necessary adjustments to either the booster stations or well pumps to restore normal water pressure.

- 3 Recordkeeping. All information will be logged by the Water Distribution Operator in the water distribution logbook. Information shall also be recorded on the water distribution plans attached to the walls in the Works & Operations Office.

Town of Marathon Guideline

Town Of Marathon 	Guideline: Contingency Plan to Disinfect Water Main Within Distribution System	Section: Works & Operations
	New <input type="checkbox"/> Effective: <u>June 25, 2015</u> Revised <input checked="" type="checkbox"/> Supersedes Guideline dated: <u>March 23, 2004</u> Reviewed <input type="checkbox"/> Date: _____	
Guideline No. WO0013	Approval: 	Page 1 of 4

PURPOSE:

To establish a contingency plan to disinfect an isolated water main within the water distribution system.

SCOPE:

For all town employees who maintain and operate the water distribution system.

PLEASE NOTE:

The installation of new water mains is always contracted out, and will not be performed by the staff of the Town of Marathon. The contractor responsible for installing any new water mains in the area will be required to provide details regarding the steps that will be taken to prevent contamination of, and properly disinfect, the new main.

GUIDELINE (PROCEDURE):

There are two events where the water distribution system will be required to be disinfected:

- 1) Repair of an existing water main
- 2) After a swabbing or pigging event

The following procedures apply primarily when existing mains are wholly or partially dewatered.

1. The chlorine contact time and dosage of FAC (free available chlorine) will be 100 mg/l of FAC for a 3 hour contact period.
2. In both cases, calcium hypochlorite will be used as the disinfection agent. Contact with organic material or high temperatures will be avoided due to the danger of fire or explosion.
3. The disinfection agent will enter into the isolated water main through the means of a fire hydrant and will be allowed to fill the water main from only one direction. Also, water will be discharged from only one fire hydrant.

Town of Marathon Guideline

Guideline No. WO0013	Approval: 	Page 2 of 4
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4. All staff involved in the disinfection process will thoroughly review this plan and any other applicable plans and guidelines, prior to commencing work. They will provide their signature in the water distribution logbook to verify this.

5. The following steps are to be followed:
 - Once the maintenance work plan has been finalized, the water distribution operator will immediately notify the affected water users of the maintenance activity, and once the maintenance work has been completed, a boil water advisory be put in effect until further notice. The event will be communicated by means of delivering the standardized notification form to the affected customers. The Works and Operations secretary will have a digital copy of this form on file.

 - The water distribution operator in charge will isolate the section of water distribution system that requires disinfecting. This task will be completed by turning isolation valves to the "off" position in accordance with the contingency plan for main line water valve operation: Policy No. WO0014.

 - Once all the users are notified, the volume of both the isolated water main, and the water within it, will be determined.

 - Completely fill the main to eliminate any air pockets. When this is achieved commence preliminary flushing of the main, in accordance with the guideline for the flushing water mains (Policy No. WO0018), to remove any dirt or debris. Preliminary flushing should be accomplished at a rate of at least 0.762m/s (2.5ft/s). Table 1 of Schedule 'A' provides the flow rates required to obtain the required velocity in various pipe sizes.

 - The flow rate between the isolated water main and the discharge fire hydrant will be calculated. This can be done with the use of flow meters, measuring the time required to fill a container of a known volume, or by measuring the trajectory of the flow from the discharge fire hydrant (the appropriate calculation is provided in Equation 1 of Schedule 'B').

 - The flow rate of the disinfection injection pump will be calculated. The appropriate calculations are provided in Equations 2a), 2b), and 2c) of Schedule 'B'.

 - The amount of calcium hypochlorite required will be determined. Table 2 of Schedule 'A' provides the minimum volumes of hypochlorite necessary to achieve an initial chlorine dose of 100mg/L in 100ft of main; Equation 3 of Schedule 'B' provides a formula to determine the amount of hypochlorite necessary. A premixed 65% calcium hypochlorite solution is often used for disinfection of the distribution system. This step can be omitted if a premix solution is used.

 - Mix the calcium hypochlorite and water in the mixing barrel.

