

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .3 Section 01 45 00 - Testing and Quality Control.
- .4 Section 01 61 00 - Common Product Requirements.
- .5 Section 04 05 12 - Mortar and Masonry Grout.
- .6 Section 04 05 19 - Masonry Anchorage and Reinforcing.
- .7 Section 04 22 00 - Concrete Unit Masonry.
- .8 Section 07 21 13 - Board Insulation.
- .9 Section 07 92 00 - Joint Sealants.

1.2 REFERENCES

- .1 Canadian Standards Association (CSA International)
 - .1 CSA-A165 Series-04 (R2009), Standards on Concrete Masonry Units.
 - .2 CSA A179-04 (R2009), Mortar and Grout for Unit Masonry.
 - .3 CSA-A371-04 (R2009), Masonry Construction for Buildings.

1.3 ACTION SUBMITTALS

- .1 Product Data:
 - .1 Submit manufacturer's printed product literature, specifications and data, including product characteristics, performance criteria, limitations and colours.
 - .2 Submit two copies of Workplace Hazardous Material Information System (WHMIS) - Material Safety Data Sheets (MSDS).
 - .3 Samples:
 - .1 Submit samples:
 - .1 Two of each type of masonry unit specified including special shapes.
 - .2 One of each cured and coloured samples of mortar and grout, illustrating mortar colour and colour range.
 - .3 One of each type of masonry accessory specified.
 - .4 One of each type of masonry reinforcement, tie and connector
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- proposed for use.
- .2 Submit samples tested to laboratories employing engineer licensed in Province of Nova Scotia, Canada.
- .4 Shop Drawings:
 - .1 Provide drawings stamped and signed by professional engineer registered or licensed in Province of Nova Scotia, Canada.
 - .2 Provide confirmation to Departmental Representative that temporary bracing and support has been designed by professional engineer.
- .5 Manufacturer's Instructions:
 - .1 Submit manufacturer's installation instructions.

1.4 QUALITY ASSURANCE

- .1 Submit laboratory test reports certifying compliance of masonry units and mortar ingredients with specifications requirements.
- .2 Submit certified tests reports showing compliance with specified performance characteristics and physical properties.
- .3 For clay units, in addition to requirements set out in referenced CSA and ASTM Standards include data indicating initial rate of absorption.

1.5 DELIVERY, STORAGE, AND HANDLING

- .1 Deliver, store, handle and protect materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Deliver materials to job site in dry condition.
- .3 Storage and Protection:
 - .1 Keep materials dry until use except where wetting of bricks is specified.
 - .2 Store under waterproof cover on pallets or plank platforms held off ground by means of plank or timber skids.

1.6 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
 - .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.
 - .3 Collect and separate for disposal paper plastic, polystyrene, corrugated cardboard pallets and packaging material in appropriate on-site for recycling in accordance with Waste Management Plan.
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- .4 Unused metal materials are to be diverted from landfill to a metal recycling facility as approved by Departmental Representative.
- .5 Unused or damaged masonry materials must be diverted from landfill to a local quarry facility as approved by Departmental Representative.

1.7 SITE CONDITIONS

- .1 Site Environmental Requirements:
 - .1 Cold weather requirements.
 - .1 To CSA-A.7 with following requirements.
 - .1 Maintain temperature of mortar between 5 degrees C and 50 degrees C until batch is used or becomes stable.
 - .2 Maintain ambient temperature between 5 degrees C and 50 degrees C and protect site from wind chill.
 - .2 Hot weather requirements:
 - .1 Protect freshly laid masonry from drying too rapidly by means of waterproof, non-staining coverings.
 - .2 Keep masonry dry using waterproof, non-staining coverings that extend over walls and down sides sufficient to protect walls from wind driven rain, until masonry work is completed and protected by flashing or other permanent construction.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Masonry materials are specified in related Sections.

