SECTION 04 22 00
CONCRETE UNIT MASONRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes concrete masonry unit work as shown and specified. Work includes:
1. Architectural concrete masonry exterior single wythe walls and exterior wall veneer facing.
2. Special concrete masonry units.
3. "Green Product Certified" concrete masonry units.
4. Exterior back-up walls for exterior wall masonry veneer facing.
5. Reinforced concrete unit masonry walls.
6. Interior partitions.
7. Installation of reinforcement, anchors, ties, flashing, insulation, and related masonry accessories furnished under Section 04 05 23 - Masonry Accessories.
8. Installation of anchor bolts, bearing plates and loose steel angle lintels furnished under Section 05 12 00 - Structural Steel Framing.
9. Installation of wood blocking and nailers furnished under Section 06 10 00 - Rough Carpentry.

B. Related Sections:
1. Section 03 30 00 Cast-In-Place Concrete: Concrete fill for reinforced masonry.
2. Section 04 05 15 Masonry Mortar and Grout: Mortar and grout materials.
3. Section 07 60 00 Flashing and Sheet Metal: Sheet metal flashing materials.
4. Section 07 92 00 Joint Sealants: Joint sealer materials.

1.2 REFERENCES

A. Reference standards:
1. American Concrete Institute (ACI):
   a. ACI 530-05/ASCE 5-05/TMS 402-05 "Building Code Requirements for Masonry Structures."
   b. ACI 530.1-05/ASCE 6-05/TMS 602-05 "Specification for Masonry Structures"
2. American Society for Testing and Materials (ASTM):
   a. ASTM C33-03 "Concrete Aggregates."
   b. ASTM C55-06 "Concrete Building Brick."
   c. ASTM C90-06b "Load-Bearing Concrete Masonry Units."
   d. ASTM C140-03 "Sampling and Testing Concrete Masonry Units and Related Units."
   e. ASTM C150-04 "Portland Cement."
   f. ASTM C331-05 "Lightweight Aggregates for Concrete Masonry Units."
   g. ASTM C426-06 "Test for Drying Shrinkage of Concrete Block."
   h. ASTM C744-05 "Prefaced Concrete and Calcium Silicate Masonry Units."
   i. ASTM C1072-00 "Measurement of Masonry Flexural Bond Strength."
   j. ASTM C1634-06 "Concrete Facing Brick"
   k. ASTM E72-02 "Conducting Strength Tests of Panels for Building Construction."
   l. ASTM E514-04 "Water Penetration and Leakage Through Masonry."
3. International Masonry Industry All-Weather Council (IMIAWC).
   a. "Recommended Practices & Guide Specifications for Cold Weather Masonry Construction - 1993."
4. National Concrete Masonry Association (NCMA).
   a. TEK Manual for Concrete Masonry Design and Construction, TEK Bulletins
5. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA):

a. SMACNA "Architect and Sheet Metal Manual - 2003."

6. Underwriters' Laboratories Inc. (UL):
   a. UL "Building Material Directory."
   b. UL 618 "Standard for Concrete Masonry."
7. U.S. Green Building Council (USGBC)
   a. LEED Green Building Rating System for New Construction (& Major Renovations)

1.3 SUBMITTALS

A. Product Data: Submit manufacturer's product data for each type of concrete masonry unit required.

B. Shop Drawings: Submit shop drawings for reinforced masonry lintels

C. Samples: Submit three full size units of each type of exposed concrete masonry unit for review of color and texture. Provide the maximum color and texture variation range expected in the finished work. Submit samples of the following:
   1. Architectural concrete masonry units.
   2. Special concrete masonry units.
   3. Green Product Certified concrete masonry units.
   4. When requested, submit exposed standard concrete masonry material samples for color and texture review.

D. Certificates: Submit manufacturer's certification that each type of concrete masonry units comply with specified requirements, including type, grade, curing, moisture content and performance requirements.

E. Green Building Product Certification: Submit third party certification that "Green Product Certified" concrete masonry units contain recycled material and qualify as a "Green" building product under the LEED Green Building Rating System guidelines.
   1. Include material test reports substantiating compliance with the requirements.

F. Submit qualification data to demonstrate masonry installer's capabilities and experience. Include list of completed projects with project names, addresses, telephone numbers, names of Architects and Owners, and other information specified.

G. Submit written plan for cold weather construction and masonry cleaning procedures.

1.4 QUALITY ASSURANCE

A. Unit masonry standard: Comply with ACI 530-05/ASCE 5-05/TMS 402-05 "Building Code Requirements for Masonry Structures; ACI 530.1-05/ASCE 6-05/TMS 602-05 "Specification for Masonry Structures and related Commentaries .Maintain one copy of the standard in project field office at all times during construction. Contractor's supervisory personnel shall be thoroughly familiar with this material as it applies to this project.

B. Unit Masonry Producer Qualifications: Producer shall be a member in good standing of the National Concrete Masonry Association (NCMA).

C. Integral Water Repellent Concrete Masonry Producer Qualifications: A firm certified in writing by manufacturer as a licensed or approved applicator who has successfully completed a minimum of three projects similar in size to the requirements for this project within the past 3 years.

D. General: Appoint at least one experienced and skilled supervisory mason who shall be present at all times and direct work performed under this Section. Supervisor shall be thoroughly familiar with design requirements, type of materials being installed, referenced standards, and other requirements.
   1. Use skilled masons for cutting and placing of unit masonry. In acceptance or rejection of installed unit masonry, no allowance will be made for lack of workmen's skill.
   2. Comply with applicable codes, regulations, and standards. Where provisions of applicable codes, regulations, and standards conflict with requirements of this Section, the more demanding shall govern.

E. Consult other trades and make provisions to permit installation of their work in a manner to avoid cutting and patching. Build in work specified under other Sections, as necessary, and as work progresses.

F. Pre-Construction Conference: Before commencing masonry construction and associated work, meet at project site, or other mutually agreed location, with Installer, installers of related work, and other entities concerned with masonry performance, including (where applicable) Architect and Owner's representative. Record discussions and agreements and furnish copy to each participant. Provide at least 72 hours' advance notice to participants prior to convening pre-construction conference.

