BORAL STONE PRODUCTS LLC
Build something great™

Cultured Stone®

3-PART **SPECIFICATION**

SECTION 04 70 00

MANUFACTURED MASONRY

GENERAL NOTES TO SPECIFIER:

THIS SPECIFICATION SECTION HAS BEEN PREPARED TO ASSIST DESIGN PROFESSIONALS IN THE PREPARATION OF PROJECT OR OFFICE MASTER SPECIFICATIONS. IT FOLLOWS GUIDELINES ESTABLISHED BY THE CONSTRUCTION SPECIFICATIONS INSTITUTE (CSI), AND THEREFORE MAY BE USED WITH MOST MASTER SPECIFICATION SYSTEMS WITH MINOR EDITING.

EDIT CAREFULLY TO SUIT PROJECT REQUIREMENTS. MODIFY AS NECESSARY AND DELETE ITEMS THAT ARE NOT APPLICABLE. VERIFY THAT REFERENCED SECTION NUMBERS AND TITLES ARE CORRECT. (NUMBERS AND TITLES REFERENCED ARE BASED ON *MASTERFORMAT*, 2004 EDITION).

THIS SECTION ASSUMES THE PROJECT MANUAL WILL CONTAIN COMPLETE DIVISION 1 DOCUMENTS INCLUDING SECTIONS 01 25 13–PRODUCT SUBSTITUTION PROCEDURES, 01 33 00–SUBMITTAL PROCEDURES, 01 62 00–PRODUCT OPTIONS, 01 66 00–PRODUCT STORAGE AND HANDLING REQUIREMENTS, 01 74 00–CLEANING AND WASTE MANAGEMENT, 01 77 00–CLOSEOUT PROCEDURES, AND 01 78 00–CLOSEOUT SUBMITTALS. CLOSE COORDINATION WITH DIVISION 1 SECTIONS IS REQUIRED. IF THE PROJECT MANUAL DOES NOT CONTAIN THESE SECTIONS, ADDITIONAL INFORMATION SHOULD BE INCLUDED UNDER THE APPROPRIATE ARTICLES.

THIS IS A CLOSED PROPRIETARY SPECIFICATION.

NOTES TO THE SPECIFIER ARE CONTAINED IN BOXES AND SHOULD BE DELETED FROM FINAL COPY.

GREY HIGHLIGHTED GREEN TEXT AND NOTES RELATE TO LEED PROJECTS AND CAN BE DELETED IF THE PROJECT IS NOT INTENDED TO ATTAIN LEED CERTIFICATION.

OPTIONAL ITEMS REQUIRING SELECTION BY THE SPECIFIER ARE ENCLOSED WITHIN BRACKETS, E.G. [35] [40] [45]. MAKE APPROPRIATE SELECTIONS AND DELETE OTHERS.

ITEMS REQUIRING ADDITIONAL INFORMATION ARE UNDERLINED BLANK SPACES, E.G. _____ .

BOLD FACE TYPE IDENTIFIES OPTIONAL PARAGRAPHS AND FEATURES THAT MAY BE INCLUDED OR DELETED DEPENDING ON PROJECT REQUIREMENTS. CONVERT THE BOLD FACE TYPE TO REGULAR TYPE WHEN INCLUDING THESE PARAGRAPHS OR FEATURES. WHEN DELETING A PARAGRAPH, BE CERTAIN THAT ALL SUBPARAGRAPHS ARE ALSO DELETED.

REVISE FOOTER TO SUIT PROJECT/OFFICE REQUIREMENTS.

ELECTRONIC VERSIONS OF THIS SPECIFICATION UTILIZE AUTOMATIC PARAGRAPH NUMBERING.

WHEN EDITING IS COMPLETE, DELETE ALL TEXT ON THIS PAGE, THEN REMOVE THE SECTION BREAK AT THE TOP OF THE NEXT PAGE TO REMOVE THIS PAGE FROM THE DOCUMENT.

SPECIFICATION BEGINS ON THE FOLLOWING PAGE.

SECTION 04 70 00

(MasterFormat, 1995 Edition, 04700)

MANUFACTURED MASONRY

PART 1—GENERAL

1.01 SUMMARY

A. Section Includes: [Manufactured stone veneer,] [Manufactured brick veneer,] [Manufactured stone trim,] and application materials.

B. Related Sections:

INCLUDE ALL DIVISION 01 SECTIONS CONTAINING LEED REQUIREMENTS. ENTER SECTION(S) IN 1. BELOW THAT SPECIFIES SUBSTRATE FOR MANUFACTURED MASONRY. ADD/DELETE OTHER SECTIONS AS APPROPRIATE.

1. _____–_____.
2. Division 05, or 06 Section specifying water resistive barrier over framed walls.
3. Division 07 Section specifying flashing materials.
4. Division 09 Section specifying Portland cement plastering.
5. Division 10 Section specifying fireplaces and stoves.

