



# FD ACCESS STANDARDS

CITY OF LEDUC FIRE SERVICES - FIRE PREVENTION BRANCH



## PREFACE

The City of Leduc Fire Services Standards are established in accordance with, but are not limited to:

- The Current National Fire Code Alberta Edition (NFC-AE)
- The Current National Building Code Alberta Edition (NBC-AE)
- Safety Codes Council Standata, Bulletins, Interpretations, Rulings
- City of Leduc Engineering Design Standards
- Fire Response benchmarks as set by The City of Leduc Fire Services

This standard will be reviewed on an annual basis for accuracy, current information, application and/or changes in The City of Leduc Fire Services policies or operational requirements.

The signing authorities have read and understand the contents within this standard, as well as the application of this standard.

This document was completed by the Technical Services Division of the Fire Prevention Branch.

*\*When you click on a link that takes you to another section within this document, press alt and the left arrow button (**alt ←**) to return to the section you were previously reading. \**

# TABLE OF CONTENTS

Preface .....	1
Section 1 - Guiding Statements .....	5
Scope .....	5
Purpose .....	5
Intent .....	5
Review and Updates .....	5
Application .....	5
Section 2 - Submitting Plans .....	6
Emergency Vehicle Set-up and Operational Dimensions .....	6
Section 3 - Access .....	6
Primary Access .....	6
Exemption .....	6
Emergency Access Routes .....	7
Removal/Alterations to Emergency Access Routes .....	7
Second Public Access .....	7
Maintenance of Access .....	8
Access - General Information .....	8
Up to 90m Length .....	8
More than 90m with a dead-end .....	8
Between 120m and 200m length .....	8
Over 200m length .....	8
Additional Notes .....	9
Dead-end Access Route Requirements .....	9
Split Entry Access .....	9
Access through P-loop, place or close .....	9
Emergency Use Zone/Lay by .....	9
Roundabout .....	9
Emergency Access – Swept Path Analysis .....	10
What is a swept path analysis? .....	10
When is a swept path analysis required? .....	10
What needs to be shown in the swept path analysis? .....	10
Section 4 - Signs and Notices .....	11
Requirements .....	11
Posting of Load Limit Signs .....	11

Removal of Required Signs, Gates or Barriers .....	11
Section 5 - Street Design Parameters .....	11
Acceptable Route/Street Surface Finish.....	11
Grades .....	11
Connections .....	11
Entrance Points to Emergency Access Routes .....	11
Gated Communities .....	11
Streets .....	12
Parking Restrictions on Access Routes .....	12
Variances .....	12
Section 6 - Figures .....	13
Figure A: Second Public Access .....	13
Notes:.....	13
Figure B: No Parking Sign.....	14
Notes:.....	14
Figure C: Split Entry Access .....	15
Notes:.....	15
Figure D: Access Through a P-Loop, Place or Close.....	16
Notes:.....	16
Figure E: Emergency Use Zone/Lay by .....	17
Figure F: Roundabout Minimum Dimensions .....	17
Figure G: Single Entrance Access Route.....	18
Notes:.....	18
Figure H: Emergency Access Route, One-Way or Two-Way Street .....	19
Notes:.....	19
Figure I: Two-Way Road .....	20
Notes:.....	20
Figure J: Two-Way Road Parking Both Sides .....	21
Figure K: Standard Emergency Vehicle Gate .....	21
Figure L: City of Leduc Fire Services' Vehicle Dimensions.....	22
Figure M: Example Annotated Drawing Indicating Model Inputs .....	23
Section 7 - Definitions .....	24
Access Gate.....	24
Authority Having Jurisdiction .....	24
Building .....	24
Dead-ends.....	24

Emergency Access Route .....	24
Fire Lane .....	24
Lane or Alley .....	24
Load Limit .....	24
Owner .....	25
Primary Access .....	25
Private Road .....	25
Public Road .....	25
Project .....	25
Public Way .....	25
Registered Professional .....	25
Street .....	25
Second Public Access .....	26
Thoroughfare .....	26
Section 8 - Code Quotations .....	26
NBC-AE — 3.2.3.1. (5) Limiting Distance and Unprotected Openings .....	26
NBC-AE — 3.2.5.6 Access Route Design .....	26
Appendix — 3.2.5.6. (1) Fire Services Access Route .....	26
NBC-AE — 9.10.14.3. (1) Limiting Distance Where Firefighting Facilities are Inadequate .....	26
NBC-AE — 9.10.20.3 Fire Services Access to Buildings .....	27
Appendix — 9.10.20.3. (1) Fire Services Access Route Modification .....	27
NFC-AE 2.5.1.1. (1) Access to a Building .....	27
NFC-AE 2.5.1.5. Maintenance of Fire Department Access .....	27
Section 9 - Referenced Documents and Organizations .....	27
Notes .....	28

## SECTION 1 - GUIDING STATEMENTS

### SCOPE

This standard is designed to provide a method for installing and maintaining adequate, unobstructed emergency or secondary access for emergency vehicles and emergency personnel to buildings, structures, complexes, subdivisions or other developments.

This standard will also help ensure that the application of emergency services response requirements can be carried out in a safe, efficient and timely manner while maintaining the highest level of safety for life and property for all involved.

### PURPOSE

The purpose of this standard is to provide guidance on emergency services access requirements to agencies, departments, stakeholders, developers, registered professionals, designers or any individual responsible for the design, installation, provision and maintenance of required emergency services access in compliance with the current [National Fire Code Alberta Edition \(NFC-AE\)](#) and the current [National Building Code Alberta Edition \(NBC-AE\)](#).

This standard is designed to cover emergency services access requirements not currently addressed in either the [NBC-AE](#) or the [NFC-AE](#). The provisions outlined in this standard are not intended to override federal, provincial, or municipal codes, bylaws, engineering standards or other requirements, but to be applied in conjunction with them.

### INTENT

The intent of this standard is to provide clear direction with regard to emergency vehicle access requirements into the subdivision and development process in the early stages of design, prior to the building permit review.

This is done by identifying and clarifying the terms of an emergency access route or a second public access as it would apply to all developments within Leduc. The standard provides criteria regarding access and safe set-up and operation of all emergency vehicles and all emergency personnel related to an emergency situation and scene.

### REVIEW AND UPDATES

This standard is subject to periodic review and updates to accommodate changes in local requirements, nationally and internationally recognized standards, related technology, or where required by provincial or federal legislation and/or regulations.

### APPLICATION

This standard applies in principle to buildings described in the [current NBC-AE](#) and the [current NFC-AE](#) and to the need for emergency vehicle access not defined or identified in either code.

The objective is to address the issue of consultation with the Leduc Fire Services prior to the design, installation and construction of a community sub-division, site or building in order to meet the operational requirements for the Leduc Fire Services to effectively and safely provide emergency services to the businesses and citizens of Leduc.

