

March 1, 2022

Wet Tap Procedure for Engineering & Construction Services Contracts

Effective Date: March 1, 2022

Effective March 1, 2022, Toronto Water will not be providing licensed operator's to witness wet taps on newly tendered contracts. Contractor's licensed operator shall perform wet taps undertaken on all projects administered by Engineering & Construction Services. All contractors are required to comply with this protocol by following the process set out below.

Wet Tap Planned Work Procedure

1. The Contractor shall perform wet taps according to TS 7.30 and Toronto Water's Safe Operating Procedure on Wet Taps.
2. The Contractor shall use their own licensed staff to perform wet taps or hire a licensed sub-contractor to witness the wet tap.
3. The Contractor shall complete the *Wet Tap Witness Form* and provide a copy to the Contract Administrator or City designated field staff by the end of the Working Day.
4. After receiving the *Wet Tap Witness Form* from the Contractor and confirmation with the site inspector, the Contract Administrator or City designated field staff shall enter the information into the Wet Tap App within 24 hours.

Important Wet Tap Procedures

1. The Contractor shall ensure that the following minimum procedure is performed at every wet tap location and shall be prepared to ensure that the Certified Operator can verify the activities:
 - Ensure all PVC surfaces have been cleaned and all mud and debris has been removed.
 - When tapping into an iron water main choose a smooth and clean surface to tap, do not tap into a surface that is discoloured or has deep scratches.
 - Safely clean the exterior of the iron water main of rust, mud and debris using a scalar if necessary.
 - Using a minimum of 5% sodium hypochlorite solution, disinfect the exterior of the water main and all pieces that may come into contact with drinking water, including but not limited to:
 - the main stop
 - drill bit
 - saddle
 - The sodium hypochlorite can be administered by spraying it or wiping down the parts with a saturated rag.
 - Ensure that the disinfected parts do not become dirty or contaminated prior to use. Shall they become contaminated, re-disinfection using sodium hypochlorite solution must be performed.
2. For your reference we attach a copy of Toronto Water's Safe Operating Procedure on Wet Tapping of Watermains.

Need more information?

The City has created supplementary specification WM214SS - *Wet and Dry Tapping*. This supplementary specification can be found in Part 3, Drawings and Specifications of the Contract Documents. This supplementary specifications amends TS 7.30 and WM203SP.

If you have any other questions about these new requirements in relation to a specific construction contract, please contact the Engineering & Construction Services Contract Administrator for that contract.

Wet and Dry Tapping – WM214SS

Supplementary Specification

February 28, 2022

Amendment to TS 7.30, September 2020

TS 7.30.07 CONSTRUCTION

TS 7.30.07.03.01 Tapping

Clause 7.30.07.03.01 of TS 7.30 is amended by the addition of the following paragraph:

The Contractor shall perform Wet Taps using their own licensed staff. Contractor may hire a licenced sub-contractor to witness Wet Taps. A person with a P.Eng. only is not acceptable as a qualified person.

Contractor shall supply certificate number of qualified person according to www.OWWCO.ca . Contractor shall enter the information and complete the Wet Tap Witness Form and provide a copy to the Contract Administrator by end of the Working Day.

Contract Administrator shall verify if person is a qualified person according to www.OWWCO.ca. After receiving the Wet Tap Witness Form from the Contractor and confirmation with the site inspector, the Contractor Administrator shall enter the information into the Wet Tap App within 24 hours.

Amendment to WM203SP, September 2018

Small Diameter Water Service Installation – WM203SP

Installation of Small Diameter Water Services

Section Installation of Small Diameter Water Services is amended by the deletion of the third sentence and replacing with the following:

Water service connections, 50 mm and smaller shall be connected to the new watermain under pressure, that is to say wet tapping.

Contractor may "dry tap" water services negating the use of license staff. Dry tapping shall only be performed during mainline construction only.

Purpose

The purpose of this procedure is to specify the steps and safety requirements for wet tapping of water mains. It is used for the direct tapping of water mains and the insertion of main stops under pressure.

Hazards

Stored energy from the live water main	Exposure to chemicals (sodium hypochlorite)
Musculoskeletal stress	Slips, trips and falls
Excavation hazards	Heat/cold stress

Training

All personnel completing this task shall be trained in the following:

- trenching and excavating
- working around underground utilities
- confined space entry;
- proper use of tapping machinery required to complete this task; and,
- emergency procedures, including first aid;

Responsibilities

Workers shall:

- work in accordance with legislative requirements, this procedure, and manufacturers instructions for equipment used for this task;
- attend all relevant training and apply the knowledge gained in the performance of their work;
- use or wear all equipment required to safely perform their work;
- report any violations, hazards or deficiencies in equipment to their immediate supervisor without delay; and,
- follow established procedures in the event of an incident, injury or emergency.

Supervisors shall:

- be familiar with applicable legislative requirements and this procedure;
- be familiar with the actual and potential hazards associated with this task;
- ensure that all workers assigned to complete this task have been provided with instructions and training in this procedure and applicable tools;
- ensure that all workers use or wear required safety equipment when performing this task;

- monitor staff to ensure procedures are followed; and if violations occur, that appropriate action be taken; and,
- take every reasonable precaution to protect worker health and safety.

General Steps and Safety Control Measures

1. Expose the water main and install a shoring box into the excavation, as per Safety Procedures SP14 – Trenching and Excavating. Choose a smooth and clean surface of the water main to tap, do not tap into a surface that is discoloured or has deep scratches.
2. Safely clean the exterior of the water main of rust, mud and debris using a scaler.
3. Using a minimum of 5% sodium hypochlorite solution, disinfect the exterior of the water main and all pieces that may come into contact with drinking water, including but not limited to:
 - the main stop
 - drill bit
 - saddle

The sodium hypochlorite can be administered by spraying it or wiping down the parts with a saturated rag. Wear rubber or nitrile gloves and safety goggles when handling the chemical, and other applicable protective clothing to prevent chemical exposure to the skin. Refer to the MSDS for more information and First Aid instructions.

4. Ensure that the disinfected parts do not become dirty or contaminated prior to use. Shall they become contaminated, re-disinfection using sodium hypochlorite solution must be performed.
5. Install and tighten the appropriate sized saddle around the water main and tighten. The saddle should be installed so that the main stop is at a 1 or 2 o'clock angle from the main.
6. Insert the main stop to the saddle and tighten.
7. Remove the main stop nut and turn the main stop to the open position.
8. Attach the tapping machine to the water main or main stop and tighten with a wrench.
9. Advance the boring bar until the drill bit/cutter is in contact with the water main.
10. Continue to slowly advance boring bar by hand, drilling through the exterior of the main until no resistance is felt when advancing the boring bar, then stop immediately.
11. Slowly retract the boring bar; maintain pressure while reversing it and proceed at a slow pace. The stored energy from the water main can cause significant injury and/or damage injury. Workers must position themselves so that they are not facing the main stop.
12. Shut the main stop off by turning it to the off position.
13. Safely remove the tapping machine from the main stop.
14. Ensure there are no leaks in the tapping saddle or the main stop.

15. Proceed to make service connection.

Associated Safety Procedures

Observe all other safety procedures for associated operations including but not limited to:

- SP14 – Trenching and Excavating
- SP15 – Work Around Underground Utilities
- SP09 – Confined Space Entry

Legislative Requirements

Occupational Health and Safety Act, RSO 1990

Ontario Regulation 632/05

Regulation for Construction Projects, Reg. 213/91, amended to O. Reg. 628/05

Photos

Water Main Tapping Tool.