INCLUDE APPROPRIATE LANGUAGE BELOW IF PRODUCTS SPECIFIED IN THIS SECTION ARE TO BE BID AS ALTERNATES. OTHERWISE DELETE FOLLOWING PARAGRAPH.

C. Alternates:
1. Reference Section 01 23 00–Alternates.

1.02 REFERENCES

A. American Concrete Institute (ACI).

B. American Society for Testing and Materials (ASTM):
1. ASTM C 39, Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
2. ASTM C 67, Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.
3. ASTM C 177, Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus.
4. ASTM C 192, Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory.
5. ASTM C 270, Standard Specification for Mortar for Unit Masonry.
6. ASTM C 482, Standard Test Method for Bond Strength of Ceramic Tile to Portland Cement.
7. ASTM D 226, Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
8. ASTM E 2556/ E 2556M Standard Specification for Vapor Permeable Flexible Sheet Water Resistive Barriers Intended for Mechanical Attachment.

C. Building Materials Evaluation Commission.

D. International Code Council (ICC):
1. ES Report.
2. UBC Standard No. 14-1, Kraft Waterproof Building Paper.

E. LEED: US Green Building Council's Leadership in Energy and Environmental Design Green Building Rating System.™

F. Masonry Standards Joint Committee (MSJC) of The Masonry Society.

G. Texas Department of Insurance Product Evaluation.

H. Underwriters Laboratories (UL):
   1. Classification File Number.
   2. UL 723, Standard for Safety for Surface Burning Characteristics of Building Materials.

I. US Department of Housing and Urban Development (HUD): Material Release Number.

1.03 SUBMITTALS

A. Reference Section 01 33 00–Submittal Procedures; submit following items:
   1. Product Data: Manufactured masonry and application materials including mortar color charts, and water resistive barrier.
   2. Samples: Panel containing full-size samples of specified manufactured masonry showing full range of colors and textures complete with specified mortar.
      a. Actual size of masonry sample approximately 12 by 12 inches (300 by 300 mm).
   3. Quality Assurance/Control Submittals:
      a. Qualifications:
         1) Proof of manufacturer qualifications.
         2) Proof of installer qualifications.
      b. Certificates: ICC-ES Report.
      c. Test Reports for physical properties.
      d. Manufacturer's Installation Instructions.

   4. LEED Submittals:
      a. Credit MR 5.1 Local/Regional Materials: Indicate location of manufacturer of manufactured masonry, and distance from manufacturer to project site.

MANUFACTURED MASONRY CAN ALSO CONTRIBUTE TO CREDITS EA 1.1 – 1.5 FOR OPTIMIZING ENERGY PERFORMANCE., HOWEVER, NO SPECIFIC SUBMITTALS ARE REQUIRED IN THIS SECTION.

B. Closeout Submittals: Reference Section 01 78 00–Closeout Submittals; submit following items:
   1. Maintenance Instructions.
   2. Special Warranties.

1.04 QUALITY ASSURANCE

A. Qualifications:
   1. Manufacturer Qualifications:
      a. Minimum five years experience in producing manufactured masonry.
      b. Member of following organizations:
         1) MSJC.
         2) ACI.
         3) ASTM.

   2. Installer Qualifications: Company with documented experience in installation of manufactured masonry including minimum 5 projects within 400 mile radius of this Project.

EDIT FOLLOWING LISTINGS BASED ON PROJECT AND LOCAL REQUIREMENTS. DELETE "BUILDING MATERIALS EVALUATION COMMISSION" EXCEPT FOR CANADIAN PROJECTS.

B. Certifications:
   1. Current ICC-ES Report.
   2. UL: Classification File Number.

3. Building Materials Evaluation Commission.
4. HUD: Material Release Number.
5. Texas Department of Insurance Product Evaluation.
6. Florida Product Approval Number.

IF FOLLOWING PARAGRAPH IS RETAINED, INSERT SPECIAL CONDITIONS DESIRED TO BE REVIEWED IN THE BLANK SPACE.

C. Field Samples: Provide in a location selected by Architect showing representative sample of installed product including penetration and termination details, corner detail, _____, and mortar color and tooling.

1. Reference Section 01 45 00 – Quality Control.
2. Minimum Size: [4 by 4 feet (1200 by 1200 mm)] [__ by ___ feet (___ by ___ mm)] .
3. Approved field samples may remain as part of completed Work.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Reference Section 01 66 00–Product Storage and Handling Requirements.

B. Follow manufacturer's instructions.

C. Store moisture-sensitive materials in weather protected enclosures.

1.06 PROJECT/SITE CONDITIONS

A. Environmental Requirements: Maintain materials and ambient temperature in area of installation at minimum 40 degrees F (4 degrees C) prior to, during, and for 48 hours following installation.