## SECTION 2 - SUBMITTING PLANS

Plans for streets, emergency access routes, second public access and emergency access gates or bollards are to be submitted to the Leduc Fire Services for review and approval prior to the start of any projects, including:

- Type of development permit applications requiring review by Fire Services:
  - Multi-residential developments
  - Commercial developments
  - Industrial development
  - Modifications to existing emergency access routes, second public access or fire lanes
  - Others as required by the Fire Marshal
- Subdivision Application
- Development Permit Application
- Building Permit Application
- Modifications to existing emergency access routes, second public access or fire lanes

Each application will be assessed individually and is not to be viewed as precedent setting or as an industry standard.

### EMERGENCY VEHICLE SET-UP AND OPERATIONAL DIMENSIONS

A width of 6m is required for Fire Services apparatus to set up at an emergency scene and to provide a safe work area for emergency personnel performing their duties. This includes:

- 3m for the vehicle
- 2m for non-restricted hose operation, so as not to restrict water flow
- 1m for operation of doors, equipment and manpower
- Aerial units require a minimum of 5m for operation and 6m for setup

## SECTION 3 - ACCESS

### PRIMARY ACCESS

The primary access is considered to be the principal access to a site used by occupants of a development on a daily basis. Primary access will be connected to a local roadway as per the City of Leduc Engineering Standards.

### EXEMPTION

A temporary construction route can be used as an emergency access provided the City determines, in its sole discretion, that:

1. It is built to support the imposed loads of fire apparatus and,
2. Is maintained as per the [Maintenance Access](#) paragraph.

The granting of the foregoing exemption shall not have the effect of precluding any requirement imposed by the City to construct a separate emergency access route at a later date.



## EMERGENCY ACCESS ROUTES

An emergency access route is required when the distance from the centre line of the primary access street to the closest point of the access route at a building's principal entrance exceeds 120 m but is less than 200 m and/or the total number of residential households exceeds 100 ([NFPA 1141](#)).

The emergency route access shall be a minimum of 6 m wide, designed to support a fire apparatus vehicle with a weight of 38,556 kg (Fire Apparatus Load Limit) and to meet the access requirements set out in [NBC-AE article 3.2.5.6](#).

It is to be installed in the early stages of the development or in conjunction with the primary access.

It shall provide an additional route into and out of building sites, complexes, developments, communities, or subdivisions.

These routes shall be provided by the owner or developer for every building or portion hereafter constructed or moved into, full or partial, within the jurisdictional boundaries of The City of Leduc. This would apply to public and private roads.

The emergency access route is to be installed as remote from the primary access as possible or practical.

It shall be connected to a thoroughfare.

The emergency access route will be made available for emergency services vehicles/personnel only and restricted from unauthorized use by way of approved bollards (break-away style) or approved access gate. See [\(Fig. K\)](#) for an example. No-parking signs shall be posted [\(Fig. B\)](#) 20 m apart and 2.3 m above surrounding grade.

Swept Path Analysis may be required. See further information under [Access - General Information](#).

## REMOVAL/ALTERATIONS TO EMERGENCY ACCESS ROUTES

Emergency access routes shall not be altered, modified, removed or placed out of service without written request to and written approval by the Fire Marshal.

## SECOND PUBLIC ACCESS

A second public access is required as per the [City of Leduc Engineering Standards](#).

The second public access provides an additional route into and out of building sites, complexes, developments, communities or subdivisions. These streets are to remain accessible to all, be maintained and remain unobstructed.

These streets shall be provided by the owner or developer for every building or portion hereafter constructed or moved into, full or partial, within the jurisdictional boundaries of The City of Leduc. This would apply to public and private roads.

The second public access when installed is to be as remote from the primary access as possible or practical.

It shall be connected to a thoroughfare.

[\(See Fig. A\)](#)

## MAINTENANCE OF ACCESS

It is unrealistic to assume that either a municipality or a private owner can guarantee an operational year-round snow removal program to ensure routes will be clear of snow and debris at all times. However, routes should be designed to readily allow for snow removal throughout the year. Emergency access routes should withstand typical climatic conditions. This is the responsibility of the owner(s) to maintain.

Heavy rain conditions can reduce the ability of a road to bare the weight of heavy vehicles. It is reasonable that an emergency access be useable 90% of the time for emergency use. Where rain conditions have made the emergency access temporarily unusable it is the responsibility of the owner to have the emergency access repaired/functional within reasonable timeframe as the City may require.

## ACCESS - GENERAL INFORMATION

### *UP TO 90M LENGTH*

- No turnaround required.
- No other access required.

### *MORE THAN 90M WITH A DEAD-END*

- Turnaround required for any dead-end portion of the access route more than 90m long.
- "Hammer-head" or turnaround.
- No other access required.
- Turnaround can also be a parking lot meeting 12.0m centre line of roadway radius at corners and 6.0m minimum road width.

### *BETWEEN 120M AND 200M LENGTH*

- Emergency access route required (minimum 6m wide and designed to carry fire apparatus load of 38,556 kg (Fire Apparatus Load Limit))
- Emergency access road must connect to public thoroughfare.
- Bollards or approved gate may be used to limit access to emergency vehicles only.

### *OVER 200M LENGTH*

- Second public access required.
- Full public road standard, as per the [City of Leduc Engineering Standards](#), connecting to public thoroughfare.

## ADDITIONAL NOTES

- Residential projects with one to 100 households require one primary access point. Residential projects with more than 101 households require a Primary and an Emergency Access point(s).
- The AHJ reserves the right to require additional access points as emergency access routes or second public access depending on the operational requirements, topography etc. Of each site as per NFPA 1141 "Standard for Fire Protection Infrastructure for Land Development in all Suburban and Rural Areas."
- Access routes/streets design and construction standards to confirm [NBC-AE article 3.2.5.6.](#) And/or City of Leduc Engineering Design Standards.

## DEAD-END ACCESS ROUTE REQUIREMENTS

- Dead-end access routes in excess of 90 m shall be provided with the required turnaround as per [NBC-AE article 3.2.5.6.](#) And [\(Fig. A\)](#)

## SPLIT ENTRY ACCESS

- A split-entry access (primary access divided by an island or boulevard feature creating an entrance and exit at the primary access location) will not be deemed to be the primary access on one side and an emergency access route or second public access on the other side. An incident at this location would render the access inoperable either for additional emergency vehicle access or for occupants exiting the site. [\(Fig. C\)](#)

## ACCESS THROUGH P-LOOP, PLACE OR CLOSE

- Access to a building by a street with a single access (such as the stem of a P-loop) shall be considered a single point of entry *even if there is more than one entry point into the building site within the loop of the P-loop*. Measurements to the principal entrance of each building will be taken from this single access start/choke point. [\(Fig. D\)](#)

## EMERGENCY USE ZONE/LAY BY

- Should an emergency use zone/ lay by be required or provided, it shall be designed and installed as per [Figure E.](#)

## ROUNDBOUT

- Should a roundabout be planned, it shall meet the minimum dimensions as per [Figure F.](#)

## EMERGENCY ACCESS – SWEPT PATH ANALYSIS

### WHAT IS A SWEPT PATH ANALYSIS?

- A Swept Path Analysis is used to confirm that the proposed emergency access route is 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 of the access route is unobstructed.

