

**CANADA BORDER SERVICE AGENCY
COLLEGE (CBSA)**

**Kennel Extension and Construction of a
New Training Hangar**

Project No.: R.100341.001

**ADDENDUM No. 2 -
MECHANICAL/ELECTRICAL**

Prepared for:

CBSA

Prepared by:

Michel Hallis Springuel, Eng.

Mechanical

Carl Bouchard, techn.

Electrical

Verified by:

Mohamed Balarh, Eng., MBA

Electrical

August 17, 2020

O/Ref.: 157102560-300-GN-S-0004-2

CANADA BORDER SERVICE AGENCY COLLEGE (CBSA)

Kennel Extension and Construction of a New Training Hangar

ADDENDUM No. 2

Mechanical/Electrical

SIGN-OFF SHEET

Prepared by:

Michel Hallis Springuel, Eng.

Mechanical

Prepared by:



Carl Bouchard, Techn.

Electrical

Verified by:

Mohamed Balarh, Eng., MBA

Electrical

RECORD OF REVISIONS AND ISSUES

Revision No.	Date	Description of the modification and/or of the issue
2	2020-08-17	Addendum No. 2 <i>"This document shall not be used for Construction"</i>
1	2020-07-24	Addendum No. 1 <i>"This document shall not be used for Construction"</i>
0	2020-06-30	For Tender <i>"This document shall not be used for Construction"</i>

CANADA BORDER SERVICE AGENCY COLLEGE (CBSA)**Kennel Extension and Construction of a New Training Hangar**

Project No.: R.100341.001

ADDENDUM No. 2**Mechanical/Electrical**

This addendum completes, modifies, or eliminates certain elements of the tender documents, which this addendum refers to. It is an integral part of the tender documents.

1. SPECIFICATIONS

The following Sections from the specifications are issued with the current addendum.

<u>Sections No.</u>	<u>Pages issued</u>
22 05 15	3 and 7
22 42 16	3 to 5

2. DRAWINGS**2.1 MECHANICAL**

The following drawings are issued with the current addendum:

Drawings issued

M08, rev. 1
M09, rev. 1

2.2 ELECTRICAL

The following drawings are issued with the current addendum:

Drawings issued

E04, rev. 2
E05, rev. 1
E20, rev. 0

ADDENDUM No. 2

2.2.1 Drawing No. E04, Rev. 2

- This drawing has been modified to show the new route required for telecommunications services.

2.2.2 Drawing No. E05, Rev. 1

- Added models for weatherproof exit indicators and emergency lights.
- Addition of the replacement of exit indicators in the existing part of the kennel.

2.2.3 Drawing No. E20, Rev. 0

- Addition of a new drawing to illustrate the route necessary for the connection of the hangar's telecommunications networks.

- .2 AS-1: General duty; cast-iron round body, adjustable head, nickel-bronze strainer, integral seepage pan, clamping collar, and with vandal-proof secured top option included.
 - .1 Acceptable products:
 - .1 Concrete floor: Zurn, ZZN-415-A; Watts-Drainage, FD100-C-5-1; Jay R. Smith, fig. 2005-AHD.
 - .2 Ceramic floor: Zurn, ZZN-415-H (square); Watts-Drainage, FD100-C-L5-1; Jay R. Smith, fig. 2005-BHD.
 - .3 Linoleum floor: Zurn, ZZN-415-R6; Watts, FD-200-FC; Jay R. Smith.
- .3 AS-2 (vehicle passage): sturdy cast iron body, sturdy grid with galvanized finish, designed for dog traffic, incorporated catch basin with sediment basket, sealing collar, and clamp, all covered with "acid-resistant" epoxy paint.
- .4 ASE-1 (funnel type): Cast-iron body with integral seepage pan, clamping collar, nickel-bronze adjustable head strainer with integral funnel.
 - .1 Acceptable products: Zurn, ZN-415-BF; Watts-Drainage, FD100-C-EG-1; Jay R. Smith, fig. 2005-AHD-B.
- .5 Siphons: All floor drains must be equipped with a siphon.

