



# Presentation Outline

- Utility Coordination and the Utility Coordinator
- Outline of The Bathurst St Pilot Project
- UC for the Bathurst Street Project
- Sample Exercise
- Conclusions

# Utility Coordination

- Utility coordination is a fundamental aspect of all capital projects
- Utility Coordinators manage one of the highest risk elements on projects
- Experience is key!



**Coordination through  
Collaborative, Cooperative, Communication**

# Role of the Utility Coordinator

- Coordinate between Designer and Utilities
- Review impact of design on utilities
- Analyze conflicts and recommend revisions to design or utility relocation or protection
- Establish preferred utility running line – factor in constructability, scheduling, cost



# Role of the Utility Coordinator

- Ensure Utility Agency completes relocation design on schedule
- Track utility relocation construction
- Implement unknown conflict resolution process
- Document scope changes
- Reconcile utility invoicing for payment
- Review “As Built” drawings for accuracy



**Utility Coordinators blend engineering, design and construction experience**





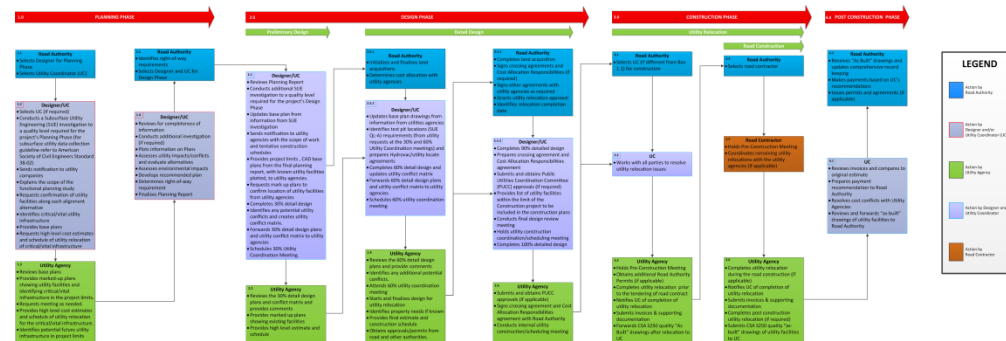
# TAC Utility Coordination Guideline



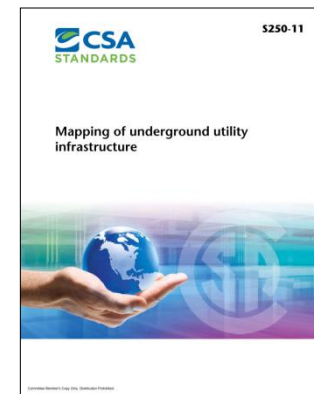
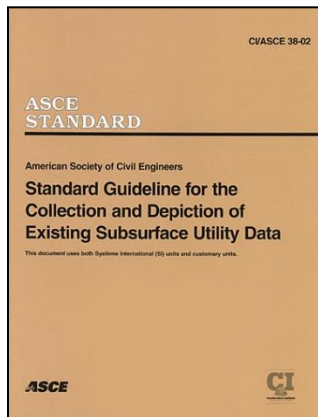
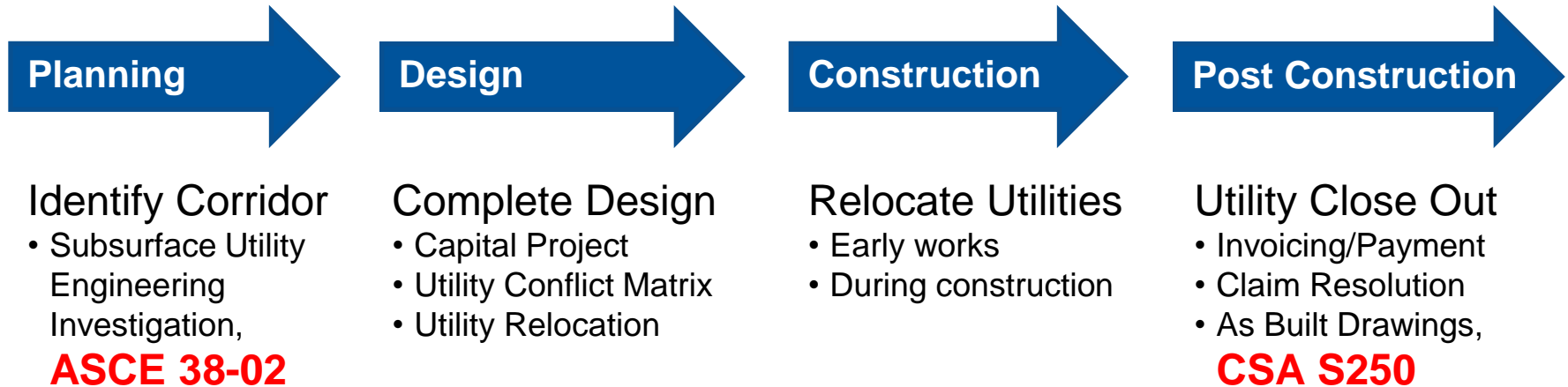
## ***Guideline for the Coordination of Utility Relocations***



