

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 74 21 - Construction/Demolition Waste Management And Disposal.
- .3 Section 01 45 00 – Testing Quality Control.
- .4 Section 01 61 00 - Common Product Requirements.
- .5 Section 03 30 00 - Cast-in-Place Concrete.
- .6 Section 04 05 12 - Mortar and Masonry Grout.
- .7 Section 04 05 19 - Masonry Anchorage and Reinforcing.
- .8 Section 04 22 00 - Concrete Unit Masonry.
- .9 Section 05 50 00 - Metal Fabrications.
- .10 Section 07 92 10 - Joint Sealing.

1.2 REFERENCES

- .1 Canadian Standards Association (CSA International).
 - .1 CSA-A165 Series-04(R2014), Standards on Concrete Masonry Units.
 - .2 CSA A179-14, Mortar and Grout for Unit Masonry.
 - .3 CSA-A371-14, Masonry Construction for Buildings.

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 Samples.
 - .1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Submit samples.
 - .1 Two of each type of masonry unit specified.
 - .2 Two of each type of masonry accessory specified.
 - .3 One of each type of masonry reinforcement, tie and connector proposed for use.
 - .3 Submit samples tested to laboratories employing technicians certified/trained in procedures for testing masonry units.

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

1.4 QUALITY ASSURANCE

- .1 Test Reports.
 - .1 Certified test reports showing compliance with specified performance characteristics and physical properties.
 - .2 Submit laboratory test reports certifying compliance of masonry units and mortar ingredients ___ with specification requirements.
- .2 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .3 Mock-ups.
 - .1 Construct mock-ups in accordance with Section 01 45 00 – Testing Quality Control.
 - .2 Construct mock-up panel of exterior masonry wall construction 1200 x 1800 mm showing masonry colours and textures, use of reinforcement, ties, through-wall flashing, weep holes, jointing, coursing, mortar and workmanship.
 - .3 Mock-up will be used:
 - .1 To judge workmanship, substrate preparation, operation of equipment and material application.
 - .2 For testing to determine compliance with performance requirements. Perform following tests.
 - .1 For clay units, in addition to requirements set out in referenced CSA and ASTM Standards include data indicating initial rate of absorption.
 - .4 Construct mock-up where directed.
 - .5 Allow 48 hours for inspection of mock-up by Departmental Representative before proceeding with work.
 - .6 When accepted by Departmental Representative, mock-up will demonstrate minimum standard for this work. Mock-up may remain as part of finished work.
- .4 Pre-Installation Meetings: conduct pre-installation meeting to verify project requirements, manufacturer's installation instructions and manufacturer's warranty requirements.

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, packaging material in appropriate on-site for recycling in accordance with Waste Management Plan.
- .4 Unused metal materials are to be diverted from landfill to a metal recycling facility as approved by Department Representative.
- .5 Unused or damaged masonry materials must be diverted from landfill to a local facility as approved by Department Representative.

1.7 SITE CONDITIONS

- .1 Site Environmental Requirements.
 - .1 Cold weather requirements.
 - .1 Supplement Clause 5.15.2 of CSA-A371 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 windchill.
 - .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 flashings or other permanent construction.

Part 2 Products

2.1 MATERIALS

- .1 Masonry materials are specified in Related Section 04 22 00 – Concrete Unit Masonry.

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.

