SECTION 04 27 23

CAVITY WALL UNIT MASONRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Concrete Block.
B. Clay Facing Brick.
C. Common Brick.
D. Hollow Brick.
E. Ceramic Glazed Face Brick.
F. Mortar .
G. Reinforcement and Anchorage.
H. Flashings.
I. Lintels.
J. Accessories.

1.02 RELATED REQUIREMENTS

A. Section 03 2000 - Concrete Reinforcing: Reinforcing steel for grouted masonry.
B. Section 04 0100 - Maintenance of Masonry.
C. Section 04 0511 - Mortar and Masonry Grout.
D. Section 04 2500 - Unit Masonry Panels.
E. Section 04 4301 - Stone Masonry Veneer: Rough stone bonded to masonry back-up.
F. Section 05 5000 - Metal Fabrications: Loose steel lintels.
G. Section 07 2100 - Thermal Insulation: Insulation for cavity spaces.
H. Section 07 2123 - Loose Fill Insulation: Granular insulation for masonry wall cavity.
I. Section 07 6200 - Sheet Metal Flashing and Trim: Through-wall masonry flashings.
J. Section 07 8400 - Firestopping: Firestopping at penetrations of masonry work.
K. Section 07 9200 - Joint Sealants: Sealing control and expansion joints.

1.03 REFERENCE STANDARDS

A. ACI 530/530.1/ERTA - Building Code Requirements and Specification for Masonry Structures and Related Commentaries; 2013.
B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
C. ASTM A240/A240M - Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications; 2015b.
D. ASTM A580/A580M - Standard Specification for Stainless Steel Wire; 2015.
E. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2016.
F. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2015.
G. ASTM C62 - Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale); 2013.
H. ASTM C67 - Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile; 2014.
I. ASTM C90 - Standard Specification for Loadbearing Concrete Masonry Units; 2014.

J. ASTM C91/C91M - Standard Specification for Masonry Cement; 2012.

K. ASTM C126 - Standard Specification for Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units; 2015.

L. ASTM C129 - Standard Specification for Non-load bearing Concrete Masonry Units; 2011.

M. ASTM C140/C140M - Standard Test Methods of Sampling and Testing Concrete Masonry Units and Related Units; 2014.

N. ASTM C144 - Standard Specification for Aggregate for Masonry Mortar; 2011.

O. ASTM C150/C150M - Standard Specification for Portland Cement; 2016.

P. ASTM C207 - Standard Specification for Hydrated Lime for Masonry Purposes; 2006 (Reapproved 2011).

Q. ASTM C216 - Standard Specification for Facing Brick (Solid Masonry Units Made From Clay or Shale); 2014.

R. ASTM C270 - Standard Specification for Mortar for Unit Masonry; 2014a.

S. ASTM C652 - Standard Specification for Hollow Brick (Hollow Masonry Units Made From Clay or Shale); 2014.

T. ASTM C780 - Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry; 2012.

U. BIA Technical Notes No. 46 - Maintenance of Brick Masonry; 2005.

V. UL (FRD) - Fire Resistance Directory; current edition.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Pre-installation Meeting: Convene one week before starting work of this section.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data for masonry units, fabricated wire reinforcement, and mortar.

C. Samples: Submit two samples of masonry units to illustrate color, texture, and extremes of color range.

D. Manufacturer's Certificate: Certify that masonry units meet or exceed specified requirements.

E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 6000 - Product Requirements, for additional provisions.
   2. Extra Glazed Units: 50 of each type, size, and color combination.
   3. Extra Pre-Faced Units: 50 of each type, size, and color combination.

1.06 QUALITY ASSURANCE

A. Comply with provisions of ACI 530/530.1/ERTA <https://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ACI 530/530.1>, except where exceeded by requirements of the contract documents.
   1. Maintain one copy of each document on project site.

B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

C. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience .

1.07 MOCK-UP

A. Construct a masonry cavity wall as a mock-up panel sized 4 feet (1.2 m) long by 4 feet (1.2 m) high; include mortar and accessories, reinforcement, flashings, and wall insulation in mock-up.

