Publics Works and Government Services Canada

Construction of a New Commercial Operations Building

Ground Border Post, Lacolle (Qc)

N° R.035717.001

FOR TENDER
ADDENDUM # 3

Technical specifications
Structural / Mechanical / Electrical

April 9, 2014

O/Ref.: 247P042298-0300-GN-S-0004-03

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Structural / Mechanical / Electrical

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RECORD OF REVISIONS AND ISSUES		
REVISION #	**DATE**	**DESCRIPTION OF THE MODIFICATION AND / OR OF THE ISSUE**
03	2014-04-09	Addendum # 3
02	2014-03-31	Addendum # 2
01	2014-03-21	Addendum # 1
00	2014-02-07	For Tender *"This document shall not be used for construction"*
0B	2013-12-20	Execution SR 99 % *"This document shall not be used for tender and construction"*
0A	2013-10-07	Execution SR4 50 % *"This document shall not be used for tender and construction"*

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Structural / Mechanical / Electrical

This addendum is an integral part documents of submission to which it refers, by completing them, modifying them or by eliminating certain elements.

1. SPECIFICATIONS

1.1 MECHANICAL

The following sections of specifications are emitted with the present addendum:

Sections	Emitted pages
21 05 01, rev. 01	1 and 2
23 11 13, rev. 01	7 and 8
23 73 11, rev. 01	6

- At the section 21 05 01, rev. 01, the article 2.1 is cancelled.
- At the section 23 11 13, rev. 01, the mention of acceptable products at the article 2.9 to 2.14 is cancelled.
- At the section 23 73 11, rev. 01, the articles 2.9.6 to 2.9.10 is added.

1.2 ELECTRICAL

The following section of specifications is emitted with the present addendum:

Sections	Emitted pages
26 05 36, rev. 01	2

- At the section 26 05 36, rev. 01, the articles 2.1.1 and 2.1.2 are modified.

Addendum # 3

2. DRAWINGS

2.1 STRUCTURAL

Sketches C08 to C12 are emitted with the present addendum.

2.1.1 Generalities:

- Addition of beam of lifting between axes 7 and 8 and axes A and B.
- Removal of the information concerning the exterior slab on grad (realized by Civil).
- Addition of a curb, on the axis 1 and between axes Aa and B.

2.2 MECHANICAL

Sketch CM-01 is emitted with the present addendum:

Drawings	Emitted Sketches
M14, rev. 01	CM-01

2.2.1 Drawing M07

- The diameter of the piping of oil return of boilers has to be DN 1-1/4 diameter.

2.2.2 Drawing M08

- The anti-siphon valve on the line of oil supply of the generator must be identified "23" and not "20"

2.2.3 Drawing M10

- The motor of the pump P-04 is replaced by a motor of 3 HP.

2.2.4 Drawing M14

- The position of the evaporator EV-02 is modified such as shown in sketch CM-01.

Addendum # 3

2.3 ELECTRICAL

2.3.1 Plan E05

- Replace the note 17 by the following note: 2 CABLES TRAY 150 x 50 mm EACH (LOW VOLTAGE) WIRE MESH FOR TELEPHONE AND THE OTHER IS FOR DATA.

- Replace text « SIGN PANEL BY ARCHITECTURAL DIVISION » in detail # 2 by: « SIGN PANEL (OUT OF SCOPE) ».

2.3.2 Plan E06

- Replace the note 19 by the following note: 2 CABLES TRAY 150 x 50 mm EACH (LOW VOLTAGE) WIRE MESH FOR TELEPHONE AND THE OTHER IS FOR DATA.

- Associate the 3.18 room extract with 5 /06-06 detail.

- Associate the wall for telephone elevation of the 3.18 room with 6 / 06-06 detail.

PART 1 - GENERAL

1.1 GENERAL

.1 These specifications are based on the National Master Specifications (NMS). However, it has been adapted to take project features into consideration

.2 In these sections, drawings and specifications refer to construction drawings and specifications issued with Contract documents.

.3 This section includes common requirements for all sections of Divisions 21, 22, 23 and 25 and is a complement to all Contract clauses, to all general clauses, and to all other applicable clauses of architectural, electrical and structural specifications.

.4 These specifications do not contain necessarily detailed specifications for the design, for construction, or for all equipment parts and components, and installations. If not available, the Contractor shall observe generally accepted techniques and manufacturer's recommendations.

.5 All discrepancies between drawings and general specs or other trades with electrical drawings and specs shall be brought to the attention of the Departmental Representative before submission close date. The later shall provide supplementary information as necessary by addendum.

.6 These mechanical specifications apply to the general contractor as well as other contractors. Construction manager shall assume general responsibility and good coordination of his works and coordination with other contractors.

.7 All systems shall be complete, fully operational and containing all equipment and accessories required to deliver at completion of work fully functional places in conformity to applicable codes and standards.