### WHEN IS A SWEPT PATH ANALYSIS REQUIRED?

- It is strongly recommended that all Major Development Permit Applications 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 the Fire Services. A Swept Path Analysis may not be required when the proposed emergency access is a straight run with only one simple 90-degree turn.

### WHAT NEEDS TO BE SHOWN IN THE SWEPT PATH ANALYSIS?

- The analysis should show the turning movements of the largest fire apparatus ([Fig. M](#)), 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 considered:
  - Parked vehicles must be considered/shown on narrow roads.
  - If multiple paths cross each other, please use different colours for tires/overhang to improve readability.
  - The path must show continuous movement; no "corners" should be seen on the tire/overhang trajectories.
  - Carefully review the trajectories - only submit a Swept Path Analysis that confirms unobstructed travel
- The analysis must use the City of Leduc Fire Services' vehicle dimensions ([Fig. L](#)); include an annotation on the drawing indicating the model inputs used ([Fig. M](#)).
- For more information on emergency access routes, please refer to sections [NBC-AE article 3.2.5.6](#) and [A-3.2.5.6\(1\)](#) of the National Building Code - Alberta Edition.

## **SECTION 4 - SIGNS AND NOTICES**

### **REQUIREMENTS**

Approved signs shall be provided by the owner(s) or agents of the owner and maintained at all times. This will clearly identify the building address, access gates, access routes, fire lanes, no parking zones, etc.

### **POSTING OF LOAD LIMIT SIGNS**

Vehicle load limits shall be posted in conspicuous, clearly visible areas and maintained by the owner(s) at both entrances to a bridge or access over a below grade structure. Lighting may be required for illumination during night hours.

### **REMOVAL OF REQUIRED SIGNS, GATES OR BARRIERS**

Locks, gates, chains, signs, tags or seals that have been installed as per this standard and for use by emergency personnel shall not be removed, unlocked, destroyed, tampered with or defaced in any manner. They shall be maintained in proper working condition.

## **SECTION 5 - STREET DESIGN PARAMETERS**

### **ACCEPTABLE ROUTE/STREET SURFACE FINISH**

The street/route shall be designed to support 38,556 kg (Fire Apparatus [Load Limit](#)) and be finished with concrete, heavy duty asphalt or other hard-surface approved material designed to permit accessibility. It shall be maintained under all weather conditions. Where Turfstone, Structural Grass or similar products are used delineation of the path is required.

### **GRADES**

Access routes shall have a grade of not more than 8 per cent. This is the maximum grade at which Leduc Fire Services aerial units can position and function.

### **CONNECTIONS**

All access routes, whether emergency or secondary shall be connected to a public thoroughfare and not to a lane, alley or pedestrian pathway unless approved by the Fire Marshal.

### **ENTRANCE POINTS TO EMERGENCY ACCESS ROUTES**

Street entrances to emergency access routes shall provide the required curb structure or transition to allow Leduc Fire Services apparatus adequate space to turn from the adjoining thoroughfares. The transition from a thoroughfare to the emergency access route shall not be in excess of an 8 per cent grade to prevent bottoming out of the fire apparatus bumpers or undercarriage.

### **GATED COMMUNITIES**

The main security entry gate into a gated community is required to have emergency vehicle access activation built into the gate operator.

The operator must open the gate on the audible sound of the YELP Mode on an emergency vehicles siren, or activation of emergency lights. The activation process must be identified via signage to emergency services.

## STREETS

All streets are to be nine metres (9m) or more in width as described in this standard ([NBC—definition of a street](#)). This requirement does not supersede the minimum widths outlined in the City of Leduc Engineering Design Standards. Street means any highway, road, boulevard, square or other improved thoroughfare 9m or more in width that has been dedicated or deeded for public use and is accessible to Fire Services vehicles and equipment.

The drive aisle on private property a minimum 7.0m wide. This would include drive aisles in commercial developments that have public use.

## PARKING RESTRICTIONS ON ACCESS ROUTES

6.0M WIDE: No parking of any kind. No-parking signs shall be posted on both sides of the access route. ([Fig. H](#))

7.5M WIDE: Parking will be permitted on one side of the access route. No-parking signs posted on one side of the access route. ([Fig. I](#))

9.0 M WIDE OR GREATER: Parking shall be permitted on both sides of the access route. ([Fig. J](#))

SINGLE ENTRANCE ACCESS ROUTE: No-parking signs shall be posted on both sides of the access route as per ([Fig. G](#))

DRIVING SURFACE MEASUREMENT: The acceptable driving surface of an access route or street is the asphalt area measured between the concrete curb and gutter on each side of the route/street. The .25 m of the curb and gutter on each side of the access route are not to be included in the access route/street's required dimensions. (Figs. [G](#), [H](#), [I](#), and [J](#))

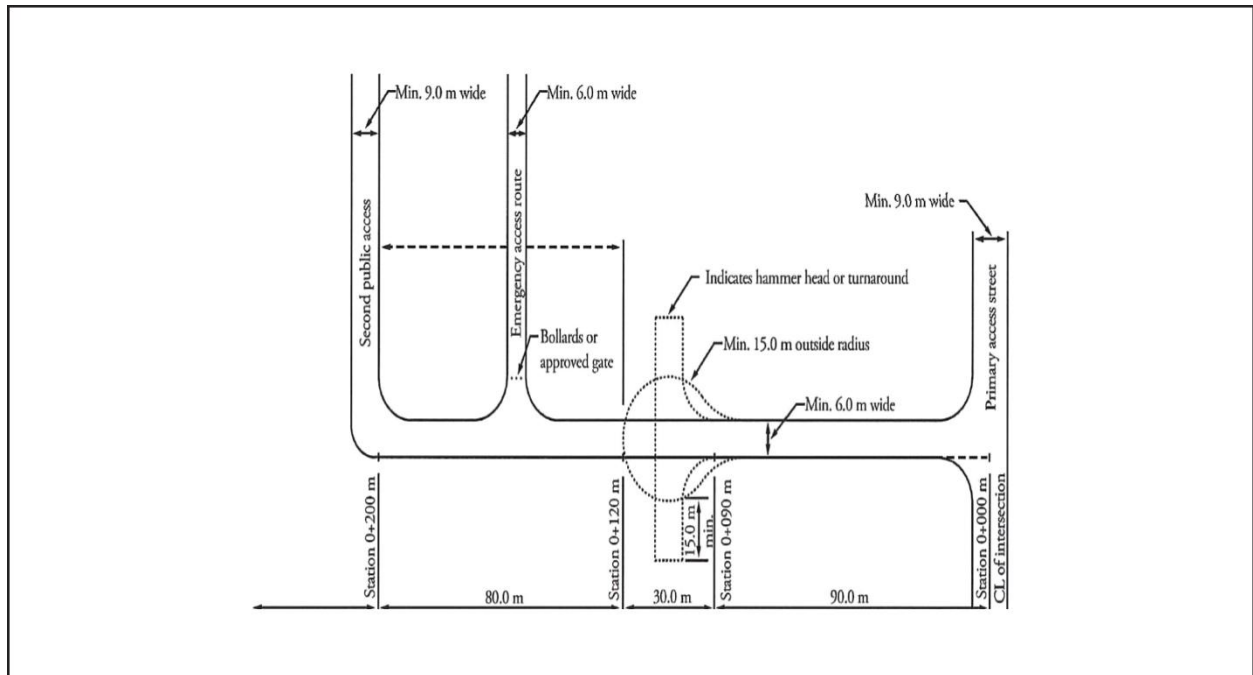
## VARIANCES

Any variance from this standard will require written application to the Fire Marshal for review and approval. Any request could require a field test with Leduc Fire Services apparatus to demonstrate that the alternate design meets the requirements of the Leduc Fire Services. Upon approval, the application will be signed and accepted by the Fire Marshal.

