Appendix G

Valve Operation Protocol

Interim Valve Protocol for Toho Engineering & Inspection Services

Purpose:

The purpose of the Valve Exercise Protocol is to ensure all responsible parties within Toho are working together to ensure minimal disruption of water, reuse, and/or sewer services to existing customers.

Potential disruptions may be caused by contractors hired by Toho, contractors hired by developers to perform work within Toho's service area, or by Toho personnel involved in other work related to infrastructure installation, repair, or removal.

Responsible Parties:

This protocol requires coordination and participation by the departments and job titles listed below:

- Development Project Manager(s)
- Permit Coordinator(s)
- Building Inspector(s)
- Construction Inspector(s) I
- Construction Inspector(s) II
- Operations Section Manager(s)
- Operations Directors
- Senior Operations Business Partner
- Field Services Foreman & Lead(s)
- Valve Exercising Crew
- Locator(s)

When to Use:

The steps outlined in this protocol shall be followed anytime Toho Engineering and Inspection Services encounters an existing valve or valves that could potentially require opening or closing during the course of work being performed. This can include, but is not limited to:

- Construction of Private Development projects
- Construction of Capital Improvement projects
- Repair or maintenance of existing distribution or collection mains
- Repair or maintenance of existing water or wastewater treatment plants
- Repair or maintenance of existing wastewater lift stations
- Repair or maintenance of existing water re-pump (booster) stations

Procedure:

Pre-Construction:

1. The Development Project Manager (DPM)/Engineer of Record/Toho Project Manager/ Inspector will review drawings and determine whether any existing valves will be operated during construction.
2. The DPM/Engineer of Record/Toho Project Manager/Inspector will notify the Operations Section Manager/ Inspector and the Senior Operations Business Partner, via email, of any valves shown on the drawings that will be impacted by the work, send them the valve operating plan, and request approval to operate the valves to request their review for customer and operational impacts.
3. The Contractor will schedule and perform a pre-construction site walk with the Construction Inspector to determine whether there are additional valves not noted on the drawings which require consideration for this protocol.
4. The Construction Inspector will issue a stop work notice on all utility construction activities on site, if the pre-construction site walk has not taken place, until it is completed. Failure to comply with a stop work notice will result in fines.
5. The Contractor must contact their Construction Inspector a minimum of 72 hours in advance of working on or around any existing valve or valves. Notification to the Construction Inspector does not qualify as approval to do the work.
6. The Contractor will be responsible for providing an operating plan that includes the valve(s) to be exercised and a plan to isolate the section being worked on should something occur. The DPM/Engineer of Record/Toho Project Manager/Inspector will forward the plan to the Operations Section Manager and the Senior Operations Business Partner.
7. The Operations Section Manager and the Senior Operations Business Partner will assess if operating the valves will negatively impact customers or system operation and provide a response to the DPM via email within 3 business days of receiving the request and the valve operating plan from the DPM/Engineer of Record/Toho Project Manager.
8. If the work being proposed is determined by the Operations Section Manager or Operations Senior Business Partner to have negative customer or operational impacts, the work cannot proceed as scheduled by the Contractor and the DPM will work with the Contractor, Operations Section Manager and Operations Senior Business Partner to develop a plan that does not have negative customer or operational impacts.
9. No contractor, under any circumstance, will be permitted by Toho to exercise, attempt to repair, or attempt to connect to any existing valve or valves without a Toho Construction Inspector present and without prior notification to and approval by Senior Operations Business Partner and the Operations Section Manager.
10. Contractor will complete and submit the 'Valve Exercise Protocol: Pre-Construction Checklist' to Toho for review and acceptance. This checklist does not provide approval to perform any work noted, it only provides notification to Toho that work is to take place.

During Construction:

1. The Construction Inspector and Contractor will collectively complete the 'Valve Exercise Protocol: Construction Checklist' for all requests separately.
2. Upon determination by Operations Section Manager and Operations Senior Business Partner that there is not negative customer or operational impacts to operating the valves, the Contractor (while the Construction Inspector is present) can proceed with exercising the valve(s) as requested to complete the work. Only the valve(s) approved with each work request will be permitted to be exercised and only in the manner (open or close) for which it was approved.
    a. For all valves greater than 2", the Construction Inspector will call the Operations Section Manager, or the Operations Director if the Operations Section Manager does not answer, 5 minutes before opening

valves and five minutes before closing valves to identify and mitigate any unforeseen negative impacts from the valve operations.