3 ~~1.2 SCOPE OF WORK~~

~~.1 More precisely, the work of the Mechanical Contractor consists of, but not limited to, provision, installation, and connection of following equipment:~~

~~.1 Plumbing and heating systems including :~~

~~.1 Domestic CWS, HWS and circulated HWS.~~

~~.2 Insulation;~~

~~.3 Sanitary waste systems.~~

~~.4 Storm water systems.~~

~~.5 Sump pumps.~~

~~.6 Cooling and heating systems.~~

~~.2 Fuel-oil system including;~~

~~.1 Tanks;~~

~~.2 Pumps;~~

~~.3 Insulation;~~

~~.4 Vent networks;~~

~~.5 Automatic regulation;~~

~~.2 Fire protection network, including :~~

~~.1 Wet pipe system;~~

~~.2 Dry pipe system;~~

~~.3 Portable extinguishers.~~

1.3 RELATED REQUIRENMENTS

.1 Sections of Division 01;

.2 Section 09 91 23 - Interior Painting;

.3 Section 21 05 05 - Common Work Results - Fire Suppression

.4 Section 22 05 00 - Common Work Results - Plumbing;

.5 Section 23 05 00 - Common Work Results - HVAC;

.6 Section 23 05 93 - Testing, Adjusting and Balancing for HVAC.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submit documents and samples in accordance with Section 01 33 00 - Submittal Procedures.

2.9 FUSE VALVE

.1 Fuse valves: NPS 1/2 and under, screwed: to ASTM B61, Class 150, 1 MPa, bronze body.

.2 Closing at 74 °C.

.3 Viton seal.

3 ~~.4 Acceptable products: as indicated. Replacement materials or products: approved by addendum according to Instructions to bidders.~~

2.10 OIL SAFETY VALVE (OSV)

.1 NPS 1/2 and under, designed to work in fuel oil #2 to 100 kPaG.

.2 Open at 7 kPaG vacuum downstream.

.3 Comply with NFPA 31.

3 ~~.4 Acceptable products: as indicated. Replacement materials or products: approved by addendum according to Instructions to bidders.~~

2.11 SAFETY VALVES

.1 Safety valves: NPS 2 and under, designed to work in fuel oil #2 to 250 kPaG.

.2 Opening pressure: as per indications on drawnings.

.3 Comply with NFPA 31.

.4 Diameter equal or greater than protected piping.

3 ~~.5 Acceptable products: as indicated. Replacement materials or products: approved by addendum according to Instructions to bidders.~~

2.12 ELECTROVANNES

.1 Designed for fuel oil #2 (Cl.1 div. 2).

.2 UL and API listed.

.3 Bronze or aluminium body.

.4 Diameter equal or greater than protected piping.

.5 NC (Normally closed) or NO (Normally open) as shown on drawings.

.6 Working on 110 VAC 60 Hz.

.7 Differential pressure up to 3.4 bars.

3 ~~.8 Acceptable products: as indicated. Replacement materials or products: approved by addendum according to Instructions to bidders.~~

2.13 THERMAL RELIEF VALVE

.1 Designed for fuel oil #2.

.2 All stainless steel construction.

.3 Viton seal.

.4 Adjustable between 0.34 to 2 bars.

3 ~~.5 Acceptable products: as indicated. Replacement materials or products: approved by addendum according to Instructions to bidders.~~

2.14 FLEXIBLE CONNECTORS

.1 ULC listed.

.2 Flexible hoses: NPS 2 and under flexible hoses with a minimum of 300 mm in length, in braided stainless steel, screwed at both end for fuel oil #2.

3 ~~.1 Acceptable products: as indicated. Replacement materials or products: approved by addendum according to Instructions to bidders.~~

2.15 OIL PUMPING STATION FOR GENERATOR

.1 The oil pumping station will be delivered as a compact unit and consist of two pumps that operate independently.

.2 System is pre-assembled on a platform assembly and includes pumps, piping link ensuring a common suction connection on two independent oil and downstream connections. The compact unit, pre-wired in factory will include the following components:

.1 The input and output of each pump will be isolated by a flexible coupling, a union of removal and isolation valve.

.2 A manometer shall be provided for the suction and discharge of each pump.

.2 Cooling choice economizer (if this command is provided with the economizer) - The operation of the compressor is integrated to the cycle economizer to allow mechanical cooling when economizer is unable to meet the needs of the area. Compressors are armed if the room temperature is cooled to the set point at a rate of less than 0.2 degrees per minute. The device lockout the compressor when the ambient temperature is low a priority to this function.

.3 Provide, in the microprocessor, control to minimum time operation and control minimum ON / OFF between phases.

.4 Provide a defrost control of the indoor evaporator, factory installed to prevent slugging the compressor interrupting the operation.

.5 Provide the unit with a communication card BACNET MS / TP.

