GRANITE

PART I - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 WORK INCLUDED

A. The work of this Section consists of providing all equipment and materials and doing all work necessary to fabricate, furnish and install the granite work as indicated on the Contract Drawings and as specified herein.

1.03 REFERENCE STANDARDS

A. The following standards shall apply to the work in this Section.

1. American Society for Testing and Materials (ASTM):

C 97 Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone
C 99 Test Methods for Modulus of Rupture of Dimension Stone
C 170 Test Method for Compressive Strength of Dimension Stone
C 615 Specification for Granite Dimension Stone
C 880 Test Method for Flexural Strength of Dimension Stone
C 920 Specifications for Elastomeric Joint Sealants

2. National Building Granite Quarries Association, Inc. (NBGQA):

Specifications for Architectural Granite

1.04 SUBMITTALS

A. Shop Drawings: Cutting and setting drawings of granite pieces specified herein shall be submitted. Drawings shall indicate sizes, dimensions, layout, finishes, arrangement and provisions for bedding, bonding, jointing, anchoring, cut-outs and holes and other necessary details for reception of other work.

1. Drawings shall indicate locations of inserts for stone anchors and supports which are to be built into concrete, and locations and dimensions of cut-outs, holes, openings, and other provisions required for the work of other trades.

2. Shop drawings shall indicate the setting number of each piece and each piece shall bear the corresponding number in a non-staining paint.

B. Samples: Provide samples of each granite type and finish to show texture, finish, and anticipated range of color to be supplied.

1. Granite sample shall fully demonstrate color, shade, veining, texture, range and finish.

C. Contractor's Review: Before commencing work, submit signed statement that Contract Documents have been reviewed with a qualified representative of granite supplier, and that selected materials and construction are proper, compatible, and adequate for application shown.

D. Test Report: Submit reports from independent test agency for all granite furnished under this Section indicating compliance with NBGQA Specifications. Testing shall be in accordance with the following:

1. Compressive strength, psi (ASTM C 170).
2. Density, lbs./c.f. (ASTM C 97).
3. Absorption by weight, percent (ASTM C 97).
4. Abrasion resistance (ASTM C 241).
5. Flexural strength, psi (Mpa) (ASTM C 880).
6. Modulus of rupture, average (psi) (ASTM C 99).

1.05 SAMPLE INSTALLATIONS

A. Provide sample installations as directed conforming to typical Project construction. Samples shall show the proposed granite types, colors and finishes, anchorage system, and other pertinent details of installation.

B. Replace sample installations as many times as necessary until approval of the installation has been obtained. Following approval, construct all subsequent granite work to conform to approved sample installation.

1.07 COORDINATION

A. Coordinate work with that of other sections affecting, affected by, this work, as necessary to assure the steady progress of the work under the Contract.

B. Do all cutting and drilling to accommodate work of other sections, as expressly indicated and as reasonably inferrer from Contract Documents and Specifications, or required for the proper completion of the Work.

1.08 DELIVERY, HANDLING AND STORAGE

A. Granite shall be carefully packed and banded by the supplier for shipment. Following shipping, granite shall be stored on wood skids or pallets, covered with non-staining, waterproof membrane and protected from the weather. Skids shall be placed and stacked in such a manner as to evenly distribute the weight of the granite materials and to prevent damage to granite pieces. Granite materials shall be stored in such a manner as to allow air to circulate around the material. Granite shal not be permitted to be in direct contact with the ground any time during storage.

B. Granite shall be carefully handled to prevent chipping, breakage, soiling or other damage. Pinch or wrecking bars shall not be used without protecting edges of granite with wood or other rigid materials. Granite units shal be lifted with wide-belt type slings wherever possible; wire rope or ropes containing tar or other substances which might cause staining or damage to granite finish will not be permitted.

C. Granite damaged in any manner will be rejected. If it cannot be patched to the satisfaction of the owner, and shall be replaced with new materials at no additional cost to the Owner.

1.09 PROTECTION OF FINISHED SURFACES

A. Finished surfaces adjacent to the granite work shall be adequately protected from soiling, staining and other damage.

1.10 QUALITY ASSURANCE

A. Granite shall conform to the requirements of ASTM C 615, Architectural Grade and NBGQA Specifications, except as modified herein.

B. Granite shall be standard grade, free of flaws, reeds, rifts, laminations, cracks, seams, starts or other defects which may impair its strength, durability or function. Exposed surfaces shall be free from spots, spalls, chips, stains, discoloration or other defects which are not within the approved sample range and would affect its appearance.

C. Color, texture and finish of granite shall be within the range of approved samples.

D. Granite supplier shall be able to demonstrate their capacity and facilities to furnish granite meeting the specified requirements for this project.

E. The Owner reserves the right to test granite materials supplied for the Project. Tests will be performed by a recognized testing laboratory.

PART II - PRODUCTS

2.01 SOURCE OF GRANITE

2.02 GRANITE

A. Granite Type: Granite shall match existing in color, veining and quality.

1. Use only one source for each type of granite throughout the entire Project. Other sources will be reviewed according to substitution requirements specified in the Conditions of the Contract.

B. Granite Properties: Unless otherwise indicated, granite as supplied shall meet or exceed the properties of existing granite material.

