

Alberta Transportation Utility Coordination Update

CEA Transportation Connects Alberta Conference

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Agenda

- Origins of Utility Coordination and Partnering
- Connection to other Alberta Transportation Changes
- Utility Coordination Process Manual

Partnering

Why Partnering?

- Set up common goals for teams
- Improve collaboration and communication
- Improve relationship and better outcome
- Prevent problems
- Well studied by the International Partnering Institute (IPI) and it works

Examples

- Strategic Priorities Group
- Operations Committee
- Tri-Party Construction Partnering
- Utility Partnering
- Alberta Transportation relies on partnerships to solve problems together

Benefits

- \$1 invested in Partnering = \$114 saved
- Resolve issues and prevent disputes. Average claim costs \$29.6 million and 16 months to resolve in US
- Achieve greater outcomes in terms of schedule, cost and quality
- Co-create goals and strategies to meet them

Other Alberta Transportation Changes

Construction Partnering

Steering Committee
(membership from Tri-Party)

Conducted workshops in 2017
and 2018

Conducted Partnering Survey in
2019 (231 responses)

Positive feedback and ideas for
improvements

Implemented

Scoping Process

Traffic Accommodation Manual

Lessons Learned Library

Project Management Training

In Progress

New Terms of Reference (ToR)

Project Administration Manual
(PAM) update and rebranding as
the Project Management
Manual (PMM)

Project Management Toolkit
and Project Sites

SharePoint Site

Partnering Awards

Claim Process

Utility Coordination

➤ Includes

- ✓ Utility Coordination Process
- ✓ Utility Web Map
- ✓ Utility Contacts

➤ Excludes

- ✗ Utility Agreements and Cost Apportionments
- ✗ Railways
- ✗ Utility Installation Permits

Utility Coordination

Background

Long standing issue with utility conflicts
Causes delay and contract claims
Increases construction costs

Targets

Move utilities prior to commencement of road construction
Minimize utility conflicts and reduce delays

Key Issues

Lacks of industry standards and best practices
Inconsistent utility engagement

Utility Coordination - Key Issues

2016 Utility Partnering Session

Issues	Description	Status
1	Utility Agreements	In Progress
2	Utility Early Engagement	✓
3	Communication and Partnering	✓
4	Central Point of Contacts	✓
5	Process Mapping	✓
	Another Task Committee	
6	Distribution Line	✓

Strategic Highway Research Program (SHRP2) Report, Transportation Research Board

Utility Best Practices

Best Practice #	Description	Status
1	Advance relocation of utility work	✓
2	Early Involvement of Utilities in Planning and Design Phase	✓
3	Training of Designers on Utility Relocation Process	To be determined
4	Development of Geographic Information System (GIS) Database	In Progress
5	Preconstruction and Progress Meetings	✓
6	Incentive of Early Relocation	✗
7	Development of Utility and ROW Management Systems	To be reviewed in future

Strategic Highway Research Program (SHRP2) Report, Transportation Research Board

Utility Best Practices

Best Practice #	Description	Status
8	Inclusion of utility relocation work in construction contract	Not desirable
9	Subsurface Utility Engineering (SUE)	✓
10	Utility coordination Meeting Held During Design Phase	✓
11	Utility Impact Matrix	✓
12	SUE Impact Rating Procedures	✓
13	Work Site Utility Coordination Supervisor	✗

Outcome

Outcome

Utility Coordination Process Manual

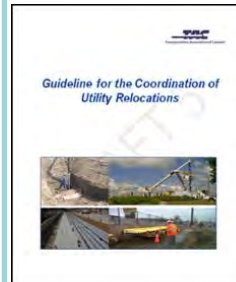


Project Delivery Branch
Alberta Transportation

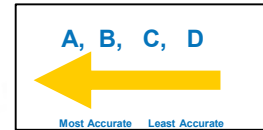


Utility Coordination Process Manual
 Outlines roles and responsibilities for each parties
 Act as a road map
 Facilitate coordination standardization and consistency

Standards and Guidelines have been referenced/used

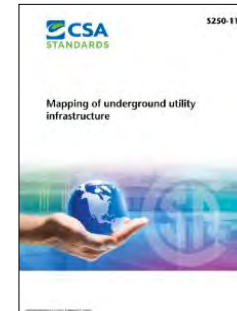
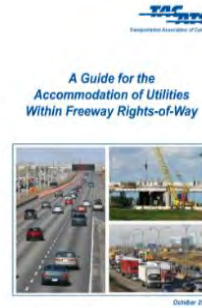


TRB SHRP2 UC Best Practices.



NOTES
 THE UTILITY INFORMATION SHOWN ON THIS DRAWING WAS COLLECTED IN ACCORDANCE TO ASCE STANDARD 38-02. THE INFORMATION IS SHOWN BY QUALITY LEVEL WHICH INDICATES THE LEVEL OF EFFORT USED TO DETERMINE THE LOCATION OF THE DATA.