3 .6 **Supply with the unit a controller of application with variable air flow UC600. The controller will vary the speed of the ventilator according to the pressure in the supply duct. It will be also responsible for the economiser mode, for the management of the modulation of the electric heating and for 3 stages of cooling. The controller UC600 will be compatible BACnet MS / TP for future integration.**

.7 **Supply a panel display TD7 for installation in the building and remote readjustment of the supply temperature set point. The panel display will also allow the readjustment of the static pressure set point and the regulation of the hourly use. Finally, it will allow a reading by graphic display of the functioning of the rooftop. The panel display will be installed and linked by the ventilation division.**

.8 **The ventilation division will be responsible for the relocation in the supply duct of the static pressure probe and for the supply temperature, in 2/3 of the running. The humidity and temperature probes of return will also have to be relocated in the return duct to at least 5 meters of the unit.**

.9 **Supply a probe detection of the operating of the ventilation and the fouling of filters. Both detectors must be linked to the unit for centralization.**

.10 **The ventilation division will be responsible for the relocation of a probe of CO_2 in the return duct to at least 5 meters of the unit.**

2.10 CONDENSER SECTION

.1 Each unit must have a refrigeration circuit machined, complete with all conduits including a filter drier in the liquid line and discharge ports of the suction and liquid lines.

.2 Units must have a cooling capacity of up to -18 °C as standard. For low ambient temperature accessories to install, the manufacturer shall provide the services of a qualified technician to ensure proper installation and operation

PART 2 - PRODUCTS

2.1 CABLETROUGH

3 .1 Wire mesh **basket** type, to CAN/CSA C22.2 No. 126.1.

3 .2 Trays: hot-dip galvanized steel, 150 mm wide with depth of ~~75~~ **50** mm.

.3 Fittings: horizontal elbows, end plates, drop outs, vertical risers and drops, tees, wyes, expansion joints and reducers where required. Fittings to be manufactured in factory and designed for cabletrough supplied.

.1 Radii on fittings: 300 mm minimum.

.4 Provide fire stop material at firewall penetrations.

2.2 SUPPORTS

.1 Provide splices, supports for a continuously grounded system as required.

2.3 ACCEPTABLE PRODUCTS

.1 Thomas & Betts;

.2 Cooper B-Line;

.3 Superior Tray;

.4 Replacement materials or products: approved by addendum according to Instructions to bidders.

PART 3 - EXECUTION

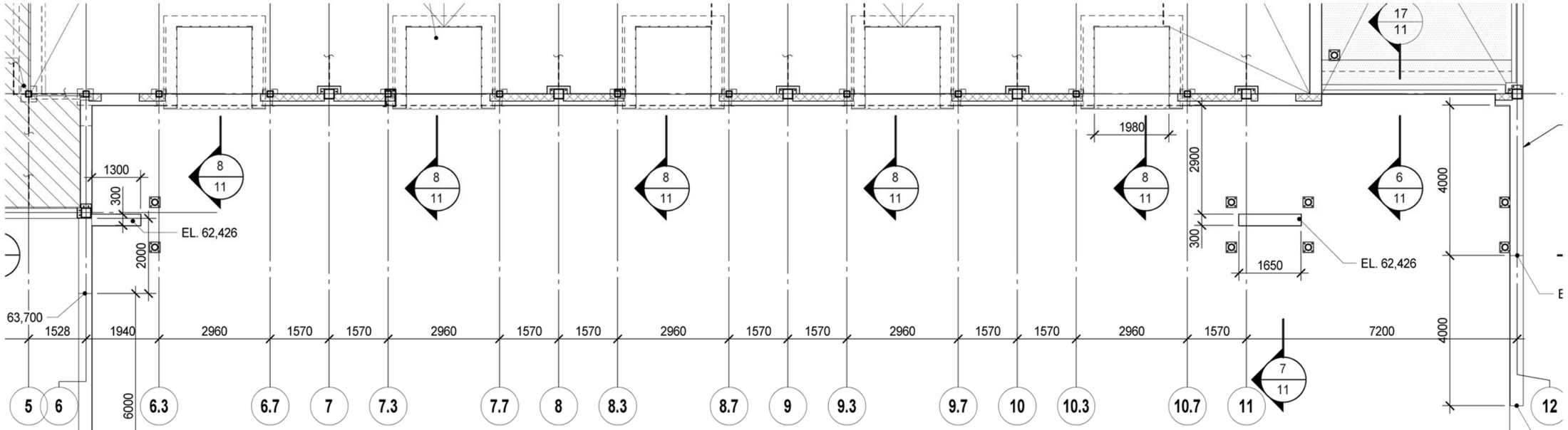
3.1 INSTALLATION

.1 Install complete cabletrough system in accordance with NEMA VE 2.

.2 Support cabletrough on both sides.

.3 Remove sharp burrs or projections to prevent damage to cables or injury to personnel.