## GUIDELINE FOR THE COORDINATION OF UTILITY RELOCATION FLOW CHART

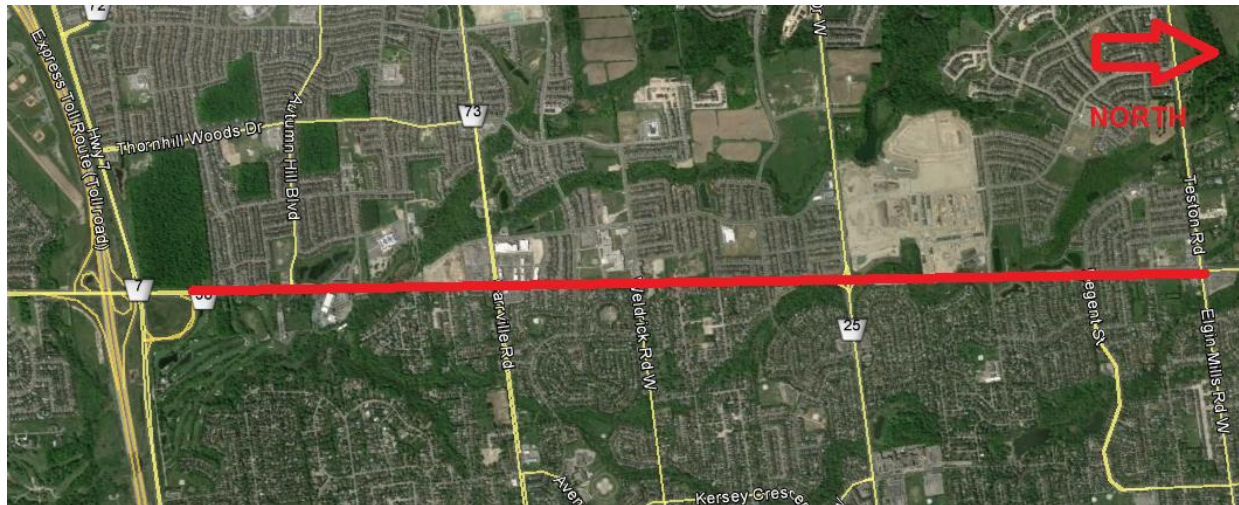


# Process and Associated Standards



# Bathurst Pilot Project Overview

- Road widening
- Culvert Installation
- Retaining Walls
- Construction staging / detours?