G. Concrete unit masonry construction: Comply with National Concrete Masonry Association (NCMA) "TEK Bulletins," and as specified.
   1. NCMA TEK Bulletin 3-1C "All Weather Concrete Masonry Construction."
   2. NCMA TEK Bulletin 3-2A "Grouting for Concrete Masonry Walls."
   3. NCMA TEK Bulletin 3-3A "Reinforced Concrete Masonry Construction."
   4. NCMA TEK Bulletin 7-1A "Fire Resistance Rating of Concrete Masonry Assemblies."
   5. NCMA TEK Bulletin 8-2A "Removal of Stains from Concrete Masonry Walls."
   6. NCMA TEK Bulletin 10-1A "Crack Control in Concrete Masonry Walls."
   7. NCMA TEK Bulletin 10-2B "Control Joints for Concrete Masonry Walls."
   8. NCMA TEK Bulletin 14-4A "Strength Design of Concrete Masonry."
   9. NCMA TEK Bulletin 19-4A "Flashing Strategies for Concrete Masonry Walls."
   10. NCMA TEK Bulletin 19-5A "Flashing Details for Concrete Masonry Walls."

H. Fire-Resistance Ratings: Where indicated, provide materials and construction identical to fire-resistance ratings indicated determined by using concrete masonry units providing minimum equivalent thickness in inches, in accordance with ASTM C140 and NCMA TEK Bulletin 7-1A.
   1. Elevator enclosure walls: 2 hour fire-resistance rating.
   2. Stairway enclosure walls: 2 hour fire-resistance rating.
   3. _____walls/partitions: UL Design _____ ___hour fire-resistance rating.

I. Sample panel: Before starting work build one sample panel for inspection and acceptance. Build panel on a firm foundation, in location indicated by Architect. Panel shall be F-shaped, with long side a minimum of 5'-4" long x 4'-0" high, with one corner return at least 2'-0" long and with one intersecting 8" thick concrete masonry wall 2'-0" long. Construct long side and return of 8" concrete masonry and facing masonry. Install wall reinforcement, anchors, ties and other accessories. Provide special features as directed for control joints. Panel shall show color range and texture of masonry units, bond, mortar joints and workmanship.
   1. Obtain Architect's acceptance of mock-up before start of masonry work. Retain mock-up during construction as a standard for judging completed masonry work. Do not alter, move, or destroy mock-up until work is completed or removal is authorized.
   2. Where masonry work shall match existing masonry, erect panel parallel to existing surface.
   3. Provide a separate sample panel for each type of exposed exterior facing material required.

J. Sample panel: Before installation of masonry work, erect a sample wall panel mock-up using materials, bond and joint tooling required for the work. Provide special features as directed for calking and

contiguous work. Build mock-up at the site, on a firm foundation, 4'-0" x 4'-0", of full thickness and indicating the range of color, texture and workmanship proposed for the completed work.

1. Obtain Architect's acceptance of the mock-up before start of masonry work. Retain mock-up during construction as a standard for judging completed masonry work. Do not alter, move or destroy mock-up until work is completed or removal is authorized.
2. Where masonry work shall match existing masonry, erect panels parallel to existing surface.
3. Provide a separate sample panel for each type of exposed exterior facing material required.

K. Provide each type of masonry unit from a single manufacturing source to ensure uniform texture and color for continuous and visually related items.

1.5 DELIVERY, STORAGE AND HANDLING

A. Deliver, store and handle masonry materials to prevent damage and soiling.

B. Deliver architectural, special and "Green Product Certified" concrete masonry units to the jobsite on banded wood pallets with manufacturer's recommended unit protective covers.
   1. Store pallets in single-stacks on level ground. Cover stacks with waterproof tarpaulin coverings to protect from inclement weather.

C. Inspect masonry units upon delivery to ensure color match with required materials and accepted sample mock-up panel.

D. Stack all masonry units in a dry place off the ground on pallets or a prepared plank platform. Method of stacking shall be acceptable to Architect. Protect with non-staining covering arranged to allow air circulation around and above masonry units.

E. Exercise particular care in the storage, handling and installation of masonry units. Exposed concrete masonry is utilized as a "finish material." Do not build soiled or damaged masonry units into the work.

1.6 PROJECT CONDITIONS

A. Do not use metal reinforcements or ties coated with loose rust or other coatings, including ice, which will reduce or destroy bond.

B. Protect partially completed masonry against weather damage and moisture at end of each day or shutdown and when work is not in progress.
   1. Cover tops of walls not enclosed or sheltered with strong, waterproof, non-staining membrane. Extended membrane at least 2'-0" down both sides of walls and hold securely in place.
   2. Rotate and flip scaffolding boards each day to prevent mortar staining

C. Brace unsupported and newly-laid masonry walls. Maintain bracing in place until building structure provides permanent bracing.

D. Cold and Hot Weather Construction: Provide cold and hot weather masonry construction as required by ACI 530.1/ASCE6/TMS 602.

E. Cold Weather Construction: Comply with IMIAWC recommended practices and guide specifications for cold weather masonry construction.
   1. Precondition masonry materials to maintain minimum 50 degrees F. temperatures when installed.

2. Protect masonry from freezing when the outside air temperature is 40 degrees F. and falling. Heat materials and provide temporary protection of completed portions of masonry work. Comply with governing codes and NCMA "TEK Bulletin 3-1C."
3. No masonry work will be permitted when outside air temperature is below 25 degrees F. except when enclosures, supplemental heat and insulating blankets are provided and with Architect's approval of cold weather procedures and protection.
4. Do not use frozen materials or materials mixed or coated with ice or frost.
5. Do not build on frozen work. Remove and replace masonry work damaged by frost or freezing.
6. Protect completed masonry work against freezing for not less than four days after laying. Maintain minimum 50 degrees F. temperature on both sides of masonry for not less than 72 hours.

F. Hot Weather Requirements: Protect unit masonry work when temperature and humidity conditions produce excessive evaporation of water from mortar and grout. Provide artificial shade and wind breaks and use cooled materials as required. Do not apply mortar to substrates with temperatures of 100 degrees F and above.

