

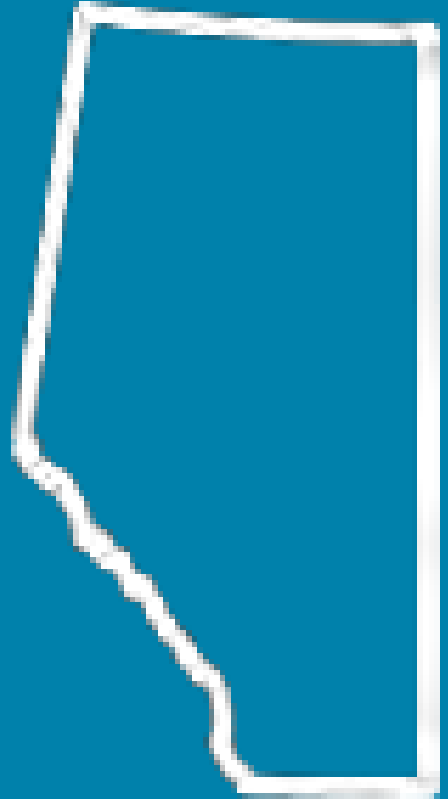
# Construction Partnering: Tri-Party Discussion

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Des Kernahan,  
Morrison Hershfield

Tom Loo, Mike Damberger  
Alberta Transportation

Dwayne Berlando,  
Lahrman Construction



# Overview

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- Partnering approaches between Alberta Transportation, the CEA and ARHCA;
- Partnering Steering Committee
- Partnering in action – audience participation opportunity!

# Partnering with Alberta Transportation

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# Committees tasked with Partnering:

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- **Strategic Priorities Group (SPG)**
  - Chaired by the DM of AT, includes senior leadership from CEA and ARHCA. Focus is on strategic initiatives and or challenges facing industry or the ministry.
- **Operations Committee (OPS)**
  - Reports to SPG. Includes representatives from AT, CEA and ARHCA.
  - Partners address technical and operational issues that affect any of the three parties in the delivery of planning, design, or construction of highways and bridges for Alberta Transportation.
- **Partnering Steering Committee**
  - Established to improve grass roots partnering in the field.

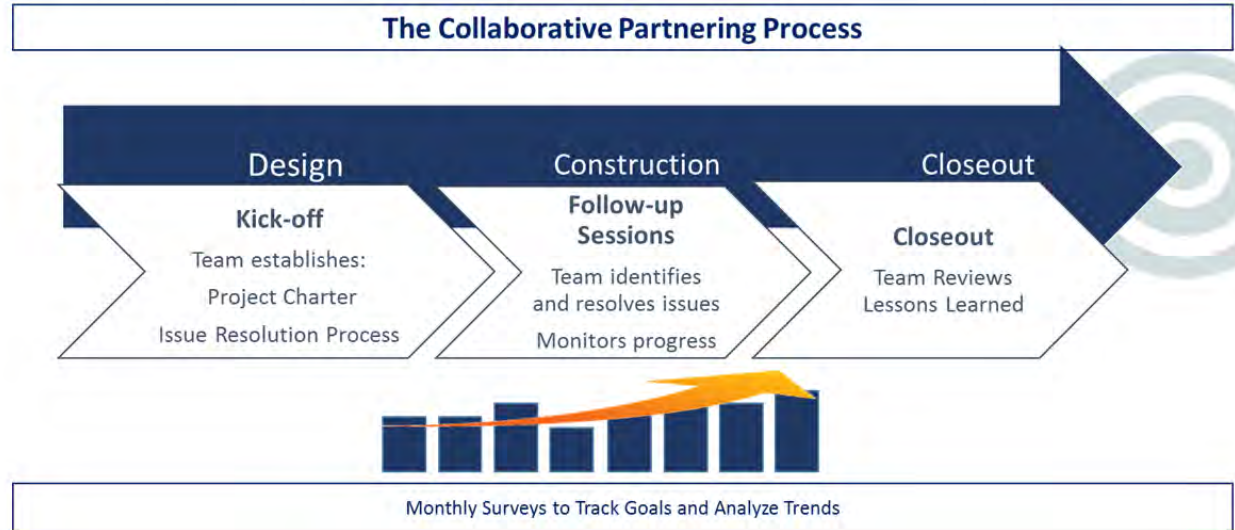
# Partnering Steering Committee

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- Representation from ARHCA, CEA, and Alberta Transportation;
- Current Members are:
  - Mike Damberger, AT;
  - Des Kernahan, CEA/Morrison Hershfield;
  - Dwayne Berlando, ARHCA/Lahrmann;
  - Derek Young, AT;
  - Andrew Arnill, ARHCA/West-Can;
  - Bruno St-Amand, CEA/EXP;
  - Gary Brooks, ARHCA/Carmacks;
- Initiated in ~2015 to champion partnering during construction projects, not a forum for grievances or project specific issues;
- Monitors the health of partnering, recognizes successes, and provides industry training.
- Partnering awards will be presented tonight by Minister Sawhney.

