HWDSB

2024-161-P01953
Parkdale Elementary School Gym and Main Entrance Renovation Project

Addendum 3

Issued May 7, 2024

The following information changes the competitive process documents issued on Friday, April 19, 2024.

CLOSING DATE CHANGE

Change of closing date to Tuesday, May 14, 2024, on or before 2:00:00 PM local time.

GENERAL INFORMATION

Item 1: Refer to RFT Document, Instructions to Bidders
REMOVE and REPLACE Section 1.5 Project Schedule with below:

1.5 PROJECT SCHEDULE

.1 The Successful Bidder will adhere to section GC 3.4 in regard to milestone dates set below.

.2 The following are Project milestone dates:

a. Tender Issued	Friday, April 19, 2024
b. Site Walkthrough at 4:00 PM	Friday, April 26, 2024
c. Closing for Questions	Thursday, May 2, 2024
d. Tender Closing on or before 2:00 PM	***Tuesday, May 14, 2024***
e. Anticipated Construction Commencement	Friday, June 28, 2024
f. Substantial Performance	Friday, August 23, 2024
g. Total Completion	Tuesday, September 3, 2024

.3 Any Work remaining after the Substantial Performance date will need to be completed after hours and weekends and cannot be disruptive to the school and operations of the school in any way.

Item 2: Refer to appended Architectural Addendum No. 2 (15 pages), prepared by NGA Architects, dated May 7, 2024.

QUESTIONS AND RESPONSES

Refer to General Information Item 2.

End of Addendum 3

ADDENDUM #02

RE: REQUEST FOR TENDER #2024-161-P01953
Parkdale Elementary School – Gym & Main Entrance Renovation Project

May 7, 2024

Please review the following addendum. This document shall be considered a component of TENDER #2024-161-P01953. All other terms and conditions remain the same.

Clarification/Change:

1) **Question:** Could you please confirm the masonry requirements for this project. The spec is specifies Brampton Brick, which does not manufacture block any longer. Please also confirm where this block is being installed. Only at the lift, or eleswhere?

   Answer: Refer to the attached revised architectural specifications section 04 20 00 – Unit Masonry.
   As per Architectural drawing, the new concrete block is only to be used around the new stage lift.

- END –

PART 1 - GENERAL

1.1 SUMMARY

1.1.1 Comply with Division 1, General Requirements and all documents referred to therein.

1.1.2 This Section includes supply and installation of unit masonry assemblies consisting of the following:

.1 Veneer Brick
.2 Architectural Concrete Masonry Units (CMUs)
.3 Mortar, and Grout
.4 Reinforcing steel
.5 Masonry joint reinforcement
.6 Ties and anchors
.7 Miscellaneous masonry accessories

1.2 REFERENCES

1.2.1	ASTM C216 Standard	SW Severe Weather (Cold Climate)
1.2.2	ASTM A82-02	Standard Specification for Steel Wire, Plain, for Concrete Reinforcement
1.2.3	ASTM A116-11	Standard Specification for Metallic-Coated, Steel Woven Wire Fence Fabric.
1.2.4	ASTM A123/A123M-13	Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
1.2.5	ASTM A153/A153M-09	Standard Specification for Zinc Coated (Hot-Dip) on Iron and Steel Hardware.
1.2.6	ASTM A167-99 (2009)	Standard Specification for Stainless and Heat-Resistant Chromium-Nickel Steel Plate, Sheet and Strip.
1.2.7	ASTM A580/A580M-15	Standard Specification for Stainless Steel Wire.
1.2.8	ASTM C207-06(2011)	Standard Specification for Hydrated Lime for Masonry Purposes.
1.2.9	ASTM C331/C331M-14	Standard Specification for Lightweight Aggregates for Concrete Masonry Units.
1.2.10	CSA A23.1-09/A23.2-09	Concrete Materials and Methods of Concrete Construction/Test Methods and Standard Practices for Concrete.
1.2.11	CAN/CSA G164-M92 (R2003)	Hot Dip Galvanizing of Irregularly Shaped Articles.
1.2.12	CSA A-82	EG Exterior Grade Masonry Unit
1.2.13	CSA S304-14	Design of Masonry Structures.