G. Masonry Construction Tolerances: Comply with masonry construction tolerances as required by ACI 530.1.

H. Construction Tolerances:
1. Variation from plumb: For vertical lines and surfaces of columns, walls and arises do not exceed 1/4" in 10'-0", or 3/8" in a story height not to exceed 20'-0", nor 1/2" in 40'-0" or more. For external corners, expansion joints, control joints and other conspicuous lines, do not exceed 1/4" in any story or 20'-0" maximum, nor 1/2" in 40'-0" or more.
2. Variation from level: For lines of exposed lintels, sills, parapets and other conspicuous lines, do not exceed 1/4" in any bay or 20'-0" maximum, nor 3/4" in 40'-0" or more.
3. 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 or 20'-0" maximum, nor 3/4" in 40'-0" or more.
4. Variation in cross-sectional dimensions: For columns and thickness of walls, from dimension shown, do not exceed minus 1/4" nor plus 1/2".

I. Load application after building masonry columns, piers or walls:
1. Do not apply uniform design floor or roof loading for at least 12 hours.
2. Do not apply concentrated loads for at least three days.

J. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Remove immediately any grout, mortar, and soil that comes in contact with such masonry.
1. Protect base of walls from rain-splashed mud and mortar splatter by means of coverings spread on ground and over wall surface.
2. Protect sills, ledges, and projection from mortar splatter and dropping.
3. Protect surfaces of windows and door frames; as well as similar products with painted and integral finishes from mortar splatter and dropping.

K. Split masonry coursing at heads and sills of openings and cut concrete masonry coursing less than 4" in height not permitted.

PART 2 - PRODUCTS

2.1 CONCRETE MASONRY MATERIALS

A. Aggregate: ASTM C33 normal weight aggregate, except as indicated. Cinder aggregate not permitted.

1. Nonload-bearing exterior walls/interior partitions: ASTM C331 "Solite" or "Haydite" expanded shale lightweight aggregate.
2. Exposed exterior/interior units: Washed crushed limestone coarse aggregate and washed limestone sand.

B. Cement: ASTM C 150, Type required

C. Water Repellent Admixture: Krete Industries "Krete HQ Plus" or an approved equal integral water repellent & admixture for concrete masonry units and associated mortar used in masonry exposed to exterior
   1. Water resistance: ASTM E 514.
   2. Flexural Bond Strength: Pass for full wall; ASTM E 72 or C 1072.
   3. Fully dispersible in water.

D. Color Pigment: Natural or synthetic iron oxides manufactured specifically for use in concrete masonry units; products by Davis Colors, Bayer, DCS, or an approved equal.
   1. Color(s) as selected by Architect.

E. Cleaning Materials: Not harmful to masonry work or adjacent materials. Products by ProSoCo, Inc. or an approved equal

2.2 CONCRETE MASONRY UNITS

A. Concrete Masonry Units: Comply with ASTM C 90 and as follows:
   1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength as shown on the drawings [of 1900 psi] [Not less than the unit compressive strengths required to produce concrete unit masonry construction of compressive strength indicated].
   2. Normal weight.
   3. Mid weight
   4. Light weight.
   5. Linear shrinkage: Not to exceed 0.065 percent, ASTM C426.
   6. Exposed Faces: Manufacturer's standard color and texture, unless otherwise indicated.

B. Concrete Building Brick: Comply with ASTM C 55 and as follows:
   1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength as shown on the drawings [of 2500 psi] [Not less than the unit compressive strengths required to produce concrete unit masonry construction of compressive strength indicated].
   2. Normal weight.
   3. Mid weight
   4. Light weight.
   5. Linear shrinkage: Not to exceed 0.065 percent, ASTM C426.
   6. Exposed Faces: Manufacturer's standard color and texture, unless otherwise indicated.

C. Concrete Facing Brick: Comply with ASTM C-1634 and as follows:
   1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength as Shown on the drawings [of 3500 psi] [Not less than the unit compressive strengths required to produce concrete unit masonry construction of compressive strength indicated].
   2. Normal weight
   3. Mid weight
   4. Light weight
   5. Linear shrinkage: Not to exceed 0.065 percent, ASTM C426
   6. Exposed Faces: Manufacturer's standard color and texture, unless otherwise indicated.

D. Provide modular dimension, standard concrete masonry units, nominal 8" high x 16" long (7-5/8" x 15-5/8" actual), except as otherwise indicated; thickness as shown on the drawings.

E. Special shapes:
1. Provide closures, jamb units, headers, lintels, bond beams and special shapes required.
2. Provide standard manufactured sizes or cut full size units for fractional course height and lengths.
3. Provide control joint units or jamb units to receive control joint fillers as required.
4. Provide two-core type masonry units where required to receive vertical reinforcing.
5. Provide 45 degree manufactured corner masonry units as required.
6. Provide exposed external corners and edges 1" radius bullnosed, except as otherwise indicated.
7. Provide exposed external corners and edges square edged, except as otherwise indicated.

F. Precast masonry lintels: Nominal 4" wide x 8" high, lengths required. Reinforced and bearing length as required/ indicated to accommodate load-span conditions shown.

2.3 ARCHITECTURAL CONCRETE MASONRY UNITS

A. Architectural Concrete Masonry Units: "DESIGNBLOK™" by Oberfield's, Inc. Delaware, OH, tel: (800) 845-7644, fax: (740) 363-7644, internet: www.oberfields.com.
1. Type: Split Face Units, Scored Units, Fluted Units, Sandblasted Units, Striated Units.
2. Provide natural color units utilizing crushed limestone coarse aggregate and natural gray colored cements for field painted finish. All units shall contain water repellent admixture.
3. Provide integral color units utilizing crushed limestone coarse aggregate and integral color pigment and colored cements for exposed finish. All units shall contain water repellent admixture.
4. Provide special shapes, including split face ends, faces and corner units, as required to complete the work.
5. All units shall comply with ASTM C90 material requirements and the following special requirements.

B. Split Face Units:
1. Provide plain face Single-Plane Split Face units.
   a. Size: Nominal 8" height x 4" [8" or 12"] depth x 16" length [and half high units nominal 4" height x 4" [8" or 12"] depth x 16" length.
2. Provide Double-Plane design "Castle Rock" ["Shadow Stone"] Split Face units.
   a. Size: Nominal 8" height x 4" [8" or 12"] depth x 16" length.
3. Provide 3 Flute Split Face units with a simulated recessed mortar joint 3/8" wide, to provide an apparent 4" x 8" nominal face in the finished wall surface.
   a. Size: Nominal 8" height x 8" [or 12"] depth x 16" length.
4. Color: Selected by Architect from manufacturer's Color Group 1 [2 or 3 or 4 or 5} standard colors.
5. Color: Custom color(s) matching Architect's sample color.