B. Locate where directed.

C. Mock-up may remain as part of the Work.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Deliver, handle, and store masonry units by means that will prevent mechanical damage and contamination by other materials.

B. Handle and store ceramic glazed masonry units in protective cartons or trays. Do not remove from protective packaging until ready for installation.

1.09 FIELD CONDITIONS

A. Cold and Hot Weather Requirements: Comply with requirements of ACI 530/530.1/ERTA <https://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ACI 530/530.1> or applicable building code, whichever is more stringent.

PART 2 PRODUCTS

2.01 CONCRETE MASONRY UNITS

A. Concrete Block: Comply with referenced standards and as follows:
   1. Size: Standard units with nominal face dimensions of 16 by 8 inches (400 by 200 mm) and nominal depth of 8 inches (200 mm) or match with existing block size. Concrete Blocks regular shall conform to Grade – N as per ASTM C90.
   2. Split Rib Concrete Blocks shall be split rib faced and shall comply with ASTM C90 and ASTM C744. Blocks shall be sound, free of cracks and other defects and shall match with existing blocks in size, color and texture.
   3. Special Shapes: Provide non-standard blocks configured for corners.
   4. Load-Bearing Units: ASTM C90 <http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM C90>, normal weight.
      a. Hollow block, as indicated.
      b. Exposed faces: Manufacturer's standard color and texture and match with existing block size. Split rib concrete block (approved per field mock-up).
      c. Pattern: Vertically ribbed and split.
   5. Non-Loadbearing Units: ASTM C129 <http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM C129>.
      a. Hollow block, as indicated.
      b. Lightweight.
   6. Pre-Faced Units: ASTM C90 <http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM C90>, hollow block, with smooth resinous facing complying with ASTM C744 <http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM C744>.
      a. Colors and styles: Match existing and / or As indicated on drawings.
      b. Manufacturer: _____.
      c. Substitutions: See Section 01 6000 - Product Requirements.

2.02 BRICK UNITS

A. Manufacturers:

B. Facing Brick: ASTM C216 <http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM C216>, Type FBS, Grade SW.
   1. Color and texture to match with existing bricks or Architect's sample.
   2. Nominal Size: As indicated on drawings or match with existing brick size.
   3. Special Shapes: Molded units as required by conditions indicated, unless standard units can be sawn to produce equivalent effect.
   4. Compressive Strength: As indicated on drawings, measured in accordance with ASTM C67 <http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM C67>.

C. Building (Common) Brick: ASTM C62 <http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM C62>, Grade SW; solid units.

1. Nominal Size: As indicated on drawings or match with existing block size.
2. Compressive Strength: As indicated on drawings, measured in accordance with ASTM C67 <http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM C67>.

D. Hollow Facing and Building Brick: ASTM C652 <http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM C652>, Grade SW; Type HBS; Class H40V.
1. Color and texture to match Architect's sample or match with existing brick size.
2. Actual Size: As indicated on drawings or match with existing brick size.
3. Compressive Strength: As indicated on drawings, measured in accordance with ASTM C67 <http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM C67>.

E. Ceramic Glazed Face Brick: ASTM C126 <http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM C126>, Grade S (Select), Type I (single-faced units).
1. Color and texture to match Architect's sample or match with existing brick size.
2. Actual Size: As indicated on drawings or match with existing brick size.
3. Special Shapes: Molded units as required by conditions indicated, unless standard units can be sawn without chipping glaze to produce equivalent effect.
4. Compressive Strength: As indicated on drawings, measured in accordance with ASTM C67 <http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM C67>.

2.03 MORTAR AND GROUT MATERIALS

A. Mortar: As specified in Section 04 0511. Type N conforming to requirements of ASTM C-270.

B. Masonry Cement: ASTM C91/C91M <http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM C91/91M> Type N.
1. Colored Mortar: Premixed cement as required to match Architect's color sample or match with existing mortar joints.
2. Substitutions: See Section 01 6000 - Product Requirements.

C. Portland Cement: ASTM C150/C150M <https://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM C150/C150M>, Type I; color as required to produce approved color sample.