Town of Marathon Guideline

Guideline No. WO0013

Approval: _____

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- At a point no more than 3m (10ft) downstream from the main, commence injection the calcium hypochlorite solution into the main.
- As the "slug" passes tees, crosses, etc. valves must be operated to ensure their disinfection.
- The FAC must be regularly measured as the "slug" flows through the main. If at any time the FAC drops below 50mg/L, the flow shall be stopped, and the disinfection injection pump shall be relocated to the head of the slug. As flow resumes, chlorine shall be applied to restore the FAC to 100mg/L.
- Allow the heavily chlorinated water to flow into the isolated water main until it is full, as indicated by a discharge through an outlet at the end of the section. Verify that the water being discharged has a FAC of 50mg/L. If this cannot be verified, additional chlorine shall be added to the system until a residual of 100mg/L is obtained in the water being discharged from the exit hydrant.
- Shut down injection system.
- Allow the isolated water main to sit for the required contact period of 3 hrs.
- Once the contact time period has expired, de-chlorinate or dilute the chlorinated water if necessary. This may be required if it is not possible to discharge the highly chlorinated water to the sanitary sewer system. The appropriate doses of common neutralizing chemicals used for this purpose are provided in Table 3 of Schedule 'A'.
- If neither de-chlorination nor dilution is necessary, discharge the chlorinated water into a sanitary sewer collection system. Approval must be obtained from the operators of the Water Pollution Control Plant prior to this discharge to ensure the treatment system is capable of handling the increased load; the volume of water to be discharged must be provided at this time.
- Highly chlorinated water shall be flushed from the main until chlorine residual measurements show that the chlorine residual concentration in the water leaving the main is no higher than that generally prevailing in the distribution system. The time anticipated to discharge this water can be estimated based on both the volume of the isolated main and the flow at the exit hydrant. The first chlorine residual test shall take place after the anticipated discharge time.
- Position the isolation valves in the open position in accordance with the contingency plan for main line water valve operations: Policy No. WO0014.

Town of Marathon Guideline

Guideline No. WO0013

Approval: _____

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- Four (4) water distribution bacteriological samples will be taken immediately at the disinfected section of the water distribution system.
 - upstream of the disinfected water main
 - downstream of the disinfected water main
 - 2 from water services connection within the disinfected water mainThese water samples will be sent to an accredited laboratory for analysis. Presently, the accredited laboratory is Enviro-Test in Thunder Bay
- Once positive water samples are received indicating that the water is safe for consumption, the standardized notification form will be used to officially notify the water users affected that the water is safe for consumption. The Works and Operations secretary will have a digital copy of this form on file.
- The water distribution operator will record all pertinent information regarding the disinfectant event in the water distribution logbook. Information will also be recorded on the water distribution plans attached to the walls in the Works and Operations Office.

**Town of Marathon
Guideline
SCHEDULE 'A'**

Table 1: Flow Required for Various Flushing Velocities

Pipe Size		Pipe Area		Flow Required for a Given Velocity					
				1ft/s (0.305m/s)		2.5ft/s (0.762m/s)		5 ft/s (1.524m/s)	
in	cm	gpm	L/s	gpm	L/s	gpm	L/s	gpm	L/s
2	5.08	0.02	0.001	10	0.63	25	1.60	50	3.20
4	10.16	0.09	0.008	40	2.50	100	6.30	200	12.60
6	15.24	0.20	0.019	90	5.70	220	13.90	440	27.80
8	20.32	0.35	0.033	155	9.80	390	24.60	780	49.20
10	25.4	0.55	0.051	245	15.50	610	38.50	1220	77.00
12	30.48	0.79	0.073	350	22.10	880	55.50	1760	111.00
14	35.56	1.07	0.099	480	30.30	1200	75.70	2400	151.40
16	40.64	1.40	0.130	625	39.40	1570	99.10	3140	198.10