Any variance will be site specific to that particular application and is not to be viewed as an industry standard or as precedent setting. It is to be noted a fee structure will be applied to any request for a field test of a proposal involving the Leduc Fire Services and is payable by the applicant prior to the field test.

## SECTION 6 - FIGURES

**FIGURE A: SECOND PUBLIC ACCESS**



### NOTES:

- Stationing starts from centre line or right-of-way at intersection with public thoroughfare.

**FIGURE B: NO PARKING SIGN**

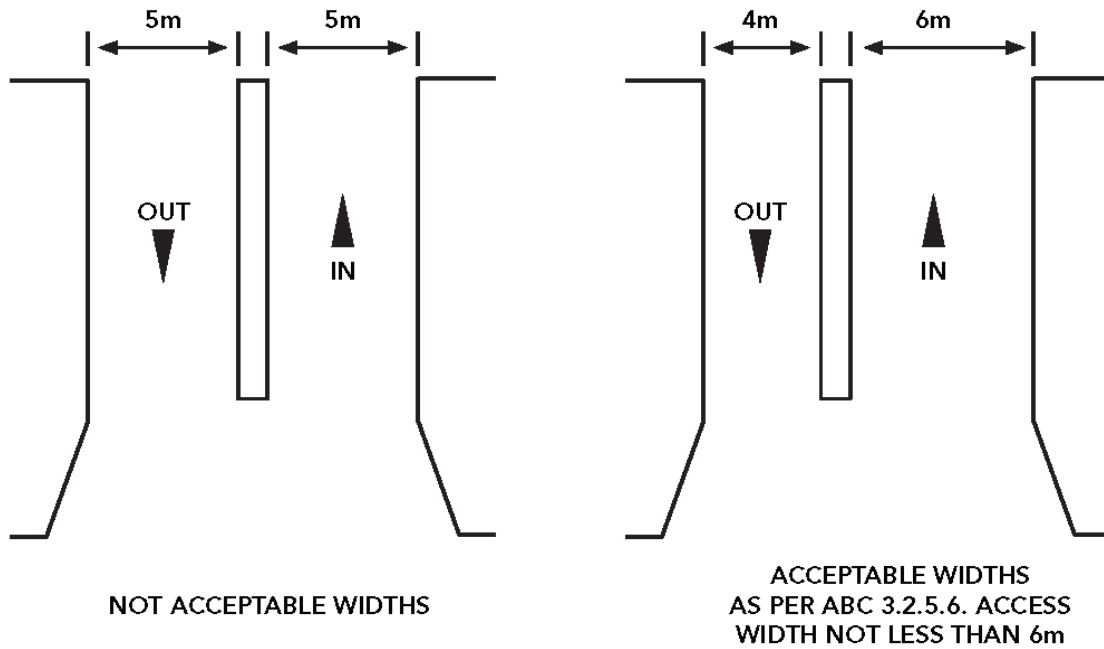


*NOTES:*

- |  |  |
|--|--|
| <ul style="list-style-type: none"><li>■ Size: 300 mm x 450 mm</li><br/><br/><br/><br/><br/><li>■ Color: RED — circle and slash<br/>BLACK— lettering, arrows and border<br/>SILVER (WHITE) — background</li></ul> | <ul style="list-style-type: none"><li>■ Sign: Hi-intensity grade reflective sheeting (3M brand or equal)<br/><br/>SIGN BLANK - 0,081 in. High tensile aluminum; or 0.5 in. Crezone overlay plywood — both sides (Weldwood Duraply or equal)</li><br/><li>■ Note: Use applicable arrow right and arrow left to indicate limits of zone; and double arrows on mid-zone signs.<br/><br/>Posted 20m apart 2.3m above surrounding grade</li></ul> |
|--|--|



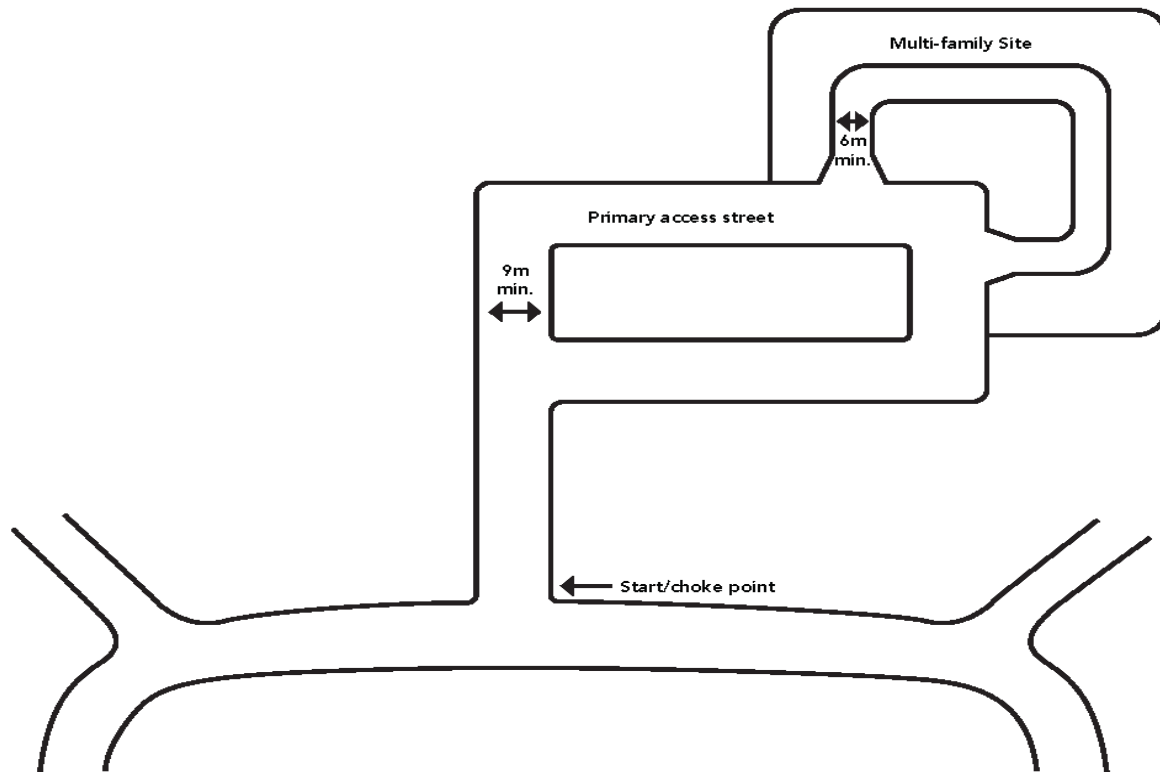
**FIGURE C: SPLIT ENTRY ACCESS**



*NOTES:*

- A split-entry access is not deemed an emergency access route or second public access.
- A split-entry access is deemed a single access point.