# Bathurst Pilot Project Schedule

- Design currently at 60%
- Tender January 2018 for May 2018 Construction



# Bathurst Pilot Project Scope

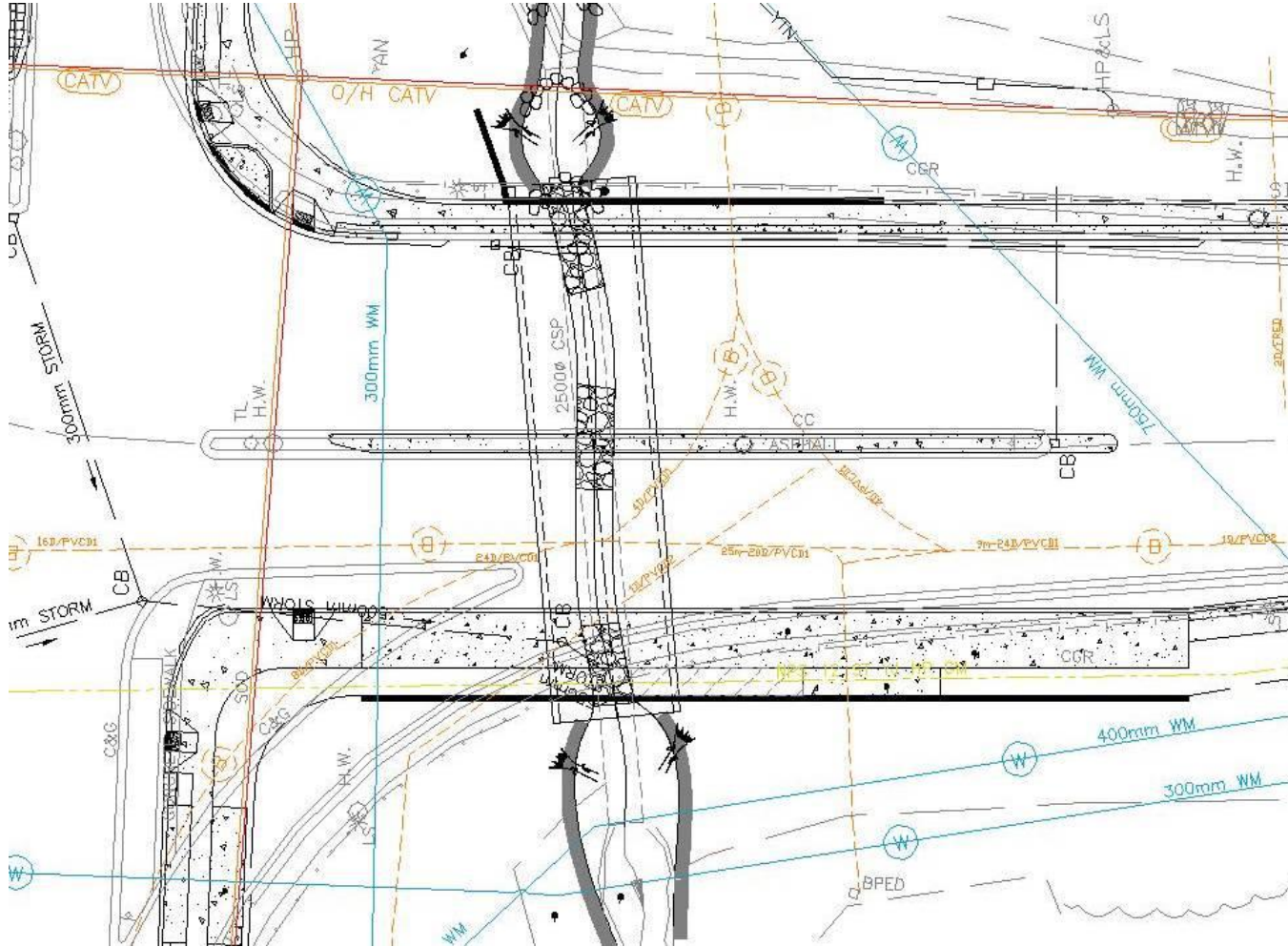
- Independent UC firm used to provide UC services as part of SUE/UE Contract
- UC firm worked directly with the Region's engineering consultant
- UC firm worked directly with the 3<sup>rd</sup> Party Utility Companies.