Table 2: Hypochlorite Required per 100 FT of Main

Pipe Size		Total Pipe Volume		Hypochlorite Solution				Hypochlorite Granules	
				Dose 100mg/L	Dose 300mg/L	Dose 100mg/L	Dose 300mg/L	Dose 100mg/L	Dose 300mg/L
in	cm	gal	L	Gal of 5%		Gal of 12.5%		Ounces of 65%	
2	5.08	16.30	61.70	0.03	0.10	0.01	0.04	0.33	1.00
4	10.16	65.30	247.19	0.13	0.39	0.05	0.16	1.30	4.00
6	15.24	147.00	556.46	0.29	0.88	.012	0.35	3.00	9.00
8	20.32	261.00	987.99	0.52	1.60	0.21	0.63	5.40	16.10
10	25.40	408.00	1544.45	0.82	2.40	0.33	0.98	8.40	25.10
12	30.48	587.00	2222.04	1.20	3.50	0.47	1.40	12.10	36.20
16	40.64	1044.00	3951.97	2.10	6.30	0.84	2.50	21.40	64.30

*Note: 5% chlorine solution = 50 000ppm or mg/L free chlorine

Table 3: Amounts of Chemicals Required to Neutralize Various Residual Chlorine Concentrations in 100 000 gal (378.5m³) of Water

Residual Chlorine Concentration mg/L	Sulfur Dioxide (SO ₂)		Sodium Bisulfite (NaHSO ₃)		Sodium Sulfite (Na ₂ SO ₃)		Sodium Thiosulfate (Na ₂ S ₂ O ₃ •5H ₂ O)	
	lb	kg	lb	kg	lb	kg	lb	kg
1	0.80	0.36	1.20	0.54	1.40	0.64	1.20	0.54
2	1.70	0.77	2.50	1.13	2.90	1.32	2.40	1.09
10	8.30	3.76	12.50	5.67	14.60	6.62	12.0	5.44
50	41.70	18.91	62.60	28.39	73.00	33.11	60.0	27.22

**Town of Marathon
Guideline
SCHEDULE 'B'**

Equation 1: Flow Required for Various Flushing Velocities

$$Q = \frac{2.83 \times d^2 \times l}{\sqrt{h}}$$

Q = Flow (gpm) d = Pipe Diameter (in)

l = Distance between the discharge point, and the point where the discharging water hits the ground surface (in).

h = Height between the discharge stream and the ground surface (in). Height is measured from the middle of the width of the trajectory.

Equation 2: Flow Rate of the Disinfection Pump

a) Time required to fill the isolated main; this is also the injection time.

$$T_{\text{fill}} = \frac{V_{\text{main}}}{Q_{\text{fill}}} = T_{\text{injection}}$$

T = Time (min) V = Volume (gal)

b) Chlorine feed rate assuming 100% available chlorine

$$Q_{\text{fill}}(\text{gpm}) = 1440 \frac{\text{min}}{\text{day}} \times \frac{1 \text{ day}}{24 \text{ hours}} \times \frac{1 \text{ MG}}{1 \times 10^6 \text{ gal}} \times \frac{8.34 \text{ lb}}{\text{gal}} \times \frac{100 \text{ mg}}{\text{L}} = \text{Cl}_{\text{feed}}(\text{lb/h})$$

c) Convert Cl_{feed} to $\text{Ca-Hypo}_{\text{feed}}$.

$$\text{Ca - hypo}_{\text{feed}} = \frac{\text{Cl}_{\text{feed}}(\text{lb/h})}{\frac{(\% \text{ available chlorine})}{100}}$$

Equation 3: Minimum Amount of Hypochlorite Solution to Treat One Pipe Volume with an Initial Chlorine Dose of 100mg/L

$$V_{\text{Cl-sol}} = \frac{100 \text{ mg/L}}{\text{Conc}_{\text{Cl-sol}}} \times V_{\text{main}}$$


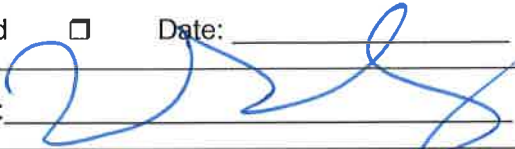
$V_{\text{Cl-sol}}$ = Volume of calcium hypochlorite solution (gal).

$\text{Conc}_{\text{Cl-sol}}$ = Concentration of chlorine hypochlorite solution in mg/L

V_{main} = Volume of the main (gal).

Please note, a 1% solution contains approximately 10,000 ppm, or 10,000 mg/L of free available chlorine. Table 2 in Schedule 'A' provides a summary of common values.