.4 Connect each section of cable tray to ground by a #2 AWG bare copper conductor, connected as required by the Canadian Electrical Code



PLAN NIVEAU 1 - RDC

1:100

DESSUS BÉTON ÉL. 63,700 S.I.C.
BUREAUX : DALLE SUR SOL 150mm DESSUS
ENTREPÔT : DALLE SUR SOL POUR ÉPAISSEUR ET ÉLÉVATION VOIR PLAN

DALLE SUR SOL EXTÉRIEURE (VOIR CIVIL)

EXTERIOR SLAB ON GRADE (SEE CIVIL)

LEVEL 1 PLAN - GROUND FLOOR

1:100

TOP OF CONCRETE EL. 63 700 U.N.O.
OFFICES : 150mm thick. SLAB ON GRADE.
WAREHOUSE : SLAB ON GRADE THICKNESS AND ELEVATION SEE PLAN.

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Projet /Project

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Dessiné / Drawn by	Elias A. Azar	Échelle / Scale	INDIQUÉE
Vérifié / Vérified	G. Abi-Saad	Date	2014-04-09

Chargé de projet / Project Manager: Khalil Haddad
Extrait de / From: S05 Rév.: 3

Serv. resp.	Projet	Otp	Disc.	Type	Nº Dessin	Rév.
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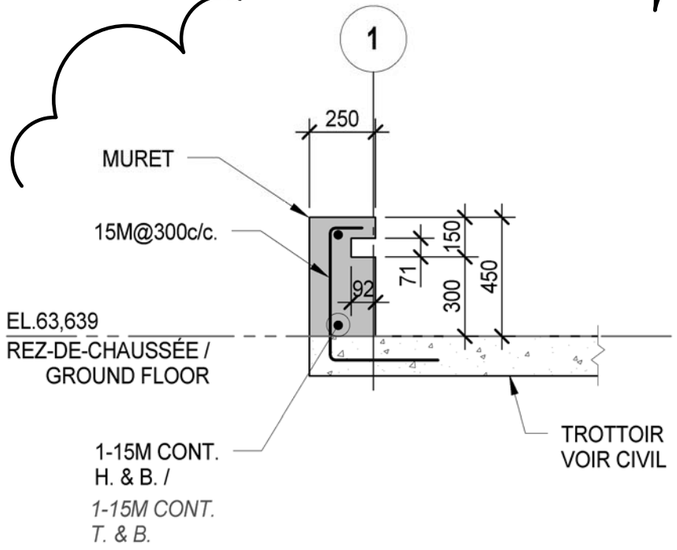
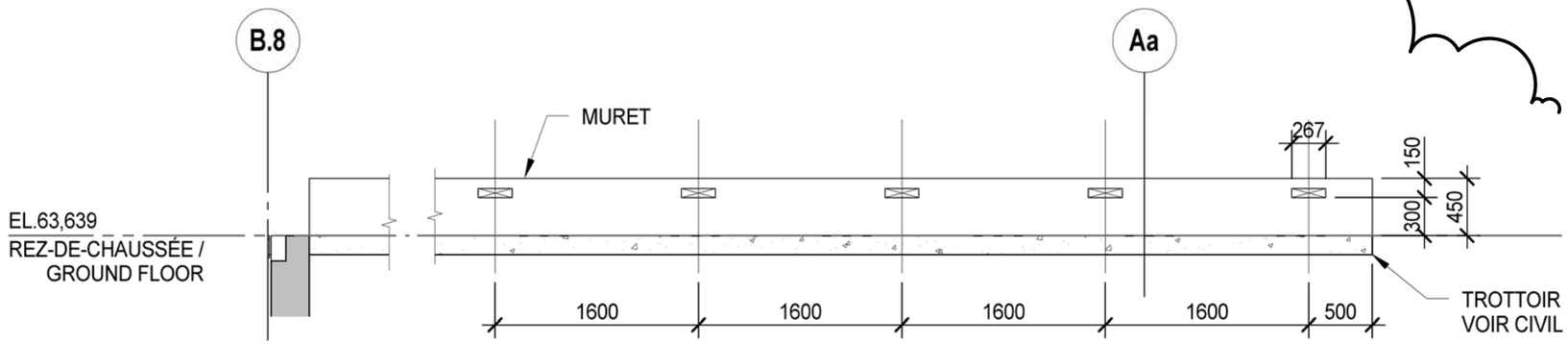


COUPE / SECTION 3 — 05 12



COUPE / SECTION 4 — 05 12

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Vérifié / Vérified	G. Abi-Saad	Date	2014-04-10

