



## ADDENDUM # 6

**Date:** June 16, 2017

**Projet:** 'Turnkey' Project St-Augustin Greenhouses

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Bidders must make sure that their bids are based on the latest version of the tender documents published and take into consideration the following amendments and information, including any information provided on amendments or Q&A previously published for this project.

Bidders that do not comply with this requirement will be discarded.

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### APPENDIX E : Technical Specifications & Plans

#### 16 Section 1.9 Structural components and systems

##### STRUCTURE

###### ADD:

The greenhouses will have a hot dip galvanized Z600 steel structure according to CSA G164M-92, ASTM A-123 and ASTM A-153 standards.

Pre-galvanized steel of type Galvalume AZ-150 according to standard ASTM A792/A792M-97A will also be accepted. The welding will be bronze silicone process. The pre-galvanized welding will be paint with two (2) zinc coats for cold galvanization, UL approved.

#### 17. Section 1.10 Mechanical components and systems

##### HEATING (hot greenhouse)

###### ADD:

The hot greenhouse will be equipped with electric force air heating systems.

The hot air distribution inside the greenhouse is the responsibility of the designer.

The location of electric heating units will take into account the proximity polyethylene greenhouse envelope

The set point will be at 20 dg C daytime (not 25 dg C) and 15 dg C night time. Set point will be  $\pm 2$  dg C.

For information only, AAFC has done in the past electric heating of a hot greenhouse  $\pm$  similar dimension of the projected hot greenhouse. The heating was achieve by four (4) industrial electric unit heaters

Potential Product: Wash down unit heater OWD series by Ouellet Electric Heating [www.ouellet.com](http://www.ouellet.com)

The complete greenhouse design is the responsibility of the designer



### **VENTILATION (hot greenhouse)**

#### **ADD:**

The hot greenhouse will have a fresh air positive fan (PPF) to supply minimum new air input to lower temperature and to lower %RH in winter. This fan will be equipped with a motorized damper and an evacuation damper. An acceptable PPF rate would be 0.2 air change / minute.

The hot greenhouse will be equipped with recirculation fan (HAF) pour avoid air temperature stratification. An acceptable rate would be 0.4 air recirculation / minute.

### **VENTILATION (cold greenhouse)**

#### **ADD:**

The cold greenhouse will have a fresh air positive fan (PPF) to evacuate heat contain in the greenhouse. The PPF will have the capacity of 1 air change per minute.

For information only, AAFC has done in the past one (1) air change / minute in a cold greenhouse ± similar dimension of the projected cold greenhouse. Such a ventilation been done using farm building intense animal housing fans ( [www.varifan.com](http://www.varifan.com) or equivalent was used) . A total of four (4) PPF fans were used and also four (4) air outlets were used to achieve this ventilation.

The complete greenhouse design is the responsibility of the designer

About the space available to install the PPF and air outlets, the projected cold greenhouse will have an overhead door 2100 mm x 2100 mm at each end and also one 860 mm x 2030 mm man door at each end. This leave about 1800 mm wide free both side of the door set and about 1800 mm free also above the door set to install the PPF and the air outlet.

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**All other terms and conditions remain the same**