Town of Marathon Guideline

Town Of Marathon 	Guideline: Contingency Plan for Main Line Water Valve Operations	Section: Works & Operations
	New <input type="checkbox"/> Effective: <u>June 30, 2015</u> Revised <input checked="" type="checkbox"/> Supersedes Guideline dated: <u>June 27, 2003</u> Reviewed <input type="checkbox"/> Date: _____	
Guideline No. WO0014	Approval: 	Page 1 of 1

Purpose:

To establish a contingency plan in the event of main line water valve operations.



Scope:

For all employees involved in operating main line water valves.

Guideline:

- 1) Determine which main line water valves need to be operated by the Works and Operations Manager or his/her designate and the water distribution operator.
- 2) The water distribution operator and crew will deliver standardization notification forms to all residents affected if the valve operations is for the purpose of valve maintenance.
- 3) Before valve maintenance operations take place, the closest downstream fire hydrant from this valve to be operated will be opened and allowed to run until the valve operation has ended.
- 4) If a valve is to be operated for isolating purposes, Steps 2 & 3 can be omitted.
- 5) If a valve is to be operated for isolation purposes, a fire hydrant will be opened downstream of the valve before re-opening the valve.
- 6) A visual inspection as well as an operational inspection will be recorded on the valve maintenance forms.
- 7) All information will be logged by the Water Distribution Operator in the water distribution logbook. Also, information will be recorded on the water distribution plans attached to the walls in the Works & Operations Office.

Town of Marathon Guideline

Town Of Marathon 	Guideline: Contingency Plan for Flushing Hydrants	Section: Works & Operations
	New <input type="checkbox"/> Effective: <u>June 30, 2015</u> Revised <input checked="" type="checkbox"/> Supersedes Guideline dated: <u>June 27, 2003</u> Reviewed <input type="checkbox"/> Date: _____	
Guideline No. WO0015	Approval: 	Page 1 of 1

Purpose:

To establish a contingency plan for flushing hydrants.


Scope:

For all employees involved in flushing fire hydrants.

Guideline:

- 1) The Works & Operations Manager and the water distribution operator will determine which fire hydrants will be flushed.
- 2) If there is an isolating valve, it will be operated first to ensure proper operation.
- 3) If there is no isolating valve then a 2 ½ gate valve will be put on the hydrant before operating.
- 4) A water diffuser will be used where ever possible, if not practical then a 2 ½ fire hose will be installed prior to hydrant operations.
- 5) While flushing occurs, a general inspection can be carried out on the hydrant; both physical and operational inspections will be carried out.
- 6) When flushing is complete, all such information will be recorded in the hydrant maintenance log books and on the water distribution system maps on the wall in the Works & Operations Office.

Town of Marathon Guideline

Town Of Marathon 	Guideline: Contingency Plan for Thawing A Frozen Hydrant	Section: Works & Operations
	New <input type="checkbox"/> Effective: <u>May 26, 2017</u> Revised <input checked="" type="checkbox"/> Supersedes Guideline dated: <u>January 30, 2012</u> Reviewed <input type="checkbox"/> Date: _____	
Guideline No. WO0016	Approval: _____	Page 1 of 1

Purpose:

To establish a contingency plan in the event of a frozen fire hydrant.

Scope:


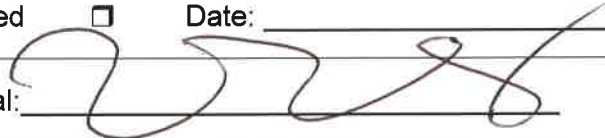
For all employees involved in the repair of a frozen fire hydrant.

Guideline:

- 1) Once the Works & Operations Manager or his/her designate is notified that there is a possibility of a frozen fire hydrant, he/she will notify the water distribution operator in charge of the possible problem.
- 2) An inspection of the hydrant site will take place with the Works & Operations Manager and the water distribution operator to assess the situation and develop a work plan. The plan shall include the size of the crew, equipment needed, notification required, needed materials, etc.
- 3) The work crew shall close the isolating valve to the hydrant (if there is one on that hydrant).
- 4) The work crew shall assemble all needed equipment and begin thawing.
- 5) Once thawing is complete the fire hydrant will be flushed to ensure proper operation and to rid the hydrant barrel of any ice accumulations.
- 6) The hydrant will then be allowed to drain and if this doesn't occur, then the hydrant barrel will be pumped dry to prevent further freezing.
- 7) Inspection of the hydrant for external cracks or any other damage will then take place.
- 8) If the fire hydrant is to be out of service for an extended period, the emergency services department must be notified by the water distribution operator.
- 9) Take a chlorine residual, and record the results.
- 10) All such work will be logged by the water distribution operator in the distribution log book and also recorded on the water distribution plans located on the wall in the Works & Operations Office. A "Water Distribution System Repairs Form" must be filled out and filed accordingly.