1.2.14	CSA A82.56-M1976	Aggregate for Masonry Mortar.
1.2.15	CSA A165 Series-14	CSA Standards on Concrete Masonry Units.
1.2.16	1 CSA A179-14	Mortar and Grout for Unit Masonry.
1.2.17	CSA A370-14	Connectors for Masonry.
1.2.18	CSA A371-14	Masonry Construction for Buildings.
1.2.19	CSA G30.3-M1983(R1998)	Cold Drawn Steel Wire for Concrete Reinforcement.

1.3 DEFINITIONS

1.3.1 Solid block: A masonry unit with a net cross sectional area of at least 75% of its gross sectional area in any plane parallel to its bearing surface.

1.3.2 One hundred percent (100%) solid block: A masonry unit with plain flat ends and without cores.

1.3.3 Administrative Requirements - Pre-Construction Conference: Arrange a site meeting attended by the contractor's superintendent, the Subcontractor's representative and foreman for this project, the Consultant, materials supplier(s), and other relevant personal before commencement of work for this Section; agenda for meeting will include; but not be limited to, the following:

.1 Confirmation of specifications and details for the project
.2 Required mortar, grout and concrete testing, batch control and grouting procedures
.3 Installation requirements of air/vapour membranes and insulation and coordination with other components of the Work
.4 Confirmation of cavity compartmentalization and drainage requirements
.5 Confirmation of appearance of exposed block lintels
.6 Confirmation of reinforcement at corners and wall intersections
.7 Coordination of interior and exterior crack control measures
.8 Confirmation of trowelled or tooled joints to concealed and exposed masonry faces
.9 Confirmation of methods for keeping mortar out of cavity space
.10 Confirmation of methods for controlling efflorescence during construction
.11 Confirmation of membranes and membrane flashing materials and details used for construction
.12 Review of submitted masonry unit samples
.13 Review of hot and cold weather requirements

1.3.4 Coordination: Coordinate components of the work of this Section with work performed by other Sections including; but not limited to, the following:

.1 Rain Screen Wall Construction: Masonry veneer forms a part of the exterior rain screen and protective facing. Construct assembly to allow for ventilation, drainage and pressure equalization of the voids between the veneer and the insulation with the outside pressures. Construct cavity space divided into separate compartments as a means of controlling these pressure differences within the building envelope.
.2 Steel Support Angles and Brackets: Coordinate requirements for structural steel support angles and brackets supplied and installed onto the building structure by Section 05 50 00.

1.4 DESIGN REQUIREMENTS

1.4.1 Fire and smoke separations: Where masonry walls, partitions and furring are required to act as fire and smoke separations or barriers or as fire protection for structural steel, they shall conform to Supplementary Guidelines to the latest OBC, with respect to equivalent thickness and type of concrete and to requirements of authorities having jurisdiction.

1.4.2 Comply with CSA A370, CSA A371, CSA S304, local building codes, authorities having jurisdiction and these Specifications. Should conflict occur, the more strict shall govern.

1.4.3 Comply with CAN3-A371 for construction tolerances. Tolerances shall not accumulate.

1.4.4 Irregularity in mortar joints of wall faces exposed or painted in the completed work shall not be noticeable when viewed from a distance of 15'.

1.5 SOURCE QUALITY CONTROL

1.5.1 The Consultant may appoint an independent testing company to test each type of masonry unit and mortar. Tests for masonry units shall be in accordance with CSA S304, and CSA A165 as appropriate. Submit products selected at random in presence of Consultant to the testing company for testing when directed.

1.5.2 Submit unit compression test and net area and absorption tests to Consultant prior to delivery of materials to the site.

1.5.3 Include testing cost as part of this Section.

1.6 FIELD QUALITY CONTROL

1.6.1 Perform field quality control tests as part of work of this Section.

1.6.2 Perform site tests to determine moisture content of unit at time of delivery to site.

1.6.3 Submit three test reports for each type of mortar and grout in accordance with CSA A179 .

1.6.4 Site test clay masonry units to determine initial rate of absorption in accordance with CSA A179.

1.7 SUBMITTALS

1.7.1 Submit two samples of each type of masonry unit, reinforcing, ties, anchors, accessories and cured coloured mortar for approval before delivery of materials to the site.

1.7.2 Submit two brick samples, each consisting of 6 bricks, showing range of colours and texture, stacked with simulated joints.

1.7.3 Submit layout of cavity wall locations for approval.

1.7.4 Products on site shall match approved samples.

1.7.5 Shop Drawings: Submit shop drawings indicating the following:

.1 Indicate sizes, profiles, coursing, and locations of special shapes for concrete masonry units.
.2 Indicate sizes, profiles, and locations of each stone trim unit required.
.3 Detail corner units, end dam units, and other special applications for fabricated flashings.