C. Scored Units:
1. Center Scored: Provide plain face ["Single-Plane Split Face"] concrete masonry units, center scored with a simulated recessed mortar joint 3/8" wide, to provide an apparent 8" x 8" nominal face in the finished wall surface. Provide scored joint one or two faces as required by conditions of installation.
   a. Size: Nominal 8" height x 4" [8" or 12"] depth x 16" length.
2. Triple Scored: Provide plain face ["Stri-Face Design" linear textured finish] concrete masonry units, triple scored with a simulated recessed mortar joint 3/8" wide, to provide an apparent 4" x 8" nominal face in the finished wall surface. Provide scored joints one or two faces as required by conditions of installation.
   a. Size: Nominal 8" height x 4" [8" or 12"] depth x 16" length.
3. Color: Selected by Architect from manufacturer's Color Group 1 [2 or 3 or 4 or 5} standard colors.

4. Color: Custom color(s) matching Architect's sample color.

D. Split Rib Fluted Units
1. Deep 4 Flute Split Face: Provide 4 flute units nominal 8" height x 8" [or 10" or 12"] depth x 16" length.
2. Wide 4 Flute Split Face: Provide 4 flute units nominal 8" height x 4" [8" or 12"] depth x 16" length.
3. 6 Flute Split Face: Provide 6 flute units nominal 8" height x 4" [8" or 12"] depth x 16" length.
4. 8 Flute Split Face: Provide 8 flute units nominal 8" height x 4" [8" or 12"] depth x 16" length.
5. Provide special shapes, including split rib faces and corner units as required to complete the work.
6. Color: Selected by Architect from manufacturer's Color Group 1 [2 or 3 or 4 or 5} standard colors.
7. Color: Custom color(s) matching Architect's sample color.

E. Sandblasted Units:
1. Sandblasted Units: Provide sandblasted finish applied to the exposed face of designated plain smooth face [center scored face or triple scored face] concrete masonry units.
   a. Size: Nominal 8" height x 4" [8" or 12"] depth x 16" length [and half high units nominal 4" height x 4" [8" or 12"] depth x 16" length.
2. Special Graphics: Provide special sandblasted graphics at designated concrete unit masonry surfaces where shown on the drawings.
3. Color: Selected by Architect from manufacturer's Color Group 1 [2 or 3 or 4 or 5} standard colors.
4. Color: Custom color(s) matching Architect's sample color.

F. ColossalBLOK™ Units:
1. Solid Block: Nominal 4" depth x 12" [16"] high x 16" [24"] length
2. Solid Split Face Block: Nominal 4" depth x 12" [16"] high x 16" [24"] length.

G. DesignBRIK™ Units:
1. Provide plain, smooth face units containing integral color and secondary injected color (flashed).
   a. Size: Nominal 4" [8"] height x 4" [8" or 12"] depth x 16" [8"] length.
2. Color: Selected by Architect from manufacturer's Color Group 1 standard colors.
3. Color: Custom color(s) matching Architect's sample color.

H. Oberfield's Brick:
1. Decorative, veneer, non-loadbearing, modular & utility brick sized concrete masonry units.
2. Modular Size: 2-1/4" high x 7-5/8" length x 3-5/8" depth Utility Size: 3-5/8" high x 11-5/8" length x 3-5/8" depth.
3. Color: Selected by Architect from manufacturer's standard colors.
4. Color: Custom color(s) matching Architect's sample color.

I. Screenlite Units:
1. Decorative non-loadbearing ornamental screen wall units
2. Size: 11-5/8" x 11-5/8" x 3-5/8", 5-5/8" and 7-5/8" thickness.
3. Fine texture, white color; Style 1202 [1205, 803, 1203, 1208, 804]

2.4 SPECIAL CONCRETE MASONRY UNITS

A. Fire-rated masonry construction: Where indicated, provide materials and construction identical to those assemblies with fire-resistance ratings indicated, using concrete masonry units providing minimum equivalent thickness in inches, determined in accordance with ASTM C140 and NCMA TEK Bulletins 7-1 and 7-3. Submit manufacturer's certification of compliance.

B. Integral Water Repellent Concrete Masonry Units: Provide exterior wall concrete masonry units, including architectural single wythe walls and facing units, standard unit back-up walls, and bond beams and grout

beams manufactured by a qualified producer using normal weight aggregates that comply with ASTM C 33 and meet requirements of ASTM C 90, and contain the manufacturer's recommended amount of Krete Industries "Krete HQ Plus" water repellent admixture.

1. No other admixtures or additives shall be used with the integral water repellent concrete masonry units, except with the written approval of the manufacturer and Architect.

C. Pre-Insulated Masonry Units: Concrete Block Insulating Systems, Inc. "CBIS/KORFIL" manufactured and distributed by Oberfield's, Inc. Delaware, OH, tel: (800) 845-7644, fax: (740) 363-7644, internet: www.oberfields.com.

1. Pre-Insulated Masonry Units: ASTM C 90 standard 2-core concrete masonry units factory insulated with individual molded expanded polystyrene inserts that comply with ASTM C 578, Standard Type 1, have a minimum density of 1.0 PCF and a maximum water vapor transmission rate of 1.4 perms.
2. Provide "KORFIL" U-shaped ["ICON" Universal shaped] ["KORFIL Hi-R" shaped] ["UNITHERM"] shaped polystyrene insulation inserts, for 6", 8" 10" or 12" wide masonry units of _____density lbs/ft^3 , providing a U-value of _____.

D. Glazed Masonry Units: Premier Block Corporation "PREMIER GLAZED Masonry Units" distributed by Oberfield's, Inc. Delaware, OH, tel: (800) 845-7644, fax: (740) 363-7644, internet: www.oberfields.com.

1. Glazed Masonry Units: ASTM C 90 lightweight concrete masonry units with ASTM C 744 smooth satin-gloss finish externally heat polymerized cast-on facing on one or more faces.
2. Size and shapes:
   a. Size: Actual face dimensions 7-3/4"x 15-3/4" forming a 1/16" lip around the edges of a modular 7-5/8" x 15-5/8" masonry unit. Nominal 2", 4", 6", 8", 10" or 12" thickness x 16" length, including standard and special shapes.
   b. Special face dimensions include nominal 16" x 16", 12" x 12", 8" X 18", 4" X 16" and 8" X 8" units.
   c. Basic units include stretchers, jambs, caps, and cove bases. Solid and semi-solid units are available when required.
   d. Scored face units with horizontal and vertical 1/4" x 1/4" grooves cut into the glazed face are available. Custom scores and engraving are available for an additional fee.
3. Color: Selected by Architect from manufacturer's standard colors. [_____ Color]. Provide for ____different colors
4. Cleaning Materials: PROSOSO Inc. "Sure Klean Vana Trol" or a masonry manufacturer approved equal. [Provide manufacturer's recommended solvent free masonry cleaners to prevent damage to glazed facing.]