Town of Marathon Guideline

Town Of Marathon 	Guideline: Contingency Plan for Swabbing and Pigging a Water Main	Section: Works & Operations
	New <input type="checkbox"/> Effective: <u>May 26, 2017</u> Revised <input checked="" type="checkbox"/> Supersedes Guideline dated: <u>April 22, 2013</u> Reviewed <input type="checkbox"/> Date: _____	
Guideline No. WO0017	Approval: 	Page 1 of 2

Purpose:

To establish a contingency plan in the event of swabbing and pigging a water main.

Scope:


For all employees involved in swabbing and pigging water mains.

Guideline:

- 1) The Works and Operations Manager or his/her designate and the water distribution operator will determine when swabbing and pigging of the distribution system is required. The decision to swab will be based on distribution system conditions and whether it is required to correct a problem or aid in the distribution flushing and maintenance procedure.
- 2) The work crew will deliver the standardized notification forms to the affected residents. The Works and Operations Secretary will have a digital copy of this form on file.
- 3) All staff involved in the pigging and swabbing process will thoroughly review this plan and any other applicable plans and guidelines, prior to commencing work. They will provide their signature in the water distribution logbook to verify this.
- 4) Isolate the line to be cleaned.
- 5) Remove all internal workings of the insert fire hydrant. Ensure these components are handled carefully to avoid potential contamination. Install the equipment necessary to insert the swab or pig. Ensure that the right size and an adequate supply of swabs and pigs are on hand.
- 6) Isolate and remove all internal workings of the exit fire hydrant. Ensure these components are handled carefully to avoid potential contamination.
- 7) Turn on the water to determine the direction of flow.
- 8) Run a full size bare swab to verify the direction of flow.




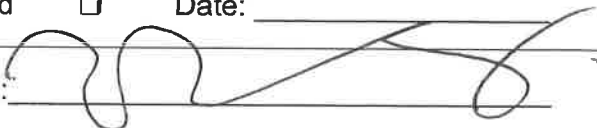
Town of Marathon Guideline

Guideline No. WO0017	Approval: 	Page 1 of 2
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- 9) Run a bare squeegee unit through the main. Measure the diameter of the unit upon exiting to determine the "true size" of the pipe.
- 10) Introduce a crisscross type unit (pig) into the main, which will just fit the main's "true size".
- 11) Run a full size bare swab behind the pig to ensure a tight seal.
- 12) Continue this process until a unit is discharged from the main in reusable condition.
- 13) Increase the size of the pig in 1-inch (2.54 cm) increments until the units measure the same size as the main pipe diameter. The swab and pig should be run through the main at least 3 times in each section of pipe being cleaned.
- 14) Run a full sized bare swab to remove any loose debris.
- 15) Disinfect the section of pipe that was cleaned in accordance with the contingency plan for disinfecting water mains within the distribution system: Policy No. WO 0013.
- 16) When the main is re-energized, flush out hydrants to ensure removal of debris.
- 17) Replace the internal components of both the insert and exit hydrants. If they have been exposed to a potential contaminant disinfect all of the components using 12% sodium hypochlorite prior to replacement.
- 18) Reopen all valves that were used to isolate the section of the main line.
- 19) Take a chlorine residual, and record the results.
- 20) Record all such information in the water distribution logbook, and on the wall maps located in the Works and Operations Office. A "Water Distribution System Repairs Form" must be filled out and filed accordingly.