1.7.6 Informational Submittals: Provide the following submittals when requested by the Consultant: Submit ULC Assembly Listings and Materials cut sheets for fire rated assemblies as follows:

.1 Not later than 30 working days following Award of Contract, submit copies of ULC Assembly and Materials Listing for indicating ULC Number and how assembly meets the rating criteria for assemblies listed on drawings or meets requirements of Supplementary Standard SB-3 of Ontario Building Code

.2 Use the same system and material as would be required for a tested assembly for the project; ULC Listings are tested with the specific materials indicated; substitutions will not be permitted unless evidence of equivalency is confirmed.

.3 Submit manufacturer's product data for materials and prefabricated devices, providing descriptions are sufficient for identification at job site; include manufacturer's printed instructions for installation.

1.8 MOCK-UP

1.8.1 Prior to commencement of work, construct a 1000 mm (40") high and 1500 mm (60") long sample wall for each type of masonry wall on site at locations on the building approved by the Consultant.

1.8.2 Allow Consultant to inspect sample wall during the various stages of its construction.

1.8.3 Sample wall shall show the specified mortar, bond, joint treatment, back-up masonry, cast-in-place concrete and metal stud, reinforcement, insulation, vapour barrier, and flashing where applicable. Remove rejected sample walls from site. Approved sample wall may form part of the completed work. All work shall match approved sample wall.

1.8.4 Co-ordinate erection of sample wall with Sections providing back up construction.

1.9 PRODUCT DELIVERY, STORAGE AND HANDLING

1.9.1 Deliver and store masonry units, palletized, level and under protective covering. Do not overload structure.

1.9.2 Protect materials and products from deterioration by weather, mechanical damage and other causes, and from soiling.

1.9.3 Keep masonry materials and products completely free from frost, snow and ice.

1.10 COLD WEATHER WORK

1.10.1 Comply with CSA A371 and the following:

.1 Where possible, deliver materials required to the site in advance of freezing temperatures.

.2 Use dry, unfrozen masonry units.

.3 Building on frozen work is prohibited. Remove sections of masonry deemed frozen and damaged before continuing construction of that section.

.4 Do not use scorched sand, salts, or anti-freeze admixtures.

1.10.2

1.10.3 Cold Weather Construction Requirements

.1 Provisions for work in progress:

Condition	Requirement
Ambient temperature above 40°F (4.5°C)	Normal construction practice. Cover stored materials.
Ambient temperature below 40°F (4.5°C) or temperature of units below 40°F (4.5°C)	Heat mortar materials to produce mortar temperatures between 40°F (4.5°C) and 120°F (49°C) at time of mixing. Maintain mortar above freezing until used in masonry. If units have a temperature below 20°F (-7°C), heat to above 20°F (-7°C). Remove visible ice from units.

Condition	Requirement
Ambient temperature is between 25°F (-4°C) and 20°F (-7°C)	Heat masonry under construction from both sides. Install wind breaks when wind velocities reach 15 mph (24 km/h).
Ambient temperature is below 20°F (-7°C)	Provide heat enclosure for masonry under construction and maintain temperature above 32°F (0°C) within that enclosure.

2. Protection of newly completed work:

Condition	Requirement
Mean daily temperature above 40°F (4.5°C)	Normal construction practice. Cover top of unfinished masonry work to protect it from weather.
Mean daily temperature between 40°F (4.5°C) and 25°F (-4°C)	Cover completed masonry with weather resistive membrane to protect from rain or snow for 24 hours after construction.
Mean daily temperature between 25°F (-4°C) and 20°F (-7°C)	Cover masonry with insulating blankets or equivalent protection for 24 hours after construction.
Mean daily temperature below 20°F (-7°C)	Maintain temperature of masonry above 32°F (0°C) for 24 hours after construction.

1.11 HOT WEATHER PROTECTION

1.11.1 Protect freshly laid masonry from drying too rapidly, by means of waterproof, non-staining coverings.

PART 2 - PRODUCTS

2.1 MATERIAL

2.1.1 Concrete block: CSA A165.1, autoclaved, low pressure steam or bubble cured. All interior walls and partitions corners to be bullnose unit.

