# ADDENDUM NO. 1

# TO THE CONTRACT SPECIFICATIONS AND DRAWINGS FOR LAC LA BICHE COUNTY PLAMONDON LIFT STATIONS

	Page 1 of 1
Engineer: MPE Engineering Ltd.	Date: February 14, 2022
	File: N:\\5235\016\00\AD01

#### 1. Precedence

This Addendum forms an integral part of the Contract Specifications and Drawings covering all aspects of this job and is to be read in conjunction therewith. However, should points arise which are at variance, this Addendum shall take precedence, unless otherwise clarified by the Engineer.

#### 2. Purpose

This addendum provides specific clauses to add to and/or amend the specifications and/or drawings.

#### **Specification Section 00431 Schedule of Prices** 3.

#### **DELETE:**

Specification Section 00431 Schedule of Prices

#### **REPLACE WITH:**

Specification Section 00431 Schedule of Prices (attached)

#### 4. Specification Section 04200 Masonry Units

#### ADD:

Specification Section 04200 Masonry Unit (attached)

#### Specification Section 05141 Structural Aluminium 5.

# **DELETE:**

2.1.13.2

#### **REPLACE WITH:**

#### Applicable Equipment: 2.1.13.2

- Location: As shown on drawings. .1
- .2 Specified Equipment:
  - Manufacturer: MSU Mississauga Ltd. or approved .1 equivalent.
  - .2 Model: M
  - Quantity: 4 .3
  - .4 **Opening Size:** 
    - 1200 mm x 850 mm. for the pump hatches. .1
      - .1 Quantity: 2

- .2 900 mm x 600 mm for man hatches (2).
  - .1 Quantity: 2
  - .2 Rolled edge as shown in drawings.
- .5 Finish: Factory Finish.
- .6 Body: Aluminum: to CSA HA.5-M1980, Alloy 6351-T6 c/w Neoprene seal.
- .7 Tread Plate: Aluminum: to CSA HA.5-M1980, Alloy 6061-T6.
- .8 Miscellaneous:
  - .1 Fasteners and hold open arm in 316 stainless steel; hinges in 304 stainless steel.
  - .2 All aluminum surfaces in contact with concrete to receive two coats of bituminous paint.
- .9 ABS Drain: N/A
- .10 Accessories:
  - .1 Gas Spring Assist Cylinder: 316 stainless steel c/w Aluminum mounting brackets.
  - .2 Padlock: Complete with master padlock and key
  - .3 Compression Latch c/w Neoprene seal.
  - .4 Hatch to be completely airtight.

# 6. <u>Specification Section 10900 Aluminium Signs</u>

**DELETE:** 2.1.2.1.1

#### 7. <u>Specification Section 10317 Safety Arrest</u>

# **DELETE:**

2.1.2.1.4.1

#### **REPLACE WITH:**

2.1.2.1.4.1 Type: Floor mounted socket. Location to be determined prior to placement.

# ADD:

2.1.2.1.4.2 Quantity: Two (2).

# **DELETE:**

3.3.1

#### **REPLACE WITH:**

3.3.1 Install equipment in strict accordance with manufacturer's and supplier's instructions.

# **DELETE:**

3.3.7

# DELETE:

3.3.8

# **DELETE:**

2.1.2.2.2.1

#### **RELACE WITH:**

- 2.1.2.2.2.1 One (1) Pre-engineered <u>wall mount</u> skid system to sit on 1000mm high stand, ProMinent ProSIP single pump packages:
  - .1 ProMinent Gamma X pump (CP 201)
  - .2 Schedule 80 PVC piping, 1/2"
  - .3 Viton seals throughout
  - .4 Calibration column
  - .5 Backpressure valve
  - .6 Pressure relief valve
  - .7 Isolation valves
  - .8 Pulsation dampener
  - .9 Pressure Gauge and diaphragm isolator
  - .10 Inlet y-strainer w/ replaceable filter section
  - .11 Foot check valve

# 8. <u>Specification Section 15015 Mechanical General Requirements</u>

#### **DELETE:**

2.12.1

#### **REPLACE WITH:**

2.12.1 Fabricate grooved joint couplings of ductile iron to ASTM A536, and in accordance with AWWA C606. Provide cut grooves in pipe and fittings in accordance with AWWA C606.