E. Glazed Masonry Units: Trenwyth Industries, Inc. "Astra-Glaze-SW+ Masonry Units distributed by Oberfield's, Inc. Delaware, OH, tel: (800) 845-7644, fax: (740) 363-7644, internet: www.oberfields.com.

1. Glazed Masonry Units: ASTM C 90 lightweight concrete masonry units with ASTM C 744 smooth satin-gloss finish externally heat polymerized cast-on facing on one or more faces
2. Size and shapes:
   a. Size: Actual face dimensions 7-3/4"x 15-3/4" forming a 1/16" lip around the edges of a modular 7-5/8" x 15-5/8" masonry unit. Nominal 2", 4", 6", 8", 10" or 12" thickness x 16" length, including standard and special shapes.
   b. Special face dimensions include nominal 16" x 16", 12" x 12", 8" X 18", 4" X 16" and 8" X 8" units.
   c. Basic units include stretchers, jambs, caps, and cove bases. Solid and semi-solid units are available when required.
   d. Scored face units with horizontal and vertical 1/4" x 1/4" grooves cut into the glazed face are available. Custom scores and engraving are available for an additional fee.
3. Color: Selected by Architect from manufacturer's standard colors. [_____ Color]. Provide for ____different colors

4. Cleaning Materials: PROSOSO Inc. "Custom Burnished Masonry Cleaner" or a masonry manufacturer approved equal. [Provide manufacturer's recommended solvent free masonry cleaners to prevent damage to glazed facing.]

F. Ground Face Masonry Units: Premier Block Corporation "PREMIER ULTRA BURNISHED Masonry Units" distributed by Oberfield's, Inc. Delaware, OH, tel: (800) 845-7644, fax: (740) 363-7644, internet: www.oberfields.com.
   1. Ground Face Masonry Units: ASTM C 90 moisture controlled, integrally colored concrete masonry units with one or more faces ground to expose variegated colors of the natural aggregate with special additives included in the concrete mix design to prevent efflorescence. A factory-applied heat-treated clear satin gloss acrylic is applied to highlight each burnished face and to provide moisture resistance.
   2. Size and shapes:
      a. Size: Actual face dimensions of 7-5/8" x 15-5/8". Nominal 4", 6" or 8" thickness x 12", 16" or 24" in length, including standard and special shapes.
      b. Basic units include stretchers, caps, and lintel units. Solid, semi-solid, bullnose and chamfer units are available.
      c. Scored face units with vertical grooves cut into the ground face are available.
   3. Color: Group A [B] [C] as selected by the Architect. Provide for ____different colors.
   4. Field Finish Material: Provide masonry manufacturer's recommended minimum 20% solids content clear satin gloss acrylic sealer.
   5. Cleaning Materials: Provide masonry manufacturer's recommended solvent free masonry cleaners to prevent damage to ground and sealed faces.

G. Ground Face Masonry Units: Trenwyth Industries, Inc "Ground Face Masonry Units" distributed by Oberfield's, Inc. Delaware, OH, tel: (800) 845-7644, fax: (740) 363-7644, internet: www.oberfields.com.
   1. "TRENDSTONE" ground face integrally colored concrete masonry units with one or more faces ground to expose variegated colors of the natural aggregate, with special additives included in the concrete mix design to prevent efflorescence. A factory-applied heat-treated clear satin gloss acrylic is applied to highlight each burnished face and to provide moisture resistance.
   2. "TRENDSTONE PLUS" ground face integrally colored concrete masonry units with one or more faces ground to expose variegated colors of the natural aggregate. After initial grinding, the pores and interstices are filled with a cementitious grout and polished smooth in a multi-stage process, with special additives included in the concrete mix design to prevent efflorescence. A factory-applied heat-treated clear satin gloss acrylic is applied to highlight each burnished face and to provide moisture resistance.
   3. Size and shapes:
      a. Size: Top and bottom surfaces are ground to provide a finished size of 7-5/8" x 15-5/8". Nominal 2", 4", 6", 8", 10, or 12" thickness x 16" length, including standard and special shapes.
      b. Basic units include stretchers, caps, and lintel units. Solid, semi-solid, chamfer and radial units are available.
      c. Scored face units with vertical grooves cut into the ground face are available.
   4. Trendstone Ground Face Colors: Eastern/Southeast/Midwest/Michigan/West Colors, as selected by the Architect. Provide for ____different colors.
   5. Trendstone Plus Ground Face Colors: Eastern/Southeast/Midwest/West Colors, as selected by the Architect. Provide for ____different colors.
   6. Field Finish Material: TRENDCOAT T1 acrylic, minimum 20% soilds content.
   7. Cleaning Materials: Provide masonry manufacturer's recommended solvent free masonry cleaners to prevent damage to ground and sealed faces.

H. Acoustical Masonry Units: The Proudfoot Company acoustical concrete masonry units manufactured and distributed by Oberfield's, Inc. Delaware, OH, tel: (800) 845-7644, fax: (740) 363-7644, internet: www.oberfields.com.

1. Acoustical Masonry Units: ASTM C 90 concrete masonry units with factory installed incombustible fibrous fill in unit cavities.
2. Provide "SOUNDBLOX" acoustical masonry units, nominal 8' x 16" face size, 4", 6", 8", 10" or 12" thickness [thickness indicated on the drawings] structural and load-bearing sound absorptive masonry units providing an STC of _____ and an NRC of _____.[as scheduled].
   a. Type A-1, straight narrow slots and unfilled cavities.
   b. Type Q, flared narrow slots, factory installed metal septa placed in unfilled cavity.
   c. Type RR, three cavity unit with wide flared slots, factory installed metal septa laminated to back of incombustible fibrous filler in each cavity.
   d. Type RSR, split rib two cavity unit with wide flared slots, factory installed metal septa laminated to back of incombustible fibrous filler in each cavity.
   e. Type RSC, sequenced cavity units with wide flared slots, factory installed metal septa laminated to back of incombustible fibrous filler in each cavity.
   f. Type RSC/RF, two cavity unit with wide flared slots, factory installed metal septa laminated to back of incombustible fibrous filler in each cavity, with two additional straight through cavities designed to accommodate vertical reinforcing, conduit or pipe.
3. Provide "SOUND CELL Acoustade" architectural acoustical masonry units, nominal 8' x 16" face size, 8" or 12" thickness [thickness indicated on the drawings] structural and load-bearing sound absorptive masonry units providing an NRC of _____.[as scheduled].