b. If the request is to open a valve and the valve is already open, the Contractor cannot close the valve and vice versa.
c. The Construction Inspector will be present and monitor the operation of the valve by the Contractor. Any conditions noted by the Operations Section Manager and Operations Senior Business Partner must be monitored for compliance by the Construction Inspector.
d. If the Contractor finds that the valve is inoperable or only partially operable, the inspector will notify Operations Senior Business Partner to schedule the Valve Crew to verify. Toho's Field Services crews will only assist with operating existing valves and only valves that the Construction Inspector has witnessed the Contractor attempt to operate unsuccessfully.
e. Upon completion of the work, the Construction Inspector will notify the Operations Senior Business Partner of the final position of the valve, open or closed.
f. If, during the course of the work, an existing valve or line is ruptured, broken, or otherwise negatively impacted, the contractor will immediately stop work and the Construction Inspector will contact the Senior Inspector, the Operations Senior Business Partner, and the Operations Section Manager. The Construction Inspector will be responsible for relaying the circumstances surrounding the impacted valve and Toho will collectively come up with a plan to rectify the situation. At no point will the Construction Inspector or the Contractor be permitted to operate any other valves without the expressed consent of Operations Section Manager, the Operations Senior Business Partner and/or the Senior Inspector.
g. Once the work is completed, the Contractor and Construction Inspector will complete the 'Valve Exercise Protocol: Post-Construction Checklist' and provide a copy to the DPM, Operations Section Manager and Operations Senior Business Partner for their records.

Valve Exercise Protocol: Pre-Construction Checklist

Project Name: _____ Project Number: _____

DPM: _____ Permit Coordinator: _____

Inspector: _____ Contractor: _____

Proposed Scope of Work:

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****The signatures below provide confirmation that the contractor has indicated their intent to work on or around existing Toho infrastructure and that Toho has been notified of the contractor's request. This checklist does NOT provide clearance, approval, or consent to perform the work prior to completing the 'Valve Exercise Protocol: Construction' checklist.****

Toho Engineering: _____ Date: _____

Toho Field Services: _____ Date: _____

Toho Plant Operations: _____ Date: _____

Contractor's Acknowledgment: _____ Date: _____

Valve Exercise Protocol: Construction Checklist

Project Name: _____ Project Number: _____

Valve Exercise Protocol: Pre-Work Checklist on File: Yes: _____ No: _____

Pre-Work Site Inspection Date: _____ By: _____

Additional Scope as Noted in the Pre-Work Site Inspection or by Others:

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_____

Contractor's Operating Plan:

_____
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Proposed Date of Work: _____

****The signatures below provide approval by all necessary Toho staff that the contractor is cleared to move forward with the work as outlined in the 'Valve Exercise Protocol: Pre-Work' *Scope* and the 'Valve Exercise Protocol: Construction' *Additional Scope* and *Operating Plan* sections. If changes to the scope of work are required for any reason not previously noted or outlined, a revised plan must be submitted by the contractor and reviewed and approved by Toho prior to starting work****

Toho Engineering Approval: _____ Date: _____

Toho Field Services Approval: _____ Date: _____

Toho Plant Operations Approval: _____ Date: _____

Contractor's Acknowledgment: _____ Date: _____

Valve Exercise Protocol: Post-Construction Checklist

Project Name: _____ Project Number: _____

Date Work Completed: _____ **Witnessed By:** _____

Final Position of Valves Exercised:

Valve 1: Open _____**Closed** _____ **Valve GIS ID:** _____

Valve 2: Open _____**Closed** _____**N/A** _____ **Valve GIS ID:** _____

Valve 3: Open _____**Closed** _____**N/A** _____ **Valve GIS ID:** _____

Valve 4: Open _____**Closed** _____**N/A** _____ **Valve GIS ID:** _____

Valve 5: Open _____**Closed** _____**N/A** _____ **Valve GIS ID:** _____

Valve 6: Open _____**Closed** _____**N/A** _____ **Valve GIS ID:** _____

Valve 7: Open _____**Closed** _____**N/A** _____ **Valve GIS ID:** _____

Valve 8: Open _____**Closed** _____**N/A** _____ **Valve GIS ID:** _____

Description of Work Completed:

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Acknowledgments

Toho Engineering: _____ Date: _____

Toho Field Services: _____ Date: _____

Toho Plant Operations: _____ Date: _____

Contractor: _____ Date: _____