

## SECTION 540

### CONCRETE BLOCK MASONRY STRUCTURES

#### 540.1 GENERAL

Work to be done under this section shall consist of the construction of concrete block masonry walls incorporated into and being part of a building or structure, and free standing and retaining walls, constructed of concrete block masonry units. Wall heights, thickness, pilaster locations, reinforcing length, and other data shall be as shown on the plans, specified herein, and as specified in the Supplementary Specifications.

#### 540.2 REFERENCES

540.2.1 This Publication:  
SECTION 106

#### 540.3 MASONRY UNITS

Unless otherwise specified and except for manhole construction, concrete block masonry shall be constructed of Grade N-I or N-II hollow masonry units.

#### 540.4 MORTAR AND GROUT

Except as otherwise herein specified, all mortar and grout shall conform to Section 106. Mortar and grout for use in sewer manholes shall be prepared from Type II cement or approved equal. All work shall be executed in the best workmanlike manner and in full compliance with the applicable building ordinances. Masonry walls shall be laid true, level, and plumb in accordance with the plans. Surfaces on masonry units shall be clean, dry, and free from dirt when laid in the walls.

#### 540.5 CONSTRUCTION

All concrete block units shall be dry when laid. During construction all partially laid walls, as well as units in storage, shall be protected from moisture. All concrete block units and any partially laid walls which become wet during the construction shall be permitted to dry for at least one week or longer if required by weather conditions before recommencing work. Proper masonry units shall be used to provide for all openings in walls, bond beams, lintels, pilasters, etc., with a minimum of unit cutting. Where masonry unit cutting is necessary, all cuts shall be neat and regular and edges exposed in the finished work shall be cut with a power-driven abrasive saw. Where no bond pattern is shown, the wall shall be

laid up in straight uniform course with regular running bond. Intersecting masonry walls and partitions shall be bonded by staggering the joints to form a masonry bond and the use of 1/4 inch minimum diameter steel ties at 24 inches o.c. maximum. Where stack bond is indicated on the plans, approved metal ties shall be furnished and installed as directed by the ENGINEER. Mortar joints shall be straight, clean, and uniform in thickness. Unless otherwise specified or detailed on the plans, horizontal joints shall be approximately 3/8 inch thick with full mortar coverage on the face shells, shall have vertical joints buttered well for a thickness equal to the face shell of the block, and these joints shall be shoved tightly so that the mortar bonds to both blocks. Masonry to be plastered shall have all mortar joints trowel cut flush. Exposed walls shall have joints tooled with a round bar (or V shaped bar) to produce a dense, slightly concave surface well bonded to the block at the edges. Tooling shall be done when the mortar is partially set but still sufficiently plastic to bond. All tooling shall be done with a tool which compacts the mortar, pressing the excess mortar out of the joint rather than dragging it out. If it is necessary to move a block so as to open a joint, the block shall be removed from the wall, cleaned, and set in fresh mortar.

#### 540.6 PLACING REINFORCING STEEL

Reinforcing steel and wire mesh type of reinforcing shall be placed as indicated on the plans. Splices shall be lapped a minimum of 40 diameters, except that dowels other than column dowels need be lapped only 30 diameters. Column dowels shall lap 50 diameters. Outside horizontal steel shall lap around corners 40 diameters and be carried through columns unless otherwise shown on the plans. Inside horizontal steel shall extend as far as possible and bend into corner core. A dowel shall be provided in the foundation for each vertical bar. Where horizontal courses are to be filled, metal stops shall be used. Use of paper stops will not be permitted. All horizontal reinforcing steels shall be laid in a course of bond beam blocks filled with grout. Vertical cores containing steel shall be filled solid with grout and thoroughly rodded. Where knockout blocks are not used, steel shall be erected and wired in place before 3 courses have been laid. Vertical cores at steel locations shall be filled as construction progresses. Where knockout blocks are used, vertical cores at steel locations shall be filled in lifts of not more than 4 feet. The maximum height of pour shall be 8 feet.

Cores shall be cleaned of debris and mortar and shall have reinforcing steel held straight in place. If ordered by the ENGINEER, inspection and cleanout holes shall be provided at the bottom of each core to be filled. Reinforcing shall be inspected prior to placing grout.

#### 540.7 CURING

Newly constructed masonry shall be kept damp for at least five days with a nozzle regulated fog spray sufficient only to moisten faces of the masonry but not of such quantity as to cause water to flow down over the masonry or by the use of approved curing compounds or as specified in the Supplementary Specifications.

#### 540.8 MEASUREMENT AND PAYMENT

540.8.1 Concrete block masonry walls shall be measured by the wall area in square feet, as determined by the mathematical product of the length, including pilasters, and the height from the top of the footing to the top of the wall. Payment shall be made on the Bid Proposal's unit price per square foot, as per specified wall or block width and design (hollow, concrete filled blocks or reinforced).

540.8.2 The footing shall be measured separately by the cubic yard of plain or reinforced concrete as specified on the drawings and appropriate bid items.