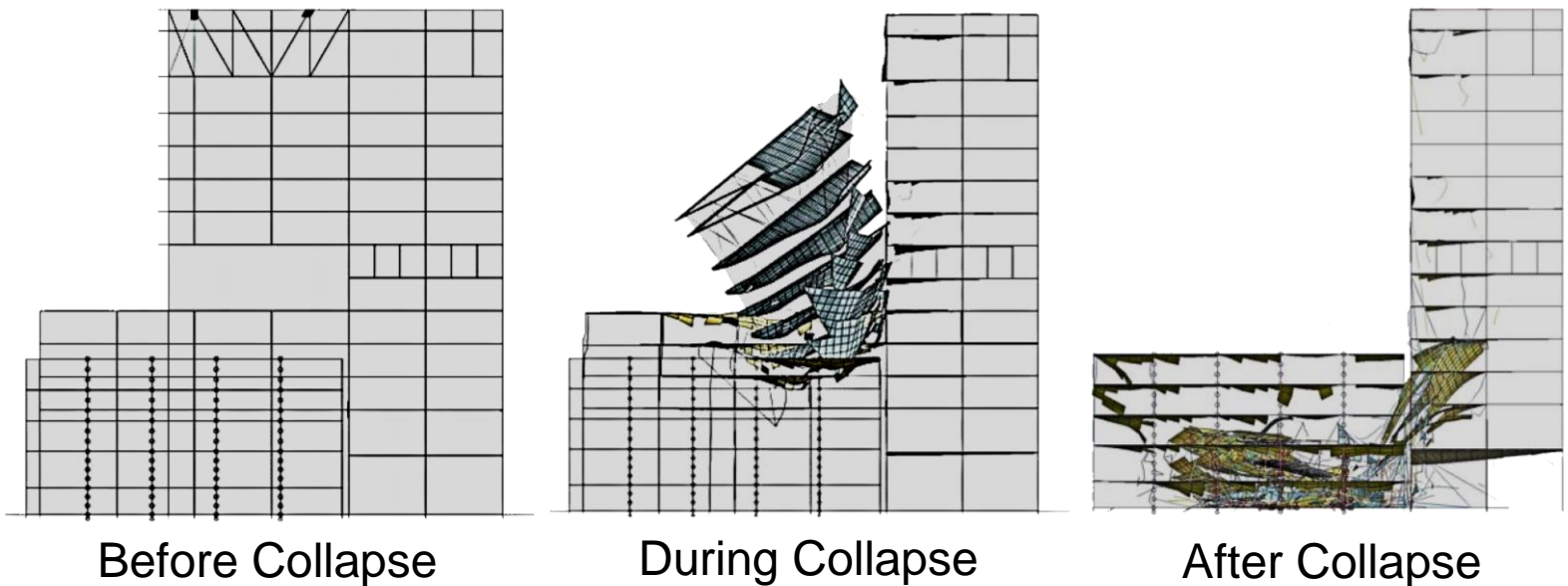


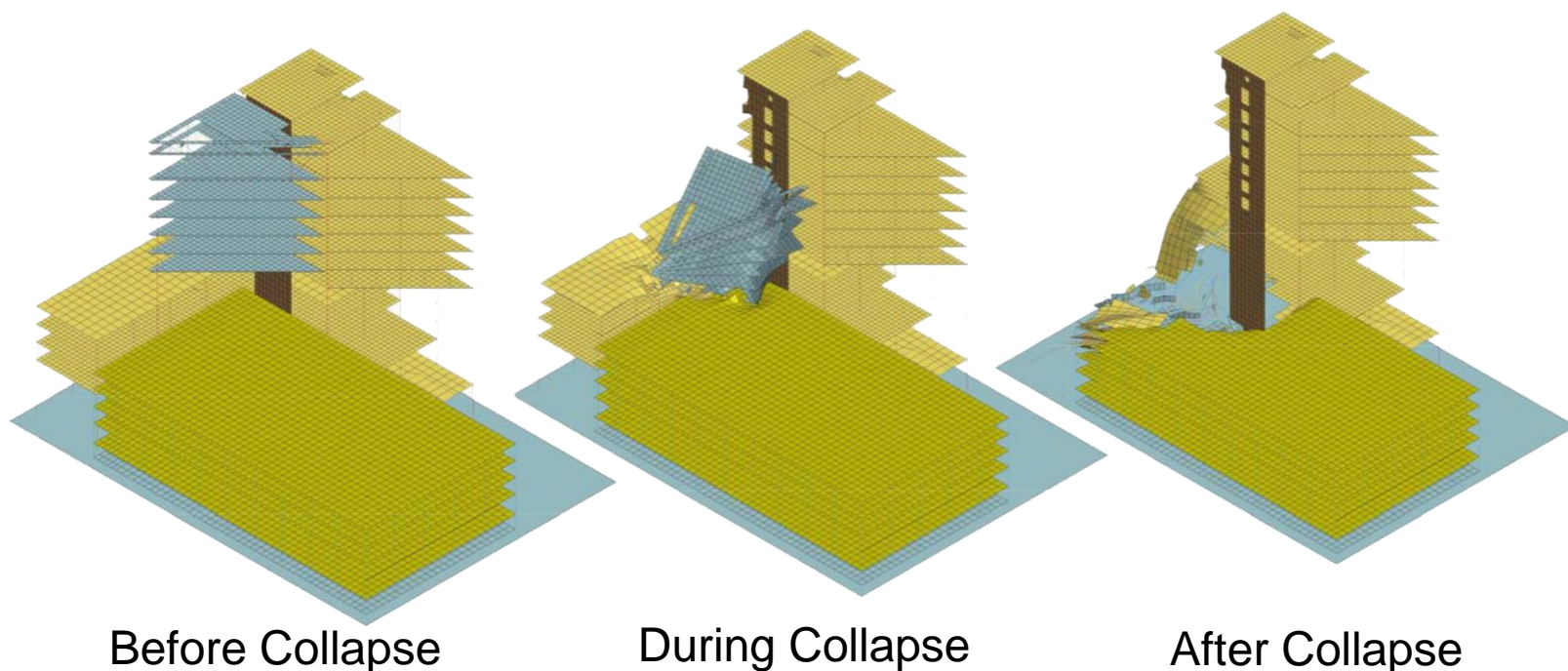
Structural Collapse Model

The objective of the Structural Collapse Model was to determine the impacted area due to the collapse of the north end of the Calgary Municipal Building in the extreme event of the failure of Truss A. The computer model was developed using the finite element software LS-DYNA