

**PART 1 - GENERAL**

**SUMMARY**

This Section includes requirements for provision of all labour, materials, equipment and incidental services necessary to *Provide* brick/block masonry veneer units.

Masonry veneer forms a part of the exterior rain screen and protective veneer facing. Design to allow for ventilation, drainage and pressure equalization of the voids between the stone veneer and the insulation with the exterior atmospheric pressures.

Structural steel support angles and brackets shall be supplied and installed as required over any openings.

**RELATED REQUIREMENTS**

- Section 04060 – Masonry Mortar.
- Section 07210 – Building Insulation.
- Section 07920 – Joint Sealants:
- Section 08110 – Hollow Metal Doors and Frames.
- Section 08411 – Aluminum-Framed Entrances and Storefronts.

**REFERENCE STANDARDS**

- i. American Society for Testing and Materials (ASTM):
  - a. ASTM C216-17, Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale)
  - b. ASTM E84-15b, Standard Test Method for Surface Burning Characteristics of Building Materials.
  - c. ASTM E119-16, Standard Test Methods for Fire Tests of Building Construction and Materials.
- ii. Canadian Standards Association (CSA):
  1. CSA A82-14, Fired Masonry Brick Made from Clay or Shale.
  2. CAN/CSA-A371-14; Masonry Construction for Buildings.
  3. CSA S304-14; Design of Masonry Structures.
  4. CSA A165 Series-14; CSA Standards on Concrete Masonry Units (Consists of A165.1, A165.2 and A165.3).

**SUBMITTALS**

- i. Make *Submittals* in accordance with Section 01300 – Submittals.
- ii. *Actions Submittals*: Submit the following *Submittals* before starting any work of this Section:
  1. *Product Data Sheets*: Submit *Product Data Sheets* indicating physical characteristics, test results confirming performance characteristics, finishes and compliance with referenced standards.
  2. *Samples for Verification*: Submit duplicate full-size samples for verification for each type, finish and colour (full range of possible colours):

**QUALITY ASSURANCE**

- i. Manufacturer Qualifications:
 

Minimum five (5) years documented continuous experience prior to award of subcontract, for projects of similar size and scope, producing *Products* specified in this Section; has

personnel, plant equipment capable of fabricating *Products* of the types specified and has a written quality control and system in place. If requested by *Owner* or *Consultant*, submit proof of experience to *Consultant* prior to commencement of the *Work* of this Section.

**PART 2 - PRODUCTS**

**MANUFACTURERS**

Basis-of-Design Products:

1. *Products* named in this Section were used as the basis-of-design for the *Project*; additional manufacturers offering similar *Products* may be incorporated into the work of this Section provided they meet the performance and aesthetic requirements established by the named *Products*.
2. Unsolicited Substitutions Limitations: *Consultant* may consider additional manufacturers having similar *Products* to Basis-of-Design Product Manufacturer listed below during the construction period, provided they meet the performance and aesthetic requirements.

**BRICK/BLOCK MASONRY UNITS**

1. Final selection of Masonry Units is pending site plan approval and from the PetSmart Design Team.
2. Manufactured in accordance with CAN/CSA A82, and as follows:
  3. Grade: Exterior Grade (EG).
  4. Type: X.
  5. Size: to suit.
  6. Colour and Texture: to be approved by Petsmart design team.
  7. Basis-of-Design *Product*: Brampton Brick.

**SOURCE QUALITY CONTROL**

1. Aesthetic Tolerances: *Consultant* will limit use of defective units in exposed work for the following reasons; referenced CSA A82 masonry unit standards allow for a certain percentage of units to exceed tolerances and to contain chips, cracks, or other defects exceeding limits stated in the standard, notwithstanding the requirements of these standards:
  - i. Masonry units with chipped edges or corners, or units having cracks on the face will not be permitted in exposed masonry construction within
    - a. 4 meters viewing distance, at corners or other edges.
  - ii. Mix defective units that comply with CSA A82 with remaining units and use where aesthetic tolerances are not required.
  - iii. Do not use units where dimensions vary from specified dimensions by more than stated tolerances for units exposed in the completed *Work* or where use of these units will impair the quality of completed masonry.