D. Hydrated Lime: ASTM C207 <http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM C207>, Type S. Quick soaking, hydrated, high calcium lime.

E. Mortar Aggregate: ASTM C144 <http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM C144>.

F. Pigments for Colored Mortar: Pure, concentrated mineral pigments specifically intended for mixing into mortar and complying with ASTM C979/C979M <http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM C979/C979M>. No admixtures shall be permitted.
1. Color(s): To match with existing mortar.
2. Manufacturers:
   a. Davis Colors ; _____: www.daviscolors.com.
   b. Lambert Corporation ; _____: www.lambertusa.com.
   c. Solomon Colors ; _____: www.solomoncolors.com/sle.
   d. Substitutions: See Section 01 6000 - Product Requirements.

2.04 REINFORCEMENT AND ANCHORAGE

A. Manufacturers:
1. Blok-Lok Limited; _____: www.blok-lok.com.
2. Hohmann & Barnard, Inc.; _____: www.h-b.com/sle or equal.
3. Substitutions: See Section 01 6000 - Product Requirements.

B. Reinforcing Steel: Type specified in Section 03 2000; size as indicated on drawings; epoxy finish.

C. Joint Reinforcement: Use ladder type joint reinforcement where vertical reinforcement is involved and truss type elsewhere, unless otherwise indicated.
   1. Horizontal Joint reinforcement (truss type 2 side rods), match width with the width of masonry:
      a. DA3100 Truss - S.S. 9 gauge wire by Dur-O-Wal or
      b. #120 Truss Mesh - S.S. 9 gauge wire by Hohmann & Bernard
      c. or equal
      d. Note: Prefabricated corner truss shall match to horizontal truss reinforcement but will be 32" in each direction.

D. Multiple Wythe Joint Reinforcement: Truss type; fabricated with moisture drip; ASTM A1064/A1064M steel wire, hot dip galvanized after fabrication to ASTM A153/A153M, Class B; 0.1483 inch (3.8 mm) side rods with 0.1483 inch (3.8 mm) cross rods; width as required to provide not more than 1 inch (25 mm) and not less than 1/2 inch (13 mm) of mortar coverage on each exposure.

E. Adjustable Multiple Wythe Joint Reinforcement: Truss type with adjustable ties or tabs spaced at 16 in (406 mm) on center, and fabricated with moisture drip; ASTM A1064/A1064M steel wire, hot dip galvanized after fabrication to ASTM A153/153M, Class B; 0.1875 inch (4.8 mm) side rods with 0.1483 inch (3.8 mm) cross rods and adjustable components of 0.1875 inch (4.8 mm) wire; width of components as required to provide not more than 1 inch (25 mm) and not less than 1/2 inch (13 mm) of mortar coverage from each masonry face.
   1. Vertical adjustment: Not less than 2 inches (50 mm).
   2. Seismic Feature: Provide lip, hook, or clip on extended leg of wall ties to engage or enclose not less than one continuous horizontal joint reinforcement wire of 0.1483 inch (3.8 mm) diameter.
   3. Insulation Clips: Provide clips at tabs or ties designed to secure insulation against outer face of inner Wythe of masonry.

F. Strap Anchors: Bent steel shapes configured as required for specific situations, 1-1/4 in (32 mm) width, 0.105 in (2.7 mm) thick, lengths as required to provide not more than 1 inch (25 mm) and not less than 1/2 inch (13 mm) of mortar coverage from masonry face, corrugated for embedment in masonry joint, hot dip galvanized to ASTM A 153/A 153M, Class B.

G. Flexible Anchors: 2-piece anchors that permit differential movement between masonry and building frame, sized to provide not more than 1 inch (25 mm) and not less than 1/2 inch (13 mm) of mortar coverage from masonry face.
   1. Veneer Ties adjustable with rod for new brickwork shall be 5" long for the façade and 3 ½" long for the water tank tower enclosure (length shall be based on field condition) e.g. Stainless steel A-Lok Tie with pencil rod by Hohmann & Barnard Inc., Veneer Tie Assembly Series 5213S, 12 gauge 304 stainless steel with 9 gauge pencil rod or equal.
   2. Veneer anchor for notched back up such as notch concrete columns and beams shall be S. S. 345 SV or 315 BT seismic-notch veneer anchor with S. S. pencil rod by Hohmann & Barnard or s. s. Veneer tie Assembly Series 5431 with 12 gauge 304 S. S. 9 gauge pencil rod installed with DA 5410 expansion anchor by Dur-O-Wal.