3.3 INSTALLATION

- .1 Protect all existing exterior façade (to remain) during installation of new Shouldice Block.
- .2 Before installing staging, submit shop drawing to Departmental Representative for review prior to erecting staging. Take special care not to damage existing siding. Repair any damage created by negligence, restore to existing conditions.
- .3 Do masonry work in accordance with CSA-A371 except where specified otherwise.
- .4 Build masonry plumb, level, and true to line, with vertical joints in alignment.
- .5 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 where concave joints are indicated.
 - .2 Allow joints to set just enough to remove excess water, then rake joints uniformly to 6 mm depth and compress with square tool to provide smooth, compressed, raked joints of uniform depth where raked joints are indicated.
 - .3 Strike flush joints concealed in walls and joints in walls to receive plaster, tile, insulation, or other applied material except paint or similar thin finish coating.
- .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 Support of loads.
 - .1 Refer 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.
- .6 Control joints.
 - .1 Construct continuous control joints as indicated on the drawings.
 - .2 Control joint filler purpose made elastomer durometer hardness to ASTM D2240.
 - .3 Lap adhesive recommended by flashing manufacturer.
- .7 Interface with other work.
 - .1 Cut openings in existing work as indicated.
 - .2 Openings in walls: approved by Departmental Representative.
 - .3 Make good existing work. Use materials to match existing.

3.5 SITE TOLERANCES

- .1 Tolerances in notes to Clause 5.3 of 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 Protect masonry and other work from marking and other damage. Protect completed work from mortar droppings. Use non-staining coverings.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 04 05 10 - Common Work Results for Masonry.

1.2 REFERENCES

- .1 Canadian Standards Association (CSA International).
 - .1 CSA A179-04 (R2014), 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 samples in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Submit two size samples of mortar.
- .3 Manufacturer's Instructions.
 - .1 Submit manufacturer's installation instructions.

1.4 QUALITY ASSURANCE

- .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 installation instructions and manufacturer's warranty requirements.

1.5 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, packaging material, in appropriate on-site for recycling in accordance with Waste Management Plan.

Part 2 Products

2.1 MATERIALS

- .1 Use same brands of materials and source of aggregate for entire project.
- .2 Mortar and grout: CSA A179-04 (R2014).
- .3 Use aggregate passing 1.18 mm sieve where 6 mm thick joints are indicated.
- .4 Colour: ground coloured natural aggregates or metallic oxide pigments.
- .5 Mortar for exterior masonry above grade:
 - .1 Non-Loadbearing: mortar for grouted reinforced masonry; type S based on Proportion specifications. Colour to match colour on Shouldice Block.
- .6 Coloured mortar: use colouring admixture not exceeding 10% of cement content by mass, or integrally coloured masonry cement, to produce coloured mortar to match approved sample.
- .7 Non-Staining mortar: use non-staining masonry cement for cementitious portion of specified mortar type.
- .8 Grout: to CSA A179-04 (R2014), Table 3.

2.2 MIXES

- .1 Colour and admixtures: mix grout to semi-fluid consistency.
- .2 Coloured mortars: incorporate colour and admixtures into mixes in accordance with manufacturer's instructions.
 - .1 Use clean mixer for coloured mortar.
- .3 Pointing mortar: prehydrate pointing mortar by mixing ingredients dry, then mix again adding just enough water to produce damp unworkable mix that will retain its form when pressed into ball. Allow to stand for not less than 1 hour nor more than 2 hours then remix with sufficient water to produce mortar of proper consistency for pointing.

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 A179-04 (R2014) except where specified otherwise.

3.3 CLEANING

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

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 74 21 - Construction/Demolition Waste Management And Disposal.
- .3 Section 04 05 10 - Common Work Results for Masonry.

1.2 REFERENCES

- .1 Canadian Standards Association (CSA International).
 - .1 CAN/CSA-A23.1-14/A23.2-14, Concrete Materials and Methods of Concrete Construction/Methods of Test for Concrete.
 - .2 CSA-A370-14, Connectors for Masonry.
 - .3 CSA-A371-14, Masonry Construction for Buildings.
 - .4 CSA W186-M1990(R2016), Welding of Reinforcing Bars in Reinforced Concrete Construction.
 - .5 CSA A179-14, 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 for epoxy coatings and galvanized protective coatings and touch-up products.
- .2 Shop Drawings:
 - .1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Shop drawings consist of bar bending details, lists and placing drawings.
 - .3 On placing drawings, indicate sizes, spacing, location and quantities of reinforcement and connectors.
- .3 Manufacturer's Instructions:
 - .1 Submit manufacturer's installation instructions.