2.5 "GREEN PRODUCT CERTIFIED" CONCRETE MASONRY UNITS

A. "Green Product Certified" Masonry Units: SEALTECH™ Block Green Product Certified concrete masonry units manufactured and distributed by Oberfield's, Inc. Delaware, OH, tel: (800) 845-7644, fax: (740) 363-7644, internet: www.oberfields.com.

1. SEALTECH™ Masonry Units: ASTM C140 medium weight density (105-125 pcf) concrete masonry units; exceeding ASTM C90 specifications and having a minimum net compressive strength of 2600 psi and a maximum absorption rate of 10 pcf.
2. All SEALTECH™ concrete masonry units shall contain a minimum 10 percent recycled plastic powder (post consumer + 1/2 pre-consumer) material content and shall be certified by a third party as a "Green Building Product." under the guidelines set forth in the LEED Green Building Rating System For New Construction (& Major Renovations) Materials & Resources, MR Credit 4.1.
3. Exposed Faces: Manufacturer's standard smooth or split face texture, as indicated.
4. Size: Nominal 8" height x 4" [8" or 12"] depth x 16" length.
5. Color: Selected by Architect from manufacturer's standard colors.
6. Special shapes: Provide special shapes, including closures, jamb units, headers, lintels, bond beams and other special shapes as indicated.

2.6 MASONRY MORTAR AND ACCESSORIES

A. Concrete fill: Comply with Section 03 30 00 requirements.

B. Mortar and fine grout: Comply with Section 04 05 15 requirements.

1. Water Repellent Mortar Admix: Krete Industries "Admix-Krete Gard Mortar Mix"
   a. Comply with manufacturer's instructions for mixing and mortar preparation.

C. Accessories, reinforcement, anchorages and flashings: Comply with Section 04 05 23 requirements.

PART 3- EXECUTION

3.1 EXAMINATION

A. Examine substrates, structure and installation conditions. Do not proceed with concrete masonry work until unsatisfactory conditions have been corrected.

B. Installation constitutes acceptance of existing conditions and responsibility for satisfactory performance.

3.2 PREPARATION

A. Do not wet concrete masonry units.

B. Establish lines, levels and coursing.

C. Establish, lines, levels and coursing. Verify anchors and flashings are correctly located and installed.

D. Coordinate masonry work with installation of _____provided under Section _____ work. Build in occurring within masonry walls as work progresses.

3.3 INSTALLATION

A. Match coursing, bonding, color and texture of new concrete unit masonry work with existing masonry work. Provide special patterns and coursing where indicated.

B. Layout walls in advance for accurate spacing of surface bond patterns, with uniform joint widths and to properly locate openings, movement type joints, returns and offsets. Avoid the use of less than half-size units at corners, jambs and other locations.

C. Lay up walls plumb and true to comply with specified tolerances. Provide corners and angles square, with courses level, accurately spaced and coordinated with other work. Use double lines at multiple wythe walls.

D. Pattern bond: Lay exposed concrete unit masonry in running bond with vertical joint in each course centered on units in courses above and below. Bond and interlock each course of each wythe at corners. Do not use units with less than 4" of horizontal face dimensions at corners or jambs.

1. Install special units where shown.
2. Lay center scored concrete masonry units with courses staggered so joints on alternate courses will appear at the midpoint of the 8" x 8" faces.
3. Provide 45 degree corner units at all wall locations with 45 degree concrete masonry corners.
4. Provide bullnose units at all exposed outside 90 degree corners.
   a. Install standard square corner units at the first masonry course where resilient base or ceramic or quarry tile base is scheduled as the wall base. Install bullnose cornered units above the first course.

E. Lay hollow concrete masonry units with full mortar coverage on horizontal and vertical face shells. Bed webs in mortar in starting course on footings, load bearing walls, all courses of piers, columns and pilasters and where adjacent to cells or cavities to be reinforced or filled with concrete or grout. Maintain 3/8" joint widths, except for minor variations required to maintain bond alignment.

F. Lay solid concrete masonry units with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not slush head joints.

G. Compress and cut joints flush for masonry walls that are below grade, concealed or covered by other materials.

H. Tool joints in all exposed masonry work to a concave joint, including areas that are accessible but not considered exposed, such as elevator shafts, crawl spaces and pipe spaces.
   1. Exterior scored units: Provide tooled joints horizontal and vertical at exterior scored concrete masonry units.
   2. Interior scored units: Rake horizontal and vertical joints at interior scored concrete masonry units. Depth to match scored joint depth.
   3. Rake vertical joints at interior masonry partitions abutting vertical structural framing members for application of joint sealants.

I. Remove masonry units disturbed after laying; clean and reset in fresh mortar. Do not pound corners at jambs to fit stretcher units which have been set in position. If adjustments are required, remove units, clean off mortar and reset in fresh mortar.

J. Step back unfinished work adjoining new work. Rack back 1/2 unit length in each course; do not tooth. Clean exposed surfaces of set masonry and remove loose masonry units and mortar before laying fresh masonry.

K. Provide interlocking masonry bond in each course at corners and intersecting walls.

L. Load-bearing walls: If carried up separately, provide rigid steel anchors spaced not more than 2'-0" on center vertically. Embed ends in mortar filled cores. : Build full height of story to underside of structure. Grout juncture with structure solid with grout.

M. Nonload-bearing walls: Build full height of story to underside of structure, except as otherwise shown. Terminate full height nonload-bearing walls one joint thickness below the structure to allow for deflection of the structural element without loading the wall. Provide an open joint for application of joint sealant [firestopping].