# 9. Drawing P1.4 - Regional Lift Station - Process Plans

### ADD:

Note 14. Contractor to supply and apply protective coating to line entire interior concrete surface of the lift station. To be installed by qualified personnel and in strict accordance with manufacturer's instructions. Below are the product specifications.

*	
Type:	100% Solids Polyurethane
Application:	Spray
Colour:	Cream
Finish:	Semi-gloss
Thickness:	30mils Minimum
Manufacturer:	ZEBRON or Approved Equal
Model:	ZEBRON 386 or Approved Equal
Supplier:	PolyLEVEL Alberta Corp.
	(Integral High Performance Coatings)
	Email: JFRoyer@integralHPC.com
	Phone: (780) 399 - 3654

### 10. Drawing P2.2 - Intermediate Lift Station - Process Plans

#### ADD:

Note 14. Contractor to supply and apply protective coating to line entire interior concrete surface of the lift station. To be installed by qualified personnel and in strict accordance with manufacturer's instructions. Below are the product specifications.

Туре:	100% Solids Polyurethane
Application:	Spray

Colour:CreamFinish:Semi-glossThickness:125mils (1/8") MinimumManufacturer:ZEBRON or Approved EqualModel:ZEBRON 386 or Approved EqualSupplier:PolyLEVEL Alberta Corp.<br/>(Integral High Performance Coatings)<br/>Email: JFRoyer@integralHPC.com<br/>Phone: (780) 399 - 3654

# 11. Drawing Revisions

Drawing Revisions						
Drawing Number	<u>Delete</u>	<b>Replace With</b>				
C2.1	Issue 1: For Tender	Issue 2: For Tender Addendum 1				

# **END OF ADDENDUM**

1.	FROM (Bidder):	
		(Name)
		(Address)
	TO:	Lac La Biche County 1 <sup>st</sup> Floor Reception, McArthur Place 10307-100 St.
		Lac La Biche, Alberta T0A 2C0
	PROJECT:	Lac La Biche County Plamondon Lift Stations
2.	This Schedule of Pr	ices forms an integral part of the Bid for the above noted project and shall be in conjunction with Section 00425 – Unit Price Bid Form

- 3. It is understood and agreed that with respect to the submission of this Schedule of Prices, the following shall apply:
  - .1 Items of Work are priced in accordance with the Bid Documents, including Section 00630 Payment Conditions, Section 01275 Measurement Rules, and Section 01280 Measurement Schedule.
  - .2 Every price requested shall be submitted or the Bid may be declared informal and the Bid may be rejected.
  - .3 Should any item be omitted or illegible, should any alteration be made to the text, or should any condition be added on or submitted with the Schedule of Prices, the Bid may be declared informal and the Bid may be rejected.
- 4. Schedule: See next page.

# **SCHEDULE A – Regional Lift Station**

# Lac La Biche County Plamondon Lift Stations

The undersigned, having carefully read these Specifications, hereby agrees to supply all labour, superintendence, plant and materials for the completion of the Works described in these Specifications. Payment for Work described by these Specifications will include the following items:

	Description	Qty	Unit		Unit Price		Extension
1.0	<b>Division 0 and Division 1:</b>						
	Requirements	1	L.S.	\$		\$	
2.0	Division 2: Siteworks						
2.1	Care of Water	1	LS	\$		\$	
2.2	Common Excavation	500	m <sup>3</sup>	\$		- <u></u>	
2.3	Imported Fill	1500	m <sup>3</sup>	Ŝ		<u> </u>	
2.4	Compacted Fill	2000	m <sup>3</sup>	Ŝ		<u> </u>	
2.5	Waste Excavation	200	m <sup>3</sup>	\$		<u> </u>	
2.6	Topsoil Stripping, Stockpiling and			+			
	Respreading	100	$m^2$	\$		\$	
2.7	Miscellaneous Clearing and Grubbing	1	L.S.	\$		\$	
2.8	Chain Link Fence – 1.8m high c/w gate	55	m	\$		\$	
	and security top			•		·	
2.9	Subgrade Preparation	1200	m <sup>2</sup>	\$	-	\$	
2.10	Granular Subbase, 200mm Compacted	950	m <sup>2</sup>	\$		\$	
	Depth						
2.11	Geosynthetic Fabric	950	$m^2$	\$		\$	
2.12	Rip Rap	1	L.S.	\$		\$	
2.13	Grass Seeding	1	L.S.	\$		\$	
2.14	Bollards	10	ea.	\$		\$	
2.15	150mm HDPE DR 11	75	m	\$		\$	
2.16	200mm HDPE DR 11	20	m	\$		\$	
2.17	200 PVC SDR 26	15	m	\$		\$	
2.18	200mm Plug Valve	3	ea.	\$		\$	
2.19	Connection to Existing Piping/Valves	1	L.S.	\$		\$	
2.20	Erosion and Sediment Control	1	L.S.	\$		\$	
2.21	Site Restoration	1	L.S.	\$		\$	
2.22	Sewage By-Pass Pumping	1	L.S.	\$		\$	
2.23	Bedding Sand	1	L.S.	\$		\$	
2.24	Non-Woven Geotextile	1	L.S.	\$		\$	