Chargé de projet / Project Manager: Khalil Haddad

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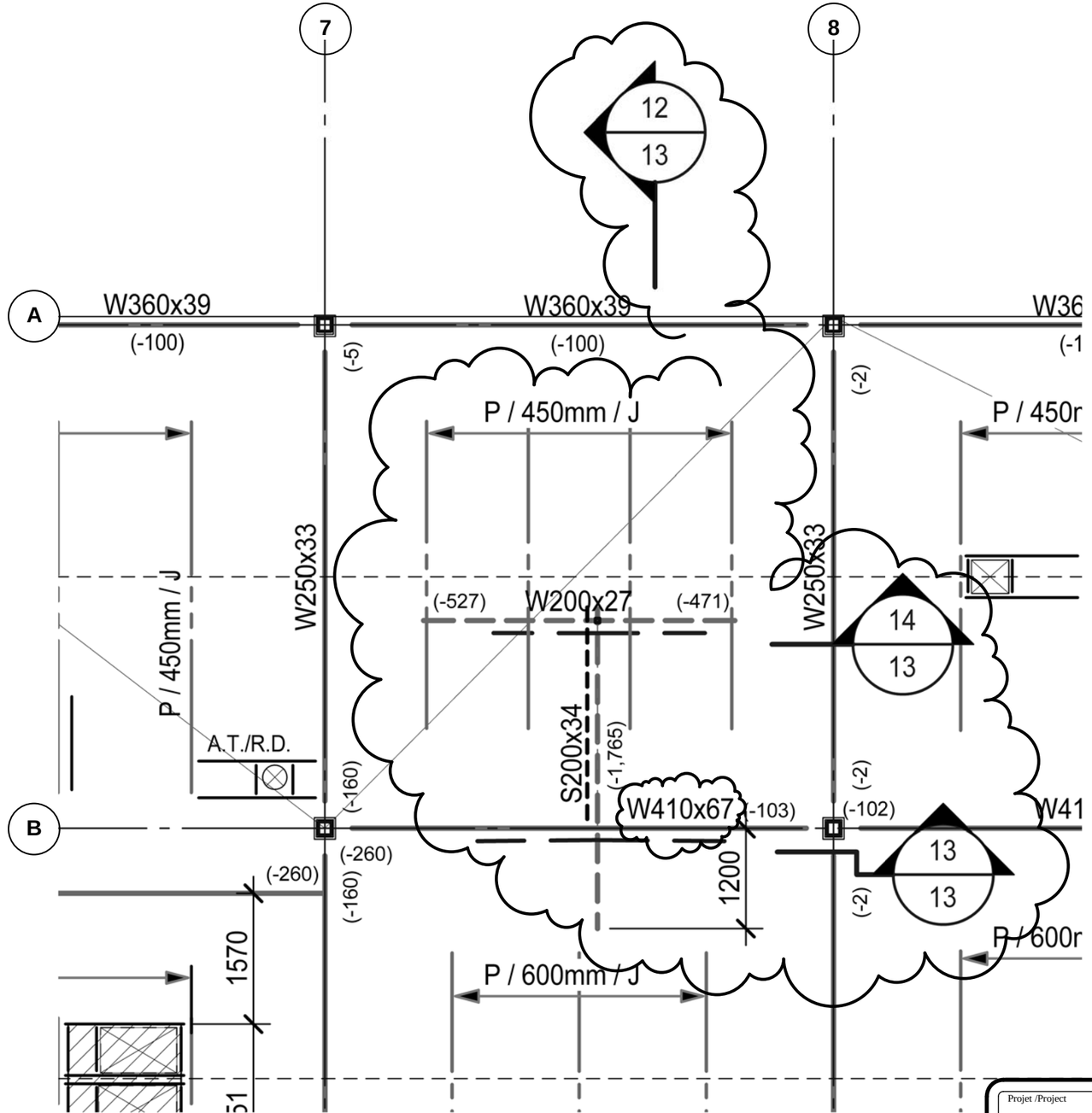