# Partnering 101:

Construction Partnering is a structured process that brings a design and construction team together regularly throughout the life of a project. Partnering provides a space for communication, improved strategy, and issue resolution. Over time, partnered teams build trust, a reliable predictor of high performing teams. Through Partnering, fragmented teams coalesce and unify around a shared objective: successful project delivery.



# Partnering Benefits:

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International Partnering Institute research shows these benefits:

- \$1 invested in Partnering = \$114 saved
- Claims avoidance. The average claim in the US costs \$30 million and takes 16 months to resolve.
- Achieve greater outcomes in terms of schedule, cost and quality
- Improved job satisfaction for all
- Identify barriers and opportunities for success
- Gather lessons learned at closeout



OPEN  
CURIOUS  
COMMITTED TO LEARNING



WHEN  
WILL

COMMITTED TO BEING RIGHT  
DEFENSIVE  
CLOSED





# Scenario: Peace River Bridge

- New 560m long bridge;
- New overpasses at 98 Street and Shaftesbury;
- New CN Rail overpass;
- ~17,000 AADT



# Pier Three Construction:

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## Contract Requirements:

Berms/Work Bridge means and methods were solely at the discretion of the contractor inclusive of temporary works analysis and design.

River was not to be constricted (berms removed) before November 30 and installed no earlier than April due to high potential for ice jams within the Town of Peace River (considerable flooding potential).

While borehole logs provided, geotechnical risk for river berms, subsurface conditions, piling, utility coordination was within the contractors responsibility. Gas odours were detected during investigation and noted in the Special Provisions.

# Pier Three Construction:

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## Actual Conditions – Berm Stability:

Despite a detailed hydro technical analysis, berm was overtopped in July. River bed materials started mobilizing which led to continued scour and berm toe erosion. Considerable stability issues for Pier 3 access berm, with materials losses and continued delays.

River flows had increased from the expected flow of 1200 m<sup>3</sup>/s to 6500m<sup>3</sup>/s;  
Scour had increased from worst case estimated of 1.5m to near 5m;

Considerable resources and discussions between project team on how to manage. Three months' time lost due to flooding/scour;

# Pier Three Construction:

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## Actual Conditions: Piles

As piling work begins in fall for Pier 3, encountered methane gas during drilling as crews smelled gas. No one knew what to do. Pile foundations were intended to be completed in summer, and completing Pier 3 prior to winter.

Contract is very clear with deadlines to be out of river to avoid the calamity of being in the water during spring flows and winter ice flows.

After piling issues managed, winter is coming and pier is not completed. Ice buildup and associated flooding risks became a concern for the upcoming winter, particularly with the berms in place restricting the channel.

# Pier Three Construction:

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## Decision Point:

Months of time lost due to flooding/scour; Significant expenses already to date to deal with flooding and berm problems.

It is now October. Contract is very clear with deadlines to be out of river to avoid the calamity of being in the water during spring flows and winter ice flows.

Pull out? This will surely add a year to the schedule. Costs unknown, responsibility for those costs unknown.

Stay in? Estimated 4 months' work to complete Pier 3. Risks of losing berm, equipment to further scour or ice flows.

# Assignment:

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Each side of the room is divided – consultant and contractor.

You are faced with the decision to pull out of berm 3 now, in advance of winter. The alternative is to press on with the risks above and aim for completion before spring thaw.

Raise your hand and let us know:

1. What are the risks for you and your company?
2. How might this impact the project cost/schedule/quality?
3. What would you suggest, if you were 'below the line'?
4. What would you suggest the project team decide, under the mindset of being 'above the line'?

# Assignment: How Pier 3 actually unfolded:

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The project team decided to proceed into the winter of 2018;

A team of technical experts were added, including various stakeholders to advise on risks and mitigations specific to Pier 3, river flooding, ice flows, etc. A trigger and action plan developed to manage both site team's and town's exposure to risk.

Pier 3 cap finally poured in January. Due to deformation in sheet piles, divers, planes, luck, and collaboration, the berm was successfully removed in Spring of 2019.

Saved some 200 days of construction time and countless \$millions.

# Questions?

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