				UnitTitle	Extension
Division 3:					
1. Lift Station (Precast Conc. Structure)	1	L.S.	\$	\$	
2. Genset Concrete Pad	20	$m^2$	\$	\$	
Division 5:					
1. Metals	1	L.S.	\$	\$	
2. Helical Piles	1	L.S.	\$	\$	
Division 11:					
Equipment	1	L.S.	\$		
Division 13:					
Special Construction	1	L.S.	\$		
Division 15:					
Mechanical	1	L.S.	\$		
Division 16:					
1. Electrical	1	L.S.	\$	\$	
2. Genset & Associated Electrical	1	L.S.	\$	\$	
	<ul> <li>Division 5: <ol> <li>Lift Station (Precast Conc. Structure)</li> <li>Genset Concrete Pad</li> </ol> </li> <li>Division 5: <ol> <li>Metals</li> <li>Helical Piles</li> </ol> </li> <li>Division 11: <ul> <li>Equipment</li> </ul> </li> <li>Division 13: <ul> <li>Special Construction</li> </ul> </li> <li>Division 15: <ul> <li>Mechanical</li> </ul> </li> <li>Division 16: <ul> <li>Electrical</li> <li>Genset &amp; Associated Electrical</li> </ul> </li> </ul>	<b>Division 3:</b> 1. Lift Station (Precast Conc.1. Structure)2. Genset Concrete Pad20 <b>Division 5:</b> 1. Metals2. Helical Piles1 <b>Division 11:</b> Equipment1 <b>Division 13:</b> Special Construction1 <b>Division 15:</b> Mechanical1 <b>Division 16:</b> 1. Electrical2. Genset & Associated Electrical1	Division 3:1.Lift Station (Precast Conc.1L.S.Structure)2.Genset Concrete Pad20m²Division 5:1L.S.2.Helical Piles1L.S.2.Helical Piles1L.S.Division 11:1L.S.Equipment1L.S.Division 13:1L.S.Special Construction1L.S.Division 15:1L.S.Mechanical1L.S.Division 16:1L.S.1.Electrical1L.S.2.Genset & Associated Electrical1L.S.	Division 3:1. Lift Station (Precast Conc.1L.S.\$Structure)2. Genset Concrete Pad20m²\$2. Genset Concrete Pad1L.S.\$2. Helical S1L.S.\$2. Helical Piles1L.S.\$Division 11:1L.S.\$Equipment1L.S.\$Division 13:1L.S.\$Special Construction1L.S.\$Division 15:1L.S.\$Mechanical1L.S.\$2. Genset & Associated Electrical1L.S.\$	1. Lift Station (Precast Conc.       1       L.S.       \$       \$         2. Genset Concrete Pad       20       m <sup>2</sup> \$       \$         Division 5:       1       L.S.       \$       \$         2. Helical Piles       1       L.S.       \$       \$         Division 11:       2       1       L.S.       \$       \$         Division 11:       1       L.S.       \$       \$       \$         Division 13:       2       1       L.S.       \$       \$       \$         Division 13:       5       1       L.S.       \$       \$       \$         Division 15:       1       L.S.       \$       \$       \$       \$         Division 16:       1       L.S.       \$       \$       \$       \$         2. Genset & Associated Electrical       1       L.S.       \$       \$       \$

TOTAL SCHEDULE A

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# **SCHEDULE B – Intermediate Lift Station**

#### Lac La Biche County Plamondon Lift Stations

The undersigned, having carefully read these Specifications, hereby agrees to supply all labour, superintendence, plant and materials for the completion of the Works described in these Specifications. Payment for Work described by these Specifications will include the following items:

	Description	Qty	Unit		<b>Unit Price</b>	Extension
1.0	<b>Division 0 and Division 1:</b> Conditions of Contract and General Requirements	1	L.S.	\$		\$
2.0	Division 2:					
2.1	Siteworks	1	тс	¢		¢
2.1	Care of water	200	L.S.	¢		\$ 
2.2	Common Excavation	200	m	2		\$
2.3	Imported Fill	100	m	\$		\$
2.4	Compacted Fill	100	m	\$		\$
2.5	Waste Excavation	100	m	\$		\$
2.6	Topsoil Stripping, Stockpiling and Respreading	100	m <sup>2</sup>	\$		\$
2.7	Miscellaneous Clearing and Grubbing	1	L.S.	\$		\$
2.8	Chain Link Fence, 1.8m high, c/w gate	170	m	\$		\$
	and security top					
2.9	Subgrade Preparation	900	$m^2$	\$		\$
2.10	Granular Subbase, 200mm Compacted Depth	1000	$m^2$	\$		\$
2.11	Geosynthetic Fabric	1000	m <sup>2</sup>	\$		\$
2.12	Grass Seeding	1	L.S.	\$		\$
2.13	Bollards	10	ea.	\$		\$
2.14	150mm HDPE DR 11	135	m	\$		\$
2.15	400mm CSP Culvert Complete	1	L.S.	\$		\$
2.16	150mm Plug Valve	3	ea.	\$		\$
2.17	Connection to Existing Pipping / Valves	1	L.S.	\$		\$
2.18	Erosion and Sediment Control	1	L.S.	\$		\$
2.19	Site Restoration	1	L.S.	\$		\$
2.20	Bedding Sand	1	L.S.	\$		\$
2.21	Non-Woven Geotextile	1	L.S.	\$		\$
2.14	100 mm HDPE DR 11	60	m	\$		\$
3.0	Division 3:					
•••	1. Concrete	1	L.S.	\$		\$
	2 Wetwell (Precast Conc					· · · · · · · · · · · · · · · · · · ·
	Structure) w/ Base Prep	1	L.S.	\$		\$

4.0	<b>Division 5:</b> Metals	1	L.S.	\$ 	\$
	Description	Qty	Unit	Unit Price	Extension
5.0	<b>Division 6:</b> Wood and Plastics	1	L.S.	\$ 	\$
6.0	<b>Division 7:</b> Thermal and Moisture Protection	1	L.S.	\$ 	\$
7.0	<b>Division 8:</b> Doors and Windows	1	L.S.	\$ 	\$
8.0	<b>Division 9:</b> Finishes	1	L.S.	\$ 	\$
9.0	<b>Division 10:</b> Specialities	1	L.S.	\$ 	\$
10.0	<b>Division 11:</b> Equipment	1	L.S.	\$	\$
11.0	<b>Division 13:</b> Special Construction	1	L.S.	\$ 	\$
12.0	<b>Division 15:</b> Mechanical	1	L.S.	\$ 	\$
13.0	<b>Division 16:</b> Electrical	1	L.S.	\$ 	\$

TOTAL SCHEDULE B

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# SCHEDULE C – Regional Lift Station Access Road (Optional Item)

#### Lac La Biche County Plamondon Lift Stations

The undersigned, having carefully read these Specifications, hereby agrees to supply all labour, superintendence, plant and materials for the completion of the Works described in these Specifications. Payment for Work described by these Specifications will include the following items:

	Description	Qty	Unit	Unit Price	Extension
1.	Subgrade Preparation (300mm)	7,000	m <sup>2</sup>	\$	\$
2.	Geosynthetic Fabric	7,000	$m^2$	\$	\$
3.	Granular Surface Course, 200mm Compacted Depth	4,000	m <sup>2</sup>	\$	\$\$
4.	Imported Fill	200	m <sup>3</sup>	\$	\$
5.	Common Excavation	800	m <sup>3</sup>	\$	\$
6.	Topsoil Stripping, Stockpiling and Respreading	7,000	m <sup>2</sup>	\$	\$
7.	Chain Link Fence	210	m	\$	\$\$
8.	Compacted Fill	1000	m <sup>3</sup>	\$	\$

TOTAL SCHEDULE C

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# SUMMARY OF SCHEDULES AND PRICES