C. Finishes: Unless otherwise indicated provide the following finishes in accordance with NBGQA Specifications:

1. Unless otherwise indicated, exposed surfaces shall have a thermal finish or polished finish as indicated on the drawings; all other surfaces shall be sawn.

D. Size and Dimension: Granite shall be of the sizes and dimensions indicated on the Drawings.

2.03 FABRICATION

A. Fabricate granite in accordance with the tolerances specified in NBGQA Specifications and as indicated.

1. All faces shall be at right angles to the plane of the top.

2. Granite shall be cut accurately to required shapes and dimensions.

3. Holes, cut-outs, dinkages and openings in granite work for anchors, cramps, dowels, supports, and lifting devices shall be accurately cut or drilled to required dimensions, as shown on the approved shop drawings, and as necessary to secure granite in place to ensure correct location and accurate fit of all fixtures. Setting beds shall be shaped to fit supports.

4. Arrises shall be cut sharp and true to square, and continuous with adjoining arrises. Where exposed, arrises shall be erased.

B. Flatness Tolerance: Variation from true plane, or flat surfaces, shall be determined by use of a 4 ft. long straightedge, applied in any direction on the surface. Such variations on polished, honed and fine rubbed surfaces at the bed and joint arris lines shall not exceed 3/64" or 1/16 of the specified joint, whichever is greater. On surfaces having other finishes, the maximum variation from true plane at the bed and joint arris lines shall not exceed 1/4 of the specified joint width.

C. Variations from true plane on other parts of the face surfaces shall not exceed the following:

1. Polished, honed or fine rubbed finishes: 3/64 in.

2. Thermal and coarse stippled sandblasted finishes: 3/16 in.

D. Backs of pieces shall be sawn or roughly dressed to approximate true planes. Maximum variation in thickness from the specified shall not exceed the following:

1. 1/4 in. on pieces up to modular 12 in. thick.

2. 1/2 in. on pieces above 12 in. modular thick.

PART 3 - EXECUTION

3.01 ACCEPTABILITY OF BASE TO RECEIVE GRANITE

A. Contractor shall examine the base to determine its adequacy to receive granite work. Evidence of inadequate base shall be brought to the immediate attention of the Architect or Owner.

B. Start of work of this Section shall constitute acceptance of base.

3.02 SETTING

A. All setting shall be done by competent granite setters under adequate supervision and in accordance with the approved shop drawings.

B. Granite units with chips, cracks, stains, or other defects which might be visible in the finished work shall not be used.

C. Before setting, granite shall be clean and free of dirt and foreign matter on all sides. Granite shall be dry before setting.

D. Granite shall be set true to the required lines and grades. Joints shall be uniform in thickness and as indicated on the Drawings. Direct bearing contact between granite pieces shall be prohibited.

E. Exposed surfaces shall be kept free from mortar at all times. Any mortar smears shall be immediately removed with a clean sponge and clean water before latex-modified mortar can set.

F. Holes, slots, and other dinkages for anchors and dowels shall be completely filled with mortar during setting of granite.

3.03 CLEANING

A. After pointing granite, work shall be carefully cleaned, removing all dirt, excess mortar, stains and other defacements.

1. Mild abrasive cleaners that contain no harsh or caustic ingredients may be used, with fiber brooms or brushes and dear water. Wire brushes, steel wool, and acids or other solutions which may cause discoloration are expressly prohibited.

2. Expansion joints and other joints to receive sealant shall be deaned of all mortar and left ready for sealing of joints under Section 07900, Joint Sealers.

B. Upon completion of granite work, surfaces shall be left in a dean, unsoiled condition, acceptable to the Architect and Owner.

3.04 PROTECTION

A. Granite work shall be properly and adequately protected under the responsibility of the Contractor until final acceptance of the Project by Owner.

B. After the granite work has been installed, it shall be properly and adequately protected from damage. Boxing or other suitable protection shall be provided by Contractor wherever required. However, no lumber which may stain or deface the granite shall be used. Nails shall be high-quality galvanized or non-rusting.

URBAN ARCHITECTURE
4617 Montrose, Suite C218 * Houston, Texas 77006
713 523 2156 * Fax 713 520 6981

MJS
Project Number 2000-00

WORTHAM CENTER EXTERIOR LIGHTING

GFSB-0091-01-03

Michael John Smith, AIA, LC, IES, IALD
MJS Lighting Consultants
3118 Richmond Avenue, Suite 100
Houston, Texas 77098
713-850-1488 Fax 713-521-4505

REGISTERED ARCHITECT MICHAEL JOHN SMITH 5595 STATE OF TEXAS

License Expires: _____
Date Signed: _____

NOTES AND SPECIFICATIONS

Copyright © 2005 Michael John Smith.

Written dimensions on these drawings shall have precedence over scale dimensions. Contractor shall verify and be responsible for all dimensions and conditions on the job and this office must be notified of any variation from the dimensions and conditions shown by these drawings.

REVISIONS

ADDENDUM #1

ISSUE FOR BIDDING

These documents are not to be reproduced or used for any purpose other than originally intended unless authorized in writing by Michael John Smith.

Issued: JULY 9, 2009

Sheet:

A0.2