.1 Classification: S/15/A/M, 75% solid for all locations where structural members bear on concrete block.
.2 H/15/A/M, for all other block work.
.3 Fire Resistant Concrete Masonry Units: Manufactured in accordance with CSA A165:
  .1 2 Hour Fire Rating: H/15/C/O
  .2 1 Hour Fire Rating: H/15/A/O
.4 Size: Modular imperial to sizes indicated on Drawings.
.5 Special shapes:
  .1 Provide square units for exposed corners.
  .2 Provide purpose made shapes for lintels and bond beams.
  .3 Provide additional special shapes required for project.
  .4 Manufacture special shapes at same time and with the same batch as standard concrete block to be used.

2.1.2 Architectural Block: Architectural Block series by Richvale-York Block or equivalent, texture and colour to be confirmed by Architect.

2.1.3 Portland cement: Type 10.

2.1.4 Masonry cement: Type H or Type L.

2.1.5 Sand: CSA A82.56M, as amended by CSA A179.

2.1.6 Lime: ASTM C207, hydrated lime.

2.1.7 Water: Clear and free from injurious amounts of deleterious substances.

2.1.8 Colour pigments: Pure mineral pigment, mineral oxide content minimum 70%. Fillers; inert. Maximum carbon black content; 1% water soluble matter. Colours to be selected by Consultant to match existing mortar at exterior brick.

.1 Extra Strong Colour by Elementis Pigments Inc.,
.2 Staybrite by Sternson Limited, or other approved manufacture.

2.1.9 Non-shrink grout: Minimum compressive strength of 35 Mpa (5000 psi) at 28 days. Include non-ferrous expansion agents where exposed to view or weather.

.1 Sika Grout 212 By Sika,
.2 Sealtight CG-86 by W.R. Meadows of Canada Ltd.,
.3 Thoro Multigrout by Harris Specialty Chemicals, or other approved manufacture

2.1.10 Parging mortar: Type N, having a compressive strength of 5.0 Mpa (759 psi) minimum, 1 part Portland cement to not less than 2 1/2 nor more than 3 1/2 parts sand by volume.

2.1.11 Control joint material:

.1 Rapid Control Joint by Dur O Wal Limited,

.2 Titewall BL-A by Blok lok Ltd., or other approved manufacture.

2.1.12 Premoulded filler: 100% over sized:

.1 Rodofoam PR grade by Sternson Limited,
.2 Sealtight Rescor by W.R. Meadows of Canada Ltd., or other approved manufacture.

2.1.13 Mineral wool filler: Mineral fibre batt insulation by Roxul Company, or other acceptable equivalents.

2.1.14 Through-wall flashing material: Modified bitumen, glass scrim reinforced elastomeric, 0.9 mm (35 mils) thick, Blueskin TWF by Henry Company, or other approved manufacture.

2.1.15 Flexible anchors and adjustable ties: 9 gauge galvanized rods.

2.1.16 Horizontal reinforcing:

.1 Reinforcing: Truss type, consisting of 9 ga. wire complying with CSA G30.3, two side rods welded to a continuous diagonal formed cross rod forming a truss design with alternating welds not exceeding 8". Width of reinforcing unit shall be 1 1/2" less than nominal thickness of wall, BL 30 Blok Truss by Blok Lok or other approved manufacture.
.2 Galvanizing: ASTM A116 Class 3 mill galvanized for interior walls and ASTM A153 Class B2 hot dipped galvanized after fabrication for exterior walls.

2.1.17 Masonry Unit Veneer/Concrete or Concrete Masonry Unit Substrate Tie Systems:

.1 Backer Plate: Fabricated from stainless steel meeting requirements of CSA A370-04(R2009) and ASTM A1011/A101aM-12; designed to transfer wind loads to steel stud framing; length to suit total cavity, insulation and sheathing thickness, as detailed on Drawings.
.2 Ties: Wire ties fabricated from stainless steel wire in accordance with CSA G30.18-09; length to allow for cavity width and to extend minimum 2” into masonry unit joint.
.3 Fasteners: Self tapping metal screws to metal stud backup as recommended by tie manufacturer consisting of close tolerance bits for use in percussion drills, and hammer driven anchors with pullout strengths of 5.4 kN for 20 MPa concrete and 3.75 kN for hollow concrete masonry unit with a 1” embedment:
.1 Fero Holdings Ltd., Rap-Tie System
.2 Blok-Lok, BL-407

2.1.18 Insulation fasteners: Wedge Lok by Block Lok Limited.

2.1.19 Interior and Exterior Single Wythe Concrete Block Walls:

.1 Single wythe interior and exterior concrete block walls: Horizontal reinforcement shall be ladder type or truss type having two parallel side rods 3/16" diam. welded to 3/16" cross rods forming a ladder or truss design. Side rods shall be notched or knurled. Design ladder or truss reinforcement to allow placement of side rods at center-line of both face shells of concrete block.