N. As the work progresses, build in items specified under this and other Sections of the specifications. Fill in solidly with masonry around built-in items.
   1. Bed hollow metal frame anchors in mortar. Align anchors with joint coursing. Draw anchors tight and fill space between hollow metal frames and masonry solid with fine mortar grout.
   2. Where built-in items are to be embedded in cores of hollow masonry units, place a layer of metal lath in the joint below and rod grout into core.
   3. Provide solid masonry bearing for all lintels, beams, joists, plates and load-bearing members.
      a. Provide solid masonry units or hollow units filled solid.
      b. Minimum one block course under steel angle lintels and steel joists not bearing on bond beams.
      c. Minimum two block courses under steel beams and steel beam lintels. Where beams and lintels are parallel with wall, extend solid bearing to walls, extend solid bearing 16" each side of centerline of beam.

4. Take particular care to embed all conduits and pipes with concrete masonry without fracturing exposed shells and to fit units around switch, receptacle and other boxes set in walls. Where electric conduit, outlets, switch boxes and similar items occur, grind and cut units before building in services.
5. Install anchors, reglets and nailers for flashing and related work built into masonry work.
6. Install reinforcing steel and concrete fill/ mortar grout where indicated. Comply with drawing details for reinforcing steel size and spacing.

O. Composite walls.
1. Fill collar joints between wythes solid with mortar by parging back of facing or face of backing and shove units solidly into parging.
2. Tie exterior facing wythe to concrete masonry back-up walls with horizontal joint reinforcing spaced 16" on center vertically.

P. Cavity walls:
1. Maintain cavity clean of mortar droppings during construction. Strike joints facing cavity flush. [Parge exterior face of back-up wythe.]
2. Masonry walls: Tie exterior masonry veneer wythe to masonry back-up with adjustable metal ties secured to joint reinforcement built into masonry back-up walls.
3. Concrete walls: Tie exterior masonry veneer wythe to back-up with individual metal ties secured to dovetail anchor slots cast in concrete back-up.
4. Space ties 16" on center vertically and horizontally.
5. Install cavity wall insulation as work progresses. Bond with adhesive to exterior face of interior walls. Seal vertical and horizontal joints with adhesive.

Q. Veneer walls:
1. Masonry walls: Tie exterior masonry veneer wythe to back-up with individual metal ties built into masonry back-up walls.
2. Concrete walls: Tie exterior masonry veneer wythe to back-up with individual metal ties secured to dovetail anchor slots cast in concrete back-up.
3. Wood framed walls: Tie exterior masonry veneer wythe to back-up with individual metal ties nailed to wood stud wall framing.
4. Metal framed walls: Tie exterior masonry veneer wythe to back-up with individual metal ties screwed to metal wall framing.
5. Space ties 16" on center vertically and horizontally.

R. Loose masonry fill insulation: Install insulation materials as work progresses. Maximum 4'-0" high lifts. Fill cores of exterior and scheduled interior concrete unit masonry walls solid with insulation.

S. Horizontal joint reinforcing: Provide continuous joint reinforcing at all concrete masonry walls as follows:
1. In every second block course, 16" on center vertically, full height of wall and every block course where shown on the drawings.
2. In the first two bed joints immediately above and below all openings so that it extends a minimum of 24" beyond opening each way.
3. In the bed joints of the first and second courses below the bearing line in bearing walls when wall receives uniformly distributed floor or roof loads.
4. In bed joints below bond beams.
5. In parapet walls 8" on center vertically, beginning at a point not less than 12" below the ceiling line of the heated space below the roof slab.
6. Lap reinforcement a minimum of 6" and full width at corners and intersections or use special fabricated sections.

7. Cut or interrupt joint reinforcement at vertical control or expansion joints, unless otherwise indicated.
8. Prefabricated metal joint reinforcement shall not be used as wall ties in multiple wythe walls, except for composite wall construction and two adjacent tiers of concrete block.
9. Fully embed side rods in mortar.

T. Anchoring masonry work: Provide anchoring devices of the type shown and specified.
1. Anchor masonry to structural members where masonry abuts or faces such members to comply with the following:
   a. Provide an open space not less than 1/2" width between masonry and structural member. Keep open space free of mortar or other rigid materials.
   b. Anchor masonry to structural members with metal ties embedded in masonry joints and attached to the structure. Provide anchors with adjustable tie sections. Space anchors not more than 24" on center vertically and 36" on center horizontally.
2. Anchor veneers to concrete structural members with dovetail anchors.

Joint locations are difficult to specify for all conditions. Particular attention is needed at corners, parapets, and openings. Recommend joint locations be reviewed carefully and placed on Drawings. See NCMA-TEK Bulletins Nos. 10-1A and 10-2B. Walls built on elevated slabs may need bond beam on bottom to overcome floor deflection. Lintels need detail to start joint at end of lintel.Provide control joints for exterior and interior masonry construction In accordance with NCMA-TEK Bulletins 10-1A and 10-2B. Provide sash blocks with premolded shear key. Rake out mortar, if any, and form continuous vertical joints in masonry construction to receive joint sealant at the locations listed below. Verify locations with Architect. Joint sealant and backer rod specified under Section 07900. Locations as follows:
1. Changes in wall height or thickness.
2. Expansion joints in foundations, roof, and floors.
3. Abutments with other construction.
4. Within 1/2 normal design spacing or less of:
   a. Corners. Provide on both legs of corners.
   b. Intersecting bonded walls.
5. Openings: Provide as follows:
   a. Openings Less than 6 Feet Wide: May use reinforcement as specified elsewhere in lieu of control joint.
   b. Opening 6 Feet Wide or More: Provide control joints on both sides of opening.
      1) Above Openings: Offset to ends of lintel.
      2) At Opening: Use vertical side of opening as part of joint.
      3) Below Openings (Above Floor): Align with side of opening.
6. As indicated on drawings except not less than specified.
7. Straight runs as indicated below, with spacing related to wall height as follows:
   a. Walls Less than 8 feet: Not more than 3 times wall height.
   b. Walls 8 feet or more high: Maximum 24 feet.
8. Locate control joints at points of natural weakness in masonry and acceptable to the Architect.

V. Install bond beams where indicated. Comply with drawing details for reinforcing steel size and spacing. Fill bond beam masonry units solid with concrete fill or coarse mortar grout.