SCHEDULE A – REGIONAL LIFT STATION	\$	
SCHEDULE B – INTERMEDIATE LIFT STATION	\$	
ALLOWANCES		
1. Extra Work Allowance	\$	100,000
2. Commissioning Prime Cost Allowance	\$	25,000
3. Control System Setup & Programming Prime Cost Allowance	\$	35,000
OPTIONAL ITEMS SCHEDULE C – REGIONAL LIFT STATION ACCESS ROAD SUB-TOTAL	\$ \$	
G.S.T. (5%)	\$	

# **END OF SECTION**

# 1. GENERAL

#### 1.1 RELATED SECTIONS

.1	Reinforcement in grout or concrete filled masonry cavities	Section 03300
.2	Painting and Finishing General Requirements	Section 09901
.3	Joint Sealants	Section 07920

### **1.2 REFERENCE DOCUMENTS**

- .1 Materials and installation shall meet or exceed:
  - .1 CSA A371, Masonry Construction for Buildings.
  - .2 CSA A165 Series-04, CSA Standards on Concrete Masonry Units.
  - .3 CSA A179-04, Mortar and Grout for Unit Masonry.

# 1.3 SAMPLES

- .1 Comply with requirements of Division 1.
- .2 Provide 5 concrete masonry units showing range of colour and texture possible within colour specified.
- .3 Obtain approval from Owner before ordering.

# 1.4 TEST REPORTS

- .1 Comply with requirements of Division 1.
- .2 Submit copies of test reports by an independent testing agency, accredited for this type of testing by the Standards Council of Canada, demonstrating that:
  - .1 Concrete masonry complies with CSA A165 Series and specified requirements.

#### 1.5 MOCK-UP

.1 Not applicable.

# 1.6 TESTING AND INSPECTION BY OWNER

.1 Owner will appoint and pay for services of a testing agency to perform site quality control testing and inspection.

.2 Concrete masonry units delivered to the site will be sampled and tested in accordance with CSA A165 Series. Following tests will be performed to verify compliance with specified requirements:

Test	Test Method
Compressive strength	ASTM C140
Linear shrinkage	ASTM C426
Moisture content	ASTM C426

- .3 Sand and cement materials will be inspected and tested to verify compliance with specified requirements.
- .4 Mortar will be tested to verify that compressive strength complies with specified requirements. Method of testing will be in accordance with CSA A179, for job-mixed mortars.

# 1.7 DELIVERY, STORAGE AND HANDLING

- .1 Deliver masonry units on pallets, suitably protected from road grime and moisture absorption due to exposure to rain or melting snow.
- .2 Unload and store on dry, level areas.
- .3 Remove plastic wrappings from concrete masonry units and cover with waterproof coverings which will provide protection from the elements but allow for air circulation.
- .4 Protect masonry materials from damage during all phases of delivery, storage and handling.

#### **1.8 COORDINATION**

- .1 Coordinate lines, levels and coursing with work of other Sections.
- .2 Obtain built-in items prior to start of this work.

#### 2. **PRODUCTS**

#### 2.1 CLAY BRICK MASONRY UNITS

.1 Not applicable.

# 2.2 CONCRETE MASONRY UNITS

- .1 Concrete Block Masonry Units: to CSA A165.1 and as follows:
  - .1 Classification: H/15/C/M.
- .2 Method of Curing: Autoclave or low pressure steam curing is acceptable, provided that masonry units comply with linear shrinkage and moisture content requirements of CSA A165.1 for type M units at time of delivery to site. Notwithstanding the foregoing, age all units before delivery to site, as follows:
  - .1 Autoclaved units: minimum 7 days.
  - .2 Low pressure steam cured units: minimum 28 days.
- .3 Sizes:
  - .1 100 x 200 x 400
- .4 Special Shapes:
  - .1 Bond beam, lintel beam, corner and other shapes as required or indicated on drawings. Provide external corner units as a single unit, with required architectural face appearance on one side and one end.
  - .2 Structural walls and interior walls: Exposed corners including door and window openings to be bullnose corners.
- .5 Face Textures, Finishes and Colours: Following types, as indicated on drawings:
  - .2 Exterior Block Veneer: Split face, colour as indicated on drawings.

