SECTION 2

DIVISION 04

MASONRY

DIVISION 4 - MASONRY

Note: This is a guide for Designers only. Contents shall not be used in lieu of specifications as part of the Designer's contract documents.

SECTION 04 2000 – UNIT MASONRY ASSEMBLIES

PART 1 - GENERAL

1.1 QUALITY ASSURANCE

A. Masonry Mock-up: A masonry mockup for approval of colors and workmanship shall be built on site prior to beginning masonry work. This panel shall show workmanship and will include face and backup construction and all accessories specified for on this project. The panel shall be 4'-0" x 4'-0", unless specified otherwise. The panel shall be constructed at a location indicated by the Architect/Project Manager. The materials used shall be provided by the project supplier and shall represent the final product in all aspects. The panel shall be protected from construction operations, but shall remain in place and exposed to the elements until project completion. This mock-up will be used for approval of brick, mortar, joint material, flashing, weep holes and precast pieces to be used on the project. This panel shall show color range and texture of masonry units and mortar joints required on this project.

B. Quality Standards: Perform work in accordance with ACI 530 and ACI 530.1.

C. Masonry Subcontractor Qualifications: The work of his section shall be bid and performed by an experienced firm certified as a "North Carolina Masonry Contractors Association Certified Masonry Contractor" as described in the most current version of the NCMCA's "Guide to Masonry Contractor Certification." (North Carolina Masonry Contractors Association, PO Box 3463, Hickory, NC 28603-3463, (828) 324-1564, information@ncmca.com)

The masonry subcontractor shall at all times when work is in progress, provide and experienced individual from its own staff designated by the North Carolina Masonry Contractors Association Masonry Contractor Certification Program as a "CMP-Certified Masonry Professional" or "CME - Certified Masonry Executive" (as described in the most current version of the NCMCA's "Guide to Masonry Contractor Certification") on-site to supervise work in progress.

1.2 DELIVERY AND HANDLING

A. Contractor shall store all materials in manufacturer's original unopened bundles or containers with manufacturer's brand name and identification clearly marked thereon. All material shall be sorted in packs, on platforms or other supports above ground to prevent damage, deterioration or contamination.

PART 2 - PRODUCTS.

2.1 CMU

A. Concrete masonry units shall be of modular dimensions and units shall be of the same appearance and shall be cured by the same process delivered to the project site in an air-dry condition. Units shall be made with semi-lightweight aggregate conforming to ASTM C 331 and meet or exceed the following requirements. Units shall be a cast minimum of 21 days old prior to delivery to the site.

1. Load-Bearing Concrete Masonry Units: ASTM C 90, Type II.
2. Hollow Concrete Masonry Units: ASTM C 129, Type II.
3. Concrete Building Brick: ASTM C 145, Type II, Grade U.

2.2 BRICK

A. Face brick shall be “Morrocroft Special” ”#02-79-1 manufactured by Meridian. Installation shall comply with UNCC Std. Spec S02515. Brick Pavers shall be 2-1/4"x4"x8"

B. Use Basic Square Rowlock Corner units at corners and ends of masonry walls. After brick laying is complete, quartz sand or hard rock screenings shall be swept over the brick and repeated for a minimum total of three “wet/dry” applications. More applications may be required at no extra cost, if necessary to stabilize the pavers and fill voids between bricks.

2.3 STONE TRIM UNITS

Base material shall be quartz or hard rock screening as described by NCDOT Spec 1012.1C3. References UNCC Std. Detail G02.1A. Various site situations may require additional requirements. Mortar shall be color BY115 (available from Brick Yard Limited).

2.4 MORTAR AND GROUT

A. Cement shall be Portland Cement, Type S, meeting Standard Specifications for Portland Cement (ASTM C 270). Below grade load bearing masonry work should be Type M (ASTM C270).

B. Sand shall meet the requirements of Standard Specifications for aggregate for Masonry Mortar (ASTM C-144-81), with the gradation to satisfy paragraph 3, Grading, and with the omission of subparagraph 3.4.

C. Hydrated lime shall meet the requirements of the Standard Specification for Hydrated Lime for Masonry Purposes (ASTM C-207), Type S.

D. Hydraulic hydrated lime shall meet the requirements of the Standard Specification for Hydraulic Hydrated Lime for Structural Purposes (ASTM C-141).

E. Water shall be potable.

F. Admixture workability and air entraining admixtures, if specified, shall conform to ASTM C-260.

G. Prepackaged mortar cements may not be used unless approved in writing by the designer.

H. Grapevine Joint: All tooled joints for brick work shall be tooled 1/8”grapevine joints. Head joints to be struck first and then bed joints. The jointing tools shall be replaced as necessary to provide crisp, distinct grapevine joints.

I. Mortar shall match Robinson Hall, Brick Yard Limited 115, or match previous projects on campus.

2.5 REINFORCEMENT

A. Unless specified otherwise on the drawings, Reinforcement steel for lintel blocks, bond beams and other reinforced masonry work as required, shall conform to ASTM A 615, Grade 60, size as indicated or specified.

2.6 TIES AND ANCHORS

A. Anchors and ties shall be wire ties of hot-dipped galvanized in accordance with ASTM A 153, Class B-2 (1.5 oz. /sq. ft.) of types as specified hereinafter.

B. Welded steel adjustable anchors for anchoring masonry shall be No. 359 anchor rodTies shall be as follows:
   1. Brick: No. VWT triangular ties sized such that they are imbedded at least 2" into bed of brick veneer.
   2. CMU: No. VWT triangular ties or No. 302W.

2.7 MISCELLANEOUS ACCESSORIES

A. Control joint material for exterior walls shall be as specified by designer or approved equal. Width shall be as specified by the Architect.

B. Horizontal Expansion Joint Material shall be prefabricated neoprene joint material, 1/4" thick by approximately 2-3/4" wide with an adhesive surface on one side. Neoprene material shall conform to ASTM D 1056, Class RE41.

C. Vertical Expansion Joint Material shall be prefabricated neoprene joint material, 3/8" thick by approximately 3" wide. Neoprene material shall conform to ASTM D 1056, Class RE41.

2.8 INSULATION

Block wall insulation shall be masonry fill processed for purpose of insulating masonry walls. Block wall insulation shall have been tested for water repellency in accordance with procedures developed by the National Bureau of Standards (NBS-82).

2.9 MASONRY CLEANERS

A. Exercise caution to keep the masonry and adjacent surfaces clean during the erection of masonry. Clean wall surfaces as the work progresses and to the extent practical, clean masonry on the same day in which it is laid.

B. Clean brick or stone masonry with water and brushes with nonmetal bristles. Diluted detergents may be used if the water is containerized and pumped to the sanitary sewer. Repeated washings are preferred to fewer washings that are too abrasive or chemically laden. Acid content in washing solutions is forbidden. The Designer and Contractor are to make every effort to prevent infiltration of cleaning water into the storm sewer system during masonry cleaning. This is especially the case when very old masonry units or mortar joints are involved.

C. All cleaning agents to be environmentally safe.

SECTION 04 7200 – CAST STONE MASONRY

PART 2 - PRODUCTS

2.1 GENERAL:

All head joints at coping stones and joints at column covers, cornices, platforms, soffits, window sills and in general, all stone sections with projecting profiles, exposed top joints or rigid suspension connections to the supporting structure should be ‘soft’ sealant joints.

2.2 SUSTAINABILITY

A. UNC Charlotte recommends that masonry materials and products should be extracted, recovered and manufactured within 500 miles of UNC Charlotte.