

SECTION 042000: BRICK UNIT MASONRY

PART 1: GENERAL

1-01: Reference to Other Documents: The General Conditions, Amended and Supplementary Conditions and Division 1 contain requirements relevant to the work covered by this section.

1-02: Work Included: This section includes the labor, material, equipment, and related services necessary to furnish and install brick unit masonry work with related accessories and specialties called for by the drawings and specified herein:

- Mortar - Section 040513
- Masonry Accessories - Section 040523
- Thru-wall Flashing - Section 076000
- Joint Sealant - Section 079000

1-03: Testing: Before installation of any masonry work, the Contractor shall provide 3 copies of an independent testing lab report outlining the physical properties of the masonry units proposed for use on this project. Testing report shall be paid for by the unit masonry manufacturer.

1-04: Sample Panel: Before the installation of any masonry work a sample panel shall be built. Panel shall be not less than 5'-0" x 4'-0" x 8" thick. It shall show the proposed color range, texture scoring, bond, mortar color, coursing, thickness and tooling of joints and workmanship for masonry materials. No masonry work shall be done until the Architect has approved the sample panel. The approved panel shall become the standard of comparison for all masonry work built of the materials that the approved panel includes. The panel shall not be altered, moved or destroyed until masonry work is completed.

1-05: Storage of Materials: Brick shall be delivered and stored at job site on pallets or timbers, above grade. Brick which are chipped, cracked, broken, marred or improperly sized shall not be used where exposed to view. Brick which are muddy or which have coatings of foreign materials that might reduce bond with mortar, or cause staining, shall not be used in any part of the work.

1-06: Protection from Weather: No bricklaying shall be performed unless the temperature of the surrounding air is 40 degrees F. and rising. The use of "antifreeze" or accelerating admixtures is not permitted. Provide temporary protection of completed portions of masonry to insure a minimum 48 hours curing at a minimum 40 degrees F. Facing materials shall be protected against staining. Tops of walls shall be kept covered with non-staining waterproof coverings when work is not in progress; covering shall extend down a depth of at least three courses of brickwork on both faces of walls and shall be rigidly and substantially anchored in place.

1-07: Coordination with Other Trades: Provisions shall be made to permit the installation of the work of other trades with a minimum of cutting and patching. Items specified under other divisions shall be built in, as necessary, as the work progresses.

PART 2: PRODUCTS

2-01: Brick: Brick shall comply with the requirements of ASTM C216-90a, Grade SW. One type of brick masonry shall be used on the work. Colors and texture shall match as closely as possible masonry used on the walls of the adjacent existing building and will be selected by Owner and Architect from field panels constructed by various Supplier's illustrating texture and color options.

Type A: Modular Brick (Field Brick) at exterior walls. Unit dimensions of brick units shall be 3-5/8" (d) x 2-5/16" (h) x 7-5/8" (l). Brick to match existing brick at existing Excelsior building.

All Brick types shall have a minimum compressive strength of 3000 psi and a rate of water absorption less than 30 grams per 30 square inches. For bidding purposes, the contractor is to use an allowance, as listed below including all special shapes. The allowance is to cover the cost of the brick plus tax.

BRICK - Allowance: \$450.00/ thousand for Type A Field Brick / see Section 012100 - Allowances

Note special shapes to be included as indicated on drawings. No additional costs will be charged to the Owner for special shape fabrication or assembly.

**Type B: Reuse Existing Brick Pavers if additional Brick Pavers are needed use the following:
Brick paver to be 2 1/4" x 3 5/8" x 7 5/8" Traditional Edge Paver / Pathway Series / Full Range Color /
brick paver by Pine Hall North Carolina Plant See drawings for locations, Paver to be set in mortar bed
(Addendum 1 2-22-2021)**

BRICK PAVER – Allowance: \$550.00 / thousand for Type B Brick Paver / see Section 012100 – Allowances.

PART 3: EXECUTION

3-01: General: Masonry work shall be coordinated with the work of other trades so that connecting work and built-in work may be properly installed.