2.1.20 Minimum corrosion protection for masonry connectors and horizontal reinforcing, as outlined in CSA A370:

.1 Interior masonry not subjected to moisture; Mill galvanized carbon steel.
.2 Interior masonry subject to moisture, below grade masonry in contact with ground, and

above grade exterior masonry in buildings less than 32'-0" in height (measured from the floor level of the first storey); Hot-dipped galvanized after fabrication with minimum zinc coating in accordance with ASTM A153, Class B wire ties/reinforcing 1.5 oz/ft² and ASTM A123 plates/strips/sheets 2 oz/ft², on each face.

2.1.21 Masonry connectors shall meet the following performance tolerance requirements as outlined in CSA A370:

.1 Deflection; Maximum 3/32" including free play when acted apon by a lateral load of 0.05 ton force in all possible positions.
.2 Linkage preventing separation of components i.e. brick tie/connector reinforcing, etc.
.3 Free play of multi-part connectors; not more than 0.048" when assembled in all possible configurations and not subject to a load.

2.1.22 All steel anchors, reinforcement and other accessories: Stainless steel conforming to ASTM A167 or hot dip galvanized, complying with CSA G164, as herein specified.

2.1.23 Trim Units: Manufactured in accordance with CSA A165, and as follows:

.1 Architectural Sill Profile:
.1 Size: 5-1/2" deep, complete with drip edge, 3-1/2" high, and angled to 3-1/4" high, with beveled edges.
.2 At locations requiring sills to wrap a corner, provide corner sill unit as a one (1) piece unit completed with beveled profile to match adjacent sill units. Miter joints are not permitted, unless prior written approved by the Consultant is obtained.
.3 Colour: As indicated on the Drawings.
.4 Basis of Cambridge Series, Architectural Sills Model R24/3.5 Angled, by Richvale York Block Inc.

2.2 MORTAR TYPES

2.2.1 Mortar types in parts by volume, complying with CSA A179-M shall be as follows:

TYPE	PORTLAND CEMENT	HYDRATED LIME OR LIME PUTTY	MASONRY CEMENT TYPE H	AGGREGATE LOOSE DAMP CONDITION	28 DAY COMPRESSIVE STRENGTH
S	1 1/2	1/2 or 0	0 1	4-1/2 4-1/2	12.5 MPa (1800 psi)
N	1 0	1 or 0	0 1	6 3	5 MPa (750 psi)

2.2.2 Use premixed masonry mortars prepared with Betomix 1.1.6 and Betomix Plus, by Daubois Inc., or other approved manufacture, for exterior face work.

2.2.3 Other masonry cement may be used only on interior masonry.

2.2.4 Add colouring pigment to mortar for face work if required. Colours shall be as later directed to match existing mortar at exterior brickwork. Under no circumstances shall colour pigment loading exceed 6% per 55 lb. of dry mixed mortar. Mix colouring pigment into mortar in accordance with manufacturer's written instructions and as required to ensure colour uniformity and consistency.

2.3 MORTAR LOCATIONS

2.3.1 Type SW hard burned clay face brick with initial rate of absorption range of 10 to 20 grams: Type N.

2.3.2 Back up masonry to exterior walls: Type S.

2.3.3 Bearing courses: Type S. Rake joints back 1/2" if such courses are to be exposed and point to match remainder of wall.

2.3.4 Non load bearing partitions: Type N.

2.3.5 Grout in around all beams, joists, truss bearing plates bearing on masonry work: Type S.

2.4 MORTAR PREPARATION

2.4.1 Measure and mix mortar products accurately according to CSA A179. Proportion products by either the property specifications or the proportion specifications of CSA A179.

2.4.2 Mortar of the products and proportions used shall be mixed to an initial flow of 100% to 115% and shall have a flow after suction of not less than 70% of original flow.