H. Wall Ties: Corrugated formed sheet metal, 7/8 inch (22 mm) wide by 0.05 inch (1.22 mm) thick, hot dip galvanized to ASTM A 153/A 153M, Class B, sized to provide not more than 1 inch (25 mm) and not less than 1 inch (25 mm) of mortar coverage from masonry face.
   1. Fasteners to anchor the masonry ties shall be either s. s. expansion anchor or adhesive anchor. The anchor diameter shall be ¼" diameter and with minimum embedment of 2" by Power Fasteners Inc., or HILTI or equal.

I. Two-Piece Wall Ties: Formed steel wire, 0.1875 inch (4.8 mm) thick, adjustable, eye and pintle type, hot dip galvanized to ASTM A 153/A 153M, Class B, sized to provide not more than 1 inch (25 mm) and not less than 1/2 inch (13 mm) of mortar coverage from masonry face and to allow vertical adjustment of up to 1-1/4 in (32 mm).

2.05 FLASHINGS

A. Stainless Steel/Polymer Fabric Drainage Plane Flashing: ASTM A240/A240M <https://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM A240/A240M> stainless steel sheet bonded with rubber-based adhesive between one sheet of polymer fabric and one sheet of non-woven drainage material , with manufacturer's standard, self-adhering, stainless steel lap tape.
   1. Manufacturers:
      a. York Manufacturing, Inc. ; Flash-Vent SS: www.yorkmfg.com
      b. [].

B. Copper Composite Fabric flashing shall be Multi-Flash 500 Series Copper Fabric Laminate (5 oz.) by York or equal.

C. Flashing Cement shall be MBR Flashing Cement (2 parts) by John Manville or equal.

D. Flashing Sealant/Adhesives: Silicone, polyurethane, or silyl-terminated polyether/polyurethane, or other type required or recommended by flashing manufacturer; type capable of adhering to type of flashing used.
   1. Modified Polyether Products:
      a. Mortar Net Solutions ; _____: www.mortarnet.com.
      b. York Manufacturing, Ink ; UniverSeal US-100 Liquid Tape: www.yorkmfg.com.

2.06 ACCESSORIES

A. Preformed Control Joints: Rubber material. Provide with corner and tee accessories, fused joints.
   1. Manufacturers:
      a. Blok-Lok Limited ; _____: www.blok-lok.com.
      b. Hohmann & Barnard, Inc ; _____: www.h-b.com/sle.
      c. WIRE-BOND ; _____: www.wirebond.com.
      d. [].
      e. Substitutions: See Section 01 6000 - Product Requirements.

B. Joint Filler: Closed cell polyvinyl chloride; oversized 50 percent to joint width; self-expanding; ____ inch (____ mm) wide x by maximum lengths available.
   1. Manufacturers:
      a. Hohmann & Barnard, Inc ; _____: www.h-b.com/sle. NS Closed Cell Neoprene Sponge.
      b. DA 2010 Rapid Soft joint by Dur-O-Wal
      c. WIRE-BOND ; _____: www.wirebond.com.
      d. or equal _____.
      e. Substitutions: See Section 01 6000 - Product Requirements.

C. Termination Bars: Stainless steel; compatible with membrane and adhesives.

D. Drip Edge: Stainless steel; compatible with membrane and adhesives.

E. Lap Sealants and Tapes: As recommended by flashing manufacturer; compatible with membrane and adhesives.

F. Weep holes shall be polyvinyl chloride, rectangular type 3/8”X 1- 1/2” X 3-1/2” or 4- 1/2” long per field condition. Weep holes shall be as manufactured by RKL Building Specialist Inc. or equal.