Mechanical and electrical items shall not be enclosed until they have been inspected by local authorities.

Required chases and recesses shall be built in as the work progresses, so that structural stability and weather resistance are maintained, and cutting and patching are reduced to a minimum. Cutting of brick shall be carefully performed using carborundum saw blade for a cleaner cut; no cut brick shall be installed with dimensions less than 3" in length, full height and 1/2 depth. There shall be not less than 8" of masonry between chases and the jambs of openings.

3-02: Brick Masonry Workmanship:

a) Wetting of Brick

Brick shall be thoroughly wetted as necessary to reduce the rate of absorption of water at time of laying to not more than 0.7 of an ounce (20 grams per minute) per brick when placed on its flat side in 1/4" of water for one minute.

b) Laying Brick

1) Brick shall be laid in running bond, (unless otherwise indicated on drawings).

2) Brick Laying Technique - All joints between brick shall be completely filled with mortar. Brick shall be laid in a full, lightly furrowed bed of mortar with the head joints completely filled by placing sufficient mortar on the end of the brick so that when the brick is shoved into place, the head joint will be filled. Buttering of face edge and then slushing will not be permitted. All joints, both interior and exterior shall be cut flush.

3) Disturbed Units - Where brick is disturbed or must be moved after the mortar has begun to lose its moisture, the brick and all adjacent mortar shall be removed and reset completely.

4) Tooling - All joints shall be tooled to a uniform concave shape, head joints first and then the bed joints. All joints shall be tooled at approximately the same degree of moisture content and firmness to achieve a uniform color and texture.

5) Construction Tolerances

a) Variation from Plumb: For lines and surfaces of columns, walls and arises to not exceed 1/4" in 10 feet, nor 1/2" in 40 feet or more, except for external corners, expansion joints, and other conspicuous lines, do not exceed 1/4" in any story or 20 feet maximum, nor 1/2" in 40 feet or more.

b) Variation from Level: For grades shown for exposed lintels, sills, parapets, horizontal grooves and other conspicuous lines do not exceed 1/4" in any bay of 20 feet maximum, nor 3/4" in 40 feet or more.

c) Variation of Linear Building Line: For position shown in plan and related portion of columns, walls and partitions do not exceed 1/2" in any bay of 20 feet maximum, nor 3/4" in 40 feet or more.

d) Pointing of Masonry: At the completion of the masonry work, all holes in the exposed masonry shall be pointed. Defective joints shall be cut out and tuck pointed solidly with mortar. Pointing and tuck pointing shall be done with a pre-hydrated mortar.

e) Brick Masonry Cleaning: While laying the brick, good workmanship and job housekeeping practices shall be used so as to minimize the need for cleaning the brick. The bricklaying technique shall be such that mortar does not run down the face of the wall, or smear the mortar onto the brick face. After the joints are tooled, cut off mortar tailings with the trowel and brush excess mortar burrs and dust from the face of brick. If

after using the above outlined techniques, additional cleaning of the walls is found necessary, allow the walls to cure one month prior to initiating further cleaning processes.

f) Extended Cleaning (after 1 month): Saturate the wall with clean water. The wall shall be thoroughly saturated prior to and at the time the cleaning solution is applied. Clean the wall only with an approved cleaning solution applied with a brush, starting at the top of the wall. Approved cleaning solutions are as follows: Sure-Klean 600, Vanatrol, Superior 800 or approved equal. Approved cleaners shall be composed primarily of detergents, wetting agents, buffering agents, and a maximum of 10% murateic acid. The use of cleaning agents shall first be approved in writing by the manufacturer of the brick being cleaned, and by the Architect.

The concentration, method of application of the cleaning solution, and method of scraping shall be as outlined on the container by the manufacturer. High pressure water and sandblasting shall not be used for cleaning, except with the recommendation of the brick manufacturer, and the written approval of the Architect. Immediately after cleaning a small area, the wall shall be rinsed thoroughly with water. Protect adjacent surfaces and materials during brick cleaning operations.

END OF SECTION