2.4.3 Do not mix different types of mortar in the same mixer unless the mixer is thoroughly cleaned first.

2.4.4 When air temperature is 27°C or higher, use and place mortar in its final position within two hours of mixing it. When air temperature is less than 27°C use and place mortar in its final position within 2 1/2 hours of mixing it. Discard mortar not used within above times.

2.4.5 Mortars which have stiffened within mix/use time limits due to moisture evaporation may be re tempered by adding enough water as is necessary to produce proper workability consistent with the initial rate of absorption of the masonry units.

2.5 GROUTS

2.5.1 Measure and mix grout products accurately according to CSA A179M.

2.5.2 Do not mix different types of grout in same mixer or mixer used for mixing of mortar unless mixer is thoroughly cleaned.

2.5.3 Use and place grout in its final position within 2 1/2 hours of mixing it. Discard grout not used within 2 1/2 hours.

2.5.4 Grout types by volume shall be as follows:

TYPE	PORTLAND CEMENT	HYDRATED LIME OR LIME PUTTY	AGGREGATE MEASURED IN LOOSE DAMP STATE

Fine Grout	1	0 to 1/10	2-1/4 to 3 times the sum of the cementitious materials
Coarse Grout	1	0 to 1/10	1 to 2 times the sum of the cementitious materials

2.5.5 Use coarse grout where required, in spaces 2" or more in least horizontal dimension. Use fine grout in spaces less than 2" in horizontal dimension.

2.6 ACCESSORIES

2.6.1 Weepholes: PVC 'T' shaped brick vents by Goodco Limited, or cadium plated airplane type 'Weep Holes-343' by Blok-Lok Limited, set 32" O.C. for architectural block in the following locations:

.1 Bottom course of manufactured stone masonry units throughout;
.2 Top courses of manufactured stone masonry units throughout.

2.6.2 Mortar Dropping Control Devices:

.1 High density, polyethylene or nylon woven mesh type mortar dropping control devices with trapezoidal "zigzag" shaped top edge, designed to allow moisture/water to flow/drain downward in cavity/collar joints to the weepholes, thicknesses to suit cavies and collar joints, 'The Mortar Net' by Mortar Net USA Ltd., and distributed by JV Building Supply, division of Consolidated Materials Corporation, or approved equal.

PART 3 - EXECUTION

3.1 LINES AND LEVELS

3.1.1 Provide general lines and levels. Be responsible for accurate dimensions, lines and levels of work of this Section. Make work plumb and true.

3.2 CUTTING AND PATCHING

3.2.1 Do all cutting, fitting and patching of masonry to receive work of other trades, to make work properly come together and to make good to match adjacent masonry.

3.3 BUILT INS

3.3.1 Install items supplied by other trades to be built into masonry walls, plumb, level, properly aligned, rigid and secure. Build in miscellaneous metal work, loose lintels, bearing plates, sleeves, anchor bolts, anchors, wood nailers and all other items which required attachment or building into the masonry.

3.3.2 Set access doors and panels with front face flush with final wall finish. Such fittings shall be located precisely as directed.

3.3.3 Anchor steel door frames in place and build masonry around them. Do not attach door frames to walls by fastening to wood nailers. Use steel anchors. Solidly grout voids between masonry and steel frames for doors full with masonry mortar or fine grout. Keep exposed faces of frames free from mortar. Remove droppings promptly.

3.4 PROVISIONS FOR OTHER TRADES

3.4.1 Provide openings in masonry walls where required or indicated.

3.4.2 Accurately locate chases and opening and neatly finish to required sizes.

3.4.3 Where masonry encloses conduit or piping, bring to proper level indicated and as directed. Do not cover any pipe or conduit chases or enclosures until advised that work has been inspected and tested.

3.5 ERECTION – GENERAL

3.5.1 Erect masonry to correct dimensions, plumb, true and with level courses.

3.5.2 Maintain joints vertical in alternate courses or as broken by bond pattern in line, throughout the entire height.

3.5.3 Reinforce masonry as required, to support wall mounted equipment, building components and fixtures provided under other Sections.

3.5.4 Verify the loads to be supported and the arrangement and type of fastenings with the appropriate Section.

3.5.5 Lay masonry exposed to view or to receive a brushed or sprayed finish carefully with even joint widths, and with exposed faces flush and even throughout. Broken corners and spoiled units are not acceptable. Do not use units which are too contrasting in appearance. Provide satisfactory blending of tones and textures.