G. Cavity Vents: Polyester mesh.
   1. Manufacturers:
      a. Blok-Lok Limited ; _____: www.blok-lok.com.
      b. Hohmann & Barnard, Inc ; _____: www.h-b.com/sle.
      c. WIRE-BOND ; _____: www.wirebond.com.
      d. Mortar Net USA, Ltd ; _____: www.mortarnet.com.
      e. Substitutions: See Section 01 6000 - Product Requirements.

H. Drainage Fabric: Polyester or polypropylene mesh.
   1. Manufacturers:
      a. York Manufacturing, Inc. ; Weep Armor Weep Vent Protection: www.yorkmfg.com.
      b. Substitutions: See Section 01 6000 - Product Requirements.

I. Cavity Mortar Control: Semi-rigid polyethylene or polyester mesh panels, sized to thickness of wall cavity, and designed to prevent mortar droppings from clogging weeps and cavity vents and allow proper cavity drainage.
   1. Mortar dropping control device shall be The Mortar Net manufactured by Mortar Net USA, Ltd. or equal.

J. Cleaning Solution: Non-acidic, not harmful to masonry work or adjacent materials. Brick Cleanser for the fire damaged brick shall be 2010 All Surface Cleaner by PROSOCO or equal.

K. Masonry nails shall be 1" long non-corrosive metal with 1" dia. neoprene washers.

L. Utility Mastic shall be Cop-R-Tite by York or equal.

M. Expansion Bolts to fasten the shelf angle and steel lintel shall be ¾" dia. x 6" long embedment stainless steel bolts such as Power-Stud as manufactured by Power Fasteners Inc., or Kwik Bolt 3 by HILTI or equal.

N. Bond Breaker shall be made of polyurethane strip.

O. Patching Compound to repair the concrete shall be polymer modified cementations e.g. HB2 Repair Mortar by ThoRoc, BASF, the Chemical Company, or equal.

P. Backer Rod shall be closed cell polyethylene foam such as Sonofoam Baker Rod or equal. Diameter of backer rod, before compression, shall be 1-1/2 times the width of the joints at the time of installation.

Q. Pins to be used in concrete surface repair shall be stainless steel or zinc coated ¼ dia x 2" long (length shall be based on field condition) e.g. Hammer Drive Pins as manufactured by Powers Fasteners Inc. or equal.

2.07 LINTELS

A. Steel angle (size as indicated on the Drawings or match existing).

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive masonry.

B. Verify that related items provided under other sections are properly sized and located.

C. Verify that built-in items are in proper location, and ready for roughing into masonry work.

3.02 PREPARATION

A. Direct and coordinate placement of metal anchors supplied for installation under other sections.

B. Provide temporary bracing or support during installation of masonry work. Maintain in place until building structure provides permanent bracing.

3.03 COURSING

A. Establish lines, levels, and coursing indicated. Protect from displacement.

B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.

C. Concrete Masonry Units:
   1. Bond: [] or match with the existing.
   2. Coursing: One unit and one mortar joint to equal 8 inches (200 mm).
   3. Mortar Joints: [] or match with the exisitng.

D. Brick Units:
   1. Bond: [] or match with the exisitng.

2. Coursing: Three units and three mortar joints to equal 8 inches (200 mm).
3. Mortar Joints: []or match with the exisitng.

3.04 PLACING AND BONDING

A. Lay solid masonry units in full bed of mortar, with full head joints, uniformly jointed with other work.

B. Lay hollow masonry units with face shell bedding on head and bed joints.

C. Buttering corners of joints or excessive furrowing of mortar joints is not permitted.

D. Remove excess mortar as work progresses.

E. Interlock intersections and external corners , except for units laid in stack bond.

F. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment must be made, remove mortar and replace.

G. Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.

H. Cut mortar joints flush where wall tile is scheduled or resilient base is scheduled.

I. Isolate masonry partitions from vertical structural framing members with a control joint as indicated.

J. Isolate top joint of masonry partitions from horizontal structural framing members and slabs or decks with compressible joint filler.