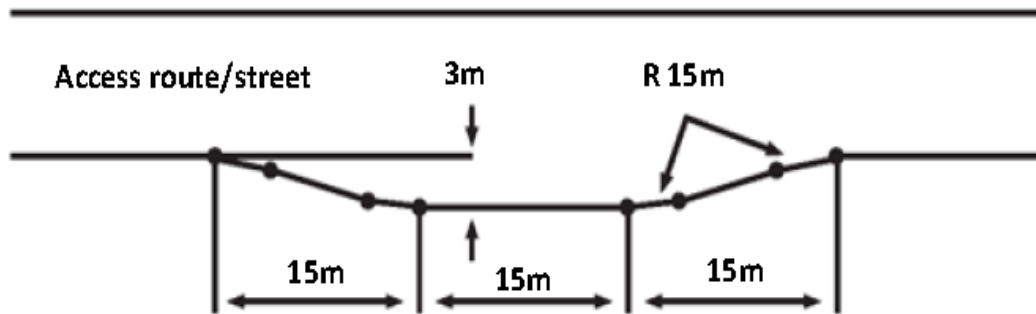
**FIGURE D: ACCESS THROUGH A P-LOOP, PLACE OR CLOSE**



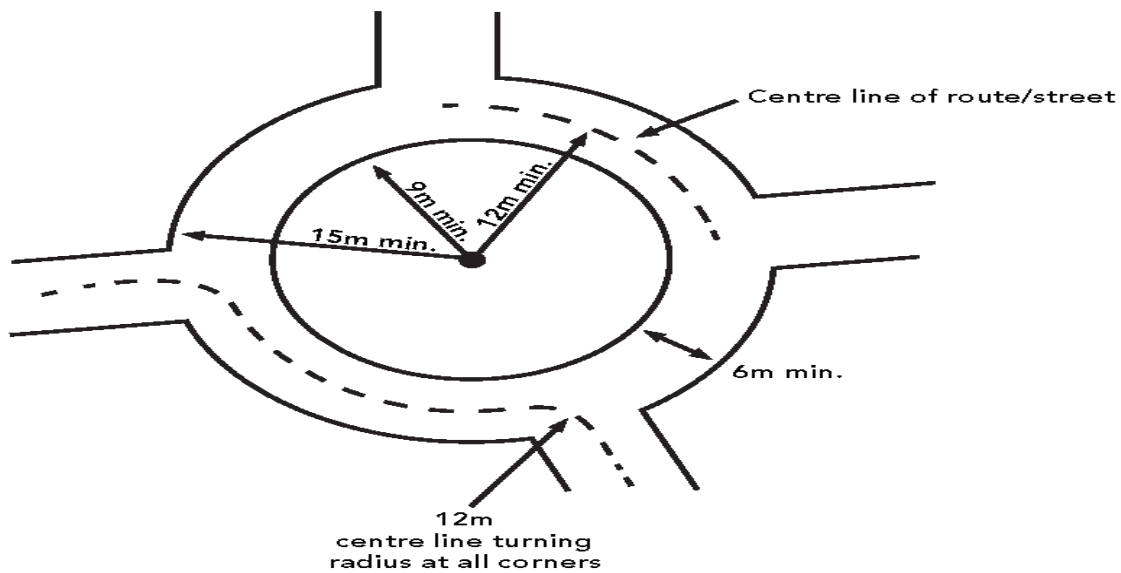
*NOTES:*

- Emergency or second public access measurements taken at "start/choke point" to building principal entrance(s).
- There are two entrances to the multi-family site from within the P-loop, but only one entrance to the entire area.