2.2 TRENCH DRAIN

- .1 CD-1: Monolithic trench drain of polymer concrete composed of aggregate and polyester resin. Resin tested to ASTM C579, C580, C307, C140, C267, and C666.
 - .1 Trench drain capable of withstanding a compressive force of 96,530 kPa (14,000 psi), and capable of withstanding a flexural force of 27,580 kPa (4,000 psi). The trench drain is resistant to frost, salt, acids, and alkalis.
 - .2 Drains manufactured with a semi-circular bottom, 0.5% slope, having a nominal outside width of 130 mm (5 in.) and an internal width of 100 mm (4 in.). The trench drain sections must fit together using male and female junctions.
 - .3 Trench drain sections sealed with flexible polyurethane sealant.
 - .4 Draining trench cover in 304 stainless steel, capable of supporting a weight of 1,588 kg (3,500 lb). 0.25 in. diameter round shaped holes spaced so dogs claws cannot get stuck in them. Grilles from the same manufacturer as the gutters, designed to facilitate maintenance of the gutter. ADA certified grid.
 - .5 400 mm (16 in.) deep by 500 mm (20 in.) long catch basin provided with a removable basket allowing to collect sediments and dogs' hair, to facilitate their removal from the catch basin.
 - .6 Acceptable Products: ABT; ACO.

2.3 CLEANOUTS

- .1 Plugs: Heavy cast-iron male ferrule with brass screws, threaded cast-iron plug, and neoprene gasket.
 - .1 Acceptable products: Zurn, Z-1445; Watts-Drainage, CO460; Jay R. Smith, 4510.

- .2 NPS 20 connector hose with a length of 1.5 m and NPT 20 connectors.
- .3 Hose length as indicated on drawings. NPS 15 industrial quality hose able to withstand a pressure of 1,034 kPa.
- .4 Spray gun with swivel connection.
- .5 A pressure vacuum breaker must be installed upstream of the reel.
 - .1 Device with bronze body, test valves and two isolation valves, designed for an operating pressure of 1,034 kPa (150 psi), water temperature of 0.5°C to 60°C.
- .6 Acceptable products: Charland Thermojet; Hannay Reels; Green Line.



2.17 OIL INTERCEPTOR

- .1 Oil interceptor for installation into the ground. The oil interceptor is made of steel and coated with an anti-rust enameled paint, including a flow regulator, an NPS 50 vent at the inlet and outlet, and a non-slip cover with gasket. The cover is robust to allow vehicle traffic. An alarm is mounted in a ULC and CSA certified PVC box, which is fixed to the garage wall and is connected to the oil interceptor using a Teck cable of at least 4 m, supplied with the oil interceptor. The oil interceptor has the following characteristics:
 - .1 Flow: 3.78 L/s;
 - .2 Nominal diameter of drainage pipes: NPS 100;
 - .3 Volume of used oil that can be stored in the tank: 90 L;
 - .4 Weight of the oil interceptor: 134 kg;
 - .5 Dimensions:
 - .1 Height: 1,040 mm.
 - .2 Length: 810 mm.
 - .3 Width: 610 mm.

2.18 HIGH PRESSURE MACHINE (KENNEL)

- .1 Stationary industrial washer system, equipped with a pump, stainless-steel pressurized water distribution network, manual rewinding station, hoses, and lances with variable spray gun.
- .2 All equipment and materials must be designed to withstand a maximum pressure of 27,579 kPa (4,000 psi) and a maximum temperature of 149°C (300°F).
- .3 All equipment and materials must come from the same supplier.
- .4 Characteristics of the high-pressure kennel machine:
 - .1 Flow: 11.4 L / min (3 US gal/min);
 - .2 Discharge pressure: 10,342 kPa (1,500 psi);
 - .3 Suction line: NPS ¾;
 - .4 Discharge pipe: NPS ½;
 - .5 Motors: 3 HP;
 - .6 Power: 600 V / 3 phases / 60 Hz;
 - .7 Protection with pressure switch;
 - .8 Automatic start and stop.