#### 2.3 HORIZONTAL JOINT REINFORCEMENT

- .1 Reinforcement which will also function as masonry connectors:
  - .1 Conventional Continuous Welded Ties/Reinforcing: to CSA A370, in ladder or truss configuration.
- .2 Reinforcement:
  - .1 Steel Wire: to ASTM A82, hot dip galvanized.
  - .2 Continuous Welded Double Wire Welded Ladder or Truss Type: to CSA A370.
  - .3 Single Wire Type: 3.66 mm diameter.

- .3 For continuous welded ladder or truss type, provide:
  - .1 Widths to suit wall widths, and
  - .2 Prefabricated tee-shaped and 90° corner configurations for use at wall intersections and corners.

### 2.4 MASONRY CONNECTORS

- .1 Select any suitable conventional or non-conventional type as defined by CSA A370-04, and as follows:
  - .1 Corrosion Protection: level II.
  - .2 Maximum unsupported length of connectors in cavity shall not exceed that permitted by CSA A370-04 or recommended by connector manufacturer, whichever is the smaller dimension.

# 2.5 FASTENERS FOR MASONRY CONNECTORS

.1 Not applicable.

#### 2.6 ACCESSORIES

- .1 Control Joint Fillers: Preformed rubber, neoprene or polyvinylchloride, size and profile to suit intended application.
- .2 Cavity Weeps/Vents: Preformed plastic or galvanized steel.

# 2.7 ANCHOR BOLTS

- .1 Hollow Core Block Use Hilti Hit HY 70 or approved equal.
- .2 Grout Filled Block Use Hilti Hit HY 200 or approved equal.

### 2.8 MORTAR AND GROUT

.1 Mortar: to CSA A179, property specifications, and as follows:

Location	Mortar Type	Maximum Compressive Strength*	Colour
All locations	S	15 MPa	to match masonry block colour specified.

\*Average of six 50 mm cubes, job prepared, tested @ 28 days.

.2 Masonry cement is not permitted.

.3 Grout: to CSA A179.

# 2.9 FLASHINGS

- .1 Butyl Rubber Base Flashing: minimum 1.2 mm thick butyl sheet rubber strips.
- .2 Sheet Steel Base Flashing: minimum 0.60 mm thick, to ASTM A653M-08, formed as detailed, galvanized with Z275 zinc coating.

# 3. EXECUTION

#### 3.1 EXAMINATION

.1 Examine work of other Sections upon which work of this Section is dependent. Should discrepancies be found which affect the proper performance of the work of this section, do not commence work until such discrepancies have been resolved.

#### **3.2 COLD WEATHER REQUIREMENTS**

- .1 For masonry work which will be done below 5°C, measure temperatures of masonry material prior to use; maintain temperatures as close as possible for mortar batches; ensure mortar temperature on mortar boards does not exceed 50°C; use dry masonry units; lay masonry on unfrozen surfaces free from snow and ice; use windbreaks when laying masonry not protected by enclosures; provide a high-low registering thermometer where directed on site.
- .2 When mean air temperature will, over a 24 hour period, go below 5°C but not below 0°C, conduct masonry work as for normal temperatures except heat water and sand to produce mortar temperatures between 5°C and 50°C. Protect entire constructed masonry by enclosing within weatherproof membrane for 48 hours.
- .3 When mean air temperature will, over a 24 hour period, go below 0°C but not below -4°C, conduct masonry work as for normal temperatures except heat water and sand to produce mortar temperatures between 5°C and 50°C and maintain temperature of mortar boards above 0°C. Protect entire constructed masonry by enclosing within weatherproof membrane for 48 hours.
- .4 When mean air temperature is below -4°C, conduct laying of masonry in enclosures heated to maintain air temperature above 0°C. Conduct masonry work as for normal temperatures except heat water and sand to produce mortar temperatures between 5°C and 50°C and heat units if necessary so that temperature of units at time of laying is minimum -7°C. Maintain enclosure in position for 48 hours and maintain air temperature within enclosure at minimum 0°C.

### 3.3 MIXING MORTAR

- .1 Mix mortar in accordance with CSA A179, using maximum amount of water consistent with workability.
- .2 Provide gauging equipment and ensure that shovel count is accurate.
- .3 Use mechanical mixer of one sack minimum capacity for large batches, mechanically mixing for not less than 3 minutes and not more than 5 minutes. Hand mixing may be used for small batches.
- .4 Re-temper mortar to replace water lost by evaporation.
- .5 Use and place mortar in final position within 2 hours after mixing.
- .6 For coloured mortar, mix coloured pigment with 10% to 15% dry cement by weight. Do not use same mixer for regular and coloured mortar.