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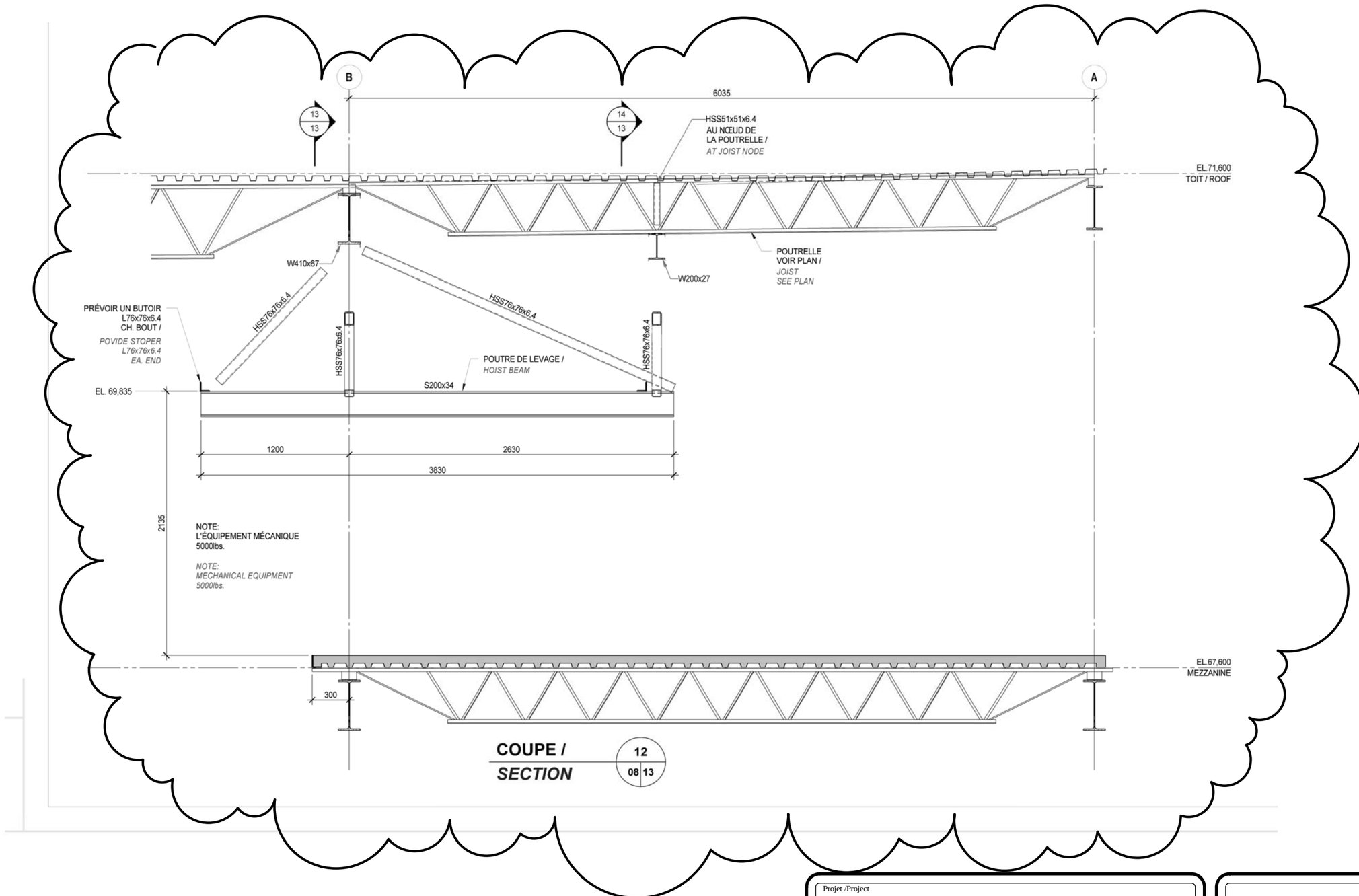

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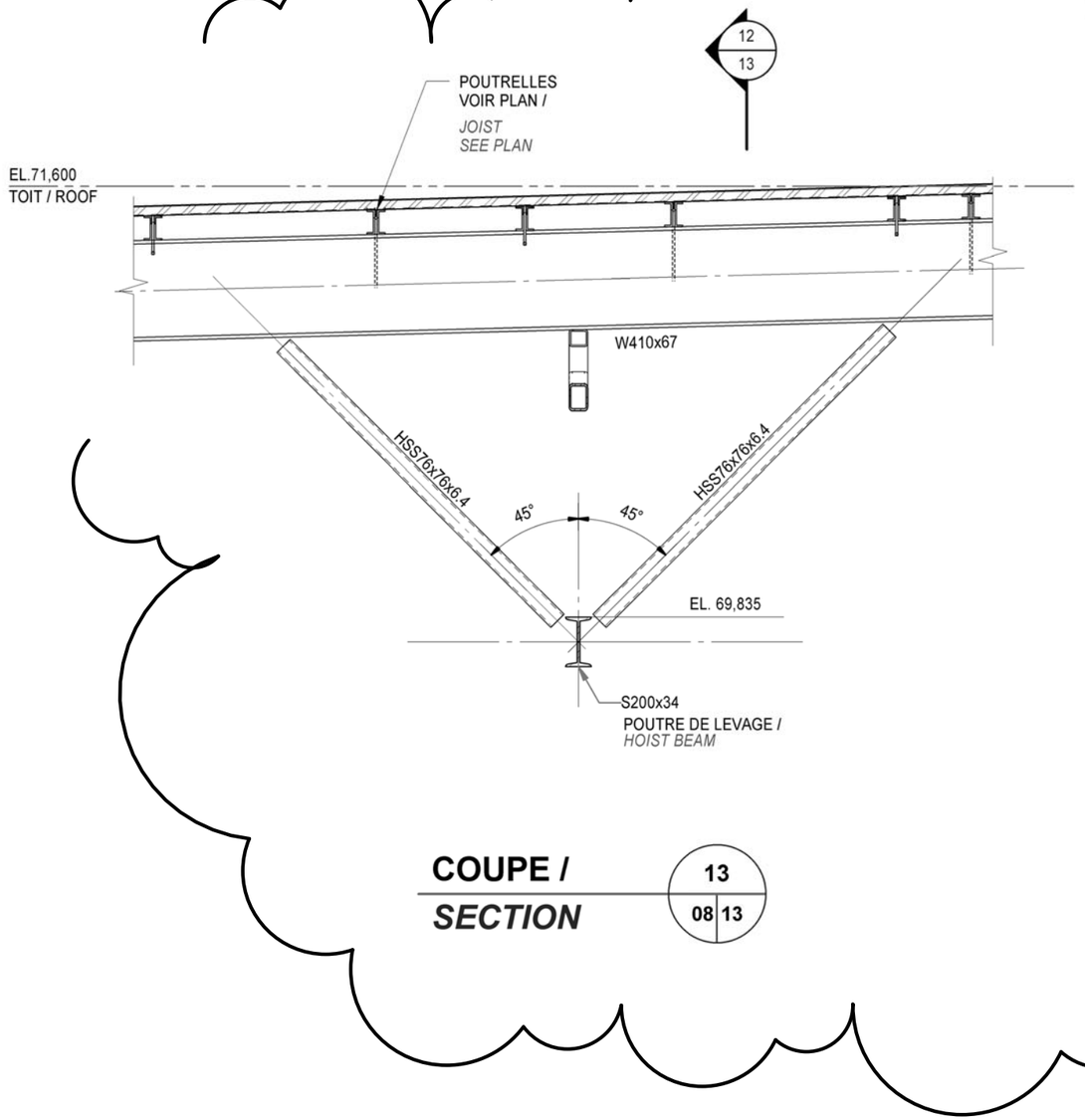