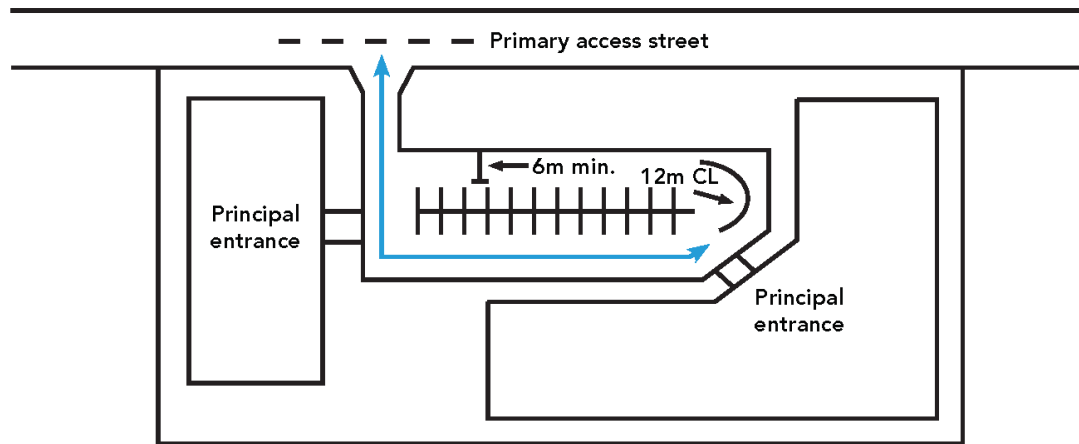
**FIGURE E: EMERGENCY USE ZONE/LAY BY**



**FIGURE F: ROUNDABOUT MINIMUM DIMENSIONS**



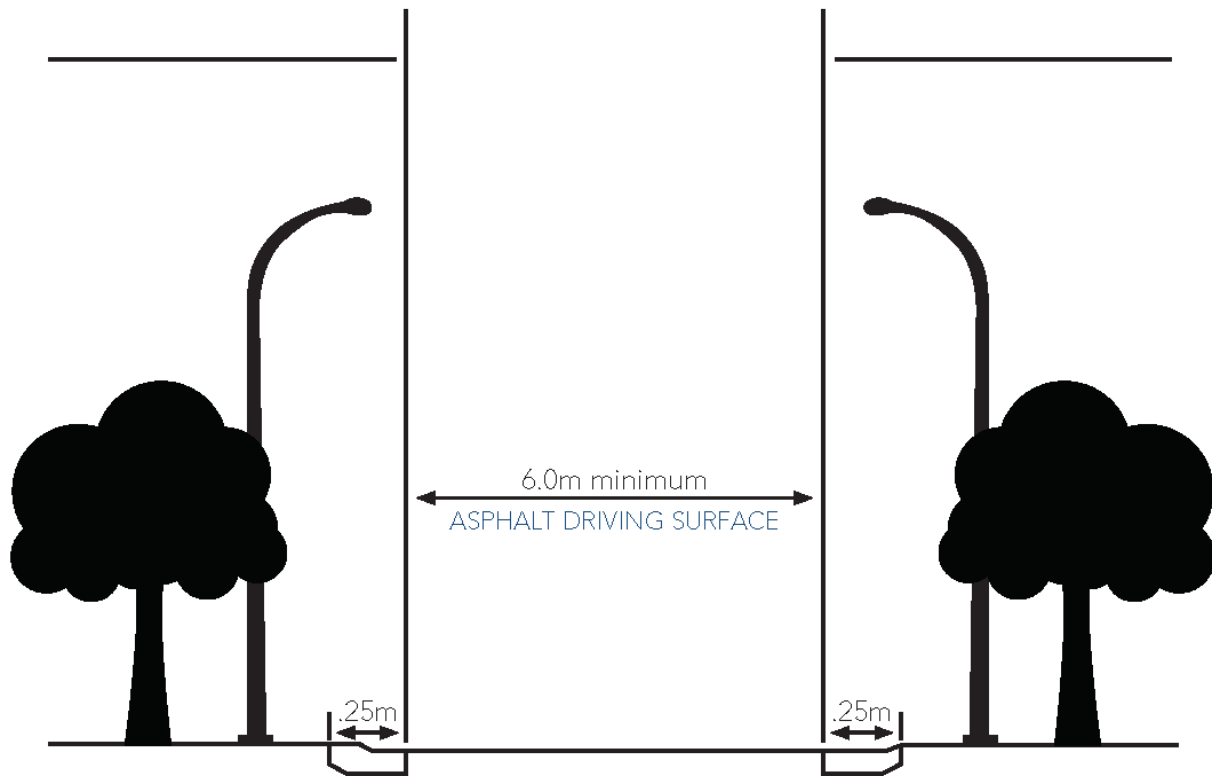
**FIGURE G: SINGLE ENTRANCE ACCESS ROUTE**



*NOTES:*

- Refer to City of Leduc Engineering Standards.

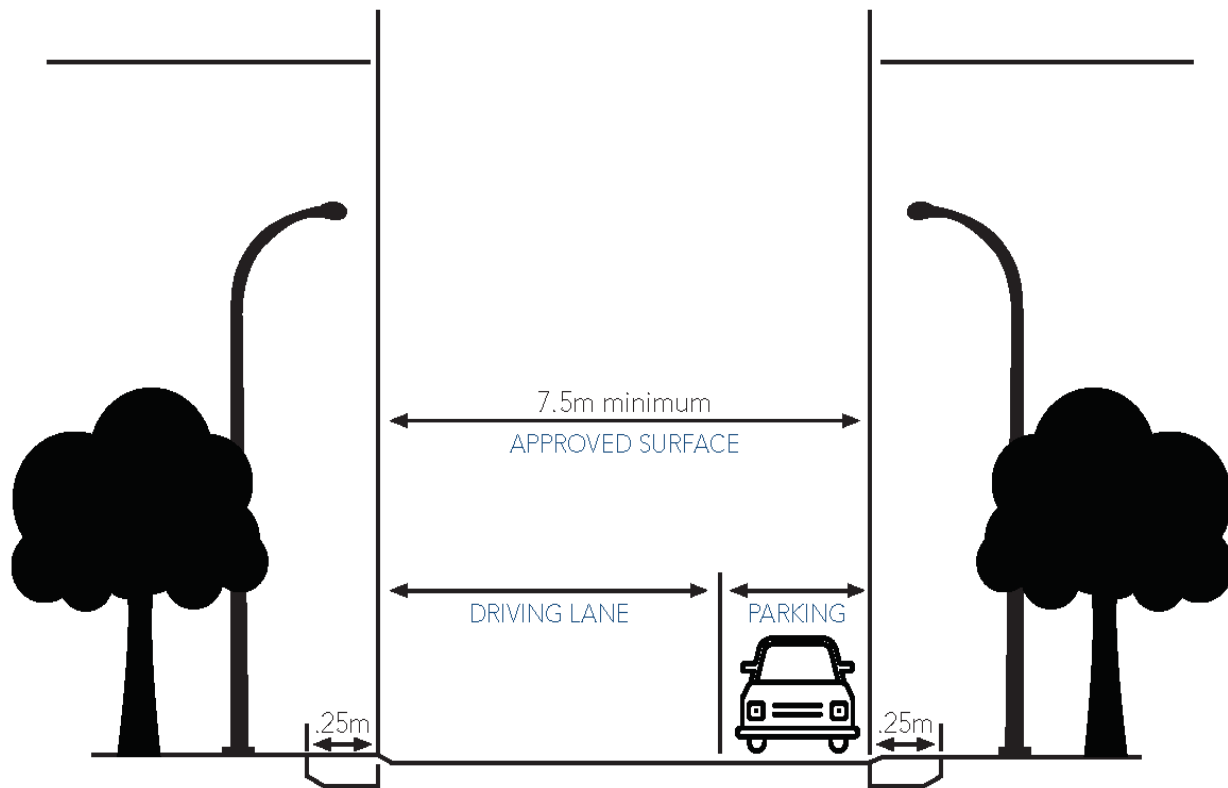
**FIGURE H: EMERGENCY ACCESS ROUTE, ONE-WAY OR TWO-WAY STREET**



*NOTES:*

- No parking permitted, no-parking signs posted each side 20m apart, 2.3m above surrounding grade.