- 1
- .2 EH-1: One-bowl sink, with rear shelf.
 - .1 Shallow bowl: 1.0 mm thick, grade 302 stainless steel, with integrated rim, bottom coated with protective layer, for installation on worktop using brackets. attached; internal dimensions of 460 mm x 410 mm x 125 mm. Left-rear drain.
 - .2 Faucets and accessories: in chromed brass, including a swivel spout, an aerator, a single lever handle, regulation cartridges without sealing washer and devices to limit the feed flow to 8.35 L/min at a pressure of 413 kPa.
 - .3 Drain block: integrated stainless-steel plug / basket grid, drain connection, molded brass "P" trap with drain plug.
 - .4 Covering of cold water, hot water and drainage pipes in PVC, white color, in accordance with ASTM D-635, ASTM C-177, and ASTM G-21 Standards.
 - .1 Acceptable products: Truebro, Lav Guard; McGuire, PW2000WC; Zurn, Z-8946-3.
 - .3 LY - 1: Emergency eye washer mounted on a column.
 - .1 Column-mounted emergency eyewash with 279 mm (11 in.) stainless-steel receptacle in shiny finish #2L; double anti-splash "Halo" sprinkler head with built-in 4.5 L/min (1.2 gpm) integrated flow regulator and dust caps with automatic release under water pressure; stainless-steel pictogram push-button control operating chrome-finish brass ball valve in open position, NPS ½ inlet; easy to clean in-line filter with 50 x 50 mesh screen.
 - .2 Stainless-steel hinged dust cover for receptacle, automatic opening by pushing the push plate.
 - .3 Mixer tap for eyewash, with a maximum capacity of 20 gpm, adjusted to 5 gpm, complete with check valve and thermometer, bronze construction.
 - .11 FR-1: single wall-mounted, surface-mounted refrigerated fountain.
 - .1 Fountain: refrigerated drinking water fountain wall installation, 1.2-mm (18-gauge) type 304 stainless steel with brushed finish, lead-free brass drinking spout, self-closing valve activated with front push-button, automatic flow regulator for pressure varying between 138 and 725 kPa (20 and 105 psi), filter on the feed with 100 micron sieve. Drain and p-trap with integrated water guard, capacity of 30 L/H (8 gal/h), compressor with tank, storage of 2.25 L (0.59 gal) stainless steel, R134A refrigerant, finned cooler with fan hermetically sealed, 390 W, 4.6 A, 120 VAC one (1) phase with terminals for direct connection (to be connected to a circuit breaker with ground fault detector).
 - .1 Provide adequate support in the wall for the installation of the water fountain.
 - .2 Power supply: drinking water fountain supply, chrome finish, ¼ turn brass ball stop valve with removable handle/key combined with vandal-proof, rigid and integrated horizontal copper tube 13 mm (½ in.) ID x 127 mm (5 in.) long with brazing.
 - .3 P-trap: Provide a 1¼ in. diameter water trap. (included with the water fountain).

- .12 Fixture Piping:
 - .1 Hot and cold-water supply:
 - .1 Chrome-plated rigid supply pipes each with screwdriver stop, reducers, and rosette.
 - .2 Waste:
 - .1 Brass "P-trap" with clean out on each fixture not having integral trap.
 - .2 Chrome-plated in all exposed places.
- .13 Supports:
 - .1 Factory-built, floor mount brackets for all wall appliances.

Part 3 Execution

3.1 APPLICATION

- .1 Manufacturer's Instructions: Comply with manufacturer's written recommendations, including product technical bulletins, handling, storage and installation instructions, and data sheets.

3.2 INSTALLATION

- .1 Mounting Heights:
 - .1 Standard: To comply with manufacturer's recommendations, unless otherwise indicated or specified in specifications or drawings.
 - .2 Wall-hung fixtures: As indicated.
 - .3 Physically handicapped: To comply with most stringent of either NBC or CAN/CSA-B651.

3.3 ADJUSTING

- .1 Complying with water conservation requirements specified in this Section.
- .2 Adjustments:
 - .1 Adjust water flow rate to design flow rates.
 - .2 Adjust pressure to fixtures to ensure no splashing at maximum pressures.
- .3 Verifications:
 - .1 Aerators: Operation, cleanliness.
 - .2 Vacuum breakers, backflow preventers: Operation under all conditions.
 - .3 Wash fountains: Operation of flow-actuating devices.
- .4 Thermostatic Controls:
 - .1 Verify temperature settings, operation, and safety controls.

3.4 CLEANING

- .1 Clean in accordance with Section 01 74 00 - Cleaning.
 - .1 Remove surplus materials, excess materials, rubbish, tools, and equipment.

END OF SECTION