PART 3 - EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

3.2 PREPARATION

- .1 Provide temporary bracing of masonry work during and after erection until permanent lateral support is in place.
 - .2 Bracing approved by Departmental Representative.
 - .3 Protect adjacent materials from damage and disfiguration.
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3.3 INSTALLATION

- .1 Do masonry work in accordance with CSA-A371 except where specified otherwise.
- .2 Build masonry plumb, level, and true to line, with vertical joints in alignment.
- .3 Layout coursing and bond to achieve correct coursing heights, and continuity of bond above and below openings, with minimum of cutting.

3.4 CONSTRUCTION

- .1 Exposed masonry:
 - .1 Remove chipped, cracked, and otherwise damaged units, in accordance with CSA A-165, Clause 82.1, in exposed masonry and replace with undamaged units.
 - .2 Jointing:
 - .1 Allow joints to set just enough to remove excess water, then tool with round jointer to provide smooth, joints true to line, compressed, uniformly concave joints.
 - .2 Strike flush joints concealed in walls and joints in walls to receive insulation.
 - .3 Cutting:
 - .1 Cut out for electrical switches, outlet boxes, and other recessed or built-in objects.
 - .2 Make cuts straight, clean, and free from uneven edges.
 - .4 Building-In:
 - .1 Build in items required to be built into masonry.
 - .2 Prevent displacement of built-in items during construction. Check plumb, location and alignment frequently, as work progresses.
 - .3 Brace door jambs to maintain plumb. Fill spaces between jambs and masonry with mortar.
 - .5 Wetting of bricks:
 - .1 Except in cold weather, wet bricks having initial rate of absorption exceeding 1 g/minute/1000 mm²: wet to uniform degree of saturation, 3 to 24 hours before laying, and do not lay until surface dry.
 - .2 Wet tops of walls built of bricks qualifying for wetting, when recommencing work on such walls.
 - .6 Support of loads:
 - .1 Use 20 MPa concrete to Section 03 30 00 - Cast-in-Place Concrete, where concrete fill is used in lieu of solid units.
 - .2 Use grout to CSA A179 where grout is used in lieu of solid units.
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- .3 Install building paper below voids to be filled with grout; keep paper 25 mm back from faces of units.
- .7 Provision for movement:
 - .1 Leave 3 mm space below shelf angles.
 - .2 Leave 6 mm space between top of non-load bearing walls and partitions and structural elements. Do not use wedges.
 - .3 Built masonry to tie in with stabilizers, with provision for vertical movement.
- .8 Loose steel lintels:
 - .1 Install loose steel lintels. Centre over opening width.
- .9 Control joints:
 - .1 Construct continuous control joints as indicated.

3.5 SITE TOLERANCES

- .1 Tolerances in notes to CSA-A371 apply.

3.6 FIELD QUALITY CONTROL

- .1 Inspection and testing will be carried out by Testing Laboratory designated by Departmental Representative.

3.7 CLEANING

- .1 Perform cleaning after installation to remove construction and accumulated environmental dirt.
- .2 Upon completion of installation, remove surplus materials, rubbish, tools, and equipment barriers.

3.8 PROTECTION

- .1 Temporary Bracing and Supports:
 - .1 Provide temporary bracing and support of masonry work during and after erection until permanent lateral support is in place.
 - .2 Provide confirmation to Departmental Representative that temporary bracing and support has been designed by professional engineer.
 - .3 Brace masonry walls as necessary to resist wind pressure and lateral forces during construction.
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- .2 Moisture Protection:
 - .1 Keep masonry dry using waterproof, nonstaining coverings that extend over walls and down sides sufficient to protect walls from wind driven rain, until completed and protected by flashing or other permanent construction.
 - .2 Cover completed and partially completed work not enclosed or sheltered with waterproof covering at end of each work day. Anchor securely in position.
 - .3 Air Temperature Protection: protect completed masonry as recommended in Part 1 article Site Conditions.

PART 1 - GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 04 05 00 - Common Work Results for Masonry.
- .3 Section 04 05 19 - Masonry Anchorage and Reinforcing.
- .4 Section 04 22 00 - Concrete Unit Masonry.

