



Spruce Grove Fire Services
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Swept Path Analysis

What is a Swept Path Analysis?

A swept path analysis is used to confirm that all proposed access and emergency routes are functional for emergency response vehicles. The swept path analysis simulates the turning movements of the model vehicle and is used to ensure that the length and width of the route is unobstructed.

When is a Swept Path Analysis Required?

All major development permit applications shall include a swept path analysis as part of the Fire Access Plan. Including a swept path analysis with your development permit submission package supports a timely review by Fire Services. A swept path analysis may also be requested by Fire Services for any project. All swept path analysis must use Spruce Grove Fire Services Fire Apparatus Dimensions.

What needs to be shown?

The analysis shall show the turning movements of the Fire Model Vehicle along with the swept path encountered by vehicle overhangs. It should clearly show that no obstacles or obstructions exist along the vehicle's movement path. Please ensure all of the following items are addressed:

- Parked vehicles must be considered and shown on roadways.
- If multiple paths cross each other, please use different colors for tires and overhangs to improve readability.
- The path must show continuous movement; no "corners" shall be seen on the tires or overhang trajectories.
- Carefully review the trajectories – only submit a swept path analysis that confirms unobstructed travel.

Access shall conform to the National Building Code, Alberta Edition 2019. 3.2.5 Provisions for Firefighting.

National Building Code, Alberta Edition 2019. A-3.2.5.6 (1) Fire Department Access.

The design and construction of fire department access routes involves the consideration of many variables, some of which are specific in the requirements in the Code. All these variables should be considered in relation to the type and size of fire department vehicles available in the municipality or area where the building will be constructed. **It is appropriate, therefore, that the local fire department be consulted prior to the design and construction of access routes.**

Spruce Grove Fire Services Vehicle Dimensions

E-One Bronto Sky-lift Aerial, Cyclone 2 Rear Platform Mount

- Overall Length: 13m
- Overall Width: 3m
- Overall Height: 3.6m
- Front Overhang: 2.6m
- Rear Overhang: 4.4m
- Gross Vehicle Weight: 38,147Kg
- Steering Lock Angle: 45 Degrees
- Wheel Base (Tandem rear-center of axle group): 6m