and was based on the structural drawings of the Calgary Municipal Building and the Administration Building. Analysis results indicated a collapse of the suspended floors of the Municipal Building impacts the adjacent Annex Building and the Administration Building.

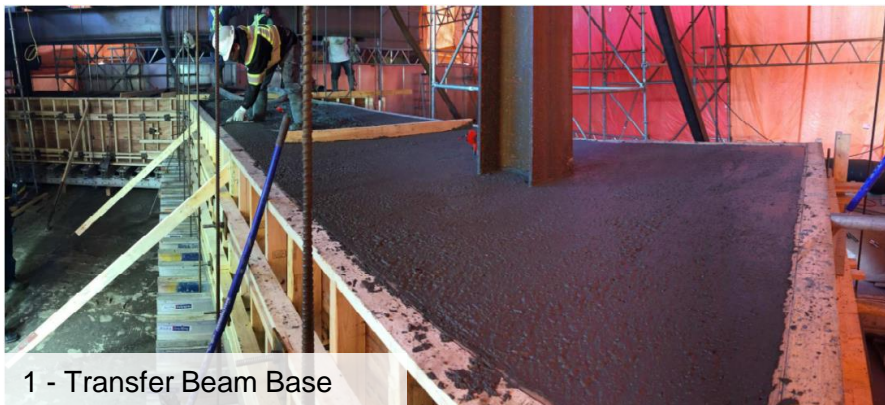
Elevation View (Looking East)



Isometric 3-D View (Looking North-East)