1.2 REFERENCES

- .1 Canadian Standards Association (CSA International)
 - .1 CAN/CSA-A23.-1-09/AA23.2-09, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
 - .2 CAN/CSA A179-04 (R2009), Mortar and Grout for Unit Masonry.

1.3 SUBMITTALS

- .1 Product Data:
 - .1 Submit manufacturer's printed product literature, specifications and data sheet in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Submit two copies of WHMIS MSDS - Material Safety Data Sheets in accordance with Section 01 33 00 - Submittal Procedures. Indicate VOC's mortar, grout, parging, colour additives and admixtures.
- .2 Samples:
 - .1 Submit two samples of coloured mortar.

1.4 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
 - .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.
 - .3 Collect and separate for disposal paper, plastic, polystyrene, corrugated cardboard and packaging material in appropriate on-site for recycling in accordance with Waste Management Plan.
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PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Use same brands of materials and source of aggregate for entire project.
- .2 Cement:
 - .1 Portland Cement: to CAN/CSA-A3000.
 - .2 Masonry Cement: to CAN/CSA-A3002 and CAN/CSA A179.
 - .3 Mortar Cement: to CAN/CSA-A3002 and CAN/CSA A179.
 - .4 Packaged Dry Combined Materials for mortar: to CAN/CSA A179, using gray colour cement.
- .3 Aggregate: supplied by one supplier.
 - .1 Fine Aggregate: to CAN/CSA A179, natural sand.
 - .2 Course Aggregate: to CAN/CSA A179.
- .4 Water: clean and potable.

2.2 COLOUR ADDITIVES

- .1 Use colouring admixture not exceeding 10% of cement content by mass, or integrally coloured masonry cement, to produce coloured mortar to match approved sample. Admixtures to be approved prior to use. Use in accordance with the specific manufacturer's recommendations. Mortar colour sample as selected from manufacturer's standard colour range.
- .2 White mortar: use white masonry cement to produce mortar type specified.

2.3 MORTAR MIXES

- .1 Mortar for exterior masonry above grade:
 - .1 Loadbearing: type S based on proportion specifications.
 - .2 Non-Loadbearing: N based on proportion specifications.
- .2 Following applies regardless of mortar types and uses specified above:
 - .1 Mortar for grouted reinforced masonry: Type S based on proportion specifications.

2.4 MORTAR MIXING

- .1 Add mortar colour in accordance with manufacturer's instructions. Provide uniformity of mix and colouration.
 - .2 Use a batch type mixer in accordance with CAN/CSA A179.
 - .3 Re-temper mortar only within two hours of mixing, when water is lost by evaporation.
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- .4 Use mortar within 2 hours after mixing at temperatures of 32 degrees C, or 2-1/2 hours at temperatures under 5 degrees C.

2.5 GROUT MIXES

- .1 Lintels: minimum grout mix 10 to 12.5 MPa strength at 28 days or as otherwise indicated on drawings; 200-250 mm slump; mixed in accordance with CAN/CSA A179.
- .2 Grout: Minimum compressive strength of 12.5 MPa at 28 days or as otherwise indicated on drawings. Maximum aggregate size and grout slump: CAN/CSA A179.

2.6 GROUT MIXING

- .1 Mix grout ingredients in quantities needed for immediate use in accordance with CAN/CSA A179.
- .2 Add admixtures in accordance with manufacturer's instructions; mix uniformly.
- .3 Do not use calcium chloride or chloride based admixtures.

PART 3 - EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

3.2 CONSTRUCTION

- .1 Do masonry mortar and grout work in accordance with CSA A179 except where specified otherwise.

3.3 MIXING

- .1 Only electric motor mixers are permissible. Mixers run on hydrocarbons are not permitted, due to fumes. Mixing by hand must be pre-approved by the Departmental Representative.
 - .2 Clean all mixing boards and mechanical mixing machine between batches.
 - .3 Mortar must be weaker than the units it is binding.
 - .4 Contractor to appoint one individual to mix mortar, for duration of project. In the event that this individual must be changed, mortar mixing must cease until the new individual is trained, and mortar mix is tested.
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3.4 MORTAR PLACEMENT

- .1 Install mortar to manufacturer's instructions.
- .2 Install mortar to requirements of CAN/CSA A179.
- .3 Remove excess mortar from grout spaces.