W. Lintels:
1. Install loose steel lintels furnished under Section 05 12 00 Structural Steel Framing where shown. Set lintels in full bed of mortar.
2. Provide masonry lintels where shown and wherever openings of more than 1'-0" are shown without structural steel or other supporting lintels. Provide precast or formed-in-place masonry lintels.

Thoroughly cure precast lintels before handling and installation. Temporarily support formed-in-place lintels.

3. Provide minimum bearing at each jamb of 4" for openings for less than 6'-0" and 8" for wider openings.

X. Flashing and weeps:

1. Install concealed through wall masonry flashing at all cavity and veneer wall sills, masonry openings in exterior walls with masonry above head, over all horizontal steel members built into masonry and elsewhere as indicated. Comply with NCMA recommendations for "drainage wall system" masonry construction.
2. Install concealed through wall flashing in accordance with SMACNA "Architectural Sheet Metal Manual" Chapter 4 Flashing and with NCMA TEK Bulletins 19-4A and 19-5A details to ensure water resistant masonry construction. Extend flashing beyond edge of lintels and sills at least 4" and turn up ends to form a pan. Seal all pan seams. Extend flashing vertically at least 8" and build into or anchor to back-up for a complete watertight installation. Seal top edge of flashing anchored to back-up. Overlap flashing a minimum of 4" with building paper at framed walls with sheathing.
3. Flashing at corners shall be continuous.
4. Metal Flashing:
   a. Prepare masonry surfaces smooth and free from projections which might puncture flashing. Place through-wall flashing on bed of mortar and cover with mortar.
   b. Seal flashing penetrations with elastomeric joint sealant before covering with mortar. Extend flashing beyond face of wall and turn down to form a drip. Seal bottom edge of flashing with elastomeric joint sealant.
   c. Lap flashing joints minimum of 4" and seal laps with elastomeric joint sealant.
5. Flexible Membrane Flashing:
   a. Prepare masonry surfaces smooth and free from projections which might puncture flashing. Apply flashing manufacturer's recommended surface conditioner by spray, brush or roller at manufacturer's recommended rate.
   b. Precut flashing to easily handled lengths for each location. Remove release paper and place in proper position. Press firmly into place using a hand roller . Fully adhere flashing to substrate.
   c. Lap flashing joints a minimum of 2" and roll with a hand roller.
   d. Trim bottom edge 1/2 " back from exposed face of and seal to metal drip edge.
   e. Seal bottom edge of metal drip edge flashing with elastomeric joint sealant.
   f. Seal top edge, seams, cuts and penetrations with manufacturer's recommended mastic
6. Install weeps in head joints of final course of exterior masonry wythe above flashing. Space weeps maximum of 24" on center horizontally and located to avoid door openings. Install weeps at head joints with outside face of weep material held 1/8" from the finish face of masonry unit.
7. Install cavity fill on top of base flashing. Install a bed of mortar, conforming to the curve of the flashing, placed under the metal flashing.
8. Install vents in head joints of final top course of exterior masonry veneer wythe. Install at head joints with outside face of vent material held 1/8" from the finish face of masonry unit. Space vents 24" on center horizontally.
9. Install compressible joint material at lintels and horizontal steel members. Build in joint fillers and seal with elastomeric joint sealant.

3.4 REINFORCED CONCRETE MASONRY

A. Fill scheduled wall and column masonry work. Fill all cores solid with concrete fill.

1. Where vertical reinforcing is required, install reinforcing before filling operation. Comply with drawing details for reinforcing steel size and spacing.

2. Place concrete fill in maximum 4'-0" vertical lifts. Recess top of fill minimum 1-1/2" below top of course to form a key with following lift. Comply with NCMA TEK Bulletins 3-2, 3-3A, and 14-2 recommendations for Low-Lift grouting.

B. Install bond beams where indicated. Install reinforcing before filling operation. Fill units solid with concrete fill. Comply with drawing details for reinforcing steel size and spacing.

C. Reinforced concrete masonry walls: Install and align grout block units to provide continuous vertical voids in walls. Install reinforcing steel as work progresses. Use horizontal bars to position vertical bars. Fill grout block unit cores solid with concrete fill.
   1. Place concrete fill in maximum 4'-0" vertical lifts. Recess top of fill minimum 1-1/2" below top of course to form a key with following lift. Comply with NCMA TEK Bulletins 3-2, 3-3A and 14-2 recommendations.
   2. Coordinate placement of reinforcement and concrete fill voids with cast-in-place concrete and precast concrete work to provide continuous vertical and horizontal reinforcement full height of walls.

3.5 REPAIR, POINTING AND CLEANING

A. Clean and point exposed concrete masonry at end of each working day. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged. Provide new units to match adjoining units and install in fresh mortar pointed to eliminate evidence of replacement.

B. During the tooling of joints, enlarge any voids or holes, except weeps and completely fill with mortar. Point up all joints at corners, openings and adjacent work to provide a neat, uniform appearance. Remove line pins and fill all line pin holes.

C. In Progress Cleaning: Wipe off excess mortar as the work progresses. Dry brush with bristle brushes exposed masonry at the end of each day's work. Remove mortar spatters and joint ridges.

D. Glazed [Ground Face] Masonry Units: After laying glazed [ground face] masonry units, wipe off excess mortar with a soft cloth. Clean exposed surfaces and rinse with clear water, as recommended by the masonry unit manufacturer. Acid cleaning agents, abrasive tools or powders, or metal cleaning tools and brushes are not permitted.

E. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:
   1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
   2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of masonry.
   3. Clean concrete masonry by cleaning method indicated in NCMA TEK 8-2A applicable to type of stain present on exposed surfaces.
   4. Proprietary cleaning agents: When approved for use by the Architect:
      a. Protect adjacent stone and non-masonry surfaces from contact with cleaner by covering them with liquid strippable masking agent, polyethylene film, or waterproof masking tape.
      b. . Wet wall surfaces with water prior to application of cleaners; remove cleaners promptly by rinsing thoroughly with clear water.
   5. Power Washing: When approved for use by the Architect:

a. Power wash exposed masonry with clean water using a wide flare nozzle and maximum of 25 psi pressure.

F. Ground Face Masonry Units: After cleaning, allow ground face masonry to dry and spray-apply a field coat application of the masonry manufacturer's recommended acrylic sealer. Spray apply the acrylic sealer evenly, without forming drops or runs, to cover the entire wall surface.

END OF SECTION 04 22 00