Structural Shoring - Transfer Beam



1 - Transfer Beam Base

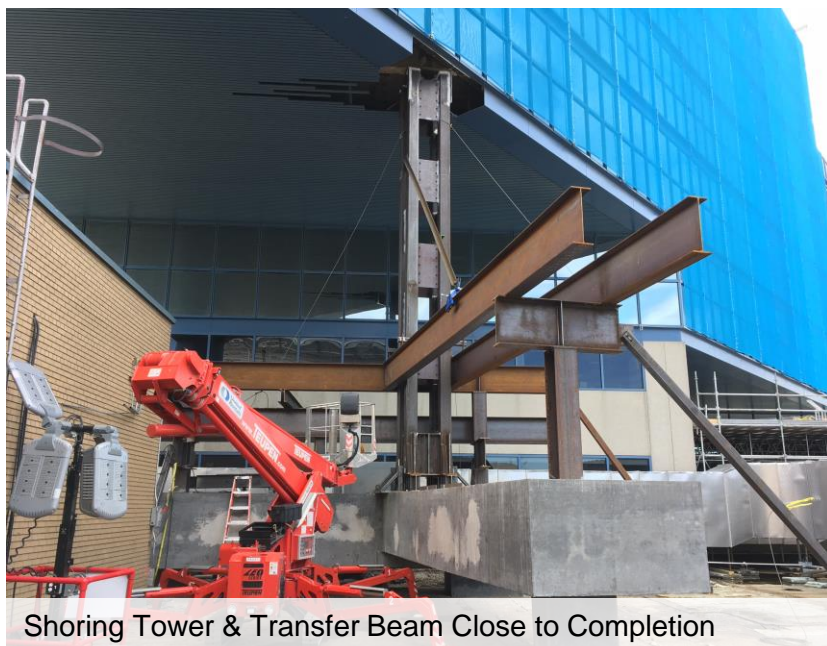
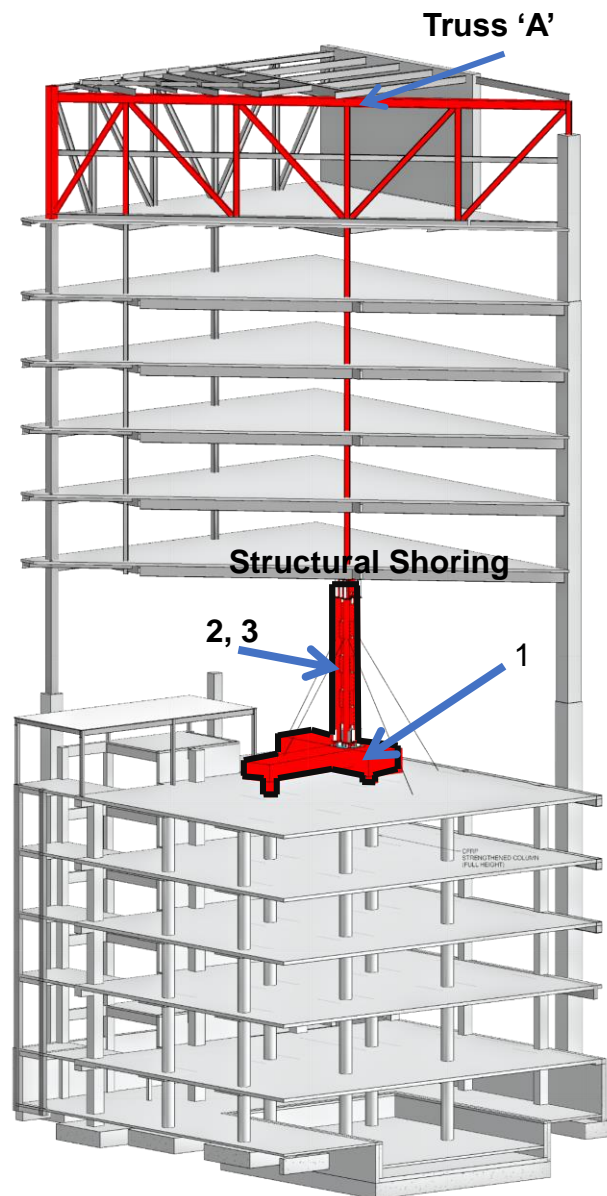


2 - Shoring Tower Installation



3 - Shoring Tower Installation

The new transfer beam distributes the shoring tower load from Truss 'A' to three existing columns of the Administration Building, with one of the existing columns of the Administration Building further reinforced to carry the shoring loads.