3.5 GROUT PLACEMENT

- .1 Install grout in accordance with manufacturer's instructions.
- .2 Install grout in accordance with CAN/CSA A179.
- .3 Work grout into masonry cores and cavities to eliminate voids.
- .4 Do not install grout in lifts greater than 400 mm, without consolidating grout by rodding.
- .5 Do not displace reinforcement while placing grout.

3.6 CLEANING

- .1 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 35 43 - Environmental Procedures.
- .3 Section 04 05 00 - Common Work Results for Masonry.
- .4 Section 04 05 12 - Mortar and Masonry Grout.
- .5 Section 04 22 00 - Concrete Unit Masonry.

1.2 REFERENCES

- .1 Canadian Standards Association (CSA International)
 - .1 CAN/CSA-A23.1/A23.2-04, Concrete Materials and Methods of Concrete Construction/Methods of Test for Concrete.
 - .2 CAN/CSA A370-04 (R2009), Connectors for Masonry.
 - .3 CAN/CSA A371-04 (R2009), Masonry Construction for Buildings.
 - .4 CSA G30.14-M1983(1998), Deformed Steel Wire for Concrete Reinforcement.
 - .5 CAN/CSA G30.18-09, Billet-Steel Bars for Concrete Reinforcement.
 - .6 CSA-S304.1-04 (R2012), Masonry Design for Buildings.
 - .7 CSA W186-M1990(R2012), Welding of Reinforcing Bars in Reinforced Concrete Construction.
 - .8 CSA A179-04(R2009), Mortar and Grout for Unit Masonry.

1.3 SUBMITTALS

- .1 Product Data:
 - .1 Submit manufacturer's's printed product literature, specifications and data sheets.
 - .2 Submit two copies of WHMIS MSDS - Material Safety Data Sheets. Indicate VOC's for epoxy coatings and galvanized protective coatings and touch-up products illustrating products to be incorporated into project for specified products.
 - .2 Shop Drawings:
 - .1 Shop drawings consist of bar bending details, lists and placing drawings. Provide shop drawings detailing bar bending details, anchorage details, lists and placing drawings.
 - .2 On placing drawings, indicate sizes, spacing, location and quantities of reinforcement and connectors.
 - .3 Indicate on shop drawings, bar bending details, lists, quantities of
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reinforcement, sizes, spacings, locations of reinforcement and mechanical splices if approved by Departmental Representative, with identifying code marks to permit correct placement without reference to structural drawings. Indicate sizes, spacings and locations of chairs, spacers and hangers. Prepare reinforcement drawings in accordance with Reinforcement Steel Manual of Standard Practice - by Reinforcing Steel Institute of Canada. ANSI/ACI 315 and ACI 315R, Manual of Engineering and placing Drawings for Reinforced Concrete Structure.

- .3 Manufacturer's Instructions:
 - .1 Submit manufacturer's installation instructions.

1.4 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01 35 43 - Environmental Procedures.
- .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .3 Collect and separate for disposal paper, plastic, polystyrene, corrugated cardboard and packaging material in accordance with Waste Management Plan.
- .4 Divert unused metal materials from landfill to metal recycling facility approved by Departmental Representative.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Bar reinforcement: CSA A371 and CAN/CSA G30.18, 400 MPa Steel.
- .2 Wire reinforcement: to CSA-A371 and CSA G30.14. Heavy Duty Ladder Type Horizontal Reinforcing. 4.8 mm Longitudinal and 3.6 mm Transverse Wires Galvanized After Fabrication to ASTM A153-82, 456G/SQ.M.
- .3 Ties: For concrete block and masonry construction: to CSA-A370 and CSA-S304, 1.6 mm thick stainless steel connector plate, c/w 5.8 mm dia. Holes for veneer tie wire attachment, 4.76 mm dia. Veneer ties with polyethylene insulation supports. Total length of connector plate to suit block width, air space and insulation.
- .4 Corrosion protection: to CSA-S304, galvanized to CSA-S304 and CSA-A370.