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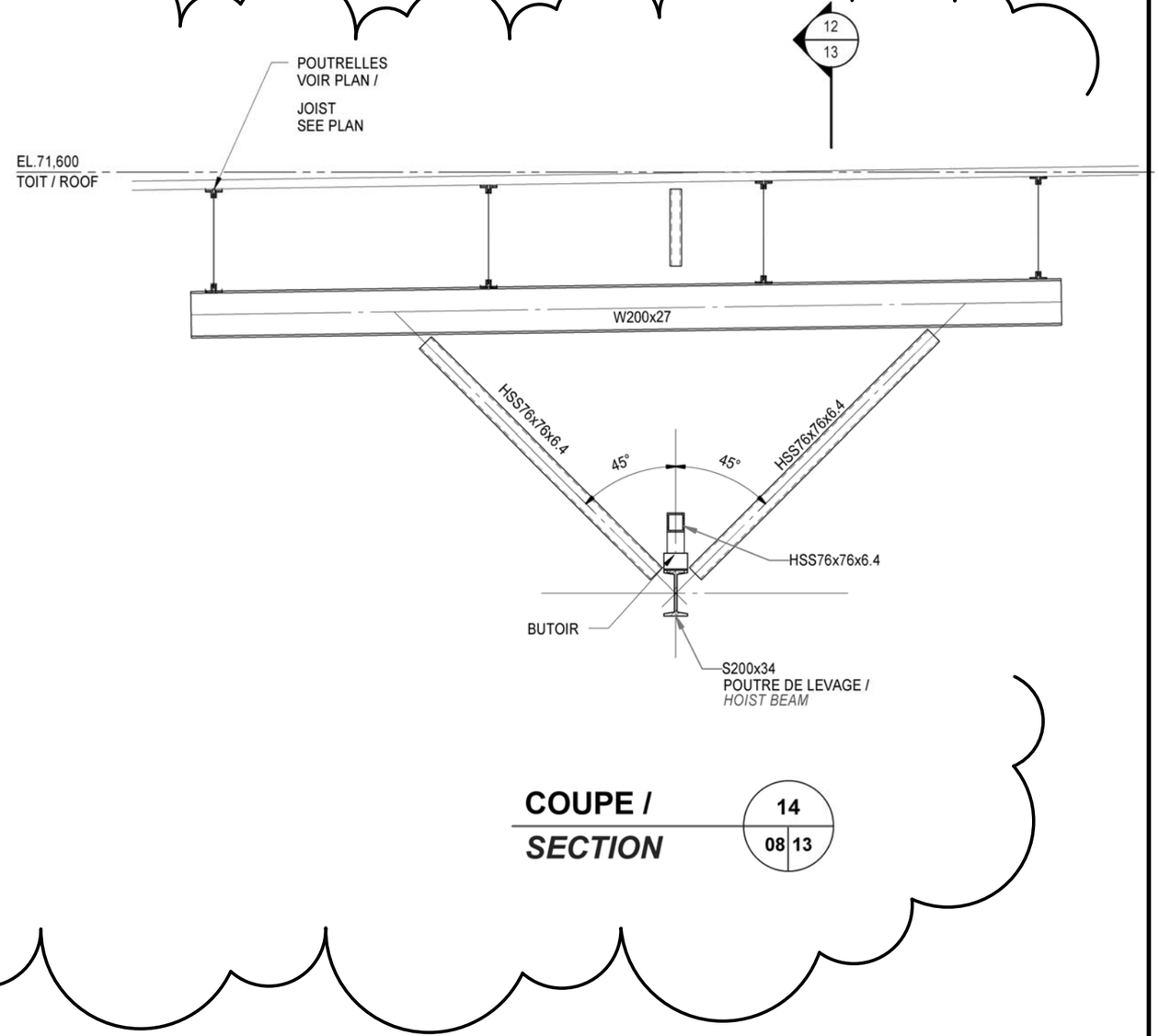