1.4 QUALITY ASSURANCE

- .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 installation instructions and manufacturer's warranty requirements. .

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- .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .3 Collect and separate for disposal paper, plastic, polystyrene, corrugated cardboard, packaging material, in appropriate on-site, for recycling 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 Wire reinforcement: to CSA-A371-14, truss type.
- .2 Connectors: to CSA-A370 and CSA-S304.
- .3 Corrosion protection: to CSA-S304, galvanized to CSA-S304 and CSA-A370-14.

2.2 FABRICATION

- .1 Fabricate reinforcing in accordance with CAN/CSA-A23.1-14 and Reinforcing Steel Manual of Standard Practice by the Reinforcing Steel Institute of Ontario Reinforcing Steel Manual of Standard Practice by the Reinforcing Steel Institute of Quebec.
- .2 Fabricate connectors in accordance with CSA-A370-14.
- .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, minimum 5 weeks prior to commencing reinforcement work.
- .2 Upon request inform Departmental Representative of proposed source of material to be supplied.

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, CAN/CSA-A23.1 and CSA-S304.1 unless indicated otherwise.
- .2 Prior to placing concrete mortar grout, obtain Departmental Representative's approval of placement of reinforcement and connectors.

3.3 BONDING AND TYING

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

3.4 GROUTING

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

3.5 ANCHORS

- .1 Supply and install metal anchors as indicated.

3.6 LATERAL SUPPORT AND ANCHORAGE

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

3.7 MOVEMENT JOINTS

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

3.8 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.

3.9 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.

3.10 CLEANING

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

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 01 74 21 - Construction/Demolition Waste Management And Disposal.
- .2 Section 04 05 10 - Common Work Results for Masonry.
- .3 Section 04 05 12 - Mortar and Masonry Grout.
- .4 Section 04 05 19 - Masonry Anchorage and Reinforcing.

1.2 REFERENCES

- .1 Canadian Standards Association (CSA International)
 - .1 CAN3 A165 SERIES-04 (R2014), CSA Standards on Concrete Masonry Units covers: A165.1, A165.2, A165.3.
- .2 ASTM C55-11

1.3 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01 74 21 - Construction/Demolition Waste Management And Disposal.
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- .4 Divert damaged or unused concrete materials from landfill to local facility approved by Departmental Representative.

Part 2 Products

2.1 MATERIALS

- .1 Prefaced concrete block units: to CAN3-A165 Series (CAN3-A165.3) Decorative face treatment Tapestry finish.
 - .1 Size:
 - .1 Solid block; 90mm x 190mm x 390mm (all building corners to have mitred corner stone concrete block)
 - .2 Solid block, 90mm x 90mm x 390mm. (all building corners to have mitred corner stone concrete block)
 - .2 Colour: Antique Bronze, Tapestry finish.

- .3 Minimum compressive strength: 33.0 MPA
- .4 Oven dry mass density, 2102 Kg/m³
- .5 Maximum water absorption % by mass: 6.3
- .2 Mortar net, 90% nylon open weave style.

Part 3 Execution

3.1 INSTALLATION

- .1 Masonry contractor to use a mortar net made of 90% open weave construction when mortaring to prevent mortar from clogging the block cavity wall.
- .2 Protect all existing exterior façade (to remain) while installing new concrete block veneer. Before installation of staging, submit shop drawings to Departmental Representative prior to erecting the staging. Repair any damage created by negligence, restore to existing conditions.
- .3 Prefaced block units.
 - .1 Bond: running.
 - .2 Coursing height: 200 mm for one block and one joint. 100 mm for one block and one joint.
 - .3 Jointing: concave.
 - .4 All mitred corner stone concrete block corners will be constructed first so as to have a full block appearance consistent detail on all outside corners.

3.2 CLEANING

- .1 Decorative 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.

END OF SECTION