Town of Marathon Guideline

Town Of Marathon 	Guideline: Guideline for the Flushing of Water Mains	Section: Works & Operations
	New <input type="checkbox"/> Effective: <u>June 24, 2019</u> Revised <input checked="" type="checkbox"/> Supersedes Guideline dated: <u>June 30, 2015</u> Reviewed <input type="checkbox"/> Date: _____	
Guideline No. WO0018	Approval: 	Page 1 of 2

Purpose:

To establish a guideline for regular water main flushing.

Scope:

For all town employees involved in water main flushing.

Please Note:


The distribution system has been divided into three distinct sections, as indicated on the attached map. All of the lines in one of these section will be flushed annually, ensuring that every area of the distribution system is flushed every three years. In addition to this, all known problem areas and dead ends will be flushed on an annual basis. This work will be distributed between the spring and fall of each year.

Guideline:

- 1) The Works and Operations Manager, or his/her designate, and the water distribution operator will determine which of the three areas should be flushed.
- 2) Determine which section(s) will be flushed and if valves need to be closed in that area. All valves will be opened and closed in accordance with the contingency plan for main line valve operation: See Standard Operating Procedure WR072 (inserted).
- 3) The licensed water distribution operator will choose which crew members will be involved in this work. Each participating crew member will thoroughly review this plan, and any other applicable plans and guidelines prior to commencing work.
- 4) Once a crew has been assembled, the standardized notification forms may be delivered to all affected residents. The Works & Operations Secretary will have a digital copy of the form on file.
- 5) Start at a source of supply and work outward in the distribution system.

Town of Marathon

Guideline

Guideline No. WO0018	Approval: 	Page 2 of 2
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- 6) Open the fire hydrant(s) necessary to commence flushing. The recommended flushing velocity is 2m/s. Table 1 of Schedule 'A' provides the flows necessary to achieve this velocity in common sizes of pipe.
- 7) (a) If possible, direct all discharged water to the sanitary sewer system. A fire hose should be utilized for this purpose. The Water Pollution Control Plant (WPCP) must be notified in advance of any discharge to the sanitary sewer system; an estimate of the total volume of water to be discharged must be provided to the WPCP to ensure the treatment system can handle the load.

(b) If it is not possible to discharge to the sanitary sewer system, a diffuser of fire hose should be utilized to minimize erosion. All water discharged should be directed away from any surface water in the area (lakes, streams, and creeks).
- 8) Flushing should continue for at least 5 minutes, but preferably 10 minutes if possible. Flushing should not cease when there is a visible colour in the water being discharged.
- 9) Notice should be taken to the water clarity and odor both at the beginning and the end of the flushing period. These observations should be recorded in the water distribution system logbook.
- 10) After flushing is complete, slowly close the hydrant after main line water valves have been reopened. This procedure should be repeated until each of the distribution lines in a given section, and all problem area and dead ends, have been flushed.
- 11) All information shall be recorded in the water distribution system logbook, and on the wall maps and binders in the Works and Operations Office.

Town of Marathon Guideline

CORPORATION OF THE TOWN OF MARATHON SCHEDULE 'A'

Table 1: Flow Required to Produce a Velocity of 2m/s (6.56ft/s)

Pipe Size		Pipe Area		Required Flow	
in	cm	ft ²	m ²	gpm	L/s
2	5.08	0.02	0.001	31.70	2.00
4	10.16	0.09	0.008	253.61	16.00
6	15.24	0.20	0.019	602.31	38.00
8	20.32	0.35	0.033	1046.12	66.00
10	25.40	0.55	0.051	1616.73	102.00
12	30.48	0.79	0.73	2314.15	146.00
14	35.56	1.07	0.099	3138.36	198.00
16	40.64	1.40	0.130	4121.08	260.00

ATTACHED: SOP WR072



WORKS & OPERATIONS STANDARD OPERATING PROCEDURE

Water Distribution Valve

Procedure WR072

Page 1 of 2

Purpose

To provide a Standard Operating Procedure for Water Distribution Valve

Scope

The procedure applies to all Town of Marathon Licensed Water Operators

Procedure

CLOSE VALVE

- 1) Locate valve casing
- 2) Remove cap with standard screw driver or pry tool (take care to prevent debris from entering casing)
- 3) Operating nut should be visible using a light ► if nut is not visible you must determine which valve key is required
 - Visible Nut - Short Key
 - Non Visible Nut - Long Key
- 4) Determine key to be used and slide key into valve casing
- 5) When valve key touches operating nut it is possible for them to be aligned ► **if not make a ¼ turn in each direction to align** (will drop about 1 ½" and lock together when aligned)
- 6) When valve key and operating nut are aligned ► **slowly and cautiously** turn valve key handle **counter clock wise** to shut water (multiple turns required to close a mainline valve)
- 7) Valve key will stop turning ► now apply some **force to ensure** valve is closed ► check downstream in distribution for pressure (may require turning valve **counter clock wise a couple of times and then clock wise** to get valve to seat properly)
- 8) When there is no pressure downstream ► **valve is closed**