2.2 FABRICATION

- .1 Fabricate reinforcing in accordance with CAN/CSA-A23.1.
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- .2 Fabricate connectors in accordance with CAN/CSA A370.
- .3 Obtain Departmental Representative's approval for locations of reinforcement splices other than shown on placing drawings.
- .4 Upon approval of Departmental Representative, weld reinforcement in accordance with CSA W186.
- .5 Ship reinforcement and connectors, clearly identified in accordance with drawings.

2.3 SOURCE QUALITY CONTROL

- .1 Upon request, provide Departmental Representative with certified copy of mill test report of reinforcement steel and connectors, showing physical and chemical analysis.

PART 3 - EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: Comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

3.2 GENERAL

- .1 Supply and install masonry connectors and reinforcement in accordance with CSA A370, CSA A371, CSA-A23.1 and CSA-S304.1 unless indicated otherwise.
- .2 Prior to placing mortar or grout, obtain Departmental Representative's approval of placement of reinforcement and connectors.
- .3 Supply and install additional reinforcement to masonry as indicated.
 - .1 Exterior cavity wall consisting of a wythe of clay brick with concrete block back-up.
 - .1 Space connectors and install in accordance with manufacturer's written instruction but not greater than 400 mm vertically or 800 mm horizontally.
- .4 All concrete block walls shall be reinforced with horizontal block reinforcement every second course to CSA S304.1, Latest Edition. Lap Reinforcement 150 mm at each splice.

3.3 BONDING AND TYING

- .1 Bond walls of two or more wythes using metal connectors in accordance with
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CSA-S304.1, CSA A371 and as indicated.

- .2 Tie masonry veneer to backing in accordance with NBC, CSA-S304.1, CSA A371 and as indicated.

3.4 REINFORCED LINTELS AND BOND BEAMS

- .1 Reinforce masonry lintels and bond beams as indicated.
- .2 Place and grout reinforcement in accordance with CSA-S304.1, CSA A371, and CAN/CSA A179.
- .3 Support and position reinforcing bars in accordance with CAN/CSA A371.

3.5 GROUTING

- .1 Grout masonry in accordance with CSA-S304.1, CSA A371 and CSA A179 and as indicated.

3.6 ANCHORS

- .1 Supply and install metal anchors as indicated.

3.7 LATERAL SUPPORT AND ANCHORAGE

- .1 Supply and install lateral support and anchorage in accordance with CSA-S304.1 and as indicated.

3.8 MOVEMENT JOINTS

- .1 Reinforcement will not be continuous across movement joints unless otherwise indicated.

3.9 FIELD BENDING

- .1 Do not field bend reinforcement and connectors except where indicated or authorized by Departmental Representative.
- .2 When field bending is authorized, bend without heat, applying a slow and steady pressure.
- .3 Replace bars and connectors which develop cracks or splits.

3.10 FIELD TOUCH-UP

- .1 Touch up damaged and cut ends of epoxy coated or galvanized reinforcement steel and connectors with compatible finish to provide continuous coating.
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3.11 CLEANING

- .1 Upon completion of installation, remove surplus rubbish, tools and equipment barriers.

1 GENERAL

1.1 RELATED REQUIREMENTS

- .1 Section 04 05 00 - Common Work Results for Masonry.
- .2 Section 04 05 19 - Masonry Anchorage and Reinforcing.

1.2 REFERENCES

- .1 ASTM International Inc.
 - .1 ASTM D 2240-05, Standard Test Method for Rubber Property - Durometer Hardness.
- .2 Canadian Standards Association (CSA International)
 - .1 CAN/CSA A371-04, Masonry Construction for Buildings.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Product Data:
 - .1 Provide manufacturer's printed product literature, specifications and datasheets. Include product characteristics, performance criteria, and limitations.
- .2 Quality Assurance Submittals:
 - .1 Manufacturer's Instructions: submit in accordance with Section 04 05 00 - Common Work Results for Masonry, supplemented as follows:
 - .1 Submit installation instructions for brick vents, weeps, vents, diverters and flashings.