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Vérifié / Vérified	G. Abi-Saad	Date	2014-04-10	Rev.:	2

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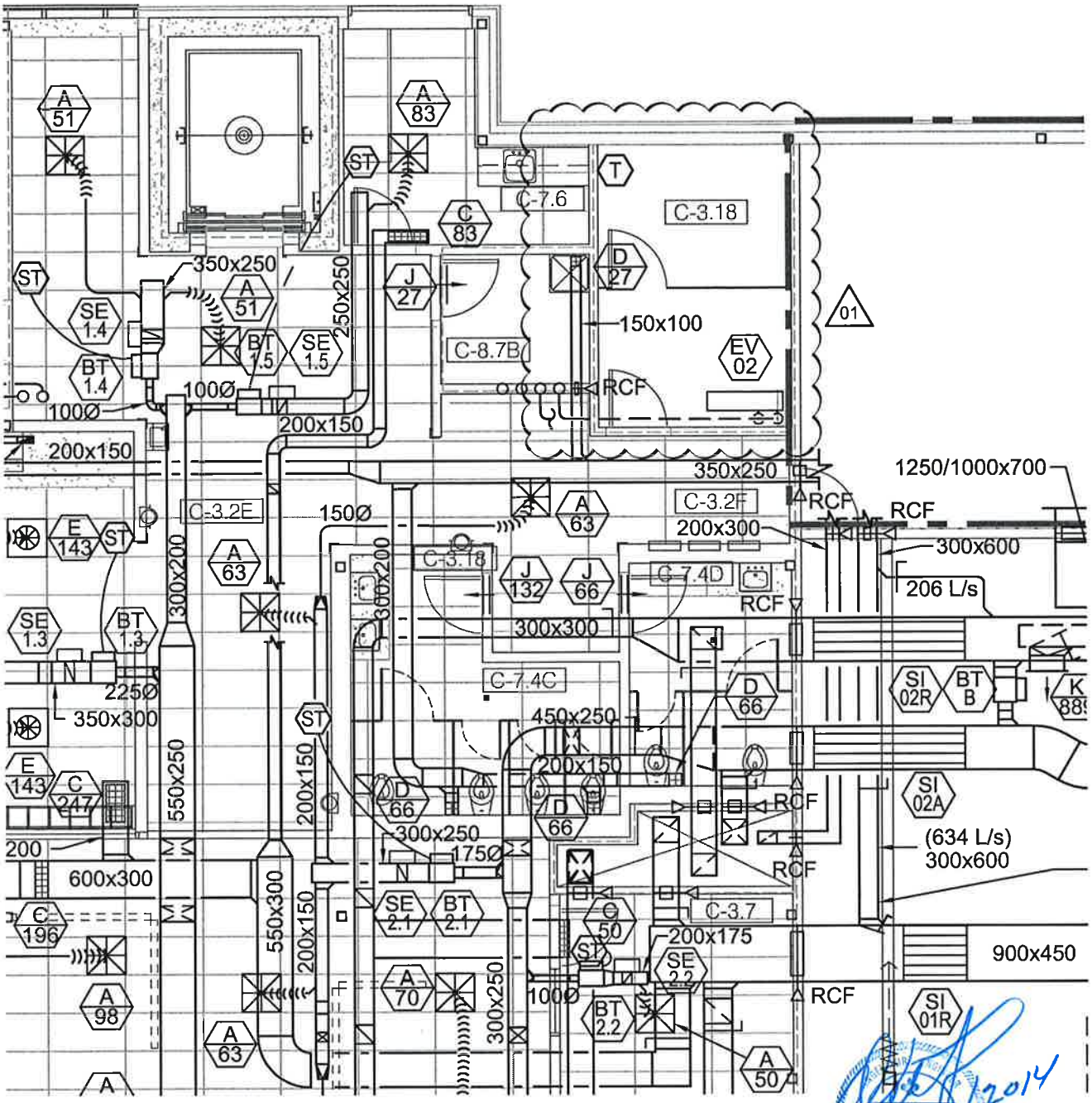

ADDENDA No 3 / CM-01 | 01

Travaux publics et Services gouvernementaux Canada Direction générale des biens immobiliers Région du Québec	Public Works and Government Services Canada Real Property branch Quebec region Canada	Projet/*Project* POSTE FRONTALIER DE ST-BERNARD DE LACOLLE	Titre du dessin/*Drawing title:* MÉCANIQUE VENTILATION 2e ÉTAGE
		conçu par/*designed by:* Daniel Lemieux — date: 2014-04-09	approuvé par/*approved by:* Luc Fortin, Ing. — date: 2014-04-09
Agence des services frontaliers Canada	Canada Border Services Agency	dessiné par/*drawn by:* Marc-Édouard Nicolas — date: 2014-04-09	no. de projet/*project no.* R.035717.001 — date
		révisions: 01 — échelle/*scale:* 1: 100	nom du fichier/*file name* R_035717_001-M14-VC-PLN-N.dwg — M14/18