Approved by:

Issue Date:
June 8, 2017

Revision Date:



**WORKS & OPERATIONS
STANDARD OPERATING PROCEDURE**

Water Distribution Valve

Procedure WR072

Page 2 of 2

OPEN VALVE

Repeat Steps 1 – 5 above

- 6) When valve key and operating nut are aligned ► **slowly and cautiously** turn valve key handle **counter clock wise**
- 7) Once valve is fully open ► **turn Operating Nut one full turn clock wise**
(valve is less likely to cease in the open position this way)
- 8) Remove valve key and replace cap

Precautions

In order to prevent water hammer ► **slowly and cautiously** turn valve **key handle**

Personal Protective Equipment required

1. Safety glasses
2. CSA Boots

Approved by:


Issue Date:
June 8, 2017

Revision Date:

Town of Marathon



Town of Marathon Guideline

Town Of Marathon 	Guideline: Contingency Plan for a Toxic Chemical Spill	Section: Works & Operations
	New <input type="checkbox"/> Effective: <u>June 22, 2016</u> Revised <input checked="" type="checkbox"/> Supersedes Guideline dated: <u>January 30, 2012</u> Reviewed <input type="checkbox"/> Date: _____	
Guideline No. WO0019	Approval: 	Page 1 of 4

Purpose:

To establish a contingency plan in the event of a toxic chemical spill.

Scope:

For all employees involved in the containment and clean up of a toxic chemical spill.

Guideline:

- 1) Notify the Emergency Services Dispatch of the spill. Call 911. At the time of the call provide as much of the following information as possible:
 - o Your name, address, and telephone number.
 - o Location spill occurred.
 - o Product identification of spill material (if known) Time of occurrence, and quantity of spill.
 - o Direction of movement of spill (toward roadway, sewer, stream)
 - o Any spill cleanup, or containment actions initiated.

- 2) The Emergency Services Dispatch will then notify the Town Manager. Call 229-1340, after hours call 229-6125. The Town Manager will in turn notify the Works and Operations Manager, and/or his designate.

- 3) The Works and Operations Manager, or his designate will contact the Water Treatment Operating Facility. Call 1-807-228-4402.

- 4) The Water Treatment Operating Facility will then shut off all of the municipal wells and put water from the reservoir into the distribution system.

- 5) The Works and Operations Manager, or his designate will call the Spills Action Centre (SAC) to notify the Ministry of Environment of the Spill. Call 1-800-268-6060. The information provided to the Emergency Services Dispatch will be passed on the SAC at this time.

- 6) The Works and Operations Manager, or his designate will notify the local chapter of the Ministry of Environment. Call 1-800-875-7772.

Town of Marathon Guideline

Guideline No. WO0019	Approval: 	Page 2 of 4
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- 7) The Works and Operations Manager, and/or his designate, will notify CANUTEC if the spill was the result of an incident involving a vehicle or rail car.

- 8) The Works and Operations Manager, or his designate will notify CP Rail if the spill or containment area is in the vicinity of the rail way. Call 1-800-716-9132.

- 9) The SAC will provide instructions regarding spill containment, and further contact procedures. The SAC will also tell the Works and Operations Manager, and/or his designate if the spill poses a threat to the municipal groundwater supply.