1.4 FIELD MEASUREMENTS

- .1 Make field measurements necessary to ensure proper fit of members.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Movement joint filler: purpose-made elastomer 70 durometer hardness to ASTM D 2240 of size and shape indicated.
 - .1 Material type: fibre board.
 - .2 Lap adhesive: recommended by masonry flashing manufacturer.
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- .3 Weep hole vents: purpose-made PVC.

2.2 MOISTURE CONTROL

- .1 Weep Hole Vents: PVC.
- .2 Cell vents: polypropylene plastic, honeycomb design.
 - .1 Size: 9.5 mm x 63.5 mm x 85.7 mm.
- .3 Colour: gray.
- .4 Mortar diverters: shaped and sized to suit cavity spaces.

2.3 FLASHINGS

- .1 Cavity wall flashings:
 - .1 SBS rubberized asphalt: 1.0 mm thick, self adhering, laminated to cross-laminated polyethylene film.

PART 3 - EXECUTION

3.1 APPLICATION

- .1 Manufacturer's Instructions: comply with manufacturer's written recommendations, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.2 INSTALLATION: MATERIALS

- .1 Install continuous movement joint fillers in movement joints at locations indicated on drawings.
- .2 Lap adhesive: apply adhesive to flashing lap joints.
- .3 Mechanical fasteners: install fasteners to suit application and in accordance with manufacturer's written installation instructions.
- .4 Brick vents: install brick vents at locations indicated on drawings.

3.3 INSTALLATION: MOISTURE CONTROL

- .1 Install weep hole vents in vertical joints immediately over flashings, in exterior wythes of cavity wall and masonry veneer wall construction, at maximum horizontal spacing of 600 mm on centre.
 - .2 Mortar diverters: install purpose made diverters in cavities where indicated and as directed, size and shape to suit purpose and function.
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3.4 INSTALLATION: FLASHINGS

- .1 Build in flashings in masonry in accordance with CAN/CSA A371.
 - .1 Install flashings under exterior masonry bearing on foundation walls, slabs, shelf angles, and steel angles over openings, and at base of cavity wall and where cavity is interrupted by horizontal members or supports and as shown on drawings. Install flashings under weep hole courses and as indicated.
 - .2 In cavity walls and veneered walls, carry flashings from front edge of exterior masonry, under outer wythe, then up backing not less than 150 mm, and as follows:
 - .1 For masonry backing embed or bond flashing 25 mm in joint.
 - .3 Lap joints 150 mm and seal with adhesive.
- .2 Form flashing (end dams) at lintels, sills and wall ends to prevent water from travelling horizontally past flashing ends.
- .3 Install vertical flashing where outer veneer returns at window or door jambs, to prevent contact of veneer with inner wall.

1 GENERAL

1.1 RELATED REQUIREMENTS

- .1 Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .2 Section 04 05 00 - Common Work Results for Masonry.
- .3 Section 04 05 12 - Mortar and Masonry Grout.
- .4 Section 04 05 19 - Masonry Anchorage and Reinforcing.
- .5 Section 04 05 23 - Masonry Accessories.

1.2 REFERENCES

- .1 Canadian Standards Association (CSA International)
 - .1 CAN3 A165 Series-04(R2009), CSA Standards on Concrete Masonry Units covers: A165.1, A165.2, A165.3.

1.3 SUBMITTALS

- .1 Product Data:
 - .1 Submit manufacturer's printed product literature, specifications and data sheet illustrating products to be incorporated into project for specified products.

1.4 QUALITY ASSURANCE SUBMITTALS

- .1 Test Reports: certified test reports showing compliance with specified performance characteristics and physical properties.
- .2 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .3 Pre-Installation Meetings: conduct pre-installation meeting to verify project requirements, manufacturer's instructions and manufacturer's warranty requirements.

