



City of Hamilton

Architects: **Cohos Evamy Integratedesign**
Consultants: **Cohos Evamy Integratedesign**



Multi-Agency Training Academy:

This one-of-a-kind facility permanently houses all of the city's fire, police and EMS divisions in one complex, as well as the emergency management and preparedness division. The Multi-Agency Training Academy consists of three components: a multi-storey building and indoor training facility for fire, police, primary response and emergency preparedness, an outdoor training tower, and a working fire and EMS station.

A 45,000-50,000 square foot, two-storey training centre for classrooms, simulation areas, storage and ancillary support spaces. A three apparatus bay Fire and EMS station 10,000 square feet. A five storey training/Emergency Centre (EOC) building 55,000-60,000 square feet including gun range. A new outdoor smoke & burn tower. Parking, storage and landscaping.

Project Highlights:

- BACNet used for networking, ease of communication
- Outdoor air (OA) is monitored for smoke and CO₂ levels. If these levels measure as high, the internal air is recirculated.
- Variable frequency drives (VFDs) for all pumps to save energy and maintain better water pressure for the loop
- Firing range and Fire Fighter Training room are fed by make-up air (MUA) units and exhaust fan (EF). These are interlocked to maintain air quality at comfortable levels.

Project Details:

Building A:

- CO and NO₂ from vehicle exhaust are kept at safe levels by the main controller. This controller enables exhaust fans (EFs) when CO and NO₂ rise to dangerous levels.
- Five Variable Air Volumes (VAVs) are served by an air handling unit (AHU) with heating option

Building B:

- Office building is heated by two modulating boilers
- Two air handling units (AHU). These work together to maintain comfortable space temperature, CO₂ and humidity levels.

Building C:

- Two special heat recovery units recover energy from the exhaust air. It is transferred to the fresh air component of the MUA unit. Typically, heat wheels are used to recover energy, in Building C, energy is recovered through the heating coils.
- Two air handling units (AHUs) provide air to 22 variable air volumes (VAVs)



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