- 10) The Works and Operations Manager, and/or his designate will form a crew of municipal employees to assist in spill clean up and containment. The following equipment is available for this purpose:

<u>Fire Hall</u>	Spills Kit: absorb-all, vermiculite, oil absorbent pads, Scott air packs.
Call Emergency Services Dispatch: 911	Water Tanker (1500 USG)
	Air Compressor (fixed, not portable)
	Hydrant Relief Valve
	Line Locator (AC voltage only)
	Confined Space Equipment (not in use)

<u>Works & Operations Department</u>	Laborers
As per Call Out List	Dump Truck (5 ton)
	Back Hoe
	Leak Detector
GFL Environmental – 1-888-213-2220	Pumper Truck Certified to handle all types of chemical spills, but will take a minimum of 3 hours to respond.
Phils Pumping Service - 229-2606	Pumper Truck

- 11) If the SAC determines the spill does pose a threat to the municipal groundwater supply, the Works and Operations Manager, and/or his designate, will notify the Medical Officer of Health (MOH). Call 1-888-294-6630.

- 12) The MOH will provide instructions regarding the Municipal Water System.

- 13) If the MOH determines the municipal wells should be removed from service, the Works and Operations Manager, or his designate will contact the Water Treatment Facility Operating Authority. Call 1-807-229-1186 / 1-807-228-4402.

Town of Marathon Guideline


Guideline No. WO0019	Approval: 	Page 3 of 4
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- 14) If it appears that the system will be out of use for a significant length of time the Works and Operations Manager, or his designate will contact a bottled water supplier to arrange for bottled water to be brought in to supply the Town.
- 15) The Works and Operations Manager, and/or his designate will inform the citizens of Marathon by advertising the emergency situation. The following message will be broadcast on the local radio station and on the community TV channel:

"To the Citizen's of Marathon: Due to a chemical spill, the municipal drinking water wells have been shut down until further notice. As a result, restrictions to municipal water use have been imposed. Nonessential use must be discontinued until the situation is resolved. Thank you for your co-operation."
- 16) A licensed water quality analyst will then collect groundwater samples as per the instructions of the MOH and MOE. The water samples will be sent to an accredited laboratory for analysis.
- 17) Once positive results have been received indicating that the water is safe for consumption and aquifer is no longer in immediate danger of contamination, the Works and Operations Manager, and/or his designate will notify the Medical Officer of Health (MOH) and the Ministry of Environment. These organizations will provide instructions as to whether or not the municipal wells can be put back into service.
- 18) Once deemed safe by both the MOH and the MOE the Works and Operations Manager, or his designate will contact the Water Treatment Facility Operating Authority to put the municipal wells back into service. Call 1-807-229-1186 / 1-807-228-4402
- 19) The Works and Operations Manager, or his designate will then inform the public by advertising as per #13 above, with the following message:

"Citizens of Marathon: as of (date) and (time) the municipal wells in the community have been put back into service. Water use may commence as usual. Thank you for your co-operation."
- 20) Ensure that all actions taken as a result of the spill are accurately recorded in the Water Operating Authority logbook. This includes:
 - a. The time of the occurrence, type of material spilled, and the name and capacity of the individual reporting the spill event.
 - b. The name of all organizations notified of the spill, the individual who was notified and their capacity, and the time notification was made.
 - c. All actions taken to stop, contain, clean up the spill and suppress any related fires; the time that these actions were initiated, and the organization that provided instructions as to what actions should be taken.
 - d. All laborers, equipment, and contractors utilized in the spill clean up and containment.
 - e. If applicable, the sixth copy of the waste manifest form, once returned by the receiver, should also be kept on file to provide evidence that any hazardous materials removed from the site were received by a company certified to accept those wastes.
- 21) A complete emergency contact listing is provided on Page 4.

Town of Marathon Guideline

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Contact	Phone Number
Northern Waterworks Inc.	1-(807)- 229-1186 After Hours 1-(807)-228-4402
Medical Office of Health	1-(888) 294-6630 / 1-(807) 625-5900
Ministry of the Environment	1-(800)-875-7772
MOE Spills Action Centre	1-(800)-268-6060
CANUTEC	1-(613)-996-6666/ 1-888-CANUTEC
Town of Marathon	1-(807)-229-1340 (229-6125 after hours)
CP Rail	Network Management Centre 1-(800)-795-7851 Police Communication Centre 1-(800)-551-2553
Police Department (OPP)	911
Fire Department	911
Ministry of Transportation	1-(807)-473-2000
GFL Environmental	1-(807)-939-2994 / 1-(888)213-2220