**PART 3 - EXECUTION**

**EXAMINATION**

- i. Verification of Conditions: Prior to commencing the work of this Section, carefully inspect installed work of other trades and verify that such work is complete to the point where work of this Section may properly commence. Provide *Notice in Writing* to the *Consultant* and *Construction Manager* of conditions detrimental to the proper and timely completion of the work of

- this Section.
- 1. Ensure the following items are installed before starting installation of Masonry veneer:
    - a. Shelf angles.
    - b. Though-wall flashings.
    - c. Veneer ties.
    - d. Cavity insulation.
  - ii. Do not begin installation until all unsatisfactory conditions are resolved. Beginning work of this Section constitutes acceptance of site conditions and responsibility for defective installation caused by prior observable conditions.

INSTALLATION – GENERAL

- i. Use full size units without cutting except as follows:
  - 1. Cut units with motor driven saws if cutting is required to provide a continuous pattern or to fit adjoining construction
  - 2. Provide clean, sharp, un-chipped edges.
  - 3. Allow units to dry before laying unless wetting of units is specified.
  - 4. Install cut units with cut surfaces and cut edges concealed where possible; obtain Consultant’s acceptance where cut edges must be exposed.
- ii. Select and arrange units for exposed unit masonry to produce a uniform blend of colours and textures; mix units by drawing units diagonally down multiple rows from at least three different pallets as masonry units are placed.
- iii. Wet brick before laying when recommended by brick manufacturer; allow units to absorb water so they are damp but not wet at time of laying.
- iv. Use mortar as specified in Section 04060.
- v. Install mortar control devices as required.
- vi. Install wire install wire ties into previously installed tie supports of veneer ties as per manufacturers recommended installation instructions.
- vii. Leave 10 mm (3/8”) minimum clear space below shelf angles, or more as indicated.
- viii. Construct control joints in accordance with manufacturers recommended installation instructions.
- ix. Jointing:
  - 1. Concave: all joints exposed to view.
  - 2. Flush: all joints within wall cavities.
- x. Installation Tolerances: Install masonry to tolerances listed in CSA A371, except as modified by this Section as follows:
  - 1. Conspicuous Vertical Lines:
    - a. Includes, but is not limited to, external corners, door jambs, reveals, and expansion and control joints.
      - 1. Do not vary from plumb by more than 3 mm in 3000 mm, 6 mm in 6000 mm with total variation not exceeding 13 mm over entire height of masonry.
  - 2. Vertical Alignment of Exposed Head Joints: Do not vary

- from plumb by more than 6 mm in 3000 mm or 13 mm over entire height of masonry.
- 3. Conspicuous Horizontal Lines:
  - a. Includes, but is not limited to, lintels, sills, parapets, and reveals.
  - b. Do not vary from level by more than 3 mm in 3000 mm, 6 mm in 6000 mm or 13 mm over entire length of masonry.
- 4. Exposed Bed Joints:
  - a. Do not vary from thickness indicated by more than
    - 1.  $\pm 3\text{mm}$ , with a maximum thickness limited to 13mm.
  - b. Do not vary from bed joint thickness of adjacent courses by more than 3 mm.
- 5. Exposed Head Joints:
  - a. Do not vary from thickness indicated by more than
    - 1.  $\pm 3\text{mm}$ .
  - b. Do not vary from adjacent bed joint and head joint thicknesses by more than 3 mm.
- 6. Faces of Adjacent Exposed Masonry Units: Do not vary from flush alignment by more than 1.5 mm except as allowed for warpage of masonry units within tolerances listed in referenced standards.
- 7. Exposed Bed Joints and Head Joints of Stacked Bond Units: Do not vary from a straight line by more than 1.5 mm from one masonry unit to the next.

LAYING MASONRY UNITS

- i. Bond: Set brick masonry units in running bond.
- ii. Stopping and Resuming Work:
  - 1. Stop work by racking back units in each course from those in course below; do not tooth.
  - 2. Clean masonry surfaces that are to receive mortar, remove loose masonry units and mortar, and wet brick if required before laying fresh masonry when resuming work.

MORTAR BEDDING AND JOINTING

- iii. Lay hollow brick as follows:
  - 1. Face shells fully bedded in mortar and with head joints of depth equal to bed joints.
  - 2. Webs fully bedded in mortar in all courses of piers, columns, and pilasters.
- iv. Lay solid masonry units with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place; do not deeply furrow bed joints or slush head joints.

CLEANING

Clean brick masonry in accordance upon completion of work.

END OF SECTION