3.5.6 Where resilient base is indicated, tool joints to within 4" of the floor. Strike joints at base flush.

3.5.7 Lay block to receive adhesive-applied gypsum board plumb, with joints finished flush.

3.5.8 Level, align and plumb masonry for application of thin set applied ceramic tile to requirements of 09 30 00 - Ceramic Tile, with joints struck flush.

3.5.9 The corners of concrete masonry units projecting into habitable areas and exposed or painted in the finished work shall be single or double bullnosed as required to suit the particular location. Lay specially shaped masonry units required or shown on Drawings.

3.5.10 Completely fill and tool head and bed joints to provide support for vapour barrier adhesive.

3.5.11 Completely fill joints in solid block masonry with mortar. Fully cover the end areas and bearing areas of the face shells of hollow units with mortar.

3.5.12 Provide anchors, ties, crimps, and other mason's iron work required for the construction of the work.

3.5.13 Build in anchors, nailers, accessories, flashings and other items required as the masonry work progresses. Solidly fill with non-shrink grout all voids in masonry into which anchor bolts or other connection materials are built.

3.5.14 Fill hollow metal door and borrowed light frames occurring in masonry with grout.

3.5.15 Provide grout setting bed for flashing under window sills.

3.5.16 Determine the location and size of openings to be left in masonry walls for heating, ventilating, plumbing, electrical fixtures, ducts, boxes and other items. Pass conduits and piping through hollow cells of blocks or build around them and split blocks. Build chases and openings as required accurately located and neatly finished, as the work progresses. Cut block for electrical boxes and recessed equipment accurately using a carborundum saw. Provide square clean edges.

3.5.17 Tooth new masonry into existing, where existing openings are to be filled in. necessary for construction purposes to "stop-off" a horizontal run of masonry, rake back 1/2-block length in each course. Toothing is not permitted, except with the written approval of the Consultant.

3.5.18 Tool joints in exposed masonry to a neat concave finish using 5/8" diameter non staining tool. Before tooling, ensure that surface of mortar is thumb print hard and has lost water sheen. Strike joints flush in concealed locations. Rake alternate joints back 1/2" where masonry is to receive plaster directly. Do not rake back joints containing reinforcing.

3.5.19 Where fresh masonry joins masonry that is partially or totally set, clean and lightly wet the exposed surface of the set masonry so as to obtain the best possible bond with the new work.

3.5.20 Where the joints in interior masonry will be apparent in the completed building, start interior walls and the back-up masonry for exterior walls with a 4" starter course, or as necessary to achieve a neat appearance at the door head/lintel condition.

3.5.21 Where insulation and vapour barrier are to be built into masonry walls. Co-ordinate the erection of the masonry with the installation of insulation under Section 07 21 00, Building Insulation. Strike joints flush on exterior face of interior wythes and parge this surface with a 1/4" thick coating of cement mortar. Trowel surface smooth to receive vapour barrier adhesive. Build exterior wythe tight to completed insulation.

3.5.22 Provide light weight aggregate as required for fire rated partitions.

3.5.23 Lay all joint 3/8" thick unless otherwise specified or indicated on Drawings.

3.5.24 Use lightweight aggregate units for concrete masonry visible or painted in the finished work.

3.5.25 Other masonry units shall be of lightweight aggregate or of regular sand and gravel aggregates.

3.6 PARTITIONS

3.6.1 Unless otherwise shown or specified, lay concrete block masonry in running bond.

3.6.2 Build up non load bearing walls to within 1" of underside of structure unless shown otherwise. Obtain lateral support anchors from Section 05 10 00. Secure lateral support anchors to structure along wall. Perform necessary drilling of concrete. Where junction of wall and structure will be visible in the completed building, lay sash block so that grooves engage in legs of metal anchors such that anchorage is concealed. Where junction of wall and structure will be concealed, lay top course to engage lateral support angles. Install mineral wool filler in void between top of wall and underside of structure. Cut filler around legs of concealed anchors. Leave ready for caulking.

3.6.3 Use concrete aggregate block for walls and partitions on slabs on grade. At all other locations use light weight block.

3.6.4 Carry partitions up through ceiling to slab or metal deck above.

3.6.5 Where walls and partitions are pierced by structural members, ducts, pipes, fill voids with mortar to within 1" of such members flush with wall face. Fill spaces between partition and structural members, ducts and pipes with glass fibre or mineral wool insulation compressed 50% completely from one side of wall to other.