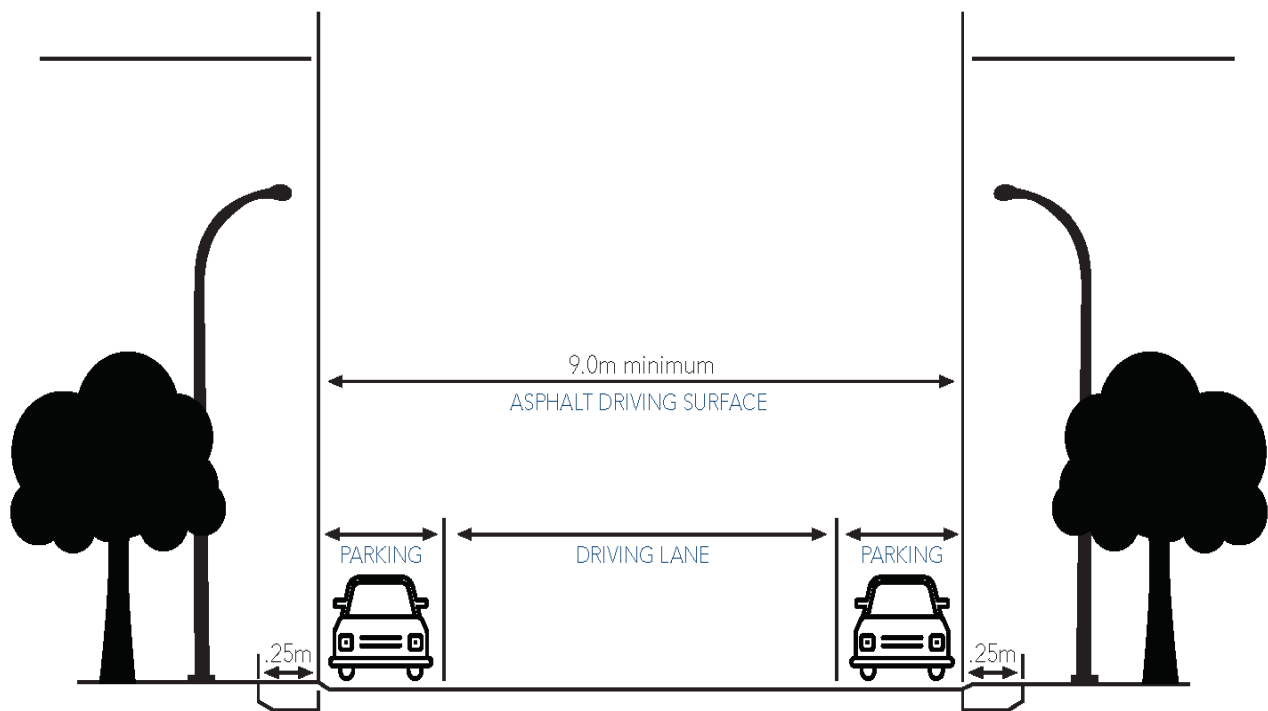
**FIGURE I: TWO-WAY ROAD**



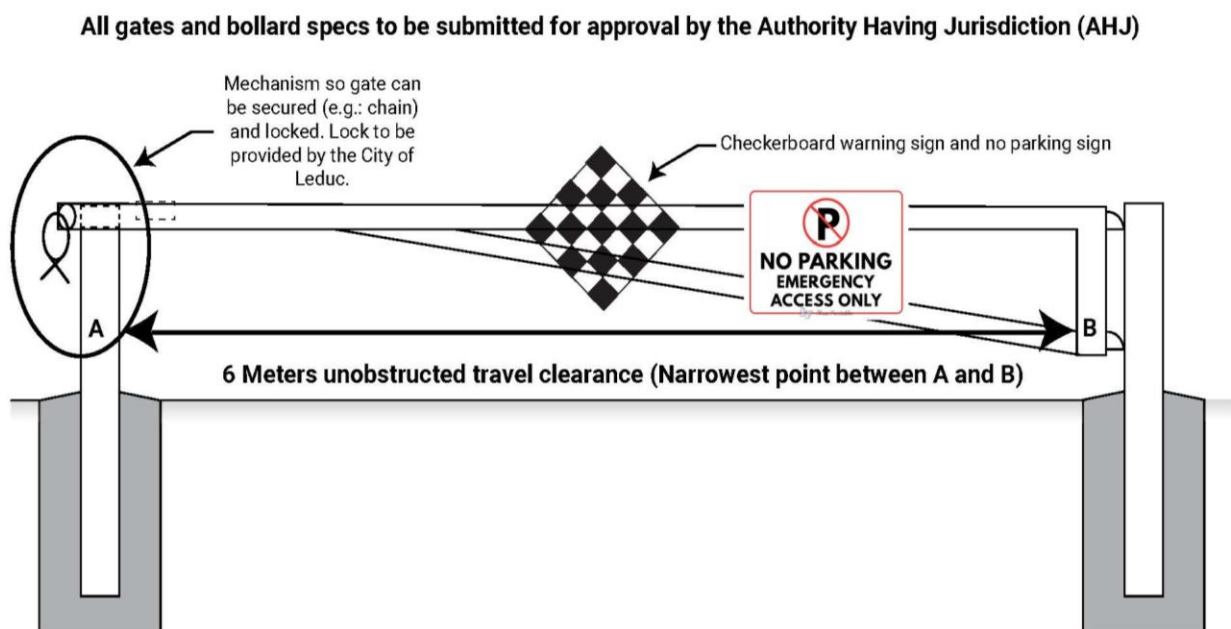
**NOTES:**

- Parking one side only, no –parking signs posted 20m apart, 2.3m above surrounding grade.

**FIGURE J: TWO-WAY ROAD PARKING BOTH SIDES**



**FIGURE K: STANDARD EMERGENCY VEHICLE GATE**



**FIGURE L: CITY OF LEDUC FIRE SERVICES' VEHICLE DIMENSIONS**

---

**Aerial Fire Truck**

**Overall Length: 15.1 m**

**Overall Width: 2.6 m**

**Wheel Base (tandem rear-centre of axle group): 6.3 m**

**Steering Lock Angle: 44°**

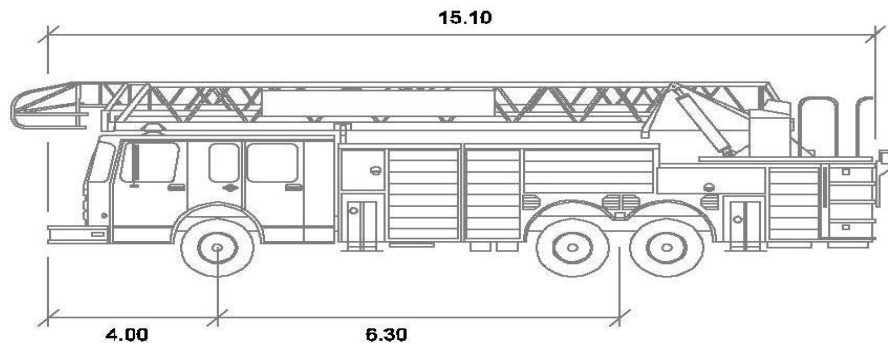
**Rear Overhang: 4.8 m**

**Front Overhang: 4.0 m**

**Lock to Lock Time: 6 Seconds**

**GVW (largest): 38,556 kg**

---



FIRE TRUCK LEDUC	
WIDTH	2.60m
TRACK	2.60m
LOCK TO LOCK TIME	6 seconds
STEERING ANGLE	44.0



**City of Leduc Fire Services - Fire Prevention Branch**



## SECTION 7 - DEFINITIONS

### ACCESS GATE

- Is any approved means of restricting access to an emergency access route. Access gate design and installation specs are to be submitted for approval by the Authority Having Jurisdiction (AHJ).

### AUTHORITY HAVING JURISDICTION

- Means a safety codes officer in the fire or building discipline, exercising authority pursuant to designation of powers and terms of employment in accordance with the Safety Codes Act.