#### 3.4 PLACING OF MASONRY, GENERALLY

- .1 Meet or exceed requirements of CSA A371.
- .2 Where mortar has started to harden at units requiring repositioning, remove and replace with fresh mortar.
- .3 Construct cavity walls using techniques that will minimize mortar dropping in cavity space. This may require the use of batten boards to catch mortar droppings. No mortar shall bridge cavity space or plug cavity vents at bottom of cavity.

### 3.5 PLACING CLAY BRICK MASONRY UNITS

.1 Not applicable.

#### **3.6 PLACING CONCRETE MASONRY UNITS**

- .1 Do not wet concrete masonry units prior to installation. Cut with dry blade saws.
- .2 Place units in face shell mortar bedding for running bond.
- .3 Remove excess mortar from cores intended for grouting. Puddle or vibrate grout to completely fill cores.

#### **3.7 BONDS AND PATTERNS**

.1 Except where otherwise indicated on drawings, lay up all masonry in running bond.

#### 3.8 JOINTING

.1 Tool mortar joints to a dense, smooth surface, after thumbprint hard.

.2 Except where otherwise indicated on drawings, provide following joint types at specified locations:

Locati	ion	Joint Type
Expos	ed:	
	Exterior concrete masonry	Weather
	Interior concrete masonry	Concave
Concealed:		
	Cavity walls	Flush
	Walls to receive paint and similar thin finish coating	Concave

#### 3.9 INSTALLATION OF REINFORCEMENT

- .1 Install reinforcement in accordance with CSA 371 and as indicated on drawings.
- .2 Place horizontal joint reinforcement in accordance with CSA 371, and as follows:
  - .1 Place in first and second mortar joints above and below openings. Extend reinforcement minimum 600 mm past openings.
  - .2 Place in first and second mortar joints below tops of walls.
- .3 Stop horizontal reinforcement on each side of control joints.

# 3.10 INSTALLATION OF MASONRY CONNECTORS

- .1 Install masonry connectors in accordance with CSA A370-04.
- .2 Comply with fastener manufacturer's recommendations for edge distance in applicable substrates. Do not fasten into mortar joints of masonry backup.
- .3 Install top row of masonry connectors not more than one-half of typical tie spacing below top of veneer panels.
- .4 Ensure that connectors installed over or through sheathing are adequately fastened to studs or other structural framing.

### 3.11 INSTALLATION OF FLASHING

- .1 Install flashing under exterior masonry walls and as indicated on drawings.
- .2 Extend flashings through brick veneer, turn up minimum 200 mm on back-up substrate.
- .3 Secure butyl rubber flashing to back-up substrate with adhesive [as detailed on drawings].
- .4 Lap joints 150 mm and seal with adhesive.

#### 3.12 INSTALLATION OF ACCESSORIES

- .1 Control Joints: install continuous control joint fillers as indicated on drawings.
- .2 Cavity Vents:
  - .1 Install vents in vertical joints immediately over flashing and near tops of walls, in exterior wythes of cavity wall construction at 600 mm o.c. horizontally.
  - .2 Do not install vent tubes in control or expansion joints.

#### 3.13 INSTALLATION OF ANCHOR BOLTS

.1 Install as per manufacturers recommendation.

#### 3.14 BUILT-IN WORK

.1 Build-in all door and window frames, steel lintels, anchors and bolts, and any other items to be built into masonry.

#### 3.15 CUTTING AND FITTING

- .1 Fit and cut chases for piping, conduits, ducts, and sleeves. Install grounds, blocking, inserts, etc., as required.
- .2 Do all cutting, fitting, drilling, patching and making good for other trades.
- .3 Obtain the Owner's Representative's approval before cutting any part which may impair appearance or strength of the work.

# 3.16 CLEANING

- .1 Clean off all excess mortar and smears.
- .2 Clean and wash masonry surfaces with masonry manufacturer's approved solution using only fibre brushes. Clean a trial area and obtain Owner's approval before proceeding.
- .3 Promptly remove from job site all mortar droppings, broken units, and debris resulting from work of this Section.
- .4 Surfaces to be painted are to be prepared as indicated in Section 09901 3.5.10.

# **END OF SECTION**