# Utility Conflict Analysis – Considerations

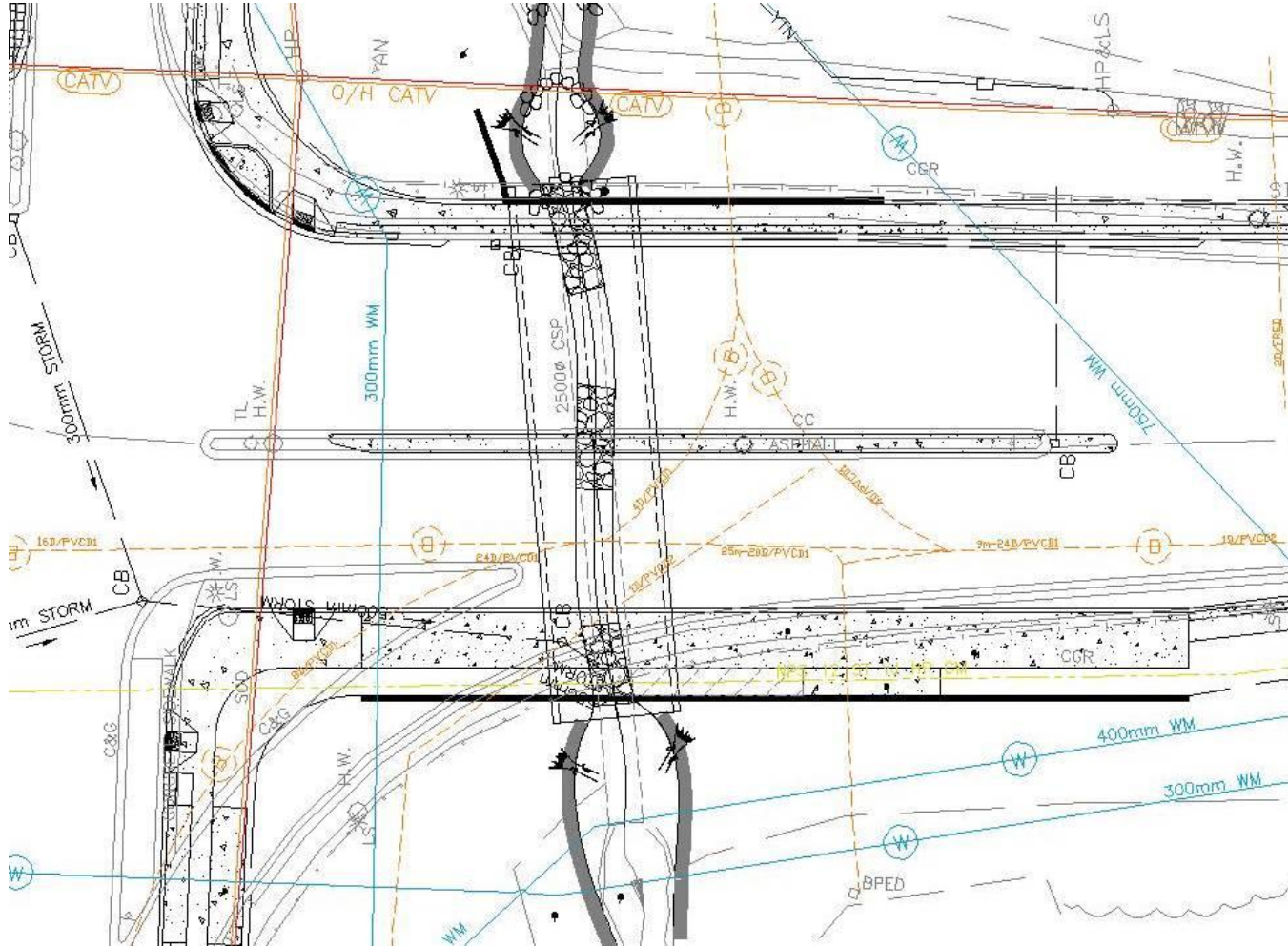
- What is the Project Scope?
- Utilities Present?
- Utilities Future?
- Utility Outage Restrictions?
- Utility Relocation Schedules?
- See handout for all of the above...



# Utilities Present



# Review Available Utility Records





# Site Walk with all Stakeholders



# Site Walk with all Stakeholders



# Site Walk with all Stakeholders



# Utility Conflict Analysis Exercise

Each table take 5 minutes to discuss:

- Utility impacts – Fill out Conflict Matrix
- Utility Relocation Strategy
- Potential Utility Relocation Schedule

# Utility Conflict Analysis

## ROW Conference - Sample Project

Con #	Utility Information	~ Proposed Grade Change (m)	Location	Assessment of Effects	Investigation Required	Relocation Required	Resolved
<b>Bell</b>							
1	Bell Conduit (24PVCD1)	-	E-W				
2	Bell Conduit (4PVCD1)	-	E-W				
3	Bell Conduit (1PVCD2)	-	E-W				
4	Bell Conduit (8PVCD1)	-	N-S				
<b>Enbridge</b>							
5	Enbridge Gas - 300mm ST HP	~+2.0m	E-W				
<b>Hydro Distribution</b>							
6	Primary pole Alignment (1 x 27.6kV)	-	E-W				
<b>Rogers</b>							
7	Rogers - aerial (on Hydro Poles)	-	E-W				



