

PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Work under this section shall include all labour, materials, equipment and services necessary for the completion of all cut dimension limestone work as shown on the drawing or hereinafter specified.

1.2 PRODUCTS FURNISHED BUT NOT INSTALLED UNDER THIS SECTION

- See: 09 30 33 for stone tiling.
- 09 63 40 for stone flooring.
- 09 75 00 for interior wall stone facing.
- 12 36 40 for stone countertops.
- 31 37 16 for stone riprap.
- 32 14 40 for stone paving.

1.3 RELATED SECTIONS

- .1 Other Masonry Sections (e.g. Procedures, Mortar & Grout, Accessories, Reinforcing & Tying, Brick, Concrete Units), Dovetail slots in concrete for anchors; Steel inserts, shelf angles, supports; Anchors & Ties; Insulation; Air and/or Vapour barrier; Caulking & Sealants; etc.

See: 04 05 13 for masonry mortaring.
04 05 16 for masonry grouting.
04 05 19 for masonry anchorage and reinforcing.
04 05 23 for masonry accessories.

1.4 REFERENCES

- .1 American Society for Testing and Materials (ASTM) – Latest Edition
 - .1 ASTM C119 Standard Terminology Relating to Dimension Stone
 - .2 ASTM C568/C568M Standard Specification for Limestone Dimension Stone
 - .3 ASTM C1242-12ae1 Standard Guide for Selection, Design, and Installation of Dimension Stone Attachment Systems
 - .4 ASTM C1515 Standard Guide for Cleaning of Exterior Dimension Stone, Vertical And Horizontal Surfaces, New or Existing
- .2 Canadian Standards Association (CSA) – Latest Edition
 - .1 CAN/CSA A179 Mortar and grout for unit masonry
 - .2 CAN/CSA A370 Connectors for masonry
 - .3 CAN/CSA A371 Masonry construction for buildings

1.5 SUBMITTALS

- .1 Shop Drawings
 - .1 Furnish and submit detailed shop drawings under provisions of Section 01 33 00, showing accurately dimensions and anchoring of all cut stone work.
 - .2 Setting numbers to be affixed to shop drawings after final approval and copies distributed as required.
 - .3 No work to be started until final approval of shop drawings.

- .2 Samples
 - .1 Submit samples under provisions of Section 01 33 00 indicating range of colour and finish to be supplied.

1.6 QUALITY ASSURANCE

- .1 Mockup (Optional)
 - .1 Provide Mockup under provision of Section 01 43 39.
 - .2 Installer to be Red Seal Journeyman Bricklayer.

1.7 DELIVERY, STORAGE, AND HANDLING

- .1 Deliver stone promptly and in setting sequence.
- .2 On arrival check all stone for damage and report to carrier, noting damage on delivery document.
- .3 Handle stone carefully with competent labourers and proper equipment.
- .4 Avoid chipping edges or corners.
- .5 Store stone off ground and protect from dirt and damage.

1.8 PROJECT/SITE CONDITIONS

- .1 Existing Conditions
 - .1 Inspect and arrange for correction of defects or dimension errors in concrete or steel structural surfaces which would affect stone work.
- .2 Field Measurements
 - .1 Cooperate with stone supplier, verify (and if necessary provide) job measurements needed for the preparation of shop drawings.

PART 2 PRODUCTS

2.1 MANUFACTURER

- .1 Limestone shall be Manitoba Tyndall Stone®, a medium density limestone per ASTM C119 and ASTM C568.
 - .1 Limestone shall be free from all defects which would affect appearance or durability.
 - .2 Quarry seams shall be well back from finished face.
 - .3 Fossils and other natural markings permitted only to the extent that they do not disfigure finished appearance. Loose or large white fossils not permitted.
- .2 Colour
 - .1 Specify Buff, Grey, or Golden Buff colour.
- .3 Grade
 - .1 Shall be standard grade (Specify select grade for special applications/conditions such as for restoration, carving, etc.)

2.2 OTHER MATERIALS

- .1 Include other applicable materials such as: water, sand, lime, cement, mortar, water repellent, insulation, caulking, control joints, anchors & ties, reinforcing, supports, flashing, etc.

2.3 MIXES

- .1 Mortar for setting:
 - .1 One (1) part white non-staining cement,
One (1) part lime,
Six (6) parts sand.

OR
 - .2 One (1) part approved white non-staining premixed masonry cement,
Three (3) parts sand.

NOTE: If lump lime is used, paste must be properly aged before use.
All mixtures must be used before initial set has taken place – no retempering will be permitted. Do not use integral waterproofing.

2.4 FABRICATION

- .1 Shop/Factory Finishing
 - .1 Stone shall be manufactured accurately to sizes, shapes, and details as indicated on drawings. Except where drawings call for slopes, angles or curves, cut all stone square, with exposed faces true, beds and joints dressed straight and at right angles to faces.
 - .2 Number each stone on the back or bed with non-staining paint to correspond to numbering on setting drawings.
 - .3 Projecting stone, steps, sills and copings shall be cut for setting on its natural bed.
- .2 Face Finish
 - .1 Specify Sawn, Rubbed, Bushhammered, Pointed, Sandblasted, Rustic, Honed, or Polished.

PART 3 EXECUTION

3.1 EXAMINATION/VERIFICATION OF CONDITIONS (See Part 1 General – Project/Site Conditions)

3.2 PREPARATION (See Part 1 General – Field Measurements)

3.3 INSTALLATION/APPLICATION/ERECTION

- .1 Setting Cut Stone
 - .1 Brush stone free of dust, dampen slightly and set stone in accordance with approved setting drawings and numbered stones.
 - .2 Install anchors, dowels, cramps, clips, etc. as shown on consultants' drawings.
 - .3 Use Red Seal Journeyman bricklayers only and set stone plumb, true and level, with joints, anchor and lewis holes flushed full with mortar.
 - .4 All joints shall be 10 mm wide except where otherwise indicated.
 - .5 Back check stone as required for all structural work as indicated on consultants' drawings.

- .6 Cut holes and sinkages as required for anchors, cramps and dowels, etc.
 - .7 Cut and drill stone as required for the installations of electrical and mechanical work.
 - .8 Do not build up stone facing more than one course above backing.
 - .9 Use wood wedges (fully expanded by soaking where necessary to prevent crushing mortar under heavy stones.
 - .10 Projecting stones shall be propped or anchored until wall above is set.
 - .11 Set ends only of lugged sills or steps in full bed of mortar, balance of bed shall be free of mortar until pointed.
 - .12 Slip sills shall have a full bed of mortar.
 - .13 After setting stone, rake mortar out of face joints to depth of 20 mm to allow for pointing.
 - .14 All mortar splashed on exposed stone faces to be removed at once with sponge and water.
- .2 Pointing
- .1 Brush raked out joints clean, remove wedges, fill joints with pointing mortar, pack, work into joints, and finish concave with pointing tool.

3.4 FIELD QUALITY CONTROL

- .1 After setting, protect projecting areas, corner, etc. with boards. Cover walls at night during rains.

3.5 ADJUST AND CLEAN

- .1 Each day brush completed stonework clean with fibre bristle brushes, preferably dry, or with minimum amount of clean water. Do not use wire brushes, acids, or acidic or alkaline cleaning compounds.

3.6 PROTECTION

- .1 Water Repellent (Optional)
 - .1 When exterior stonework is thoroughly dry, apply one flood coat of a water solution of sodium methyl silicate ("XIAMETER OFS-0772" or equal).
 - .2 Use brush, roller, or low pressure spray.