Shoring Tower & Transfer Beam Close to Completion

Temporary Box Truss

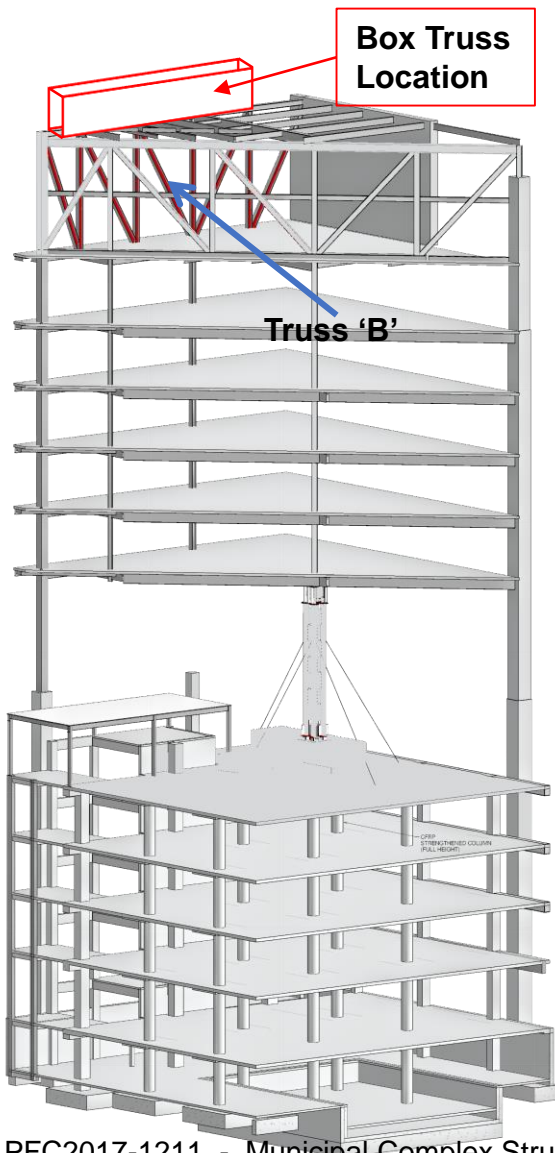
The temporary box truss is located on the roof of the Municipal building to support Truss 'B' remediation efforts. A controlled jacking process was then used to transfer the weight of Truss 'B' onto the temporary box truss assembly.



Box Truss Installation



Box Truss Installation



Box Truss Being Installed



Completed Box Truss

Truss 'A' & 'B' – Structural Upgrades

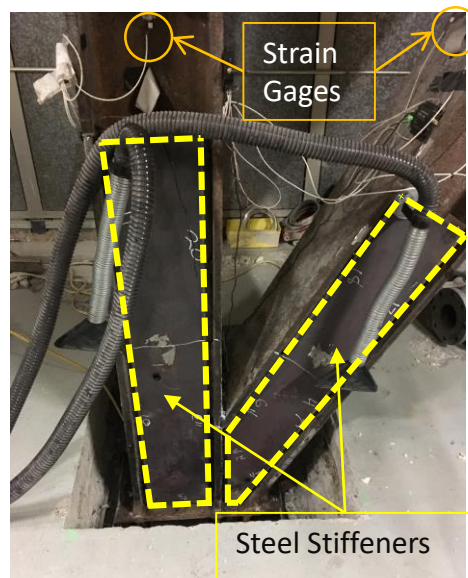
To upgrade the structural integrity of Truss 'A' and 'B' a significant number of additional steel plates, or “stiffeners”, were welded into place to support the connections between the truss and surrounding structure. For Truss A, 61 “stiffeners” have now been welded into place supporting eight joints. For Truss B, 80 “stiffeners” of varying sizes and shapes have been welded into place on nine separate joints ensuring enhanced structural stability and safety code compliance.



Truss 'A' Modification Completed with “Stiffeners”



Example of Steel plates prior to installation; “Stiffeners”



Truss 'B' after “Stiffeners”