I QUALITY LEVEL "D" – INFORMATION DERIVED FROM EXISTING RECORDS OR VERBAL RECOLLECTIONS.
C QUALITY LEVEL "C" – INFORMATION OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE GROUND UTILITY FEATURES AND BY USING PROFESSIONAL JUDGEMENT IN CORRELATING THIS INFORMATION TO THE QUALITY LEVEL "D" INFORMATION.
D QUALITY LEVEL "B" – INFORMATION OBTAINED THROUGH THE APPLICATION OF APPROPRIATE SURFACE GEOPHYSICAL METHODS TO DETERMINE THE EXISTENCE AND APPROXIMATE HORIZONTAL POSITION OF THE UTILITIES.
L QUALITY LEVEL "A" – PRECISE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES OBTAINED BY THE ACTUAL EXPOSURE AND SUBSEQUENT MEASUREMENT OF SUBSURFACE UTILITIES.



Utility Coordination Process Manual Highlights

Principles

Comprehensive process
Streamline – apply professional judgement
reducing steps
Design-bid-build method

Manual Structure

Flow Chart and Write Up
Checklists
Forms
Templates/Communication Letters

Utility Coordination Process Manual Highlights

Major Phases

Planning

- Utility Base Map
- Subsurface Utility Engineering (SUE) Screening Form
- Utility Conflict Matrix
- Communication Letters

Scoping / Geometric Assessment

- Utility Map (Location Plan)
- Subsurface Utility Engineering Screening Form
- Identify Existing Utilities and Permits



Utility Coordination Process Manual Highlights

Major Phases

Design

- Composite Utility Plan
- Subsurface Utility Engineering Screening Report (ASCE 3802 Standards)
- Conflict Matrix and Relocation Matrix
- Communication Letters

Utility Design

- Utility Design begins after 60% of project design
- Utility owner completes Utility Design
- Agreements, Permits and Approvals

Utility Adjustment Prior Tender

- Completion Letters
- Outstanding Utility Relocation
- Utility Agreements

Utility Coordination Process Manual Highlights

Major Phases

Tender

- Exceptions? Alberta Transportation approval
- Utility Relocation Plan
- Tentative Relocation Schedule
- Utility Agreements

Utility Adjustment During Construction

- Completion Notification
- Utility As-Built

Task Committee - Early Engagement

Recommendations

Involve utility owner early in planning process
Share Information
Annual meetings

Implementation

Conducted sessions with utility owner in 2017 and 2018
Received feedback
Received Geographic Information System (GIS) Mapping

Benefits

Allow utility owner to fit projects into their planning cycles
Manage budget and resources
Adjust projects as necessary by Alberta Transportation

Early Engagement – Utility Mapping

Recommendations

Central repository of utility database
Single source of contacts

Benefits

Understanding of existing utilities within the road Right-of-Way.
Aid early and consistent utility engagement

Utility Mapping

Data Collection

Confidentiality agreement template

Agreements between Alberta Transportation and the industry

Province wide data and some are project specific

Status

Web Map being developed

ArcGIS Portal

Includes utility contacts

Map Availability

Alberta Transportation staff for planning

Consultants – Project specific

Revamp confidentiality clause in the consulting agreement

Utility Web Map

Alberta Alberta Transportation Utility Map 2.0 Demo

Find address or place

This Utility Map is a planning tool. It is intended to assist the Province with project scoping, planning and aid early engagement of utility agencies for coordinated utility re-locations.

