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SUBJECT: Drainage of Water from Elevator Pits

This bulletin has been developed to inform the plumbing industry of the requirements associated with the installation of pit drains located in elevator pits.

Installers are reminded that the National Plumbing Code of Canada (NPC), as adopted by the Plumbing Code Regulation (119/2007) and the ASME A17.1-2013/CSA-B44-13 Safety Code for Elevators and Escalators, both have requirements for the drainage of water from elevator pits.

Changes to the Elevator Code ASME A17.1-2013/CSA-B44-13, now permit the installation of a sump or pump in the elevator pit. Oil interceptors may require external installations as space restrictions in an elevator shaft may make installation prohibitive.

The requirements in the NPC 2015 that must be considered when an elevator pit drain is installed are:

Sentence 2.4.3.6.(1) Div "B" - Where a drain is provided in an elevator pit

- (a) it shall be connected directly to a sump located outside the elevator pit, and
- (b) the drain pipe that connects the sump to the drainage system shall have a backwater valve.

Sentence 2.4.4.3.(2) Div "B"- Where the discharge from a *fixture* may contain oil or gasoline, an oil *interceptor* shall be installed. (Note: To correctly size an oil interceptor, contact the elevator manufacturer to provide calculations regarding the maximum amount of oil that can escape from the hydraulic system.)

Sentence 2.4.5.5.(1) Div "B" – Provision shall be made for maintaining the *trap* seal of a floor drain by,

- (a) the use of a *trap* seal primer,
- (b) using the drain as a receptacle for an *indirect connected* drinking fountain, or
- (c) other equally effective means. (See Appendix A.)

Sentence 2.4.6.3.(1) Div "B" – Piping that is too low to drain into a *building sewer* by gravity shall be drained to a sump or receiving tank.

Sentence 2.4.6.3.(3) Div "B"– Equipment such as a pump or ejector that can lift the contents of the sump or tank and discharge it into the *building drain* or *building sewer* shall be installed.

Sentence 2.4.6.3.(6) Div "B"– The discharge pipe from every pumped sump shall be equipped with a union, a *check valve* and a shut-off valve installed in that sequence in the direction of discharge.

Sentence 2.4.6.4.(3) Div "B"– Where a *building drain* or a *branch* may be subject to *backflow*, a gate valve or a *backwater valve* shall be installed on every *fixture drain* connected to them when the *fixture* is located below the level of the adjoining street.

Elevator Code

Issue of this STANDATA is authorized by
the Chief Plumbing Administrator

[Original Signed]
Sidney Manning



Additional requirements, set out in excerpts from the ASME A17.1-2013/CSA-B44-13 Safety Codes for Elevators and Escalators, that must be considered are:

Clause 2.1.2.2 Construction at bottom of hoistway

Pits extending to the ground shall have non-combustible floors, and shall be designed to prevent entry of ground water into the pit. The pit floor of any hoistway **not** extending to the ground shall be of construction having a fire-resistance rating at least equal to that required for the hoistway enclosure.

Clause 2.2.2.3 – Permanent provisions shall be made to prevent accumulation of groundwater in the pit (See 2.1.2.2).

Clause 2.2.2.4 – Drains and sump pumps, where provided, shall comply with the applicable plumbing codes, and they shall be provided with a positive means to prevent water, gases, and odors from entering the hoistway.

Clause 2.2.2.5 – In elevators providing for “Firefighters Emergency Operation” a drain or sump pump shall be provided. The sump pump/drain shall a capacity to remove a minimum of 11.4m³/h (3000 gal/h) per elevator.

Note: ASME A17.1-2013/CSA B44-13 now permits the installation sump pumps in elevator pits, provided that the variance VAR – P09.01 is followed.

The diagrams on the attached page illustrate arrangements that have been accepted by Safety Services, Alberta Elevating Devices and Amusement Rides Safety Association (AEDARSA), the Safety Codes Council’s Plumbing Sub Council and Elevator Sub Council.

ACCEPTABLE OPTIONS FOR DRAINAGE OF ELEVATOR PITS