# Utility Conflict Assessment

## ROW Conference - Sample Project

Con #	Utility Information	~ Proposed Grade Change (m)	Location	Assessment of Effects	Investigation Required	Relocation Required	Resolved
<b>Bell</b>							
1	Bell Conduit (24PVCD1)	-	E-W	Concrete encased structure crossing proposed culvert installation. Breakout, support, protect, reinstate following culvert installation. Bell design required for breakout / reinstatement, structural design required for support. Bell approved sub-contractor required for breakout / reinstatement.	No	Yes	No
2	Bell Conduit (4PVCD1)	-	E-W	Concrete encased structure crossing proposed culvert installation. Breakout, support, protect, reinstate following culvert installation. Bell design required for breakout / reinstatement, structural design required for support. Bell approved sub-contractor required for breakout / reinstatement.	No	Yes	No
3	Bell Conduit (1PVCD2)	-	E-W	Non-encased conduit crossing proposed culvert installation. Expose, support, protect, reinstate following culvert installation. No breakout / reinstatement required, no Bell approved contractors necessary.	No	Yes	No
4	Bell Conduit (8PVCD1)	-	N-S	Concrete encased structure crossing under proposed retaining wall. Confirm depth of existing structure and determine if in conflict with retaining wall footings.	Yes	TBD	No
<b>Enbridge</b>							
5	Enbridge Gas - 300mm ST HP	~+2.0m	E-W	Gas main crossing over proposed culvert. Support / protection of main during culvert installation acceptable to Enbridge, however alignment is conflicting with proposed footing. Relocate in advance of contract. Engage Enbridge to determine if relocation for 2017 during CLOCA coldwater construction window is feasible.	No	Yes	No
<b>Hydro Distribution</b>							
6	Primary pole Alignment (1 x 27.6kV)	-	E-W	No conflict with existing pole alignment. Anticipated construction methodology of culvert and retaining wall will not be restricted by 3 phase primary O/H lines.	No	No	Yes
<b>Rogers</b>							
7	Rogers - aerial (on Hydro Poles)	-	E-W	No conflict.	No	No	Yes

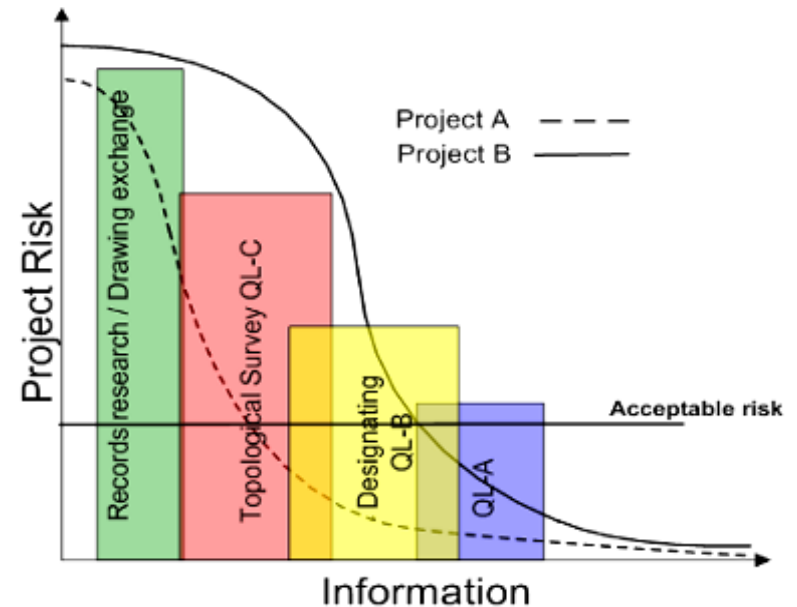
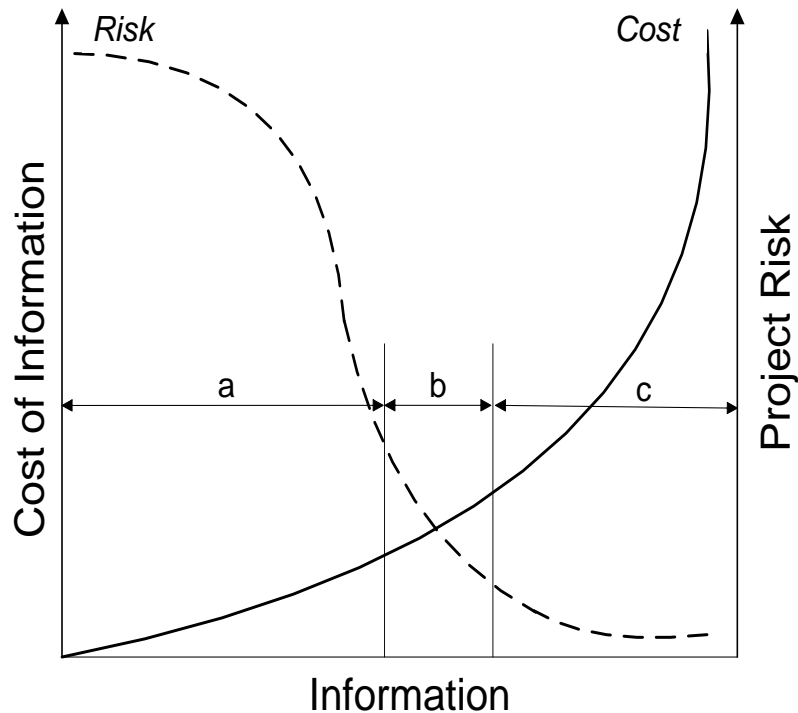
Wait a minute!!  
Was a SUE investigation Completed?