### BUILDING

- Means any structure used or intended for supporting or sheltering any use or occupancy.

### DEAD-ENDS

- Are access roads connected to a thoroughfare, which do not include a turnaround area and are not over 90 m in length.

### EMERGENCY ACCESS ROUTE

- Provides a way into a building, complex, development or community to facilitate, supplement or assist emergency operational procedures, such as firefighting and is to be used by emergency services personnel only. They are to be designed and implemented as outlined in this standard and following [NBC-AE article 3.2.5.6.](#)

### FIRE LANE

- Is part of an access road adjacent to a building or structure clearly marked and indicated, as per this standard, to be used by emergency vehicles and personnel in the event of a fire or emergency situation.

### LANE OR ALLEY

- Is used in reference to "rear lanes" so as to avoid confusion with parking lane, driving lane or fire lane.

### LOAD LIMIT

- Is the operational total weight of an apparatus 38,555kgs, (85000lbs) with equipment and manpower assigned to the vehicle. Axle weight distribution; Rear Tandem Axle 23,496kg, (51,800lbs), Steering Axle 9,393kg (20,708lbs).

## **OWNER**

- Means a person who
  - a) Controls the property under consideration.
  - b) Holds him/herself out as the person having the powers and authority of ownership or who, for the time being, exercises the powers and authority of ownership.
  - c) Is registered under provincial legislation as the owner of a freehold estate in possession of land.
  - d) Has purchased or otherwise acquired land, whether directly from a previous owner or from another purchaser, and has not yet registered his/her ownership.

## **PRIMARY ACCESS**

- The primary access is considered to be the principal access to a site used by occupants of a development on a daily basis.

## **PRIVATE ROAD**

- Is privately owned by one or more persons or groups (e.g., condo boards) that provides and connects into, through or between one or more streets or to any portion of a parking lot, shopping center, commercial area or development. All services related to maintenance, upkeep or snow removal for this type of road are the responsibility of the owner(s) or designated person(s).

## **PUBLIC ROAD**

- Is a public right-of-way, however designated, dedicated to providing access to adjacent property that is built and maintained by public service business units and that may include above and below ground services such as gas, power, telephone, etc.

## **PROJECT**

- Means any construction, alteration or demolition operation.

## **PUBLIC WAY**

- Means a sidewalk, street, highway, square or other open space to which the public has access, as of right or by invitation, expressed or implied.

## **REGISTERED PROFESSIONAL**

- Means a person who is registered or licensed to practice in the Province of Alberta as
  - a) An architect under the Architects Act
  - b) A professional engineer under the Engineering, Geological and Geophysical Professions Act.

## **STREET**

- Means any highway, road, boulevard, square or other improved thoroughfare 9 m or more in width, that has been dedicated or deeded for public use and is accessible to Fire Services vehicles and equipment.

## SECOND PUBLIC ACCESS

- Is a street 9 m wide or more designed to City of Leduc Engineering standards and connected to a thoroughfare.

## THOROUGHFARE

- Is deemed to meet the minimum design and dimension of a street.

## SECTION 8 - CODE QUOTATIONS

### NBC-AE — 3.2.3.1. (5) LIMITING DISTANCE AND UNPROTECTED OPENINGS

1. If a building has any storey that is not sprinklered and firefighting facilities cannot reach it within 10 min of the alarm being received, the limiting distance shall be doubled.

### NBC-AE — 3.2.5.6 ACCESS ROUTE DESIGN

1. A portion of a roadway or yard provided as a required access route for Fire Services use shall:
  - a) Have a clear width not less than 6 m, unless it can be shown that lesser widths are satisfactory,
  - b) Have a centreline radius not less than 12 m,
  - c) Have an overhead clearance not less than 5 m,
  - d) Have a change of gradient not more than 1 in 12.5 over a minimum distance of 15m,
  - e) Be designed to support the expected loads imposed by firefighting equipment and be surfaced with concrete, asphalt or other material designed to permit accessibility under all climatic conditions,
  - f) Have turnaround facilities for any dead-end portion of the access route more than 90 m long, and,
  - g) Be connected with a public thoroughfare.

### APPENDIX — 3.2.5.6. (1) FIRE SERVICES ACCESS ROUTE

The design and construction of Fire Services access routes involves the consideration of many variables some of which are specified in the requirements in the code. All these variables should be considered in relation the type and size of Fire Services vehicles available in the municipality or area where the building will be constructed. It is appropriate, therefore, that the City of Leduc Fire Services be consulted prior to the design and construction of access routes.

### NBC-AE — 9.10.14.3. (1) LIMITING DISTANCE WHERE FIREFIGHTING FACILITIES ARE INADEQUATE

1. The limiting distance required by Article 9.10.14.4. Shall be doubled where firefighting facilities and protective wetting facilities are not available within 10 min of an alarm being received by the Fire Services.



## **NBC-AE — 9.10.20.3 FIRE SERVICES ACCESS TO BUILDINGS**

1. Access for Fire Services equipment shall be provided to each building by means of a street, private roadway or yard. (See [A - 3.2.5.6. \(1\)](#) & [A - 9.10.20.3. \(1\)](#) in Appendix A.)
2. Where access to a building as required in Sentence (1) is provided by means of a roadway or yard the design and location of such roadway or yard shall take into account connection with public thoroughfares, weight of firefighting equipment, width of roadway, radius of curves, overhead clearance, location of fire hydrants, location of Fire Services connections and vehicular parking.

## **APPENDIX — 9.10.20.3. (1) FIRE SERVICES ACCESS ROUTE MODIFICATION**

In addition to other considerations taken into account in the planning of Fire Services access routes, special variations could be permitted for a house or residential building that is protected with an automatic sprinkler system. The sprinkler system must be designed in accordance with the appropriate NFPA standard and there must be assurance that water supply pressure and quantity are unlikely to fail. These considerations could apply to buildings that are located on the sides of hills and are not conveniently accessible by roads designed for firefighting equipment and also to infill housing units that are located behind other buildings on a given property.

## **NFC-AE 2.5.1.1. (1) ACCESS TO A BUILDING**

Fire Services vehicles shall have direct access to at least one face of every building by means of a street, yard or roadway in conformance with the [current NBC-AE](#).

## **NFC-AE 2.5.1.5. MAINTENANCE OF FIRE DEPARTMENT ACCESS**

1. Streets, yards and roadways provided for Fire Services access shall be maintained so as to be ready for use at all times by Fire Services vehicles.
2. Vehicles shall not be parked to obstruct access by Fire Services vehicles and signs shall be posted prohibiting such parking. ([Fig. B](#))

## **SECTION 9 - REFERENCED DOCUMENTS AND ORGANIZATIONS**

1. [The Current National Fire Code \(AE\)](#)
2. [The Current National Building Code \(AE\)](#)
3. [City of Leduc Engineering Standards](#)
4. [NFPA 1141 - Standard for Fire Protection Infrastructure for Land Development in Wildland, Rural, and Suburban Areas \(2017\)](#)

## NOTES