3.05 WEEPS/CAVITY VENTS

A. Install cavity vents in cavity walls at 24 inches (600 mm) on center horizontally below shelf angles and lintels and at top of walls.

3.06 CAVITY WALL CONSTRUCTION

A. Do not permit mortar to drop or accumulate into cavity air space or to plug weep/cavity vents.

3.07 REINFORCEMENT AND ANCHORAGES - CAVITY WALL MASONRY

A. Install horizontal joint reinforcement 16 inches (400 mm) on center.

B. Lap joint reinforcement ends minimum 6 inches (150 mm).

C. Fasten anchors to structural framing and embed in masonry joints as masonry is laid. Space anchors at maximum of 16 inches (400 mm) horizontally and 16 inches (400 mm) vertically.

3.08 MASONRY FLASHINGS

A. Whether or not specifically indicated, install masonry flashing to divert water to exterior at all locations where downward flow of water will be interrupted.

3.09 LINTELS AND SHELF ANGLES

A. See Division 05

3.10 CONTROL AND EXPANSION JOINTS

A. Do not continue horizontal joint reinforcement through control or expansion joints.

B. Install preformed control joint device in continuous lengths. Seal butt and corner joints in accordance with manufacturer's instructions.

C. Size control joints as indicated on drawings; if not shown, 3/4 inch (19 mm) wide and deep.

D. Form expansion joint as detailed on drawings.

3.11 BUILT-IN WORK

A. As work progresses, install built-in metal door frames and window frames and other items to be built into the work and furnished under other sections.

B. Install built-in items plumb, level, and true to line.

C. Bed anchors of metal door and glazed frames in adjacent mortar joints. Fill frame voids solid with grout.

3.12 TOLERANCES

A. Maximum Variation from Alignment of Columns: 1/4 inch (6 mm).

B. Maximum Variation from Unit to Adjacent Unit: 1/16 inch (1.6 mm).

C. Maximum Variation from Plane of Wall: 1/4 inch in 10 ft (6 mm/3 m) and 1/2 inch in 20 ft (13 mm/6 m) or more.

D. Maximum Variation from Plumb: 1/4 inch (6 mm) per story non-cumulative; 1/2 inch (13 mm) in two stories or more.

E. Maximum Variation from Level Coursing: 1/8 inch in 3 ft (3 mm/m) and 1/4 inch in 10 ft (6 mm/3 m); 1/2 inch in 30 ft (13 mm/9 m).

F. Maximum Variation of Joint Thickness: 1/8 inch in 3 ft (3 mm/m).

G. Maximum Variation from Cross Sectional Thickness of Walls: 1/4 inch (6 mm).

3.13 CUTTING AND FITTING

A. Cut and fit for chases. Coordinate with other sections of work to provide correct size, shape, and location.

B. Obtain approval prior to cutting or fitting masonry work not indicated or where appearance or strength of masonry work may be impaired.

3.14 PARGING

A. Dampen masonry walls prior to parging.

B. Scarify each parging coat to ensure full bond to subsequent coat.

C. Parge masonry walls in two uniform coats of mortar to a total thickness of 3/4 inch (19 mm).

D. Steel trowel surface smooth and flat with a maximum surface variation of 1/8 inch per foot (1 mm/m).

E. Strike top edge of parging at 45 degrees.

3.15 FIELD QUALITY CONTROL

A. An independent testing agency will perform field quality control tests, as specified in Section 01 4000.

B. Concrete Masonry Unit Tests: Test each variety of concrete unit masonry in accordance with ASTM C140/C140M <http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM C140/C140M> for conformance to requirements of this specification.

C. Mortar Tests: Test each type of mortar in accordance with recommended procedures in ASTM C780 <http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM C780>, testing with same frequency as masonry samples.

3.16 CLEANING

A. Remove excess mortar and mortar smears as work progresses.

B. Replace defective mortar. Match adjacent work.

C. Clean soiled surfaces with cleaning solution.

D. Use non-metallic tools in cleaning operations.

3.17 PROTECTION

A. Without damaging completed work, provide protective boards at exposed external corners that are subject to damage by construction activities.

END OF SECTION