# Not originally, but good thing we did!



# Why is good data important?



University of Toronto Study - ROI = \$3.41

# Conclusions

- UC relies on Accurate, reliable Utility Dwgs – “ASCE 38-02”.
- Have an effective UC process in place which follows “TAC - Guideline for the Coordination of Utility Relocations”
- Recognize the importance of the Role of the UC
- Create Reliable records of Utility relocations – “CSA S250”.



# Get your FREE Copy of the Guideline

The screenshot shows the TAC website with a blue header. The main navigation bar includes links for Login, Contact Us, and Français. Below the header, a dark blue bar contains a list of site sections: Councils and Committees, Projects, Publications and Resources, Get Involved, Events and Learning, Conference, About TAC, and TAC Foundation. The main content area is titled 'Public Utilities Management Group of Publications'. It features a sidebar on the left with a list of publications, including TAC News, Library, TAC Research Bulletin, Free Resources and Tools, Conference Proceedings, Reports, Public Utilities Management Group of Publications (highlighted), Syntheses of Best Practices, Briefings, Primers, Tools, Errata and Updates, and Frequently Asked Questions. The main text explains that this group of titles has been created over time under the auspices of the Public Utilities Management Subcommittee of TAC's Maintenance and Construction Standing Committee. It states that these titles were developed as volunteer projects and that the hard work and efforts of these committed volunteers is greatly appreciated. It also mentions that these publications are being offered as FREE DOWNLOADS, in order to make them as widely-available as possible, thanks to the generous support of the following sponsors: ABCGA, Alberta Transportation, Nova Scotia Transportation and Infrastructure Renewal, Ontario ONECALL, ORCGA, York Region, and T2 utility engineers. A button labeled 'Click here to download Guidelines for the Coordination of Utility Relocations (2016)' is provided. Below this, a section titled 'Also available:' lists three additional guidelines: Guidelines for Underground Utility Installations Crossing Highway Rights-of-Way (2013), A Guide for the Accommodation of Utilities Within Freeway Rights-of-Way (2011), and Management of Utilities in and Adjacent to the Public Right-of-Way: Survey of Practices (2008). A small image of the guideline cover is shown. On the right side of the page, there are three vertical banners: 'Orange traffic+' with the text 'Optimize the fluidity and security on the road in an innovative way', 'ROAD GEM' with the text 'The New Road Design Software for Transportation Professionals', and 'Transoft'.

Publications and Resources

- > TAC News
- > Library
- > TAC Research Bulletin
- > Free Resources and Tools
  - Conference Proceedings
  - Reports
  - Public Utilities Management Group of Publications
  - Syntheses of Best Practices
  - Briefings
  - Primers
  - Tools
- > Errata and Updates
- > Frequently Asked Questions

**Public Utilities Management Group of Publications**

This group of titles has been created over time under the auspices of the **Public Utilities Management Subcommittee** of TAC's Maintenance and Construction Standing Committee. All of these titles were developed as volunteer projects. The hard work and efforts of these committed volunteers is greatly appreciated; the individuals involved are listed on the 'Acknowledgments' page of each title.

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**Alberta** Transportation

**NOVA SCOTIA**  
Transportation and Infrastructure Renewal

**ONTARIO ONECALL**

**ORCGA**  
Ontario Regional Common Ground Alliance

**York Region**

**T2 utility engineers**

[Click here to download Guidelines for the Coordination of Utility Relocations \(2016\)](#)

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