1.07 WARRANTY

A. Special Warranty: Provide manufacturer's standard limited warranty against defects in manufacturing for a period of 50 years following date of [Substantial Completion] [Final Acceptance].

1.08 MAINTENANCE

A. Extra Materials: Furnish extra manufactured stone material in a variety of shapes and sizes in quantity equal to three percent of the installed stone.

PART 2—PRODUCTS

2.01 MANUFACTURER

A. Boral Stone Products LLC
One Owens Corning Parkway
Toledo, OH 43659

Tel: (800) 255-1727
Fax: (419) 325-3995
Website: www.culturedstone.com

INSERT NAME, ADDRESS AND PHONE NUMBERS OF LOCAL DISTRIBUTOR BELOW.

1. Manufacturer's Distributor:

B. Substitutions: None permitted.

2.02 MANUFACTURED MASONRY MATERIALS

SELECT PRODUCTS FROM A., B., AND C. BELOW AS REQUIRED FOR THE PROJECT. DELETE THOSE NOT USED.

A. Cultured Stone® Textures:

SELECT EITHER SINGLE TEXTURE OR BLENDED TEXTURE COLOR BELOW. FOR SINGLE TEXTURE DESIGNATE TEXTURE NAME AND COLOR. FOR BLENDED TEXTURES, DESIGNATE COLOR PERCENTAGE (OF EACH TEXTURE), TEXTURE NAME AND COLOR; FOR EXAMPLE:
a. 80 Percent Country Ledgestone, Honey.
b. 20 Percent Dressed Fieldstone, Brandywine.

SELECT TEXTURES AND COLORS FROM CURRENT CULTURED STONE® PRODUCT RESOURCES.
www.culturedstone.com

1. Single Texture Color: _____, _____.
2. Blended Texture Color:
   a. ___ Percent _____, _____.
   b. ___ Percent _____, _____.

DESIGNATE BRICK COLOR BELOW. SELECT COLOR FROM CURRENT CULTURED STONE® PRODUCT RESOURCES.
www.culturedstone.com

B. Cultured Brick® Thin Brick Veneer: [_____] [As shown on Drawings].

DESIGNATE TRIM COLORS/TEXTURES BELOW FROM CURRENT CULTURED STONE® PRODUCT RESOURCES.
www.culturedstone.com CLICK ON APPROPRIATE TRIM TYPE.

C. Architectural Trim:
1. Pier Capstones:
   a. Texture: [Flagstone].
   b. Color: [_____] [As shown on Drawings].
   c. Size: [24 by 24 inches (610 by 610 mm)] [32 by 32 inches (815 by 815 mm)] [As shown on Drawings]. Dimensions are nominal.
2. Wall Capstones:
   a. Texture: [Flagstone].
   b. Color: [_____] [As shown on Drawings].
   c. Size: [12 by 20 inches (305 by 510 mm)] [16 by 20 inches (410 by 510 mm)] [As shown on Drawings]. Dimensions are nominal.
3. Hearthstones:
   a. Color: [_____] [As shown on Drawings].
   b. Size: [nominal 19 by 20 inch (485 by 510 mm)]
4. Trimstones:
   a. Color: [_____] [As shown on Drawings].
   b. Size: nominal 6 by 8 by 1-7/8 inches (150 by 200 by 48 mm).
5. Keystones:
   a. Color: [_____] [As shown on Drawings].
   b. Size: nominal 8-$^1/_2$ by 10 by 1-$^7/_8$ inches (215 by 255 by 48 mm).

6. Tuscan Lintels—Stone Textured:
   a. Color: [_____] [As shown on Drawings].
   b. Size: nominal 22 by 6 by 2-$^5/_8$ inches (550 by 150 by 65 mm).
7. Watertable/Sill—Stone Textured:
   a. Color: [_____] [As shown on Drawings].
   b. Size: 2 (front), 2-$^1/_2$ (back), by 3 by 18 inches (50 (front), 65 (back) by 75 by 455 mm).
   c. Provide sloped top surface and drip edge.
8. Light Fixture Stones—Chamfered Edge with Grooved Border:
   a. Color: [Gray] [Taupe] [As shown on Drawings].
   b. Size: [nominal 8 by 10 by 1-$^7/_8$ inches (205 by 255 by 47 mm)] [nominal 9 by 15 by 1-$^7/_8$ inches (230 by 380 by 47 mm)] [As shown on Drawings].
   c. Provide 4 by 1-$^1/_2$ inch (115 mm) UL approved metal octagon extension box.
9. Receptacle Stones—Raised Chamfered Edge:
   a. Color: [Gray] [Taupe] [As shown on Drawings].
   b. Size: nominal 6 by 8 by 1-$^1/_2$ inches (150 by 205 by 38 mm).
   c. Provide single receptacle 2 by 4 by 1-$^1/_2$ inch (50 by 100 by 38 mm) UL approved metal extension box.