1.5 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01 35 43 -
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Environmental Procedures.

- .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .3 Collect and separate for disposal paper, plastic, polystyrene and corrugated cardboard packaging material in appropriate on-site for recycling in accordance with Waste Management Plan.
- .4 Divert damaged or unused concrete materials from landfill to local facility approved by Departmental Representative.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Standard concrete block units: to CAN3-A165 Series (CAN3-A165.1) .
 - .1 Classification: H/15/A/M.
 - .2 Size: modular, as indicated on the drawings.
 - .3 Special shapes: provide square units for exposed corners. Provide purpose-made shapes for lintels and bond beams. Provide additional special shapes as indicated.

2.2 ACCESSORIES

- .1 Reinforcement: to Section 04 05 19 - Masonry Anchorage and Reinforcing.
- .2 Connectors: to Section 04 05 19 - Masonry Anchorage and Reinforcing.
- .3 Flashing: to Section 04 05 23 - Masonry Accessories.
- .4 Mortar and mortar mixes: to Section 04 05 12 - Masonry Mortar and Grout.
- .5 Grout and grout mixes: to Section 04 05 12 - Masonry Mortar and Grout.

2.3 CLEANING COMPOUNDS

- .1 Compatible with substrate and acceptable to masonry manufacturer for use on products.
 - .2 Cleaning compounds compatible with concrete unit masonry and in accordance with manufacturer's written recommendations and instructions.
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2.4 TOLERANCES

- .1 Tolerances for standard concrete unit masonry tolerances in accordance with CAN/CSA A165.1, supplemented as follows:
 - .1 Maximum variation between units within specific job lot not to exceed 2 mm.
 - .2 No parallel edge length, width or height dimension for individual unit to differ by more than 2 mm.
 - .3 Out of square tolerance not to exceed 2 mm.

PART 3 – EXECUTION

3.1 INSTALLATION

- .1 Concrete block units:
 - .1 Bond: running.
 - .2 Coursing height: 200mm for one block and one joint.
 - .3 Jointing: concave where exposed or where paint or other finish coating is specified.
- .2 Concrete block lintels.
 - .1 Install reinforced concrete block lintels over openings in masonry where steel or reinforced concrete lintels are not indicated.
 - .2 End bearing: not less than 200 mm.

3.2 CONSTRUCTION

- .1 Cull out masonry units, in accordance with CAN/CSA A165 and approved range of colour samples, with chips, cracks, broken corners, excessive colour and texture variation.
 - .2 Build in miscellaneous items such as bearing plates, steel angles, bolts, anchors, inserts, sleeves and conduits.
 - .3 Construct masonry walls using running bond unless otherwise noted.
 - .4 Fit masonry closely against electrical and plumbing outlets so collars, plates and covers overlap and conceal cuts.
 - .5 Install movement joints and keep free of mortar where indicated.
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- .6 Hollow Units: spread mortar setting bed from outside edge of face shells. Gauge amount of mortar on top and end of unit to create full joints, equivalent to shell thickness. Avoid excess mortar.
- .7 Solid Units: apply mortar over entire vertical and horizontal surfaces. Avoid bridging of airspace between brick veneer and backup wall with mortar.
- .8 Ensure compacted head joints. Use full or face-shell joint as indicated.
- .9 Tamp units firmly into place.
- .10 Do not adjust masonry units after mortar has set. Where resetting of masonry is required, remove, clean and reset units in new mortar.
- .11 Tool exposed joints concave; strike concealed joints flush.
- .12 After mortar has achieved initial set up, tool joints.
- .13 Do not interrupt bond below or above openings.

3.3 CLEANING

- .1 Standard block: Allow mortar droppings on masonry to partially dry then remove by means of trowel, followed by rubbing lightly with small piece of block and finally by brushing.
- .2 Upon completion of installation remove surplus materials, rubbish, tools, and equipment.

3.4 PROTECTION

- .1 Brace and protect concrete unit masonry in accordance with Section 04 05 00 - Common Work Results for Masonry.