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**Protection of Adjacent Building**

**ISSUE**

Safety provisions at construction and demolition sites are established in **Section 5.6 Construction and Demolition Sites** of Division B of the Alberta Fire Code (AFC).

**Article 5.6.1.2. Protection of Adjacent Building** sets out requirements to protect buildings and facilities from fire originating from other buildings, facilities and associated areas undergoing construction, alteration and demolition.

During the public review of recommendations for High Intensity Residential Fires (HIRF) it was determined that concerns regarding protection of adjacent buildings be further clarified.

**INTERPRETATION**

The AFC applies to all construction and demolition sites including single family residential developments.

The owner, developer or contractor responsible for a construction or demolition site is required to incorporate measures, acceptable to a Safety Codes Officer, Fire, and outlined in the required Fire Safety Plan (see Article 5.6.1.3). These protection measures, as outlined in the Fire Safety Plan, should provide a reasonable expectation that circumstances of ignition are removed from, or mitigated on, the site and that any fire which does originate on a building or facility construction or demolition site will not quickly spread to exposed adjacent buildings or facilities.

These measures must take into account the size, type and configuration of the project, the methods of construction or demolition to be utilized and the distance to, and stage of completion of, adjacent exposures. Solutions may be active, passive or a combination of both to achieve the desired protection. As such there is no “one solution” that will be appropriate for all projects.

For explanatory purposes this Interpretation focuses on single family residential construction in new sub-divisions. Most of these suggested solutions are adaptable or scalable and could be used to mitigate other situations.

AFC Appendix reference A-5.6.1.2. provides a non-exhaustive, non-exclusive list of suggestions which notes the following items:

- spatial separation,
- water curtains,
- fire resistive construction methods, or
- temporary fire barriers such as a fire tarpaulin.

Other methods which could be utilized to provide some of the required protection include:

- application of an acceptable intumescent or flame-retardant coating in accordance with the manufacturer's directions and the criteria utilized in any performance tests,
- installation of an acceptable temporary flame/heat resistant membrane that can be temporarily affixed to the exterior sheeting of exposed walls prior to closure and cladding in accordance with the manufacturer's directions and the criteria utilized in any performance tests,
- temporary fencing and securing of a building site,
- on site security personnel tasked with regular fire watch duties,
- smoking in designated areas outside the building or facility,
- limitations on the amount of combustible and flammable materials on site.
- proper separation and storage of combustible and flammable materials on site,
- daily clean up and disposal of combustible waste in secured non-combustible containers,
- a fire watch at the beginning of every break period on site in addition to a comprehensive site inspection at the end of each day,
- temporary electronic intrusion and thermal detection systems, or
- planned and coordinated non-sequential construction, in new residential subdivisions

Other provisions of Section 5.6 deal with Hot Works procedures and permits, the refueling and usage of fuel fired appliances and equipment and the use of temporary heating during construction.

It must be noted that the calculations for required limiting distances, spatial separations and unprotected openings as outlined in the Alberta Building Code 2006 deal with the exposed walls as a completed assembly at the conclusion of construction. Where two adjacent structures are expected to be at the framing or sheeting stage at the same time it is necessary for the Safety Codes Officer, Fire, in consultation with the affected owners/contractors, to determine what measures are appropriate during this period when the structures are the most vulnerable to fire spread.

The methods and steps outlined are only some of the possible suggestions. Some may only be required for a specific period(s) of time when on site conditions or activities create increased vulnerability.

Innovation, collaboration and discussion between contractors, owners, developers, local Safety Codes Officers (Building and Fire) and Workplace Health & Safety Officers would be expected to result in additional solutions that meet the need for protection and determining when the use of each of the identified solutions, singly or in sets, would be the most effective for the owner and acceptable to the fire authority.