FOR TIPS REFER TO THE INFORMATION ICON

OK

Layer List

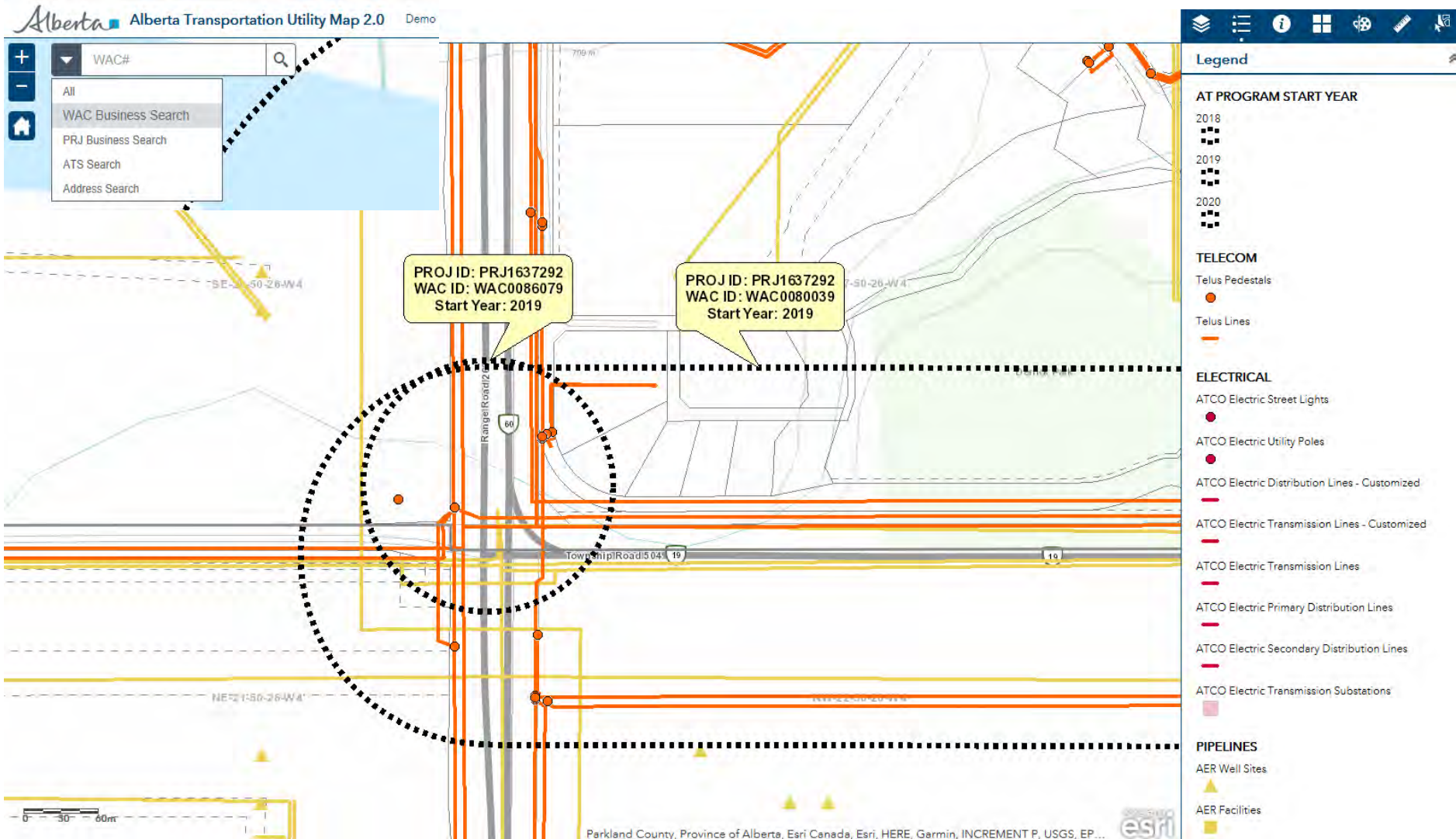
Operational layers

- AT PROGRAM START YEAR
- TELECOM
- ELECTRICAL
- PIPELINES
- Rural Gas Distribution Pipelines
- SUPPLIER BOUNDARY REGIONS

Scale: 0 200 400km

Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, AAFIC, NRCen | Alberta Environment and Parks

Utility Web Map - Project Extents



Utility Web Map - Display Features

The screenshot displays a utility web map interface. On the left, a 'Layer List' panel is visible, showing various operational layers. The 'PIPELINES' layer is selected and expanded, listing several sub-layers such as 'AER Well Sites', 'AER Facilities', 'AER Pipelines', 'ATCO Transmission Pipelines', 'ATCO Distribution Pipelines', 'Rural Gas Distribution Pipelines', 'AltaGas Utilities Inc.', 'ATCO Gas', 'Co-operative Utilities', 'Rural Municipal Utilities', 'Private Utilities', 'SUPPLIER BOUNDARY REGIONS', and 'ATCO Electric Regions'. The map area shows utility lines in orange and yellow, with labels like 'Telus - Duct', 'Telus - Copper', and 'Telus - Trench'. A popup window titled '(1 of 3)' is open over a 'Telus Lines' feature, displaying the following information:

Telus Lines:	
TELUS_ID	AG10070298
TELUS_NAME	Duct
PROJ_NAME	SHP
Contact_Info	More info

Below the table, there is a 'Zoom to' button and a three-dot menu icon. The map background shows a road labeled 'E ROAD' and other utility features like 'Telus - Trench' and 'Telus - Copper'.

Utility Web Map – Utility Contacts

██████████ Contacts:

General Mailbox- To coordinate requests such as design and cost estimate, third party requests (crossings/proximity agreements), relocations, consents, etc.

1. IndustrialRequests@██████████
2. ██████████
3. <http://www.██████████>

New Requests for Design/Estimates (New services and Line Moves):

1. ██████████ : ██████████
2. Email: ██████████

Crossing/Proximity Agreements:

██████████ Distribution and transmission lines: ██████████

Early Engagement:

1. ██████████ ; email: ██████████

Issue Resolution:

- ██████████ Assigned project managers: ██████████
2. ██████████ ; email ██████████

Utility Web Map

Challenges

- Interest of utility owners participation
- Confidentiality and legal issues
- Quality and completeness of records
- Capture all utilities
- Resources to collect the data, develop and maintain

Disclaimers

- Planning tool
- Makes no representation or warranty to the accuracy and completeness of the info
- Users must exercise due diligence
- Does not replace any existing practices e.g. Alberta One Call

Moving Forward

Next Steps

Utility Coordination Process Manual Roll Out – Spring/Summer 2019

Utility Coordination Process Manual Training – To be determined

Utility Map Roll Out – Spring/Summer 2019 (Alberta Transportation staff)

Utility Agreements - Spring/Summer 2019 (Internal), External – Likely Fall 2019

No Utility Coordination Workshop in 2019

Annual Utility Early Engagement Sessions – To be scheduled by each region

THANK YOU

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