3.7 REINFORCING AND ANCHORING

3.7.1 Reinforce and anchor masonry as required by local by laws when greater requirements are not specified or shown.

3.7.2 Unless otherwise shown, tie walls at corners in masonry bond, alternate courses.

3.7.3 At wall intersections, terminate one wall at the face of the other and build in prefabricated sections of truss type connectors at 16" o.c. vertically.

3.7.4 Provide horizontal reinforcing above first block course above floors slab and in first block course below floor slab, with box ties to anchor face masonry to back up.

3.7.5 Reinforce hollow concrete masonry walls with truss reinforcing every 16" o.c. to suit wall thickness.

3.7.6 Cut alternate continuous reinforcing at control joints in straight walls. Lap splices in continuous length reinforcing 6".

3.7.7 Install masonry reinforcing in two consecutive courses above and below openings in walls, extending not less than 3' 0" on both sides of opening.

3.7.8 Use adjustable wall ties where the horizontal joints in adjacent wythes of masonry walls requiring reinforcing are not in vertical alignment. Install ties 12" o.c. horizontally and 16" vertically.

3.7.9 Solidly fill with mortar all voids in masonry into which anchor bolts, reinforcing steel or other connection materials are built.

3.8 LINTELS

3.8.1 Lintels over openings in masonry shall have a minimum bearing of 8" on each side of opening. Provide building paper bond barrier at ends and under bearing parts of lintels.

3.8.2 Install loose steel lintels and bearing plates. Grout under lintels and/or bearing plates at each jamb with full bed of mortar.

3.8.3 Provide reinforced concrete block lintels of same thickness as wall for block walls of less than 8" thickness and for other block walls where units are to be painted or visible in the completed work. Construct lintels with special concrete lintel units. Supervise the filling of voids of units with concrete and their reinforcing with deformed steel bars. Cure before applying loads. Provide temporary support for lintels consisting of a level platform, true to the proper elevation and of sufficient strength to support the load without visible deflection. Maintain supports in place for a minimum of 7 days and for a period sufficient to permit the concrete to cure and gain suffic¬ient strength to safely support all loads. Lay masonry units with full mortar coverage on all abutting edges with joints shoved tight. Where masonry construction is continued above the lintel, place the first course of masonry units on the lintel in a full mortar bed.

3.9 BEARING AND ANCHORAGE

3.9.1 Provide at least 16" of 100% solid masonry under bearing of beams, girders, trusses and lintels extending 8" beyond each side of bearing, at least 8" of 100% solid masonry under joists and under slabs. Hollow units filled with concrete are not acceptable. Provide a concrete distribution pad in lieu of solid masonry specified above for bearing plates anchored with bolts. Solid masonry in locations visible in the completed work shall be of same material and appearance as adjacent wall surface.

3.10 INSTALLATION DAMPPROOF COURSES

3.10.1 At walls having grout fill, turn dampproof course material up at least 8" on the face of the back-up masonry and terminate in a reglet.

3.10.2 In all cases extend dampproof course material through full thickness of face masonry.

3.10.3 Make 100% watertight seal between dampproof course material strips with waterproof adhesive. Make 100% watertight seal between dampproof course material and items passing through it.

3.11 REPOINTING

3.11.1 Cut back defective joints 1/2" taking care not to damage units. Remove dust and loose materials by brushing or by water jet. If water jet is used, allow excess water to drain before repointing.

3.11.2 Repoint with mortar similar to original mortar mix. Pre hydrate mortar by mixing with only a portion of required water, two hours before use. At end of curing period, rework mortar, adding remaining water.

3.11.3 Pack mortar tightly in thin layers and tool to required joint finish.

3.12 CLEANING

3.12.1 Clean masonry according to masonry unit manufacturer's written instructions.

3.12.2 Where mortar or stains cannot be removed as specified above, propose other methods to the Consultant for approval. Employ methods approved by the Consultant and remove mortar and stains.

3.13 PROTECTION

3.13.1 Provide and maintain protection against entry of moisture into masonry whenever work is interrupted. Use non staining water repellant paper, polyethylene sheet or tarpaulins overhanging walls 2' 0" minimum and secured in place to prevent wind uplift. Similarly protect exposed ledges to be covered by flashing or other material until such materials are installed.

3.13.2 Provide and maintain protective non staining boards to external corners which may be damaged by construction activities. Secure protection without damaging the work.

END OF SECTION