D. Manufactured Masonry Physical Properties:
   1. Compressive Strength: ASTM C 192 and ASTM C 39, 1800 psi (12.4 MPa)
   2. Bond Between Stone Unit, Type S Mortar, and Backing: ASTM C 482, 50 psi (345 kPa).
   3. Thermal Resistance: ASTM C 177, R-factor, 0.355 per inch (25.4 mm) of thickness.
   4. Freeze/Thaw: ASTM C 67, 50 cycles, no disintegration and less than 3 percent weight loss.
   5. Fire Hazard Test, UL 723:
      a. Flame spread: 0.
      b. Smoke Development: 0.
   6. Maximum Veneer Unit Weight: 15 psf (73 kg/m^2).

2.03 RELATED MATERIALS

EDIT FOLLOWING MATERIALS BASED ON LOCAL USAGE AND BUILDING CODE REQUIREMENTS. DELETE MATERIALS SPECIFIED IN SEPARATE SECTIONS.

A. Water Resistive Barrier: [Kraft waterproof building paper, UBC Standard No. 14-1] [No. 15, Type I, asphalt saturated felt, ASTM D 226]. [Vapor permeable flexible sheet water resistive barriers comply with ASTM E 2556/ E 2556M]

B. Metal Lath: [2.5 lb (1.4 kg/m^2) galvanized expanded metal lath] [18 (1.3 mm) gauge woven wire mesh] [3.4 lb (1.8 kg/m^2) galvanized expanded rib lath].

C. Fasteners:
   1. Into Wood Studs: Minimum 1/8 inch (25 mm) shank diameter galvanized nails or minimum 3/4 inch (19 mm) crown staples of sufficient length to penetrate 1 inch (25 mm) minimum into the stud.
   2. Into Metal Studs: Minimum 7/16 inch (11.1 mm) head diameter, corrosion-resistant , self-drilling, self tapping, pancake head screws of sufficient length to penetrate 3/8 inch (10 mm) minimum into the stud.

D. Mortar: Premixed Type N, Type S or mortar mixed using components and proportions following manufactured masonry manufacturer's installation instructions. Comply with ASTM C 270.
   1. Mortar Color: Iron oxide pigments.

E. Weep screed as required for installation over framed construction.

PART 3—EXECUTION

3.01 EXAMINATION

A. Examine substrates upon which manufactured masonry will be installed.

B. Coordinate with responsible entity to correct unsatisfactory conditions.

C. Commencement of work by installer is acceptance of substrate conditions.

3.02 PREPARATION

A. Protection: Prevent work from occurring on the opposite of walls to which manufactured masonry is applied during and for 48 hours following installation of the manufactured masonry.

B. Surface Preparation: Follow manufacturer's instructions designated below for the appropriate type of manufactured masonry and substrate.

3.03 INSTALLATION

MANUFACTURER'S INSTALLATION INSTRUCTIONS COVER NORMAL INSTALLATION CONDITIONS. UNUSUAL CONDITIONS MAY REQUIRE ADDITIONAL INFORMATION IN THIS ARTICLE. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR TYPE OF STONES TO BE INSTALLED WITH MORTARLESS JOINTS.

A. Install Cultured Stone® products in accordance with manufacturer's Cultured Stone® installation instructions using [grouted] [tight fit] joints.

B. Install Cultured Brick® products in accordance with manufacturer's Cultured Brick® installation instructions.

C. Install architectural trim products in accordance with manufacturer's Cultured Stone® installation instructions.

D. Install/Apply Related Materials specified above in accordance with type of substrate and manufactured masonry manufacturer's installation instructions.

3.04 FIELD QUALITY CONTROL

INSERT NUMBER OF ANTICIPATED SITE VISITS BELOW. DELETE THIS ARTICLE IF MANUFACTURE'S FIELD SERVICES ARE NOT REQUIRED.

A. Manufacturer's Field Services: Provide ____ periodic site visits, each of approximately [one] [__] hours duration.

3.05 CLEANING

A. Reference Section 01 74 00–Cleaning and Waste Management.

B. Clean manufactured masonry in accordance with manufacturer's installation instructions.

3.06 PROTECTION

A. Protect finished work from rain during and for 48 hours following installation.

B. Protect finished work from damage during remainder of construction period.

END OF SECTION [1]

1 This specification was prepared specifically for Cultured Stone—A Division of Boral Stone Products LLC by ASC Specification Consultants. Comments or suggestions for improvement should be addressed to: Owens Corning, One Owens Corning Parkway, Toledo, OH 43659.

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